RESPONSIVENESS SUMMARY
APPENDIX V-e

E-MAILS, LETTERS AND POSTCARDS RECEIVED DURING THE COMMENT PERIOD

E-Mails, Letters and Postcards Received During the Comment Period

- December 29, 2012 e-mail from J. Skye Wallin
- January 17, 2013 e-mail from Zackary Cutner
- January 17, 2013 e-mail from Jennifer Valentine, NY
- January 17, 2013 e-mail from Robert Puca
- January 17, 2013 e-mail from Marlena Lange, Middletown, NY
- January 19, 2013 e-mail from Krissie Nagy, BK Bumpkin, Regenerative Garden Design in NYC, Brooklyn, NY
- January 25, 2013 e-mail from Jenny Mandel, Brooklyn, NY
- January 27, 2013 e-mail from Derek Dominy and Denise Carbonell, Metal and Thread, Brooklyn, NY
- January 28, 2013 e-mail from Benjamin Peikes, Brooklyn, NY
- January 30, 2013 e-mail from Doris Montgomery, Brooklyn, NY
- February 06, 2013 e-mail from Jacob Terrance
- February 08, 2013 e-mail from Rowland Laedlein, Brooklyn, NY
- February 13, 2013 e-mail from Ryan Cunningham, Assistant to the Editor in Chief/Administrative Coordinator, *Metropolis Magazine,* Brooklyn, NY
- February 13, 2013 e-mail from Ron Kurzman
- February 14, 2013 e-mail from Lillie Marshall, President, Redhook West, Brooklyn, NY
- February 14, 2013 e-mail from Todd Bonne, Brooklyn, NY
- February 17, 2013 e-mail from Karen Corbett, Brooklyn, NY
- February 20, 2013 e-mail from Chris and Carina Cooper, Brooklyn, NY
- February 21, 2013 e-mail from Lori Burkard, Brooklyn, NY
- February 26, 2013 e-mail from Robert Puca
- February 28, 2013 e-mail from Justin Burke, Brooklyn, NY
- March 01, 2013 e-mail from Despina Giasemis, Hellenic Classical Charter School, Brooklyn, NY
- March 03, 2013 e-mail from Allyn Bacher, Jeffrey Chong and Eli Bacher-Chong, Brooklyn, NY
- March 04, 2013 e-mail from Stephen Kondaks, Brooklyn, NY
- March 05, 2013 e-mail from Alexandra Grablewski, Brooklyn, NY
- March 05, 2013 e-mail from “Sevabelli”
- March 05, 2013 e-mail from Lucy Nersesian, New York, NY
- March 07, 2013 e-mail from Charlotte and John Kuczynski, Lake Ariel, PA
- March 08, 2013 e-mail from Linden Elstran, Brooklyn, NY
- March 08, 2013 e-mail from Kimberly Gail Price, Brooklyn, NY
- March 08, 2013 e-mail from “Red Hook Star Review Editor,” Brooklyn, NY
- March 08, 2013 e-mail from Carly Yates, Brooklyn, NY
- March 08, 2013 e-mail from Brenna Griffin, Brooklyn, NY
- March 11, 2013 e-mail from Katia Kelly, Brooklyn, NY
- March 11, 2013 e-mail from Sasha Noe, Brooklyn, NY
- March 11, 2013 e-mail from Diane Buxbaum, MPH, Gowanus Committee Chair, Conservation Chair, NYC Group, Sierra Club, Brooklyn, NY

- March 11, 2013 e-mail from Geoffrey Kloske, Brooklyn, NY
- March 12, 2013 postcard from Shea Sabino, Brooklyn, NY
- March 13, 2013 postcard from Paige Tooker, Brooklyn, NY
- March 14, 2013 letter from Ginny Bubalis, New York, NY
- March 14, 2013 letter from Harold Peterson, Huntsville, AL
- March 16, 2013 postcard from Melissa A. Glatter, Brooklyn, NY
- March 16, 2013 e-mail from Zachary Hochkeppel, Brooklyn, NY
- March 16, 2013 e-mail from Lita Jimenez, Brooklyn, NY
- March 17, 2013 e-mail from Leah Getoff, Brooklyn, NY
- March 17, 2013 e-mail from Kari Dietrich, Brooklyn, NY
- March 17, 2013 e-mail from Steven Meyer, Brooklyn, NY
- March 17, 2013 e-mail from Jena Schleicher, Brooklyn, NY
- March 17, 2013 e-mail from Alexandra Grablewski, Brooklyn, NY
- March 17, 2013 e-mail from Todd Bonne, Brooklyn, NY
- March 17, 2013 e-mail from Gabrielle Crichlow, Brooklyn, NY
- March 17, 2013 e-mail from Brooke Connolly, Brooklyn, NY
- March 17, 2013 e-mail from Phil Konigsberg, Smokefree Community Advocate Queens Tobacco Control Coalition, Bay Terrace, NY
- March 17, 2013 e-mail from Ron Kurzman , Brooklyn, NY
- March 17, 2013 e-mail from Jenna John, Brooklyn, NY
- March 17, 2013 e-mail from Patrick Gallo, Brooklyn, NY
- March 17, 2013 e-mail from Mathew Lazarus, Brooklyn, NY
- March 17, 2013 e-mail from Elisa Anders, Brooklyn, NY
- March 17, 2013 e-mail from Dena Serrano, Brooklyn, NY
- March 17, 2013 e-mail from Melani Barber, Brooklyn, NY
- March 17, 2013 e-mail from Rebecca Henry, Brooklyn, NY
- March 17, 2013 e-mail from Fernando Maneca, Brooklyn, NY
- March 17, 2013 e-mail from Anne Galvin, Brooklyn, NY
- March 17, 2013 e-mail from William Matelski, Brooklyn, NY
- March 18, 2013 e-mail from Stephen Kondaks, Brooklyn, NY
- March 18, 2013 e-mail from Chaia Milstein
- March 18, 2013 e-mail from Krissie Nagy, Brooklyn, NY
- March 18, 2013 e-mail from Natalie Figueroa, Brooklyn, NY
- March 18, 2013 e-mail from Douglas Mitchell, Brooklyn, NY
- March 18, 2013 e-mail from Seth Turnoff
- March 18, 2013 e-mail from Josh Bailin, Brooklyn, NY
- March 18, 2013 e-mail from Tom Athans , Brooklyn, NY
- March 18, 2013 e-mail from Beth Kaiser, Brooklyn, NY
- March 18, 2013 e-mail from Brad Tenem, New York, NY
- March 18, 2013 e-mail from Heather White, Brooklyn, NY
- March 18, 2013 e-mail from Kelly O'Neill, Brooklyn, NY
- March 18, 2013 e-mail from Jamie Slater, Brooklyn, NY
- March 18, 2013 e-mail from Aaron Kenedi, Brooklyn, NY
- March 18, 2013 e-mail from James Disney, New York, NY

- March 18, 2013 e-mail from Carina Laskaris, Brooklyn, NY
- March 18, 2013 e-mail from Shawn Cheatham, Brooklyn, NY
- March 18, 2013 e-mail from Sarah Weiss, Brooklyn, NY
- March 18, 2013 e-mail from Lander Bravo, Brooklyn, NY
- March 18, 2013 e-mail from Jack Silverstein
- March 18, 2013 e-mail from Evelyn Martinez, Brooklyn, NY
- March 18, 2013 e-mail from Kate Foster, New York, NY
- March 18, 2013 e-mail from Ariel Derris, Brooklyn, NY
- March 18, 2013 e-mail from Julian Crouch, Brooklyn, NY
- March 19, 2013 e-mail from Iris Otero, New York, NY
- March 19, 2013 e-mail from Finnian Moore Gerety, Brooklyn, NY
- March 19, 2013 e-mail from Kate Arrington, Brooklyn, NY
- March 19, 2013 e-mail from Michael Shannon, Brooklyn, NY
- March 19, 2013 e-mail from Jolene Festa, Brooklyn, NY
- March 19, 2013 e-mail from Lydia Kiehborth, Brooklyn, NY
- March 19, 2013 e-mail from Hans Schenck, Brooklyn, NY
- March 19, 2013 e-mail from Meg Ambroise, Brooklyn, NY
- March 19, 2013 e-mail from Mavis Harris, Brooklyn, NY
- March 19, 2013 e-mail from Amy Russell, Brooklyn, NY
- March 19, 2013 e-mail from Cora Byrne-Korowitz, Brooklyn, NY
- March 19, 2013 e-mail from Karen Melk, Brooklyn, NY
- March 19, 2013 e-mail from James Dougherty, Brooklyn, NY
- March 19, 2013 e-mail from Kristina Manis, Brooklyn, NY
- March 19, 2013 e-mail from Laura Corrin, Brooklyn, NY
- March 19, 2013 e-mail from Jeanine Rizzuto, Brooklyn, NY
- March 19, 2013 e-mail from David Lewis, Brooklyn, NY
- March 19, 2013 e-mail from Francyne Granico, Brooklyn, NY
- March 19, 2013 e-mail from Justin Creveling, Brooklyn, NY
- March 19, 2013 e-mail from Theresa Bandouveris, Brooklyn, NY
- March 19, 2013 e-mail from Cal Patch, Accord, NY, Brooklyn, NY
- March 19, 2013 e-mail from Claire Bergeal, Brooklyn, NY
- March 19, 2013 e-mail from Tina Beyers, Brooklyn, NY
- March 19, 2013 e-mail from Jonathan Segura, Brooklyn, NY
- March 19, 2013 e-mail from Jen Hunter, Brooklyn, NY
- March 19, 2013 e-mail from Angela Moss, Portland, OR
- March 19, 2013 e-mail from Radha Korman, Brooklyn, NY
- March 19, 2013 e-mail from Rose Saxe, Brooklyn, NY
- March 19, 2013 e-mail from Sarah Gallardo
- March 19, 2013 e-mail from Rowan Moore Gerety, Los Angeles, CA
- March 19, 2013 e-mail from Erin Patterson , Brooklyn, NY
- March 19, 2013 e-mail from Joanne Wright, Brooklyn, NY
- March 19, 2013 e-mail from Sarah Way, Brooklyn, NY
- March 19, 2013 e-mail from Karen Corbett, Brooklyn, NY
- March 19, 2013 e-mail from Brian Wray

- March 19, 2013 e-mail from Kaye Amurao, Brooklyn, NY
- March 19, 2013 e-mail from Judith Pushett, Brooklyn, NY
- March 19, 2013 e-mail from Bee Ku, Brooklyn, NY
- March 19, 2013 e-mail from Madeline Peikes, Brooklyn, NY
- March 19, 2013 e-mail from Todd Lippiatt, Brooklyn, NY
- March 19, 2013 e-mail from Lise Engber, Brooklyn, NY
- March 19, 2013 e-mail from Carrie Monson, Brooklyn, NY
- March 19, 2013 e-mail from Sarah Jefferys, Brooklyn, NY
- March 19, 2013 e-mail from Robert Lubow, Brooklyn, NY
- March 19, 2013 e-mail from Christina Beckles, Brooklyn, NY
- March 19, 2013 e-mail from Kevin Reevers, Brooklyn, NY
- March 19, 2013 e-mail from Nigel Teekasingh, Brooklyn, NY
- March 19, 2013 e-mail from Sasha Silverstein
- March 19, 2013 e-mail from Irene Messier, Brooklyn, NY
- March 19, 2013 e-mail from Eva Campbell, Brooklyn, NY
- March 19, 2013 e-mail from Mary-Beth Shine, Brooklyn, NY
- March 19, 2013 e-mail from Deirdre Williams
- March 19, 2013 e-mail from Alison Simonian, Chicago, Il
- March 19, 2013 e-mail from Thomas Lisenbee, Brooklyn, NY
- March 19, 2013 e-mail from Zinaida Pelkey, New York, NY
- March 19, 2013 e-mail from Marta Weber, Brooklyn, NY
- March 19, 2013 e-mail from Edwin Roig Casanova, Carolina, PR
- March 19, 2013 e-mail from Caitlin Cassaro, Brooklyn, NY
- March 19, 2013 e-mail from Rosemary Moore, Brooklyn, NY
- March 19, 2013 e-mail from Patricia Isoldi
- March 19, 2013 e-mail from Edna Garces, Brooklyn, NY
- March 19, 2013 e-mail from Maria Maida, Brooklyn, NY
- March 19, 2013 e-mail from Livia Pantuliano, Brooklyn, NY
- March 19, 2013 e-mail from Sherwood Reece, Brooklyn, NY
- March 19, 2013 e-mail from Ryan Gerasimowicz, Washington, DC
- March 19, 2013 e-mail from Sharon Kraus, Brooklyn, NY
- March 19, 2013 e-mail from Sabrina De Martini, Brooklyn, NY
- March 19, 2013 e-mail from Jennifer Goldfrank, Brooklyn, NY
- March 19, 2013 e-mail from Zach DeSart, Brooklyn, NY
- March 19, 2013 e-mail from Maryam Daghmoumi, Brooklyn, NY
- March 19, 2013 e-mail from Mark Beauregard, Brooklyn, NY
- March 19, 2013 e-mail from Burcu Avsar DeSart, Brooklyn, NY
- March 19, 2013 e-mail from Hong man Tung, Brooklyn, NY
- March 20, 2013 postcard from Jennifer Nelson and James Cameron, Brooklyn, NY
- Undated postcard (postmarked March 20, 2013) from an unknown party (undecipherable signature), Brooklyn, NY
- March 20, 2013 e-mail from Eman Rashid, Brooklyn, NY
- March 20, 2013 e-mail from Erin Carr, Staten Island, NY
- March 20, 2013 e-mail from Todd Seidman, Brooklyn, NY

- March 20, 2013 e-mail from Alex Sherker
- March 20, 2013 e-mail from Marid Sirotniak , Brooklyn, NY
- March 20, 2013 e-mail from Louise Williams, Brooklyn, NY
- March 20, 2013 e-mail from Alev Dervish, Brooklyn, NY
- March 20, 2013 e-mail from Amy Stein, Brooklyn, NY
- March 20, 2013 e-mail from Eli Cohen, Flagstaff, AZ
- March 20, 2013 e-mail from Jeffrey Hines, Brooklyn, NY
- March 20, 2013 e-mail from Anne ONeil, Brooklyn, NY
- March 20, 2013 e-mail from Jacob Lesher, Brooklyn, NY
- March 20, 2013 e-mail from Elizabeth Meister, Brooklyn, NY
- March 20, 2013 e-mail from Kasie Kelley, Brooklyn, NY
- March 20, 2013 e-mail from Mary Gannett, Brooklyn, NY
- March 20, 2013 e-mail from Hally McGehean, Brooklyn, NY
- March 20, 2013 e-mail from Heloise Rathbone, Brooklyn, NY
- March 20, 2013 e-mail from Paula Clarke, Brooklyn, NY
- March 20, 2013 e-mail from Louis Heck, Brooklyn, NY
- March 20, 2013 e-mail from Sean Tice, Brooklyn, NY
- March 20, 2013 e-mail from Jessica Rans, Brooklyn, NY
- March 20, 2013 e-mail from Tanya Selvaratnam, Brooklyn, NY
- March 20, 2013 e-mail from Aili Saadia, Brooklyn, NY
- March 20, 2013 e-mail from Ljiljana Minwalla, Brooklyn, NY
- March 20, 2013 e-mail from Mitzy Ledezma, New York, NY
- March 20, 2013 e-mail from Fiona Ryan, Brooklyn, NY
- March 20, 2013 e-mail from Maryana Vestic, Brooklyn, NY
- March 20, 2013 e-mail from Kristina Frantz, Brooklyn, NY
- March 20, 2013 e-mail from Shannon Lorraine, Brooklyn, NY
- March 20, 2013 e-mail from Amber Papini, Brooklyn, NY
- March 20, 2013 e-mail from Christopher Piscitelli, Brooklyn, NY
- March 20, 2013 e-mail from Marcy Lynn, Brooklyn, NY
- March 20, 2013 e-mail from Karen Propp, Brooklyn, NY
- March 20, 2013 e-mail from Lucy Wildblood, Chicago, IL
- March 20, 2013 e-mail from Leslie Chapman, Brooklyn, NY
- March 20, 2013 e-mail from Nicci Jordan Hubert, Brooklyn, NY
- March 20, 2013 e-mail from Jeff Abrams, Brooklyn, NY
- March 20, 2013 e-mail Fromdenise Gallo, Buffalo, NY
- March 20, 2013 e-mail from Georg Schmithusen, Brooklyn, NY
- March 20, 2013 e-mail from Pamela Ryan, Brooklyn, NY
- March 20, 2013 e-mail from Ari Marte
- March 20, 2013 e-mail from Leah Reyes, Brooklyn, NY
- March 20, 2013 e-mail from D. Weeks
- March 20, 2013 e-mail from Elizabeth Gilligan, Albuquerque, NM
- March 20, 2013 e-mail from M. Franklin, Brooklyn, NY
- March 20, 2013 e-mail from Anne Boccio, Brooklyn, NY
- March 20, 2013 e-mail from Dina Shirin, New York, NY

- March 20, 2013 e-mail from Brittany Rice, Greenwood, IN
- March 20, 2013 e-mail from Catherine Havlicek, Brooklyn, NY
- March 20, 2013 e-mail from Bryan Louie, Brooklyn, NY
- March 20, 2013 e-mail from Harriet Chichester, Brooklyn, NY
- March 20, 2013 e-mail from Julia Castro, Brooklyn, NY
- March 20, 2013 e-mail from Lynn McLafferty, Hillsboro, MO
- March 20, 2013 e-mail from Hannah Gersen, Brooklyn, NY
- March 20, 2013 e-mail from Stephen Moverley, Brooklyn, NY
- March 20, 2013 e-mail from Kiad Ali, Brooklyn, NY
- March 20, 2013 e-mail from John Sutton, Brooklyn, NY
- March 20, 2013 e-mail from Eliza Engelberg, Brooklyn, NY
- March 20, 2013 e-mail from John-Paul O'Neil, Brooklyn, NY
- March 20, 2013 e-mail from Caroline Trevelo, Brooklyn, NY
- March 20, 2013 e-mail from Katie Tinto, Brooklyn, NY
- March 21, 2013 e-mail from Michael Corbett, Brooklyn, NY
- March 21, 2013 e-mail from Muffin Spencer, Brooklyn, NY
- March 21, 2013 e-mail from Elisa Chiou-Gay, Brooklyn, NY
- March 21, 2013 e-mail from Yvonne Negron, Brooklyn, NY
- March 21, 2013 e-mail from Adriana Monroe
- March 21, 2013 e-mail from Michael Morse, Brooklyn, NY
- March 21, 2013 e-mail from Christina Vargas, Brooklyn, NY
- March 21, 2013 e-mail from Sue Kues, Loveland, Ohio
- March 21, 2013 e-mail from Hooker Christian, Brooklyn, NY
- March 21, 2013 e-mail from Linda Desart, Athens, AL
- March 21, 2013 e-mail from Zuzana Vojtek, Brooklyn, NY
- March 21, 2013 e-mail from Andrea McKnight, Brooklyn, NY
- March 21, 2013 e-mail from Matt Rubendall, Brooklyn, NY
- March 21, 2013 e-mail from Anne Bernstein, Brooklyn, NY
- March 21, 2013 e-mail from Michael Lepow, Brooklyn, NY
- March 21, 2013 e-mail from Melissa Whelan, Brooklyn, NY
- March 22, 2013 e-mail from Franzi Wollenberg, Somerville, MA
- Undated postcard (postmarked March 22, 2013) from Luis Sturla and Zunilda Sturla, Brooklyn, NY
- March 22, 2013 e-mail from Dahn Maier, Brooklyn, NY
- March 22, 2013 e-mail from Amy Lehr, Brooklyn, NY
- March 22, 2013 e-mail from Suzy Daren, Brooklyn, NY
- March 22, 2013 e-mail from Cassandra Becerril, Brooklyn, NY
- March 22, 2013 e-mail from Liberty Howell, Brooklyn, NY
- March 23, 2013 e-mail from John Martinez, Brooklyn, NY
- March 23, 2013 postcard from an unknown party (undecipherable signature), Brooklyn, NY
- March 23, 2013 postcard from an unknown party (undecipherable signature), Brooklyn, NY

- March 23, 2013 postcard from an unknown party (undecipherable signature), Brooklyn, NY
- March 23, 2013 e-mail from Steve Torres, Brooklyn, NY
- March 23, 2013 e-mail from Vivian Berghahn,
- March 23, 2013 e-mail from Gina Santonas, Brooklyn, NY
- March 23, 2013 e-mail from Tracey Wilson, Brooklyn, NY
- March 23, 2013 e-mail from Courtney Brown, Atlanta, GA
- March 24, 2013 e-mail from Tristan Smith, Brooklyn, NY
- March 24, 2013 postcard from an unknown party (undecipherable signature), Brooklyn, NY
- March 24, 2013 e-mail from Henrietta Perkins, Brooklyn, NY
- March 24, 2013 e-mail from Matthew Lore, Brooklyn, NY
- March 24, 2013 e-mail from Piper Alldredge, Brooklyn, NY
- March 24, 2013 e-mail from Leila Hafalia-Cadiz, Brooklyn, NY
- March 25, 2013 e-mail from Cyn Njideka
- March 25, 2013 e-mail from Julia Felsenthal, Brooklyn, NY
- March 25, 2013 e-mail from Katy Walker, Brooklyn, NY
- March 25, 2013 e-mail from Steven LaMorte, Brooklyn, NY
- March 25, 2013 e-mail from Jordana Leonidas, Brooklyn, NY
- March 26, 2013 e-mail from Shannon Haick, Brooklyn, NY
- March 26, 2013 postcard from an unknown party (undecipherable signature), Brooklyn, NY
- March 26, 2013 postcard from Susan Penn, Brooklyn, NY
- March 26, 2013 e-mail from Rebecca Freeman, Brooklyn, NY
- March 26, 2013 e-mail from Matthew McDermott, Brooklyn, NY
- March 26, 2013 e-mail from Tiziana Mazziotto, Brooklyn, NY
- March 26, 2013 e-mail from Julianne Sombat, Brooklyn, NY
- March 26, 2013 e-mail from Michael Violate, New York, NY
- March 26, 2013 e-mail from Alyson Shotz, Brooklyn, NY
- March 26, 2013 e-mail from Beth Caspar, Brooklyn, NY
- March 26, 2013 e-mail from Thomas Farley, Somerville, MA
- March 26, 2013 e-mail from Jonathan Weidlinger, Brooklyn, NY
- March 27, 2013 e-mail from Susan Peikes, Jamaica, NY
- March 27, 2013 postcard from an unknown party (undecipherable signature), Brooklyn, NY
- March 27, 2013 postcard from an unknown party (undecipherable signature), Brooklyn, NY
- Undated postcard (postmarked March 27, 2013) from an unknown party (no name provided), Brooklyn, NY
- March 27, 2013 e-mail from Brent Richardson, New York, NY
- March 27, 2013 e-mail from Jim Kenna, Brooklyn, NY
- March 27, 2013 e-mail from Tiffany Rung, Brooklyn, NY
- March 27, 2013 e-mail from Sheetal Khanna-Ravich, Brooklyn, NY

- Undated postcard (postmarked March 28, 2013) from an unknown party (undecipherable signature), Brooklyn, NY
- March 28, 2013 e-mail from Truman McCasland, Brooklyn, NY
- March 28, 2013 e-mail from Timothy Frank, Brooklyn, NY
- March 28, 2013 e-mail from Brandon Emerick, Brooklyn, NY
- March 28, 2013 e-mail from Dale Balenseifen, Brooklyn, NY
- March 28, 2013 e-mail from Mona Nicoara, Brooklyn, NY
- March 28, 2013 e-mail from Edwin Rekosh, Brooklyn, NY
- March 29, 2013 e-mail from Alison Ruzsa
- March 30, 2013 e-mail from Edward Thompson, Brooklyn, NY
- March 30, 2013 postcard from Alex Nobel, Brooklyn, NY
- March 30, 2013 e-mail from Daniel Schottenfeld, Brooklyn, NY
- March 31, 2013 e-mail from Mary Howard, Brooklyn, NY
- March 31, 2013 postcard from an unknown party (undecipherable signature), Brooklyn, NY
- March 31, 2013 postcard from an unknown party (undecipherable signature), Brooklyn, NY
- March 31, 2013 e-mail from Ashley Jimenez, Bronx, NY
- April 1, 2013 e-mail from Jovan Torres, Brooklyn, NY
- April 1, 2013 letter from Whilhelmina Scott, Brooklyn, NY
- April 1, 2013 postcard from Daniel Rommeien, Brooklyn, NY
- April 1, 2013 postcard from Vincent Malerba, Brooklyn, NY
- April 1, 2013 postcard from an unknown party (undecipherable signature), Brooklyn, NY
- April 1, 2013 postcard from Pippa Pearthree, Brooklyn, NY
- April 1, 2013 e-mail from Julie Shavalier, Brooklyn, NY
- April 1, 2013 e-mail from Jacqueline Batton, Brooklyn, NY
- April 2, 2013 letter from Lena M. White, Brooklyn, NY
- April 2, 2013 letter from Cilos Barreto, Brooklyn, NY
- April 2, 2013 postcard from an unknown party (undecipherable signature), Brooklyn, NY
- April 2, 2013 postcard from Leon Ransmeier, Brooklyn, NY
- April 2, 2013 postcard from an unknown party (undecipherable signature), Brooklyn, NY
- April 2, 2013 postcard from Susan Saunders, Brooklyn, NY
- April 2, 2013 e-mail from CORD Co-Founders Lucy DeCarlo, Rita Miller, and Triada Samaras, Brooklyn, NY
- April 2, 2013 e-mail from Aaron Vail, Brooklyn, NY
- April 3, 2013 e-mail from Loni Markman, Brooklyn, NY
- April 3, 2013 letter from Lillie Marshall, Brooklyn, NY
- April 3, 2013 letter from Alexander Scott, Jr., Brooklyn, NY
- April 3, 2013 postcard from A. Duanti, Brooklyn, NY
- Undated postcard (postmarked April 3, 2013) from an unknown party (undecipherable signature), Brooklyn, NY
- April 3, 2013 e-mail from Jessica Taran, New York, NY
- April 3, 2013 e-mail from Tim Gilman, Brooklyn, NY
- April 3, 2013 e-mail from Lauren Gilmore, Brooklyn, NY

- April 3, 2013 e-mail from Damien Reilly
- April 3, 2013 e-mail from Erin Blondes, Brooklyn, NY
- April 3, 2013 e-mail from Christian Dallett, Brooklyn, NY
- April 3, 2013 e-mail from Philip Weinberg, Brooklyn, NY
- April 3, 2013 e-mail from Rachel Guidera, Brooklyn, NY
- April 3, 2013 e-mail from Nicole Daunic, Brooklyn, NY
- April 3, 2013 e-mail from Denise Carbonell, Brooklyn, NY
- April 3, 2013 e-mail from Suzanne Spizz
- April 3, 2013 e-mail from Kristin Eno, Brooklyn, NY
- April 3, 2013 e-mail from Marleen Reamer
- April 3, 2013 e-mail from Pilar Montero, Brooklyn, NY
- April 4, 2013 e-mail from Dominick Gervasi, Brooklyn, NY
- Undated postcard (postmarked April 4, 2013) from an unknown party (undecipherable signature), Brooklyn, NY
- Undated postcard (postmarked April 4, 2013) from an unknown party (undecipherable signature), Brooklyn, NY
- April 4, 2013 postcard from an unknown party (undecipherable signature), Brooklyn, NY
- April 4, 2013 e-mail from Nicole Brydson
- April 4, 2013 e-mail from Noah Landes, Brooklyn, NY
- April 4, 2013 e-mail from Katie Schulder-Battis, Brooklyn, NY
- April 4, 2013 e-mail from Todd Bonne, Brooklyn, NY
- April 4, 2013 e-mail from Lisanne McTernan, Brooklyn, NY
- April 4, 2013 e-mail from Carrie McClean, Brooklyn, NY
- April 4, 2013 e-mail from Oliver Block, Brooklyn, NY
- April 4, 2013 e-mail from Katie Cooper, Brooklyn, NY
- April 4, 2013 e-mail from Ben Beinecke, Brooklyn, NY
- April 4, 2013 e-mail from Abbe Hill, Brooklyn, NY
- April 4, 2013 e-mail from Jeff Marks
- April 4, 2013 e-mail from Duane Stapp, Brooklyn, NY
- April 4, 2013 e-mail from Stan Wagner
- April 4, 2013 e-mail from Nadja Paton, Brooklyn, NY
- April 4, 2013 e-mail from Doug Adesko, Brooklyn, NY
- April 4, 2013 e-mail from Christina Mednick, Brooklyn, NY
- April 4, 2013 e-mail from Gregory O'Connell Jr., Brooklyn, NY
- April 4, 2013 e-mail from Michael Silverman, Brooklyn, NY
- April 4, 2013 e-mail from Rhys Daunic, Brooklyn, NY
- April 4, 2013 e-mail from Dionaris Henriquez, Brooklyn, NY
- April 4, 2013 e-mail from Kateri Jochum, Brooklyn, NY
- April 4, 2013 e-mail from Barbara Elovic, Brooklyn, NY
- April 4, 2013 e-mail from Jenny Golden, Brooklyn, NY
- April 4, 2013 e-mail from Jake Beinecke, Brooklyn, NY
- April 4, 2013 e-mail from Derek Dominy, Brooklyn, NY
- April 4, 2013 e-mail from Lisa Lagomarsino, Brooklyn, NY
- April 4, 2013 e-mail from Harriet Zucker, Brooklyn, NY

- April 4, 2013 e-mail from Stacey Zielinski, Brooklyn, NY
- April 4, 2013 e-mail from Paul Heller, Brooklyn, NY
- April 4, 2013 e-mail from Claire Alba, Brooklyn, NY
- April 4, 2013 e-mail from Jeff Feola, Brooklyn, NY
- April 4, 2013 e-mail from Terumi Matthews, New York, NY
- April 4, 2013 e-mail from Luz Vasquez, Brooklyn, NY
- April 4, 2013 e-mail from Gabrielle Blanchette, Brooklyn, NY
- April 4, 2013 e-mail from Niels Koizumi, Brooklyn, NY
- April 4, 2013 e-mail from Sanije Gjokaj, Brooklyn, NY
- April 5, 2013 letter from James J. Kenna, Brooklyn, NY
- April 5, 2013 e-mail from Marisol Castanos, Brooklyn, NY
- April 5, 2013 e-mail from Tara Collazo, Brooklyn, NY
- April 5, 2013 e-mail from Jonathan Browning, Brooklyn, NY
- April 5, 2013 e-mail from Vanessa Adeseko, Brooklyn, NY
- April 5, 2013 e-mail from Beatrice Byrd, Brooklyn, NY
- April 5, 2013 e-mail from Kerlin Richter
- April 5, 2013 e-mail from Eric Saul, Brooklyn, NY
- April 5, 2013 e-mail from Celia Land, Brooklyn, NY
- April 5, 2013 e-mail from Marie Hueston, Brooklyn, NY
- April 5, 2013 e-mail from Barbara Brookhart, Brooklyn, NY
- April 5, 2013 e-mail from Christopher Baginski, Brooklyn, NY
- April 5, 2013 e-mail from Rachael Laumann, Brooklyn, NY
- April 5, 2013 e-mail from Georgia West Stacey, Brooklyn, NY
- April 5, 2013 e-mail from Janeen Potts, Brooklyn, NY
- April 5, 2013 e-mail from Erin Kelly, Brooklyn, NY
- April 5, 2013 e-mail from Jennifer Frantz, Brooklyn, NY
- April 5, 2013 e-mail from Emily Jenkins, Brooklyn, NY
- April 5, 2013 e-mail from Dylan Westfeldt , Interpreter, English/Spanish/French
- April 5, 2013 e-mail from Michael Dobbs, Brooklyn, NY
- April 5, 2013 e-mail from Michael Yuen-Killick, Brooklyn, NY
- April 5, 2013 e-mail from Joan Maloney, Brooklyn, NY
- April 5, 2013 e-mail from Sarah Ludington, Brooklyn, NY
- April 5, 2013 e-mail from Joshua Becerril, Brooklyn, NY
- April 5, 2013 e-mail from Sarah Norton
- April 5, 2013 e-mail from Chan Dave, Brooklyn, NY
- April 6, 2013 e-mail from Rocco Rella, Brooklyn, NY
- April 6, 2013 e-mail from Janice Vail, Scranton, PA
- April 6, 2013 e-mail from Jeremy Floto, Brooklyn, NY
- April 6, 2013 e-mail from Cassandra Floto, Brooklyn, NY
- April 6, 2013 e-mail from Marissa Freeman, Brooklyn, NY
- April 6, 2013 e-mail from Oliver Jones, Brooklyn, NY
- April 6, 2013 e-mail from Sarah Yates, Rockaway, NJ
- April 6, 2013 e-mail from Danielle Leiva
- April 6, 2013 e-mail from Jared Thompson, Brooklyn, NY

- April 6, 2013 e-mail from David Congdon and Nancy Golladay, Brooklyn, NY
- April 6, 2013 e-mail from Sara Guilbeau, Brooklyn, NY
- April 6, 2013 e-mail from Cesar Vallejo, Brooklyn, NY
- April 6, 2013 e-mail from Clare McCarthy, Brooklyn, NY
- April 7, 2013 e-mail from Catherine Steindler, Brooklyn, NY
- April 7, 2013 letter from Aqueena Phillips, Brooklyn, NY
- April 7, 2013 letter from Linda Johnson, Brooklyn, NY
- April 7, 2013 letter from Chastity Santiago, Brooklyn, NY
- April 7, 2013 letter from Nyetta Walker, Brooklyn, NY
- April 7, 2013 letter from Shawna Smith, Brooklyn, NY
- April 7, 2013 letter from Rhesh Benn, Brooklyn, NY
- April 7, 2013 letter from Debra Traore, Brooklyn, NY
- April 7, 2013 letter from Jacquelyn Pollard, Brooklyn, NY
- April 7, 2013 letter from Tyguan Harchett, Brooklyn, NY
- April 7, 2013 e-mail from Lilian Otero, Brooklyn, NY
- April 7, 2013 e-mail from John Garcia, Brooklyn, NY
- April 7, 2013 e-mail from Caroline Parker, New York, NY
- April 7, 2013 e-mail from Michael, Melissa, Lily & Stella King, Brooklyn, NY
- April 8, 2013 letter from Mary Scott, Brooklyn, NY
- April 8, 2013 letter from Kiara Cornish, Brooklyn, NY
- April 8, 2013 letter from Kiana Cornish, Brooklyn, NY
- April 8, 2013 letter from Yvette Mack, Brooklyn, NY
- April 8, 2013 letter from Barsha Brown, Brooklyn, NY
- April 8, 2013 letter from Marcia Pristell, Brooklyn, NY
- April 8, 2013 letter from Robert Jeffries, Brooklyn, NY
- April 8, 2013 letter from Nathaniel Williams, Brooklyn, NY
- Undated postcard (postmarked April 8, 2013) from an unknown party (undecipherable signature), Brooklyn, NY
- April 8, 2013 e-mail from Daniel Kim, Brooklyn, NY
- April 8, 2013 e-mail from Eva Bogaty, Brooklyn, NY
- April 8, 2013 e-mail from Zoe Pellegrino, Brooklyn, NY
- April 8, 2013 e-mail from Lynn Husum, Brooklyn, NY
- April 8, 2013 postcard from Laura Rommeien, Brooklyn, NY
- April 8, 2013 e-mail from Denise Oswald, Brooklyn, NY
- April 8, 2013 e-mail from Joanne Walsh, Brooklyn, NY
- April 8, 2013 e-mail from Virginia Kaisand, Brooklyn, NY
- April 8, 2013 e-mail from Julie Veto, Brooklyn, NY
- April 8, 2013 e-mail from Felecia Groomster, Brooklyn, NY
- April 8, 2013 e-mail from Aricka Martinez, Brooklyn, NY
- April 8, 2013 e-mail from Laura Wiley, Brooklyn, NY
- April 8, 2013 e-mail from Telecia Groomster, Brooklyn, NY
- April 8, 2013 e-mail from Julie Underwood , Brooklyn, NY
- April 8, 2013 e-mail from Sarah Adams, Brooklyn, NY
- April 8, 2013 e-mail from Ben Schrank, Brooklyn, NY

- April 8, 2013 e-mail from Will Brewer, New York, NY
- April 8, 2013 e-mail from Danielle Vidals, Brooklyn, NY
- April 8, 2013 e-mail from Diana Jones-Ellis, Tallahassee, FL
- April 8, 2013 e-mail from Julie Czeck, Brooklyn, NY
- April 8, 2013 e-mail from Jamie Mirabella, Brooklyn, NY
- April 8, 2013 e-mail from Rebecka Froberg, Brooklyn, NY
- April 8, 2013 e-mail from Victor Verbeek, Brooklyn, NY
- April 9, 2013 e-mail from Emily Greenspan, Brooklyn, NY
- April 9, 2013 postcard on behalf of Red Herring Design, Brooklyn, NY
- April 9, 2013 postcard from Faustino Pinella, Brooklyn, NY
- April 9, 2013 letter from Mercedes Jones, Brooklyn, NY
- April 9, 2013 letter from Christina Byard, Brooklyn, NY
- April 9, 2013 letter from Geraldine Crawford, Brooklyn, NY
- April 9, 2013 letter from Vivian Bush, Brooklyn, NY
- April 9, 2013 letter from Orlando Brown, Brooklyn, NY
- April 9, 2013 e-mail from Judith E. Fletcher, Bronx, NY
- April 9, 2013 e-mail from Yoana Yelin, Brooklyn, NY
- April 9, 2013 e-mail from Mohamed Yahia, Brooklyn, NY
- April 9, 2013 e-mail from Jane Elkins, Greensboro, NC
- April 9, 2013 e-mail from Yim Noble, Brooklyn, NY
- April 9, 2013 e-mail from Laurine Celeste Fox, New York, NY
- April 9, 2013 e-mail from Susan Peebles, Brooklyn, NY
- April 9, 2013 e-mail from Jessica Henson, Brooklyn, NY
- April 9, 2013 e-mail from Judith S. Weis, New York, NY
- April 9, 2013 e-mail from Idra Novey
- April 9, 2013 e-mail from Elvira Ferrario, Brooklyn, NY
- April 10, 2013 e-mail from Evelyn Moore, St. Paul, MN
- April 10, 2013 e-mail from Kim Forte, Brooklyn, NY
- April 10, 2013 e-mail from Frank Dituri, Brooklyn, NY
- April 10, 2013 e-mail from Bettina Magi, Brooklyn, NY
- April 10, 2013 e-mail from Annie Karma, Brooklyn, NY
- April 10, 2013 e-mail from Jennifer Zackin, Brooklyn, NY
- April 10, 2013 e-mail from Brian Melton, Brooklyn, NY
- April 10, 2013 e-mail from Devorah Easton, Brooklyn, NY
- April 10, 2013 e-mail from Kerry Shear, Brooklyn, NY
- April 10, 2013 e-mail from Clara Villanueva, Brooklyn, NY
- April 10, 2013 e-mail from Wilson Villanueva, Brooklyn, NY
- April 10, 2013 e-mail from Michael Talavera, Brooklyn, NY
- April 10, 2013 e-mail from Natalie Bishar, Brooklyn, NY
- April 10, 2013 e-mail from Nikki Persley-Bartis, Brooklyn, NY
- April 10, 2013 e-mail from Nancy Haynes, Brooklyn, NY
- April 10, 2013 e-mail from Anthony Schloss, Media Programs Coordinator
- April 10, 2013 e-mail from Deco Zapata, Brooklyn, NY
- April 10, 2013 e-mail from Sylvie Bertrand

- April 10, 2013 e-mail from Nancy Wong, Brooklyn, NY
- April 10, 2013 e-mail from Carrie Straus, Brooklyn, NY
- April 10, 2013 e-mail from Jack Berkowitz, New York, NY
- April 10, 2013 e-mail from Maryann Young, Alternate member to the Gowanus Canal Superfund Community Advisory Group Friends of CORD, FROGG and Developing Stronger Brooklyn Communities Block by Block, Brooklyn, NY
- April 10, 2013 e-mail from Josiah Garay, Brooklyn, NY
- April 10, 2013 e-mail from Wilfredo Garay, Brooklyn, NY
- April 10, 2013 e-mail from Chris Anderson, Brooklyn, NY
- April 10, 2013 e-mail from Melissa Harty, Brooklyn, NY
- April 10, 2013 e-mail from Zachary Knudson, Brooklyn, NY
- April 11,2013 letter from Ed Murphy, Executive Director, Workforce Development Institute, Albany, NY
- April 11, 2013 letter from Irene Van Slyke, Brooklyn, NY
- April 11, 2013 letter from Richard Van Slyke, Brooklyn, NY
- April 11, 2013 letter from Edgar L. Freud, New York, NY
- April 11, 2013 letter from Olive Freud, New York, NY
- April 11, 2013 letter from Martha Cameron, Brooklyn, NY
- April 11, 2013 letter from Clare Donohue, New York, NY
- April 11, 2013 letter from James M. Lane, Jersey City, NJ
- April 11, 2013 letter from Ken Baer, Brooklyn NY
- April 11, 2013 letter from Alan Gerson, New York, NY
- April 11, 2013 e-mail from Sarah Woodside Gallagher, New York, NY
- April 11, 2013 e-mail from James Confalone, Brooklyn, NY
- April 11, 2013 e-mail from Arielle Meier, Brooklyn, NY
- April 11, 2013 e-mail from Kyle Phaneuf, Brooklyn, NY
- April 11, 2013 e-mail from Vivian Slaughter, Brooklyn, NY
- April 11, 2013 e-mail from David Fernandez, Brooklyn, NY
- April 11, 2013 e-mail from Edith Stone, Brooklyn, NY
- April 11, 2013 e-mail from J'Naire Rogers, New York, NY
- April 11, 2013 e-mail from Valerie Chisholm, Brooklyn, NY
- April 11, 2013 e-mail from Melicia Pristell, Brooklyn, NY
- April 12, 2013 letter from M. Moorhead, New York, NY
- April 12, 2013 letter from Vera Esannoson, Brooklyn, NY
- April 12, 2013 letter from Gail Pressley, Brooklyn, NY
- April 12, 2013 e-mail from Hal Smith, Windsor, NY
- April 12, 2013 e-mail from Jean Shin, Brooklyn, NY
- April 12, 2013 e-mail from Ramona Kohrs, Brooklyn, NY
- April 12, 2013 e-mail from Lauren Merkin, Brooklyn, NY
- April 13, 2013 letter from Paige Tooker, Brooklyn, NY
- April 13, 2013 letter from Carmen Roman
- April 13, 2013 e-mail from Krystal Lopez, Brooklyn, NY
- April 13, 2013 e-mail from Laura Gallahue, Brooklyn, NY
- April 13, 2013 e-mail from Adele Andrade, Brooklyn, NY

- April 13, 2013 e-mail from Paige Tooker, Brooklyn, NY
- April 14, 2013 letter from Michael Sumpter, Brooklyn, NY
- April 14, 2013 letter from Michelle Eaddy, Brooklyn, NY
- April 14, 2013 letter from Anthony Watson, Brooklyn, NY
- April 14, 2013 letter from Berneaetha Curry, Brooklyn, NY
- April 14, 2013 letter from Ronald Brown, Brooklyn, NY
- April 14, 2013 letter from Vernon Bartee, Jr., Brooklyn, NY
- April 14, 2013 letter from Jimmy Reed, Brooklyn, NY
- April 14, 2013 letter from Ellamae Harden, Brooklyn, NY
- April 14, 2013 letter from Mary Mann, Brooklyn, NY
- April 14, 2013 postcard from an unknown party (undecipherable signature), Brooklyn, NY
- April 14, 2013 e-mail from Yong Shin
- April 14, 2013 e-mail from Julieta Capote, Brooklyn, NY
- April 14, 2013 e-mail from Alexander Chen, Brooklyn, NY
- April 14, 2013 e-mail from Alice Jones, Brooklyn, NY
- April 14, 2013 e-mail from Andrew Karp
- April 14, 2013 e-mail from Elizabeth West, Brooklyn, NY
- April 14, 2013 e-mail from Alison Filosa, Brooklyn, NY
- April 14, 2013 e-mail from Brindalyn Chen, Brooklyn, NY
- April 14, 2013 e-mail from Monika Haar, Brooklyn, NY
- April 15, 2013 e-mail from Stacy Rosenstock
- April 15, 2013 letter from Roxanne Byard, Brooklyn, NY
- April 15, 2013 letter from Stephanie Pitts, Brooklyn, NY
- Undated postcard (postmarked April 15, 2013) from an unknown party (undecipherable signature), New York, NY
- Undated postcard (postmarked April 15, 2013) from an unknown party (undecipherable signature), Ridgewood, NY
- April 15, 2013 postcard from an Bob Biondi, Brooklyn, NY
- April 15, 2013 postcard from James Martin, Brooklyn, NY
- April 15, 2013 e-mail from Bjork Gudmundsdottir, Brooklyn, NY
- April 15, 2013 e-mail from David Ruder, Brooklyn, NY
- April 15, 2013 e-mail from Stefan Zarember, Brooklyn, NY
- April 15, 2013 e-mail from Daniel Arnow, Brooklyn, NY
- April 15, 2013 e-mail from Ryan McManus, Brooklyn, NY
- April 15, 2013 e-mail from Kristen Levine, Brooklyn, NY
- April 15, 2013 e-mail from Sheila Watts, Philadelphia, PA
- April 15, 2013 e-mail from Robert Friedman, Brooklyn, NY
- April 15, 2013 e-mail from Lorna Clark, Brooklyn, NY
- April 15, 2013 e-mail from Jessica Schoen, Brooklyn, NY
- April 15, 2013 e-mail from Bonnie Kruft, Brooklyn, NY
- April 15, 2013 e-mail from Christina LaPrease, Brooklyn, NY
- April 15, 2013 e-mail from Tim O'Sullivan, Brooklyn, NY
- April 15, 2013 e-mail from Kristina Mukendi

- April 15, 2013 e-mail from William Peeler, Brooklyn, NY
- April 15, 2013 e-mail from Julie Mishkin, Kensington, MD
- April 15, 2013 e-mail from Aaron Maninang,
- April 15, 2013 e-mail from Lisa Jiang, Brooklyn, NY
- April 15, 2013 e-mail from Adrian Landon, New York, NY
- April 16, 2013 letter from Anglea Williams, Brooklyn, NY
- April 16, 2013 letter from Shalynda Johnson, Brooklyn, NY
- April 16, 2013 letter from Rafael Delgetto, Brooklyn, NY
- April 16, 2013 letter from Jahshawn Ramirez, Brooklyn, NY
- April 16, 2013 letter from Tyler Esannason, Brooklyn, NY
- April 16, 2013 letter from Al-Leaon Alston, Brooklyn, NY
- April 16, 2013 letter from Crystal Bolden, Brooklyn, NY
- April 16, 2013 letter from Tylek McDonald, Brooklyn, NY
- April 16, 2013 letter from Patricia Sherwood, Brooklyn, NY
- April 16, 2013 letter from Ariane Pelliccia, Brooklyn, NY
- April 16, 2013 letter from Vicent Joyner, Brooklyn, NY
- April 16, 2013 letter from Bonita Felix, Brooklyn, NY
- April 16, 2013 letter from Tinia Avery, Brooklyn, NY
- April 16, 2013 letter from Misael Gonzalez, Brooklyn, NY
- April 16, 2013 letter from Courtney Robinson, Brooklyn, NY
- April 16, 2013 letter from Sean A. Johnson, Brooklyn, NY
- April 16, 2013 letter from Abdo Abuzeid, Brooklyn, NY
- April 16, 2013 letter from Telford Lyles, Brooklyn, NY
- April 16, 2013 letter from Anthony Lafe, Brooklyn, NY
- April 16, 2013 letter from Shallah Allah, Brooklyn, NY
- April 16, 2013 letter from Sandra Baker, Brooklyn, NY
- April 16, 2013 letter from Kenyan Johnson, Brooklyn, NY
- April 16, 2013 letter from Daniel Morales, Brooklyn, NY
- April 16, 2013 letter from Alberto Agront, Brooklyn, NY
- April 16, 2013 letter from Alex Nojmier, Brooklyn, NY
- April 16, 2013 letter from Marco Nazario, Brooklyn, NY
- April 16, 2013 letter from Al-Leon Alston, Brooklyn, NY
- April 16, 2013 letter from Torre Williams, Brooklyn, NY
- April 16, 2013 letter from Felix Dickerson, Brooklyn, NY
- April 16, 2013 letter from David Mathis, Brooklyn, NY
- April 16, 2013 letter from Rochelle Owens, Brooklyn, NY
- April 16, 2013 letter from Gary Hamilton, Brooklyn, NY
- April 16, 2013 letter from Boris Molkandov, Brooklyn, NY
- April 16, 2013 letter from Shawndell Johnson, Brooklyn, NY
- April 16, 2013 letter from Charles Corbin, Brooklyn, NY
- April 16, 2013 letter from Sheleen Holmes, Brooklyn, NY
- April 16, 2013 letter from Mack Miller, Brooklyn, NY
- April 16, 2013 letter from Wakeeta Juneol, Brooklyn, NY
- April 16, 2013 letter from Steven Lovett, Brooklyn, NY

- April 16, 2013 letter from Felix Ortiz, Brooklyn, NY
- April 16, 2013 letter from Alex Hernandez, Brooklyn, NY
- April 16, 2013 letter from Carmen Liquet, Brooklyn, NY
- April 16, 2013 letter from Tyrell Harris, Brooklyn, NY
- April 16, 2013 letter from Tanya Collins, Brooklyn, NY
- Undated postcard (postmarked April 16, 2013) from an unknown party (undecipherable signature), New York, NY
- April 16, 2013 e-mail from Anthony Serrano, Brooklyn, NY
- April 16, 2013 e-mail from Gillian Kane, Brooklyn, NY
- April 16, 2013 e-mail from Cheyenna Weber, Brooklyn, NY
- April 16, 2013 e-mail from Karen Broughton, Brooklyn, NY
- April 16, 2013 e-mail from John Alatsis, Brooklyn, NY
- April 16, 2013 e-mail from Richard Byrnes, Brooklyn, NY
- April 16, 2013 e-mail from Gina Gatto, Brooklyn, NY
- April 16, 2013 e-mail from Mia Wiesenthal, Brooklyn, NY
- April 16, 2013 e-mail from Christopher Tsanos, Brooklyn, NY
- April 16, 2013 e-mail from Ben Blackshear, Brooklyn, NY
- April 16, 2013 e-mail from Lisa Brandon Holley, Brooklyn, NY
- April 16, 2013 e-mail from Eve Vaterlaus, NY
- April 16, 2013 e-mail from Elizabeth Houston, New York, NY
- April 16, 2013 e-mail from Emily Ruane, Brooklyn, NY
- April 16, 2013 e-mail from Eugene Hicks, Brooklyn, NY
- April 16, 2013 e-mail from Cara Campenni, Brooklyn, NY
- April 16, 2013 e-mail from Elisabeth Vastola, Brooklyn, NY
- April 16, 2013 e-mail from Ruth Harbinger, New York, NY
- April 16, 2013 e-mail from Hayley Black, Brooklyn, NY
- April 16, 2013 e-mail from Patrick Katz, Brooklyn, NY
- April 16, 2013 e-mail from Cecelia Sanchez, Brooklyn, NY
- April 16, 2013 e-mail from Tyler Berry, Brooklyn, NY
- April 16, 2013 e-mail from Edgar Freud, P.E., Radiation Surveys, New York, NY
- April 16, 2013 e-mail from Carolyn Rogalsky, Brooklyn, NY
- April 16, 2013 e-mail from James Williams, Brooklyn, NY
- April 16, 2013 e-mail from Siobhan Towey, Brooklyn, NY
- April 16, 2013 e-mail from Marisol Truitt, Brooklyn, NY
- April 16, 2013 e-mail from Anthony Sanchez, Brooklyn, NY
- April 16, 2013 e-mail from Wylie Goodman, Brooklyn, NY
- April 16, 2013 e-mail from Donna Morgan, Brooklyn, NY
- April 16, 2013 e-mail from James Morgan, Brooklyn, NY
- April 16, 2013 e-mail from Gary W. Nickerson, New York, NY
- April 16, 2013 e-mail from Jennifer Wheary, Brooklyn, NY
- April 16, 2013 e-mail from Terrence Truitt, Brooklyn, NY
- April 16, 2013 e-mail from Carol Milano, Brooklyn, NY
- April 16, 2013 e-mail from James Grimaldi, Brooklyn, NY
- April 16, 2013 e-mail from Matt Hickman, Brooklyn, NY

- April 16, 2013 e-mail from Dylan Efinger, New York, NY
- April 16, 2013 e-mail from Judith O'Driscoll, Brooklyn, NY
- April 16, 2013 e-mail from Crystal Rivera, New York, NY
- April 16, 2013 e-mail from Katharine Berkowitz, Brooklyn, NY
- April 16, 2013 e-mail from Enid Braun, Brooklyn, NY
- April 16, 2013 e-mail from Erin Behan, Brooklyn, NY
- April 16, 2013 e-mail from Jason Adams, Brooklyn, NY
- April 16, 2013 e-mail from Judith Dieckmann, Brooklyn, NY
- April 16, 2013 e-mail from Leslie Murray, Brooklyn, NY
- April 16, 2013 e-mail from Katie Murray, Brooklyn, NY
- April 16, 2013 e-mail from Tyler Schultz, Brooklyn, NY
- April 16, 2013 e-mail from William Newsome, Brooklyn, NY
- April 16, 2013 e-mail from Edward Williams, Brooklyn, NY
- April 16, 2013 e-mail from Tevina Willis, Brooklyn, NY
- April 16, 2013 e-mail from Henrietta Perkins, Brooklyn, NY
- April 17, 2013 letter from Annette Amendbu
- April 17, 2013 letter from Drew Perrin, Brooklyn, NY
- April 17, 2013 letter from Robin Kennedy, Brooklyn, NY
- April 17, 2013 letter from Rose Meglio
- April 17, 2013 letter from Sal Meglio
- April 17, 2013 letter from Ralph Balzaro
- April 17, 2013 letter from Lorraine Barnett, Brooklyn, NY
- April 17, 2013 letter from Elsie Felder, Brooklyn, NY
- April 17, 2013 letter from Ernestine Cantrell, Brooklyn, NY
- April 17, 2013 letter from Kevin Alford, Brooklyn, NY
- April 17, 2013 letter from Jonathan James, Brooklyn, NY
- April 17, 2013 letter from Nakesha Williams, Brooklyn, NY
- April 17, 2013 letter from Diana Harris, Brooklyn, NY
- April 17, 2013 letter from Phillip Kirksey, Brooklyn, NY
- April 17, 2013 letter from Iris Ibarrondo, Brooklyn, NY
- April 17, 2013 letter from Luz Martinez, Brooklyn, NY
- April 17, 2013 letter from Douglas Williams, Brooklyn, NY
- April 17, 2013 letter from Sheldon Alexander, Brooklyn, NY
- April 17, 2013 letter from Johnny Boone, Brooklyn, NY
- April 17, 2013 letter from Quaun Brakton, Brooklyn, NY
- April 17, 2013 letter from Dente Crosby, Brooklyn, NY
- April 17, 2013 letter from Adele Rivera, Brooklyn, NY
- April 17, 2013 letter from Naya Walker, Brooklyn, NY
- April 17, 2013 letter from Lacey Harrell, Brooklyn, NY
- April 17, 2013 letter from Barbara Scott, Brooklyn, NY
- April 17, 2013 letter from Theodore Cornish, Brooklyn, NY
- April 17, 2013 letter from Alberto Pagan, Brooklyn, NY
- April 17, 2013 letter from John Lawton, Brooklyn, NY
- April 17, 2013 letter from Shorn Bamfield, Brooklyn, NY

- April 17, 2013 letter from Davean Ricks, Brooklyn, NY
- April 17, 2013 letter from Jesse Fields, Brooklyn, NY
- April 17, 2013 letter from Zane Richards, Brooklyn, NY
- April 17, 2013 letter from Liticia Canal Ramos, Brooklyn, NY
- April 17, 2013 letter from Donnell Bamfield, Brooklyn, NY
- April 17, 2013 letter from Joeann Samuels, Brooklyn, NY
- April 17, 2013 letter from Rolando Vazquez, Brooklyn, NY
- April 17, 2013 letter from Albert Alston, Brooklyn, NY
- April 17, 2013 letter from Luis Rosario, Brooklyn, NY
- April 17, 2013 letter from Manuel Olivera, Brooklyn, NY
- April 17, 2013 letter from K-Mar Cole, Brooklyn, NY
- April 17, 2013 letter from Cipriano Crespo, Brooklyn, NY
- April 17, 2013 letter from Tyrone Grant, Brooklyn, NY
- April 17, 2013 letter from Antonio Sanchez, Brooklyn, NY
- April 17, 2013 letter from Mata Wallace, Brooklyn, NY
- April 17, 2013 letter from Nichelle Morgan, Brooklyn, NY
- April 17, 2013 letter from Jason Talavera, Brooklyn, NY
- April 17, 2013 letter from Moe Salem, Brooklyn, NY
- April 17, 2013 letter from Lament Johnson, Brooklyn, NY
- April 17, 2013 letter from Melody Ortiz, Brooklyn, NY
- April 17, 2013 letter from Tiffany Watkins, Brooklyn, NY
- April 17, 2013 letter from Nahisha McCoy-Freeman, Brooklyn, NY
- April 17, 2013 letter from Clinton Penny, Brooklyn, NY
- April 17, 2013 letter from Laquan Banks, Brooklyn, NY
- April 17, 2013 letter from Jason Smith, Brooklyn, NY
- April 17, 2013 letter from Derrick Farrioc, Brooklyn, NY
- April 17, 2013 letter from Beverly Thomas, Brooklyn, NY
- April 17, 2013 letter from Dayvone Ashby, Brooklyn, NY
- April 17, 2013 letter from Ralph Tarpley, Brooklyn, NY
- April 17, 2013 letter from Dimitri Lowden, Brooklyn, NY
- April 17, 2013 e-mail from Keith Staman, Lancaster, PA
- April 17, 2013 e-mail from Teresa Solomita, Brooklyn, NY
- April 17, 2013 e-mail from Susan Daitch, Brooklyn, NY
- April 17, 2013 e-mail from Rachel Marks, Brooklyn, NY
- April 17, 2013 e-mail from Linda and Joseph Mariano, Brooklyn, NY
- April 17, 2013 e-mail from Elizabeth Kiem, Brooklyn, NY
- April 17, 2013 e-mail from Amy Helfand, Brooklyn, NY
- April 17, 2013 e-mail from Jean Bonnes, New York, NY
- April 17, 2013 e-mail from Lena Golze Desmond, New York, NY
- April 17, 2013 e-mail from Asher Pacht, Beacon, NY
- April 17, 2013 e-mail from Catherine Bright, New York, Brooklyn, NY
- April 17, 2013 e-mail from Maury Hobson, New York, NY
- April 17, 2013 e-mail from Brian Ascher, New York, NY
- April 17, 2013 e-mail from Andrea Zinn, Brooklyn, NY

- April 17, 2013 e-mail from Elspeth Macdonald, Brooklyn, NY
- April 17, 2013 e-mail from Aaron Zakem, New York, NY
- April 17, 2013 e-mail from Liz Barry, Brooklyn, NY
- April 17, 2013 e-mail from Michelle David, Brooklyn, NY
- April 17, 2013 e-mail from Laura Neiman, New York, NY
- April 17, 2013 e-mail from Mike Schade, Brooklyn, NY
- April 17, 2013 e-mail from Bruce Markens, New York, NY
- April 17, 2013 e-mail from Donna Henes, Brooklyn, NY
- April 17, 2013 e-mail from Bonnie Rosemstock, New York, NY
- April 17, 2013 e-mail from Elena Busani, Bronx, NY
- April 17, 2013 e-mail from Joseph Alfano, New York, NY
- April 17, 2013 e-mail from Gregory Durniak, Bayside, NY
- April 17, 2013 e-mail from Nora Nussbaum, Brooklyn, NY
- April 17, 2013 e-mail from Barbara Abramowitz, Brooklyn, NY
- April 17, 2013 e-mail from Becky Howland, New York, NY
- April 17, 2013 e-mail from Melanie Kaminsky, Brooklyn, NY
- April 17, 2013 e-mail from Dorothy and Dava Calvani-Weinstein, New York, NY
- April 17, 2013 e-mail from Daniella Liebling, Brooklyn, NY
- April 17, 2013 e-mail from Michele Smith, Brooklyn, NY
- April 17, 2013 e-mail from Leon Ransmeier, New York, NY
- April 17, 2013 e-mail from Pam Brocious, New York, NY
- April 17, 2013 e-mail from Lee Van Put, New York, NY
- April 17, 2013 e-mail from VL Brandt, New York, NY
- April 17, 2013 e-mail from Nina Zain New York, NY
- April 17, 2013 e-mail from Pamela Wolff, New York, NY
- April 17, 2013 e-mail from Catherine Outeiral, Brooklyn, NY
- April 17, 2013 e-mail from James Cooper, Astoria, NY
- April 17, 2013 e-mail from Barbara Menkes, New York, NY
- April 17, 2013 e-mail from Patricia Hopkins, New York, NY
- April 17, 2013 e-mail from Valerie Gilbert, New York, NY
- April 17, 2013 e-mail from Tamika Easterling, Brooklyn, NY
- April 17, 2013 e-mail from Andrea Sansom, Brooklyn, NY
- April 17, 2013 e-mail from David Gordon, Brooklyn, NY
- April 17, 2013 e-mail from Zdenek Kriz, Brooklyn, NY
- April 17, 2013 e-mail from Gina Santonas, Brooklyn, NY
- April 17, 2013 e-mail from Elena Chernysheva, Brooklyn, NY
- April 17, 2013 e-mail from Judith Weis, New York, NY
- April 17, 2013 e-mail from Katie Grimm, Brooklyn, NY
- April 17, 2013 e-mail from Cathie Currie, New York, NY
- April 17, 2013 e-mail from Michael Hodson, New York, NY
- April 17, 2013 e-mail from Ellie Irons, Brooklyn, NY
- April 17, 2013 e-mail from Albert Ahronheim, New York, NY
- April 17, 2013 e-mail from Ann Bleefeld, New York, NY
- April 17, 2013 e-mail from Richard Stout, New York, NY

- April 17, 2013 e-mail from Barbara Tuller Avellino, New York, NY
- April 17, 2013 e-mail from Andy Gale, New York, NY
- April 17, 2013 e-mail from Sarah Curtis, Brooklyn, NY
- April 17, 2013 e-mail from Sandye Renz, Brooklyn, NY
- April 17, 2013 e-mail from Jean Gazis, Brooklyn, NY
- April 17, 2013 e-mail from Ethan Middlebrooks, Sunnyside, NY
- April 17, 2013 e-mail from Bernard Galiley, Brooklyn, NY
- April 17, 2013 e-mail from Sandy Sobanski, New York, NY
- April 17, 2013 e-mail from Christofer Wagner, New York, NY
- April 17, 2013 e-mail from June Hurst, New York, NY
- April 17, 2013 e-mail from Marilyn Kaggen, Brooklyn, NY
- April 17, 2013 e-mail from Roxanne Warren, New York, NY
- April 17, 2013 e-mail from Christopher Blyth, New York, NY
- April 17, 2013 e-mail from Jon Gordon, Brooklyn, NY
- April 17, 2013 e-mail from George Kormendi, New York, NY
- April 17, 2013 e-mail from Merry Tucker, New York, NY
- April 17, 2013 e-mail from Helen Wintrob, Brooklyn, NY
- April 17, 2013 e-mail from John Travis Compton, Rhinebeck, NY
- April 17, 2013 e-mail from John Cannatella, New York, NY
- April 17, 2013 e-mail from Joseph Hartman, Jamaica, NY
- April 17, 2013 e-mail from Robert Leder, Bronx, NY
- April 17, 2013 e-mail from Ashton Crosby, New York, NY
- April 17, 2013 e-mail from Nicholas Feltch, Brooklyn, NY
- April 17, 2013 e-mail from John Keiser, New York, NY
- April 17, 2013 e-mail from Javier Rivera, Brooklyn, NY
- April 17, 2013 e-mail from S. Etherton, New York, NY
- April 17, 2013 e-mail from Alison Koffler, Bronx, NY
- April 17, 2013 e-mail from Heather Cross, Brooklyn, NY
- April 17, 2013 e-mail from Margaret Leonard, Broad Channel, NY
- April 17, 2013 e-mail from Jessica Byrne, Brooklyn, NY
- April 17, 2013 e-mail from Susan Yany, Glendale, NY
- April 17, 2013 e-mail from Nancy Lipshitz, Brooklyn, NY
- April 17, 2013 e-mail from Ann Barasch, New York, NY
- April 17, 2013 e-mail from Linda Hartinian, New York, NY
- April 17, 2013 e-mail from David Balfour, New York, NY
- April 17, 2013 e-mail from Michael Heimbinder, Brooklyn, NY
- April 17, 2013 e-mail from George Louis Mayer, New York, NY
- April 17, 2013 e-mail from Michael Mermin, Brooklyn, NY
- April 17, 2013 e-mail from Neil Bleifeld, New York, NY
- April 17, 2013 e-mail from Georgia Guida, Brooklyn, NY
- April 17, 2013 e-mail from David Sorensen, Flushing, NY
- April 17, 2013 e-mail from Barrett Benton, Brooklyn, NY
- April 17, 2013 e-mail from Daniel Zaretsky, New York, NY
- April 17, 2013 e-mail from Pam Kray Gallivan, New York, NY

- April 17, 2013 e-mail from Audrey Komaroff, Brooklyn, NY
- April 17, 2013 e-mail from Edward Butler, New York, NY
- April 17, 2013 e-mail from Caledonia Kearns, Brooklyn, NY
- April 17, 2013 e-mail from Mel Neuhaus, Brooklyn, NY
- April 17, 2013 e-mail from Catherine Torrey, Brooklyn, NY
- April 17, 2013 e-mail from Wheeler Jackson, New York, NY
- April 17, 2013 e-mail from Alisa Eilenberg, Bronx, NY
- April 17, 2013 e-mail from Elise a Tollner, New York, NY
- April 17, 2013 e-mail from Mireya Herrera, Brooklyn, NY
- April 17, 2013 e-mail from Ellen Fleishman, Brooklyn, NY
- April 17, 2013 e-mail from David Glaser, New York, NY
- April 17, 2013 e-mail from Irene and Richard Van Slyke, Brooklyn, NY
- April 17, 2013 e-mail from Steven Lowenthal, New York, NY
- April 17, 2013 e-mail from Lynn Rosenfeld, New York, NY
- April 17, 2013 e-mail from Susan Buhner, Astoria, NY
- April 17, 2013 e-mail from James Rubins, New York, NY
- April 17, 2013 e-mail from Fred Binkley, New York, NY
- April 17, 2013 e-mail from Michele Temple, Woodside, NY
- April 17, 2013 e-mail from Merideth Genin, New York, NY
- April 17, 2013 e-mail from Carl Arnold, Brooklyn, NY
- April 17, 2013 e-mail from Daniel Barnett, Bronx, NY
- April 17, 2013 e-mail from Phyllis Mintz, New York, NY
- April 17, 2013 e-mail from Lonnie Harrington, Saint Albans, NY
- April 17, 2013 e-mail from Carole Di Tosti, Kew Gardens, NY
- April 17, 2013 e-mail from Cynthia Luna-Dulgov, Brooklyn, NY
- April 17, 2013 e-mail from Charlotte Grillot, New York, NY
- April 17, 2013 e-mail from Richie Kessler, New York, NY
- April 17, 2013 e-mail from Amanda Smock, Brooklyn, NY
- April 17, 2013 e-mail from Matthew Benson, Bronx, NY
- April 17, 2013 e-mail from Jessica Silver, New York, NY
- April 17, 2013 e-mail from Imogene Ellis, Brooklyn, NY
- April 17, 2013 e-mail from Thea Hetzner, Woodside, NY
- April 17, 2013 e-mail from Ed Dillon, Bronx, NY
- April 17, 2013 e-mail from Mike Escobar, Albertson, NY
- April 17, 2013 e-mail from Steven Jervis, Brooklyn, NY
- April 17, 2013 e-mail from Yolanda Ivana Cordoba, Elmhurst, NY
- April 17, 2013 e-mail from David Feguson, New York, NY
- April 17, 2013 e-mail from Sarah Gallagher, New York, NY
- April 17, 2013 e-mail from Helen Cu, Brooklyn, NY
- April 17, 2013 e-mail from Mark C. Shames transmitting a letter from Mark C. Shames and Debra Scotto, Brooklyn, NY
- April 17, 2013 e-mail from Joseph A. Gardella, Jr., John and Frances Larkin Professor of Chemistry, University at Buffalo, State University of New York
- April 17, 2013 e-mail from Billie Biederman, New York, NY

- April 17, 2013 e-mail from Ursula Rodriguez, Kew Gardens, NY
- April 17, 2013 e-mail from Virginia Hunter, Brooklyn, NY
- April 17, 2013 e-mail from Gail Sullivan, New York, NY
- April 17, 2013 e-mail from Barbara Oakes, New York, NY
- April 17, 2013 e-mail from Camille Kozlowski, New York, NY
- April 17, 2013 e-mail from Josefina Vidal, New York, NY
- April 17, 2013 e-mail from Fred Koster, New York, NY
- April 17, 2013 e-mail from Alaina Johnson, Brooklyn, NY
- April 17, 2013 e-mail from Laura Bailey, New York, NY
- April 17, 2013 e-mail from Carol Dobson, New York, NY
- April 17, 2013 e-mail from Guy-Luc deVeaux, Bronx, NY
- April 17, 2013 e-mail from Lucy Koteen, Brooklyn, NY
- April 17, 2013 e-mail from Arthur Lapite, New York, NY
- April 17, 2013 e-mail from Pat Almonrode, New York, NY
- April 17, 2013 e-mail from Irving Lee, New York, NY
- April 17, 2013 e-mail from Laurie Spigel, Bronx, NY
- April 17, 2013 e-mail from Radha Korman, New York, NY
- April 17, 2013 e-mail from Stana Weisburd, New York, NY
- April 17, 2013 e-mail from Susan Carroll, Flushing, NY
- April 17, 2013 e-mail from Maria Asteinza, Forest Hills, NY
- April 17, 2013 e-mail from Lynda Selde, Bronx, NY
- April 17, 2013 e-mail from Evy Mayer, Bronx, NY
- April 17, 2013 e-mail from Edward Carey, Whitestone, NY
- April 17, 2013 e-mail from Mary A. Kelly, New York, NY
- April 17, 2013 e-mail from Shyama Orum, New York, NY
- April 17, 2013 e-mail from Christy Carosella, Ozone Park, NY
- April 17, 2013 e-mail from Maureen Kavanagh, Woodside, NY
- April 17, 2013 e-mail from Megan Ryan, Brooklyn, NY
- April 17, 2013 e-mail from Elizabeth Ungar, New York, NY
- April 17, 2013 e-mail from Geraldine Borrell, New York, NY
- April 17, 2013 e-mail from Myra Gordon, Bronx, NY
- April 17, 2013 e-mail from Susan Nahem, Flushing, NY
- April 17, 2013 e-mail from Kirsten Osthus, Brooklyn, NY
- April 17, 2013 e-mail from Marcia Robinson, New York, NY
- April 17, 2013 e-mail from Timothy Rosser, New York, NY
- April 17, 2013 e-mail from Michael Eckblad, Brooklyn, NY
- April 17, 2013 e-mail from August Guyot, New York, NY
- April 17, 2013 e-mail from Robert Puca, Brooklyn, NY
- April 17, 2013 e-mail from Tom Pfeffer, Brooklyn, NY
- April 17, 2013 e-mail from Margaret Seely, New York, NY
- April 17, 2013 e-mail from Maggie Siena, Brooklyn, NY
- April 17, 2013 e-mail from Benjamin Kessel, Brooklyn, NY
- April 17, 2013 e-mail from Kevin Mahoney, Staten Island, NY
- April 17, 2013 e-mail from Nelly Baldan Badia, New York, NY

- April 17, 2013 e-mail from Jessica Bader, New York, NY
- April 17, 2013 e-mail from Salvina Scime, Elmhurst, NY
- April 17, 2013 e-mail from Suzie Baer, New York, NY
- April 17, 2013 e-mail from Bobbie Dee Flowers, New York, NY
- April 17, 2013 e-mail from Ann Kaslow, Brooklyn, NY
- April 17, 2013 e-mail from Katie Garton, New York, NY
- April 17, 2013 e-mail from Michael Fergot, New York, NY
- April 17, 2013 e-mail from Thomas Wilk, Brooklyn, NY
- April 17, 2013 e-mail from Sharon Nolting, New York, NY
- April 17, 2013 e-mail from Gerson Lesser, Bronx, NY
- April 17, 2013 e-mail from Mark Denecour, Brooklyn, NY
- April 17, 2013 e-mail from Stephen Coppola, Brooklyn, NY
- April 17, 2013 e-mail from Bari Moss and David Slavin, New York, NY
- April 17, 2013 e-mail from Joseph Connors, New York, NY
- April 17, 2013 e-mail from Nick Yang, Brooklyn, NY
- April 17, 2013 e-mail from James Tate, Brooklyn, NY
- April 17, 2013 e-mail from Louise Calabro, Bayside, NY
- April 17, 2013 e-mail from Artineh Havan, Brooklyn, NY
- April 17, 2013 e-mail from Joan Abruzzo, Bayside, NY
- April 17, 2013 postcard from Rachel Fowler, Brooklyn, NY
- April 18, 2013 postcard from Jean Shin, Brooklyn, NY
- Undated postcard (postmarked April 18, 2013) from Andrea Karo, Brooklyn, NY
- Undated postcard (postmarked April 18, 2013) from Margaret Colman, Brooklyn, NY
- April 18, 2013 letter from Sherry Davis, Brooklyn, NY
- April 18, 2013 letter from Edward Gulston, Brooklyn, NY
- April 18, 2013 letter from John Nunez, Brooklyn, NY
- April 18, 2013 letter from Lynette Daniely, Brooklyn, NY
- April 18, 2013 letter from Sonia Dauz, Brooklyn, NY
- April 18, 2013 letter from Keisha Smith, Brooklyn, NY
- April 18, 2013 letter from Emily Maldonado, Brooklyn, NY
- April 18, 2013 letter from Alex Williams, Brooklyn, NY
- April 18, 2013 letter from Marissa Williams, Brooklyn, NY
- April 18, 2013 letter from Wanda Medina, Brooklyn, NY
- April 18, 2013 letter from Matoka Penny, Brooklyn, NY
- April 18, 2013 letter from Timothy Colvin, Brooklyn, NY
- April 18, 2013 letter from Archie Braddy, Brooklyn, NY
- April 18, 2013 letter from Delcia Knowles, Brooklyn, NY
- April 18, 2013 letter from Lorenzo Boston, Brooklyn, NY
- April 18, 2013 letter from Carmen Velez, Brooklyn, NY
- April 18, 2013 letter from Cheryl Hayes, Brooklyn, NY
- April 18, 2013 letter from Barbara Smith, Brooklyn, NY
- April 18, 2013 letter from Steven Iver, Brooklyn, NY
- April 18, 2013 letter from Adam Ramos, Brooklyn, NY
- April 18, 2013 letter from Bonnie Lane Webber, New York, NY

- April 18, 2013 e-mail from Sandra Dal Cais, Woodside, NY
- April 18, 2013 e-mail from Georgia Allen, Brooklyn, NY
- April 18, 2013 e-mail from Tom Dowling, Brooklyn, NY
- April 18, 2013 e-mail from Yvette Rojas
- April 18, 2013 e-mail from Patricia A. Chernoff, New York, NY
- April 18, 2013 e-mail from Nancy Hough, New York, NY
- April 18, 2013 e-mail from Erma Lewis, Brooklyn, NY
- April 18, 2013 e-mail from Jeffrey Silman, Brooklyn, NY
- April 18, 2013 e-mail from Lawrence Rosin, Brooklyn, NY
- April 18, 2013 e-mail from Fritz Ewins, Brooklyn, NY
- April 18, 2013 e-mail from Rimma Bitman, New York, NY
- April 18, 2013 e-mail from Robert Rice
- April 18, 2013 e-mail from Julienne Blechman, Brooklyn, NY
- April 18, 2013 e-mail from Brian Thompson, Brooklyn, NY
- April 18, 2013 e-mail from Bobbi Siegelbaum, Bronx, NY
- April 18, 2013 e-mail from Ronald Christensen, Brooklyn, NY
- April 18, 2013 e-mail from Sebouh Yegparian, Brooklyn, NY
- April 18, 2013 e-mail from P. Marks, Brooklyn, NY
- April 18, 2013 e-mail from Carl Teitelbaum, Brooklyn, NY
- April 18, 2013 e-mail from Seth Perlman, Manhasset, NY
- April 18, 2013 e-mail from Linda Mitchell, New York, NY
- April 18, 2013 e-mail from Joel Spiegelman, Brooklyn, NY
- April 18, 2013 e-mail from James Wisz, New York, NY
- April 18, 2013 e-mail from Fletcher Cossa, New York, NY
- April 18, 2013 e-mail from Janice Everett, Brooklyn, NY
- April 18, 2013 e-mail from Katherine Babiak, New York, NY
- April 18, 2013 e-mail from Nick Widzowski, Astoria, NY
- April 18, 2013 e-mail from Robin K. Elkman, Brooklyn, NY
- April 18, 2013 e-mail from Cat Overman, Brooklyn, NY
- April 18, 2013 e-mail from Gene Binder, Bronx, NY
- April 18, 2013 e-mail from Valerie Dare, Rockaway Park, NY
- April 18, 2013 e-mail from Lundberg Rob, Brooklyn, NY
- April 18, 2013 e-mail from Lisa Weisberg, New York, NY
- April 18, 2013 e-mail from Neil Fraser, New York, NY
- April 18, 2013 e-mail from Mark Barkan, Briarwood, NY
- April 18, 2013 e-mail from Frank Crespo, Brooklyn, NY
- April 18, 2013 e-mail from Barry Smith, Brooklyn, NY
- April 18, 2013 e-mail from Gordon Wood Anderson, New York, NY
- April 18, 2013 e-mail from Preston Turco, Brooklyn, NY
- April 18, 2013 e-mail from Adam Cooperstock, New York, NY
- April 18, 2013 e-mail from Jonathan Spencer, New York, NY
- April 18, 2013 e-mail from Claudine Strazza, New York, NY
- April 18, 2013 e-mail from Hannah Holden, Brooklyn, NY
- April 19, 2013 letter from Bernadette Durant, Brooklyn, NY

- April 19, 2013 letter from Lamont Carr, Brooklyn, NY
- April 19, 2013 letter from Melissa Forbes-Holloway, Brooklyn, NY
- April 19, 2013 letter from Jeff Ransom, Brooklyn, NY
- April 19, 2013 letter from Jaz-zhane Wade, Brooklyn, NY
- April 19, 2013 letter from Khadyah Wade, Brooklyn, NY
- April 19, 2013 letter from Lamont Hill, Brooklyn, NY
- April 19, 2013 letter from Jonathan Abner, Brooklyn, NY
- April 19, 2013 letter from Angel C., Brooklyn, NY
- April 19, 2013 letter from Juanita Staton, Brooklyn, NY
- April 19, 2013 letter from Vernan Douglas, Brooklyn, NY
- April 19, 2013 letter from Shantu Susanker, Brooklyn, NY
- April 19, 2013 letter from George McCorckle, Brooklyn, NY
- April 19, 2013 letter from Tiffany Reed, Brooklyn, NY
- April 19, 2013 letter from Linda Jones, Brooklyn, NY
- April 19, 2013 letter from Mark Harrison, Brooklyn, NY
- April 19, 2013 letter from Jarice Mchra, Brooklyn, NY
- April 19, 2013 letter from Metella Boones, Brooklyn, NY
- April 19, 2013 letter from Brandon Harper, Brooklyn, NY
- April 19, 2013 letter from Vince Wade, Brooklyn, NY
- April 19, 2013 letter from Shamen Quinnes, Brooklyn, NY
- April 19, 2013 letter from Lorraine Lowman, Brooklyn, NY
- April 19, 2013 letter from Johnnie Ellis, Brooklyn, NY
- April 19, 2013 letter from Tyrell Gibbs, Brooklyn, NY
- April 19, 2013 letter from Vanessa Staton, Brooklyn, NY
- April 19, 2013 letter from James Bradley, Brooklyn, NY
- April 19, 2013 letter from Divina Temple, Brooklyn, NY
- April 19, 2013 letter from John Torres, Brooklyn, NY
- April 19, 2013 letter from Diane Wade, Brooklyn, NY
- April 19, 2013 letter from Jessie Smith, Brooklyn, NY
- April 19, 2013 letter from Tracy Boynton, Brooklyn, NY
- April 19, 2013 letter from Celia Wellington, Brooklyn, NY
- April 19, 2013 letter from Deborah Diaz, Brooklyn, NY
- April 19, 2013 letter from Sabrina Holmes, Brooklyn, NY
- April 19, 2013 letter from Moses Torres, Brooklyn, NY
- April 19, 2013 letter from Renee Hill, Brooklyn, NY
- April 19, 2013 letter from Alexander Torres, Brooklyn, NY
- April 19, 2013 letter from Michael Rodriguez, Brooklyn, NY
- April 19, 2013 letter from Sharon Wade, Brooklyn, NY
- April 19, 2013 letter from Zayarenda Smith, Brooklyn, NY
- April 19, 2013 letter from Lizardo Nino, Brooklyn, NY
- April 19, 2013 letter from Reyna Leon, Brooklyn, NY
- April 19, 2013 letter from Belinda Stewart, Brooklyn, NY
- April 19, 2013 letter from Elisa Cosme, Brooklyn, NY
- April 19, 2013 letter from Marcos Ayala, Brooklyn, NY

- April 19, 2013 letter from Annette Freeman, Brooklyn, NY
- April 19, 2013 letter from Diane Gregg, Brooklyn, NY
- April 19, 2013 letter from Sheila Campbell, Brooklyn, NY
- April 19, 2013 letter from Theresa Ajayi, Brooklyn, NY
- April 19, 2013 letter from Valerie Hill, Brooklyn, NY
- April 19, 2013 letter from Loretta Bradley, Brooklyn, NY
- April 19, 2013 letter from Chauncey Gore, Brooklyn, NY
- April 19, 2013 letter from Debra Traore, Brooklyn, NY
- April 19, 2013 letter from Marcos Craz, Brooklyn, NY
- April 19, 2013 letter from Lillian Paris, Brooklyn, NY
- April 19, 2013 letter from Ira Vanderpool, Brooklyn, NY
- April 19, 2013 letter from Lillian Tiffany, Brooklyn, NY
- April 19, 2013 letter from Ina Tiffany, Brooklyn, NY
- April 19, 2013 letter from Connie Major, Brooklyn, NY
- April 19, 2013 letter from Catherine Connor, Brooklyn, NY
- April 19, 2013 letter from Raymond Corbin, Brooklyn, NY
- April 19, 2013 letter from Risa Afford, Brooklyn, NY
- April 19, 2013 letter from Allison Williams, Brooklyn, NY
- April 19, 2013 letter from Karen Snyder, Brooklyn, NY
- Undated letter (received by EPA on April 19, 2013) from Cornela Davis, Brooklyn, NY
- Undated letter (received by EPA on April 19, 2013) from Armitina Smith, Brooklyn, NY
- Undated letter (received by EPA on April 19, 2013) from Iris Harden, Brooklyn, NY
- Undated letter (received by EPA on April 19, 2013) from Jody Robinson, Brooklyn, NY
- Undated letter (received by EPA on April 19, 2013) from Nester Arroyo, Brooklyn, NY
- Undated letter (received by EPA on April 19, 2013) from Jean Kinsler, Brooklyn, NY
- Undated letter (received by EPA on April 19, 2013) from Christopher DiBenedetto, Brooklyn, NY
- Undated letter (received by EPA on April 19, 2013) from Tony Hasan, Brooklyn, NY
- April 19, 2013 e-mail from David Danziger, Brooklyn, NY
- April 19, 2013 e-mail from Damon Bishop, Astoria, NY
- April 19, 2013 e-mail from Alan Stein, Fresh Meadows, NY
- April 19, 2013 e-mail from Anna Ellis, Brooklyn, NY
- April 19, 2013 e-mail from Brian Fink, Brooklyn, NY
- April 19, 2013 e-mail from Jeremiah Blatz, New York, NY
- April 19, 2013 e-mail from Jennifer Savage, New York, NY
- April 19, 2013 e-mail from Nancy Edwards, New York, NY
- April 19, 2013 e-mail from Michael Macelhiney, New York, NY
- April 19, 2013 e-mail from Carl Teitelbaum, Brooklyn, NY
- April 19, 2013 e-mail from Ciro Di Donna, Whitestone, NY
- April 19, 2013 e-mail from Laura Bilodeau, Brooklyn, NY
- April 19, 2013 e-mail from Sarah Bacon, Brooklyn, NY
- April 19, 2013 e-mail from Sharon Johnson, Brooklyn, NY
- April 19, 2013 e-mail from John Siciliani, Brooklyn, NY
- April 19, 2013 e-mail from Taryn Matusi, Saratoga Springs, NY

- April 19, 2013 e-mail from Kristina Pentek, Brooklyn, NY
- April 19, 2013 e-mail from Emily Chambliss, Brooklyn, NY
- April 19, 2013 e-mail from Angelica Falcinelli, Brooklyn, NY
- April 19, 2013 e-mail from Denice Park, New York, NY
- April 19, 2013 e-mail from Jennifer Sta. Ines, Brooklyn, NY
- April 19, 2013 e-mail from Melissa Callahan-Whelan, Brooklyn, NY
- April 20, 2013 letter from Gail Pressley, Brooklyn, NY
- April 20, 2013 letter from Cathy McKnight, Brooklyn, NY
- April 20, 2013 e-mail from Marisol Rojas, Brooklyn, NY
- April 20, 2013 e-mail from Orlando R. Reyes, Sr., New York, NY
- April 20, 2013 e-mail from Nancy Konigsberg, Fleming Island, FL
- April 20, 2013 e-mail from Michael Salvatore, Brooklyn, NY
- April 20, 2013 e-mail from John King, Brooklyn, NY
- April 20, 2013 e-mail from Rosario Murphy, Brooklyn, NY
- April 20, 2013 e-mail from Patricia Constantino, Brooklyn, NY
- April 20, 2013 e-mail from Lara Frater, Rego Park, NY
- April 20, 2013 e-mail from Paul Cowler, Brooklyn, NY
- April 20, 2013 e-mail from Andrew Martin, Brooklyn, NY
- April 21, 2013 letter from Bernice Haber, New York, NY
- April 21, 2013 letter from Sidney Krumholz, New York, NY
- April 21, 2013 letter from Terona Brown, Brooklyn, NY
- April 21, 2013 e-mail from Robert Puca
- April 21, 2013 e-mail from Grant Scribner, Philadelphia, PA
- April 21, 2013 e-mail from Theresa Young, Brooklyn, NY
- April 21, 2013 e-mail from Raymond Murphy, Brooklyn, NY
- April 21, 2013 e-mail from Katherine Schwarz, MS, MPH, Nyack, NY
- April 21, 2013 e-mail from Shari Pascarosa, Brooklyn, NY
- April 23, 2013 letter from Baron Goddard, Brooklyn, NY
- April 22, 2013 letter from Michelle Lugo, Brooklyn, NY
- April 22, 2013 letter from Sean Green, Brooklyn, NY
- April 22, 2013 letter from K. Hill, Brooklyn, NY
- April 22, 2013 letter from Tynisha Cruz, Brooklyn, NY
- April 22, 2013 letter from Katrina Joyner, Brooklyn, NY
- April 22, 2013 letter from Priscilla Bush, Brooklyn, NY
- April 22, 2013 letter from Vernon Dunkin, Brooklyn, NY
- April 22, 2013 letter from Erica Bodrick, Brooklyn, NY
- April 22, 2013 letter from Faheem Bush, Brooklyn, NY
- April 22, 2013 letter from Peter Cosme, Brooklyn, NY
- April 22, 2013 letter from Monique Williams, Brooklyn, NY
- April 22, 2013 letter from Miriam Williams, Brooklyn, NY
- April 22, 2013 letter from R. Barkisdad, Brooklyn, NY
- April 22, 2013 letter from George Grey, Brooklyn, NY
- April 22, 2013 letter from Debbie Bowers, Brooklyn, NY
- April 22, 2013 letter from Sean Henderson, Brooklyn, NY

- April 22, 2013 letter from Yvette Mosley, Brooklyn, NY
- April 22, 2013 letter from Rawle Williams, Brooklyn, NY
- April 22, 2013 letter from Lawrence Silvis, Brooklyn, NY
- April 22, 2013 letter from Marlon Woods, Brooklyn, NY
- April 22, 2013 letter from John Reed, Brooklyn, NY
- April 22, 2013 letter from Quanisha Perry, Brooklyn, NY
- April 22, 2013 letter from Evaristo Garcia, Jr., Brooklyn, NY
- April 22, 2013 letter from Samantha Murray, Brooklyn, NY
- April 22, 2013 letter from Daryl Aponte, Brooklyn, NY
- April 22, 2013 letter from Dawn Botch, Brooklyn, NY
- April 22, 2013 letter from Terrance Atkinson, Brooklyn, NY
- April 22, 2013 letter from Michael Rosa, Brooklyn, NY
- April 22, 2013 letter from Lorraine Souare, Brooklyn, NY
- April 22, 2013 letter from Asilder Mellon, Brooklyn, NY
- April 22, 2013 letter from Carrie Major, Brooklyn, NY
- April 22, 2013 letter from Nathaniel Mack, Brooklyn, NY
- April 22, 2013 letter from Niasia Ianseca, Brooklyn, NY
- April 22, 2013 letter from Jose Serrano, Brooklyn, NY
- April 22, 2013 letter from Shayna Stevens, Brooklyn, NY
- April 22, 2013 letter from Joshua Morales, Brooklyn, NY
- April 22, 2013 letter from Stephanie Rodriguez, Brooklyn, NY
- April 22, 2013 letter from Jose Vasquez, Brooklyn, NY
- April 22, 2013 letter from Silton Goddard, Brooklyn, NY
- April 22, 2013 letter from Nicole Safi, Brooklyn, NY
- April 22, 2013 letter from Deron Sprinkle, Brooklyn, NY
- April 22, 2013 letter from Charisse Valrie, Brooklyn, NY
- April 22, 2013 letter from Louie Vega, Brooklyn, NY
- April 22, 2013 letter from Richard Hertzog, Brooklyn, NY
- April 22, 2013 letter from Sabrina Grant, Brooklyn, NY
- April 22, 2013 letter from Tisha Brown, Brooklyn, NY
- April 22, 2013 letter from Alan Barrus, Brooklyn, NY
- April 22, 2013 letter from Domonique Mayfield, Brooklyn, NY
- April 22, 2013 letter from Aaron Stewart, Brooklyn, NY
- April 22, 2013 letter from Kanya Russell, Brooklyn, NY
- April 22, 2013 e-mail from Margaret Ellis, Brooklyn, NY
- April 22, 2013 e-mail from Circe Skaife, Brooklyn, NY
- April 22, 2013 e-mail from Kara Matthews, Sunnyside, NY
- April 22, 2013 e-mail from Gail Schleiter, New York, NY
- April 23, 2013 letter from Daniel M. Kummer, Chairperson, The City of New York Community Board Six, Brooklyn, NY
- April 23, 2013 letter from Joan Bartolomeo, President, Brooklyn Economic Development Corp.
- April 23, 2013 letter from William Smith, Brooklyn, NY
- April 23, 2013 letter from Krystal Garcia, Brooklyn, NY

- April 23, 2013 letter from Branisha Euno, Brooklyn, NY
- April 23, 2013 letter from Katy Hendez, Brooklyn, NY
- April 23, 2013 letter from John Hickman, Brooklyn, NY
- April 23, 2013 letter from Alexandria Malone, Brooklyn, NY
- April 23, 2013 letter from Luz Cambrelen, Brooklyn, NY
- April 23, 2013 letter from Calvin Jones, Brooklyn, NY
- April 23, 2013 letter from Karleth White, Brooklyn, NY
- April 23, 2013 letter from Jeanette Torres, Brooklyn, NY
- April 23, 2013 letter from Vance Brooks, Brooklyn, NY
- April 23, 2013 letter from Idalia Quinones, Brooklyn, NY
- April 23, 2013 letter from Doris McMillian, Brooklyn, NY
- April 23, 2013 letter from Morris Fillyaw, Brooklyn, NY
- April 23, 2013 letter from Angela Saez, Brooklyn, NY
- April 23, 2013 letter from Dean Boggs, Brooklyn, NY
- April 23, 2013 letter from Mary Vasquez, Brooklyn, NY
- April 23, 2013 letter from J. Andrews, Brooklyn, NY
- April 23, 2013 letter from Christopher Middleton, Brooklyn, NY
- April 23, 2013 letter from Albert Clark, Brooklyn, NY
- April 23, 2013 letter from James Dickerson, Brooklyn, NY
- April 23, 2013 letter from Vakeen Warmsley, Brooklyn, NY
- April 23, 2013 letter from Niakeia Griem, Brooklyn, NY
- April 23, 2013 letter from Nickia Rersali, Brooklyn, NY
- April 23, 2013 letter from Tyada Major, Brooklyn, NY
- April 23, 2013 letter from Stacey Crockett, Brooklyn, NY
- April 23, 2013 letter from Alphonso Hernandez, Brooklyn, NY
- April 23, 2013 letter from Michelle Perry, Brooklyn, NY
- April 23, 2013 letter from Iris Hernandez, Brooklyn, NY
- April 23, 2013 letter from David McCoy, Brooklyn, NY
- April 23, 2013 letter from Steven Wilson, Jr., Brooklyn, NY
- April 23, 2013 letter from Prowdencia Santiago, Brooklyn, NY
- April 23, 2013 letter from Jason Jackson, Brooklyn, NY
- April 23, 2013 letter from Ilya Dixon, Brooklyn, NY
- April 23, 2013 letter from Virginia Hunt, Brooklyn, NY
- April 23, 2013 letter from William Hudson, Brooklyn, NY
- April 23, 2013 letter from Lashawn Sowell, Brooklyn, NY
- April 23, 2013 letter from Launa Wright, Brooklyn, NY
- April 23, 2013 letter from Ireal Jacobs, Brooklyn, NY
- April 23, 2013 letter from Michelle Eaddy, Brooklyn, NY
- April 23, 2013 letter from Annabell Lyons, Brooklyn, NY
- April 23, 2013 letter from Shanaya Boston, Brooklyn, NY
- April 23, 2013 letter from Tysheen Trammell, Brooklyn, NY
- April 23, 2013 letter from Vanessa Paris, Brooklyn, NY
- April 23, 2013 letter from Fuquana Jimenez, Brooklyn, NY
- April 23, 2013 letter from Khadychal Bennett, Brooklyn, NY

- April 23, 2013 letter from Veronica Harrison, Brooklyn, NY
- April 23, 2013 letter from Shanda Leacock, Brooklyn, NY
- April 23, 2013 letter from Jamel Waston, Brooklyn, NY
- April 23, 2013 letter from Shiria Milton, Brooklyn, NY
- April 23, 2013 letter from Mildred Villegas, Brooklyn, NY
- April 23, 2013 letter from Shalema Staton, Brooklyn, NY
- April 23, 2013 letter from Ryan Harris, Brooklyn, NY
- April 23, 2013 letter from Gloris Daisley, Brooklyn, NY
- April 23, 2013 letter from Jepel Gibbs, Brooklyn, NY
- April 23, 2013 letter from Kristol Giaro, Brooklyn, NY
- April 23, 2013 letter from Ida Willis, Brooklyn, NY
- April 23, 2013 letter from Geraldine Lawrence, Brooklyn, NY
- April 23, 2013 letter from Veronica Alston, Brooklyn, NY
- April 23, 2013 letter from Luz Velez, Brooklyn, NY
- April 23, 2013 letter from Leroy Gooding, Brooklyn, NY
- April 23, 2013 letter from Russell Dickerson, Brooklyn, NY
- April 23, 2013 letter from Shameeka Hankins, Brooklyn, NY
- April 23, 2013 letter from Jodi Robinson, Brooklyn, NY
- April 23, 2013 letter from Tahvon Gorham, Brooklyn, NY
- April 23, 2013 letter from Robert Bostic, Brooklyn, NY
- April 23, 2013 letter from Ashley Harrison, Brooklyn, NY
- April 23, 2013 letter from Mike Gonzalez, Brooklyn, NY
- April 23, 2013 letter from Hector Morales, Brooklyn, NY
- April 23, 2013 letter from Celestine McMeans, Brooklyn, NY
- April 23, 2013 letter from Yvonne Santiago, Brooklyn, NY
- April 23, 2013 letter from Vernon Bartee, Brooklyn, NY
- April 23, 2013 letter from Jesus Hernandez, Brooklyn, NY
- April 23, 2013 letter from Victor Gonzalez, Brooklyn, NY
- April 23, 2013 letter from Virgen Borges, Brooklyn, NY
- April 23, 2013 letter from Carmen Morales, Brooklyn, NY
- April 23, 2013 letter from Waliek Luncol, Brooklyn, NY
- April 23, 2013 letter from Nashene McCoy, Brooklyn, NY
- April 23, 2013 letter from Alexandra Aviles, Brooklyn, NY
- April 23, 2013 letter from Jacqueline Jackson, Brooklyn, NY
- April 23, 2013 letter from Robyn Alston, Brooklyn, NY
- April 23, 2013 letter from Daniel Curtis, Brooklyn, NY
- April 23, 2013 letter from Gregory Hill, Brooklyn, NY
- April 23, 2013 letter from David Williams, Brooklyn, NY
- April 23, 2013 letter from Toby Hicks, Brooklyn, NY
- April 23, 2013 letter from Tiffany Harper, Brooklyn, NY
- April 23, 2013 e-mail from Pam Devereux, Sunnyside, NY
- April 23, 2013 e-mail from Alicia Rubi, New York, NY
- April 23, 2013 e-mail from Darian Mark, New York, NY
- April 23, 2013 e-mail from Jason Maas, Brooklyn, NY

- April 23, 2013 e-mail from Sallie Sanders, Brooklyn, NY
- April 23, 2013 e-mail from Anne Darer, VP Property Management, Brownstone Homes, Brooklyn, NY
- April 23, 2013 e-mail from Erin Schreiner, Brooklyn, NY
- April 23, 2013 e-mail from Franco Ficili
- April 23, 2013 e-mail from Steven Abel, Brooklyn, NY
- April 23, 2013 e-mail from Amyt Eckstein, Brooklyn, NY
- April 23, 2013 e-mail from Maritza Pabon, Brooklyn, NY
- April 23, 2013 e-mail from Rob Russo, Brooklyn, NY
- April 23, 2013 e-mail from Tamara Vipond, Brooklyn, NY
- April 23, 2013 e-mail from Charnjiv Singh, Brooklyn, NY
- April 23, 2013 e-mail from Rodney Willie, Brooklyn, NY
- April 23, 2013 e-mail from Dustin Yellin, Brooklyn, NY
- April 23, 2013 e-mail from Eddie Burlem, Brooklyn, NY
- April 23, 2013 e-mail from Julia Miller, Brooklyn, NY
- April 23, 2013 e-mail from Jeanne Grifo, Brooklyn, NY
- April 23, 2013 e-mail from Eve Delachartre, Woodside, NY
- April 23, 2013 e-mail from David Rodriguez, Brooklyn, NY
- April 23, 2013 e-mail from Grace Poulsen, Brooklyn, NY
- April 23, 2013 e-mail from Jason Talavera, Brooklyn, NY
- April 23, 2013 e-mail from Iris Maenza, Brooklyn, NY
- April 23, 2013 e-mail from Samuel Berliner, Brooklyn, NY
- April 23, 2013 e-mail from Debbie Graham, Brooklyn, NY
- April 23, 2013 e-mail from Luis Gonzalez, Brooklyn, NY
- April 23, 2013 e-mail from Arleny Henriquez, Brooklyn, NY
- April 23, 2013 e-mail from Alida Davis, Tarrytown, NY
- April 24, 2013 letter from Jarrett Lovett, Brooklyn, NY
- April 24, 2013 letter from Amanda Mendoza, Brooklyn, NY
- April 24, 2013 letter from Sean Murphy, Brooklyn, NY
- April 24, 2013 letter from Shon Bruce, Brooklyn, NY
- April 24, 2013 letter from Rocky Harris, Brooklyn, NY
- April 24, 2013 letter from Victor Fields, Brooklyn, NY
- April 24, 2013 letter from Eli Wells, Brooklyn, NY
- April 24, 2013 letter from Richard Banks, Brooklyn, NY
- April 24, 2013 letter from Naqawri Smith, Brooklyn, NY
- April 24, 2013 letter from Rafael Guerrero, Brooklyn, NY
- April 24, 2013 letter from Emery Daniels, Brooklyn, NY
- April 24, 2013 letter from Yanaris Perez, Brooklyn, NY
- April 24, 2013 letter from Terry Bamfield, Brooklyn, NY
- April 24, 2013 letter from Jahshawn Ramirez, Brooklyn, NY
- April 24, 2013 letter from Dayshawh Ramirez, Brooklyn, NY
- April 24, 2013 letter from Dashonne Ebanks, Brooklyn, NY
- April 24, 2013 letter from Michael Abdullah, Brooklyn, NY
- April 24, 2013 letter from Shakera Ramirez, Brooklyn, NY

- April 24, 2013 letter from Anthony Patterson, Brooklyn, NY
- April 24, 2013 letter from Amy Binin, Brooklyn, NY
- April 24, 2013 letter from Dante Biggs, Brooklyn, NY
- April 24, 2013 letter from Jason Tovellas, Brooklyn, NY
- April 24, 2013 letter from Kori Goldberg, Brooklyn, NY
- April 24, 2013 letter from Teresalop Lopez, Brooklyn, NY
- April 24, 2013 letter from Carmen Cruz, Brooklyn, NY
- April 24, 2013 letter from Derrick Dash, Brooklyn, NY
- April 24, 2013 letter from Denise Torres, Brooklyn, NY
- April 24, 2013 letter from Valtermartiniano Martiniano, Brooklyn, NY
- April 24, 2013 letter from Rosa Rodriguez, Brooklyn, NY
- April 24, 2013 letter from Natalie Dejesus, Brooklyn, NY
- April 24, 2013 letter from Hector Rosa, Brooklyn, NY
- April 24, 2013 letter from Earnestine Ross, Brooklyn, NY
- April 24, 2013 letter from Eddie B. Soto, Jr., Brooklyn, NY
- April 24, 2013 letter from Kera Veeney, Brooklyn, NY
- April 24, 2013 letter from Carl Faulkner, Brooklyn, NY
- April 24, 2013 letter from Eduardo Diaz, Brooklyn, NY
- April 24, 2013 letter from Elizabeth Adams, Brooklyn, NY
- April 24, 2013 letter from Alisa Fritz, Brooklyn, NY
- April 24, 2013 letter from Arbis R. Doughty, Brooklyn, NY
- April 24, 2013 letter from Deborah Ricard, Brooklyn, NY
- April 24, 2013 letter from Ilia Lopez Cosme, Brooklyn, NY
- April 24, 2013 letter from Helen McMahon, Brooklyn, NY
- April 24, 2013 letter from Sophie Bell, Brooklyn, NY
- April 24, 2013 letter from Carolyn Lee, Brooklyn, NY
- April 24, 2013 letter from Natoshja Boston, Brooklyn, NY
- April 24, 2013 letter from Lydia Carpio, Brooklyn, NY
- April 24, 2013 letter from Melissa Melendez, Brooklyn, NY
- April 24, 2013 letter from Christopher Cherry, Brooklyn, NY
- April 24, 2013 letter from Steven Harris, Brooklyn, NY
- April 24, 2013 letter from Shirley Lovett, Brooklyn, NY
- April 24, 2013 letter from Judith Miranda, Brooklyn, NY
- April 24, 2013 letter from Mary Ann Laborda, Brooklyn, NY
- April 24, 2013 letter from Lexi Boxer, Brooklyn, NY
- April 24, 2013 letter from Taylor Nash, Brooklyn, NY
- April 24, 2013 letter from Shawn Sutten, Brooklyn, NY
- April 24, 2013 letter from Wille Corley, Brooklyn, NY
- April 24, 2013 letter from Jennifer Fleming, Brooklyn, NY
- April 24, 2013 letter from Tianna Jordon, Brooklyn, NY
- April 24, 2013 letter from Adam McGilrery, Brooklyn, NY
- April 24, 2013 letter from Jose Lopez, Brooklyn, NY
- April 24, 2013 letter from Michael Manigo, Brooklyn, NY
- April 24, 2013 letter from Dwight Allen, Brooklyn, NY

- April 24, 2013 letter from Elise Sheftall, Brooklyn, NY
- April 24, 2013 letter from Samantha Roberson, Brooklyn, NY
- April 24, 2013 letter from Yolanda Rodriquez, Brooklyn, NY
- April 24, 2013 letter from Bexaida Rodriguez, Brooklyn, NY
- April 24, 2013 letter from Ronell McKoy, Brooklyn, NY
- April 24, 2013 letter from Juan France, Brooklyn, NY
- April 24, 2013 letter from Mildred Montero, Brooklyn, NY
- April 24, 2013 letter from Alexa Ramirez, Brooklyn, NY
- April 24, 2013 letter from John Berryhill, Jr., Brooklyn, NY
- April 24, 2013 letter from Nicole Crump, Brooklyn, NY
- April 24, 2013 letter from Ada Matos, Brooklyn, NY
- April 24, 2013 letter from Gary Ivey, Brooklyn, NY
- April 24, 2013 letter from Maria Davila, Brooklyn, NY
- April 24, 2013 letter from K. Als, Brooklyn, NY
- April 24, 2013 letter from McRonald Russell, Brooklyn, NY
- April 24, 2013 letter from Alice Tapia, Brooklyn, NY
- April 24, 2013 letter from Beatrice Gonzalez, Brooklyn, NY
- April 24, 2013 letter from Kamneisha Stith, Brooklyn, NY
- April 24, 2013 letter from Larry Berry, Brooklyn, NY
- April 24, 2013 letter from Kourtnea Stith, Brooklyn, NY
- April 24, 2013 letter from Joseph Alston, Brooklyn, NY
- April 24, 2013 letter from Kashif Paniaqua, Brooklyn, NY
- April 24, 2013 letter from Crystal Sostre, Brooklyn, NY
- April 24, 2013 letter from Khadeem Sparkman, Brooklyn, NY
- April 24, 2013 letter from Daisy Ramos, Brooklyn, NY
- April 24, 2013 letter from Jermaine Gregg, Brooklyn, NY
- April 24, 2013 letter from Yumio Morla, Brooklyn, NY
- April 24, 2013 letter from Jerome Britt, Brooklyn, NY
- April 24, 2013 letter from Geraldo Garcia, Brooklyn, NY
- April 24, 2013 letter from Harry Clarke, Sr., Brooklyn, NY
- April 24, 2013 letter from Ty'Quasia Plowden, Brooklyn, NY
- April 24, 2013 letter from Luis Perez, Brooklyn, NY
- April 24, 2013 letter from Irene Sanchez, Brooklyn, NY
- April 24, 2013 letter from Russell Goddard, Brooklyn, NY
- April 24, 2013 letter from Iesha Webster, Brooklyn, NY
- April 24, 2013 letter from Freddy Bloudell, Brooklyn, NY
- April 24, 2013 letter from Iris Chico, Brooklyn, NY
- April 24, 2013 letter from Earl Thompson, Brooklyn, NY
- April 24, 2013 letter from Juan Martinez, Brooklyn, NY
- April 24, 2013 letter from Raven Bush, Brooklyn, NY
- April 24, 2013 letter from Jermaine Grady, Brooklyn, NY
- April 24, 2013 letter from Lateek White, Brooklyn, NY
- April 24, 2013 letter from Gerald Galloway, Brooklyn, NY
- April 24, 2013 letter from Ivery Hunt, Brooklyn, NY

- April 24, 2013 letter from Murodillo Nojmiev, Brooklyn, NY
- April 24, 2013 letter from Balfour Thompson, Brooklyn, NY
- April 24, 2013 letter from Steven Washington, Brooklyn, NY
- April 24, 2013 letter from Timothy Loyd, Brooklyn, NY
- April 24, 2013 letter from Kenya Peary, Brooklyn, NY
- April 24, 2013 letter from David Loyd, Brooklyn, NY
- April 24, 2013 letter from Jamal Cates, Brooklyn, NY
- April 24, 2013 letter from Vernon Neal, Brooklyn, NY
- April 24, 2013 letter from Lonnie Bodrick, Brooklyn, NY
- April 24, 2013 e-mail from Krystle Cooper, Brooklyn, NY
- April 24, 2013 e-mail from Patti Kelly, New York, NY
- April 24, 2013 e-mail from Letitia Doggett, Brooklyn, NY
- April 24, 2013 e-mail from Stephanie Sanders, Brooklyn, NY
- April 24, 2013 e-mail from Tony Rivera
- April 24, 2013 e-mail from John Alatsis, Brooklyn, NY
- April 24, 2013 e-mail from Lori G. Dillon, Brooklyn, NY
- April 24, 2013 e-mail from Beverly Dicovello
- April 24, 2013 e-mail from Eymund Diegel, Gowanus Canal Community Advisory Group, Brooklyn, NY
- April 24, 2013 e-mail from Leslie Shipman, Brooklyn, NY
- April 24, 2013 e-mail from Meilan Chiu, Brooklyn, NY
- April 24, 2013 e-mail from Terumi Matthews, Brooklyn, NY
- April 24, 2013 e-mail from Marianne Thomas, Brooklyn, NY
- April 24, 2013 e-mail from Daniella Liebling, Brooklyn, NY
- April 24, 2013 e-mail from Anneliese Semotan, Brooklyn, NY
- April 24, 2013 e-mail from Jerret Engle, Brooklyn, NY
- April 24, 2013 e-mail from Steven Hart, Brooklyn, NY
- April 24, 2013 e-mail from Lou Sones, Coordinator, Groups Against Garbage Sites, Brooklyn, NY
- April 24, 2013 e-mail from Jenna Lehman
- April 24, 2013 e-mail from Gabriel Reichler, New York, NY
- April 24, 2013 e-mail from Jonathan Blaufarb, Brooklyn, NY
- April 25, 2013 letter from Andrea Kondaks Sansom, Brooklyn, NY
- April 25, 2013 letter from Lawrence M. Levine, Senior Attorney, Natural Resources Defense Council, New York, NY
- April 25, 2013 letter from Joan Bartolomeo, President, Brooklyn Economic Development Corp., Brooklyn, NY
- April 25, 2013 letter from William Hudson, Brooklyn, NY
- April 25, 2013 letter from Pemall Thomas, Brooklyn, NY
- April 25, 2013 letter from Clyde Ellison, Brooklyn, NY
- April 25, 2013 letter from Lance Lovett, Brooklyn, NY
- April 25, 2013 letter from Diandre Taylor, Jr., Brooklyn, NY
- April 25, 2013 letter from Steven Bruce, Brooklyn, NY
- April 25, 2013 letter from Afrika Mills, Brooklyn, NY

- April 25, 2013 letter from Aaron Cherry, Brooklyn, NY
- April 25, 2013 letter from Kevin Rivera, Brooklyn, NY
- April 25, 2013 letter from Tyrone Brown, Brooklyn, NY
- April 25, 2013 letter from Tyrell McBride, Brooklyn, NY
- April 25, 2013 letter from Charlotte Bivines, Brooklyn, NY
- April 25, 2013 letter from Borahnie Garcia, Brooklyn, NY
- April 25, 2013 letter from Jayo Sanchez, Brooklyn, NY
- April 25, 2013 letter from Laura Garrett, Brooklyn, NY
- April 25, 2013 letter from Tiffany Garrett, Brooklyn, NY
- April 25, 2013 letter from Sanjean Holloway, Brooklyn, NY
- April 25, 2013 letter from Felix Ortiz, Brooklyn, NY
- April 25, 2013 letter from Rosa Mendez, Brooklyn, NY
- April 25, 2013 letter from Tiffany Sistrunk, Brooklyn, NY
- April 25, 2013 letter from Lloyd Fraser, Brooklyn, NY
- April 25, 2013 letter from Emanuel Harris, Brooklyn, NY
- April 25, 2013 letter from Amada Mercado, Brooklyn, NY
- April 25, 2013 letter from Pedro Nieves, Brooklyn, NY
- April 25, 2013 letter from Sequoia Bessard, Brooklyn, NY
- April 25, 2013 letter from Geneva Bivines, Brooklyn, NY
- April 25, 2013 letter from Christina Saez, Brooklyn, NY
- April 25, 2013 letter from Letitia Doggett, Brooklyn, NY
- April 25, 2013 letter from Jason Little, Brooklyn, NY
- April 25, 2013 letter from Charlene Batista, Brooklyn, NY
- April 25, 2013 letter from Nereida Lopez, Brooklyn, NY
- April 25, 2013 letter from Julio Sostre, Brooklyn, NY
- April 25, 2013 letter from Kathleen Rivera, Brooklyn, NY
- April 25, 2013 letter from Israel Antonetty, Brooklyn, NY
- April 25, 2013 letter from Ada Soto, Brooklyn, NY
- April 25, 2013 letter from Brunilda Perez, Brooklyn, NY
- April 25, 2013 letter from Anna Townsend, Brooklyn, NY
- April 25, 2013 letter from Sonia Cruz, Brooklyn, NY
- April 25, 2013 letter from Eddie Perez, Brooklyn, NY
- April 25, 2013 letter from James Williams, Brooklyn, NY
- April 25, 2013 letter from Carmen Tirado, Brooklyn, NY
- April 25, 2013 letter from Robert Lopez, Brooklyn, NY
- April 25, 2013 letter from Israel Delgado, Brooklyn, NY
- April 25, 2013 letter from Lloyd Cofield, Brooklyn, NY
- April 25, 2013 letter from Steven Wilson, Jr., Brooklyn, NY
- April 25, 2013 letter from Emily Cruz, Brooklyn, NY
- April 25, 2013 letter from Ramon Castro, Brooklyn, NY
- April 25, 2013 letter from Angel Torres, Brooklyn, NY
- April 25, 2013 letter from Emma Rodriguez, Brooklyn, NY
- April 25, 2013 letter from Ana Cruz, Brooklyn, NY
- April 25, 2013 letter from Aracelis Cosme, Brooklyn, NY

- April 25, 2013 letter from Alida Lugo, Brooklyn, NY
- April 25, 2013 letter from Angela Garcia, Brooklyn, NY
- April 25, 2013 letter from Dionisio Thomas, Brooklyn, NY
- April 25, 2013 letter from Nicholas Aviles, Brooklyn, NY
- April 25, 2013 letter from Scherrisse Bivines, Brooklyn, NY
- April 25, 2013 letter from Matthew Zokari, Brooklyn, NY
- April 25, 2013 letter from Priscilla Howley, Brooklyn, NY
- April 25, 2013 letter from James Howley, Brooklyn, NY
- April 25, 2013 letter from Frank Glover, Brooklyn, NY
- April 25, 2013 letter from Brenda Tubbs, Brooklyn, NY
- April 25, 2013 letter from Gerard Carter, Brooklyn, NY
- April 25, 2013 letter from Sharlyn Marin, Brooklyn, NY
- April 25, 2013 letter from Jake Luke, Brooklyn, NY
- April 25, 2013 letter from Kenya Tubbs, Brooklyn, NY
- April 25, 2013 letter from Ann Marie Grizarry, Brooklyn, NY
- April 25, 2013 letter from Ema Nash, Brooklyn, NY
- April 25, 2013 letter from Harold Bussey, Brooklyn, NY
- April 25, 2013 letter from Keith Smith, Brooklyn, NY
- April 25, 2013 letter from Tanjanette Miller, Brooklyn, NY
- April 25, 2013 letter from Terrance Singleton, Brooklyn, NY
- April 25, 2013 letter from Ramona Melendez, Brooklyn, NY
- April 25, 2013 letter from Stephanie Aponte, Brooklyn, NY
- April 25, 2013 letter from Maritza Lopez, Brooklyn, NY
- April 25, 2013 letter from Tyquon Scott, Brooklyn, NY
- April 25, 2013 letter from Jo-Ann Way, Brooklyn, NY
- April 25, 2013 letter from Rasheed Johnson, Brooklyn, NY
- Undated letter (received by EPA on April 25, 2013) from Carmen Saez, Brooklyn, NY
- Undated letter (received by EPA on April 25, 2013) from Tallok Nash, Brooklyn, NY
- Undated letter (received by EPA on April 25, 2013) from Phillip Mercado, Brooklyn, NY
- Undated letter (received by EPA on April 25, 2013) from Timothy Williams, Brooklyn, NY
- Undated letter (received by EPA on April 25, 2013) from Frankly P. Pizarro, Brooklyn, NY
- Undated letter (received by EPA on April 25, 2013) from Keemy Jamison, Brooklyn, NY
- Undated letter (received by EPA on April 25, 2013) from Hassan Stevens, Brooklyn, NY
- Undated letter (received by EPA on April 25, 2013) from Helen Saez, Brooklyn, NY
- Undated letter (received by EPA on April 25, 2013) from Gloria Smith, Brooklyn, NY
- Undated letter (received by EPA on April 25, 2013) from Selimar Stevens, Brooklyn, NY
- Undated letter (received by EPA on April 25, 2013) from Tonjia Andrews, Brooklyn, NY
- Undated letter (received by EPA on April 25, 2013) from Shacowa Watson, Brooklyn, NY
- Undated letter (received by EPA on April 25, 2013) from Tony Jordan, Brooklyn, NY
- Undated letter (received by EPA on April 25, 2013) from Michael Alicei, Brooklyn, NY

- Undated letter (received by EPA on April 25, 2013) from Ronnie Maybank, Brooklyn, NY
- Undated letter (received by EPA on April 25, 2013) from Kayreen Fludd, Brooklyn, NY
- April 25, 2013 e-mail from Diane Mcmillian, Brooklyn, NY
- April 25, 2013 e-mail from Yeshwant Chitalkar, Brooklyn, NY
- April 25, 2013 e-mail from Daniel Genova, Brooklyn, NY
- April 25, 2013 e-mail from Jerry Armer on behalf of the Community Advisory Group, Brooklyn, NY
- April 25, 2013 e-mail from Edith Yates, Brooklyn, NY
- April 25, 2013 e-mail from Suzie Stempel, Doctoral Candidate, Earth and Environmental Sciences, The Graduate Center, City University of New York, NY
- April 25, 2013 e-mail from Marisa Schwartz, Brooklyn, NY
- April 25, 2013 e-mail from Jerry Armer on behalf of the Community Advisory Group, Brooklyn, NY
- April 25, 2013 e-mail from Roy Sloane, President Cobble Hill Association, Inc., Brooklyn, NY
- April 25, 2013 e-mail from Patricia Constantino, Brooklyn, NY
- April 25, 2013 e-mail from Mary Mcgeary, Brooklyn, NY
- April 25, 2013 e-mail from Jessica Sheehan, Brooklyn, NY
- April 25, 2013 e-mail from Jim Green, Brooklyn, NY
- April 25, 2013 e-mail from Sopheap Phang, Brooklyn, NY
- April 25, 2013 e-mail from Kimberly Forte, Brooklyn, NY
- April 25, 2013 e-mail from Pravin Premkumar, Brooklyn, NY
- April 25, 2013 e-mail and letter from Carly Yates, Brooklyn, NY
- April 25, 2013 e-mail from Melissa Landais, Brooklyn, NY
- April 25, 2013 e-mail from Diane Fargo, Brooklyn, NY
- April 25, 2013 e-mail from Tara Renee, Brooklyn, NY
- April 25, 2013 e-mail from Jake Baker
- April 25, 2013 e-mail from Robert Goldberg, Brooklyn, NY
- April 25, 2013 e-mail from Roger Hathaway, Vice President, GEI Consultants, Glastonbury, CT, transmitting a letter from Robert D. Teetz, Vice President Environmental Services, National Grid, Hicksville, NY
- April 25, 2013 e-mail from Carlos Slinger, Brooklyn, NY
- April 25, 2013 e-mail from Irene Shen, Brooklyn, NY
- April 25, 2013 e-mail from Viv Schaffel, Brooklyn, NY
- April 25, 2013 e-mail from Aimee Chan-Lindquist, Brooklyn, NY
- April 25, 2013 e-mail from Taryn FitzGerald, Sergio Fanchiotti and Ryan Fanchiotti, Brooklyn, NY
- April 25, 2013 e-mail from Audrey Oster, Brooklyn, NY
- April 25, 2013 e-mail from Warren Cohen, Brooklyn, NY
- April 25, 2013 e-mail from Lawrence M. Levine, Senior Attorney, Natural Resources Defense Council, New York, NY, transmitting a letter
- April 26, 2013 letter from Ronda Mcbee, Brooklyn, NY
- April 26, 2013 letter from Latisha Wade, Brooklyn, NY

- April 26, 2013 letter from Robert Vincent, Brooklyn, NY
- April 26, 2013 letter from Nurys Pimentel, Brooklyn, NY
- April 26, 2013 letter from Richard Haggwood, Brooklyn, NY
- April 26, 2013 letter from James Banks, Brooklyn, NY
- April 26, 2013 letter from Curt Brown, Brooklyn, NY
- April 26, 2013 letter from Jerome Gibbs, Brooklyn, NY
- April 26, 2013 letter from Jamal White, Brooklyn, NY
- April 26, 2013 letter from Gloria Hopkins, Brooklyn, NY
- April 26, 2013 letter from Edwin Mojica, Brooklyn, NY
- April 26, 2013 letter from Leroy Bush, Brooklyn, NY
- April 26, 2013 letter from Lakim Reed, Brooklyn, NY
- April 26, 2013 letter from Samuel Sheridan, Jr., Brooklyn, NY
- April 26, 2013 letter from Vincent Joyner, Brooklyn, NY
- April 26, 2013 letter from Shirelle Gilmore, Brooklyn, NY
- April 26, 2013 letter from Paul Evans, Brooklyn, NY
- April 26, 2013 letter from Herman Newell, Brooklyn, NY
- April 26, 2013 letter from Frank Black, Brooklyn, NY
- April 26, 2013 letter from Jazzmin Warmsley, Brooklyn, NY
- April 26, 2013 letter from Brian Gordan, Brooklyn, NY
- April 26, 2013 letter from Brian Bernadin, Brooklyn, NY
- April 26, 2013 letter from Vance Lovett, Brooklyn, NY
- April 26, 2013 letter from Cory Davis, Brooklyn, NY
- April 26, 2013 letter from Gerald White, Brooklyn, NY
- April 26, 2013 letter from Douglas Williams, Brooklyn, NY
- April 26, 2013 letter from Henry Jamison, Brooklyn, NY
- April 26, 2013 letter from Raymond Hill, Brooklyn, NY
- April 26, 2013 letter from Jahaira Gonzalez, Brooklyn, NY
- April 26, 2013 letter from Hameen Eason, Brooklyn, NY
- April 26, 2013 letter from Danfore Boyton, Brooklyn, NY
- April 26, 2013 letter from Frank Pesse, Brooklyn, NY
- April 26, 2013 letter from Janiah Vaughn, Brooklyn, NY
- April 26, 2013 letter from Tyauan Carter, Brooklyn, NY
- April 26, 2013 letter from Ar-Malik Spencer, Brooklyn, NY
- April 26, 2013 letter from Kareem Moore, Brooklyn, NY
- April 26, 2013 letter from Jamaal Moore, Brooklyn, NY
- April 26, 2013 letter from Octavia Davis, Brooklyn, NY
- April 26, 2013 letter from Ellamae Harden, Brooklyn, NY
- April 26, 2013 letter from Kelvin Alford, Brooklyn, NY
- April 26, 2013 letter from Fannie Ivery, Brooklyn, NY
- April 26, 2013 letter from Dorothy Williams, Brooklyn, NY
- April 26, 2013 letter from James Ruffin, Brooklyn, NY
- April 26, 2013 letter from Clarissa Moore, Brooklyn, NY
- April 26, 2013 letter from Calvin Williams, Brooklyn, NY
- April 26, 2013 letter from Derrick Jordan, Brooklyn, NY

- April 26, 2013 letter from Jasmine Martin, Brooklyn, NY
- April 26, 2013 letter from Keisha Myers, Brooklyn, NY
- April 26, 2013 letter from Franchon Russell, Brooklyn, NY
- April 26, 2013 letter from Stanley Morrison, Brooklyn, NY
- April 26, 2013 letter from Ramona Hernandez, Brooklyn, NY
- April 26, 2013 letter from Tina Rentas, Brooklyn, NY
- April 26, 2013 letter from Calvin Shields, Brooklyn, NY
- April 26, 2013 letter from Antwoine Rahman, Brooklyn, NY
- April 26, 2013 letter from Jack Reese, Brooklyn, NY
- April 26, 2013 letter from Brenda Singlton, Brooklyn, NY
- April 26, 2013 letter from Yasmin Rahman, Brooklyn, NY
- April 26, 2013 letter from Jackie Davis, Brooklyn, NY
- April 26, 2013 letter from Lou Faue, Brooklyn, NY
- April 26, 2013 letter from Douglas Handy, Brooklyn, NY
- April 26, 2013 letter from Carmen Santiago, Brooklyn, NY
- April 26, 2013 letter from Evelyn Albrante, Brooklyn, NY
- April 26, 2013 letter from Alesha Manning, Brooklyn, NY
- April 26, 2013 letter from Denise Mann, Brooklyn, NY
- April 26, 2013 letter from James Matthews, Brooklyn, NY
- April 26, 2013 letter from Celia Wellington, Brooklyn, NY
- April 26, 2013 letter from Craig Lyles, Brooklyn, NY
- April 26, 2013 letter from Ayanah Fain, Brooklyn, NY
- April 26, 2013 letter from Celina Sostre, Brooklyn, NY
- April 26, 2013 letter from Rosa Rodriques, Brooklyn, NY
- April 26, 2013 letter from Eddie B. Soto, Sr., Brooklyn, NY
- Undated letter (received by EPA on April 26, 2013) from Melissa Torres, Brooklyn, NY
- Undated postcard (received by EPA on April 26, 2013) from an unknown party (undecipherable signature), Brooklyn, NY
- Undated postcard (received by EPA on April 26, 2013) from an unknown party (undecipherable signature), Brooklyn, NY
- Undated postcard (received by EPA on April 26, 2013) from an unknown party (undecipherable signature), Brooklyn, NY
- April 26, 2013 postcard from an unknown party (undecipherable signature), Brooklyn, NY
- April 26, 2013 e-mail from T. S. Valvanis
- April 26, 2013 e-mail from Tiziana Mazziotto
- April 26, 2013 e-mail from John Staniszewski, Brooklyn, NY
- April 26, 2013 e-mail from Jim Takacs, Brooklyn, NY
- April 26, 2013 e-mail from Bernadette V. Nigro
- April 26, 2013 e-mail from Dena Schultz, Brooklyn, NY
- April 26, 2013 e-mail from Sandra Lippmann, Brooklyn, NY
- April 26, 2013 e-mail transmitting a letter from Luis R Sturla, Brooklyn, NY
- April 26, 2013 e-mail from Brook Llewellyn Shepard, Brooklyn, NY
- April 26, 2013 e-mail from Rita Miller, Brooklyn, NY

- April 26, 2013 e-mail from James Harmon, Brooklyn, NY
- April 26, 2013 e-mail from James Harmon, Brooklyn, NY
- April 26, 2013 e-mail from Samantha Citrin, Brooklyn, NY
- April 26, 2013 e-mail from John Golden, Brooklyn, NY
- April 26, 2013 e-mail (correcting a prior submittal) from Jerry Armer on behalf of the Community Advisory Group, Brooklyn, NY
- April 26, 2013 e-mail from Jenna John-Goodman, Brooklyn, NY
- April 26, 2013 e-mail from Meredith Bagerskiu, Brooklyn, NY
- April 26, 2013 e-mail from Laura Brodsky
- April 26, 2013 e-mail from Idra Rosenberg, Brooklyn, NY
- April 26, 2013 e-mail from Joseph Alexiou
- April 26, 2013 e-mail from Samuel Slaton, Brooklyn, NY
- April 26, 2013 e-mail transmitting a letter from Renée Crowley, Brooklyn, NY
- April 26, 2013 e-mail from Edith Yates, Brooklyn, NY
- April 26, 2013 e-mail from Bette Stoltz, Brooklyn, NY
- April 26, 2013 e-mail from Catherine Zinnel, District Director, NYC Councilmember Brad Lander transmitting a submittal from Councilmember Lander
- April 26, 2013 e-mail from Mimi Keghida, Brooklyn, NY
- April 26, 2013 e-mail from Triada Samaras, Brooklyn, NY
- April 26, 2013 e-mail from David J. Freeman, Director, Real Property & Environmental Law, Gibbons P.C. transmitting an April 26, 2013 letter from Beam, Inc.; The Dun and Bradstreet Corporation; Exxon Mobile Oil Corporation; Hauck Manufacturing Company; Hess Corporation; Honeywell International, Inc.; MRC Holdings, Inc., for itself and on behalf of Citigroup, Inc.; Patterson Fuel Oil Company, Inc.; Ream Beverage Can Company; SPX Corporation as successor to O-Z/Gedney Co., Inc.; Union Oil Company of California and Verizon New York Inc.
- April 26, 2013 e-mail from Maureen Miller, Boston, MA
- April 26, 2013 e-mail transmitting a letter from Linda Laviolette, Brooklyn, NY
- April 26, 2013 letter from Carter H. Strickland, Jr., Commissioner, New York City Department of Environmental Protection, to Mathy Stanislaus, Assistant Regional Administrator, Ofice of Solid Waste and Emergency Response, transmitting “The City of New York’s Comments on the Proposed Plan for the Gowanus Canal Superfund Site”
- April 26, 2013 e-mails from Eileen Mahoney, Director, Hazardous Materials Assessment and Superfund Planning and Analysis, NYC Environmental Protection transmitting “The City of New York’s Comments on the Proposed Plan for the Gowanus Canal Superfund Site”
- April 26, 2013 letter from Daniel Greene, Assistant Corporation Counsel, The City of New York, Law Department transmitting “The City of New York’s Comments on the Proposed Plan for the Gowanus Canal Superfund Site”
- April 26, 2013 e-mail from Patrick O'Donnell, Brooklyn, NY
- April 26, 2013 e-mail from John Battis, Brooklyn, NY
- April 26, 2013 e-mail from Jessica Lee, Brooklyn, NY
- April 26, 2013 e-mail from Sue Wolfe, President Friends of Douglass Greene Park, Brooklyn, NY transmitting a petition from Friends of Douglass/Greene Park
- April 26, 2013 e-mail from Georgia Juvelis & Charlie Foley, Brooklyn, NY

- April 26, 2013 e-mail from Sue Wolfe, President Friends of Douglass Greene Park, Brooklyn, NY transmitting an April 26, 2013 letter from Friends of Douglass/Greene Park
- April 26, 2013 e-mail from Tom and Sharon Lisenbee, Brooklyn, NY
- April 26, 2013 e-mail from Rosemary McGettrick transmitting a letter from Jay McKnight, Co-Chair, Public Housing, and John McGettrick, Co-Chair, Private Housing, Red Hook Civic Association, Brooklyn, NY
- April 26, 2013 e-mail from Rosemary Mcgettrick , Brooklyn, NY
- April 26, 2013 e-mail from Beth Kaiser, Brooklyn, NY
- April 26, 2013 e-mail from Blaise Corrigan, Brooklyn, NY
- April 26, 2013 e-mail from Natalie Weinberger, Brooklyn, NY
- April 26, 2013 e-mail from Marina Pavlutskaya, Brooklyn, NY
- April 26, 2013 e-mail from Hans Hesselein, Executive Director, Gowanus Canal Conservancy, transmitting comments from Hans Hesselein, Executive Director, and Richard Kampf, Board Member, Gowanus Canal Conservancy, Brooklyn, NY
- April 26, 2013 e-mail from Steven C. Nadeau and Megan McCulloch, Sediment Management Work Group, transmitting a letter from Steven C. Nadeau, Coordinating Director, Sediment Management Work Group
- April 26, 2013 e-mail from Alexander Smelson, Brooklyn, NY
- April 26, 2013 e-mail transmitting a letter from Mitchell H. Bernstein, Van Ness Feldman Attorneys at Law, on behalf of Con Edison
- April 26, 2013 letter from Mitchell H. Bernstein, Van Ness Feldman Attorneys at Law, on behalf of Con Edison
- April 26, 2013 e-mail from Kathleen Hopler, Hollywood FL
- April 26, 2013 e-mail from Benjamin Ellis, Brooklyn, NY
- April 26, 2013 e-mail from Elizabeth Kenney and Jeff Hinz, Brooklyn, NY
- April 26, 2013 e-mail from Cynthia Simmons, Brooklyn, NY
- April 26, 2013 e-mail from Ludger K Balan, Brooklyn, NY
- April 26, 2013 e-mail from Michael C. Cox, Brooklyn, NY
- April 26, 2013 e-mail from Mary Hedge, Brooklyn, NY
- April 26, 2013 e-mail transmitting a letter from Joshua S. Verleun, Esq., Staff Attorney & Chief Investigator, Riverkeeper
- April 26, 2013 e-mail from Tom Paul, Brooklyn, NY
- April 26, 2013 e-mail from Damien Poleshek, Brooklyn, NY
- April 26, 2013 e-mail transmitting a letter from Jackie Del Valle, Director of Organizing and Advocacy, Fifth Avenue Committee, Brooklyn, NY
- April 26, 2013 e-mail from Cynthia Nockold, Brooklyn, NY
- April 27, 2013 letter from Eric Bluestone, Member, Bluestone Gowanus Green Partners LLC; Michelle de la Uz, Executive Director, Fifth Avenue Committee and Gowanus Green LLC; David Kramer, Member, Hudson Gowanus LLC and Jonathan F. P. Rose, Member, Rose Gowanus Green LLC
- April 27, 2013 letter from Dom Gervasi, Owner and Producer, Made in Brooklyn Tours
- April 27, 2013 letter from Michael Vinik from Vinik Marine, Inc., Keyport, NJ
- April 27, 2013 letter from Tom Petrosino, Benson Metal Corp., Brooklyn, NY
- April 27, 2013 letter from Emmanuel Diaz, Brooklyn, NY

- April 27, 2013 letter from Ronald Gadsden, Brooklyn, NY
- April 27, 2013 letter from Glenn Adams, Brooklyn, NY
- April 27, 2013 letter from Vanessa McKnight, Brooklyn, NY
- April 27, 2013 letter from Deanna Cherry, Brooklyn, NY
- April 27, 2013 letter from Pansy Corbett, Brooklyn, NY
- April 27, 2013 letter from Tommy Martinez, Brooklyn, NY
- April 27, 2013 letter from Maria Gonzalez, Brooklyn, NY
- April 27, 2013 letter from Jemain Hunt, Brooklyn, NY
- April 27, 2013 letter from Sheila Jackson, Brooklyn, NY
- April 27, 2013 letter from Barrie Owen-Williams, Brooklyn, NY
- April 27, 2013 letter from Ahijah Stewart, Brooklyn, NY
- April 27, 2013 letter from Ronnie Brown, Brooklyn, NY
- April 27, 2013 letter from Derek Boomer, Brooklyn, NY
- April 27, 2013 letter from Travis Lawrence, Brooklyn, NY
- April 27, 2013 letter from Robert Fludo, Brooklyn, NY
- April 27, 2013 letter from Shiria Milton, Brooklyn, NY
- April 27, 2013 letter from Dorothy Pavez, Brooklyn, NY
- April 27, 2013 letter from Renee Hill, Brooklyn, NY
- April 27, 2013 letter from Bruce Wallace, Brooklyn, NY
- April 27, 2013 letter from Jessica Clarke, Brooklyn, NY
- April 27, 2013 letter from Macho Aliackbar, Brooklyn, NY
- April 27, 2013 letter from Doris Williams, Brooklyn, NY
- April 27, 2013 letter from Sherron Paige, Brooklyn, NY
- April 27, 2013 letter from Pedro Ortiz, Brooklyn, NY
- April 27, 2013 letter from Frederick Arlington, Brooklyn, NY
- April 27, 2013 letter from Elaine Harris, Brooklyn, NY
- April 27, 2013 letter from Lucinda Clark, Brooklyn, NY
- April 27, 2013 letter from Monique Leocadio, Brooklyn, NY
- April 27, 2013 letter from Katrina Mills, Brooklyn, NY
- April 27, 2013 letter from Dwight Jones, Brooklyn, NY
- April 27, 2013 letter from Monique Day, Brooklyn, NY
- April 27, 2013 letter from Amanda Jenis, Brooklyn, NY
- April 27, 2013 letter from Derrick Smalls, Brooklyn, NY
- April 27, 2013 letter from Lizetter Alvarez, Brooklyn, NY
- April 27, 2013 letter from Patronia Russell, Brooklyn, NY
- Undated letter (received by EPA on April 27, 2013) from Raquel Rios, Brooklyn, NY
- Undated letter (received by EPA on April 27, 2013) from Rowalls Walker, Brooklyn, NY
- Undated letter (received by EPA on April 27, 2013) from Rafael Rosa, Brooklyn, NY
- Undated letter (received by EPA on April 27, 2013) from Jandira Nova, Brooklyn, NY
- Undated letter (received by EPA on April 27, 2013) from Jeanette Lewis, Brooklyn, NY
- Undated letter (received by EPA on April 27, 2013) from Jamal Cherry, Brooklyn, NY
- Undated letter (received by EPA on April 27, 2013) from Lamel Snow, Brooklyn, NY
- Undated letter (received by EPA on April 27, 2013) from Crystal Sostre, Brooklyn, NY

- Undated letter (received by EPA on April 27, 2013) from Mariani Olivia Bowlding, Brooklyn, NY
- Undated letter (received by EPA on April 27, 2013) from Juan Berinios, Brooklyn, NY
- Undated letter (received by EPA on April 27, 2013) from Clinton Quinonus, Brooklyn, NY
- Undated letter (received by EPA on April 27, 2013) from Billy Mason, Brooklyn, NY
- Undated letter (received by EPA on April 27, 2013) from Cheryl Garnett
- Undated postcard (received by EPA on April 27, 2013) from an unknown party (undecipherable signature), Brooklyn, NY
- April 27, 2013 e-mail from Margaret Maugenest, Brooklyn, NY
- April 27, 2013 e-mail from Daniel Cohen, Bayside,, NY
- April 27, 2013 e-mail from Joy Ferguson, Brooklyn, NY
- April 27, 2013 e-mail from Linda Blyer, Brooklyn, NY
- April 27, 2013 e-mail from Lizzie Olesker, Brooklyn, NY
- April 27, 2013 e-mail from Christie Leece, Brooklyn, NY
- April 27, 2013 e-mail from Robert Fabricant transmitting a letter from Al Hendricks, Chairman/Managing Member, and Robert Fabricant, Counsel, Volcano Partners, New York, NY
- April 27, 2013 e-mail from Nancy Alexandru, Kew Gardens, NY
- April 27, 2013 e-mail from Senator Velmanette Montgomery transmitting a letter
- April 27, 2013 e-mail from Maria Pagano, Brooklyn, NY
- April 27, 2013 e-mail from Leopold Veuve
- April 27, 2013 e-mail from Jesse Gates
- April 27, 2013 e-mail from Stephen de Seve, Brooklyn, NY
- April 27, 2013 e-mail from Marilyn Schiller, Boerum Hill, NY, transmitting a letter from Sue Wolfe, President, Friends of Douglass Greene Park
- April 27, 2013 e-mail from Rosemary Moore, Brooklyn, NY
- April 27, 2013 e-mail from Herbert Coles, Rockaway Park, NY
- April 27, 2013 e-mail from Hollister White, Brooklyn, NY
- April 27, 2013 e-mail from Alexandra
- April 27, 2013 e-mail from Phaedra Thomas, Brooklyn, NY
- April 27, 2013 e-mail from Josh Skaller, Brooklyn, NY
- April 27, 2013 e-mail from Ray Hall, Brooklyn, NY, transmitting a letter from Raymond Hall, Cofounder, Red Hook Rise Organization, Dorothy Shields, President, Red Hook East Resident Association, Lille Marshall, President, Red Hook West Resident Association, Earl Hall, Cofounder, Red Hook Rise Organization, Mickey Reid, Vice President, Red Hook East Resident Association, and Anthony Watson, Vice President, Red Hook West Resident Association on behalf of the Red Hook Houses Community Action Coalition
- April 27, 2013 e-mail from Sabine Aronowsky, Brooklyn, NY
- April 27, 2013 e-mail from Susan Handler, Providence, RI
- April 27, 2013 e-mail transmitting a letter from Sabine Aronowsky, Brooklyn, NY
- April 27, 2013 e-mail transmitting a letter from Kristian Karl Larsen, Esq., Larsen Advocates on behalf of the Civilian Environmental Corps--The Brooklyn Brigade--and its Coalition Partners

- April 27, 2013 e-mail from Jessica Weiss, Brooklyn, NY
- April 27, 2013 e-mail from Victoria Hagman, Brooklyn, NY
- April 27, 2013 e-mail transmitting a letter from Michelle de la Uz, Executive Director, Fifth Avenue Committee, Brooklyn, NY
- April 27, 2013 e-mail transmitting a letter from Jo Anne Simon, NYS Committeewoman & Democratic District Leader, 52nd Assembly District
- April 28, 2013 e-mail from Gowanus Bay Terminal transmitting an April 25, 2013 letter from Michael Barr, Property Manager, Vane Brothers, Brooklyn, NY; an undated letter from Aly Goldenberg, Vice President, Best Trails and Travel Corp., Brooklyn, NY; an undated letter from John Vaccaro, Senior Vice President, Bettaway, South Plainfield, NJ; an April 27, 2013 letter from Bette Stoltz for South Brooklyn Local Development Corp., Brooklyn, NY; an April 27, 2013 letter from Dom Gervasi, Owner and Producer, Made in Brooklyn Tours , Brooklyn, NY; an April 23, 2013 letter from Joan Bartolomeo, President, Brooklyn Economic Development Corp.; an April 27, 2013 letter from Michael Vinik from Vinik Marine, Inc., Keyport, NJ; an April 27, 2013 letter from Tom Petrosino, Benson Metal Corp., Brooklyn, NY; an April 27, 2013 letter from Frank D. Pena, Safety Manager, Capital Bus Tours, Inc.; an April 27, 2013 letter from Janet Deng, General Manager, Eagle Tours, Inc., Brooklyn, NY and an April 27, 2013 letter from a representative (signature is undecipherable) of S & F Travel, Inc., Williamsville, NY
- April 28, 2013 e-mail from Gowanus Bay Terminal transmitting a May 18, 2012 letter from Brian McCormick, Co-Founder, Brooklyn Greenway Initiative, Brooklyn, NY; a May 30, 2012 letter from Bill Appel, Executive Director, Gowanus Canal Community Development Corp.; a May 31, 2011 letter from Carolina Salguero, Director, PortSide, New York, Brooklyn, NY; a May 17, 2012 letter from Roberta Weisbrod, Founder and Principal, Sustainable Ports, Brooklyn, NY; an undated letter from an unknown representative of Moves, Not Shakers (only one page of what appears to be a multi-paged letter was transmitted), Brooklyn, NY; an April 24, 2012 letter from Ray and Earl Hall, Co-Founders, Red Hook Rise; an undated letter from Lillie Marshall, President, Redhook West Resident Association, Brooklyn, NY and an April 14, 2012 letter from Dorothy Shields, President Resident Association, Brooklyn, NY
- April 28, 2013 e-mail from Joe Maranzani, Biehl & Co., LP , Brooklyn, NY
- April 28, 2013 e-mail transmitting an April 26, 2013 letter from Nathan F. Elbogen, LMS Realty Associates LLC, Brooklyn, NY
- April 28, 2013 e-mail from Brian Fell, New York, NY
- April 28, 2013 e-mail from Karly Smelson, Huntington, NY
- April 28, 2013 e-mail from Abby Krumholz
- April 29, 2013 e-mail transmitting an April 26, 2013 letter from R. Frank Eadie, New York, NY
- April 29, 2013 e-mail from Michelle de la Uz, Executive Director, Fifth Avenue Committee, transmitting a letter from Eric Bluestone, Member, Bluestone Gowanus Green Partners LLC; Michelle de la Uz, Executive Director, Fifth Avenue Committee and Gowanus Green LLC; David Kramer, Member, Hudson Gowanus LLC and Jonathan F. P. Rose, Member, Rose Gowanus Green LLC
- Undated letter (received by EPA on April 29, 2013) from Joe Maranzani, Biehl & Co., LP, Brooklyn, NY

- May 17, 2012 letter (received by EPA on April 29, 2013) from Roberta Weisbrod, Founder and Principal, Sustainable Ports, Brooklyn, NY
- Undated letter (postmarked April 25, 2013 and received by EPA on April 29, 2013) from Allyn Bacher and Jeffry Chong, Brooklyn, NY
- Undated letter (postmarked April 29, 2013 and received by EPA on April 30, 2013) from Jessica Sheehan, Brooklyn, NY

Gowanus Solution
J Skye Wallin
to:
Region2 GowanusCanalComments
12/29/2012 09:49 PM
Hide Details
From: J Skye Wallin <skye.wallin@gmail.com>

To: Region2 GowanusCanalComments@EPA

I.read the Superfund Proposed Plan for the Gowanus Canal and I wanted to make sure you knew about a technology I heard about called OPFLEX. OPFLEX material can help with the Combined Sewer Overflows and discharge from the Manufactured Gas Plants mentioned in the plan. It would not cost much money for the DEC to get this material and put it out in the canal and it would greatly decrease the amount of pollution. The material can also be re-used – which would decrease the cost of each use. Please explore OPFLEX for use in your plan.

Sincerely,
Skye Wallin

Looking Ahead
Zackary Cutner to: Region2 GowanusCanalComments 01/17/2013 10:50 AM

Will the proposed sewage holding tanks be sited with expected sea level rise and the attendant ramifications considered?

Ensure Gowanus Cleanup Includes Toxic and Sewage Overflows
Jennifer Valentine
to:
Region2 GowanusCanalComments
01/17/2013 12:53 PM
Hide Details
From: Jennifer Valentine <faboo1028@yahoo.com>

To: Region2 GowanusCanalComments@EPA

Please respond to Jennifer Valentine <faboo1028@yahoo.com>

thank you
Jennifer Valentine
NY

gowanus canal
Robert Puca
to:
Region2 GowanusCanalComments
01/17/2013 07:10 PM
Hide Details
From: Robert Puca <robpuca@gmail.com>

To: Region2 GowanusCanalComments@EPA

I applaud the Environmental Protection Agency's decision to include sharp reductions in sewage overflows as part of the proposed Superfund cleanup targeting toxic waste in the Gowanus Canal. Tackling combined sewage overflow (CSO) discharges, which typically occur during rain and wash high volumes of untreated sewage and other contaminants into the canal, is essential, particularly given the results of Riverkeeper's water quality tests on the Gowanus.

Marlena Lange
to:
Region2 GowanusCanalComments
01/17/2013 09:02 PM
Hide Details
From: Marlena Lange <mar32123@gmail.com>

To: Region2 GowanusCanalComments@EPA

The Environmental Protection Agency's decision to include sharp reductions in sewage overflows as part of the proposed Superfund cleanup targeting toxic waste in the Gowanus Canal is encouraging. Tackling combined sewage overflow (CSO) discharges, which typically occur during rain and wash high volumes of untreated sewage and other contaminants into the canal, is essential, particularly given the results of Riverkeeper's water quality tests on the Gowanus.

I hope that the EPA follows through on its laudable plan.

Sincerely,
Marlena Lange
23 Royce Ave.
Middletown, NY 10940

Bioremediation
BK Bumpkin
to:
Region2 GowanusCanalComments
01/19/2013 09:06 PM
Sent by:
krissieisnagy@gmail.com
Hide Details
From: BK Bumpkin <bkbumpkin@gmail.com>

To: Region2 GowanusCanalComments@EPA

Sent by: krissieisnagy@gmail.com

Hi Christos,

Is there a reason why the EPA isn't looking into bioremediation as an alternative to dredging? Please see a fellow ecological designer's work in restoring a polluted canal in China to its natural beauty: http://toddecological.com/PDFs/100623.casestudy.baima.pdf

I could see why dredging would be a favorable option if the excess sediment is making the canal too shallow for the barges to safely pass, but to dredge the toxic sludge just to move it elsewhere seems like a waste of time and money if bioremediation is a less expensive and safer option with a better long term investment for the community.

If you'd like me to develop preliminary designs as to what a bio-remediated Gowanus Canal might look like at this time, I'd be happy to do so. I plan on being in attendance at this Thursday's evening, so hoping to meet you and your panel then.

Kind Regards,
Krissie

BK Bumpkin
Regenerative Garden Design in NYC
347-471-0715
bkbumpkin.com

Question about Gowanus clean-up
Jenny Mandel
to:
Natalie Loney
01/25/2013 09:24 AM
Cc:
Region2 GowanusCanalComments
Hide Details
From: "Jenny Mandel" <jenny@workman.com>

To: Natalie Loney/R2/USEPA/US@EPA

Cc: Region2 GowanusCanalComments@EPA

Hi Natalie,

My husband and I have lived on Sackett Street between Smith and Hoyt for the past 20 years – just a few blocks away from the Gowanus canal.
I am also co-President of the Sackett Street Block Association.

We were at the public meeting on Wed night at PS 58 and we were incredibly impressed with the EPA's presentation and plan.

We had to leave right before 9pm, so I didn't get a chance to ask my question:

It seems that the Gowanus clean-up won't be completed for at least 10 years.

I was wondering if the EPA has a position on the 700-unit rental building that the Lightstone Group wants to erect at 363-365 Bond Street.

Do you feel that it is safe for these 700+ additional residents to be living in the immediate area (directly on the banks of the Gowanus) while the Superfund clean-up is underway?

Thanks for any information that you can provide.

Best,

Jenny Mandel
408 Sackett Street
Brooklyn, NY 11231
(718) 855-4138

we are opposed to the use of red hook as a dumping ground.
denise carbonell
to:
Region2 GowanusCanalComments
01/27/2013 11:51 AM
Hide Details
From: denise carbonell <denisecarbonell@earthlink.net>

To: Region2 GowanusCanalComments@EPA

to whom it hopefully concerns:

as longtime residents,community activists and business owners in red hook,brooklyn---we are both 100% against this plan to use the grain terminal...or any other site in red hook---as a place to store the toxic sludge from the gowanus canal.
there must be some other way to do this besides once again using this community as new york's dumping ground....we are all angry and tired of the way our neighborhood is treated.

derek dominy &
denise carbonell
metal and thread

398 van brunt st.
red hook.brooklyn

www.metalthread.com
www.restoreredhook.org

Benjamin Peikes
to:
Region2 GowanusCanalComments
01/28/2013 11:09 AM
Hide Details
From: Benjamin Peikes <ben@peikes.com>

To: Region2 GowanusCanalComments@EPA

Mr. Tsiamis,

I am a member of the community around the **Gowanus Canal Superfund Site** and have recently read the proposed plan as put out by the EPA (http://www.epa.gov/region2/superfund/npl/gowanus/pdf/gowanus_prap.pdf). I have reviewed the alternatives for remediation and the options for treatment and disposal. I strongly believe that any solutions which include on or offsite beneficial use (Options D and E) should be removed from consideration.

Any beneficial use would require close monitoring for many years to make sure that the materials are not escaping back into our environment. In particular, I worry about Option E, which might include putting back into the bay just to create a benefit for a private owner of newly created land. The location mentioned in Option E is near an area which is currently used by the community, particularly children, on a regular basis. If Option E is considered, there should be considerate planning for environmental impacts if there is a flood event during the life of the project.

Without a specific plan for how the materials would be tested during and after the project for any beneficial use, there is no way to price those options properly. Also missing from the pricing of Options D and E are the tests which the EPA's document states have not been specified yet. Continuous testing for years after the project is complete could completely reverse any savings over even Option A.

Options F & G which include onside storage in a CDF would also require some method for testing. There should also be an environmental impact study on how those CDFs will fare against flood events, some possibly as strong as or stronger than Sandy. It does not make sense to spend half a billion dollars, to have all the work reversed in a single event. None of these costs are included in the EPA's study. Perhaps a plan which included a mix of options would be better, such as On-site stabalization and encapsulation some of which is kept in a CDF and some of which is transported to a landfill. This means that risk is distributed across multiple sites.

I hope to see you at one of the next meetings.

Sincerely,
Benjamin Peikes

74 Dikeman St.
Brooklyn, NY 11231

Toxic waste
Doris Montgomery
to:
Region2 GowanusCanalComments
01/30/2013 07:05 PM
Hide Details
From: Doris Montgomery <shonuffdee@aol.com>

To: Region2 GowanusCanalComments@EPA

I am against the proposal to store toxic waste from the Gowanus Canal into Red Hook. I realize the proposal is not to store it in Red Hook indefinitely, but to use Red Hook as a container until you discover how to clean it.This could and most likely will take decades. I am against it.

Doris Montgomery, Red Hook resident

Gowanus Canal Questions
Jacob Terrance
to:
Region2 GowanusCanalComments
02/06/2013 09:15 AM
Hide Details
From: "Jacob Terrance" <jacob.terrance@srmt-nsn.gov>

To: Region2 GowanusCanalComments@EPA

Good morning,

I am writing to find out some information on the Gowanus Canal remedial proposal. I have read through some of the documents but was unable to find the answers. My questions are:
-How much volume of canal sediment is contaminated?
-How much volume under the proposed remedy would be dredged?
-How much would be capped?
-What is the concentration threshold for dredging? (if the canal sediment has a concentration of X ppm or greater then it must be dredged)

Thank you for your time and I look forward to your response.

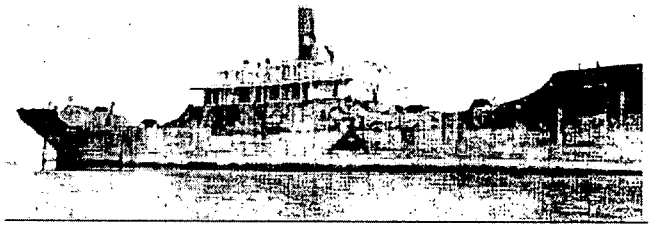
Jacob Terrance

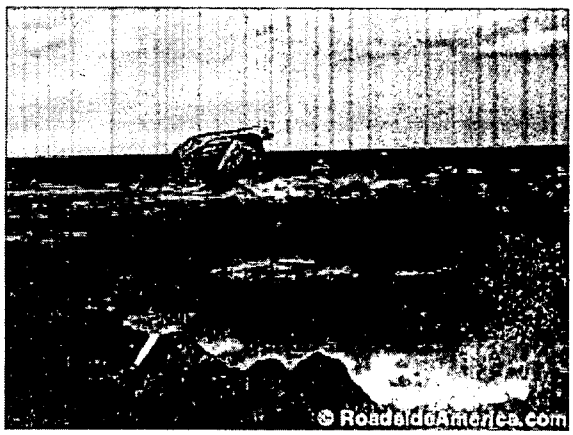
Concerns about the cement-like material for Caps and CDFs in Gowanus Canal project
Rowland Laedlein
to:
Region2 GowanusCanalComments
02/08/2013 03:26 PM
Hide Details
From: Rowland Laedlein <rskclaedlein@gmail.com>

To: Region2 GowanusCanalComments@EPA

During the public session held in the Pal Miccio Center in Red Hook last month, a concern was raised about the life expectancy of the material used to create the cap on the bottom of the canal as well as in the confined disposal facilities planned under some proposed solutions. While a response was provided that the material had been tested and would be effective even in a salt water environment, I have some remaining concerns.

I am not a chemist or engineer who can speak to the issues of the impact of salt on the deterioration of cement, but have a layman's observation of the impact of rock salt on fresh concrete, as well as my own observation of the deterioration of a concrete ship which was grounded off Cape May, New Jersey after World War I. The top picture below is what it looked like when it was grounded in 1926. I remember seeing the ship in two sections back in the 1950's when it still resembled a ship. The picture at the bottom is what is left now. While certainly this wreck was subject to ocean waves that would impact its durability, it was also subject to constant exposure to salt water. Any containment facility for storage of Gowanus sediment would be intended to hold a salt laden material mixed with cement. The cap would also be exposed continuously to salt water and subject to tidal water movement and other storm water flow. The examples shown in the slide at the presentation were of facilities holding sediment from a fresh water source. Can you advise how testing has been conducted that makes EPA sure the salt water exposure will not affect the durability of the cap or the CDF?





Rowland Laedlein

Gowanus Canal Comments
Ryan Cunningham
to:
Region2 GowanusCanalComments
02/13/2013 04:03 PM
Hide Details
From: Ryan Cunningham <ryanc@metropolismag.com>

To: Region2 GowanusCanalComments@EPA

Hello, I am a resident of Brooklyn, a journalist, blogger, and work for the CAG, and these are my comments and questions I would like on the record for the RPAP.

- In a post-Sandy New York, all communities, including the Gowanus Canal, should work towards softer (parks) or rugged (highly resilient) waterfront development. The EPA remedy should address that with restored wetlands beyond just the 1st Street Basin, and with requirements of green infrastructure, oyster reefs, elevated utilities, and decreased densities inside the 100-year floodplain surrounding the canal in order to preventing sewage, oil, and other decentralized forms of contamination from re-contaminating the remedy during a flood or storm surge event.
- What restrictions are available to EPA for implementation in the Gowanus Community in order to prevent decentralized forms of contamination, like sewage and oil from a storm surge event, from recontaminating the remedy?
- What are the types of specific actions EPA will take to secure the clean up site in the event of a major storm like Hurricane Sandy?
- What steps and technology will be used by EPA to ensure that any processing facilities located in Red Hook will not result in health risks to Red Hook, particularly during flooding and storm surge events?
- What steps and technology will be used by EPA to ensure that any processing facilities located in Red Hook will not result in noxious odors, noises, or traffic?
- Is it possible to require that the CDF be open and available to the public for inspection 24/7?
- Is it possible to require that the CDF only be implemented under the condition of an enforceable community benefits agreement?

--
Ryan Cunningham
Assistant to the Editor in Chief/Administrative Coordinator

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Redhook
Ron Kurzman to: Region2 GowanusCanalComments 02/13/2013 08:25 PM

I oppose this plan. There are too many health risks to the community.

Sent from my iPhone

Gowanus clean up
redhookwest.lillie
to:
Region2 GowanusCanalComments
02/14/2013 01:03 PM
Hide Details
From: redhookwest.lillie@aol.com

To: Region2 GowanusCanalComments@EPA

I was at the meeting last night as for me I would love to see Mr Quadrozzi place with this equipment to purify the slush coming from the Gowanus canal. Unfortunate a lot of people from Redhook is not into the technology of today. It would be a shame that this station is not allowed to be in redhook because of that. EPA have cleared up all doubts for some but unfortunate for others it's not clear. I believe if the person that was chosen to give this demonstation were able to explain himself better it would have been ok. Unfortunate because of his speech not being clear and the way he spoke lots of folks didn 't get the message straight. His english was kind of limited.
Lillie Marshall
President Redhook West
718 755 5027

Red Hook,Brooklyn Resident.
todd bonne
to:
Region2 GowanusCanalComments
02/14/2013 02:00 PM
Hide Details
From: todd bonne <tbworks@gmail.com>

To: Region2 GowanusCanalComments@EPA

Dear Mr. Tsiamis . I was at last nights meeting at PS15 and you gave little or no info on John Quadrazzi. The land owner . http://www.dnainfo.com/new-york/20121211/red-hook/toxic-sludge-developer-owes-up-20m-for-environmental-violations

I find it hard to believe that this plan is even being considered . We are in a flood zone. You would fill in more Red Hook waterfront and then give it to a private land owner who has numerous environmental violations, and a concrete plant that he will expand. This sludge remediation site is also next to a ball field where thousands of kids play, and also right next to one of NYC largest housing projects. I have to say I was surprised by how vague your answers were last eve. I am strongly against the EPA processing any Gowanus waste in Red Hook. Off site remediation options pose less risk to our community.

Thanks. Todd Bonne

25 Wolcott st
Brooklyn NY 11231

Plan to put Gowanus Canal sludge in Red Hook

Karen Corbett to: Region2 GowanusCanalComments 02/17/2013 01:40 PM

As a resident of Red Hook, I would like to register my disapproval about the plan to store sludge from the Gowanus Canal in the old Grain Elevator in Red Hook. We are told that it will not happen without community approval, and the community does not approve.

Thank you.

Karen Corbett

gowanus comments
Chris Cooper
to:
Region2 GowanusCanalComments
02/20/2013 09:13 AM
Hide Details
From: Chris Cooper <chris@chriscooperphotographer.com>

To: Region2 GowanusCanalComments@EPA

To whom it may concern,

My wife and I live at 159 Coffey St. in Red Hook and are opposed to the treatment of any of the dredged contaminated sediment at a facility located in Red Hook. We are also against using any of the stabilized substance as landfill material in Red Hook.

Sincerely,
Chris and Carina Cooper

Chris Cooper Photographer
T + 1 212 380 6841
F + 1 212 504 0810
www.chriscooperphotographer.com
chris@chriscooperphotographer.com

Public Participation
Lori Burkard
to:
Region2 GowanusCanalComments
02/21/2013 01:47 PM
Hide Details
From: Lori Burkard <lburkard@yahoo.com>

To: Region2 GowanusCanalComments@EPA

Please respond to Lori Burkard <lburkard@yahoo.com>

Good Afternoon,

I went to the meeting of last week 2/13/13 at PS 15 in Red Hook.

I went with an open mind. It is my opinion that there was lack of specifics and more vagueness expressed to the public.

Based on the information provided by the EPA, I would have to say I DO NOT wish to have the drudged material brought to Red Hook for treatment. Send everything off-site instead.

No real tangible (believable) benefit was provided at this meeting.

Thank you for your time. I appreciate the opportunity to express my opinion. I do hope it is taken into consideration.

Lori Burkard - Coffey st. Resident (Red Hook Brooklyn)

robert puca
to:
Region2 GowanusCanalComments
02/26/2013 10:59 AM
Hide Details
From: robert puca <robpuca@gmail.com>

To: Region2 GowanusCanalComments@EPA

I want the EPA to move forward as quickly as possible. I am eager to get to the ROD and for the plan to proceed. NO MORE DELAYS.....let's move forward.

Questions about the plan for cleaning up the Gowanus Canal
Justin Burke
to:
Region2 GowanusCanalComments
02/28/2013 09:40 PM
Cc:
jdraycott
Hide Details
From: "Justin Burke" <jburke@hccs-nys.org>

To: Region2 GowanusCanalComments@EPA

Cc: jdraycott@hccs-nys.org

Hello. My name is Justin Burke and I am in 8th grade. Our science class at the Hellenic Classical Charter School has been researching the plans to clean up the Gowanus Canal, and I have a few questions.

- When the first and second sections are cleared of the contaminated sediments, what happens to the sediments?

- How do you plan to clean the water out?

- Wouldn't adding all of those extra layers in the ground lead to the waters being higher, which could lead to overflowing problems?

- Wouldn't the special clay need to be removed from the ground? if so, how would it be moved with the armored layer and the sand on top of it?

- How do you plan to get the garbage & litter out of the canal?

- If the canal opens up, it would probably be a great tourist attraction. When/ if this happens, how do you plan to keep litter out of the Gowanus canal?

Thanks for your time,

Justin Burke

Gowanus Canal
Despina Giasemis
to:
Region2 GowanusCanalComments
03/01/2013 10:22 AM
Hide Details
From: "Despina Giasemis" <dgiasemis@hccs-nys.org>

To: Region2 GowanusCanalComments@EPA

Dear Mr. Tsiamis,

I think that the Gowanus Canal should be cleaned up because it is the only body of water we have in our neighborhood and its contaminated and germ infested. It used to be the home of beautiful fish and foot long oysters who have long since perished due to contaminated water. The water being polluted deosnt benefit anyone in any way and if anything it is dangerous. Breathing in air from the water increases your risk of getting cancer. It was once a very beautiful water body but now its nothing more than a dump that people throw their trash into when they pass it. Please consider taking serious measures toward cutting of the sewer system for the canal and restoring it to its natural beauty.

Sincerely,
Despina Giasemis
Hellenic Classical Charter School

Opposition to proposed toxic sludge processing facility in Red Hook
Allyn Bacher
to:
Region2 GowanusCanalComments
03/03/2013 11:19 AM
Hide Details
From: Allyn Bacher <allynb@earthlink.net>

To: Region2 GowanusCanalComments@EPA

Hello,

As residents of the community of Red Hook, Brooklyn, we are strongly opposed to the proposed processing of toxic sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility which would be built right next to the Red Hook Ball Fields and Pool.

We want the toxic sludge to be shipped out of the area to be processed.

Thank you,

Allyn Bacher

Jeffrey Chong

Eli Bacher-Chong

Brooklyn, NY 11231

a NO vote to proposed GBX in Red Hok, Brooklyn, NY
kondakscrafts
to:
Region2 GowanusCanalComments
03/04/2013 09:19 PM
Hide Details
From: kondakscrafts@aol.com

To: Region2 GowanusCanalComments@EPA

Dear Mr. Tsiamis,
Thank you for your presentation at the Red Hook public school two weeks ago. Had the sound quality from the PA system been better, it might have been a nicer experience. I am against this proposed facility in Red Hook, Brooklyn: my vote is **NO**.
I am a resident of Red Hook, Brooklyn, NY. I have the following points and questions about the EPA proposal to de-water material from Gowanus Canal and to stabilize this material at Quadrozi's pier.
- Would the proposed facilityto be constructed to new FEMA standards, with the 'ground level' being @ 12 foot above mean high tide. If not, why not.

- Would the proposed facility be in compliance with NYC Department of Building codes? If not, why not.
- How dry does the material get after de-watering, before stabilizing in a cementicious mixture ? In other words, or you talking about a paste, an absolutely dry powder, a heavy, sludge-like liquid mass? What is the proposed viscosity of the de-watered material?
- Are the proposed shed / containment structures rated for Category 1, 2, 3 or 4 hurricanes? If not, why not.

- Are you aware that offering employment to people who live in one area is not legal. It violates equal employment. An entity can only offer, as a tactic to divide communbities and to win approvals, and then only two weeks in advance of open solicitation, the opportunity to apply for employment to 'local' residents.

- Is the EPA, when the votes are tallied on whether or not to construct this proposed facility, to count votes from Red Hook only? Or from the total of votes received? Is the vote tabulation process transparent?

- How is the EPA addressing rumors/facts that Quadrozzi has violated clean air/ clean water regulations?

- How can anyone guarantee that, in perpetuity, that the proposed landfill / made-land site will be used as currently planned, without the heavy metal containment being compromised?

- How is it justified that anyone, in this case Quadrozzi, is getting what is essentially free land?

- Does any Municipal, State or Federal Agency take Quadrozzi's plans seriously? That boat is a piece of junk. Those grain towers should be taken down before they become a hazard.

Thank you for taking the time to read this.
Once again, my vote is **NO** to this proposed facility in Red Hook.

Sincerely,
Stephen Kondaks
206 Richards Street,
Brooklyn, NY 11231

NO!! to proposed Gowanus plan for Red Hook

alexandra grablewski to: Region2 GowanusCanalComments 03/05/2013 12:19 PM

Dear EPA
I am a resident of Red Hook Brooklyn and have attended several meetings related to the placement and treatment of the materials removed from the Gowanus to our neighborhood, on the water front. At the latest meeting at PS 15 it was BLATANTLY obvious that the community of Red Hook is ABSOLUTELY against the proposed plan.
The EPA says they will not move forward without community approval, and I think it is very clear that you do NOT have it.
It is truly the most insane plan I have ever heard. In addition, many of us feel like there is a lot of underhanded business going on here. The piddling amount of jobs you think will "benefit" this community is actually an insult.
I am writing as requested to voice my opinion via email that PLEASE!!!! MOVE THE MATERIALS ELSEWHERE!!!
RED HOOK DOES NOT WANT IT!!!
Please respect our community's wishes.
Thank you.
Sincerely,
Alexandra

alexandra grablewski

No sludge to Redhook!

sevabelli to: Region2 GowanusCanalComments 03/05/2013 01:19 PM

Please don't locate the sludge removal plant in Red Hook. This neighborhood has been already hit hard by so much.
Please Locate it somewhere else, away from families trying create a healthy thriving community.

Sent from my iPhone

Gowanus Canal Treatment
Lucy N
to:
Region2 GowanusCanalComments
03/05/2013 03:21 PM
Hide Details
From: Lucy N <tkln97@gmail.com>

To: Region2 GowanusCanalComments@EPA

Big NO to the plan to treat sludge on the Red Hook waterfront...please respect our homes, neighborhood and wishes and do it somewhere else!!!!

Against Gowanus Canal Storage/Treatment Facility in Red Hook, Brooklyn
ckuczynski
to:
Region2 GowanusCanalComments
03/07/2013 04:18 PM
Hide Details
From: "ckuczynski" <ckuczynski@echoes.net>

To: Region2 GowanusCanalComments@EPA

To Whom It May Concern:

My daughter had just finished renovating her home at 25 Wolcott Street in Red Hook, Brooklyn. She is still in the process of cleaning up damage from four feet of raw sewage to her first floor following the onslaught by Sandy (and, I might add, at great sacrifice to her own finances due to shameful insurance reimbursement policies). How can you even think of placing a storage/treatment facility for toxic material from the Gowanus Canal at the flood prone Red Hook waterfront? People in Red Hook object and we, as parents of a young person who works, lives and has invested in her Red Hook neighborhood, strongly object!

Sincerely,
Charlotte and John Kuczynski

I, the sender, vote that I do not want this project to proceed.

Linden Elstran to: b.llewellyn.shepard, carly, Region2 GowanusCanalComments 03/08/2013 06:15 PM

From: Linden Elstran <elstran@gmail.com>

To: b.llewellyn.shepard@gmail.com, carly@8point8design.com, Region2 GowanusCanalComments@EPA

As (one of the options above) of the community of Red Hook, we are strongly opposed to the processing of toxic sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility proposed to be built right next to the Red Hook Ball Fields and Pool on property owned by an individual who has incurred serious fines for environmental violations in the past. It is the wrong site for this important facility.

--

Linden Elstran
elstran@gmail.com
132 Coffey Street
Brooklyn , NY
residence

I, the sender, vote that I do not want this project to proceed.

Kimberly Gail Price to: b.llewellyn.shepard, carly, Region2 GowanusCanalComments 03/08/2013 07:05 PM

As (one of the options above) of the community of Red Hook, we are strongly opposed to the processing of toxic sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility proposed to be built right next to the Red Hook Ball Fields and Pool on property owned by an individual who has incurred serious fines for environmental violations in the past. It is the wrong site for this important facility.

--
Kimberly Gail Price
kimberly@redhookstar.com
101 Union Street
Brooklyn, New York
employee

I, the sender, vote that I do not want this project to proceed.

Red Hook Star-Revue to: b.llewellyn.shepard, carly, Region2 GowanusCanalComments 03/08/2013 07:06 PM

As (one of the options above) of the community of Red Hook, we are strongly opposed to the processing of toxic sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility proposed to be built right next to the Red Hook Ball Fields and Pool on property owned by an individual who has incurred serious fines for environmental violations in the past. It is the wrong site for this important facility.

--
Red Hook Star-Revue
editor@redhookstar.com
101 Union Street
Brooklyn, New York
Red Hook Star-Revue, Red Hook's local media

I, the sender, vote that I do not want this project to proceed.

carly yates to: b.llewellyn.shepard, carly, Region2 GowanusCanalComments 03/08/2013 09:57 PM

As a resident of the community of Red Hook, we are strongly opposed to the processing of toxic sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility proposed to be built right next to the Red Hook Ball Fields and Pool on property owned by an individual who has incurred serious fines for environmental violations in the past. It is the wrong site for this important facility.

Best,
C Yates

--
carly yates
carlydesign@gmail.com
25 dikeman st
Resident

I, the sender, vote that I do not want this project to proceed.

Brenna Griffin to: b.llewellyn.shepard, carly, Region2 GowanusCanalComments 03/08/2013 10:07 PM

As (one of the options above) of the community of Red Hook, we are strongly opposed to the processing of toxic sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility proposed to be built right next to the Red Hook Ball Fields and Pool on property owned by an individual who has incurred serious fines for environmental violations in the past. It is the wrong site for this important facility.

--

Brenna Griffin
Brennagrifgin123@gmail.com
365 Van Brunt St
BKLYN , NY
Resident

Comment On Proposed Plan for Clean-Up Of The Gowanus Canal
Katia Kelly
to:
Region2 GowanusCanalComments
03/11/2013 09:06 AM
Hide Details
From: Katia Kelly <pardonmeinbrooklyn@gmail.com>

To: Region2 GowanusCanalComments@EPA

To:
Christos Tsiamis
Remedial Project Manager
Environmental Protection Agency
Region 2

Subject: : Proposed Plan For the Clean-up Of the Gowanus Canal

Dear. Mr. Tsiamis,

First, I would like to thank you and your Region 2 team for your tireless work to right an environmental wrong that has plagued my community for decades. For the first time since I moved to Carroll Gardens/ Gowanus in 1985, I have real hope that the Gowanus Canal will be a source of pride rather than a shameful, dirty and harmful waterway in the middle of several residential Brooklyn neighborhoods.

I would also like to thank you and the team for your transparency, your professionalism and most of all, for your patient effort to explain the science involved in the clean-up of the canal to those like me, who are less knowledgeable. Most of all, I have been impressed by the fact that EPA Region 2 has kept to the timeline set at the beginning of the Gowanus Superfund process.

As a local resident and member of the Gowanus Community Advisory Group, I have taken the time to attend both of your public meetings, one in Carroll Gardens and one in Red Hook, to familiarize myself with the Proposed Plan, which was released in December 2012.

I am in full support of the plan and applaud the fact that EPA has not only addressed the toxins at the bottom of the canal and the contamination coming from the uplands, but also includes Combined Sewer Outflow control measures.

I believe that the two retention tanks proposed for outfalls RH-034 and OH-007, two of the largest contributors of CSO discharges, will be the most effective solution to this ongoing problem.

Regarding the three former Manufacturing Gas Plants (MGPs), I ask that EPA demand the highest level of remediation possible of National Grid, the PRP responsible for remediation at the former Fulton, Citizens/ Public Place and Metropolitan sites.

In particular, I ask that the Fulton Site at Nevins and Douglass Streets in Gowanus, which is currently used as a public park and public swimming pool, be remediated to the same level as Public Place.

I believe that the EPA Gowanus Superfund clean-up is an unparalleled opportunity for the residents of this area. After decades of neglect, we are so very close to addressing this environmental nightmare. This moment will not come again, so let us do this in the most thorough, most complete way so that future generations can live and thrive alongside the Gowanus.

Most importantly, let us get to a Record of Decision as soon as possible.

With all my appreciation,

Katia Kelly
257 Carroll Street
Brooklyn, New York 11231
718 625 5424

RED HOOK
sasha
to:
Region2 GowanusCanalComments
03/11/2013 11:09 AM
Hide Details
From: sasha <sashanoe@aol.com>

To: Region2 GowanusCanalComments@EPA

TO THE EPA
I am a resident of Red Hook Brooklyn and have attended several meetings related to the placement and treatment of the materials removed from the Gowanus to our neighborhood.
I AM A PROPERTY OWNER IN RED HOOK AND I DO NOT WANT THIS FACILITY IN RED HOOK. THE WATER FRONT IS NO PLACE FOR TOXIC WAST, ESPECIALLY AFTER THE FLOOD.

Please respect our community's wishes.
Thank you.
Sasha Noe
37 Van DYKE STREET, BROOKLYN NEW YORK, 11231

DDBCommentsPRAP.docx
Diane Buxbaum
to:
Region2 GowanusCanalComments
03/11/2013 11:34 AM
Hide Details
From: "Diane Buxbaum" <ddbuxbaum@earthlink.net>

To: Region2 GowanusCanalComments@EPA

1 Attachment

DDBCommentsPRAP.docx

Comments by Diane Buxbaum on the Proposed Remedial Action Plan (PRAP) for the Gowanus Canal Superfund Site

To: Christos Tsiamis, Project Manager, USEPA Region 2, 290 Broadway, 20th floor, New York, NY 10007; GowanusCanalComments.Region2@epa.gov

Set 1: Proposed Remedial Action Plan Comments

1. The PRAP addresses many of the community concerns. Thank you for taking these into account.
2. Because of the inability of National Grid to remove all of the contaminants from the MGP sites, is it possible for EPA to promote or if possible mandate that these spaces be used for open spaces, parklands or restored wetlands and to oppose all residential development. Unforeseen events such as Sandy, or much worse will occur. Potential future residents should not be subject to these events in vulnerable areas where toxins may potentially in some unforeseen manner be released.
3. I strongly support the 2 proposed storm water storage tanks. Legal assurances must be in place to ensure maintenance of these structures by NYC DEP.
4. Given the possibility of an accidental spill or breakdown or storm damage, we request that all dredged materials be treated offsite.

5. Given that likelihood of greater storm events, can it be written into the final plan that reviews take place more often than every 5 years, particularly after storm events. If this a part of the final plan, it is more likely to occur than what is in the current wording: "CERCLA requires that the site be reviewed at least once every 5 years, and can that wording include reviews of the functions of the other government agencies that are responsible for relevant actions: NYC DEP for the CSOs and the tanks; NYS DEC for the contaminated MGP sites.
6. Would it be possible for the proposed plan to include a well publicized proposed cleanup schedule and a tentative proposed community/EPA meeting schedule? Both of these schedules could have strong caveats, but would enable the community to have some idea of the timeline for the cleanup.
7. Although this is not a part of the PRAP, acknowledgement of a) the Community's strong support of a higher level of reclassification of the Canal should be included. Some in the community still have a vision of a swimmable Gowanus Canal, and b) support habitat restoration at all levels, benthic, aquatic, and where available canal bank areas.
8. Try to use the lowest carbon footprint possible.

OVERALL I am grateful for the openness and availability of EPA staff members. I strongly support and thank EPA for doing an excellent job in developing a Proposed Remedial Action Plan that will result in a cleaner canal, a healthier environment for the community and a wonderful outcome for my community. Thank you.

Diane Buxbaum, MPH, Gowanus Committee Chair, Conservation Chair, NYC Group, Sierra Club
365 Sackett St., Brooklyn, NY 11231

I, the sender, vote that I do not want this project to proceed.

geoffrey kloske to: b.llewellyn.shepard, carly, Region2 GowanusCanalComments 03/11/2013 11:42 AM

As (one of the options above) of the community of Red Hook, we are strongly opposed to the processing of toxic sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility proposed to be built right next to the Red Hook Ball Fields and Pool on property owned by an individual who has incurred serious fines for environmental violations in the past. It is the wrong site for this important facility.

--
geoffrey kloske
gkloske@gmail.com
368 Degraw St
Brooklyn, ny
resident

"SAY NO TO A TOXIC RED HOOK"
WWW.NOTOXICREDHOOK.COM

AS A (CIRCLE ONE) RESIDENT, BUSINESS / EMPLOYEE OR USER OF THE PARKS AND RECREATIONAL FACILITIES WITHIN RED HOOK, I AM/ WE ARE STRONGLY OPPOSED TO THE PROCESSING OF TOXIC SLUDGE DREDGED FROM THE GOWANUS CANAL SUPERFUND CLEANUP SITE AT A FACILITY PROPOSED TO BE BUILT RIGHT NEXT TO THE RED HOOK BALL FIELDS AND POOL ON PROPERTY OWNED BY AN INDIVIDUAL WHO HAS INCURRED SERIOUS FINES FOR ENVIRONMENTAL VIOLATIONS IN THE PAST. IT IS THE WRONG SITE FOR THIS IMPORTANT FACILITY.

SIGNATURE(S)/DATE: Paige Locke

ADDRESS: 183 Vandyke Brklyn New York 11231

U.S. POSTAGE
11215
FOREVER
03 13
08502266
APC
062S
FE001320010556S

TO:

Christos Tsiamis
Central New York Remediation Section
U.S. Environmental Protection Agency
290 Broadway, 20th Floor
New York, New York
10007-1866

"SAY NO TO A TOXIC RED HOOK"
WWW.NOTOXICREDHOOK.COM

AS A (CIRCLE ONE) RESIDENT, BUSINESS / EMPLOYEE OR USER OF THE PARKS AND RECREATIONAL FACILITIES WITHIN RED HOOK, I AM/ WE ARE STRONGLY OPPOSED TO THE PROCESSING OF TOXIC SLUDGE DREDGED FROM THE GOWANUS CANAL SUPERFUND CLEANUP SITE AT A FACILITY PROPOSED TO BE BUILT RIGHT NEXT TO THE RED HOOK BALL FIELDS AND POOL ON PROPERTY OWNED BY AN INDIVIDUAL WHO HAS INCURRED SERIOUS FINES FOR ENVIRONMENTAL VIOLATIONS IN THE PAST. IT IS THE WRONG SITE FOR THIS IMPORTANT FACILITY.

SIGNATURE(S)/DATE: SHEA SABINO

Shea Sabino 3/12/2013

ADDRESS: 19 Delevan Street

INDIANAPOLIS 500

TO:

Christos Tsiamis
Central New York Remediation Section
U.S. Environmental Protection Agency
290 Broadway, 20th Floor
New York, New York
10007-1866

SAY NO TO A TOXIC RED HOOK

WWW.NOTOXICREDHOOK.COM

Ginny Bubaris
123 E 37th St., #5G
New York, NY 10016
212-686-1456

March 14, 2013

USEPA Region 2
290 Broadway, 20th fl.
New York, NY 10007

Dear Christos Tsiamis,

I attended your presentation last Tuesday about the Gowanus Canal. It seems to me that you and your staff have been doing everything possible to make the cleanup of the canal happen, something that is extremely necessary. Residents of the area also seem pleased that you care about their concerns as well as the need for a clean canal.

I was also pleased to learn that you are trying to make sure that the canal will continue to be an even cleaner waterway, by monitoring and closing waste pipes and seepage from adjacent old industrial sites, and by pushing for better sewage maintenance.

Thank you for all that you are doing and thank you for a very informative presentation. I just hope that the projected 10 year plan doesn't get dragged out. The Gowanus area has waited long enough for this cleanup.

Sincerely,

Ginny

Ginny Bubaris

Harold Peterson
7911 Westhaven Drive SW Apt 3
Huntsville, AL 35802-1431
March 14, 2013

Christos Tsiamis
Project Manager
Central New York Remediation Section
U.S. Environmental Protection Agency
290 Broadway, 20th Floor
New York, New York 10007-1866

Dear Mr. Tsiamis:

Good morning. My name is Harold Peterson, and I am writing to comment on the proposed cleanup of the Gowanus Canal Superfund Site.

From 2004 to 2008 I lived in Reno, NV. I saw firsthand the long term effects of contamination on a watershed. Back in the 19th century mercury was used to facilitate gold mining in the vicinity of the Carson River. To this day mercury levels are elevated downstream of Carson City all the way to the Fallon area. It is unsafe to eat any fish from this stretch of the river, despite the lack of other natural food resources. (Irrigation abounds at the lower end of the river, but I do not see this as sustainable.) This problem will never go away on its own.

I recently read about the pollutants in Gowanus Canal. I also believe these pollutants will not disappear without outside intervention. An immediate intervention in the canal is needed to reverse these effect. Therefore I support the proposed cleanup plan for this site as written.

Sincerely,

Harold Peterson

"SAY NO TO A TOXIC RED HOOK"

WWW.NOTOXICREDHOOK.COM

18 MAR 2013 PM 13 L

AS A (CIRCLE ONE) (RESIDENT) BUSINESS / EMPLOYEE OR USER OF THE PARKS AND RECREATIONAL FACILITIES WITHIN RED HOOK, I AM/ (WE) ARE STRONGLY OPPOSED TO THE PROCESSING OF TOXIC SLUDGE DREDGED FROM THE GOWANUS CANAL SUPERFUND CLEANUP SITE AT A FACILITY PROPOSED TO BE BUILT RIGHT NEXT TO THE RED HOOK BALL FIELDS AND POOL ON PROPERTY OWNED BY AN INDIVIDUAL WHO HAS INCURRED SERIOUS FINES FOR ENVIRONMENTAL VIOLATIONS IN THE PAST. IT IS THE WRONG SITE FOR THIS IMPORTANT FACILITY.

SIGNATURE(S)/DATE: 3/16/13

ADDRESS:

172 Beard Street

Brooklyn NY 11231

2011 USA forever

TO:

Christos Tsiamis
Central New York Remediation Section
U.S. Environmental Protection Agency
290 Broadway, 20th Floor
New York, New York
10007-1866

SAY NO TO A TOXIC RED HOOK

WWW.NOTOXICREDHOOK.COM

I, the sender, vote that I do not want this project to proceed.
zachary Hochkeppel to: Region2 GowanusCanalComments 03/16/2013 11:03 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge A) adjacent a field where children play and B) to profit an individual who has incurred serious fines for environmental violations in the past. It is the wrong site for this important facility.

--
zachary Hochkeppel
zach.hochkeppel@emimusic.com
145 Van Dyke St
Brooklyn, NY
resident

I, the sender, vote that I do not want this project to proceed.

Lita Jimenez to: Region2 GowanusCanalComments 03/16/2013 08:30 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge A) adjacent a field where children play and B) to profit an individual who has incurred serious fines for environmental violations in the past. It is the wrong site for this important facility.

--

Lita Jimenez
jimenez.a@gmail.com
Resident

I, the sender, vote that I do not want this project to proceed.

Leah Getzoff to: Region2 GowanusCanalComments 03/17/2013 10:09 AM

As an employee of the community of Red Hook, I am strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge A) adjacent a field where children play and B) to profit an individual who has incurred serious fines for environmental violations in the past. It is the wrong site for this important facility.

--

Leah Getzoff
leah@8point8design.com
25 Dikeman Street
Brooklyn, NY
Employee

I, the sender, vote that I do not want this project to proceed.
Kari Dietrich to: Region2 GowanusCanalComments 03/17/2013 10:14 AM

As a resident of the community of Red Hook, I am strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge A) adjacent a field where children play and B) to profit an individual who has incurred serious fines for environmental violations in the past. It is the wrong site for this important facility.

In addition, you gotta give Red Hook its chance to fully recover from superstorm Sandy. Don't knock us down when we're in the middle of rebuilding and making this neighborhood even better. We already live by the BQE and are divided from the rest Brooklyn from somewhat polluted features already. Change Your Mind!

--
Kari Dietrich
dietrich.kari@gmail.com
42 Delavan Street #2
Red Hook-Brooklyn, NY
Resident

I, the sender, vote that I do not want this project to proceed.

Steven Meyer to: Region2 GowanusCanalComments 03/17/2013 10:35 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge A) adjacent a field where children play and B) to profit an individual who has incurred serious fines for environmental violations in the past. It is the wrong site for this important facility.

--

Steven Meyer
Smeyer8888@gmail.com
177 Richards st. Apt. 3r
Brooklyn, NY
Resident

I, the sender, vote that I do not want this project to proceed.

Jena Schleicher to: Region2 GowanusCanalComments 03/17/2013 10:43 AM

As a friend of the community of Red Hook, I am strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge A) adjacent a field where children play and B) to profit an individual who has incurred serious fines for environmental violations in the past. It is the wrong site for this important facility.

Jena Schleicher

--

Jena Schleicher
ispyjena@me.com
355 6th Avenue
Brooklyn, NY 11215
neighbor, friend, park lover

I, the sender, vote that I do not want this project to proceed.
alexandra grablewski to: Region2 GowanusCanalComments 03/17/2013 12:20 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge A) adjacent a field where children play and B) to profit an individual who has incurred serious fines for environmental violations in the past. It is the wrong site for this important facility.

--
alexandra grablewski
alexandra@agrablewski.com
25 wolcott st
Brooklyn, NY
Resident

I, the sender, vote that I do not want this project to proceed.

Todd Bonne to: Region2 GowanusCanalComments 03/17/2013 12:22 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge A) adjacent a field where children play and B) to profit an individual who has incurred serious fines for environmental violations in the past. It is the wrong site for this important facility.

--

Todd Bonne
tbworks@gmail.com
25 Wolcott street
Brooklyn, NY
Resident

I, the sender, vote that I do not want this project to proceed.

Gabrielle Crichlow to: Region2 GowanusCanalComments 03/17/2013 02:09 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

- Children
- Numerous public and private schools which use the fields for physical education & sports teams
- Residents of the Red Hook Houses and the surrounding neighborhood
- Soccer, softball, baseball, football, handball, basketball, track & field teams and enthusiasts
- Swimmers of all ages
- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
Gabrielle Crichlow
gcrich@temple.edu
99 Pioneer St
Brooklyn, NY
Resident

I, the sender, vote that I do not want this project to proceed.

Brooke Connolly to: Region2 GowanusCanalComments 03/17/2013 02:33 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

- Children
- Numerous public and private schools which use the fields for physical education & sports teams
- Residents of the Red Hook Houses and the surrounding neighborhood
- Soccer, softball, baseball, football, handball, basketball, track & field teams and enthusiasts
- Swimmers of all ages
- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--

Brooke Connolly
Brookeconnolly@icloud.com
95 Verona St. Apt.#1
Brooklyn, NY
Resident

Gowanus Canal Must Be Cleaned Up

Phil Konigsberg to: Region2 GowanusCanalComments 03/17/2013 04:45 PM

I think a comprehensive clean-up of the Gowanus Canal must be commenced as soon as possible and not be compromised by cost to do so. We should extract the necessary funds from those who caused the conditions that are now before us.

Thank you.

Phil Konigsberg
bayterracephil@msn.com
Smokefree Community Advocate
Queens Tobacco Control Coalition

I, the sender, vote that I do not want this project to proceed.
Ron Kurzman to: Region2 GowanusCanalComments 03/17/2013 05:38 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

- Children
- Numerous public and private schools which use the fields for physical education & sports teams
- Residents of the Red Hook Houses and the surrounding neighborhood
- Soccer, softball, baseball, football, handball, basketball, track & field teams and enthusiasts
- Swimmers of all ages
- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
Ron Kurzman
Rkurzman@magnals.com
71
Dikeman , Brooklyn

I, the sender, vote that I do not want this project to proceed.

Jenna John to: Region2 GowanusCanalComments 03/17/2013 06:29 PM

As residents of the community of Red Hook, I am strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- The Red Hook Food vendors and their customers
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--
Jenna John
coccinella6@gmail.com
29 Dikeman Street
Brooklyn, New York
Resident

I, the sender, vote that I do not want this project to proceed.

Patrick Gallo to: Region2 GowanusCanalComments 03/17/2013 06:50 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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--
Patrick Gallo
Artistgallo@gmail.com
29 dikeman st
Brooklyn, Ny
Resident

I, the sender, vote that I do not want this project to proceed.

mathew lazarus to: Region2 GowanusCanalComments 03/17/2013 08:18 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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--
mathew lazarus
mlazaru@yahoo.com
42 fourth place apt 1
brooklyn, ny
resident

I, the sender, vote that I do not want this project to proceed.

Elisa Anders to: Region2 GowanusCanalComments 03/17/2013 09:32 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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--

Elisa Anders
elisa3108@aol.com
193 Richards Street, #2
Brooklyn, NY
Resident

I, the sender, vote that I do not want this project to proceed.
Dena Serrano to: Region2 GowanusCanalComments 03/17/2013 09:56 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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--
Dena Serrano
marcy44@aol.com
44 Coffey Street
Brooklyn, NY
resident

I, the sender, vote that I do not want this project to proceed.

Melani Barber to: Region2 GowanusCanalComments 03/17/2013 09:57 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
Melani Barber
melanibarber@yahoo.com
Lorraine street
Brooklyn , Ny
Residential

I, the sender, vote that I do not want this project to proceed.
Rebecca Henry to: Region2 GowanusCanalComments 03/17/2013 10:09 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
Rebecca Henry
Rebeccajeanhenry@gmail.com

I, the sender, vote that I do not want this project to proceed.
Fernando Maneca to: Region2 GowanusCanalComments 03/17/2013 11:42 PM

As friend of the community of Red Hook, I am strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
Fernando Maneca
fernandomaneca@gmail.com
11 Roosevelt Court
Brooklyn, NY
friend

I, the sender, vote that I do not want this project to proceed.

Anne Galvin to: Region2 GowanusCanalComments 03/18/2013 12:06 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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--

Anne Galvin
Annemgalvin@gmail.com
213 conover street
Brooklyn, Ny
Resident

I, the sender, vote that I do not want this project to proceed.

William Matelski to: Region2 GowanusCanalComments 03/18/2013 02:07 AM

As a resident and business owner in the community of Red Hook, I am strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--

William Matelski
william.matelski@gmail.com
330 Van Brunt St
Brooklyn, NY
Resident, business.

Quadrozzi plan

kondakscrafts to: Region2 GowanusCanalComments 03/18/2013 07:16 AM

Dear Mr. Tsiamis,

I hope you are well. As a Resident of Red Hook, Brooklyn, and as a Business owner with office in Red Hook, could you please answer the following:

Is the proposed facility (de-watering / remediation with concrete and incinerator) to be elevated above Base Flood Elevation (BFE) as indicated in the new FEMA maps?

I hope to hear from you soon.

Sincerely,

Stephen Kondaks

Stephen Kondaks
HomeStone, Inc
206 Richards Street, Brooklyn, NY 11231
t. 917.723.8549
f. 718.522.4767
kondakscrafts@aol.com

I, the sender, vote that I do not want this project to proceed.

Chaia Milstein to: Region2 GowanusCanalComments 03/18/2013 07:52 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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--

Chaia Milstein
chaia.milstein@gmail.com

I, the sender, vote that I do not want this project to proceed.

krissie nagy to: Region2 GowanusCanalComments 03/18/2013 08:27 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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--
krissie nagy
ken222@nyu.edu
135 coffey st
brooklyn, ny
11231

I, the sender, vote that I do not want this project to proceed.
Natalie Figueroa to: Region2 GowanusCanalComments 03/18/2013 09:02 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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--
Natalie Figueroa
nataliebfigueroa@hotmail.com
79 Wolcott St. #104
Brooklyn, NY
Resident

I, the sender, vote that I do not want this project to proceed.

Douglas Mitchell to: Region2 GowanusCanalComments 03/18/2013 09:32 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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--

Douglas Mitchell
Dugmitchell@gmail.com
151 Joralemon Street #2
Brooklyn, Ny

I, the sender, vote that I do not want this project to proceed.

Seth Turnoff to: Region2 GowanusCanalComments 03/18/2013 10:50 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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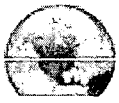
--

Seth Turnoff
sethytee@gmail.com



I, the sender, vote that I do not want this project to proceed.

josh bailin to: Region2 GowanusCanalComments 03/18/2013 11:11 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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--
josh bailin
joshbailin@gmail.com
88 butler street
brooklyn, ny
resident

I, the sender, vote that I do not want this project to proceed.
Tom Athans to: Region2 GowanusCanalComments 03/18/2013 11:23 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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--
Tom Athans
tomathans@verizon.net
8801 Shore Rd. Apt. 5A-West
Brooklyn, NY
Business Employee

I, the sender, vote that I do not want this project to proceed.

Beth Kaiser to: Region2 GowanusCanalComments 03/18/2013 11:42 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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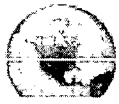
--
Beth Kaiser
beth.kaiser@gmail.com
6 Dikeman Street
Brooklyn, NY
Resident



I, the sender, vote that I do not want this project to proceed.
Brad Tenem to: Region2 GowanusCanalComments 03/18/2013 11:56 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
Brad Tenem
btenem@yahoo.com
254 east 68th Street, 25F
New York, NY
10065

I, the sender, vote that I do not want this project to proceed.

Heather White to: Region2 GowanusCanalComments 03/18/2013 12:53 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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--

Heather White
hlwhite@gmail.com
177 Dwight St #4
Brooklyn, NY
Resident

I, the sender, vote that I do not want this project to proceed.
Kelly O'Neill to: Region2 GowanusCanalComments 03/18/2013 01:05 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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--
Kelly O'Neill
Kelly.oneill5@gmail.com
144 Conover St
Brooklyn, NY
Resident

I, the sender, vote that I do not want this project to proceed.

Jamie Slater to: Region2 GowanusCanalComments 03/18/2013 01:09 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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--
Jamie Slater
drunkenredhead@yahoo.com
36 Van Dyke Street #3
Brooklyn, NY
Resident and Business

I, the sender, vote that I do not want this project to proceed.

Aaron Kenedi to: Region2 GowanusCanalComments 03/18/2013 01:12 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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--
Aaron Kenedi
Aaronkenedi@gmail.com
6 dikeman st
Brooklin, Ny

I, the sender, vote that I do not want this project to proceed.

James Disney to: Region2 GowanusCanalComments 03/18/2013 03:15 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
James Disney
James@james-disney.com
West 11th St
New york, Ny
Resident

I, the sender, vote that I do not want this project to proceed.

Carina Laskaris to: Region2 GowanusCanalComments 03/18/2013 04:25 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

- Children
- Numerous public and private schools which use the fields for physical education & sports teams
- Residents of the Red Hook Houses and the surrounding neighborhood
- Soccer, softball, baseball, football, handball, basketball, track & field teams and enthusiasts
- Swimmers of all ages
- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
Carina Laskaris
carinagirl@gmail.com
156 Sackett Street
Brooklyn, NY
Resident

I, the sender, vote that I do not want this project to proceed.

Shawn Cheatham to: Region2 GowanusCanalComments 03/18/2013 04:35 PM

As Park User of the community of Red Hook, I strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Swimmers of all ages
- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

Shawn Cheatham

--
Shawn Cheatham
shawn00@gmail.com
236 Carroll St. Apt 3F
Brooklyn, , NY
Park User

I, the sender, vote that I do not want this project to proceed.

Sarah Weiss to: Region2 GowanusCanalComments 03/18/2013 04:42 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--

Sarah Weiss
sararah75@yahoo.com
223 11th Street Apt. 2
Brooklyn, NY
Parks User

I, the sender, vote that I do not want this project to proceed.

Lander Bravo to: Region2 GowanusCanalComments 03/18/2013 05:21 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- The Red Hook Food vendors and their customers
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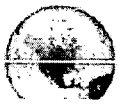
Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--

Lander Bravo
landerbravo@gmail.com
402 8th Street
Brooklyn, NY 11215
Resident



I, the sender, vote that I do not want this project to proceed.

Jack Silverstein to: Region2 GowanusCanalComments 03/18/2013 05:26 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
Jack Silverstein
info@bdwarch.com
Neighbor, user, enthusiast

I, the sender, vote that I do not want this project to proceed.
Evelyn Martinez to: Region2 GowanusCanalComments 03/18/2013 08:00 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
Evelyn Martinez
evysun1@gmail.com
560 Carlton Ave.
Brooklyn, NY

I, the sender, vote that I do not want this project to proceed.
Kate Foster to: Region2 GowanusCanalComments 03/18/2013 09:41 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
Kate Foster
kateandpig@earthlink.net
522 E 5th St #7
New York, NY
Resident

I, the sender, vote that I do not want this project to proceed.

Ariel Derris to: Region2 GowanusCanalComments 03/18/2013 10:41 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
Ariel Derris
arielderris@gmail.com
177 Dwight St #4
Brooklyn, NY
Resident

I, the sender, vote that I do not want this project to proceed.

Julian Crouch to: Region2 GowanusCanalComments 03/18/2013 11:32 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--

Julian Crouch
juliancrouch@mac.com
248 creamer st #7
Brooklyn, NY
Business

I, the sender, vote that I do not want this project to proceed.

Iris Otero to: Region2 GowanusCanalComments 03/19/2013 02:13 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--

Iris Otero
iotero5@nyc.rr.com
245 Avenue C
New York, NY 10009
Resident

I, the sender, vote that I do not want this project to proceed.

Finnian Moore Gerety to: Region2 GowanusCanalComments 03/19/2013 09:12 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--

Finnian Moore Gerety
Fmgerety@fas.harvard.edu
65 dikeman street
Brooklyn, Ny
Resident

I, the sender, vote that I do not want this project to proceed.

Kate Arrington to: Region2 GowanusCanalComments 03/19/2013 09:27 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
Kate Arrington
katearrington@hotmail.com
275 Conover Street
Brooklyn, NY
resident

I, the sender, vote that I do not want this project to proceed.

Michael Shannon to: Region2 GowanusCanalComments 03/19/2013 09:30 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
Michael Shannon
arringtonshannon@gmail.com
275 Conover Street
Brooklyn, NY
resident

I, the sender, vote that I do not want this project to proceed.

Jolene Festa to: Region2 GowanusCanalComments 03/19/2013 09:46 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--

Jolene Festa
jonaturegirl@aol.com
68 Dikeman St.
Brooklyn, New York

I, the sender, vote that I do not want this project to proceed.

Lydia Kiehborth to: Region2 GowanusCanalComments 03/19/2013 10:18 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--

Lydia Kiehborth
LKKiehborth@gmail.com
42 Delevan St.
Brooklyn, NY
resident

I, the sender, vote that I do not want this project to proceed.
Hans Schenck to: Region2 GowanusCanalComments 03/19/2013 10:31 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
Hans Schenck
hans.schenck@gmail.com
19 Delavan Street, apt 3M
Brooklyn, New York
Resident

I, the sender, vote that I do not want this project to proceed.

Meg Ambroise to: Region2 GowanusCanalComments 03/19/2013 10:37 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--

Meg Ambroise
mwambroise@earthlink.net
151 Sullivan St. #2
Brooklyn, NY
Resident, Business, Park User, Child-Raiser

I, the sender, vote that I do not want this project to proceed.

mavis harris to: Region2 GowanusCanalComments 03/19/2013 10:39 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
mavis harris
mavismharris@gmail.com
75 sixth ave
brooklyn, ny
resident

I, the sender, vote that I do not want this project to proceed.

amy russell to: Region2 GowanusCanalComments 03/19/2013 10:41 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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--
amy russell
amy_andrukat@yahoo.com
brooklyn, ny
resident

I, the sender, vote that I do not want this project to proceed.
Cora Byrne-Korowitz to: Region2 GowanusCanalComments 03/19/2013 10:44 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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--
Cora Byrne-Korowitz
corabk@yahoo.co.uk
93 Rapelye st
Brooklyn, NY11231
home

I, the sender, vote that I do not want this project to proceed.
Karen Melk to: Region2 GowanusCanalComments 03/19/2013 10:45 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
Karen Melk
karen.melk@gmail.com
117 1st Place
Brooklyn, NY
Residence

I, the sender, vote that I do not want this project to proceed.
James Dougherty to: Region2 GowanusCanalComments 03/19/2013 10:47 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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--
James Dougherty
chris_dougherty@peoplemag.com
12 First Place
Brooklyn, NY
11231

I, the sender, vote that I do not want this project to proceed.

Kristina Manis to: Region2 GowanusCanalComments 03/19/2013 10:52 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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--
Kristina Manis
tmbfaf@gmail.com
1226 Dean Street
Brooklyn, NY
friend

I, the sender, vote that I do not want this project to proceed.
Laura Corrin to: Region2 GowanusCanalComments 03/19/2013 10:56 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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--
Laura Corrin
Lauracorrin@hotmail.com
Brooklyn, Ny
Resident

I, the sender, vote that I do not want this project to proceed.

Jeanine Rizzuto to: Region2 GowanusCanalComments 03/19/2013 10:58 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
Jeanine Rizzuto
Jeanine.rizzuto@mediacom.com
27 Luquer St
Bklyn, NY
Resident

I, the sender, vote that I do not want this project to proceed.

David Lewis to: Region2 GowanusCanalComments 03/19/2013 11:01 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

- Children
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Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
David Lewis
davidfromenon@yahoo.com
172 Coffey St.
Brooklyn, Ny
Home

I, the sender, vote that I do not want this project to proceed.

Francyne Granico to: Region2 GowanusCanalComments 03/19/2013 11:08 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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--
Francyne Granico
Francyne.granico@gmail.com
186 Richards st
Brooklyn, NY
Residence

I, the sender, vote that I do not want this project to proceed.
Justin Creveling to: Region2 GowanusCanalComments 03/19/2013 11:32 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

- Pets/Wildlife
- Children
- Numerous public and private schools which use the fields for physical education & sports teams
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--
Justin Creveling
justin.creveling@gmail.com
147 Van Brunt St.
Brooklyn, New York
Resident.

I, the sender, vote that I do not want this project to proceed.

theresa bandouveris to: Region2 GowanusCanalComments 03/19/2013 11:38 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
theresa bandouveris
tlcaseband@earthlink.net
124 pioneer street
brooklyn, ny
resident

I, the sender, vote that I do not want this project to proceed.

cal patch to: Region2 GowanusCanalComments 03/19/2013 11:47 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
cal patch
cal_patch@yahoo.com
50 sundale road
accord, ny
friend, visitor

I, the sender, vote that I do not want this project to proceed.

Claire Bergeal to: Region2 GowanusCanalComments 03/19/2013 11:50 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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--

Claire Bergeal
claire.bergeal@gmail.com
resident

I, the sender, vote that I do not want this project to proceed.

tina beyers to: Region2 GowanusCanalComments 03/19/2013 11:58 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
tina beyers
tinabeyers@gmail.com
675 union #1r
brooklyn, ny
apt building

I, the sender, vote that I do not want this project to proceed.
Jonathan Segura to: Region2 GowanusCanalComments 03/19/2013 11:59 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
Jonathan Segura
jonny.segura@gmail.com
Resident

I, the sender, vote that I do not want this project to proceed.

jen hunter to: Region2 GowanusCanalComments 03/19/2013 12:02 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
jen hunter
jenniferlynnhunter@gmail.com
225 sackett st
brooklyn, ny
resident/ park user

I, the sender, vote that I do not want this project to proceed.
Angela Moss to: Region2 GowanusCanalComments 03/19/2013 12:20 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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--
Angela Moss
angimoss@gmail.com
8102 SE Lafayette
Portland, OR
97206

I, the sender, vote that I do not want this project to proceed.

R K to: Region2 GowanusCanalComments 03/19/2013 12:23 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--

R K
radhak@mindspring.com
467 Warren Street
Brooklyn, New York
Parks User

I, the sender, vote that I do not want this project to proceed.

Rose Saxe to: Region2 GowanusCanalComments 03/19/2013 12:25 PM

As a local parent, I am strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The Red Hook pool is truly one of the most special places in Brooklyn - my son learned to swim there, and we use it constantly in the summer. Please don't jeopardize this neighborhood - which has suffered enough from the effects of Sandy.

I fully support cleaning up the Gowanus, but there have to be other options to explore.

--

Rose Saxe
rsaxe@earthlink.net
236 E4th Street
Brooklyn, NY
Neighbor, and pool/parks user

I, the sender, vote that I do not want this project to proceed.

Sarah Gallardo to: Region2 GowanusCanalComments 03/19/2013 12:53 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Other visitors to our community

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--
Sarah Gallardo
smart.ass.apple@gmail.com

I, the sender, vote that I do not want this project to proceed.

Rowan Moore Gerety to: Region2 GowanusCanalComments 03/19/2013 01:11 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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--

Rowan Moore Gerety
rowanmg@gmail.com
3115 Cazador St.
Los Angeles, CA
Resident

I, the sender, vote that I do not want this project to proceed.

Erin Patterson to: Region2 GowanusCanalComments 03/19/2013 01:33 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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--
Erin Patterson
eep22@yahoo.com
115 1st Place
Brooklyn, NY
Residence

I, the sender, vote that I do not want this project to proceed.
Joanne Wright to: Region2 GowanusCanalComments 03/19/2013 01:41 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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--
Joanne Wright
joannebwright@gmail.com
130 Berkeley Place, #3
Brooklyn, NY
Parks User

I, the sender, vote that I do not want this project to proceed.
Sarah Way to: Region2 GowanusCanalComments 03/19/2013 01:43 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
Sarah Way
sraway@mac.com
715 Carroll St., #2R
Brooklyn, NY
parks user

I, the sender, vote that I do not want this project to proceed.
Karen Corbett to: Region2 GowanusCanalComments 03/19/2013 01:46 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
Karen Corbett
karencath@gmail.com
137 Dwight Street
Brooklyn, NY
Resident

I, the sender, vote that I do not want this project to proceed.
Brian Wray to: Region2 GowanusCanalComments 03/19/2013 01:48 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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--
Brian Wray
franny1550@gmail.com

I, the sender, vote that I do not want this project to proceed.
Kaye Amurao to: Region2 GowanusCanalComments 03/19/2013 01:50 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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--
Kaye Amurao
kamurao@gmail.com
185 Prospect Park West 2L
Brooklyn, NY
Resident

I, the sender, vote that I do not want this project to proceed.
Judith Pushett to: Region2 GowanusCanalComments 03/19/2013 01:54 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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--
Judith Pushett
jpushett@gmail.com
23 Tompkins pl
Brooklyn , Ny
11231

I, the sender, vote that I do not want this project to proceed.

bee ku to: Region2 GowanusCanalComments 03/19/2013 02:23 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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--
bee ku
beekubee@yahoo.com
50 2nd pol
brooklyn, ny
11231

I, the sender, vote that I do not want this project to proceed.

Madeline Peikes to: Region2 GowanusCanalComments 03/19/2013 02:24 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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--
Madeline Peikes
madelita76@gmail.com
74 Dikeman Street
Brooklyn, New York
Resident

I, the sender, vote that I do not want this project to proceed.
Todd Lippiatt to: Region2 GowanusCanalComments 03/19/2013 02:40 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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--
Todd Lippiatt
toddlippiatt@gmail.com
Brooklyn
NY, 11231
Resident

I, the sender, vote that I do not want this project to proceed.

Lise Engber to: Region2 GowanusCanalComments 03/19/2013 02:51 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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--
Lise Engber
liserossi25@yahoo.com
555 10th St #3
Brooklyn, NY

I, the sender, vote that I do not want this project to proceed.

carrie monson to: Region2 GowanusCanalComments 03/19/2013 03:00 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Soccer, softball, baseball, football, handball, basketball, track & field teams and enthusiasts
- Swimmers of all ages
- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
carrie monson
carrieannmonson@gmail.com
33 2nd street
brooklyn, ny
resident

I, the sender, vote that I do not want this project to proceed.

Sarah Jefferys to: Region2 GowanusCanalComments 03/19/2013 03:33 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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--
Sarah Jefferys
sarah@sjdny.com
121 WYCKOFF ST, APT 4
BROOKLYN, NY
RESIDENT

I, the sender, vote that I do not want this project to proceed.

Robert Lubow to: Region2 GowanusCanalComments 03/19/2013 03:40 PM

As a frequent visitor of the community of Red Hook, I am strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Other visitors to our community

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--

Robert Lubow
robertilubow@gmail.com
30 Woodhull Street
Brooklyn, NY
Frequent visitor

I, the sender, vote that I do not want this project to proceed.
Christina Beckles to: Region2 GowanusCanalComments 03/19/2013 03:50 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility. at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
Christina Beckles
Chrissybeckles@gmail.com
836 Hicks Street # 2
Brooklyn , NY
Resident

I, the sender, vote that I do not want this project to proceed.

Kevin Reevers to: Region2 GowanusCanalComments 03/19/2013 03:53 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Other visitors to our community

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--

Kevin Reevers
kreevers@gmail.com
10 Jay St Ste807
Brooklyn, NY

I, the sender, vote that I do not want this project to proceed.
Nigel Teekasingh to: Region2 GowanusCanalComments 03/19/2013 04:09 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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--
Nigel Teekasingh
nigel.teekasingh@gmail.com
447 Classon Avenue, Apartment 2
Brooklyn, NY
Concerned Citizen

I, the sender, vote that I do not want this project to proceed.
sasha silverstein to: Region2 GowanusCanalComments 03/19/2013 04:54 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Other visitors to our community

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--
sasha silverstein
sashasilverstein@gmail.com

I, the sender, vote that I do not want this project to proceed.

Irene Messier to: Region2 GowanusCanalComments 03/19/2013 04:59 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
Irene Messier
eneriprod@me.com
Van Brunt Street
Brooklyn, NY
Resident

I, the sender, vote that I do not want this project to proceed.

Eva Campbell to: Region2 GowanusCanalComments 03/19/2013 05:13 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
Eva Campbell
eviknov@hotmail.com
Van Brunt
Brooklyn, 11231
Resident

I, the sender, vote that I do not want this project to proceed.

Mary-Beth Shine to: Region2 GowanusCanalComments 03/19/2013 05:32 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--

Mary-Beth Shine
marybethshine@earthlink.net
244 Van Brunt Street, #2
Brooklyn, NY 11231
Resident

I, the sender, vote that I do not want this project to proceed.

Deirdre Williams to: Region2 GowanusCanalComments 03/19/2013 05:32 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--

Deirdre Williams
deirdrewill@gmail.com

I, the sender, vote that I do not want this project to proceed.
Alison Simonian to: Region2 GowanusCanalComments 03/19/2013 05:34 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
Alison Simonian
Lala23@bust.com
1358 n western
Chicago, Il
Former Redhook resident

I, the sender, vote that I do not want this project to proceed.
thomas lisenbee to: Region2 GowanusCanalComments 03/19/2013 05:43 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
thomas lisenbee
tlise22649@aol.com
87 Pioneer Street
Brooklyn, NY 11231
residence

I, the sender, vote that I do not want this project to proceed.

Zinaida Pelkey to: Region2 GowanusCanalComments 03/19/2013 06:02 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--

Zinaida Pelkey
zpelkey@earthlink.net
32 West 96 St
New York, NY
Relative of resident

I, the sender, vote that I do not want this project to proceed.
Marta Weber to: Region2 GowanusCanalComments 03/19/2013 06:20 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
Marta Weber
martaweber291@gmail.com
291 Clinton Street
Brooklyn, New York
Resident

I, the sender, vote that I do not want this project to proceed.

Dr. Edwin Roig Casanova to: Region2 GowanusCanalComments 03/19/2013 07:06 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--

Dr. Edwin Roig Casanova
edwinroig@gmail.com
4663 Isla Verde Ave.
Carolina, PR 00979

I, the sender, vote that I do not want this project to proceed.

Caitlin Cassaro to: Region2 GowanusCanalComments 03/19/2013 07:16 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
Caitlin Cassaro
ccassaro@gmail.com
145 Van Dyke St.
Brooklyn, NY
11231

I, the sender, vote that I do not want this project to proceed.

Rosemary Moore to: Region2 GowanusCanalComments 03/19/2013 07:20 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--

Rosemary Moore
roseleap@aol.com
393 10th street
brooklyn, ny
resident

I, the sender, vote that I do not want this project to proceed.

Patricia Isoldi to: Region2 GowanusCanalComments 03/19/2013 07:29 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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--
Patricia Isoldi
Patriciaisoldi@gmail.com
Teacher

I, the sender, vote that I do not want this project to proceed.

Edna Garces to: Region2 GowanusCanalComments 03/19/2013 07:29 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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--

Edna Garces
egarces5@optonline.net
601 East 19th Street 3P
Brooklyn, NY
Red Hook Boater

I, the sender, vote that I do not want this project to proceed.
Maria Maida to: Region2 GowanusCanalComments 03/19/2013 07:42 PM

As a park user of the community of Red Hook, I am strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
Maria Maida
deskset15@gmail.com
537 Hicks Street
Brooklyn, NY
Parks User

I, the sender, vote that I do not want this project to proceed.
Livia Pantuliano to: Region2 GowanusCanalComments 03/19/2013 08:33 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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--
Livia Pantuliano
liviajazz@aol.com
425 14th Street, Apt. C5
Brooklyn, NY

I, the sender, vote that I do not want this project to proceed.
Sherwood Reece to: Region2 GowanusCanalComments 03/19/2013 08:49 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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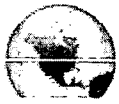
--
Sherwood Reece
Kwamemob@yahoo.com
27 Truxton
Brooklyn , N.Y



I, the sender, vote that I do not want this project to proceed.
Ryan Gerasimowicz to: Region2 GowanusCanalComments 03/19/2013 08:50 PM

As a friend of the community of Red Hook, I am strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
Ryan Gerasimowicz
ryan.gerasimowicz@gmail.com
122 Longfellow St NW
Washington , DC
Friend

I, the sender, vote that I do not want this project to proceed.
Sharon Kraus to: Region2 GowanusCanalComments 03/19/2013 09:00 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
Sharon Kraus
Sharon5554@aol.com
107 Berkeley Place #3F
Brooklyn, NY
11217

I, the sender, vote that I do not want this project to proceed.

Sabrina De Martini to: Region2 GowanusCanalComments 03/19/2013 09:09 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Residents of the Red Hook Houses and the surrounding neighborhood
- Soccer, softball, baseball, football, handball, basketball, track & field teams and enthusiasts
- Swimmers of all ages
- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
Sabrina De Martini
demartinisabrina@gmail.com
36 Hicks St
Brooklyn, NY
Resident, Parks User

I, the sender, vote that I do not want this project to proceed.

Jennifer Goldfrank to: Region2 GowanusCanalComments 03/19/2013 09:33 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
Jennifer Goldfrank
Juni.january@gmail.com
Dikeman st
Brooklyn, Ny
Resident

I, the sender, vote that I do not want this project to proceed.

Zach DeSart to: Region2 GowanusCanalComments 03/19/2013 09:51 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--

Zach DeSart
contactzachdesart@gmail.com
135 Coffey Street Apt.204C
Brooklyn, NY
resident

I, the sender, vote that I do not want this project to proceed.
Maryam Daghmoumi to: Region2 GowanusCanalComments 03/19/2013 10:29 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
Maryam Daghmoumi
Mdaghmoumi@gmail.com
414 Van Brunt St
Brooklyn, Ny

I, the sender, vote that I do not want this project to proceed.

Mark Beauregard to: Region2 GowanusCanalComments 03/19/2013 10:49 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--

Mark Beauregard
Markbeauregard@gmail.com
125 Coffey st apt 1R
Brooklyn, Ny
Residence

I, the sender, vote that I do not want this project to proceed.

Burcu Avsar DeSart to: Region2 GowanusCanalComments 03/19/2013 11:01 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--

Burcu Avsar DeSart
buj.avsar@gmail.com
135 Coffey street #204C
Brooklyn, NY 11231
Resident

I, the sender, vote that I do not want this project to proceed.

Hong man Tung to: Region2 GowanusCanalComments 03/19/2013 11:17 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
Hong man Tung
ahmt268@yahoo.com

"SAY NO TO A TOXIC RED HOOK"

WWW.NOTOXICREDHOOK.COM

AS A (CIRCLE ONE) RESIDENT, BUSINESS / EMPLOYEE OR USER OF THE PARKS AND RECREATIONAL FACILITIES WITHIN RED HOOK, I AM/ WE ARE STRONGLY OPPOSED TO THE PROCESSING OF TOXIC SLUDGE DREDGED FROM THE GOWANUS CANAL SUPERFUND CLEANUP SITE AT A FACILITY PROPOSED TO BE BUILT RIGHT NEXT TO THE RED HOOK BALL FIELDS AND POOL ON PROPERTY OWNED BY AN INDIVIDUAL WHO HAS INCURRED SERIOUS FINES FOR ENVIRONMENTAL VIOLATIONS IN THE PAST. IT IS THE WRONG SITE FOR THIS IMPORTANT FACILITY.

SIGNATURE(S)/DATE:

Jennifer Nelson & James Cameron

ADDRESS:

305 Van Brunt St.

BKLYN. NY 11231

TO:

Christos Tsiamis
Central New York Remediation Section
U.S. Environmental Protection Agency
290 Broadway, 20th Floor
New York, New York
10007-1866

"SAY NO TO A TOXIC RED HOOK"

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SIGNATURE(S)/DATE:

3/20/2013

ADDRESS:

555A 17TH ST

BKLYN, NY 11215

TO:

Christos Tsiamis
Central New York Remediation Section
U.S. Environmental Protection Agency
290 Broadway, 20th Floor
New York, New York
10007-1866

SAY NO TO A TOXIC RED HOOK

WWW.NOTOXICREDHOOK.COM

I, the sender, vote that I do not want this project to proceed.
Eman Rashid to: Region2 GowanusCanalComments 03/20/2013 12:00 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
Eman Rashid
mannyra68@aol.com
145 9th Street
Brooklyn, NY
neighboring business

I, the sender, vote that I do not want this project to proceed.

Erin Carr to: Region2 GowanusCanalComments 03/20/2013 12:05 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Swimmers of all ages
- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
Erin Carr
Erinannnyc@gmail.com
6138 Amboy Road
Staten Island, New York

I, the sender, vote that I do not want this project to proceed.

Todd Seidman to: Region2 GowanusCanalComments 03/20/2013 12:13 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
Todd Seidman
buycrap@mac.com
5 Delevan st
Brooklyn, NY
Residental

I, the sender, vote that I do not want this project to proceed.
Alex Sherker to: Region2 GowanusCanalComments 03/20/2013 01:41 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
Alex Sherker
stonewizard@gmail.com

I, the sender, vote that I do not want this project to proceed.
marid sirotniak to: Region2 GowanusCanalComments 03/20/2013 05:18 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
marid sirotniak
msirotniak@yahoo.com
71 sullivan st
Brooklyn, NY 11231
employee

I, the sender, vote that I do not want this project to proceed.
Louise Williams to: Region2 GowanusCanalComments 03/20/2013 06:17 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
Louise Williams
benkert@earthlink.net
brooklyn
11201, ny
resident

I, the sender, vote that I do not want this project to proceed.

Alev Dervish to: Region2 GowanusCanalComments 03/20/2013 06:38 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
Alev Dervish
alevdervish@gmail.com
4404 6th Ave 3C
Brooklyn, NY
11220

I, the sender, vote that I do not want this project to proceed.

amy stein to: Region2 GowanusCanalComments 03/20/2013 06:51 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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--

amy stein
amyloustein@yahoo.com
65 Dikeman Street
Brooklyn, ny
resident

I, the sender, vote that I do not want this project to proceed.
Eli Cohen to: Region2 GowanusCanalComments 03/20/2013 08:38 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
Eli Cohen
Egcohen@gmail.com
900 N. Switzer Canyon Dr.
Flagstaff, Arizona
Friend of

I, the sender, vote that I do not want this project to proceed.
Jeffrey Hines to: Region2 GowanusCanalComments 03/20/2013 09:21 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
Jeffrey Hines
jeffhines@verizon.net
138 Coffey St
Brooklyn, NY
Resident

I, the sender, vote that I do not want this project to proceed.

Anne ONeil to: Region2 GowanusCanalComments 03/20/2013 09:27 AM

As both a resident and a business owner of the community of Red Hook, I am strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Swimmers of all ages
- The Red Hook Food Vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--

Anne ONeil
aeoneil@gmail.com
130 Coffey st apt 1
Brooklyn, Ny
Resident, business owner

I, the sender, vote that I do not want this project to proceed.

Jacob Lesher to: Region2 GowanusCanalComments 03/20/2013 09:31 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
Jacob Lesher
jlesher@gmail.com
94 Franklin St
Brooklyn, ny
Resident

I, the sender, vote that I do not want this project to proceed.
Elizabeth Meister to: Region2 GowanusCanalComments 03/20/2013 09:39 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
Elizabeth Meister
elm100@mac.com
53 Windsor Place
Brooklyn, NY
Parks User

I, the sender, vote that I do not want this project to proceed.
Kasie Kelley to: Region2 GowanusCanalComments 03/20/2013 10:21 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
Kasie Kelley
kasiemae@gmail.com
177 Richards St.
Brooklyn, NY
Resident

I, the sender, vote that I do not want this project to proceed.

Mary Gannett to: Region2 GowanusCanalComments 03/20/2013 10:33 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
Mary Gannett
mgannett17@aol.com
163 Court Street
Brooklyn, NY
Resident

I, the sender, vote that I do not want this project to proceed.
Hally McGehean to: Region2 GowanusCanalComments 03/20/2013 10:35 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
Hally McGehean
hallymcgehean@gmail.com
14 Verona Street #203
Brooklyn, NY

I, the sender, vote that I do not want this project to proceed.
Heloise Rathbone to: Region2 GowanusCanalComments 03/20/2013 10:41 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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--
Heloise Rathbone
hcrathbone@gmail.com
321 Sterling Place
Brooklyn, New York

I, the sender, vote that I do not want this project to proceed.

Paula Clarke to: Region2 GowanusCanalComments 03/20/2013 10:47 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

- Children
- Numerous public and private schools which use the fields for physical education & sports teams
- Residents of the Red Hook Houses and the surrounding neighborhood
- Soccer, softball, baseball, football, handball, basketball, track & field teams and enthusiasts
- Swimmers of all ages
- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--

Paula Clarke
Pclark_40@yahoo.com
18 Dikeman street
Brooklyn, Ny

I, the sender, vote that I do not want this project to proceed.

Louis Heck to: Region2 GowanusCanalComments 03/20/2013 10:52 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--

Louis Heck
heck.ryan@gmail.com
335 Warren Street, Apt 201
Brooklyn, NY
Resident

I, the sender, vote that I do not want this project to proceed.

Sean Tice to: Region2 GowanusCanalComments 03/20/2013 11:03 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
Sean Tice
sean@brooklynslate.com
305 Van Brunt Street
Brooklyn, NY
business

I, the sender, vote that I do not want this project to proceed.

Jessica Rans to: Region2 GowanusCanalComments 03/20/2013 11:19 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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--
Jessica Rans
jessica@brooklynslate.com
187 Metropolitan Ave
Brooklyn, NY
Employee

I, the sender, vote that I do not want this project to proceed.

Tanya Selvaratnam to: Region2 GowanusCanalComments 03/20/2013 11:26 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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--
Tanya Selvaratnam
tselvar@aol.com

I, the sender, vote that I do not want this project to proceed.

Aili Saadia to: Region2 GowanusCanalComments 03/20/2013 11:27 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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--

Aili Saadia
ailisaadia@yahoo.com
27 Luquer st
bklyn, ny
resident

I, the sender, vote that I do not want this project to proceed.
Ljiljana Minwalla to: Region2 GowanusCanalComments 03/20/2013 11:28 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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--
Ljiljana Minwalla
lminwalla@gmail.com
5 Delavan Street 4T
Brooklyn, NY
RESIDENT

I, the sender, vote that I do not want this project to proceed.

mitzy ledezma to: Region2 GowanusCanalComments 03/20/2013 11:29 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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--

mitzy ledezma
mitzilecap@gmail.com
516W 47th st apt s4b
new york , new york
friend of resident

I, the sender, vote that I do not want this project to proceed.

Fiona Ryan to: Region2 GowanusCanalComments 03/20/2013 11:31 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
Fiona Ryan
Fifi.ryan@gmail.com
134 Dikeman st, 2r
Brooklyn, Ny
Resident

I, the sender, vote that I do not want this project to proceed.
maryana vestic to: Region2 GowanusCanalComments 03/20/2013 11:35 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
maryana vestic
sljivas@gmail.com
36 van dyke street
brooklyn, new york
resident

I, the sender, vote that I do not want this project to proceed.
Kristina Frantz to: Region2 GowanusCanalComments 03/20/2013 11:38 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
Kristina Frantz
kristina.frantz@gmail.com
280 Van Brunt Street
Brooklyn, NY
Residence

I, the sender, vote that I do not want this project to proceed.

shannon lorraine to: Region2 GowanusCanalComments 03/20/2013 11:42 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
shannon lorraine
shannonlorraine@gmail.com
201 richards st #216
brooklyn , ny
business

I, the sender, vote that I do not want this project to proceed.

Amber Papini to: Region2 GowanusCanalComments 03/20/2013 12:00 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--

Amber Papini
Amberpapini@yahoo.com
415 van brunt street #4
Brooklyn, NY
11231

I, the sender, vote that I do not want this project to proceed.

christopher piscitelli to: Region2 GowanusCanalComments 03/20/2013 12:06 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--

christopher piscitelli
chris.pish@gmail.com
327 Van Brunt St. Apt. 1
Brooklyn, NY
Resident/Employee

I, the sender, vote that I do not want this project to proceed.
Marcy Lynn to: Region2 GowanusCanalComments 03/20/2013 12:09 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
Marcy Lynn
movingcastle@access.net
233 Franklin St
Brooklyn, NY
11222

I, the sender, vote that I do not want this project to proceed.
Karen Propp to: Region2 GowanusCanalComments 03/20/2013 12:10 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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--
Karen Propp
karen.propp@gmail.com
88 Douglass St.
Brooklyn, NY
11231

I, the sender, vote that I do not want this project to proceed.

Lucy Wildblood to: Region2 GowanusCanalComments 03/20/2013 12:22 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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--

Lucy Wildblood
Mz.beatdizzy@gmail.com
Unit 6, 411 W Briar Place
Chicago, IL
60657

I, the sender, vote that I do not want this project to proceed.

Leslie Chapman to: Region2 GowanusCanalComments 03/20/2013 12:28 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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--

Leslie Chapman
Chpmlsl@aol.com
116 bush street apt 1d
Brooklyn, Ny
Resident

In support of the cleanup
Nicci Jordan Hubert to: Region2 GowanusCanalComments 03/20/2013 12:33 PM

I live in Carroll Gardens and am highly invested in the community's health. Wholeheartedly support and urge the cleanup!
http://carrollgardenspetition.blogspot.com

Nicci Jordan Hubert
952.913.1665
www.niccijordanhubert.com

I, the sender, vote that I do not want this project to proceed.

Jeff Abrams to: Region2 GowanusCanalComments 03/20/2013 01:14 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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--
Jeff Abrams
jmabrams75@aol.com

I, the sender, vote that I do not want this project to proceed.

denise gallo to: Region2 GowanusCanalComments 03/20/2013 01:23 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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--
denise gallo
dgallo1@roadrunner.com
8 hertel ave
buffalo, ny
resident

I, the sender, vote that I do not want this project to proceed.
Georg Schmithusen to: Region2 GowanusCanalComments 03/20/2013 01:41 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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--
Georg Schmithusen
georgs@me.com
368 Van Brunt Street
Brooklyn, NY
Resident

I, the sender, vote that I do not want this project to proceed.
Pamela Ryan to: Region2 GowanusCanalComments 03/20/2013 01:57 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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--
Pamela Ryan
pamela.ryan@gmail.com
29 Tiffany Pl #2E
Brooklyn, NY
Resident

I, the sender, vote that I do not want this project to proceed.

Ari Marte to: Region2 GowanusCanalComments 03/20/2013 02:35 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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--
Ari Marte
Aridismarte@gmail.com

I, the sender, vote that I do not want this project to proceed.

Leah Reyes to: Region2 GowanusCanalComments 03/20/2013 02:47 PM

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--

Leah Reyes
leah@uhurudesign.com
494 Classon Ave.
Brooklyn, NY
Parks User

I, the sender, vote that I do not want this project to proceed.

d weeks to: Region2 GowanusCanalComments 03/20/2013 02:58 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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--
d weeks
affectedwinds@gmail.com
resident

I, the sender, vote that I do not want this project to proceed.
Elizabeth Gilligan to: Region2 GowanusCanalComments 03/20/2013 03:26 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

- Children
- Numerous public and private schools which use the fields for physical education & sports teams
- Residents of the Red Hook Houses and the surrounding neighborhood
- Soccer, softball, baseball, football, handball, basketball, track & field teams and enthusiasts
- Swimmers of all ages
- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
Elizabeth Gilligan
eso.robinson@gmail.com
2124 Coal Ave SE
Albuquerque, NM
Parks User

I, the sender, vote that I do not want this project to proceed.

M Franklin to: Region2 GowanusCanalComments 03/20/2013 03:28 PM

As a resident of the community of Red Hook, we are strongly opposed to the processing of toxic sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility proposed to be built right next to the Red Hook Ball Fields and Pool on property owned by an individual who has incurred serious fines for environmental violations in the past. It is the wrong site for this important facility.

--

M Franklin
amachaz@gmail.com
373 Columbia St.
Brooklyn, NY
resident

I, the sender, vote that I do not want this project to proceed.

Anne Boccio to: Region2 GowanusCanalComments 03/20/2013 03:57 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--

Anne Boccio
Anneboccio@me.com
eagle st
brooklyn, ny

I, the sender, vote that I do not want this project to proceed.

Dina Shirin . to: Region2 GowanusCanalComments 03/20/2013 04:26 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Swimmers of all ages
- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--

Dina Shirin
Dina.b.shirin@gmail.com
Ny, Ny

I, the sender, vote that I do not want this project to proceed.
Brittany Rice to: Region2 GowanusCanalComments 03/20/2013 04:32 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
Brittany Rice
brittanyrice21@yahoo.com
1128 N.Paz Dr.
Greenwood, Indiana
Enviromentalist

I, the sender, vote that I do not want this project to proceed.

Catherine Havlicek to: Region2 GowanusCanalComments 03/20/2013 05:20 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
Catherine Havlicek
crizzihavlicek@gmail.com
6617 Duryea Court
Brooklyn, NY
11219

I, the sender, vote that I do not want this project to proceed.

Bryan Louie to: Region2 GowanusCanalComments 03/20/2013 06:02 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--

Bryan Louie
bslouie@usa.net
51 Dikeman St
Brooklyn, NY
Resident

I, the sender, vote that I do not want this project to proceed.
Harriet Chichester to: Region2 GowanusCanalComments 03/20/2013 06:27 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
Harriet Chichester
issa2000@aol.com

I, the sender, vote that I do not want this project to proceed.

Julia Castro to: Region2 GowanusCanalComments 03/20/2013 06:41 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--

Julia Castro
Juldomi@aol.com
36 Dikeman street
Brooklyn, New York
Resident

I, the sender, vote that I do not want this project to proceed.

Lynn McLafferty to: Region2 GowanusCanalComments 03/20/2013 07:26 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--

Lynn McLafferty
urbnlynn@sbcglobal.net
6221 N. Lakeshore Dr.
Hillsboro, MO

I, the sender, vote that I do not want this project to proceed.

Hannah Gersen to: Region2 GowanusCanalComments 03/20/2013 07:35 PM

As a resident of the community of Red Hook, I am strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include:

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- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--

Hannah Gersen
hannah.gersen@gmail.com
282 Van Brunt Street, Apt #2
Brooklyn, NY

I, the sender, vote that I do not want this project to proceed.

Stephen Moverley to: Region2 GowanusCanalComments 03/20/2013 07:59 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
Stephen Moverley
smoverley@gmail.com
resident

I, the sender, vote that I do not want this project to proceed.

Kiad Ali to: Region2 GowanusCanalComments 03/20/2013 07:59 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
Kiad Ali
Kiadali@hotmail.com
102 Pioneer St
Brooklyn 11231, NY
Residential

I, the sender, vote that I do not want this project to proceed.

John Sutton to: Region2 GowanusCanalComments 03/20/2013 08:55 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
John Sutton
kevinsutton@earthlink.net
Van Brunt Street
Brooklyn, New York
resident

I, the sender, vote that I do not want this project to proceed.
Eliza Engelberg to: Region2 GowanusCanalComments 03/20/2013 09:26 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
Eliza Engelberg
elizaberg@aol.com
466 3rd St.
Brooklyn, NY
resident

I, the sender, vote that I do not want this project to proceed.
John-Paul O'Neil to: Region2 GowanusCanalComments 03/20/2013 09:47 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
John-Paul O'Neil
johnpauloneil@gmail.com
529 court street apt 103
Brooklyn, Ny

I, the sender, vote that I do not want this project to proceed.

Caroline Trevelo to: Region2 GowanusCanalComments 03/20/2013 09:49 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
Caroline Trevelo
Carolinetrevelo@gmail.com
529 Court Street
Brooklyn, NY
Resident

I, the sender, vote that I do not want this project to proceed.
Katie Tinto to: Region2 GowanusCanalComments 03/20/2013 10:07 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
Katie Tinto
ktinto@gmail.com
37 Douglass Street
Brooklyn, NY
Resident

I, the sender, vote that I do not want this project to proceed.
Michael Corbett to: Region2 GowanusCanalComments 03/21/2013 06:03 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
Michael Corbett
mpcorbett@gmail.com
137 Dwight Street
brooklyn, NY
Resident

I, the sender, vote that I do not want this project to proceed.

Muffin Spencer to: Region2 GowanusCanalComments 03/21/2013 08:42 AM

As a resident of Red Hook, I am strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--

Muffin Spencer
muffin@irvingfarm.com
215 Van Brunt St
Brooklyn, NY
Home owner, mother of 5 month old twins

I, the sender, vote that I do not want this project to proceed.
Elisa Chiou-Gay to: Region2 GowanusCanalComments 03/21/2013 08:44 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
Elisa Chiou-Gay
Misselisachiou@gmail.com
91 Coffey street
Brooklyn , NY
4R

I, the sender, vote that I do not want this project to proceed.

Yvonne Negron to: Region2 GowanusCanalComments 03/21/2013 08:56 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
Yvonne Negron
yvonne31869@aol.com
71 Wolcott Street
Brooklyn, NY
resident

I, the sender, vote that I do not want this project to proceed.

Adriana Monroe to: Region2 GowanusCanalComments 03/21/2013 09:18 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
Adriana Monroe
adrimonroe@yahoo.com

I, the sender, vote that I do not want this project to proceed.
Michael Morse to: Region2 GowanusCanalComments 03/21/2013 09:44 AM

As a resident of the community of Red Hook, I am strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
Michael Morse
michaelmorse66@gmail.com
329 Van Brunt Street # 2
Brooklyn , NY
Resident

I, the sender, vote that I do not want this project to proceed.

Christina Vargas to: Region2 GowanusCanalComments 03/21/2013 09:48 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--

Christina Vargas
chris00783@yahoo.com
79 Wolcott Street
Brooklyn, New York
Resident

I, the sender, vote that I do not want this project to proceed.
Sue Kues to: Region2 GowanusCanalComments 03/21/2013 10:08 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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--
Sue Kues
m.sue.kues@gmail.com
1204 Retswood
Loveland, Ohio
Resident

I, the sender, vote that I do not want this project to proceed.
hooker christian to: Region2 GowanusCanalComments 03/21/2013 10:22 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

- Children
- Numerous public and private schools which use the fields for physical education & sports teams
- Residents of the Red Hook Houses and the surrounding neighborhood
- Soccer, softball, baseball, football, handball, basketball, track & field teams and enthusiasts
- Swimmers of all ages
- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
hooker christian
christian.hooker@gmail.com
204 van dyke
brooklyn, ny
business

I, the sender, vote that I do not want this project to proceed.
Linda DeSart to: Region2 GowanusCanalComments 03/21/2013 10:29 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Soccer, softball, baseball, football, handball, basketball, track & field teams and enthusiasts
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- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
Linda DeSart
lindes1@charter.net
13386 Hatchie Ln
Athens, AL 35611
Parent and Grandparent

I, the sender, vote that I do not want this project to proceed.
Zuzana Vojtek to: Region2 GowanusCanalComments 03/21/2013 11:57 AM

As a resident of the community of Red Hook, I am strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Numerous public and private schools which use the fields for physical education & sports teams
- Residents of the Red Hook Houses and the surrounding neighborhood
- Soccer, softball, baseball, football, handball, basketball, track & field teams and enthusiasts
- Swimmers of all ages
- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
Zuzana Vojtek
urbanhick70@yahoo.com
79 Wolcott St. Apt. 406B
Brooklyn, NY
Resident

I, the sender, vote that I do not want this project to proceed.
Andrea McKnight to: Region2 GowanusCanalComments 03/21/2013 12:32 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Soccer, softball, baseball, football, handball, basketball, track & field teams and enthusiasts
- Swimmers of all ages
- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
Andrea McKnight
lhemusic@aol.com
495 Columbia Street
Brooklyn, NY
Residence

I, the sender, vote that I do not want this project to proceed.
Matt Rubendall to: Region2 GowanusCanalComments 03/21/2013 02:13 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
Matt Rubendall
Matt@mattrubendall.com
416 ocean ave. #61
Brooklyn, Ny
Business

I, the sender, vote that I do not want this project to proceed.

Anne Bernstein to: Region2 GowanusCanalComments 03/21/2013 05:02 PM

As a resident of the community of Carroll Gardens, adjacent to Red Hook, I am strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Residents of the Red Hook Houses and the surrounding neighborhood
- Soccer, softball, baseball, football, handball, basketball, track & field teams and enthusiasts
- Swimmers of all ages
- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, I object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. Not to mention that he has neglected his property on Henry Street in Cobble Hill, allowing it to fall into disrepair, "demolition by neglect. He is not a good neighbor. This will benefit one individual financially at the expense of the entire area.

--

Anne Bernstein
bernii@earthlink.net
224 Degraw Street #4
Brooklyn, NY
resident

I, the sender, vote that I do not want this project to proceed.

Michael Lepow to: Region2 GowanusCanalComments 03/21/2013 05:52 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--

Michael Lepow
mlepow@gmail.com
125 Coffey Street
Brooklyn, NY
Resident

I, the sender, vote that I do not want this project to proceed.

Melissa Whelan to: Region2 GowanusCanalComments 03/21/2013 07:08 PM

As a resident of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
Melissa Whelan
melissa.callahan.otr@gmail.com
83 Dikeman St
Brooklyn, ny
resident

I, the sender, vote that I do not want this project to proceed.

Franzi wollenberg to: Region2 GowanusCanalComments 03/22/2013 06:55 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--

Franzi wollenberg
Franzi617@aol.com
14 holyoke road
someville, MA

"SAY NO TO A TOXIC RED HOOK"

WWW.NOTOXICREDHOOK.COM

AS A (CIRCLE ONE) (RESIDENT) BUSINESS / EMPLOYEE OR USER OF THE PARKS AND RECREATIONAL FACILITIES WITHIN RED HOOK, I AM/ WE ARE STRONGLY OPPOSED TO THE PROCESSING OF TOXIC SLUDGE DREDGED FROM THE GOWANUS CANAL SUPERFUND CLEANUP SITE AT A FACILITY PROPOSED TO BE BUILT RIGHT NEXT TO THE RED HOOK BALL FIELDS AND POOL ON PROPERTY OWNED BY AN INDIVIDUAL WHO HAS INCURRED SERIOUS FINES FOR ENVIRONMENTAL VIOLATIONS IN THE PAST. IT IS THE WRONG SITE FOR THIS IMPORTANT FACILITY.

SIGNATURE(S)/DATE:

Luis Sturla & Zunilda Sturla

ADDRESS:

29 Dikeman Street, Brooklyn
NY 11231

TO:

Christos Tsiamis
Central New York Remediation Section
U.S. Environmental Protection Agency
290 Broadway, 20th Floor
New York, New York
10007-1866

SAY NO TO A TOXIC RED HOOK

WWW.NOTOXICREDHOOK.COM

I, the sender, vote that I do not want this project to proceed.

Dahn Maier to: Region2 GowanusCanalComments 03/22/2013 10:18 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
Dahn Maier
maierdesign@gmail.com
Summit St
Brooklyn, NY
Resident

I, the sender, vote that I do not want this project to proceed.

Amy Lehr to: Region2 GowanusCanalComments 03/22/2013 11:06 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--

Amy Lehr
Amy.lehr@gmail.com
117 First Place
Brooklyn, NY
Resident

I, the sender, vote that I do not want this project to proceed.
Suzy Daren to: Region2 GowanusCanalComments 03/22/2013 11:53 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
Suzy Daren
suzydaren@gmail.com
111 kent Ave. Apt. 6O
Brooklyn, NY
future resident

I, the sender, vote that I do not want this project to proceed.

Cassandra Becerril to: Region2 GowanusCanalComments 03/22/2013 12:49 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
Cassandra Becerril
Cassandra.Becerril@gmail.com
315 ovington Ave. apt1j
Brooklyn, ny
employee

I, the sender, vote that I do not want this project to proceed.

Liberty Howell to: Region2.GowanusCanalComments 03/22/2013 04:29 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
Liberty Howell
libertyhowell@gmail.com
Brooklyn, NY
resident

I, the sender, vote that I do not want this project to proceed.
john martinez to: Region2 GowanusCanalComments 03/23/2013 01:00 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
john martinez
catalyst@juno.com
560 carlton ave
brooklyn, ny

"SAY NO TO A TOXIC RED HOOK"
WWW.NOTOXICREDHOOK.COM

AS A (CIRCLE ONE) RESIDENT, BUSINESS / EMPLOYEE OR USER OF THE PARKS AND RECREATIONAL FACILITIES WITHIN RED HOOK, I AM/ WE ARE STRONGLY OPPOSED TO THE PROCESSING OF TOXIC SLUDGE DREDGED FROM THE GOWANUS CANAL SUPERFUND CLEANUP SITE AT A FACILITY PROPOSED TO BE BUILT RIGHT NEXT TO THE RED HOOK BALL FIELDS AND POOL ON PROPERTY OWNED BY AN INDIVIDUAL WHO HAS INCURRED SERIOUS FINES FOR ENVIRONMENTAL VIOLATIONS IN THE PAST. IT IS THE WRONG SITE FOR THIS IMPORTANT FACILITY.

SIGNATURE(S)/DATE:

3/23/13

ADDRESS:

95 Dikeman St.

U.S. POSTAGE
10011
FOREVER
02 '13
083023 16
APC
86100105520 0625

TO:

Christos Tsiamis
Central New York Remediation Section
U.S. Environmental Protection Agency
290 Broadway, 20th Floor
New York, New York
10007-1866

"SAY NO TO A TOXIC RED HOOK"
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SIGNATURE(S)/DATE:

3/23/13

ADDRESS:

Michael Garofalo
41 Woodhull St #2 Brooklyn NY 11231

01 APR 2013 PM

USA FIRST-CLASS FOREVER

TO:

Christos Tsiamis
Central New York Remediation Section
U.S. Environmental Protection Agency
290 Broadway, 20th Floor
New York, New York
10007-1866

SAY NO TO A TOXIC RED HOOK

WWW.NOTOXICREDHOOK.COM

"SAY NO TO A TOXIC RED HOOK"

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SIGNATURE(S)/DATE:

3/23/13

ADDRESS:

Shonar Evelow 41 Woodhull St #2

Brooklyn NY 11231

0007186693

TO:

Christos Tsiamis
Central New York Remediation Section
U.S. Environmental Protection Agency
290 Broadway, 20th Floor
New York, New York
10007-1866

SAY NO TO A TOXIC RED HOOK

WWW.NOTOXICREDHOOK.COM

I, the sender, vote that I do not want this project to proceed.
Steve Torres to: Region2 GowanusCanalComments 03/23/2013 03:24 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
Steve Torres
info@high5nyc.com
152 Beard St (3A)
Brooklyn, NY
residence

I, the sender, vote that I do not want this project to proceed.

Vivian Berghahn to: Region2 GowanusCanalComments 03/23/2013 04:19 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--

Vivian Berghahn
Vberghahn@yahoo.com

I, the sender, vote that I do not want this project to proceed.

Gina Santonas to: Region2 GowanusCanalComments 03/23/2013 04:39 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--

Gina Santonas
gsantonas@aol.com
80 Jewel ST
Brooklyn, NY
Resident and park user

I, the sender, vote that I do not want this project to proceed.
Tracey Wilson to: Region2 GowanusCanalComments 03/23/2013 06:16 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
Tracey Wilson
bplays@gmail.com
349 van Brunt Street 2R
Brooklyn, NY

I, the sender, vote that I do not want this project to proceed.
Courtney Brown to: Region2 GowanusCanalComments 03/23/2013 08:38 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
Courtney Brown
Courtneyallisonbrown@gmail.com
1861 Boulderview Drive SE
Atlanta, GA
Former Resident

I, the sender, vote that I do not want this project to proceed.

Tristan Smith to: Region2 GowanusCanalComments 03/24/2013 10:46 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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--
Tristan Smith
Tristans@gmail.com
275 conover st 3b
Brookltn, 11231
Residence

"SAY NO TO A TOXIC RED HOOK"

WWW.NOTOXICREDHOOK.COM

25 MAR 2013 PM 7

AS A (CIRCLE ONE) RESIDENT, BUSINESS / EMPLOYEE OR USER OF THE PARKS AND RECREATIONAL FACILITIES WITHIN RED HOOK, I AM/ WE ARE ~~STRONGLY OPPOSED~~ TO THE PROCESSING OF TOXIC SLUDGE DREDGED FROM THE GOWANUS CANAL SUPERFUND CLEANUP SITE AT A FACILITY PROPOSED TO BE BUILT RIGHT NEXT TO THE RED HOOK BALL FIELDS AND POOL ON PROPERTY OWNED BY AN INDIVIDUAL WHO HAS INCURRED SERIOUS FINES FOR ENVIRONMENTAL VIOLATIONS IN THE PAST. IT IS THE WRONG SITE FOR THIS IMPORTANT FACILITY.

SIGNATURE(S)/DATE:

March 24/2013

ADDRESS:

275 Conover Street Apt 4F
Brooklyn NY 11231

TO:

Christos Tsiamis
Central New York Remediation Section
U.S. Environmental Protection Agency
290 Broadway, 20th Floor
New York, New York
10007-1866

SAY NO TO A TOXIC RED HOOK

WWW.NOTOXICREDHOOK.COM

I, the sender, vote that I do not want this project to proceed.
Henrietta Perkins to: Region2 GowanusCanalComments 03/24/2013 12:36 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

- Children
- Numerous public and private schools which use the fields for physical education & sports teams
- Residents of the Red Hook Houses and the surrounding neighborhood
- Soccer, softball, baseball, football, handball, basketball, track & field teams and enthusiasts
- Swimmers of all ages
- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
Henrietta Perkins
Perksmagic@aol.com
135 Richards Street
Brooklyn, New York

I, the sender, vote that I do not want this project to proceed.

Matthew Lore to: Region2 GowanusCanalComments 03/24/2013 06:12 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
Matthew Lore
matthew.lore@earthlink.net
Coffey Street
Brooklyn, NY
Resident

I, the sender, vote that I do not want this project to proceed.
Piper Alldredge to: Region2 GowanusCanalComments 03/24/2013 08:16 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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--
Piper Alldredge
piper.alldredge@gmail.com
324 Van Brunt St.
Brooklyn, NY
Residence

I, the sender, vote that I do not want this project to proceed.
Leila Hafalia-Cadiz to: Region2 GowanusCanalComments 03/24/2013 10:41 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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--
Leila Hafalia-Cadiz
lghafalia@aol.com
27 Wolcott Street
Brooklyn, New York
Resident

I, the sender, vote that I do not want this project to proceed.

Cyn Njideka to: Region2 GowanusCanalComments 03/25/2013 12:51 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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--
Cyn Njideka
cyn.njideka@gmail.com

I, the sender, vote that I do not want this project to proceed.

Julia Felsenthal to: Region2 GowanusCanalComments 03/25/2013 11:15 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Other visitors to our community.

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--
Julia Felsenthal
julia.felsenthal@gmail.com
98 Pioneer
Brooklyn, NY
Resident

I, the sender, vote that I do not want this project to proceed.
katy walker to: Region2 GowanusCanalComments 03/25/2013 11:36 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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--
katy walker
kcwalker@gmail.com
118 Wolcott st apt b
brooklyn, ny
resident

I, the sender, vote that I do not want this project to proceed.

Steven LaMorte to: Region2 GowanusCanalComments 03/25/2013 11:41 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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--

Steven LaMorte
stevenlamorte@me.com
424 Van Brunt Street
Brooklyn, NY 11231
Resident/Business

I, the sender, vote that I do not want this project to proceed.
jordana leonidas to: Region2 GowanusCanalComments 03/25/2013 03:31 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
jordana leonidas
jordana.leonidas@gmail.com
165 conover st apt 4h
brooklyn, ny
resident

I, the sender, vote that I do not want this project to proceed.

Shannon Haick to: Region2 GowanusCanalComments 03/26/2013 09:55 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--

Shannon Haick
shannonhaick@gmail.com
308 E. 90th Street
New York, New York
Resident

"SAY NO TO A TOXIC RED HOOK"

WWW.NOTOXICREDHOOK.COM

AS A (CIRCLE ONE) RESIDENT, BUSINESS / EMPLOYEE OR USER OF THE PARKS AND RECREATIONAL FACILITIES WITHIN RED HOOK, I AM/ WE ARE STRONGLY OPPOSED TO THE PROCESSING OF TOXIC SLUDGE DREDGED FROM THE GOWANUS CANAL SUPERFUND CLEANUP SITE AT A FACILITY PROPOSED TO BE BUILT RIGHT NEXT TO THE RED HOOK BALL FIELDS AND POOL ON PROPERTY OWNED BY AN INDIVIDUAL WHO HAS INCURRED SERIOUS FINES FOR ENVIRONMENTAL VIOLATIONS IN THE PAST. IT IS THE WRONG SITE FOR THIS IMPORTANT FACILITY.

SIGNATURE(S)/DATE:

Christos Tsiamis 3/26/13

ADDRESS:

100 Pioneer ST Bklyn NY 11231

TO:

Christos Tsiamis
Central New York Remediation Section
U.S. Environmental Protection Agency
290 Broadway, 20th Floor
New York, New York
10007-1866

"SAY NO TO A TOXIC RED HOOK"

WWW.NOTOXICREDHOOK.COM

26 MAR 2013 PM 9 L

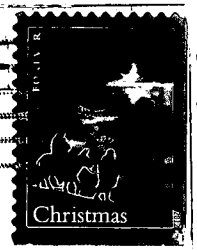
AS A (CIRCLE ONE) RESIDENT, BUSINESS / EMPLOYEE OR USER OF THE PARKS AND RECREATIONAL FACILITIES WITHIN RED HOOK, I AM/ WE ARE STRONGLY OPPOSED TO THE PROCESSING OF TOXIC SLUDGE DREDGED FROM THE GOWANUS CANAL SUPERFUND CLEANUP SITE AT A FACILITY PROPOSED TO BE BUILT RIGHT NEXT TO THE RED HOOK BALL FIELDS AND POOL ON PROPERTY OWNED BY AN INDIVIDUAL WHO HAS INCURRED SERIOUS FINES FOR ENVIRONMENTAL VIOLATIONS IN THE PAST. IT IS THE WRONG SITE FOR THIS IMPORTANT FACILITY.

SIGNATURE(S)/DATE:

Susan Ramm 3/26/13

ADDRESS:

19 Carroll ST Brooklyn, 11231



TO:

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Central New York Remediation Section
U.S. Environmental Protection Agency
290 Broadway, 20th Floor
New York, New York
10007-1866

SAY NO TO A TOXIC RED HOOK

WWW.NOTOXICREDHOOK.COM

I, the sender, vote that I do not want this project to proceed.
Rebecca Freeman to: Region2 GowanusCanalComments 03/26/2013 01:20 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
Rebecca Freeman
Rebeccaleefreeman@gmail.com
267 Wyckoff st
Brooklyn, Ny
Parks user

I, the sender, vote that I do not want this project to proceed.

MATTHEW MCDERMOTT to: Region2 GowanusCanalComments 03/26/2013 01:25 PM

As a resident of the community of Red Hook, I am vehemently opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
MATTHEW MCDERMOTT
TEOTEOCAN@GMAIL.COM
112 SULLIVAN STREET
BROOKLYN, NY
11231

I, the sender, vote that I do not want this project to proceed.

Tiziana Mazziotto to: Region2 GowanusCanalComments 03/26/2013 02:50 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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--

Tiziana Mazziotto
tizyma@gmail.com
234 Van Brunt Street, #3
Brooklyn, Ct

I, the sender, vote that I do not want this project to proceed.
Julianne Sombat to: Region2 GowanusCanalComments 03/26/2013 04:10 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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--
Julianne Sombat
juliannesombat@gmail.com
101 Pioneer Street
Brooklyn, New York, 11231
Resident

I, the sender, vote that I do not want this project to proceed.
Michael Violante to: Region2 GowanusCanalComments 03/26/2013 04:23 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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--
Michael Violante
violante.michael@gmail.com
308 E. 90th street
New York, New York
Resident

I, the sender, vote that I do not want this project to proceed.

Alyson Shotz to: Region2 GowanusCanalComments 03/26/2013 04:47 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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--
Alyson Shotz
shotza@verizon.net
248 Creamer Street, #3
Brooklyn, NY 11231
business

I, the sender, vote that I do not want this project to proceed.

beth caspar to: Region2 GowanusCanalComments 03/26/2013 06:28 PM

As a resident of the community of Red Hook, I am strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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--

beth caspar
bisi6@earthlink.net
442 van brunt st.
brooklyn, NY
resident and parks user

I, the sender, vote that I do not want this project to proceed.
Thomas Fraley to: Region2 GowanusCanalComments 03/26/2013 10:05 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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--
Thomas Fraley
tjfraley24@gmail.com
16 Windsor Road
Somerville, Massachusetts
Urban Ecology Researcher

I, the sender, vote that I do not want this project to proceed.
jonathan weidlinger to: Region2 GowanusCanalComments 03/26/2013 11:21 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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--
jonathan weidlinger
jweidlinger@gmail.com
84 union street
brooklyn, ny
resident

I, the sender, vote that I do not want this project to proceed.

susan peikes to: Region2 GowanusCanalComments 03/27/2013 12:40 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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--
susan peikes
susan@peikes.com
141-01 82 drive
jamaica, ny
parent/grandparent of Red Hook residents

"SAY NO TO A TOXIC RED HOOK"

WWW.NOTOXICREDHOOK.COM

30 MAR 2013 PM 4 L

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SIGNATURE(S)/DATE:

3.27.2013

ADDRESS:

129 Coffey Street #3

Bklyn, NY 1231

TO:

Christos Tsiamis
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U.S. Environmental Protection Agency
290 Broadway, 20th Floor
New York, New York
10007-1866

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SIGNATURE(S)/DATE:

3.27.13

ADDRESS:

129 Coffey St. #3

Brooklyn NY 11231

TO:

Christos Tsiamis
Central New York Remediation Section
U.S. Environmental Protection Agency
290 Broadway, 20th Floor
New York, New York
10007-1866

"SAY NO TO A TOXIC RED HOOK"

WWW.NOTOXICREDHOOK.COM

AS A (CIRCLE ONE) RESIDENT, BUSINESS / EMPLOYEE OR USER OF THE PARKS AND RECREATIONAL FACILITIES WITHIN RED HOOK, I AM/ WE ARE STRONGLY OPPOSED TO THE PROCESSING OF TOXIC SLUDGE DREDGED FROM THE GOWANUS CANAL SUPERFUND CLEANUP SITE AT A FACILITY PROPOSED TO BE BUILT RIGHT NEXT TO THE RED HOOK BALL FIELDS AND POOL ON PROPERTY OWNED BY AN INDIVIDUAL WHO HAS INCURRED SERIOUS FINES FOR ENVIRONMENTAL VIOLATIONS IN THE PAST. IT IS THE WRONG SITE FOR THIS IMPORTANT FACILITY.

SIGNATURE(S)/DATE:

138 Dikeman st. #2

ADDRESS: BROOKLYN, NY 11231

TO:

Christos Tsiamis
Central New York Remediation Section
U.S. Environmental Protection Agency
290 Broadway, 20th Floor
New York, New York
10007-1866

SAY NO TO A TOXIC RED HOOK

WWW.NOTOXICREDHOOK.COM

I, the sender, vote that I do not want this project to proceed.
Brent Richardson to: Region2 GowanusCanalComments 03/27/2013 12:52 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

- Children
- Numerous public and private schools which use the fields for physical education & sports teams
- Residents of the Red Hook Houses and the surrounding neighborhood
- Soccer, softball, baseball, football, handball, basketball, track & field teams and enthusiasts
- Swimmers of all ages
- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
Brent Richardson
brentrichardson@mac.com
136 Grand Street, 3ER
New York, NY
Park user

I, the sender, vote that I do not want this project to proceed.
Jim Kenna to: Region2 GowanusCanalComments 03/27/2013 02:08 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Other visitors to our community

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--
Jim Kenna
jkenna23@yahoo.com
23 First Street
Brooklyn, New York 11231
Resident

I, the sender, vote that I do not want this project to proceed.

Tiffany Rung to: Region2 GowanusCanalComments 03/27/2013 05:54 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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--
Tiffany Rung
Tiffrung@hotmail.com
14 Verona street apt 1F
Brooklyn, Ny
Resident

I, the sender, vote that I do not want this project to proceed.
Sheetal Khanna-Ravich to: Region2 GowanusCanalComments 03/27/2013 07:28 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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--
Sheetal Khanna-Ravich
sheetalk77@hotmail.com
191 Richards St
Brooklyn, NY 11231
Resident

"SAY NO TO A TOXIC RED HOOK"

WWW.NOTOXICREDHOOK.COM

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SIGNATURE(S)/DATE:

Beth Mary

ADDRESS:

515 17ST #1 Brooklyn 11215

TO:

Christos Tsiamis
Central New York Remediation Section
U.S. Environmental Protection Agency
290 Broadway, 20th Floor
New York, New York
10007-1866

SAY NO TO A TOXIC RED HOOK

WWW.NOTOXICREDHOOK.COM

I, the sender, vote that I do not want this project to proceed.

Truman McCasland to: Region2 GowanusCanalComments 03/28/2013 10:40 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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--
Truman McCasland
trumanmccasland@gmail.com
brooklyn, ny

Gowanus Canal

Frank, Timothy to: Region2 GowanusCanalComments 03/28/2013 11:45 AM

Please respond to franktv

I just heard on News12 Brooklyn you are starting to clean up the canal. I would urge you to talk to the Syracuse NY community. Onondaga Lake currently is being cleaned up and making progress. I am sure they will give you advice. Lastly if it was up to me I would urge you to pump out the water, and give it to a water treatment plant, or a bio engineering company who may be able to use the material. Once the water is gone, removing the sludge and waste on the bottom can be treated using nature rather then digging it up and spreading the material around and putting a lot of people in contact with the hazardous material.

A concerned resident

I, the sender, vote that I do not want this project to proceed.
Brandon Emerick to: Region2 GowanusCanalComments 03/28/2013 04:20 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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--
Brandon Emerick
brandonemerick@gmail.com
21 Dikeman Street
Brooklyn, NY
Resident

I, the sender, vote that I do not want this project to proceed.
Dale Balenseifen to: Region2 GowanusCanalComments 03/28/2013 05:12 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
Dale Balenseifen
balendale@gmail.com
259 Van Brunt St
Brooklyn, NY
resident

I, the sender, vote that I do not want this project to proceed.
Mona Nicoara to: Region2 GowanusCanalComments 03/28/2013 07:43 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
Mona Nicoara
mona.nicoara@gmail.com
Summit St
Brooklyn, NY
Resident, park user

I, the sender, vote that I do not want this project to proceed.

Edwin Rekosh to: Region2 GowanusCanalComments 03/28/2013 08:18 PM

As a resident of the community of Red Hook, I am strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--

Edwin Rekosh
Erekosh@pilnet.org
49 Summit St., apt 1c
Brooklyn, NY
Resident

I, the sender, vote that I do not want this project to proceed.
alison ruzsa to: Region2 GowanusCanalComments 03/29/2013 12:05 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
alison ruzsa
art7girl@earthlink.net

I, the sender, vote that I do not want this project to proceed.

Edward Thompson to: Region2 GowanusCanalComments 03/30/2013 04:09 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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--

Edward Thompson
Thompsonted@gmail.com
64 W9th St #2C
Brooklyn, Ny
Resident

"SAY NO TO A TOXIC RED HOOK"
WWW.NOTOXICREDHOOK.COM

30 MAR 2013 PM

AS A (CIRCLE ONE) RESIDENT, BUSINESS / EMPLOYEE OR USER OF THE PARKS AND RECREATIONAL FACILITIES WITHIN RED HOOK, I AM/ WE ARE STRONGLY OPPOSED TO THE PROCESSING OF TOXIC SLUDGE DREDGED FROM THE GOWANUS CANAL SUPERFUND CLEANUP SITE AT A FACILITY PROPOSED TO BE BUILT RIGHT NEXT TO THE RED HOOK BALL FIELDS AND POOL ON PROPERTY OWNED BY AN INDIVIDUAL WHO HAS INCURRED SERIOUS FINES FOR ENVIRONMENTAL VIOLATIONS IN THE PAST. IT IS THE WRONG SITE FOR THIS IMPORTANT FACILITY.

SIGNATURE(S)/DATE:

Alex Nobel

ADDRESS:

129 Coffey St #3

Brooklyn, NY 11231

TO:

Christos Tsiamis
Central New York Remediation Section
U.S. Environmental Protection Agency
290 Broadway, 20th Floor
New York, New York
10007-1866

SAY NO TO A TOXIC RED HOOK

WWW.NOTOXICREDHOOK.COM

I, the sender, vote that I do not want this project to proceed.
Daniel Schottenfeld to: Region2 GowanusCanalComments 03/30/2013 06:42 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
Daniel Schottenfeld
danielschottenfeld@hotmail.com
135 Amity St 1B
Brooklyn, NY
Frequent visitor for shopping and eating

I, the sender, vote that I do not want this project to proceed.
Mary Howard to: Region2 GowanusCanalComments 03/31/2013 05:50 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Other visitors to our community

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--
Mary Howard
maryhoward299@gmail.com
66 Van Dyke Street
Brooklyn, NY
resident

"SAY NO TO A TOXIC RED HOOK"
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AS A (CIRCLE ONE) (RESIDENT) BUSINESS / EMPLOYEE OR USER OF THE PARKS AND RECREATIONAL FACILITIES WITHIN RED HOOK, (I AM) WE ARE STRONGLY OPPOSED TO THE PROCESSING OF TOXIC SLUDGE DREDGED FROM THE GOWANUS CANAL SUPERFUND CLEANUP SITE AT A FACILITY PROPOSED TO BE BUILT RIGHT NEXT TO THE RED HOOK BALL FIELDS AND POOL ON PROPERTY OWNED BY AN INDIVIDUAL WHO HAS INCURRED SERIOUS FINES FOR ENVIRONMENTAL VIOLATIONS IN THE PAST. IT IS THE WRONG SITE FOR THIS IMPORTANT FACILITY.

SIGNATURE(S)/DATE:

3-31-2013

ADDRESS:

217 Van Brunt St. #2R
Brooklyn, NY 11231

USA
Equality
FOREVER

TO:

Christos Tsiamis
Central New York Remediation Section
U.S. Environmental Protection Agency
290 Broadway, 20th Floor
New York, New York
10007-1866

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SIGNATURE(S)/DATE:

03/31/13

ADDRESS:

217 Van Brunt St. Apt 2R
Brooklyn, NY 11231

USA
Liberty
FOREVER

TO:

Christos Tsiamis
Central New York Remediation Section
U.S. Environmental Protection Agency
290 Broadway, 20th Floor
New York, New York
10007-1866

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I, the sender, vote that I do not want this project to proceed.

Ashley Jimenez to: Region2 GowanusCanalComments 03/31/2013 06:49 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Other visitors to our community

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--
Ashley Jimenez
Ashley.apples.oranges@gmail.com
945 e. 174 street apt. 509
Bronx, Ny
Resident

I, the sender, vote that I do not want this project to proceed.
Jovan Torres to: Region2 GowanusCanalComments 04/01/2013 07:23 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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--
Jovan Torres
torres_jovan@yahoo.com
179 Richards st
brooklyn, New York
resident

I support the EPA Gowanus Canal Superfund - Red Hook option.

The improvement to an active local maritime industrial business, the economic benefits it will bring, the jobs that it will create, are all important to the community of Red Hook.

Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community are without harm or risk of such.

Please approve the Red Hook option.

(please print)

Wilhelmina — first name
Scott — last name

82 Dwight Street — address
14B — apt.#

Brooklyn — city
New York — state
11231 — zip

347 581-1733 — area code & phone number

W-Scott6@Yahoo.com — email

x Wilhelmina Scott — signature
4.1.13 — date

mail to:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email to:
GowanusCanalComments.Region2@epa.gov
cc:
info@GowanusBayTerminal.com

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013 DEADLINE*

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SIGNATURE(S)/DATE:

David Rammelkamp 4/1/2013

ADDRESS:

35 93rd St. Brooklyn, NY 11209

USA
Freedom
FOREVER

TO:

Christos Tsiamis
Central New York Remediation Section
U.S. Environmental Protection Agency
290 Broadway, 20th Floor
New York, New York

10007-1866

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SIGNATURE(S)/DATE:

Vincent Maresca 4/1/2013

ADDRESS:

36 Seabring Street Brklyn NY 11231

10007186699

TO:

$ 000.46
02 1P
0003823555 APR 02 2013
MAILED FROM ZIP CODE 11231

Christos Tsiamis
Central New York Remediation Section
U.S. Environmental Protection Agency
290 Broadway, 20th Floor
New York, New York

10007-1866

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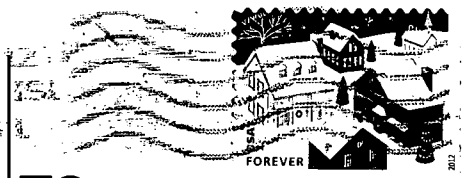
SIGNATURE(S)/DATE:

ADDRESS:

275 Conover St Apt. 4F

Brooklyn NY 11231



TO:

Christos Tsiamis
Central New York Remediation Section
U.S. Environmental Protection Agency
290 Broadway, 20th Floor
New York, New York
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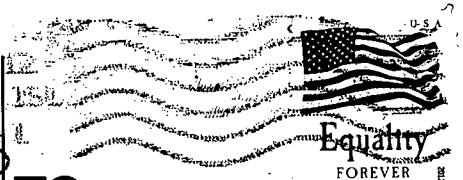
SIGNATURE(S)/DATE: 4/1/13

Pippa Peay Three

ADDRESS:

510 Clinton St. Bklyn NY 11231



TO:

Christos Tsiamis
Central New York Remediation Section
U.S. Environmental Protection Agency
290 Broadway, 20th Floor
New York, New York
10007-1866

SAY NO TO A TOXIC RED HOOK

WWW.NOTOXICREDHOOK.COM

I, the sender, vote that I do not want this project to proceed.

Julie Shavalier to: Region2 GowanusCanalComments 04/01/2013 03:57 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

- Children
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- Soccer, softball, baseball, football, handball, basketball, track & field teams and enthusiasts
- Swimmers of all ages
- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--

Julie Shavalier
julie.shavalier@gmail.com
46 2nd Pl Apt 2
Brooklyn, NY
Resident

I, the sender, vote that I do not want this project to proceed.
Jacqueline Batton to: Region2 GowanusCanalComments 04/01/2013 09:23 PM

As (one of the options above) of the community of Red Hook, I am strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Other visitors to our community

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--
Jacqueline Batton
jakibatton@gmail.com
347 Van Brunt St. #2F
Brooklyn, NY 11231
a resident

I support the EPA Gowanus Canal Superfund - Red Hook option.

The improvement to an active local maritime industrial business, the economic benefits it will bring, the jobs that it will create, are all important to the community of Red Hook.

Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community are without harm or risk of such.

Please approve the Red Hook option.

(please print)

LENA M. White
first name last name

82 Dwight St. 14E
address apt.#

BROOKLYN, NY 11231,
city state zip

area code & phone number
718-858-1429

email

x Lena White 04-2-13
signature date

mail to:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email to:

GowanusCanalComments.Region2@epa.gov
cc:
info@GowanusBayTerminal.com

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013 DEADLINE*

I support the EPA Gowanus Canal Superfund - Red Hook option.

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Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community are without harm or risk of such.

Please approve the Red Hook option.

(please print)

CIKAS — first name
BARRETO — last name

82-DWIGHT ST — address
14-F — apt.#

BKLYN — city
N.Y. — state
11321 — zip

_____ _____
area code & phone number

_____
email

x Cikas Barreto — signature
4-2-13 — date

mail to:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email to:
GowanusCanalComments.Region2@epa.gov
cc:
info@GowanusBayTerminal.com

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013 DEADLINE*

1 of 2

"SAY NO TO A TOXIC RED HOOK"
WWW.NOTOXICREDHOOK.COM

AS A (CIRCLE ONE) RESIDENT, BUSINESS / EMPLOYEE OR USER OF THE PARKS AND RECREATIONAL FACILITIES WITHIN RED HOOK, I AM/ WE ARE STRONGLY OPPOSED TO THE PROCESSING OF TOXIC SLUDGE DREDGED FROM THE GOWANUS CANAL SUPERFUND CLEANUP SITE AT A FACILITY PROPOSED TO BE BUILT RIGHT NEXT TO THE RED HOOK BALL FIELDS AND POOL ON PROPERTY OWNED BY AN INDIVIDUAL WHO HAS INCURRED SERIOUS FINES FOR ENVIRONMENTAL VIOLATIONS IN THE PAST. IT IS THE WRONG SITE FOR THIS IMPORTANT FACILITY.

SIGNATURE(S)/DATE:

4/2/13

ADDRESS:

327 VAN BRUNT, #1, BKLYN, NY 11231

TO:

Christos Tsiamis
Central New York Remediation Section
U.S. Environmental Protection Agency
290 Broadway, 20th Floor
New York, New York
10007-1866

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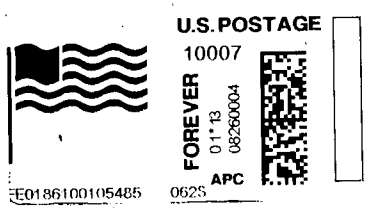
SIGNATURE(S)/DATE:

Lean Raysmeier
04.02.13

ADDRESS:

95 Verona St.
Brooklyn NY 11231



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Central New York Remediation Section
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290 Broadway, 20th Floor
New York, New York
10007-1866

SAY NO TO A TOXIC RED HOOK

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SIGNATURE(S)/DATE:

4/2/13

ADDRESS:

34 VAN DYKE ST BROOKLYN NY 11231

TO:

Christos Tsiamis
Central New York Remediation Section
U.S. Environmental Protection Agency
290 Broadway, 20th Floor
New York, New York
10007-1866

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SIGNATURE(S)/DATE:

Susan Saunders 4/2/13

ADDRESS:

481 Van Brunt St 8A
Brooklyn NY 11231

TO:

Christos Tsiamis
Central New York Remediation Section
U.S. Environmental Protection Agency
290 Broadway, 20th Floor
New York, New York
10007-1866

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CG CORD Comment on the EPA Proposed Gowanus Canal Clean-Up Plan
CG CORD
to:
Region2 GowanusCanalComments, Christos Tsiamis, Natalie Loney
04/02/2013 02:58 PM
Hide Details
From: CG CORD <cgcord@gmail.com>

To: Region2 GowanusCanalComments@EPA, Christos Tsiamis/R2/USEPA/US@MSO365, Natalie Loney/R2/USEPA/US@MSO365

1 Attachment

CG CORD Comment on the EPA Proposed Plan for the Gowanus Canal Clean-Up.docx

Dear Sir or Madame:

Attached you will find the CG CORD Comment on the EPA Proposed Gowanus Canal Clean-Up Plan featured at
http://www.epa.gov/region2/superfund/npl/gowanus/pdf/gowanus_prap.pdf
Thank you.

Sincerely yours,

CORD Co-Founders:
Lucy DeCarlo
Rita Miller
Triada Samaras

CG CORD/Carroll Gardens Coalition for Respectful Development
www.carrollgardenspetition.blogspot.com
Brooklyn, NY
March 28, 2013

CG CORD Comment on the EPA Proposed Gowanus Canal Clean-Up Plan

We at CORD, the Carroll Gardens Coalition for Respectful Development wish to begin by thanking our "team" at Region 2 for their leadership, transparency and timeliness. But most of all, we wish to express our gratitude for their clear and ever present dedication to our Community.

We are very supportive of the Proposed Plan. We are delighted with the inclusion of the retention tanks. We totally support the suggested locations of those tanks, the "salt lot" on Second Avenue, and under the former MGP site at the head of the Canal, AKA Thomas Greene Park.

It is our sincere wish that the retention tank system be implemented.

We see the New York City Long Term Control Plan mentioned many many times in the PRAP. In our experience, the City of New York has fallen short on most if not all of their promises regarding the Gowanus Canal and we see no reason to believe that their track record will improve anytime soon. With that in mind, we feel that the retention tank system is the only logical way to appropriately address the problems brought on by the CSO's. Any additional improvements/benefit that may eventually be enjoyed city wide by the NYC LTCP will be much appreciated icing on the cake--

Regarding the CDF/Red Hook Facility suggestion- we stand solidly behind the wishes of our neighbors in the Red Hook Community. We want whatever they want.

CG CORD Co-Founders:

Lucy DeCarlo
Rita Miller
Triada Samaras

I, the sender, vote that I do not want this project to proceed.
Aaron Vail to: Region2 GowanusCanalComments 04/02/2013 07:59 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
Aaron Vail
brooklynrust@gmail.com
347 Van Brunt Street Apt 2F
Brooklyn , NY
Resident

I, the sender, vote that I do not want this project to proceed.

Loni Markman to: Region2 GowanusCanalComments 04/03/2013 08:54 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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--

Loni Markman
lonim777@gmail.com
71 dikeman street
brooklyn, ny
11231

I support the EPA Gowanus Canal Superfund - Red Hook option.

The improvement to an active local maritime industrial business, the economic benefits it will bring, the jobs that it will create, are all important to the community of Red Hook.

Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community are without harm or risk of such.

Please approve the Red Hook option.

(please print)

Lillie — first name
Marshall — last name

40 Centre mall — address
4E — apt.#

Brooklyn — city
NY — state
11231 — zip

718 755 5027 — area code & phone number

redhookwest.lillie@aol.com — email

Lillie Marshall — signature
4/3/13 — date

mail to:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email to:
GowanusCanalComments.Region2@epa.gov
cc:
info@GowanusBayTerminal.com

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013 DEADLINE*

RHU

I support the EPA Gowanus Canal Superfund - Red Hook option.

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Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community are without harm or risk of such.

Please approve the Red Hook option.

(please print)

Alexander — first name
Scott Jr. — last name

28 West 9th St. — address
4B — apt.#

Brklyn. New York — city
N.Y. — state
11231 — zip

(347) 731-2307 — area code & phone number

alexscottT1682@gmail.com — email

x Mr. A. Scott Jr. — signature
4-3-13 — date

mail to:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email to:
GowanusCanalComments.Region2@epa.gov
cc:
info@GowanusBayTerminal.com

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013 DEADLINE*

"SAY NO TO A TOXIC RED HOOK"

WWW.NOTOXICREDHOOK.COM

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SIGNATURE(S)/DATE:

A. Duarte 4/3/13

ADDRESS:

342 Greene Ave. #2

Bklyn, NY 11238

TO:

Christos Tsiamis
Central New York Remediation Section
U.S. Environmental Protection Agency
290 Broadway, 20th Floor
New York, New York
10007-1866

"SAY NO TO A TOXIC

WWW.NOTOXICREDHOO

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SIGNATURE(S)/DATE:

[signature] 4/3/13

ADDRESS:

[illegible] Sullivan St.

Brooklyn, N.Y. 11231

TO:

Christos Tsiamis
Central New York Remediation Section
U.S. Environmental Protection Agency
290 Broadway, 20th Floor
New York, New York
10007-1866

SAY NO TO A TOXIC RED HOOK

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I, the sender, vote that I do not want this project to proceed.
Jessica Taran to: Region2 GowanusCanalComments 04/03/2013 11:47 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
Jessica Taran
jtaran.jessica@gmail.com
555 West 23rd Street
New York, New York
Parks User

I, the sender, vote that I do not want this project to proceed.
tim gilman to: Region2 GowanusCanalComments 04/03/2013 12:50 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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--
tim gilman
tfgilman@gmail.com
129 Pioneer St
Brooklyn, NY
Resident

I, the sender, vote that I do not want this project to proceed.

Lauren Gilmore to: Region2 GowanusCanalComments 04/03/2013 01:20 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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--
Lauren Gilmore
ladiegilmore@gmail.com
554 11th St.
Brooklyn , NY
Park User

I, the sender, vote that I do not want this project to proceed.
Damien Reilly to: Region2 GowanusCanalComments 04/03/2013 02:39 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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--
Damien Reilly
Dreilly75@gmail.com

I, the sender, vote that I do not want this project to proceed.
Erin Blondes to: Region2 GowanusCanalComments 04/03/2013 02:48 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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--
Erin Blondes
erinl524@gmail.com
Parks user

I, the sender, vote that I do not want this project to proceed.
Christian Dallett to: Region2 GowanusCanalComments 04/03/2013 03:28 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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--
Christian Dallett
chrisdallett@gmail.com
86 Pioneer St.
Brooklyn, NY
Resident/Business

I, the sender, vote that I do not want this project to proceed.
Philip Weinberg to: Region2 GowanusCanalComments 04/03/2013 04:29 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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--
Philip Weinberg
pweinberg@yahoo.com
472 Henry Street
Brooklyn, NY
Resident

I, the sender, vote that I do not want this project to proceed.

Rachel Guidera to: Region2 GowanusCanalComments 04/03/2013 04:34 PM

As a resident of the community of Red Hook, I am strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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--

Rachel Guidera
reverendrachel@gmail.com
5 Delevan Street, #1J
Brooklyn, NY
Resident

I, the sender, vote that I do not want this project to proceed.

Nicole Daunic to: Region2 GowanusCanalComments 04/03/2013 04:43 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
Nicole Daunic
nicoledaunic@gmail.com
25 Dikeman Street, #1
Brooklyn, NY
Resident

I, the sender, vote that I do not want this project to proceed.
denise carbonell to: Region2 GowanusCanalComments 04/03/2013 04:56 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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--
denise carbonell
denisecarbonell@earthlink.net
398 van brunt st
Brooklyn , ny
resident & business

I, the sender, vote that I do not want this project to proceed.

Suzanne Spizz to: Region2 GowanusCanalComments 04/03/2013 06:34 PM

History: This message has been replied to.

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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--
Suzanne Spizz
Srspizz@aol.com

I, the sender, vote that I do not want this project to proceed.

Kristin Eno to: Region2 GowanusCanalComments 04/03/2013 10:52 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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--

Kristin Eno
thistlepixie@gmail.com
5 Delevan St. #2U
Brooklyn, NY
11231

I, the sender, vote that I do not want this project to proceed.

Marleen Reimer to: Region2 GowanusCanalComments 04/03/2013 10:54 PM

History: This message has been replied to.

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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--
Marleen Reimer
marleenreimer@gmail.com

I, the sender, vote that I do not want this project to proceed.

pilar montero to: Region2 GowanusCanalComments 04/03/2013 11:02 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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--
pilar montero
pilarmontero@juno.com
128 pioneer st #2
brooklyn, ny
resident

I, the sender, vote that I do not want this project to proceed.
Dominick Gervasi to: Region2 GowanusCanalComments 04/04/2013 07:00 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
Dominick Gervasi
dom@madeinbrooklyntours.com
219 68th St., Apt 2B
Brooklyn, NY
Business

"SAY NO TO A TOXIC RED HOOK"
WWW.NOTOXICREDHOOK.COM

AS A (CIRCLE ONE) RESIDENT, BUSINESS / EMPLOYEE OR USER OF THE PARKS AND RECREATIONAL FACILITIES WITHIN RED HOOK, I AM/ WE ARE STRONGLY OPPOSED TO THE PROCESSING OF TOXIC SLUDGE DREDGED FROM THE GOWANUS CANAL SUPERFUND CLEANUP SITE AT A FACILITY PROPOSED TO BE BUILT RIGHT NEXT TO THE RED HOOK BALL FIELDS AND POOL ON PROPERTY OWNED BY AN INDIVIDUAL WHO HAS INCURRED SERIOUS FINES FOR ENVIRONMENTAL VIOLATIONS IN THE PAST. IT IS THE WRONG SITE FOR THIS IMPORTANT FACILITY.

SIGNATURE(S)/DATE:

ADDRESS:
114 Pioneer St, Brooklyn NY 11231

TO:

Christos Tsiamis
Central New York Remediation Section
U.S. Environmental Protection Agency
290 Broadway, 20th Floor
New York, New York
10007-1866

"SAY NO TO A TOXIC RED HOOK"
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SIGNATURE(S)/DATE:

ADDRESS:
184 Richards Str
Brooklyn, N.Y. 11231

TO:

Christos Tsiamis
Central New York Remediation Section
U.S. Environmental Protection Agency
290 Broadway, 20th Floor
New York, New York
10007-1866

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SIGNATURE(S)/DATE: [signature] 4 APRIL 2013

95 VERONA ST #6

ADDRESS:

BROOKLYN, NY 11231

TO:

Christos Tsiamis
Central New York Remediation Section
U.S. Environmental Protection Agency
290 Broadway, 20th Floor
New York, New York
10007-1866

SAY NO TO A TOXIC RED HOOK

WWW.NOTOXICREDHOOK.COM

I, the sender, vote that I do not want this project to proceed.

Nicole Brydson to: Region2 GowanusCanalComments 04/04/2013 08:18 AM

History: This message has been replied to.

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
Nicole Brydson
Nicolebrydson@gmail.com
Parks

I, the sender, vote that I do not want this project to proceed.

Noah Landes to: Region2 GowanusCanalComments 04/04/2013 12:02 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--

Noah Landes
nmaxland@gmail.com
135 Coffey St
Brooklyn , NY
Resident

I, the sender, vote that I do not want this project to proceed.

Katie Schulder-Battis to: Region2 GowanusCanalComments 04/04/2013 12:20 PM

As a resident of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
Katie Schulder-Battis
kschulderbattis@berkeleycarroll.org
Van Brunt street
Brooklyn, New York
resident

Gowanus plan objection over Red Hook toxic sludge placement;
todd bonne to: Region2 GowanusCanalComments 04/04/2013 03:35 PM

Hi Christos. My name is Todd Bonne I live over at 25 Wollcott st Red Hook ,Brookyn I live very close to the suggested remediation site you have proposed over in Red Hook. I think it's an extremely bad idea. Our community just experienced massive flooding from hurricane sandy ,and the last thing we need is this suggested remedy. Also filling in Red Hook waterfront for a private concrete plant owner is unacceptable. Why not clean up the Henry st basin as well. It's a great spot over that way. I'm not sure why the EPA would want to take the risk of putting the material in our community next to ball fields where kids play. Another question is what will happen with future use of the Quadrazzi land fill. We can only speculate. That's not good enough. If you walk down the streets of Red Hook and talk to people in the Community you will be very aware that most residents are against processing the sludge in our neighborhood . People actually have signs on there houses opposing this option. A recent Editorial in the Red Hook Star Revue pretty much some up how many of us feel.
http://redhookstar.wordpress.com/2013/03/26/vote-your-disapproval-of-the-epa-plan-for-red-hook-editorial / Please do not put this facility in RedHook ! Thanks Todd Bonne

Surface Archive
347-251-1963
www.surfacearchive.com

Gowanus Superfund Comment
Lisanne M to: Region2 GowanusCanalComments 04/04/2013 05:25 PM

To whom it may concern:

I live one block from the canal on Bond Street. I am highly aware of it's toxicity and I was overjoyed when the EPA decided to Superfund the canal several years ago.

I am now commenting again in favor of cleaning the canal. It is important to me that the work be protected, as described in the Plan, from future contamination of all toxic inputs.

As someone who is living so close by, it is extremely important to me that the work be carried out in a safe manor without truck traffic as described in the Plan. I've been following this issue very closely through the years along with my neighbors. We deserve to live near a body of water that is free from contaminants which would encourage the growth of a healthy eco-system in the canal and reduce our own personal exposure to it's hazzards. It is an important first step for the future of the Gowanus Canal and our neighborhood that surrounds it.

Please clean it as proposed in the plan.

Thank you
Lisanne McTernan
378 Bond St, Brooklyn NY

I, the sender, vote that I do not want this project to proceed.

Carrie McClean to: Region2 GowanusCanalComments 04/04/2013 06:27 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
Carrie McClean
c.mcclean@gmail.com
64 W 9th street apt 2C
Brooklyn, NY
Resident

I, the sender, vote that I do not want this project to proceed.

Oliver Block to: Region2 GowanusCanalComments 04/04/2013 06:29 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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--
Oliver Block
oblock92@gmail.com
486 Columbia street
Brooklyn, ny
resident

I, the sender, vote that I do not want this project to proceed.

Katie Cooper to: Region2 GowanusCanalComments 04/04/2013 06:33 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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--
Katie Cooper
katie@dustinyellin.com
205 Conover St.
Brooklyn, New York
residential, business,

I, the sender, vote that I do not want this project to proceed.
Ben Beinecke to: Region2 GowanusCanalComments 04/04/2013 07:05 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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--
Ben Beinecke
jbeinecke@osiny.org
98 Pioneer St
Brooklyn, NY
Resident

I, the sender, vote that I do not want this project to proceed.

Abbe Hill to: Region2 GowanusCanalComments 04/04/2013 07:05 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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--
Abbe Hill
abbehill7@gmail.com
20 Carroll St
Brooklyn, NY 11231
Resident

I, the sender, vote that I do not want this project to proceed.
Jeff Marks to: Region2 GowanusCanalComments 04/04/2013 07:05 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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--
Jeff Marks
jeffmarks7@gmail.com

I, the sender, vote that I do not want this project to proceed.
Duane Stapp to: Region2 GowanusCanalComments 04/04/2013 07:07 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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--
Duane Stapp
duanestapp@yahoo.com
215 Conover Street
Brooklyn, NY
Resident

I, the sender, vote that I do not want this project to proceed.

Stan Wagner to: Region2 GowanusCanalComments 04/04/2013 07:08 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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--
Stan Wagner
Stan@stanwagner.net

I, the sender, vote that I do not want this project to proceed.

Nadja Paton to: Region2 GowanusCanalComments 04/04/2013 07:09 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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--

Nadja Paton
nadja.paton@gmail.com
249 Van Brunt Street
Brooklyn, NY
Resident

I, the sender, vote that I do not want this project to proceed.

Doug Adesko to: Region2 GowanusCanalComments 04/04/2013 07:17 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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--
Doug Adesko
dadesko@gmail.com
Red Hook, Brooklyn

I, the sender, vote that I do not want this project to proceed.
Christina Mednick to: Region2 GowanusCanalComments 04/04/2013 07:22 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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--
Christina Mednick
Christina.mednick@gmail.com
115 eastern pkwy
Brooklyn , Ny
Resident

I, the sender, vote that I do not want this project to proceed.
Gregory O'Connell Jr. to: Region2 GowanusCanalComments 04/04/2013 07:26 PM

As a Business, Employee, Parks User of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

- Children
- Numerous public and private schools which use the fields for physical education & sports teams
- Residents of the Red Hook Houses and the surrounding neighborhood
- Soccer, softball, baseball, football, handball, basketball, track & field teams and enthusiasts
- Swimmers of all ages
- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
Gregory O'Connell Jr.
gregory@redhookwaterfront.com
175 Van Dyke St.
Brooklyn, NY
Business, Employee, Parks User

I, the sender, vote that I do not want this project to proceed.
Michael Silverman to: Region2 GowanusCanalComments 04/04/2013 07:28 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Swimmers of all ages
- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
Michael Silverman
msilverman.mac@mac.com
333 Lincoln Rd
Brooklyn, NY
Teacher PS15

I, the sender, vote that I do not want this project to proceed.
Rhys Daunic to: Region2 GowanusCanalComments 04/04/2013 07:30 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
Rhys Daunic
red@dtek.net
25 Dikeman St.
Brooklyn, NY
11231

I, the sender, vote that I do not want this project to proceed.
Dionaris henriquez to: Region2 GowanusCanalComments 04/04/2013 07:33 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Swimmers of all ages
- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
Dionaris henriquez
Dionaris_henriquez@aol.com
135 coffey st
brooklyn, NY
resident

I, the sender, vote that I do not want this project to proceed.
Kateri Jochum to: Region2 GowanusCanalComments 04/04/2013 07:33 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
Kateri Jochum
Katerijochum@gmail.com
Resident

I, the sender, vote that I do not want this project to proceed.

Barbara Elovic to: Region2 GowanusCanalComments 04/04/2013 07:53 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- The Red Hook Food vendors and their customers
- Other visitors to our community

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--

Barbara Elovic
elovicb@gmail.com
96 Schermerhorn St., Apt 6A
Brooklyn, NY
resident

Comments on Gowanus Canal Proposed Plan

Jean Bonnes to: Region2 GowanusCanalComments 04/17/2013 11:44 AM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Jean Bonnes

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

While the EPA's plan takes the critical step of calling for CSO retention for two of the Canal's worst outfalls many details will not be solidified until New York City submits their CSO Long Term Control Plan in 2015. It is critical for the EPA to stand firm on requiring retention tanks to control CSOs and to work with New York City towards the eventual goal of 100% elimination of CSOs from the Canal.

I support the EPA's commitment to dredge as much as 10 feet of contaminated sediment from the entire length of the canal, build a multi-layer cap on the bottom, and treat and dispose of this contaminated sediment offsite. I also believe that the EPA should listen to the wishes of the community in Red Hook who oppose the building of a CDF on the Red Hook waterfront to dispose of the least contaminated sediment.

Sincerely,

Ms. Jean Bonnes
120 W 140th St Apt N3t
New York, NY 10030-3437
(646) 340-3035

I, the sender, vote that I do not want this project to proceed.

Amy Helfand to: Region2 GowanusCanalComments 04/17/2013 09:57 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Soccer, softball, baseball, football, handball, basketball, track & field teams and enthusiasts
- Swimmers of all ages
- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--
Amy Helfand
amyhelfand@gmail.com
106 King Street
Brooklyn, NY
resident

I, the sender, vote that I do not want this project to proceed.

elizabeth kiem to: Region2 GowanusCanalComments 04/17/2013 09:31 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--
elizabeth kiem
eckiem@yahoo.com
387 Clinton Street
brooklyn, ny
Resident

Fwd: Statement of Support on the Proposed Superfund Cleanup
joeandlinda393 to: Region2 GowanusCanalComments 04/17/2013 08:43 AM

-----Original Message-----
From: stud <joeandlinda393@aol.com>
To: Tsiamis.Christos <Tsiamis.Christos@epamail.epa.gov>
Sent: Wed, Apr 10, 2013 9:05 pm
Subject: Statement of Support on the Proposed Superfund Cleanup

Superfund Cleanup Plan
To the Superfund Staff Region 2, New York,

I wish to say I have wholeheartedly supported the Superfund for the Gowanus since the Gowanus Canal was nominated to the National Priorities List in 2009. I am a co-founder of FROGG (Friends and Residents Of the Greater Gowanus) .FROGG has worked very hard to bring the nomination to a reality (Superfund Site) in 2010. I am also a member of the CAG since its inception and serve on the Archaeology Committee.

My husband Joseph and I completely support the EPA Superfund Cleanup Plan and hope that by working together we can someday see a clean Gowanus Canal.We have lived in the Gowanus neighborhood since 1976. We have hope that some day the Gowanus Canal will be clean and will support all the wonderful ecological possibilities for the future of our community.The State and the City agencies have ignored us for a hundred and fifty years, finally an agency that CARES about our environment and will FIX it too.

I wish to thank the EPA, Region 2 staff in particular, Christos Tsiamis, Walter Mugdan, Natalie Loney and Brian Carr for their patient and sincere contributions to this Superfund project. I thank the EPA staff for their resolve to find a solution to the problems we face here and their continued dedication and participation with the Gowanus and Red Hook Communities.

Sincerely and Gratefully,

Linda and Joseph Mariano

I, the sender, vote that I do not want this project to proceed.

Rachel Marks to: Region2 GowanusCanalComments 04/17/2013 08:11 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Swimmers of all ages
- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--
Rachel Marks
rmarks910@hotmail.com
245 96th street , Apt f8
brooklyn, NY
employee

I, the sender, vote that I do not want this project to proceed.

Susan Daitch to: Region2 GowanusCanalComments 04/17/2013 07:58 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--
Susan Daitch
sed372@aol.com
372 8th Street, #4R
Brooklyn, NY

Gowanus cleanup
Teresa Solomita to: Region2 GowanusCanalComments 04/17/2013 06:54 AM

Christos Tsiamis
Remedial Project Manager
Central New York Remediation Section
U.S. Environmental Protection Agency
290 Broadway, 20th Floor

New York, New York 10007-1866

As the Proposed Plan Cleanup Plan for the Gowanus Canal establishes methods for removal of contaminated sediments for the entire width and length of the canal, to the depth of clean native sediment, and has identified ways to prevent re-contamination and halt future toxic inputs; I supports the EPA Proposed Plan to clean the Gowanus Superfund site.

I appreciate that the plan will not remove canal sediment by trucking, but will use the water way for this purpose. As the design for this work moves forward, I ask that remediation methods with the lowest carbon-foot-print be employed where possible. I support the constructive use of sediment materials following EPA regulations. And it is important to me that this cleanup plan grant the EPA the necessary authority to insure the sewer overflows do not foul the finished remedy.

I look forward to a finished canal remedy that will make for a healthy community and an environment that will be capable of supporting a vibrant aquatic ecosystem.

Thank you,
Teresa Solomita
32 1st Street
Brooklyn, NY 11231

Sent from my iPad

I, the sender, vote that I do not want this project to proceed.
Keith Staman to: Region2 GowanusCanalComments 04/17/2013 02:36 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--
Keith Staman
mrbothy@gmail.com
219 Ruby St
Lancaster, PA
Parks user

I support the EPA Gowanus Canal Superfund - Red Hook option.

The improvement to an active local maritime industrial business, the economic benefits it will bring, the jobs that it will create, are all important to me and what I believe is best for the majority of the community of Red Hook.

Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community are without harm or risk of such.

Please approve the Red Hook option.

(print)

Dimitrec Londan
first name last name

100 Dwight St GID.
address apt.#

Bklyn. N.Y. NY 11231
city state zip

_____ _____
area code & phone number

_____
email

x _____ 4-17-15
signature date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

RE

I support the EPA Gowanus Canal Superfund - Red Hook option.

The improvement to an active local maritime industrial business, the economic benefits it will bring, the jobs that it will create, are all important to me and what I believe is best for the majority of the community of Red Hook.

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Please approve the Red Hook option.

(print)

RALPH — first name
TAPLEY — last name

38 BUSH St — address
2C — apt.#

Brooklyn — city
N.Y — state
11231 — zip

347-790-3088 — area code & phone number

email

x Ralph Tapley — signature
4/17/13 — date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

R.T.

I support the EPA Gowanus Canal Superfund - Red Hook option.

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Please approve the Red Hook option.

(print)

Daylove (first name) Ashby (last name)

135 Richard st. (address) 4C (apt.#)

Brooklyn (city) NY (state) 11231 (zip)

347 893-6855 (area code & phone number)

(email)

x Daylove Ashby (signature) 4/17/13 (date)

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

A.P.

I support the EPA Gowanus Canal Superfund - Red Hook option.

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Please approve the Red Hook option.

(print)

Beverly Thomas
first name last name

495 Hicks Street 3C
address apt.#

Brooklyn NY 11231
city state zip

347) 493-0611
area code & phone number

email

X Beverly Thomas 4/17/13
signature date

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

R.R.

I support the EPA Gowanus Canal Superfund - Red Hook option.

The improvement to an active local maritime industrial business, the economic benefits it will bring, the jobs that it will create, are all important to me and what I believe is best for the majority of the community of Red Hook.

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Please approve the Red Hook option.

(print)

Derrick (first name) Farrior (last name)

416 Columbia St. (address) I.C. (apt.#)

Brooklyn (city) NY (state) 11231 (zip)

917 662-7938 (area code & phone number)

(email)

X Derrick Farrior (signature) 4-17-13 (date)

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

RR

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Please approve the Red Hook option.

(print)

Jason — first name
Smith — last name

11 Bush Street — address
1A — apt.#

Brooklyn — city
N.Y — state
11231 — zip

718 813-3173 — area code & phone number

IraSmith@gmail — email

x J. Smith — signature
4-17-13 — date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

RR

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Please approve the Red Hook option.

(print)

Laquan — first name
Banks — last name

426 - Columbia St — address
1A — apt.#

Brooklyn — city
NY — state
11231 — zip

1718 343 1823 — area code & phone number

email

x Laquan Banks — signature
4-17-13 — date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

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R.P.

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Please approve the Red Hook option.

(print)

Clinton — first name
Penny — last name

105 - Mill St — address
Apt. 2C — apt.#

Brooklyn — city
N.Y — state
11231 — zip

_____ _____
area code & phone number

_____
email

x Clinton Penny — signature
4-17-13 — date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

RR

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Please approve the Red Hook option.

(print)

Nahisha — first name
McCoy-Freeman — last name

135 Richards St — address
8B — apt.#

Brooklyn — city
NY — state
11231 — zip

718 522-2353 — area code & phone number

nahis7@aol.com — email

x Nahisha McCoy-Freeman — signature
4/17/13 — date

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

RR

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Please approve the Red Hook option.

(print)

Iyffany WATKINS

first name last name

82 DWIGHT St 11B

address apt.#

Bklyn N.Y 11231

city state zip

347 374 7952

area code & phone number

Naytai76@Hotmail

email

x Iyffany Watkins 4.17.13

signature date

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

RR

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Please approve the Red Hook option.

(print)

Melody (first name) Ortiz (last name)

135 Richard St (address) 10G (apt.#)

Brooklyn (city) NY (state) 11231 (zip)

347 4397718 (area code & phone number)

Melody ortiz @ yahoo.com (email)

x Melody Ortiz (signature) 4-17-2013 (date)

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

A.R

I support the EPA Gowanus Canal Superfund - Red Hook option.

The improvement to an active local maritime industrial business, the economic benefits it will bring, the jobs that it will create, are all important to me and what I believe is best for the majority of the community of Red Hook.

Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community are without harm or risk of such.

Please approve the Red Hook option.

(print)

Cheryl — first name

Johnson — last name

450 Columbia St — address

5A — apt.#

BKlyn — city

NY — state

11231 — zip

917 588 3456 — area code & phone number

Cacky1231@gmail.com — email

X _____ — signature

4/17/13 — date

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

RR

I support the EPA Gowanus Canal Superfund - Red Hook option.

The improvement to an active local maritime industrial business, the economic benefits it will bring, the jobs that it will create, are all important to me and what I believe is best for the majority of the community of Red Hook.

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Please approve the Red Hook option.

(print)

Moe — first name
Salem — last name
510 bay Ridge Pkwy — address
apt.#
Brooklyn — city
NY — state
11209 — zip
929 444 0559 — area code & phone number
email
X — signature
4-17-13 — date

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Please approve the Red Hook option.

(print)

Jason Talavera

first name last name

106 Dwight St 1B

address apt.#

Brooklyn NY 11231

city state zip

area code & phone number

Jason Talavera7@yahoo.com

email

X _____ 4/17

signature date

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Please approve the Red Hook option.

(print)

Nichelle (first name) Morgan (last name)

29 Lorraine Street (address) 1C (apt.#)

Bklyn (city) N.Y. (state) 11223 (zip)

347.294.0125 (area code & phone number)

(email)

X (signature) 4/17/13 (date)

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R.R.

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Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community are without harm or risk of such.

Please approve the Red Hook option.

(print)

Mata — first name
Wallace — last name

17 Lorraine St — address
5A — apt.#

Brooklyn — city
NY — state
11231 — zip

347 817-8436 — area code & phone number

Salivlolv@aol.com — email

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4/17/13 — date

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RL

I support the EPA Gowanus Canal Superfund - Red Hook option.

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Please approve the Red Hook option.

(print)

Antonio — first name
SANCHEZ — last name
91 DIKEMAN STREET — address
5 — apt.#
Brooklyn — city
NEW YORK — state
11231 — zip
1(347) 569-2717 — area code & phone number
Goldie4593@yahoo.com — email
x Antonio Sanchez — signature
4/7/13 — date

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R.R.

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Please approve the Red Hook option.

(print)

Tyrone Grant

first name last name

647 willoughby ave 2

address apt.#

Brooklyn NY 11221

city state zip

1-646 765-1364

area code & phone number

email

x Tyrone Grant 4/17/13

signature date

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R.P.

I support the EPA Gowanus Canal Superfund - Red Hook option.

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Please approve the Red Hook option.

(print)

Cipriano — first name
Crespo — last name

754 Henry St — address
4D — apt.#

Brooklyn, N.Y. — city
N.Y. — state
11231 — zip

(718) 596-3090 — area code & phone number

email

x Cipriano Crespo — signature
4/11/13 — date

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R. P.

I support the EPA Gowanus Canal Superfund - Red Hook option.

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Please approve the Red Hook option.

(print)

K-MAR — first name

COLE — last name

1709 PRESIDENT ST — address — apt.#

BKLYN — city

N.Y. — state

11213 — zip

1-347-644-4449 — area code & phone number

email

x K-MAR709@GMAIL.COM 4-17-13

signature — date

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R.P.

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Please approve the Red Hook option.

(print)

Manuel — first name
Olivera — last name

46 Sullivan St — address
5A — apt.#

Brooklyn — city
NY — state
11231 — zip

347 938-7659 — area code & phone number

mannyborras@gmail.com — email

X Manuel Olivera — signature
4/17/13 — date

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R. P.

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Please approve the Red Hook option.

(print)

Luis — first name
Rosario — last name

11 lorraine — address
5E — apt.#

Brooklyn — city
NY — state
11231 — zip

347-987-2849 — area code & phone number

email

x Luis M. Colón Rosario — signature
4/17 — date

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RP

I support the EPA Gowanus Canal Superfund - Red Hook option.

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Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community are without harm or risk of such.

Please approve the Red Hook option.

(print)

ALBERT — first name
ALston — last name

60 Dwight St. — address
8F — apt.#

Brooklyn — city
N Y — state
11231 — zip

(347) 845-3150 — area code & phone number

BigAL05245@AOL.com — email

x albert alston — signature
4/17/13 — date

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E.P.

I support the EPA Gowanus Canal Superfund - Red Hook option.

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Please approve the Red Hook option.

(print)

Rolando — first name
Vazquez — last name

80 Dwight Street — address
29 — apt.#

Brooklyn — city
N.Y. — state
11231 — zip

347 - 955-7842 — area code & phone number

email

X Rolando Vazquez — signature
4/17/2013 — date

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R.R.

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Please approve the Red Hook option.

(print)

Joann (first name) Samuels (last name)

82 Dwight St 7fl (address) (apt.#)

Brooklyn (city) NY (state) 11231 (zip)

(718) 359-3197 (area code & phone number)

(email)

x Joann Samuels (signature) 4/17/13 (date)

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RR

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Please approve the Red Hook option.

(print)

Donnell Bamfield
first name last name

82 Dwight Street 3A
address apt.#

Brooklyn NY 11231
city state zip

(718) 781-7625
area code & phone number

email

x Donnell Bamfield 4-17-13
signature date

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Manhattan, NY 100007-1866

Fax:
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email:
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RR

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Please approve the Red Hook option.

(print)

Leticia Canal — first name

Ramos — last name

135 Richards — address

12E — apt.#

Brooklyn — city

NY — state

11231 — zip

_____ _____
area code & phone number

_____
email

X Leticia Canal Ramos — signature

4/17/13 — date

mail:

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R.R.

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Please approve the Red Hook option.

(print)

Zane Richards

first name | last name

31 Bush Street 2

address | apt.#

Brooklyn NY 11231

city | state | zip

718 875-8505

area code & phone number

zFame17@Gmail.com

email

x Zane Richards 04-17-2013

signature | date

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Please approve the Red Hook option.

(print)

JESSE — first name
FIELDS — last name

9 Lorraine Street — address
1F — apt.#

Brooklyn — city
NY — state
11231 — zip

718-522 5258 — area code & phone number

kwondo27@yahoo.com — email

x Jesse Fields — signature
4/17/13 — date

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RP

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Please approve the Red Hook option.

(print)

DAVEAN — first name
Ricks — last name

15 Bush street — address
1A — apt.#

Brooklyn — city
NY — state
11231 — zip

732 527 - 5688 — area code & phone number

email

xDaveon Ricks — signature
04-17-13 — date

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11

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Please approve the Red Hook option.

(print)

Shawn — first name
Bamfield — last name

82 Dwight Street 3A
address — apt.#

BKLYN, N.Y. N.Y. 11231 —
city — state — zip

1917 287-4173
area code & phone number

email

x Shawn Bamfield 4/17
signature — date

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R.P.

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Please approve the Red Hook option.

(print)

JOHN	LAWTON
first name	last name

450 Columbia St	6B
address	apt.#

BROOKLYN	NY	11231
city	state	zip

917 652-1012
area code & phone number

email

x _____ 4/17/13
signature date

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Please approve the Red Hook option.

(print)

Alberto — first name
Pagan — last name

92 centre Mall — address
5D — apt.#

Brooklyn — city
N.Y. — state
11231 — zip

347.725.8148. — area code & phone number

email

x Albert Pagan. — signature
4/17/2013 — date

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R.P.

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Please approve the Red Hook option.

(print)

Theodore — first name
Cornish — last name

10A Dwight St Bklyn 11231 — address
3B — apt.#

Bklyn — city
N.Y. — state
11231 — zip

347 538 8226 — area code & phone number

email

x Theodore Cornish — signature
4/17/13 — date

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Please approve the Red Hook option.

(print)

Barbara (first name) Scott (last name)

135 Richards St (address) 9C (apt.#)

Brooklyn (city) NY (state) 11231 (zip)

347 893-6855 (area code & phone number)

Barbarajeanscott@yahoo.com (email)

x Barbara Scott (signature) 4-17-13 (date)

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R.R

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Please approve the Red Hook option.

(print)

Lacey (first name) Harrell (last name)

80 Dwight st 3G (address) (apt.#)

Brooklyn (city) N.Y (state) 11231 (zip)

347-952-1238 (area code & phone number)

(email)

x [signature] 4-17-2013 (date)

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R.S.

I support the EPA Gowanus Canal Superfund - Red Hook option.

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Please approve the Red Hook option.

(print)

Naya — first name
Walker — last name
167 Bush St — address
6-C — apt.#
Brooklyn — city
NY — state
11231 — zip
___ ___ — area code & phone number
Myette.Walker@gmail.com — email
x [signature] — signature
4/17/13 — date

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email:
GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

R.P.

I support the EPA Gowanus Canal Superfund - Red Hook option.

The improvement to an active local maritime industrial business, the economic benefits it will bring, the jobs that it will create, are all important to me and what I believe is best for the majority of the community of Red Hook.

Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community are without harm or risk of such.

Please approve the Red Hook option.

(print)

Adele — first name
Rivera — last name

11 Bush St — address
6C — apt.#

Brooklyn — city
NY — state
11231 — zip

347 520 7683 — area code & phone number

AdeRivera33@gmail.com — email

x Adele Rivera — signature
4/17/13 — date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

R.P.

I support the EPA Gowanus Canal Superfund - Red Hook option.

The improvement to an active local maritime industrial business, the economic benefits it will bring, the jobs that it will create, are all important to me and what I believe is best for the majority of the community of Red Hook.

Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community are without harm or risk of such.

Please approve the Red Hook option.

(print)

Dente — first name
Crosby — last name

484 Columbia St — address
1C — apt.#

Brooklyn — city
NY — state
11231 — zip

718 858-9275 — area code & phone number

dentec718@yahoo.com — email

x Dente L Crosby — signature
4/17/13 — date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

R.P.

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Please approve the Red Hook option.

(print)

Quawn Braxton
first name last name

60 Dwight St. 11C
address apt.#

Brooklyn N.Y 11231
city state zip

347 641-4979
area code & phone number

email

x [signature] 4-17-13
signature date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

R.P.

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Please approve the Red Hook option.

(print)

Johnny (first name) Boone (last name)

1550 east New york Ave B (address) 3B (apt.#)

Brooklyn (city) NY (state) 11212 (zip)

347 608-1394 (area code & phone number)

Johnnyboomeglobal@yahoo.com (email)

x Johnny Boone (signature) 4/17/13 (date)

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

R.P.

I support the EPA Gowanus Canal Superfund - Red Hook option.

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Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community are without harm or risk of such.

Please approve the Red Hook option.

(print)

SHELDON Alexander

first name last name

555 Elizabeth Ave 9F

address apt.#

Newark N.J. 07112

city state zip

347 941-7632

area code & phone number

email

x Sheldon Alexander 4/17/13

signature date

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

R.S.

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Please approve the Red Hook option.

(print)

Douglas — first name
Williams — last name

82 Dwight st — address — apt.#

Brooklyn — city
NY — state
11231 — zip

862 279-0280 — area code & phone number

email

x Douglas Williams — signature
4/17/13 — date

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

GowanusCanalComments.Region2@epa.gov

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Please approve the Red Hook option.

(print)

Luz — first name
Martinez — last name

453 Columbia St. — address
6B — apt.#

Bklyn — city
N.Y. — state
11231 — zip

718 596.4361 — area code & phone number

email

x Luz M. Martinez — signature
4/17/13 — date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

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P.P.

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Please approve the Red Hook option.

(print)

Iris ~~Ibarrondo~~ Ibarrondo
first name last name

71-A Visitation Pl. A
address apt.#

Brooklyn N.Y. 11231
city state zip

347 294.4301
area code & phone number

iibarrondo610@gmail.com
email

x Iris Ibarrondo 4/17/13
signature date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

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Please approve the Red Hook option.

(print)

Phillip (first name) Kirksey (last name)

82 Dwight Street (address) (apt.#)

Brooklyn (city) NY (state) 11231 (zip)

347-732-8090 (area code & phone number)

Bklyntainer@aol.com (email)

x Phillip Kirksey (signature) 4/17/13 (date)

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

GowanusCanalComments.Region2@epa.gov

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P.P.

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Please approve the Red Hook option.

(print)

DIANA — first name
HARRIS — last name

38 Bush — address
5A — apt.#

Brooklyn — city
NY — state
11231 — zip

347- 879- 4872 — area code & phone number

hamsdiana87 yahoo.com — email

x Diana Hams — signature
4/17/13 — date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

RHW

I support the EPA Gowanus Canal Superfund - Red Hook option.

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Please approve the Red Hook option.

(print)

NAKESHA (first name) | Williams (last name)

38 Bush St (address) | 5C (apt.#)

BKlyn (city) | N.Y. (state) | 11231 (zip)

(718) 246-0511 (area code & phone number)

Keydigity@aol.com (email)

x Nakesha Williams (signature) | 4/17/13 (date)

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

RH

I support the EPA Gowanus Canal Superfund - Red Hook option.

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Please approve the Red Hook option.

(print)

Jonathan James
first name last name

30 Centre Mall 4-C
address apt.#

Brooklyn NY 11231
city state zip

718 858 5361
area code & phone number

email

x Jonathon James 4/17/2013
signature date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

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RHW

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Please approve the Red Hook option.

(print)

Kevin — first name

Alford — last name

38 Centre mall — address

3E — apt.#

Bklyn — city

NY — state

11231 — zip

_____ _____
area code & phone number

_____
email

x Kevin Alford — signature

4/17/13 — date

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

GowanusCanalComments.Region2@epa.gov

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Please approve the Red Hook option.

(print)

Ernestine Cantrell

first name last name

38 Centre 2F

address apt.#

Brooklyn NY 11231

city state zip

347-529-4565

area code & phone number

email

x Ernestine Cantrell 4-17-13

signature date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

RHW

3. tape this edge closed before mailing

2. Fold along this dotted line second

MS ELSIE A FELDER
135 RICHARDS ST APT 12F
BROOKLYN NY 11231-1629

TRIBORO NY 112
BKLYN-GWB-STATEN ISL
24 APR 2013 PM 6 L

Christos Tsiamis
Project Manager
U.S. Environmental Protection Agency
290 Broadway, 20th floor
New York, NY 10007-1866

10007186699

1. Fold along this dotted line first

April 17, 2013

Christos Tsiamis
Project Manager,
Central New York Remediation Section of the U.S. Environmental Protection Agency
Region 2
290 Broadway, 20th floor
NY, New York 10007-1866
Email: GowanusCanalComments.Region2@epa.gov

Mr. Tsiamis:

I am writing to register my opposition to the currently proposed location for dewatering the toxic sludge resulting from the clean-up of the Gowanus Canal.

I am opposed to any solution which involves stabilizing the sludge on-site and keeping it in Red Hook in any form. I am concerned that the amount of toxicity released into the atmosphere in the dewatering process has not been studied thoroughly and that the sludge processed at this site and transformed into a concrete form (as planned) could leak toxic materials in the future. According to the EPA's own report, "Tests to assess the leachability of NAPL (toxic contaminants)... would need to be performed (on the concrete)... Permanent institutional controls would be required to ensure the long-term effectiveness of this option..." I do not want a site built with materials potentially leaching toxic contaminants near my home and requiring a permanent monitoring facility where I live and breathe.

The estimated $37 million dollar savings for this method does not benefit the community, but rather reduces the expenses of the clean-up for the original polluters. Additionally, this proposal includes the building of additional waterfront bulkhead land for a private entity, which, by their own admission, has not been thoroughly vetted or designed. I am concerned that once this project is in motion, the requests and the needs of the community will be lost as a private developer seeks to increase profit with no benefit to the community. It appears that all parties in this plan stand to benefit in some way from storing this material in Red Hook, with the very notable exception of the residents.

The EPA has a list of remedies that involve processing and containment of dredged material off-site for beneficial use such as the capping of existing landfill sites, I urge the EPA to select any option that involves off-site processing and off-site disposal.

Thank You,

Elaine Fulder
135 Richards St
Brklyn, NY 11231

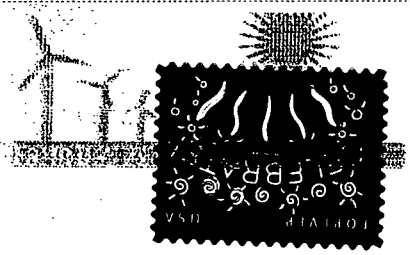
please sign and also print your name.

3. tape this edge closed before mailing

2. Fold along this dotted line second

return address:

TRIBORO NY 112
BKLYN-QNS-STATEN ISL
25 APR 2013 PM 5 L



Christos Tsiamis
Project Manager
U.S. Environmental Protection Agency
290 Broadway, 20th floor
New York, NY 10007-1866

10007$1866

1. Fold along this dotted line first

April 17, 2013

Christos Tsiamis
Project Manager,
Central New York Remediation Section of the U.S. Environmental Protection Agency
Region 2
290 Broadway, 20th floor
NY, New York 10007-1866
Email: GowanusCanalComments.Region2@epa.gov

Mr. Tsiamis:

I am writing to register my opposition to the currently proposed location for dewatering the toxic sludge resulting from the clean-up of the Gowanus Canal.

I am opposed to any solution which involves stabilizing the sludge on-site and keeping it in Red Hook in any form. I am concerned that the amount of toxicity released into the atmosphere in the dewatering process has not been studied thoroughly and that the sludge processed at this site and transformed into a concrete form (as planned) could leak toxic materials in the future. According to the EPA's own report, "Tests to assess the leachability of NAPL (toxic contaminants)... would need to be performed (on the concrete)... Permanent institutional controls would be required to ensure the long-term effectiveness of this option..." I do not want a site built with materials potentially leaching toxic contaminants near my home and requiring a permanent monitoring facility where I live and breathe.

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Thank You,

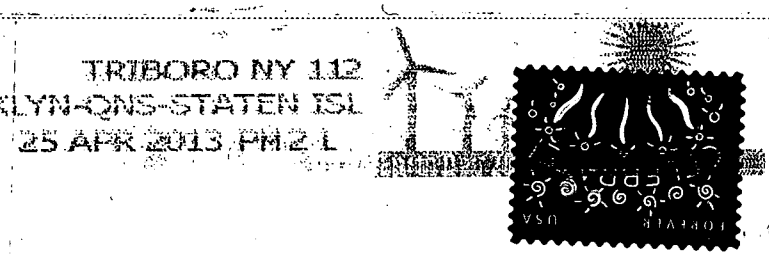
Lorraine Barrett

please sign and also print your name.

3. tape this edge closed before mailing

2. Fold along this dotted line second

return address:



Christos Tsiamis
Project Manager
U.S. Environmental Protection Agency
290 Broadway, 20th floor
New York, NY 10007-1866

1. Fold along this dotted line first

April 17, 2013

Christos Tsiamis
Project Manager,
Central New York Remediation Section of the U.S. Environmental Protection Agency
Region 2
290 Broadway, 20th floor
NY, New York 10007-1866
Email: GowanusCanalComments.Region2@epa.gov

Mr. Tsiamis:

I am writing to register my opposition to the currently proposed location for dewatering the toxic sludge resulting from the clean-up of the Gowanus Canal.

I am opposed to any solution which involves stabilizing the sludge on-site and keeping it in Red Hook in any form. I am concerned that the amount of toxicity released into the atmosphere in the dewatering process has not been studied thoroughly and that the sludge processed at this site and transformed into a concrete form (as planned) could leak toxic materials in the future. According to the EPA's own report, "Tests to assess the leachability of NAPL (toxic contaminants)... would need to be performed (on the concrete)... Permanent institutional controls would be required to ensure the long-term effectiveness of this option..." I do not want a site built with materials potentially leaching toxic contaminants near my home and requiring a permanent monitoring facility where I live and breathe.

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Thank You,

Ralph Balzano

please sign and also print your name.

3. tape this edge closed before mailing

2. Fold along this dotted line second

return address:

TRIBORO NY 112
BKLYN-QNS-STATEN ISL
25 APR 2013 PM 3 L

Christos Tsiamis
Project Manager
U.S. Environmental Protection Agency
290 Broadway, 20th floor
New York, NY 10007-1866

1000718669

1. Fold along this dotted line first

April 17, 2013

Christos Tsiamis
Project Manager,
Central New York Remediation Section of the U.S. Environmental Protection Agency
Region 2
290 Broadway, 20th floor
NY, New York 10007-1866
Email: GowanusCanalComments.Region2@epa.gov

Mr. Tsiamis:

I am writing to register my opposition to the currently proposed location for dewatering the toxic sludge resulting from the clean-up of the Gowanus Canal.

I am opposed to any solution which involves stabilizing the sludge on-site and keeping it in Red Hook in any form. I am concerned that the amount of toxicity released into the atmosphere in the dewatering process has not been studied thoroughly and that the sludge processed at this site and transformed into a concrete form (as planned) could leak toxic materials in the future. According to the EPA's own report, "Tests to assess the leachability of NAPL (toxic contaminants)... would need to be performed (on the concrete)... Permanent institutional controls would be required to ensure the long-term effectiveness of this option..." I do not want a site built with materials potentially leaching toxic contaminants near my home and requiring a permanent monitoring facility where I live and breathe.

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Thank You, Sal Meglio

please sign and also print your name.

3. tape this edge closed before mailing

2. Fold along this dotted line second

return address:

TRIBORO NY 112
E...Y-QNS-STATEN ISL
2[illegible] APR 2013 PM 3 L

Christos Tsiamis
Project Manager
U.S. Environmental Protection Agency
290 Broadway, 20th floor
New York, NY 10007-1866

10007166699

1. Fold along this dotted line first

April 17, 2013

Christos Tsiamis
Project Manager,
Central New York Remediation Section of the U.S. Environmental Protection Agency
Region 2
290 Broadway, 20th floor
NY, New York 10007-1866
Email: GowanusCanalComments.Region2@epa.gov

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Thank You,

Rose Meglio

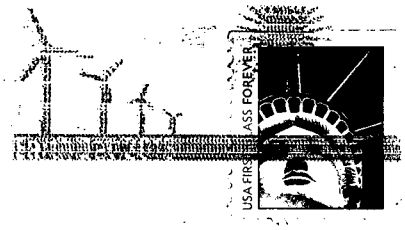
please sign and also print your name.

3. tape this edge closed before mailing

2. Fold along this dotted line second

return address:
5 DELEVAN ST. 4T
BROOKLYN, NY
11231

TRENTON NY 112
BKLYN-QNS-STATEN ISL
25 APR 2013 PM 2 L



Christos Tsiamis
Project Manager
U.S. Environmental Protection Agency
290 Broadway, 20th floor
New York, NY 10007-1866

1000718669

1. Fold along this dotted line first

Robin Kenney

April 17, 2013

Christos Tsiamis
Project Manager,
Central New York Remediation Section of the U.S. Environmental Protection Agency
Region 2
290 Broadway, 20th floor
NY, New York 10007-1866
Email: GowanusCanalComments.Region2@epa.gov

Mr. Tsiamis:

I am writing to register my opposition to the currently proposed location for dewatering the toxic sludge resulting from the clean-up of the Gowanus Canal.

I am opposed to any solution which involves stabilizing the sludge on-site and keeping it in Red Hook in any form. I am concerned that the amount of toxicity released into the atmosphere in the dewatering process has not been studied thoroughly and that the sludge processed at this site and transformed into a concrete form (as planned) could leak toxic materials in the future. According to the EPA's own report, "Tests to assess the leachability of NAPL (toxic contaminants)... would need to be performed (on the concrete)... Permanent institutional controls would be required to ensure the long-term effectiveness of this option..." I do not want a site built with materials potentially leaching toxic contaminants near my home and requiring a permanent monitoring facility where I live and breathe.

The estimated $37 million dollar savings for this method does not benefit the community, but rather reduces the expenses of the clean-up for the original polluters. Additionally, this proposal includes the building of additional waterfront bulkhead land for a private entity, which, by their own admission, has not been thoroughly vetted or designed. I am concerned that once this project is in motion, the requests and the needs of the community will be lost as a private developer seeks to increase profit with no benefit to the community. It appears that all parties in this plan stand to benefit in some way from storing this material in Red Hook, with the very notable exception of the residents.

The EPA has a list of remedies that involve processing and containment of dredged material off-site for beneficial use such as the capping of existing landfill sites, I urge the EPA to select any option that involves off-site processing and off-site disposal.

Thank You,

ROBIN KENNEDY
R Kennedy

please sign and also print your name.

April 17, 2013

Christos Tsiamis
Project Manager,
Central New York Remediation Section of the U.S. Environmental Protection Agency
Region 2
290 Broadway, 20th floor
NY, New York 10007-1866
Email: GowanusCanalComments.Region2@epa.gov

Mr. Tsiamis:

I am writing to register my opposition to the currently proposed location for dewatering the toxic sludge resulting from the clean-up of the Gowanus Canal.

I am opposed to any solution which involves stabilizing the sludge on-site and keeping it in Red Hook in any form. I am concerned that the amount of toxicity released into the atmosphere in the dewatering process has not been studied thoroughly and that the sludge processed at this site and transformed into a concrete form (as planned) could leak toxic materials in the future. According to the EPA's own report, "Tests to assess the leachability of NAPL (toxic contaminants)... would need to be performed (on the concrete)... Permanent institutional controls would be required to ensure the long-term effectiveness of this option..." I do not want a site built with materials potentially leaching toxic contaminants near my home and requiring a permanent monitoring facility where I live and breathe.

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The EPA has a list of remedies that involve processing and containment of dredged material off-site for beneficial use such as the capping of existing landfill sites, I urge the EPA to select any option that involves off-site processing and off-site disposal.

Thank You,

Drew Perri

DREW PERRI

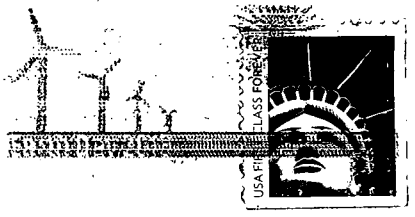
please sign and also print your name.

3. tape this edge closed before mailing

2. Fold along this dotted line second

return address:
DREW PERRIN
414 VANBRUNT ST
APT 1F
BROOKLYN, NY 11231

TRADCRD NY 112
BKLYN-QNS-STATEN ISL
25 APR 2013 PM 2 L



Christos Tsiamis
Project Manager
U.S. Environmental Protection Agency
290 Broadway, 20th floor
New York, NY 10007-1866

10007186699

1. Fold along this dotted line first

I, the sender, vote that I do not want this project to proceed.
Anthony Serrano to: Region2 GowanusCanalComments 04/16/2013 12:35 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

- Children
- Numerous public and private schools which use the fields for physical education & sports teams
- Residents of the Red Hook Houses and the surrounding neighborhood
- Soccer, softball, baseball, football, handball, basketball, track & field teams and enthusiasts
- Swimmers of all ages
- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--
Anthony Serrano
anthony7392@aol.com
44 Coffey Street
Brooklyn, NY
resident

I, the sender, vote that I do not want this project to proceed.

Gillian Kane to: Region2 GowanusCanalComments 04/16/2013 06:01 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--
Gillian Kane
gillian_kane@hotmail.com
156 Conover st
Brooklyn, NY
resident

I, the sender, vote that I do not want this project to proceed.

Cheyenna Weber to: Region2 GowanusCanalComments 04/16/2013 08:39 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Other visitors to our community

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--
Cheyenna Weber
cheyennawebernyc@gmail.com
302 Butler St. #4
Brooklyn, NY
Resident displaced by Sandy

I, the sender, vote that I do not want this project to proceed.
Karen Broughton to: Region2 GowanusCanalComments 04/16/2013 09:47 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--
Karen Broughton
karyn.broughton@yahoo.com
9 Lorraine Street, Apt. 3D
Brooklyn, NY
Resident

I, the sender, vote that I do not want this project to proceed.

John Alatsis to: Region2 GowanusCanalComments 04/16/2013 10:16 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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--

John Alatsis
NYCfireSprinkler@aol.com
166 Dikeman Street
Brooklyn , NY 11231
John's Plumbing and Heating Inc.

I, the sender, vote that I do not want this project to proceed.

richard byrnes to: Region2 GowanusCanalComments 04/16/2013 10:30 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--
richard byrnes
richardbyrnes@hotmail.com
427 columbia street
brooklyn, ny
residence

I, the sender, vote that I do not want this project to proceed.

Gina Gatto to: Region2 GowanusCanalComments 04/16/2013 10:37 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--
Gina Gatto
gina.gatto@gmail.com
116 Wolcott Street
Brooklyn, NY
Resident

I, the sender, vote that I do not want this project to proceed.
mia wiesenthal to: Region2 GowanusCanalComments 04/16/2013 10:55 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--
mia wiesenthal
miaferrera@gmail.com
64 dupont street #2R
brooklyn, ny
residential

I, the sender, vote that I do not want this project to proceed.

Christopher Tsanos to: Region2 GowanusCanalComments 04/16/2013 11:25 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--
Christopher Tsanos
catsanos@earthlink.net
217 conover st
brooklyn, NY
Resident

I, the sender, vote that I do not want this project to proceed.

Ben Blackshear to: Region2 GowanusCanalComments 04/16/2013 11:47 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--

Ben Blackshear
bblacksh@middlebury.edu
488 4th Ave Apt #3R
Brooklyn, NY
Park User

I, the sender, vote that I do not want this project to proceed.

LISA BRANDON HOLLEY to: Region2 GowanusCanalComments 04/16/2013 01:03 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--
LISA BRANDON HOLLEY
brandon_holley@condenast.com
42 DIKEMAN STREET
BROOKLYN , NY
11231

I, the sender, vote that I do not want this project to proceed.

eve vaterlaus to: Region2 GowanusCanalComments 04/16/2013 01:15 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--
eve vaterlaus
eve@evevaterlaus.com
ny
resident

I, the sender, vote that I do not want this project to proceed.

Elizabeth Houston to: Region2 GowanusCanalComments 04/16/2013 01:25 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--
Elizabeth Houston
elizabeth.houston@gmail.com
100 Madison Street, Apt. 3
New York, NY
Resident

I, the sender, vote that I do not want this project to proceed.

Emily Ruane to: Region2 GowanusCanalComments 04/16/2013 01:29 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--
Emily Ruane
emilyruane@gmail.com
282 S. 2nd Street, Apt. 3B
Brooklyn, NY
Parks user

I, the sender, vote that I do not want this project to proceed.
EUGENE HICKS to: Region2 GowanusCanalComments 04/16/2013 01:59 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--
EUGENE HICKS
GENEHICKS1@GMAIL.COM
709 PRESIDENT ST
BROOKLYN, NY
APT 1

I, the sender, vote that I do not want this project to proceed.

Cara Campenni to: Region2 GowanusCanalComments 04/16/2013 02:05 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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--
Cara Campenni
c.campenni@gmail.com
854 Manhattan Ave
Brooklyn, NY
residenent

I, the sender, vote that I do not want this project to proceed.
Elisabeth Vastola to: Region2 GowanusCanalComments 04/16/2013 02:08 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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--
Elisabeth Vastola
ejv2101@gmail.com
3335 State St
Brooklyn, NY
Resident

I, the sender, vote that I do not want this project to proceed.
Ruth Hardinger to: Region2 GowanusCanalComments 04/16/2013 02:31 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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--
Ruth Hardinger
oaxaca@bellatlantic.net
20 N Moore St
New York, NY 10013
resident

I, the sender, vote that I do not want this project to proceed.
Hayley Black to: Region2 GowanusCanalComments 04/16/2013 02:31 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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--
Hayley Black
hayleyb@hayleyblackvintage.com
Dikeman St
Brooklyn, NY
RESIDENT

I, the sender, vote that I do not want this project to proceed.

Patrick Katz to: Region2 GowanusCanalComments 04/16/2013 03:13 PM

As a resident of the community of Red Hook, I am strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--
Patrick Katz
patrickhoustonkatz@gmail.com
19 Delevan St.
Brooklyn, NY
Resident

I, the sender, vote that I do not want this project to proceed.

Cecelia Sanchez to: Region2 GowanusCanalComments 04/16/2013 03:16 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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--
Cecelia Sanchez
cecechez@gmail.com
140 77th Street
Brooklyn, NY
Resident

I, the sender, vote that I do not want this project to proceed.

Tyler Berry to: Region2 GowanusCanalComments 04/16/2013 04:02 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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--
Tyler Berry
tymberry@gmail.com
100 President St
Brooklyn, NY
Resident

Gowanus Canal, Brooklyn, NY Superfund Site Remediation
Elfreud to: Region2 GowanusCanalComments 04/16/2013 04:03 PM

GowanusCanalComments.Region2@epa.gov

Christos Tsiamis
Remedial Project Manager
Central New York Remediation Section
U.S. Environmental Protection Agency
290 Broadway, 20th Floor

New York, New York 10007-1866

As the Proposed Plan Cleanup Plan for the Gowanus Canal establishes methods for removal of contaminated sediments for the entire width and length of the canal, to the depth of clean native sediment, and has identified ways to prevent re-contamination and halt future toxic inputs; I supports the EPA Proposed Plan to clean the Gowanus Superfund site.

I appreciate that the plan will not remove canal sediment by trucking, but will use the water way for this purpose. As the design for this work moves forward, I ask that remediation methods with the lowest carbon-foot-print be employed where possible. I support the constructive use of sediment materials following EPA regulations. And it is important to me that this cleanup plan grant the EPA the necessary authority to insure the sewer overflows do not foul the finished remedy.

I look forward to a finished canal remedy that will make for a healthy community.

Edgar Freud, P. E.
Radiation Surveys
305 west 72 street, suite 8B
New York, NY 10023-2678
Elfreud@aol.com
212-877-4394

I, the sender, vote that I do not want this project to proceed.

Carolyn Rogalsky to: Region2 GowanusCanalComments 04/16/2013 04:57 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

- Children
- Numerous public and private schools which use the fields for physical education & sports teams
- Residents of the Red Hook Houses and the surrounding neighborhood
- Soccer, softball, baseball, football, handball, basketball, track & field teams and enthusiasts
- Swimmers of all ages
- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--

Carolyn Rogalsky
crogalsky@aol.com
103 Pioneer Street
Brooklyn, NY
work & home

I, the sender, vote that I do not want this project to proceed.

James Williams to: Region2 GowanusCanalComments 04/16/2013 04:58 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--
James Williams
wzzbzz@gmail.com
202 W 9th Street
Brooklyn, NY
11231

I, the sender, vote that I do not want this project to proceed.
siobhan towey to: Region2 GowanusCanalComments 04/16/2013 05:08 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--
siobhan towey
siobhan.towey@gmail.com
33 Washington Street
Brooklyn, NY
business

I, the sender, vote that I do not want this project to proceed.

Marisol Truitt to: Region2 GowanusCanalComments 04/16/2013 05:15 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--
Marisol Truitt
marisol_truitt@yahoo.com
17 Lorraine St
Brooklyn, N.Y, 11231
Resident

I, the sender, vote that I do not want this project to proceed.

Anthony Sanchez to: Region2 GowanusCanalComments 04/16/2013 05:19 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--

Anthony Sanchez
phdflyer@aol.com
140 77th Street
Brooklyn, NY
Resident

I, the sender, vote that I do not want this project to proceed.
Wylie Goodman to: Region2 GowanusCanalComments 04/16/2013 05:19 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--
Wylie Goodman
c8q7h0k@gmail.com
311 Columbia Street
Brooklyn, NY
Resident

I, the sender, vote that I do not want this project to proceed.
Donna Morgan to: Region2 GowanusCanalComments 04/16/2013 05:21 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--
Donna Morgan
jpdjmorgan@verizon.net
1 Tiffany Place
Brooklyn, NY
11231

I, the sender, vote that I do not want this project to proceed.

James Morgan to: Region2 GowanusCanalComments 04/16/2013 05:22 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--
James Morgan
jmorgan22@nyc.rr.com
One Tiffany Place
Brooklyn, NY

Comments on Gowanus Canal Project
Gary Nickerson to: Region2 GowanusCanalComments 04/16/2013 05:23 PM

Christos Tsiamis
Remedial Project Manager
Central New York Remediation Section
U.S. Environmental Protection Agency
290 Broadway, 20th Floor

New York, New York 10007-1866

As the Proposed Plan Cleanup Plan for the Gowanus Canal establishes methods for removal of contaminated sediments for the entire width and length of the canal, to the depth of clean native sediment, and has identified ways to prevent re-contamination and halt future toxic inputs; I support the EPA Proposed Plan to clean the Gowanus Superfund site.

I appreciate that the plan will not remove canal sediment by trucking, but will use the water way for this purpose. As the design for this work moves forward, I ask that remediation methods with the lowest carbon-foot-print be employed where possible. I support the constructive use of sediment materials following EPA regulations. And it is important to me that this cleanup plan grant the EPA the necessary authority to insure the sewer overflows do not foul the finished remedy.

I look forward to a finished canal remedy that will make for a healthy community.

Gary

Gary W. Nickerson
95 Park Terrace East, #3C
New York, NY 10034
phone: 212.866.1312

Please do not print this email unless you really need to. Thanks.

I, the sender, vote that I do not want this project to proceed.

Jennifer Wheary to: Region2 GowanusCanalComments 04/16/2013 05:28 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--
Jennifer Wheary
whearyjm@yahoo.com
42 Tiffany Pl
Brooklyn, Ny
Resident

I, the sender, vote that I do not want this project to proceed.

terrence truitt to: Region2 GowanusCanalComments 04/16/2013 05:33 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--
terrence truitt
terrence.truitt@gmail.com
17 lorraine st
brooklyn, new york
residence

from resident of Gowanus area
carol milano to: Region2 GowanusCanalComments 04/16/2013 05:36 PM
Please respond to milanocarol

Christos Tsiamis
Remedial Project Manager
Central New York Remediation Section
U.S. Environmental Protection Agency
290 Broadway, 20th Floor

New York, New York 10007-1866

Dear Mr. Tsiamis,

The Proposed Cleanup Plan establishes methods for removal of contaminated sediments for the entire width and length of the Gowanus Canal, to the depth of clean native sediment, and has identified ways to prevent re-contamination and halt future toxic inputs. I support the EPA Proposed Plan to clean the Gowanus Superfund site.

I understand that the plan will not remove canal sediment by trucking, but will use the waterway for this purpose. As the design for this work moves forward, I ask that remediation methods with the lowest carbon-foot-print be employed where possible. I support the constructive use of sediment materials following EPA regulations. It's important to me that this cleanup plan grant the EPA the necessary authority to insure the sewer overflows do not foul the finished remedy.

I look forward to a finished canal remedy that will make for a healthy community and an environment that will be capable of supporting a vibrant aquatic ecosystem.

Thank you,
Carol Milano
652 Carroll St
Brooklyn NY 11215

I, the sender, vote that I do not want this project to proceed.

james grimaldi to: Region2 GowanusCanalComments 04/16/2013 05:39 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--
james grimaldi
jrgrimaldi@aol.com
291 Van Brunt Street
Brooklyn, New York 11231
Real Estate Owner

I, the sender, vote that I do not want this project to proceed.

matt hickman to: Region2 GowanusCanalComments 04/16/2013 05:59 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--
matt hickman
mattyhick@gmail.com
143 Pioneer St
Brooklyn, NY
resident

I, the sender, vote that I do not want this project to proceed.

Dylan Efinger to: Region2 GowanusCanalComments 04/16/2013 06:13 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--
Dylan Efinger
edynomite@gmail.com
Sackett Street
New York City , New York / New York
Resident (Child)

I, the sender, vote that I do not want this project to proceed.

Judith O'Driscoll to: Region2 GowanusCanalComments 04/16/2013 06:43 PM

As a frequent user of the Red Hook ballfields, running track, and pool, I am strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--

Judith O'Driscoll
tojufi@verizon.net
101 Clark Street 30D
Brooklyn, NY 11201
Red Hook Fields User

I, the sender, vote that I do not want this project to proceed.

Crystal Rivera to: Region2 GowanusCanalComments 04/16/2013 06:52 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--
Crystal Rivera
cryz313@gmail.com
55 Rutgers Street
NY, NY

I, the sender, vote that I do not want this project to proceed.

Katharine Berkowitz to: Region2 GowanusCanalComments 04/16/2013 06:55 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--
Katharine Berkowitz
kittaylorb@gmail.com
82 Pioneer Street
Brooklyn , NY
house

I support the EPA plan
Enid Braun to: Region2 GowanusCanalComments 04/16/2013 07:13 PM

Christos Tsiamis
Remedial Project Manager
Central New York Remediation Section
U.S. Environmental Protection Agency
290 Broadway, 20th Floor

New York, New York 10007-1866

Dear Mr. Tsiamis,

I support the Proposed Clean-up Plan for the Gowanus Canal. I am a former resident of the area with many friends still in the bordering neighborhoods. Removing contaminated sediments from the entire canal and the recommendations that will prevent further toxins entering the canal will benefit human health and allow a restoration of the aquatic ecosystem of the waterway.

Additionally, the community needs to know that the good work that will be done in the Clean-up Plan will grant the EPA authority to prescribe guidelines that must be put in place to prevent future CSOs.

Sincerely,
Enid Braun
116 Adelphi Street
Brooklyn, NY 11205

I, the sender, vote that I do not want this project to proceed.

Erin Behan to: Region2 GowanusCanalComments 04/16/2013 07:57 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--
Erin Behan
erin.behan@gmail.com
260 President St, 3
Brooklyn, NY
resident

I, the sender, vote that I do not want this project to proceed.

Jason Adams to: Region2 GowanusCanalComments 04/16/2013 08:10 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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--
Jason Adams
jasonpeteradams@gmail.com
382 Van Brunt Street
Brooklyn, NY
11231

Public comment about the Gowanus Canal

J Dieckmann to: Region2 GowanusCanalComments 04/16/2013 08:10 PM

History: This message has been replied to.

Christos Tsiamis
Remedial Project Manager
Central New York Remediation Section
U.S. Environmental Protection Agency
290 Broadway, 20th Floor

New York, New York 10007-1866

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I look forward to a finished canal remedy that will make for a healthy community and an environment that will be capable of supporting a vibrant aquatic ecosystem.

Thank you,
Judith Dieckmann

I, the sender, vote that I do not want this project to proceed.

Leslie Murray to: Region2 GowanusCanalComments 04/16/2013 08:11 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--
Leslie Murray
Murray.lesliemurray@gmail.com
25 Luquer
Brooklyn, Ny
Resident

I, the sender, vote that I do not want this project to proceed.

Katie Murray to: Region2 GowanusCanalComments 04/16/2013 08:53 PM

History: This message has been replied to.

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--
Katie Murray
murray.katie@gmail.com

I, the sender, vote that I do not want this project to proceed.

Tyler Schultz to: Region2 GowanusCanalComments 04/16/2013 08:53 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--
Tyler Schultz
denaschultz@aol.com
44 Coffey Street
Brooklyn, NY
resident

I, the sender, vote that I do not want this project to proceed.

William Newsome to: Region2 GowanusCanalComments 04/16/2013 09:58 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Swimmers of all ages
- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--
William Newsome
newsomeww@gmail.com
newsomeww@gmail.com
Brooklyn , NY
Resident

No on the CDF Option

Edward Williams to: Region2 GowanusCanalComments 04/16/2013 10:22 PM

Dear EPA,

I am a fairly new resident of Redhook. I moved here about 2 years ago. I live and work in the neighborhood. Wanted to write and express my opposition to the proposed CDF that is mentioned in the Gowanus superfund cleanup proposal.

http://www.epa.gov/region2/superfund/npl/gowanus/pdf/gowanus_prap.pdf

I grew up in Southwestern Colorado. Radioactive uranium waste was and still is a part of the history, the landscape, and the lives of a lot of people in that area. The town I grew up in was one of the sites that the DOE worked to clean up in the 1980s. We used to believe that uranium talings were perfectly safe. Heck, we even used to thing asbestos was perfectly safe. But our understanding of the world around us and our place in that world and our effect on that world is alwas changing. Thing is, there really is no way to just make something like radioactive tailings disappear. Even after the clean up we will always have to ask ourselves what next? What do we do with this stuff now? Same thing goes for Gowanus sludge. It will never really go away.

Even when the clean up is done with the best of intentions, if the material we are working with is not safe, there is always a chance that something can go wrong. No matter what you do to stabilize it. Even when the stuff is dealt with in the safest possible way based on our most informed, most thorough current understanding of the pollutants, there is always the possibility that some harmful outcome was not accounted for. And the benefits of storing the waste here aren't worth the risk of harming even one person. Much less an area as populated as Redhook.

There really is no perfect solution to cleaning up something like the sludge in the Gowanus canal. But stabilizing that material and using it as landfill in Redhook seems like a terrible idea. Even if according to everything we know now it would be perfectly safe. I am not sure that there is a good solution, but the CDF is not even close to the best of the bad solutions. It is not something I want in my new backyard. It isn't something people should have to live next to, work work next to, and spend the next few decades or more monitoring in case something goes wrong. Or, even worse, something that is just forgotten about. Until the next time we have to clean it up.

Thanks for taking the time to read this.

Ed

I, the sender, vote that I do not want this project to proceed.
Tevina Willis to: Region2 GowanusCanalComments 04/16/2013 10:35 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--
Tevina Willis
tevina.willis@yahoo.com
80 Dwight Street, 7f
Brooklyn, New York
Resident

Re: Gowanus Canal

Perksmagic to: Region2 GowanusCanalComments 04/16/2013 11:06 PM

I live in red hook west I was at the meeting tonight and people were saying red hook projects people need jobs, they do need jobs but not at the risk of hurting and losing friends and family. Jobs with benefits are rare these days and if they worked at your job they will need these benefits your offering and more.

I say no to your proposal and thanks for asking.

from,
Henrietta Perkins
Perksmagic@aol.com

I was told your company has been doing this for decade now,
care to share where some of these polluted area's are?

April 17, 2013

Christos Tsiamis
Project Manager,
Central New York Remediation Section of the U.S. Environmental Protection Agency
Region 2
290 Broadway, 20th floor
NY, New York 10007-1866
Email: GowanusCanalComments.Region2@epa.gov

Mr. Tsiamis:

I am writing to register my opposition to the currently proposed location for dewatering the toxic sludge resulting from the clean-up of the Gowanus Canal.

I am opposed to any solution which involves stabilizing the sludge on-site and keeping it in Red Hook in any form. I am concerned that the amount of toxicity released into the atmosphere in the dewatering process has not been studied thoroughly and that the sludge processed at this site and transformed into a concrete form (as planned) could leak toxic materials in the future. According to the EPA's own report, "Tests to assess the leachability of NAPL (toxic contaminants)... would need to be performed (on the concrete)... Permanent institutional controls would be required to ensure the long-term effectiveness of this option..." I do not want a site built with materials potentially leaching toxic contaminants near my home and requiring a permanent monitoring facility where I live and breathe.

The estimated $37 million dollar savings for this method does not benefit the community, but rather reduces the expenses of the clean-up for the original polluters. Additionally, this proposal includes the building of additional waterfront bulkhead land for a private entity, which, by their own admission, has not been thoroughly vetted or designed. I am concerned that once this project is in motion, the requests and the needs of the community will be lost as a private developer seeks to increase profit with no benefit to the community. It appears that all parties in this plan stand to benefit in some way from storing this material in Red Hook, with the very notable exception of the residents.

The EPA has a list of remedies that involve processing and containment of dredged material off-site for beneficial use such as the capping of existing landfill sites, I urge the EPA to select any option that involves off-site processing and off-site disposal.

Thank You,

Anette Amendola

please sign and also print your name.

3. tape this edge closed before mailing

2. Fold along this dotted line second

return address:

TRIBORO NY 112
BRLYN-QNS-STATEN ISL
25 APR 2013 PM 2 L

Christos Tsiamis
Project Manager
U.S. Environmental Protection Agency
290 Broadway, 20th floor
New York, NY 10007-1866

1000718669 9

1. Fold along this dotted line first

WDI Workforce Development Institute

96 South Swan Street
Albany, NY 12210

Tel: 518.463.2141
Fax: 518.432.5609
www.wdiny.org

April 11, 2013

Mr. Christos Tsiamis
Project Manager
Centro New York Remediation Section
U.S. Environmental Protection Agency
290 Broadway, 20th Floor
New York, NY 10007-1866

Re: Comment about cleanup plan for Gowanus Canal Superfund site

Dear Mr. Tsiamis:

I appreciate the opportunity to comment on the proposed cleanup plan for the Gowanus Canal.

The Workforce Development Institute, which is a statewide non-profit committed to helping working families, sees the cleanup of contaminants in the Gowanus Canal as an opportunity to generate economic development along that waterway, while improving the lives of residents in the Canal's proximity. In considering the proposal for cleanup, I hope that the Environmental Protection Agency takes into account the potential local workforce impact of the cleanup. Let me explain.

Across the country businesses are encouraged to move into a region, often with government incentives and infrastructure improvements. These businesses need skilled workers. As an illustration, about a decade ago, the Metropolitan Transportation Authority (MTA) awarded a contract for rail cars to Kawasaki, in Yonkers. Without a workforce impact statement as part of the bid, Kawasaki decided regional workers did not have the skills required to fulfill the terms of the contract. Rather than working with regional employers, Workforce Investment Boards (WIBs), state agencies, schools, unions and training providers to develop the appropriate skills, Kawasaki brought workers in from Japan under special visas. These temporary workers came, worked and brought their skills home with them.

With the above example in mind, WDI supports the notion that any public funds used for cleanup of the Canal be used to strengthen the local skill base. In the same way that Environmental Impact Statements are frequently required for local building projects, I am suggesting that plans associated with this cleanup include a provision that

contractors work with local agencies, including schools, unions and other training providers to train as many local workers as possible. This is particularly important in an area with a composite New York City unemployment rate that is over nine percent; Brooklyn is at 10.7 percent and the Bronx 13.4 percent.

The language I am proposing is:

"In order to foster New York job creation, hire unemployed workers and build a foundation for a stronger regional economy, Requests for Proposals (RFP) or similar procurement instruments for cleanup of the Gowanus Canal that involve public funds require the applicant to submit a Workforce Impact Statement (WIS). This Impact Statement must identify the workforce skills needed to accomplish the purpose of the procurement or grant, include an applicable skills inventory of workers available within a 50 mile radius of the project, and a strategy for hiring or retraining workers to meet the demands of the project. The training strategy will include an inventory of strategic partners within the region and their proposed role in addressing the workforce demands of the project."

This language asks those responsible for the cleanup to directly pay attention to local jobs. Where the required skills do not exist, local workforce agencies can assist, where practicable, to acquire the needed training.

I am available to discuss this concept further.

Sincerely,

Ed Murphy
Executive Director

To: Christos Tsiamis, Remedial Program Manager

April 11, 2013

Central New York Remediation Section

US Environmental Protection Agency, Region 2

290 Broadway, 20th Floor

New York, NY 10007-1866

Comments on the Proposed Remedial Action Plan for the Gowanus Canal Superfund Site:

As the Proposed Plan establishes methods for removal of contaminated sediments for the entire width of the canal to the depth of clean native sediment, to permanently cover whatever might remain and has identified ways to prevent recontamination and halt future toxic inputs, I strongly support the EPA Proposed Plan to clean the Gowanus Canal Superfund site.

It is a great plan, congratulations to the EPA!

Sincerely,

Irene Van Slyke
206 Bergen St
Brooklyn NY 11217

To: Christos Tsiamis, Remedial Program Manager 4-11-13

Central New York Remediation Section

US Environmental Protection Agency, Region 2

290 Broadway, 20th Floor

New York, NY 10007-1866

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Sincerely,

Richard Van Slyke
206 Bergen St
Brooklyn NY 11217

To: Christos Tsiamis, Remedial Program Manager

11 April 2013

Central New York Remediation Section

US Environmental Protection Agency, Region 2

290 Broadway, 20th Floor

New York, NY 10007-1866

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Sincerely,

Edgar L. Freud

305 West 72 Street 8B

New York, NY 10023-2678

ELfreud@aol.com

April 11, 2013

To: Christos Tsiamis, Remedial Program Manager

Central New York Remediation Section

US Environmental Protection Agency, Region 2

290 Broadway, 20th Floor

New York, NY 10007-1866

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Sincerely,

Olive Frend
305 West 72nd St
NYC 10023
212 877 4394

To: Christos Tsiamis, Remedial Program Manager

April 11/2013

Central New York Remediation Section

US Environmental Protection Agency, Region 2

290 Broadway, 20th Floor

New York, NY 10007-1866

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Sincerely,

Martha Cameron
696 President St
Brooklyn NY 11215

To: Christos Tsiamis, Remedial Program Manager

9/11/13

Central New York Remediation Section

US Environmental Protection Agency, Region 2

290 Broadway, 20th Floor

New York, NY 10007-1866

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Sincerely,

CLARE DONOHUE
513 COLUMBUS AVE
NY NY 10025

To: Christos Tsiamis, Remedial Program Manager

Apr. 11, 2013

Central New York Remediation Section

US Environmental Protection Agency, Region 2

290 Broadway, 20th Floor

New York, NY 10007-1866

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I don't live in Brooklyn, but when I visit friends there I sometimes walk over or near the Gowanus Canal. I would like to see it cleaned at least to the extent in the Proposed Plan.

Sincerely,

James M. Lane

James M. Lane
70 Zabriskie St. #2
Jersey City, NJ 07307
JamesMLane@aol.com

4/11/13

To: Christos Tsiamis, Remedial Program Manager

Central New York Remediation Section

US Environmental Protection Agency, Region 2

290 Broadway, 20th Floor

New York, NY 10007-1866

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Sincerely,

KEN BAER
91 6th AVENUE
BROOKLYN, N.Y. 11217

04/1/13

To: Christos Tsiamis, Remedial Program Manager

Central New York Remediation Section

US Environmental Protection Agency, Region 2

290 Broadway, 20th Floor

New York, NY 10007-1866

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Sincerely,

505 Laguardia Pl
NY NY 10012

Alan Gerson

Support for EPA Gowanus Canal Clean-up.
Sarah Gallagher to: Region2 GowanusCanalComments 04/11/2013 12:24 AM

Ladies/Gentlemen:

I heartily support all that is proposed by the EPA for the Gowanus Canal clean-up, especially the retention tank system to address any Combined Sewer Overflows.

Most sincerely,

Sarah Woodside Gallagher
1136 First Avenue
New York,. Ne York 10065

I, the sender, vote that I do not want this project to proceed.

James Confalone to: Region2 GowanusCanalComments 04/11/2013 11:31 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--
James Confalone
Jconfalone@yahoo.com
123 Coffey St #1
Brooklyn, NY
Resident

I, the sender, vote that I do not want this project to proceed.

Arielle Meier to: Region2 GowanusCanalComments 04/11/2013 11:58 AM

History: This message has been replied to.

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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--
Arielle Meier
arielle.meier@gmail.com
resident

I, the sender, vote that I do not want this project to proceed.

Kyle Phaneuf to: Region2 GowanusCanalComments 04/11/2013 12:34 PM

As a resident of the community of Red Hook, I am strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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--

Kyle Phaneuf
plosion35@yahoo.com
9 West 9th St.
Brooklyn, NY
Resident

I, the sender, vote that I do not want this project to proceed.

Vivian Slaughter to: Region2 GowanusCanalComments 04/11/2013 01:14 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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--
Vivian Slaughter
Vivianna486@yahoo.com
486 Columbia street
Brooklyn, NY
Resident

I, the sender, vote that I do not want this project to proceed.

david fernandez to: Region2 GowanusCanalComments 04/11/2013 01:20 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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--
david fernandez
davefern147@yahoo.com
20 dikeman street
brooklyn, NY
resident

I, the sender, vote that I do not want this project to proceed.

Edith Stone to: Region2 GowanusCanalComments 04/11/2013 02:55 PM

History: This message has been replied to.

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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--
Edith Stone
Stone.edie@gmail.com

I, the sender, vote that I do not want this project to proceed.

J'Naire Rogers to: Region2 GowanusCanalComments 04/11/2013 04:32 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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--

J'Naire Rogers
jnakolrogers@gmail.com
89 Avenue C
New York, New York
park user

I, the sender, vote that I do not want this project to proceed.
Valerie Chisholm to: Region2 GowanusCanalComments 04/11/2013 08:47 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--
Valerie Chisholm
valeriefeingold@gmail.com
30 Huntington St apt 1L
Brooklyn, NY
Resident

I, the sender, vote that I do not want this project to proceed.
Melicia Pristell to: Region2 GowanusCanalComments 04/11/2013 09:08 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Other visitors to our community

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--
Melicia Pristell
mlcpristell@yahoo.com
428 Columbia Street
Brooklyn , New York
Resident

To: Christos Tsiamis, Remedial Program Manager 4/12/13

Central New York Remediation Section

US Environmental Protection Agency, Region 2

290 Broadway, 20th Floor

New York, NY 10007-1866

Comments on the Proposed Remedial Action Plan for the Gowanus Canal Superfund Site:

As the Proposed Plan establishes methods for removal of contaminated sediments for the entire width of the canal to the depth of clean native sediment, to permanently cover whatever might remain and has identified ways to prevent recontamination and halt future toxic inputs, I strongly support the EPA Proposed Plan to clean the Gowanus Canal Superfund site.

Sincerely,

M. MOORHEAD
PO BOX 195
NEW YORK, N.Y. 10113-0195
917-923-2118

I support the EPA Gowanus Canal Superfund - Red Hook option.

The improvement to an active local maritime industrial business, the economic benefits it will bring, the jobs that it will create, are all important to me and what I believe is best for the majority of the community of Red Hook.

Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community is without harm or risk of such.

Please approve the Red Hook option.

(print)

VERA ESMUNDSON

first name last name

135 R. Clark St

address apt.#

Brooklyn NY 11231

city state zip

area code & phone number

email

x Vera Esmundson 4/12/13

signature date

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

RHa

I support the EPA Gowanus Canal Superfund - Red Hook option.

The improvement to an active local maritime industrial business, the economic benefits it will bring, the jobs that it will create, are all important to the community of Red Hook.

Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community are without harm or risk of such.

Please approve the Red Hook option.

(please print)

GAIL (first name) Pressley (last name)

493 Columbia (address) 1E (apt.#)

Brkyn (city) N.Y (state) 11231 (zip)

347-549-7517 (area code & phone number)

(email)

x Gail Pressley (signature) 4/12/13 (date)

mail to:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email to:

GowanusCanalComments.Region2@epa.gov
cc:
info@GowanusBayTerminal.com

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013 DEADLINE*

RHW

Gowanus Canal
Hal Smith to: Region2 GowanusCanalComments 04/12/2013 04:48 PM

I strongly support the EPA Proposed Plan to clean the Gowanus Superfund site because the Plan establishes methods for removal of contaminated sediments for the entire width of the canal to the depth of clean native sediment, to permanently and impermeably cover whatever might remain, and has identified ways to prevent re-contamination and halt future toxic inputs.

Hal Smith
205-B Garrett Rd
Windsor, NY 13865

I, the sender, vote that I do not want this project to proceed.

Jean Shin to: Region2 GowanusCanalComments 04/12/2013 07:36 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

- Children
- Numerous public and private schools which use the fields for physical education & sports teams
- Residents of the Red Hook Houses and the surrounding neighborhood
- Soccer, softball, baseball, football, handball, basketball, track & field teams and enthusiasts
- Swimmers of all ages
- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--
Jean Shin
Jeanshin99@gmail.com
156 Conover Street #1
Brooklyn, 11231
Business

I, the sender, vote that I do not want this project to proceed.
Ramona Kohrs to: Region2 GowanusCanalComments 04/12/2013 07:55 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

- Children
- Numerous public and private schools which use the fields for physical education & sports teams
- Residents of the Red Hook Houses and the surrounding neighborhood
- Soccer, softball, baseball, football, handball, basketball, track & field teams and enthusiasts
- Swimmers of all ages
- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--
Ramona Kohrs
kohrs@un.org
brooklyn, 11215
resident/neighbor

I, the sender, vote that I do not want this project to proceed.
Lauren Merkin to: Region2 GowanusCanalComments 04/12/2013 09:24 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Numerous public and private schools which use the fields for physical education & sports teams
- Residents of the Red Hook Houses and the surrounding neighborhood
- Soccer, softball, baseball, football, handball, basketball, track & field teams and enthusiasts
- Swimmers of all ages
- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--
Lauren Merkin
Lwmerkin@gmail.com
42 Tiffany Place #5c
Brooklyn, Ny
Resident

NEW YORK ART FOUNDRY INC. 63 9th Street, Building # 37 BROOKLYN N.Y. ~~11231~~ 11215

4/13/13

EPA
290 Broadway
20th Floor
NY NY 10007

Dear Christos Triamis,

I am writing you regarding the proposed Gowanus Canal EPA Superfund Plan

I own The New York Art Foundry, a small manufacturing business along the Gowanus Canal in Brooklyn.
My neighbors are also mostly small manufacturing businesses.
We were hit very hard by 6' tidal waters from Hurricane Sandy and also endured flooding last year from Hurricane Irene.

Fortunately we received federal funding to rebuild our business.

I am writing in regards to the EPA plan to begin dredging the Gowanus Canal. The plan was created before the interruption of businesses from the flooding from Hurricane Sandy.

I strongly recommend that the dredging and disruption of the bottom of one of the most toxic water ways in this country be put on hold for two years while they evaluate weather patterns and the likelihood of severely toxic silt entering homes and business along the Gowanus Canal if we are flooded.

Our company was able to rebuild from the high tidal water of Hurricane Sandy, but ~~this~~ building and all the shops and business along the Canal will certainly be quarantined if we're inundated with toxic sludge from a hurricane while they are dredging.

I am appalled that the EPA thinks a good plan for our community is to dredge the canal for 4 years -filling and running barges from the Gowanus Canal to Red Hook. The plan calls for the discharge of the toxic sludge along a beautiful park called 'The Ball Fields' in Red Hook. It is one of the largest parks in New York City, used from early spring to fall by hundreds of soccer and baseball teams. Also at this site is a beautiful Olympic sized pool used all summer by families in Park slope, Brooklyn Heights, and Carroll Gardens, Red Hook etc. Families of all races stand in long lines starting in early summer to use this wonderful pool. It's a Brooklyn past time to visit the Red Hook pool and then have picnic lunches at the park across the street.

What are legislators thinking?
Not only is this the site of an important recreation area, but also has everyone already forgotten that Hurricane Sandy turned the main street of Red Hook into an extension of the East River just 7 months ago?
Van Brunt became in a 4-foot deep estuary of the east River. If another hurricane should hit our shores again, not only will Red Hook be flooded, but also toxic sludge will most certainly inundate the shores of from this proposed facility.

Paige Tooker
Notoxicredhook.com
Info@newyorkartfoundryinc.com
718 704 6954

I support the Red Hook Option of the EPA Gowanus Canal Superfund cleanup.

The improvement to an active local maritime industrial business, the economic benefits it will bring, the jobs that it will create, are all important to me and what I believe is best for the majority of the community of Red Hook.

Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community are without harm or risk of such.

Please approve the Red Hook option.

(print)

Carmen — first name
Roman — last name

31 Centre Mall — address
#6C — apt.#

Brooklyn — city
N.Y. — state
11231 — zip

area code & phone number

email

I am 18 years of age or older

X Carmen Roman — sign
4-13-13 — date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212.637.3966

email:
GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

I, the sender, vote that I do not want this project to proceed.
Krystal Lopez to: Region2 GowanusCanalComments 04/13/2013 07:14 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Residents of the Red Hook Houses and the surrounding neighborhood
- Soccer, softball, baseball, football, handball, basketball, track & field teams and enthusiasts
- Swimmers of all ages
- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--
Krystal Lopez
Klopez213@gmail.com
Sackett st
Brooklyn, New York
Resident

I, the sender, vote that I do not want this project to proceed.
Laura Gallahue to: Region2 GowanusCanalComments 04/13/2013 11:44 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Soccer, softball, baseball, football, handball, basketball, track & field teams and enthusiasts
- Swimmers of all ages
- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--
Laura Gallahue
Egallahue@NYC.rr.com
33 Douglass Street
Brooklyn, Ny
Resident

I, the sender, vote that I do not want this project to proceed.

Adele Andrade to: Region2 GowanusCanalComments 04/13/2013 12:01 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Numerous public and private schools which use the fields for physical education & sports teams
- Residents of the Red Hook Houses and the surrounding neighborhood
- Soccer, softball, baseball, football, handball, basketball, track & field teams and enthusiasts
- Swimmers of all ages
- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--
Adele Andrade
adelea74@gmail.com
372 van brunt street
Brooklyn, Ny
Resident

The Gowanus Canal Super fund plan
Foundry New York Foundry New York 04/13/2013 09:08 PM
To: Region2 GowanusCanalComments

I own The New York Art Foundry, a small manufacturing business in the Gowanus area of Brooklyn. My neighbors are also mostly small manufacturing business

For the last two years hurricanes have brought high tides into our shops. In 2011 Hurricane Irene brought in six inches of water , 7 months ago hurricane Sandy brought 6 foot of tidal Gowanus canal water into our shop. Tidal waters broke through our doors and came through our walls . When the tide went out , our equipment and projects in production were ruined from the salt water.
Fortunately the Federal Government approved a small business disaster loan for us for a 150,000 to help us rebuild.

I am writing in regards to the EPA plan to begin dredging the Gowanus Canal. The plan was created before the interruption of businesses from the flooding from the Gowanus Canal.
I strongly recommend that the dredging and disruption of the bottom of one of the most toxic water ways in this country be put on hold for two year while they evaluate the circumstances o f severely toxic silt and
mud entering homes and business along the Gowanus Canal.
Our company was able to rebuild from the high tidal water. But this building and all the shops and business along the Canal will certainly be quarantined if inundated with toxic sludge from a hurricane while they are dredging.

I am appalled that the EPA thinks a good plan for our community is to dredge the canal for 4 years filling and running barges from the Gowanus Canal to Red Hook . The plan calls for the discharge of the toxic sludge along a beautiful park called 'The Ball Fields' in Red Hook . It is one of the largest parks in New York City , used from early spring to fall by thousands of soccer and baseball teams . Also at this site is a beautiful olympic sized pool used all summer by families in Park slope, Brooklyn Heights, and Carroll Gardens, Red Hook etc . Families of all races stand in long lines starting in early summer to use this wonderful pool. Its a Brooklyn past time to visit the Red Hook pool and then have picnic lunches at the park across the street.

Not only is this the site of an important recreation area, has everyone already forgotten that Hurricane Sandy turned the main Street of Red Hook int an extension of the East River just 7 months ago!?.
Van Brunt became in a 4 foot deep estuary of the east River. If another hurricane should hit our shores again, toxic waste will most certainly inundate the shores of Red Hook from this proposed facility.
Please help us!
Paige Tooker
notoxicredhook.com
Info@newyorkartfoundryinc.com

I support the EPA Gowanus Canal Superfund - Red Hook option.

The improvement to an active local maritime industrial business, the economic benefits it will bring, the jobs that it will create, are all important to me and what I believe is best for the majority of the community of Red Hook.

Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community is without harm or risk of such.

Please approve the Red Hook option.

(print)

Michael — first name
Sumpter — last name

496 Columbia St — address
3A — apt.#

B'klyn — city
N.Y. — state
11231 — zip

718 934-0791 — area code & phone number

Michael Sumpter1359 Gmail.com — email

X _____ — signature
4/14/13 — date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

RHV

I support the EPA Gowanus Canal Superfund - Red Hook option.

The improvement to an active local maritime industrial business, the economic benefits it will bring, the jobs that it will create, are all important to me and what I believe is best for the majority of the community of Red Hook.

Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community is without harm or risk of such.

Please approve the Red Hook option.

(print)

Michelle (first name) Eaddy (last name)

453 Columbia street (address) 2C (apt.#)

Brooklyn (city) NY (state) 11231 (zip)

516 220-4367 (area code & phone number)

Michelle.eaddy13@stjohns.edu (email)

x [signature] 4/14/2013 (date)

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

RHw

I support the EPA Gowanus Canal Superfund - Red Hook option.

The improvement to an active local maritime industrial business, the economic benefits it will bring, the jobs that it will create, are all important to me and what I believe is best for the majority of the community of Red Hook.

Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community is without harm or risk of such.

Please approve the Red Hook option.

(print)

Anthony (first name) WATSON (last name)

450 Columbia St (address) 1B (apt.#)

BROOKLYN (city) N.Y. (state) 11231 (zip)

917 668-5951 (area code & phone number)

ANTHONYWBROO@AOL (email)

x Anthony Watson (signature) 4-14-13 (date)

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

RHW

I support the EPA Gowanus Canal Superfund - Red Hook option.

The improvement to an active local maritime industrial business, the economic benefits it will bring, the jobs that it will create, are all important to me and what I believe is best for the majority of the community of Red Hook.

Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community is without harm or risk of such.

Please approve the Red Hook option.

(print)

Bernadetha Curry

first name | last name

426 Columbia St 4A

address | apt.#

Brklyn | NY | 11231

city | state | zip

718 852 2151

area code & phone number

email

x Bernadetha Curry 4/14/13

signature | date

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

RHW

I support the EPA Gowanus Canal Superfund - Red Hook option.

The improvement to an active local maritime industrial business, the economic benefits it will bring, the jobs that it will create, are all important to me and what I believe is best for the majority of the community of Red Hook.

Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community is without harm or risk of such.

Please approve the Red Hook option.

(print)

Ronald ~~Brown~~ Brown
first name last name

428 Columbia St [redacted] 2C
address apt.#

BKLNY NY 11231
city state zip

1347-835-5706
area code & phone number

email

x Ronald Brown 4-14-13
signature date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

RBw

I support the EPA Gowanus Canal Superfund - Red Hook option.

The improvement to an active local maritime industrial business, the economic benefits it will bring, the jobs that it will create, are all important to me and what I believe is best for the majority of the community of Red Hook.

Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community is without harm or risk of such.

Please approve the Red Hook option.

(print)

VERNON — first name
BARTEE JR. — last name

341-10 ST — address
16C — apt.#

B'KLYN — city
N.Y. — state
11215 — zip

347-760-7373
area code & phone number

email

x Vernon L Bartee — signature
4-14-13 — date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

RHW

I support the EPA Gowanus Canal Superfund - Red Hook option.

The improvement to an active local maritime industrial business, the economic benefits it will bring, the jobs that it will create, are all important to me and what I believe is best for the majority of the community of Red Hook.

Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community are without harm or risk of such.

Please approve the Red Hook option.

(print)

Jimmy (first name) Reed (last name)

450 Columbia (address) 2A (apt.#)

Brklyn (city) NY (state) 11231 (zip)

_____
area code & phone number

_____
email

x Jimmy Reed (signature) 2-14-13 (date)

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

RHW

I support the EPA Gowanus Canal Superfund - Red Hook option.

The improvement to an active local maritime industrial business, the economic benefits it will bring, the jobs that it will create, are all important to me and what I believe is best for the majority of the community of Red Hook.

Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community is without harm or risk of such.

Please approve the Red Hook option.

(print)

Ellamae — first name
Harden — last name

124 Bush St — address
4D — apt.#

Bklyn — city
N.Y — state
11231 — zip

718 522-3165 — area code & phone number

email

x Ellamae Harden — signature
4-14-2013 — date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

RHW

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Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community is without harm or risk of such.

Please approve the Red Hook option.

(print)

Mary — first name
Mann — last name
70 Bush St — address
5B — apt.#
Brooklyn — city
NY — state
11231 — zip
1-718-8527236 — area code & phone number
email

x Mary Mann — signature
4-14-13 — date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

RHW

"SAY NO TO A TOXIC RED HOOK"

WWW.NOTOXICREDHOOK.COM

AS A (CIRCLE ONE) RESIDENT BUSINESS / EMPLOYEE OR USER OF THE PARKS AND RECREATIONAL FACILITIES WITHIN RED HOOK, I AM/WE ARE STRONGLY OPPOSED TO THE PROCESSING OF TOXIC SLUDGE DREDGED FROM THE GOWANUS CANAL SUPERFUND CLEANUP SITE AT A FACILITY PROPOSED TO BE BUILT RIGHT NEXT TO THE RED HOOK BALL FIELDS AND POOL ON PROPERTY OWNED BY AN INDIVIDUAL WHO HAS INCURRED SERIOUS FINES FOR ENVIRONMENTAL VIOLATIONS IN THE PAST. IT IS THE WRONG SITE FOR THIS IMPORTANT FACILITY.

SIGNATURE(S)/DATE:

4/14/2013

ADDRESS:

14 Verona St. #3A, Brooklyn NY

[Allison Reeves + Michael Prettyman]

TO:

Christos Tsiamis
Central New York Remediation Section
U.S. Environmental Protection Agency
290 Broadway, 20th Floor
New York, New York
10007-1866

SAY NO TO A TOXIC RED HOOK

WWW.NOTOXICREDHOOK.COM

I, the sender, vote that I do not want this project to proceed.

Yong Shin to: Region2 GowanusCanalComments 04/14/2013 01:37 AM

History: This message has been replied to.

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--
Yong Shin
Supyongshin@gmail.com

I, the sender, vote that I do not want this project to proceed.
julieta capote to: Region2 GowanusCanalComments 04/14/2013 10:58 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--
julieta capote
julietacpt@gmail.com
87 lorraine street
brooklyn, ny
resident

I, the sender, vote that I do not want this project to proceed.

Alexander Chen to: Region2 GowanusCanalComments 04/14/2013 11:37 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--
Alexander Chen
alex@chenalexander.com
164 Coffey St #1
Brooklyn, NY
11231

I, the sender, vote that I do not want this project to proceed.

Alice Jones to: Region2 GowanusCanalComments 04/14/2013 12:26 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--

Alice Jones
alice.h.jones@gmail.com
19 Carroll St 2F
Brooklyn, NY
resident, parks user

I, the sender, vote that I do not want this project to proceed.

Andrew Karp to: Region2 GowanusCanalComments 04/14/2013 01:43 PM

History: This message has been replied to.

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Soccer, softball, baseball, football, handball, basketball, track & field teams and enthusiasts
- Swimmers of all ages
- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--
Andrew Karp
karp.andrew@gmail.com
Resident

I, the sender, vote that I do not want this project to proceed.

Elizabeth West to: Region2 GowanusCanalComments 04/14/2013 05:29 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--
Elizabeth West
etwest@gmail.com
453 36th Street, #2
Brooklyn, NY
11232

I, the sender, vote that I do not want this project to proceed.

Alison Filosa to: Region2 GowanusCanalComments 04/14/2013 05:34 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--

Alison Filosa
ajfilosa@gmail.com
253 Kingsland Avenue Apt. 2R
Brooklyn, NY 11222
Parks User

I, the sender, vote that I do not want this project to proceed.

Brindalyn Chen to: Region2 GowanusCanalComments 04/14/2013 07:41 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--
Brindalyn Chen
brin.webster@gmail.com
164 Coffey St #1
Brooklyn, NY
11231

I, the sender, vote that I do not want this project to proceed.
Monika Haar to: Region2 GowanusCanalComments 04/14/2013 08:20 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--
Monika Haar
Haarmonika@gmail.com
10 Coles st.
Brooklyn, Ny
Resident

I, the sender, vote that I do not want this project to proceed.

Stacy Rosenstock to: Region2 GowanusCanalComments 04/15/2013 01:18 AM

History: This message has been replied to.

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--
Stacy Rosenstock
Stacy@impactdigitals.com
Parks user

I support the EPA Gowanus Canal Superfund - Red Hook option.

The improvement to an active local maritime industrial business, the economic benefits it will bring, the jobs that it will create, are all important to me and what I believe is best for the majority of the community of Red Hook.

Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community is without harm or risk of such.

Please approve the Red Hook option.

(print)

Roxanne Byard — first name

Byard — last name

428 Columbia St — address

6C — apt.#

Brooklyn, N.Y. — city

N.Y — state

11231 — zip

(718) 858-1029 — area code & phone number

email

x Roxanne Byard — signature

4/15/13 — date

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

RHW

I support the EPA Gowanus Canal Superfund - Red Hook option.

The improvement to an active local maritime industrial business, the economic benefits it will bring, the jobs that it will create, are all important to me and what I believe is best for the majority of the community of Red Hook.

Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community is without harm or risk of such.

Please approve the Red Hook option.

(print)

Stephanie (first name) Pitts (last name)

30 Centre Mall (address) 3A (apt.#)

Brooklyn (city) N.Y (state) 11231 (zip)

718-855-1874 (area code & phone number)

StephanePitts30@yahoo.com (email)

x Stephanie Pitts (signature) 4/15/13 (date)

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

RHW

"SAY NO TO A TOXIC RED HOOK"

WWW.NOTOXICREDHOOK.COM

AS A (CIRCLE ONE) RESIDENT, BUSINESS / EMPLOYEE OR USER OF THE PARKS AND RECREATIONAL FACILITIES WITHIN RED HOOK, I AM/ WE ARE STRONGLY OPPOSED TO THE PROCESSING OF TOXIC SLUDGE DREDGED FROM THE GOWANUS CANAL SUPERFUND CLEANUP SITE AT A FACILITY PROPOSED TO BE BUILT RIGHT NEXT TO THE RED HOOK BALL FIELDS AND POOL ON PROPERTY OWNED BY AN INDIVIDUAL WHO HAS INCURRED SERIOUS FINES FOR ENVIRONMENTAL VIOLATIONS IN THE PAST. IT IS THE WRONG SITE FOR THIS IMPORTANT FACILITY.

SIGNATURE(S)/DATE:

Jessie Rosenstock

ADDRESS:

Jessie Rosenstock
171 Thompson St #7
NYC 10012

TO:

Christos Tsiamis
Central New York Remediation Section
U.S. Environmental Protection Agency
290 Broadway, 20th Floor
New York, New York
10007-1866

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SIGNATURE(S)/DATE:

Valerie Shwartzberg

ADDRESS:

18-11 Madison Street 1R
Ridgewood NY

TO:

Christos Tsiamis
Central New York Remediation Section
U.S. Environmental Protection Agency
290 Broadway, 20th Floor
New York, New York
10007-1866

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SIGNATURE(S)/DATE: Bob Biondi 4/05/13

ADDRESS:

106 Ferris 11231
Brooklyn NY

TO:

Christos Tsiamis
Central New York Remediation Section
U.S. Environmental Protection Agency
290 Broadway, 20th Floor
New York, New York
10007-1866

"SAY NO TO A TOXIC RED HOOK"

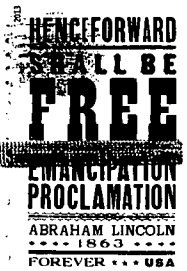
WWW.NOTOXICREDHOOK.COM

AS A (CIRCLE ONE) RESIDENT BUSINESS / EMPLOYEE OR USER OF THE PARKS AND RECREATIONAL FACILITIES WITHIN RED HOOK, I AM/ WE ARE STRONGLY OPPOSED TO THE PROCESSING OF TOXIC SLUDGE DREDGED FROM THE GOWANUS CANAL SUPERFUND CLEANUP SITE AT A FACILITY PROPOSED TO BE BUILT RIGHT NEXT TO THE RED HOOK BALL FIELDS AND POOL ON PROPERTY OWNED BY AN INDIVIDUAL WHO HAS INCURRED SERIOUS FINES FOR ENVIRONMENTAL VIOLATIONS IN THE PAST. IT IS THE WRONG SITE FOR THIS IMPORTANT FACILITY.

SIGNATURE(S)/DATE: JAMES MARTIN 4/15/13

ADDRESS:

64 W 9th ST APT 2D
BROOKLYN NY
11231



TO:

Christos Tsiamis
Central New York Remediation Section
U.S. Environmental Protection Agency
290 Broadway, 20th Floor
New York, New York
10007-1866

SAY NO TO A TOXIC RED HOOK

WWW.NOTOXICREDHOOK.COM

I, the sender, vote that I do not want this project to proceed.

bjork gudmundsdottir to: Region2 GowanusCanalComments 04/15/2013 07:47 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Soccer, softball, baseball, football, handball, basketball, track & field teams and enthusiasts
- Swimmers of all ages
- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--
bjork gudmundsdottir
0eyru0@gmail.com
160 henry street
brooklyn, new york
resident

I, the sender, vote that I do not want this project to proceed.
David Ruder to: Region2 GowanusCanalComments 04/15/2013 08:38 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--
David Ruder
rudered@gmail.com
Brooklyn, NY
Parks User

I, the sender, vote that I do not want this project to proceed.

stefan zarember to: Region2 GowanusCanalComments 04/15/2013 10:04 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--
stefan zarember
stefan@arnellconstruction.com
56-58 van dyke street
brooklyn, ny
mixed use

I, the sender, vote that I do not want this project to proceed.
Daniel Arnow to: Region2 GowanusCanalComments 04/15/2013 10:39 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--
Daniel Arnow
danielarnow@gmail.com
156 Conover Street
Brooklyn, NY
Property Owner

I, the sender, vote that I do not want this project to proceed.

Ryan McManus to: Region2 GowanusCanalComments 04/15/2013 11:00 AM

As Supporter of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--

Ryan McManus
Ryantomorrow@me.com
371a Greene ave
Brooklyn, NY
Supporter

I, the sender, vote that I do not want this project to proceed.
Kristen Levine to: Region2 GowanusCanalComments 04/15/2013 11:15 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--
Kristen Levine
kmpl19@yahoo.com
223 Columbia Street
Brooklyn, NY
resident

I, the sender, vote that I do not want this project to proceed.

sheila watts to: Region2 GowanusCanalComments 04/15/2013 12:16 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--
sheila watts
swatts@uarts.edu
2013 fitzwater st
philadelphia, pa
resident

I, the sender, vote that I do not want this project to proceed.

Robert Friedman to: Region2 GowanusCanalComments 04/15/2013 12:58 PM

As a resident of the community of Red Hook, I am strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project. I have personal experience in with several of these violations as a former employee of Riverkeeper, where we continually dealt with Quadrozzi's facilities' cement leakage violations on Newtown Creek in North Brooklyn.

--
Robert Friedman
Friedman.rh@gmail.com
577 Hicks Street
Brooklyn, NY
Resident

cleaning the Gowanus Superfund site
Lorna Clark to: Region2 GowanusCanalComments 04/15/2013 02:34 PM

To whom it may concern:

I support the Superfund Cleanup and the EPA's proposed methods for cleaning this Gowanus Superfund site. It is important to me that the work be protected, as described in the Plan, from future contamination of all toxic inputs. It is also important to me that the work be carried out in a safe manner and without truck traffic as described in the Plan. I ask that the work be accomplished with the lowest possible carbon foot print as carbon output is contributing to climate change conditions this area is facing.

Sincerely,

Lorna Clark
Park Slope Brooklyn resident

I, the sender, vote that I do not want this project to proceed.

Jessica Schoen to: Region2 GowanusCanalComments 04/15/2013 05:00 PM

As a resident of Brooklyn near Red Hook, I am strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--
Jessica Schoen
schoenjessica@gmail.com
570 Henry Street
Brooklyn, NY
Resident

I, the sender, vote that I do not want this project to proceed.
Bonnie Kruft to: Region2 GowanusCanalComments 04/15/2013 06:48 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--
Bonnie Kruft
bonnie.kruft@gmail.com
138 Dikeman St Apt 1
Brooklyn, NY
Resident

I, the sender, vote that I do not want this project to proceed.
Christina LaPrease to: Region2 GowanusCanalComments 04/15/2013 09:41 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--
Christina LaPrease
laprease@gmail.com
114 King Street, 1R
Brooklyn, NY
11231

I, the sender, vote that I do not want this project to proceed.

Tim O'Sullivan to: Region2 GowanusCanalComments 04/15/2013 09:42 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--
Tim O'Sullivan
tdosullivan@hotmail.com
114 King Street, #1R
Brooklyn, NY
Resident

I, the sender, vote that I do not want this project to proceed.

Kristina Mukendi to: Region2 GowanusCanalComments 04/15/2013 09:55 PM

History: This message has been replied to.

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--
Kristina Mukendi
krismukendi89@gmail.com

I, the sender, vote that I do not want this project to proceed.
William Peeler to: Region2 GowanusCanalComments 04/15/2013 10:06 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--
William Peeler
Peelerwilliam85@gmail.com
Dikeman street
Brooklyn, Ny
Residence

I, the sender, vote that I do not want this project to proceed.

Julie Mishkin to: Region2 GowanusCanalComments 04/15/2013 10:24 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

- Children
- Numerous public and private schools which use the fields for physical education & sports teams
- Residents of the Red Hook Houses and the surrounding neighborhood
- Soccer, softball, baseball, football, handball, basketball, track & field teams and enthusiasts
- Swimmers of all ages
- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--
Julie Mishkin
juliemishkin@gmail.com
3009 McComas Avenue
Kensington, MD
park user

I, the sender, vote that I do not want this project to proceed.

Aaron Maninang to: Region2 GowanusCanalComments 04/15/2013 10:51 PM

History: This message has been replied to.

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Numerous public and private schools which use the fields for physical education & sports teams
- Residents of the Red Hook Houses and the surrounding neighborhood
- Soccer, softball, baseball, football, handball, basketball, track & field teams and enthusiasts
- Swimmers of all ages
- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--
Aaron Maninang
aaron.vincent@yahoo.com

I, the sender, vote that I do not want this project to proceed.

Lisa Jiang to: Region2 GowanusCanalComments 04/15/2013 11:11 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

- Children
- Numerous public and private schools which use the fields for physical education & sports teams
- Residents of the Red Hook Houses and the surrounding neighborhood
- Soccer, softball, baseball, football, handball, basketball, track & field teams and enthusiasts
- Swimmers of all ages
- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--

Lisa Jiang
lisaj2@gmail.com
275 Conover St.
Brooklyn, NY
11231

I, the sender, vote that I do not want this project to proceed.

adrian landon to: Region2 GowanusCanalComments 04/15/2013 11:37 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Numerous public and private schools which use the fields for physical education & sports teams
- Residents of the Red Hook Houses and the surrounding neighborhood
- Soccer, softball, baseball, football, handball, basketball, track & field teams and enthusiasts
- Swimmers of all ages
- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--
adrian landon
adrianlandon@hotmail.com
47 w 85th st #4b
New York, NY
business

I support the EPA Gowanus Canal Superfund - Red Hook option.

The improvement to an active local maritime industrial business, the economic benefits it will bring, the jobs that it will create, are all important to me and what I believe is best for the majority of the community of Red Hook.

Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community is without harm or risk of such.

Please approve the Red Hook option.

(print)

Anglea — first name
Redfern
Williams — last name

1530 [redacted] — address
4F — apt.#

Far Rockway — city
NY — state
11691 — zip

718 - 227-6867
area code & phone number

email

x Anglea Williams. — signature
4/16/13 — date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

RHW

I support the EPA Gowanus Canal Superfund - Red Hook option.

The improvement to an active local maritime industrial business, the economic benefits it will bring, the jobs that it will create, are all important to me and what I believe is best for the majority of the community of Red Hook.

Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community is without harm or risk of such.

Please approve the Red Hook option.

(print)

Shalynda Johnson

first name last name

428 Columbia st 2D

address apt.#

BKLNY NY 11231

city state zip

1718-596-6704

area code & phone number

Mlove9032@gmail.com

email

x Shalynda Johnson 4/16/13

signature date

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

RH1

I support the EPA Gowanus Canal Superfund - Red Hook option.

The improvement to an active local maritime industrial business, the economic benefits it will bring, the jobs that it will create, are all important to me and what I believe is best for the majority of the community of Red Hook.

Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community is without harm or risk of such.

Please approve the Red Hook option.

(print)

Rafael — first name
Del Gretto — last name
420 Columbia — address
apt.#
BKlyn — city
NJ — state
11231 — zip
718 688-2715 — area code & phone number
email
x Rafael Delgretto — signature
4-16-13 — date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

RHU

I support the EPA Gowanus Canal Superfund - Red Hook option.

The improvement to an active local maritime industrial business, the economic benefits it will bring, the jobs that it will create, are all important to me and what I believe is best for the majority of the community of Red Hook.

Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community is without harm or risk of such.

Please approve the Red Hook option.

(print)

Jahshawn Ramirez

first name last name

274 Ralph AVE 5B

address apt.#

Brooklyn New York 11233

city state zip

[redacted] 176 484 8929

area code & phone number

email

X

signature 4/16/13

date

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

RHH

I support the EPA Gowanus Canal Superfund - Red Hook option.

The improvement to an active local maritime industrial business, the economic benefits it will bring, the jobs that it will create, are all important to me and what I believe is best for the majority of the community of Red Hook.

Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community are without harm or risk of such.

Please approve the Red Hook option.

(print)

Tyler — first name
Eggenson — last name

135 Richards St — address
10D — apt.#

Brooklyn — city
NJ — state
11231 — zip

347 432-6302 — area code & phone number

email

x [signature] — signature
4/24/13 — date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

R. P.

I support the EPA Gowanus Canal Superfund - Red Hook option.

The improvement to an active local maritime industrial business, the economic benefits it will bring, the jobs that it will create, are all important to me and what I believe is best for the majority of the community of Red Hook.

Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community are without harm or risk of such.

Please approve the Red Hook option.

(print)

AL-Leon	Alston
first name	last name

80 Dwight St.	8F
address	apt.#

Brooklyn	N.Y.	11231
city	state	zip

(718) 855 5090
area code & phone number

—
email

x Al-Leon Alston — 4/16/13
signature — date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

I support the EPA Gowanus Canal Superfund - Red Hook option.

The improvement to an active local maritime industrial business, the economic benefits it will bring, the jobs that it will create, are all important to me and what I believe is best for the majority of the community of Red Hook.

Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community are without harm or risk of such.

Please approve the Red Hook option.

(print)

Crystal (first name) Bolden (last name)

1596 Bedford ave (address) 4B (apt.#)

Bklyn (city) NY (state) 11225 (zip)

347 307-0949 (area code & phone number)

Crissy430@gmail.com (email)

x Crystal Bolden (signature) 4-16-13 (date)

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

I support the EPA Gowanus Canal Superfund - Red Hook option.

The improvement to an active local maritime industrial business, the economic benefits it will bring, the jobs that it will create, are all important to me and what I believe is best for the majority of the community of Red Hook.

Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community are without harm or risk of such.

Please approve the Red Hook option.

(print)

Tyler K — first name
McDonald — last name
428 Columbia St — address
apt.#
Brooklyn — city
N.Y. — state
11231 — zip
718 — area code & phone number

email

x Tyler McDonald 4/16/13
signature — date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

R.R

I support the EPA Gowanus Canal Superfund - Red Hook option.

The improvement to an active local maritime industrial business, the economic benefits it will bring, the jobs that it will create, are all important to me and what I believe is best for the majority of the community of Red Hook.

Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community are without harm or risk of such.

Please approve the Red Hook option.

(print)

Patricia Sherwood

first name last name

116 East 5 Street #5-B

address apt.#

Brooklyn NY 11231

city state zip

718 596-3416

area code & phone number

email

x Patricia Sherwood 4/16/13

signature date

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

R.D

I support the EPA Gowanus Canal Superfund - Red Hook option.

The improvement to an active local maritime industrial business, the economic benefits it will bring, the jobs that it will create, are all important to me and what I believe is best for the majority of the community of Red Hook.

Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community are without harm or risk of such.

Please approve the Red Hook option.

(print)

Ariane (first name) Pelliccia (last name)

791 Hicks street (address) 2C (apt.#)

Brooklyn (city) ny (state) 11231 (zip)

(area code & phone number)

(email)

x A. Pelliccia (signature) 4/16/13 (date)

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

R.P

I support the EPA Gowanus Canal Superfund - Red Hook option.

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Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community are without harm or risk of such.

Please approve the Red Hook option.

(print)

Vincent DiMeo

first name last name

79 Lorraine 1D

address apt.#

Brooklyn NY 11231

city state zip

718 643-2001

area code & phone number

email

x Vincent DiMeo 4/16/13

signature date

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

R.P.

I support the EPA Gowanus Canal Superfund - Red Hook option.

The improvement to an active local maritime industrial business, the economic benefits it will bring, the jobs that it will create, are all important to me and what I believe is best for the majority of the community of Red Hook.

Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community are without harm or risk of such.

Please approve the Red Hook option.

(print) Bonita Feliz

first name last name

116 Mill St #A

address apt.#

Brooklyn NY 11231

city state zip

718 809-9588

area code & phone number

—

email

x B. Feliz 4/16/13

signature date

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

pp

I support the EPA Gowanus Canal Superfund - Red Hook option.

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Please approve the Red Hook option.

(print)

Tinia — first name
Avery — last name

774 Henry St. — address
6A — apt.#

Brooklyn — city
N.Y — state
11231 — zip

347-285-0073 — area code & phone number

mstiniaavery@gmail.com — email

x _____ — signature
4/16/13 — date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

R.D

I support the EPA Gowanus Canal Superfund - Red Hook option.

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Please approve the Red Hook option.

(print)

ISMAEL — first name
Gonzalez — last name

752 Henry St — address
5D — apt.#

Brooklyn — city
NY — state
11231 — zip

347 526 2626 — area code & phone number

email

x Ismael Gonzalez — signature
4/16/2013 — date

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

D D

I support the EPA Gowanus Canal Superfund - Red Hook option.

The improvement to an active local maritime industrial business, the economic benefits it will bring, the jobs that it will create, are all important to the community of Red Hook.

Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community are without harm or risk of such.

Please approve the Red Hook option.

(please print)

Courtney Robinson
first name last name

82 Wright Street 14#B
address apt.#

Brooklyn, New York N.Y. 11231-1774
city state zip

_____ _____
area code & phone number

_____
email

x Courtney Robinson 4-16-13
signature date

mail to:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email to:
GowanusCanalComments.Region2@epa.gov
cc:
info@GowanusBayTerminal.com

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013 DEADLINE*

RP

I support the EPA Gowanus Canal Superfund - Red Hook option.

The improvement to an active local maritime industrial business, the economic benefits it will bring, the jobs that it will create, are all important to me and what I believe is best for the majority of the community of Red Hook.

Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community are without harm or risk of such.

Please approve the Red Hook option.

(print)

Sean A. Johnson

first name last name

33 Walcott St HOUSE

address apt.#

BKlyN NY 11231

city state zip

347 520-5805

area code & phone number

www.SAJ505555@YAhoo

email

x Sean A. Johnson 4/16/13

signature date

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

RP

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Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community are without harm or risk of such.

Please approve the Red Hook option.

(print)

ABDO ABUZEID ⟷

first name | last name

address | apt.#

129 DWIGHT ST

city | state | zip

BROOKLYN N.Y 11231

area code & phone number

email

x [signature] 4/16/2013

signature | date

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

RP

I support the EPA Gowanus Canal Superfund - Red Hook option.

The improvement to an active local maritime industrial business, the economic benefits it will bring, the jobs that it will create, are all important to me and what I believe is best for the majority of the community of Red Hook.

Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community are without harm or risk of such.

Please approve the Red Hook option.

(print)

Telford — first name
Lyles — last name

606 Clinton Street — address
3A — apt.#

Brooklyn — city
N.Y. — state
11231 — zip

718 600-5179 — area code & phone number

~~(718) 600-5179~~ — email

x Telford Lyles — signature
4/16/13 — date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

I support the EPA Gowanus Canal Superfund - Red Hook option.

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Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community are without harm or risk of such.

Please approve the Red Hook option.

(print)

Anthony — first name
Lajo — last name

101 Centre mall — address
4A — apt.#

Brooklyn — city
NY — state
11231 — zip

917 991 - 3915 — area code & phone number

RedHookRican08@aol.com — email

x Anthony Lajo — signature
9/16/13 — date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

00

I support the EPA Gowanus Canal Superfund - Red Hook option.

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Please approve the Red Hook option.

(print)

Shallah — first name
Allah — last name

101 Centre Mall — address
4 A — apt.#

Brooklyn — city
NY — state
11231 — zip

917-971-9619 — area code & phone number

shallahallah2@gmail.com — email

x Shallah Allah — signature
4/16/13 — date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

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The improvement to an active local maritime industrial business, the economic benefits it will bring, the jobs that it will create, are all important to me and what I believe is best for the majority of the community of Red Hook.

Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community are without harm or risk of such.

Please approve the Red Hook option.

(print)

CARLA — first name

BAKER — last name

116 Hill St — address

BKlyn — city

NY — state

11231 — zip

apt.#

NA — area code & phone number

email

x Carla Baker — signature

01/14/13 — date

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

2 D

I support the EPA Gowanus Canal Superfund - Red Hook option.

The improvement to an active local maritime industrial business, the economic benefits it will bring, the jobs that it will create, are all important to me and what I believe is best for the majority of the community of Red Hook.

Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community are without harm or risk of such.

Please approve the Red Hook option.

(print)

Kenya D. Johnson _____

first name last name

33 Wolcott St HOUSE

address apt.#

Bklyn NY 11231

city state zip

_____ _____

area code & phone number

_____

email

x Kenya D. Johnson 4/16/13

signature date

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

RP

I support the EPA Gowanus Canal Superfund - Red Hook option.

The improvement to an active local maritime industrial business, the economic benefits it will bring, the jobs that it will create, are all important to me and what I believe is best for the majority of the community of Red Hook.

Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community are without harm or risk of such.

Please approve the Red Hook option.

(print)

Daniel — first name
Morales — last name

445 62nd Street — address — apt.#

New York — city
NY — state
11220 — zip

718 705 2961 — area code & phone number

[redacted] ddmorales316@Gmail.com — email

x [signature] — signature
4/16/13 — date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

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I support the EPA Gowanus Canal Superfund - Red Hook option.

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Please approve the Red Hook option.

(print)

Alberto — first name
Agront — last name

79 Lorraine Street — address
4C — apt.#

New York — city
New York — state
11231 — zip

646 531 8693 — area code & phone number

bemy_y38@yahoo.com — email

x Alberto Agront — signature
4/16/13 — date

mail:
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Manhattan, NY 100007-1866

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Please approve the Red Hook option.

(print)

Alex — first name

Najmiev — last name

10111 AVE N — address

D#6 — apt.#

Brooklyn — city

NY — state

11230 — zip

1347 462-6784 — area code & phone number

BNajmiev@gmail.com — email

X _____ — signature

4-16-13 — date

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
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Fax:

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Please approve the Red Hook option.

(print)

MARCO — first name
NAZARIO — last name

82 Dwight St. — address
2B — apt.#

Brooklyn — city
N.Y. — state
11231 — zip

_____ _____ — area code & phone number

_____ — email

X Marco Nazario — signature
4/16/13 — date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

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Please approve the Red Hook option.

(print)

Al-Leon — first name
Alston — last name

60 Dwight st — address
6-F — apt.#

Brooklyn — city
NY — state
11231 — zip

347 462-5093 — area code & phone number

alleonalston@gmail.com — email

x Al-Leon Alston — signature
4/16/2013 — date

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290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

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Please approve the Red Hook option.

(please print)

Torre Williams

first name last name

82 Dwight Street 14B

address apt.#

Brooklyn NY 11231

city state zip

_____

area code & phone number

W.Torre16@gmail.com

email

x Torre Williams 04-16-13

signature date

mail to:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email to:

GowanusCanalComments.Region2@epa.gov
cc:
info@GowanusBayTerminal.com

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Please approve the Red Hook option.

(print)

Felix — first name
Dickerson — last name

451 Columbia St — address
1A — apt.#

Bklyn. — city
N.Y. — state
11231 — zip

347 984-1171 — area code & phone number

N/A — email

x [signature] — signature
4-16-13 — date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

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Please approve the Red Hook option.

(print)

David Mathis

first name last name

464 Columbia St 4F

address apt.#

New York City BKLYN 11231

city state zip

347. 241-0001

area code & phone number

email

X [signature] 4/16/13

signature date

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

GowanusCanalComments.Region2@epa.gov

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Please approve the Red Hook option.

(print)

Rochelle Owens

first name last name

80 Dwight St. Apt. 11231

address apt.#

Brklyn NY

city state zip

718 222-9329

area code & phone number

email

x Rochelle Owens 4/16/13

signature date

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

GowanusCanalComments.Region2@epa.gov

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Please approve the Red Hook option.

(print)

Gary — first name
Hamilton — last name

102 Dwight street — address
2A — apt.#

Brooklyn — city
N.Y. — state
11231 — zip

(347) 455-3802 — area code & phone number

hamiltongary29@yahoo.com — email

x Gary Hamilton — signature
04/16/13 — date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

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Please approve the Red Hook option.

(print)

Boris — first name
Malkadow — last name

129 Dwight St — address
apt.#

Brooklyn — city
NY — state
11231 — zip

718 710 8070 — area code & phone number

Boris.MagzTaxi@gmail.com — email

X _____ — signature
4-16-13 — date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

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Please approve the Red Hook option.

(print)

Shawndell — first name
Johnson — last name

102 Dwight St — address
2A — apt.#

Brooklyn — city
NY — state
11231 — zip

(347) 455-4322 — area code & phone number

Shawn37@ymail.com — email

X Shawndell Johnson — signature
4/16/13 — date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

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Please approve the Red Hook option.

(print)

Charles (first name) Corbin (last name)

606 Clinton (address) 3C (apt.#)

Brooklyn (city) NY (state) 11231 (zip)

347 656-5969 (area code & phone number)

Ceedottos@gmail.com (email)

X Charles Corbin (signature) 4/16/13 (date)

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

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R.L.

I support the EPA Gowanus Canal Superfund - Red Hook option.

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Please approve the Red Hook option.

(print)

Sheleen — first name
Holmes — last name

116 Mill St — address
2C — apt.#

Brklyn — city
NY — state
11231 — zip

718 797-0067 — area code & phone number

email

X Sheleen Holmes — signature
2-16-13 — date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

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R.L.

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Please approve the Red Hook option.

(print)

Mack — first name
Miller — last name

116 Mill St — address
4E — apt.#

Bklyn — city
N.Y — state
11231 — zip

646 920-5445 — area code & phone number

Mackmiller22@yahoo.com — email

X _____ — signature
4/16/13 — date

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

GowanusCanalComments.Region2@epa.gov

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R.P

I support the EPA Gowanus Canal Superfund - Red Hook option.

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Please approve the Red Hook option.

(print)

Wakeeta Juneol

first name | last name

30 Centre Mall | 1A

address | apt.#

Brooklyn | NY | 11231

city | state | zip

area code & phone number

email

x Wakeeta Juneol | 4/16/13

signature | date

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

GowanusCanalComments.Region2@epa.gov

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Please approve the Red Hook option.

(print) Steven Lovett

first name last name

124 Bush St 5C

address apt.#

Brooklyn NY 11231

city state zip

718 852-7727

area code & phone number

email

X Steven Lovett 4-16-13

signature date

mail:

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Fax:

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email:

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Please approve the Red Hook option.

(print)

Felix — first name
Ortiz — last name

43½ Dikeman St — address
2 — apt.#

Brooklyn — city
NY — state
11231 — zip

347 249-8816 — area code & phone number

email

X _____ — signature
4/16/13 — date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
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Fax:
212 637 3966

email:
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Please approve the Red Hook option.

(print)

Alex — first name
Hernandez — last name

106-22 Farragut Rd — address
3E — apt.#

Brooklyn — city
NY — state
11236 — zip

(347) 357-3258 — area code & phone number

email

x Alex Hernandez — signature
4/16/13 — date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

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212 637 3966

email:
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Please approve the Red Hook option.

(print)

Carmen — first name
Liguet — last name

82 Dwight Street — address
121 — apt.#

Brooklyn — city
NY — state
11231 — zip

347 732-8090 — area code & phone number

BKlyntaina@aol.com — email

x Carmen Liguet — signature
4/16/13 — date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

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Please approve the Red Hook option.

(print)

Tyrell — first name
Harris — last name

Lodwight — address
2B — apt.#

Brooklyn — city
NY — state
11231 — zip

718-625-2166 — area code & phone number

Tyrellmclaughlin@yahoo.com — email

x TYRELL HARRIS — signature
9-16-2013 — date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

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Please approve the Red Hook option.

(print)

Tanya — first name
Collins — last name
39 Centre Mall — address
3F — apt.#
Bklyn — city
Newyork — state
11231 — zip

area code & phone number

email

X Tonya Collins — signature
4/16/2013 — date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

RHW

"SAY NO TO A TOXIC RED HOOK"

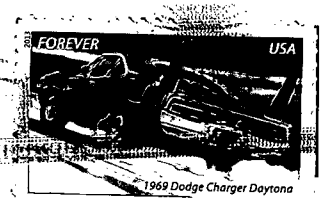
WWW.NOTOXICREDHOOK.COM

AS A (CIRCLE ONE) RESIDENT, ~~BUSINESS / EMPLOYEE~~ OR USER OF THE PARKS AND RECREATIONAL FACILITIES WITHIN RED HOOK, I AM/ WE ARE STRONGLY OPPOSED TO THE PROCESSING OF TOXIC SLUDGE DREDGED FROM THE GOWANUS CANAL SUPERFUND CLEANUP SITE AT A FACILITY PROPOSED TO BE BUILT RIGHT NEXT TO THE RED HOOK BALL FIELDS AND POOL ON PROPERTY OWNED BY AN INDIVIDUAL WHO HAS INCURRED SERIOUS FINES FOR ENVIRONMENTAL VIOLATIONS IN THE PAST. IT IS THE WRONG SITE FOR THIS IMPORTANT FACILITY.

SIGNATURE(S)/DATE:

ADDRESS: 243 5th Ave #2J NY, NY 10016

7/8/2013



TO:

Christos Tsiamis
Central New York Remediation Section
U.S. Environmental Protection Agency
290 Broadway, 20th Floor
New York, New York
10007-1866

SAY NO TO A TOXIC RED HOOK

WWW.NOTOXICREDHOOK.COM

I, the sender, vote that I do not want this project to proceed.
Zachary Knudson to: Region2 GowanusCanalComments 04/10/2013 08:31 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

- Children
- Numerous public and private schools which use the fields for physical education & sports teams
- Residents of the Red Hook Houses and the surrounding neighborhood
- Soccer, softball, baseball, football, handball, basketball, track & field teams and enthusiasts
- Swimmers of all ages
- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--
Zachary Knudson
knudson@gmail.com
22 Dikeman Street #3C
Brooklyn, NY
Resident

Listing of the Gowanus Superfund site
Melissa Harty to: Region2 GowanusCanalComments 04/10/2013 08:23 PM

I live 10 blocks from the canal. I support the Listing of the Gowanus Superfund site.

I have followed the discussions of the Superfund Cleanup and support the EPA's proposed methods for cleaning this Gowanus Superfund site.

It is important to me that the work be protected, as described in the Plan, from future contamination of all toxic inputs.

It is also important to me that the work be carried out in a safe manner and without truck traffic as described in the Plan.

I ask that the work be accomplished with the lowest possible carbon foot print as carbon output is contributing to climate change conditions this area is facing.

melissa harty

--

I, the sender, vote that I do not want this project to proceed.
chris anderson to: Region2 GowanusCanalComments 04/10/2013 07:18 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

- Children
- Numerous public and private schools which use the fields for physical education & sports teams
- Residents of the Red Hook Houses and the surrounding neighborhood
- Soccer, softball, baseball, football, handball, basketball, track & field teams and enthusiasts
- Swimmers of all ages
- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--
chris anderson
reallynotchris@yahoo.com
120 Dikeman St.
Brooklyn, NY
resident and workplace

I, the sender, vote that I do not want this project to proceed.

Wilfredo Garay to: Region2 GowanusCanalComments 04/10/2013 05:52 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--
Wilfredo Garay
aires1941@earthlink.net
40 Coffey Street
Brooklyn, NY
resident

I, the sender, vote that I do not want this project to proceed.

Josiah Garay to: Region2 GowanusCanalComments 04/10/2013 05:51 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--
Josiah Garay
josiah98@earthlink.net
40 Coffey Street
Brooklyn, NY
resident

Gowanus Canal Superfund PRAP comment
Maryann Young to: Region2 GowanusCanalComments 04/10/2013 05:28 PM
Cc: Maryann Young

History: This message has been forwarded.

VIA EMAIL:

April 10, 2013

Mr. Christos Tsiamis
Project Manager
Central New York Remediation Section
U.S. Environmental Protection Agency
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis:

Words cannot fully express my gratitude I have for you and your (Region 2) team. Your expertise and passion in doing the right thing to protect our environment and the overall health and safety of this community have been proven many times over with your dedicated and transparent commitment in working closely with us and helping us to understand the full Superfund process.

Scientifically technical and politically sensitive, you and your team were there to clarify and balance the differences and to unite a community toward a comprehensive cleanup so desperately and deservingly due.

To find a place you can call home is a rare find. To find a place with selfless, generous, caring community-minded people is a blessing. I have been fortunate to come across both and now triple-blessed to have you and your team a part of it.

I wholeheartedly support the PRAP and deeply believe and trust you and your team will thoroughly clean and protect the Gowanus Canal for us now and all future generations to come.

With the deepest respect and thanks,

Maryann Young
Carroll Gardens Resident and Condo Owner
Active Community Members
Alternate member to the Gowanus Canal Superfund Community Advisory Group
Friends of CORD, FROGG and DSCBBB (Developing Stronger Brooklyn Communities Block by Block)

I, the sender, vote that I do not want this project to proceed.

Jack Berkowitz to: Region2 GowanusCanalComments 04/10/2013 05:10 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--
Jack Berkowitz
Jackmberkowitz@gmail.com
82Pioneer Street
NY, NY
Residentia.

I, the sender, vote that I do not want this project to proceed.

Carrie Straus to: Region2 GowanusCanalComments 04/10/2013 04:41 PM

As a proud resident and proponent of the community of Red Hook, I am strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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--
Carrie Straus
cs026961@yahoo.com
138 Degraw St.
Brooklyn, NY
resident; parks user

I, the sender, vote that I do not want this project to proceed.
nancy wong to: Region2 GowanusCanalComments 04/10/2013 12:19 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--
nancy wong
nancywong0310@hotmail.com
315 Ovington Ave
brooklyn, ny

I, the sender, vote that I do not want this project to proceed.

Sylvie Bertrand to: Region2 GowanusCanalComments 04/10/2013 11:53 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--
Sylvie Bertrand
sylvieb66@gmail.com
Resident

Red Hook
Deco Zapata to: Region2 GowanusCanalComments 04/10/2013 11:47 AM

I live in Red Hook and I do not want Gowanus Canal toxins to be stored or treated in my neighborhood.

Please spend the $37 million to take the toxins to an already licensed treatment facility that wants this material.

Red Hook cleanup site

Anthony Schloss to: Region2 GowanusCanalComments 04/10/2013 11:40 AM

As you know, the Red Hook community is strongly against a clean up site in its area, next to its recreation areas. No one in Red Hook excepting John Quadrozzi and his company stands to benefit from this plan. Perhaps there will be a cost savings to the project, but is that savings worth the possible deleterious effects to a community, with no benefit to it? I feel we all must do our part to support our neighbors in NYC, but this asks too much of Red Hook community, especially as it brings no benefit to us.
I do have one suggestion-if you hope to move forward with this plan, why not incorporate some positive improvement to Red Hook? A detoxifying plant and the few jobs is not much improvement at all. Surely there could be a use for the detoxified material that might be a benefit for the community? Or add something not related to the sludge to make the plan have some good effect for the people of Red Hook?
I feel that is the only way you may get support from Red Hook residents. And if it is true that you do care about our opinions, then please heed this email and the others you receive.

--

Anthony Schloss
Media Programs Coordinator
www.rhicenter.org

I, the sender, vote that I do not want this project to proceed.

Nancy Haynes to: Region2 GowanusCanalComments 04/10/2013 11:26 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--
Nancy Haynes
nancyhaynes@mindspring.com
275 Conover Street
Brooklyn, NY 11231
resident

I, the sender, vote that I do not want this project to proceed.

Nikki Persley-Bartis to: Region2 GowanusCanalComments 04/10/2013 11:13 AM

History: This message has been replied to.

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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--
Nikki Persley-Bartis
writerati@gmail.com

I, the sender, vote that I do not want this project to proceed.

Natalie Bishar to: Region2 GowanusCanalComments 04/10/2013 11:01 AM

As a member of the community of Red Hook, I am strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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--

Natalie Bishar
natalou.b@gmail.com
36 4th st
Brooklyn, NY
11231

I, the sender, vote that I do not want this project to proceed.
Michael Talavera to: Region2 GowanusCanalComments 04/10/2013 10:41 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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--
Michael Talavera
talavera099@aol.com
29 Wolcott Street
Brooklyn, NY
Resident

I, the sender, vote that I do not want this project to proceed.

Wilson Villanueva to: Region2 GowanusCanalComments 04/10/2013 10:35 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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--
Wilson Villanueva
Cdvimi@yahoo.com
29 Wolcott Street
Brooklyn, New York
Resident

I, the sender, vote that I do not want this project to proceed.
Clara Villanueva to: Region2 GowanusCanalComments 04/10/2013 10:35 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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--
Clara Villanueva
Cvillanueva@nyc.rr.com
29 Wolcott Street
Brooklyn, New York
Resident

I, the sender, vote that I do not want this project to proceed.

kerry shear to: Region2 GowanusCanalComments 04/10/2013 10:11 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--
kerry shear
krvs@me.com
118 pioneer street
brooklyn, ny
resident

I, the sender, vote that I do not want this project to proceed.
devorah easton to: Region2 GowanusCanalComments 04/10/2013 09:54 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--
devorah easton
hotdevorah@hotmail.com
11 bush st apt2d
bklyn, ny

I, the sender, vote that I do not want this project to proceed.

Brian Melton to: Region2 GowanusCanalComments 04/10/2013 09:54 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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--

Brian Melton
brianmelton5@yahoo.com
180 Coffey Street
Brooklyn, New York 11231
Resident

I, the sender, vote that I do not want this project to proceed.
Jennifer Zackin to: Region2 GowanusCanalComments 04/10/2013 09:49 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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--
Jennifer Zackin
jzackin@yahoo.com
112 Sullivan Street
Brooklyn, NY
Resident

I, the sender, vote that I do not want this project to proceed.
ANNIE KARMA to: Region2 GowanusCanalComments 04/10/2013 09:45 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--
ANNIE KARMA
anniestardust@yahoo.com
VAN BRUNT ST
RED HOOK BROOKLYN, NEW YORK
RESIDENT

I, the sender, vote that I do not want this project to proceed.

Bettina Magi to: Region2 GowanusCanalComments 04/10/2013 09:44 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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--
Bettina Magi
bmagi@mac.com
167 Coffey St
Brooklyn, NY 11231
Resident Home owner

I, the sender, vote that I do not want this project to proceed.
Frank Dituri to: Region2 GowanusCanalComments 04/10/2013 09:27 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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--
Frank Dituri
frankdituri@gmail.com
105 Pioneer Street
Brooklyn, NY
Resident

I, the sender, vote that I do not want this project to proceed.

Kim Forte to: Region2 GowanusCanalComments 04/10/2013 09:26 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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--
Kim Forte
kforte16@gmail.com
398 Van Brunt St
Brooklyn , NY
Residence

I, the sender, vote that I do not want this project to proceed.
Evelyn Moore to: Region2 GowanusCanalComments 04/10/2013 08:58 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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--
Evelyn Moore
evmoore2003@yahoo.com
613 Goodrich Ave
St. Paul, MN

GOWANUS CANAL PROPOSED REMEDIAL ACTION PLAN

Elvira Ferrario to: Region2 GowanusCanalComments 04/09/2013 11:42 PM

History: This message has been replied to.

I Support all that is proposed by the EPA for the Gowanus Canal clean-up, especially the retention tank system to address any Combined Sewer Overflows.
Keep up the good work!
Elvira Ferrario

I, the sender, vote that I do not want this project to proceed.

Idra Novey to: Region2 GowanusCanalComments 04/09/2013 10:28 PM

History: This message has been replied to.

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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--
Idra Novey
Idra@idranovey.com

Comments
Judith S. Weis to: Region2 GowanusCanalComments 04/09/2013 10:09 PM
Please respond to jweis

History: This message has been replied to.

I support all that is proposed by the EPA for the Gowanus Canal clean-up, especially the retention tank system to address Combined Sewer Overflows.

Judith S. Weis, Ph.D.

I, the sender, vote that I do not want this project to proceed.
Jessica Henson to: Region2 GowanusCanalComments 04/09/2013 07:49 PM

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- Swimmers of all ages
- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--
Jessica Henson
JessicaHenson23@gmail.com
53 Summit Street
Brooklyn, 11231
resident

I, the sender, vote that I do not want this project to proceed.
Susan Peebles to: Region2 GowanusCanalComments 04/09/2013 05:28 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

- Children
- Numerous public and private schools which use the fields for physical education & sports teams
- Residents of the Red Hook Houses and the surrounding neighborhood
- Soccer, softball, baseball, football, handball, basketball, track & field teams and enthusiasts
- Swimmers of all ages
- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--
Susan Peebles
speebles@nyc.rr.com
174 Beard St
Brooklyn, NY 11231
resident of Red Hook

Support EPA Proposal

Laurine Celeste Fox to: Region2 GowanusCanalComments 04/09/2013 01:22 PM

History: This message has been replied to.

I support all that is proposed by the EPA for the Gowanus Canal clean-up, especially the retention tank system to address any Combined Sewer Overflows

Sincerely, Laurine Celeste Fox

212-879-9774
lcfox(at)nyct.net

"If we had a keen vision of all that is ordinary in human life,
it would be like hearing the grass grow or the squirrel's heart beat,
and we should die of that roar which is the other side of silence."

George Eliot

I, the sender, vote that I do not want this project to proceed.

yim noble to: Region2 GowanusCanalComments 04/09/2013 01:02 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Residents of the Red Hook Houses and the surrounding neighborhood
- Soccer, softball, baseball, football, handball, basketball, track & field teams and enthusiasts
- Swimmers of all ages
- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
yim noble
yimnoble@gmail.com
96 luquer street
Brooklyn, NY
resident

I, the sender, vote that I do not want this project to proceed.
Jane Elkins to: Region2 GowanusCanalComments 04/09/2013 12:31 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Numerous public and private schools which use the fields for physical education & sports teams
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- Soccer, softball, baseball, football, handball, basketball, track & field teams and enthusiasts
- Swimmers of all ages
- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
Jane Elkins
ansel.elkins@gmail.com
4234 Harvard Ave.
Greensboro, NC
parks user

No to toxic dump in Red Hook

Mohamed Yahia to: Region2 GowanusCanalComments 04/09/2013 11:58 AM

Dear Sir or Madam,

I am a disabled resident of Red Hook with three children. I have no other place to go. Please do not dump the waste from the Gowanus canal in Red Hook. I do not want my and my kids' and family's health to be affected. I beg you. Please don't do it. Please!!!!

Regards,

Mohamed Yahia

I, the sender, vote that I do not want this project to proceed.

Yoana Yelin to: Region2 GowanusCanalComments 04/09/2013 11:27 AM

History: This message has been replied to.

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Swimmers of all ages
- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
Yoana Yelin
yoana_yelin@yahoo.com
Resident

Gowanus Canal clean-up
Judy Fletcher to: Region2 GowanusCanalComments 04/09/2013 08:00 AM

I am writing in support of the EPA proposals for the Gowanus Canal clean-up, especially the retention tank system to address any Combined Sewer Overflows.

--

Judith E. Fletcher
525 W. 238th St. Apt. A1
Bronx, NY 10463
(718) 796-8223
jfletcher@riverdale.edu

MUSE (Musicians United to Save the Environment)
Fund-raising ~ Activism ~ Education
MUSEmail@riverdale.edu
"Our destiny as human beings is inextricably bound to the fate of the other species with which we share the earth

I support the EPA Gowanus Canal Superfund - Red Hook option.

The improvement to an active local maritime industrial business, the economic benefits it will bring, the jobs that it will create, are all important to the community of Red Hook.

Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community are without harm or risk of such.

Please approve the Red Hook option.

(please print)

MERCEDES — first name
JONES — last name

428 Columbia St. — address
5B — apt.#

Brooklyn — city
N.Y. — state
11231 — zip

917 281-4101
area code & phone number

email

x Mercedes Jones — signature
4/9/13 — date

mail to:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email to:
GowanusCanalComments.Region2@epa.gov
cc:
info@GowanusBayTerminal.com

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013 DEADLINE*

I support the EPA Gowanus Canal Superfund - Red Hook option.

The improvement to an active local maritime industrial business, the economic benefits it will bring, the jobs that it will create, are all important to the community of Red Hook.

Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community are without harm or risk of such.

Please approve the Red Hook option.

(please print)

Christina Byard
first name last name

428 Columbia St 6C
address apt.#

Brooklyn NY 11231
city state zip

917 870-2611
area code & phone number

ChristinaByard851@yahoo.com
email

x Christa Byard 04/09/13
signature date

mail to:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email to:
GowanusCanalComments.Region2@epa.gov
cc:
info@GowanusBayTerminal.com

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013 DEADLINE*

RAH

I support the EPA Gowanus Canal Superfund - Red Hook option.

The improvement to an active local maritime industrial business, the economic benefits it will bring, the jobs that it will create, are all important to me and what I believe is best for the majority of the community of Red Hook.

Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community is without harm or risk of such.

Please approve the Red Hook option.

(print)

Geraldine (first name) Crawford (last name)

40 Centre Mall (address) 3C (apt.#)

Brooklyn (city) NY (state) 11231 (zip)

_____ _____
area code & phone number

_____
email

x Geraldine Crawford (signature) 4/9/13 (date)

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

RHW

I support the EPA Gowanus Canal Superfund - Red Hook option.

The improvement to an active local maritime industrial business, the economic benefits it will bring, the jobs that it will create, are all important to me and what I believe is best for the majority of the community of Red Hook.

Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community is without harm or risk of such.

Please approve the Red Hook option.

(print)

Vivian (first name) Bush (last name)

82 Dwight St (address) (apt.#)

Brooklyn (city) NY (state) 11231 (zip)

(area code & phone number)

(email)

x Vivian Bush (signature) 4/9/13 (date)

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

RHW

I support the EPA Gowanus Canal Superfund - Red Hook option.

The improvement to an active local maritime industrial business, the economic benefits it will bring, the jobs that it will create, are all important to the community of Red Hook.

Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community are without harm or risk of such.

Please approve the Red Hook option.

(please print)

Orlando — first name
Brown — last name

1647 Bedford Ave — address
2B — apt.#

Brooklyn — city
N.Y — state
11216 — zip

347 278 - 5051 — area code & phone number

email

x [signature] — signature
4/9/13 — date

mail to:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email to:
GowanusCanalComments.Region2@epa.gov
cc:
info@GowanusBayTerminal.com

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013 DEADLINE*

RHv

"SAY NO TO A TOXIC RED HOOK"

WWW.NOTOXICREDHOOK.COM

AS A (CIRCLE ONE) RESIDENT, BUSINESS / EMPLOYEE OR USER OF THE PARKS AND RECREATIONAL FACILITIES WITHIN RED HOOK, I AM/ WE ARE STRONGLY OPPOSED TO THE PROCESSING OF TOXIC SLUDGE DREDGED FROM THE GOWANUS CANAL SUPERFUND CLEANUP SITE AT A FACILITY PROPOSED TO BE BUILT RIGHT NEXT TO THE RED HOOK BALL FIELDS AND POOL ON PROPERTY OWNED BY AN INDIVIDUAL WHO HAS INCURRED SERIOUS FINES FOR ENVIRONMENTAL VIOLATIONS IN THE PAST. IT IS THE WRONG SITE FOR THIS IMPORTANT FACILITY.

SIGNATURE(S)/DATE:

Red Herring Design 4.9.13

ADDRESS:

62 Summit Street

Brooklyn NY 11231

BKLYN-QNS-STATEN ISL
10 APR 2013 PM 1

TO:

Christos Tsiamis
Central New York Remediation Section
U.S. Environmental Protection Agency
290 Broadway, 20th Floor
New York, New York
10007-1866

"SAY NO TO A TOXIC RED HOOK"

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AS A (CIRCLE ONE) RESIDENT, BUSINESS / EMPLOYEE OR USER OF THE PARKS AND RECREATIONAL FACILITIES WITHIN RED HOOK, I AM/ WE ARE STRONGLY OPPOSED TO THE PROCESSING OF TOXIC SLUDGE DREDGED FROM THE GOWANUS CANAL SUPERFUND CLEANUP SITE AT A FACILITY PROPOSED TO BE BUILT RIGHT NEXT TO THE RED HOOK BALL FIELDS AND POOL ON PROPERTY OWNED BY AN INDIVIDUAL WHO HAS INCURRED SERIOUS FINES FOR ENVIRONMENTAL VIOLATIONS IN THE PAST. IT IS THE WRONG SITE FOR THIS IMPORTANT FACILITY.

SIGNATURE(S)/DATE:

Faustino Pinella, 4/9/2013

ADDRESS:

131 Columbia ST, Apt. B-4

Brooklyn, N.Y. 11231

TO:

Christos Tsiamis
Central New York Remediation Section
U.S. Environmental Protection Agency
290 Broadway, 20th Floor
New York, New York
10007-1866

SAY NO TO A TOXIC RED HOOK

WWW.NOTOXICREDHOOK.COM

govanus conal
Emily Greenspan to: Region2 GowanusCanalComments 04/09/2013 07:07 AM
Please respond to Emily Greenspan

I support all that is proposed by the EPA for the Gowanus Canal clean-up, especially the retention tank system to address any Combined Sewer Overflows

Emily Greenspan
ergreenspan@yahoo.com
Brooklyn,NY

I, the sender, vote that I do not want this project to proceed.

Victor Verbeek to: Region2 GowanusCanalComments 04/08/2013 11:37 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

- Children
- Numerous public and private schools which use the fields for physical education & sports teams
- Residents of the Red Hook Houses and the surrounding neighborhood
- Soccer, softball, baseball, football, handball, basketball, track & field teams and enthusiasts
- Swimmers of all ages
- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
Victor Verbeek
victorverbeek@gmail.com
20 Carroll St
Brooklyn, NY

I, the sender, vote that I do not want this project to proceed.
Rebecka Froberg to: Region2 GowanusCanalComments 04/08/2013 10:55 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Numerous public and private schools which use the fields for physical education & sports teams
- Residents of the Red Hook Houses and the surrounding neighborhood
- Soccer, softball, baseball, football, handball, basketball, track & field teams and enthusiasts
- Swimmers of all ages
- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
Rebecka Froberg
rebeckafroberg@gmail.com
Brooklyn, 11231
business owner and resident

Gowanus Superfund
jamie mirabella to: Region2 GowanusCanalComments 04/08/2013 09:46 PM

To Whom it May Concern,

I am writing to express my support for the Listing of the Gowanus Superfund site. I have followed the discussions of the Superfund Cleanup and support the EPA's proposed methods and want the work to be protected, as described in the Plan, from future contamination of all toxic inputs.

It is also important to me that the work be carried out in a safe manner and without truck traffic as described in the Plan. This work should be accomplished with the lowest possible carbon foot print as carbon output is contributing to climate change conditions this area is facing.

Sincerely,
Jamie Mirabella
78 President St.
Brooklyn, NY 11231

I, the sender, vote that I do not want this project to proceed.

julie czeck to: Region2 GowanusCanalComments 04/08/2013 09:40 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Numerous public and private schools which use the fields for physical education & sports teams
- Residents of the Red Hook Houses and the surrounding neighborhood
- Soccer, softball, baseball, football, handball, basketball, track & field teams and enthusiasts
- Swimmers of all ages
- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
julie czeck
julie.czeck@gmail.com
170 coffey street
brooklyn, New York
resident

I, the sender, vote that I do not want this project to proceed.
Diana Jones-Ellis to: Region2 GowanusCanalComments 04/08/2013 08:53 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Swimmers of all ages
- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
Diana Jones-Ellis
dianaje@gmail.com
2539 Noble Drive
Tallahassee, FL
Parks User

I, the sender, vote that I do not want this project to proceed.

Danielle Vidals to: Region2 GowanusCanalComments 04/08/2013 08:42 PM

As not only a Red Hook resident, but an local expanding business owner, faithful soccer player and huge fan of Papusas sold at the ball fields here in Red Hook, I am strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

- Children (OF WHICH I HAVE TWO AVID SOCCER PLAYERS AND FANS OF THE POOL)
- Numerous public and private schools which use the fields for physical education & sports teams (INCLUDING PS29 AND THEIR ANNUAL "KICK BUTTS" DAY)
- Residents of the Red Hook Houses and the surrounding neighborhood (I LIVE AND WORK HERE)
- Soccer, softball, baseball, football, handball, basketball, track & field teams and enthusiasts (THE KIDS AND I PLAY SOCCER ON THOSE FIELDS)
- Swimmers of all ages (WE ENJOY THE POOL ALL SUMMER LONG)
- The Red Hook Food vendors and their customers (MY FAMILY EATS HERE REGULARLY DURING THE SUMMER)
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--

Danielle Vidals
dsvidals@gmail.com
239 Van Brunt Street
Brooklyn, NY
Resident, Business Owner & Park User

I, the sender, vote that I do not want this project to proceed.

Will Brewer to: Region2 GowanusCanalComments 04/08/2013 08:42 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--

Will Brewer
brewerw@mac.com
316 W 115th St #1
New York, NY

Pro Superfund/Against Lighstone
Schrank, Ben to: Region2 GowanusCanalComments 04/08/2013 06:35 PM

Dear EPA,

I live one and a half blocks from the canal. I support the Listing of the Gowanus Superfund site.

I have followed the discussions of the Superfund Cleanu and support the EPA's proposed methods for cleaning this Gowanus Superfund site.

It is important to me that the work be protected, as described in the Plan, from future contamination of all toxic inputs.

It is also important to me that the work be carried out in a safe manner and without truck traffic as described in the Plan.

I ask that the work be accomplished with the lowest possible carbon foot print as carbon output is contributing to climate change conditions this area is facing.

I must add that I am also very much against the Lightstone project. It looks like a disaster in the making.

Sincerely,
Ben Schrank
Owner, 459 Carroll Street

I, the sender, vote that I do not want this project to proceed.
Sarah Adams to: Region2 GowanusCanalComments 04/08/2013 06:05 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Swimmers of all ages
- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
Sarah Adams
sarahadams7@gmail.com
60 Union street
Brooklyn , NY
resident

I, the sender, vote that I do not want this project to proceed.

Julie Underwood to: Region2 GowanusCanalComments 04/08/2013 05:23 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Swimmers of all ages
- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
Julie Underwood
julie@motormouthmedia.com
109 Union St.
Brooklyn, NY
Resident

I, the sender, vote that I do not want this project to proceed.

Telecia Groomster to: Region2 GowanusCanalComments 04/08/2013 04:49 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Swimmers of all ages
- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--

Telecia Groomster
telgroomster@yahoo.com
123 Lorraine Street
Brooklyn, NY
Resident

I, the sender, vote that I do not want this project to proceed.
LAURA WILEY to: Region2 GowanusCanalComments 04/08/2013 04:47 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Swimmers of all ages
- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
LAURA WILEY
MELAURAWILEY@GMAIL.COM
91 COFFEY ST
BROOKLYN, NY
11231

I, the sender, vote that I do not want this project to proceed.
Aricka Martinez to: Region2 GowanusCanalComments 04/08/2013 02:22 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Residents of the Red Hook Houses and the surrounding neighborhood
- Soccer, softball, baseball, football, handball, basketball, track & field teams and enthusiasts
- Swimmers of all ages
- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
Aricka Martinez
ricki1201@aol.com
58 President Street
Brooklyn, NY
Residential

I, the sender, vote that I do not want this project to proceed.
FELECIA GROOMSTER to: Region2 GowanusCanalComments 04/08/2013 02:01 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

- Children
- Numerous public and private schools which use the fields for physical education & sports teams
- Residents of the Red Hook Houses and the surrounding neighborhood
- Soccer, softball, baseball, football, handball, basketball, track & field teams and enthusiasts
- Swimmers of all ages
- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
FELECIA GROOMSTER
feleciag22@gmail.com
123 LORRAINE STREET
BROOKLYN, NY
RESIDENT

Attn: Christos Tsiamis
Julie Taylor to: Region2 GowanusCanalComments 04/08/2013 01:45 PM
Please respond to Julie Taylor

To Whom it May Concern:

I live 1.5 blocks from the canal. I support the Listing of the Gowanus Superfund site.

I have followed the discussions of the Superfund Cleanup and support the EPA's proposed methods for cleaning this Gowanus Superfund site.

It is important to me that the work be protected, as described in the Plan, from future contamination of all toxic inputs.

It is also important to me that the work be carried out in a safe manner and without truck traffic as described in the Plan.

I ask that the work be accomplished with the lowest possible carbon foot print as carbon output is contributing to climate change conditions this area is facing.
Thank you,
Julie Veto
46 1st Street
Brooklyn, NY 11231

I, the sender, vote that I do not want this project to proceed.
virginia kaisand to: Region2 GowanusCanalComments 04/08/2013 01:35 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

- Children
- Numerous public and private schools which use the fields for physical education & sports teams
- Residents of the Red Hook Houses and the surrounding neighborhood
- Soccer, softball, baseball, football, handball, basketball, track & field teams and enthusiasts
- Swimmers of all ages
- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
virginia kaisand
virginiakaisand@yahoo.com
14 verona st, 2f
brooklyn, ny
Resident

I, the sender, vote that I do not want this project to proceed.

Joanne Walsh to: Region2 GowanusCanalComments 04/08/2013 01:29 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

- Children
- Numerous public and private schools which use the fields for physical education & sports teams
- Residents of the Red Hook Houses and the surrounding neighborhood
- Soccer, softball, baseball, football, handball, basketball, track & field teams and enthusiasts
- Swimmers of all ages
- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
Joanne Walsh
joanne_walsh@maxpointny.com
330 2nd Street
Brooklyn, NY
Resident

I, the sender, vote that I do not want this project to proceed.

Denise Oswald to: Region2 GowanusCanalComments 04/08/2013 01:27 PM

As both a resident and business owner in the community of Red Hook, I am strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

- Children
- Numerous public and private schools which use the fields for physical education & sports teams
- Residents of the Red Hook Houses and the surrounding neighborhood
- Soccer, softball, baseball, football, handball, basketball, track & field teams and enthusiasts
- Swimmers of all ages
- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--

Denise Oswald
combustiblegirl@yahoo.com
396 Van Brunt Street
Brooklyn, New York
Resident and Business Owner

"SAY NO TO A TOXIC RED HOOK"

WWW.NOTOXICREDHOOK.COM

AS A (CIRCLE ONE) RESIDENT, BUSINESS / EMPLOYEE OR USER OF THE PARKS AND RECREATIONAL FACILITIES WITHIN RED HOOK, I AM/ WE ARE STRONGLY OPPOSED TO THE PROCESSING OF TOXIC SLUDGE DREDGED FROM THE GOWANUS CANAL SUPERFUND CLEANUP SITE AT A FACILITY PROPOSED TO BE BUILT RIGHT NEXT TO THE RED HOOK BALL FIELDS AND POOL ON PROPERTY OWNED BY AN INDIVIDUAL WHO HAS INCURRED SERIOUS FINES FOR ENVIRONMENTAL VIOLATIONS IN THE PAST. IT IS THE WRONG SITE FOR THIS IMPORTANT FACILITY.

SIGNATURE(S)/DATE:

Lara E Rommeren 4/8/13

ADDRESS:

359 93rd St. Brooklyn NY 11209

USA

Liberty

FOREVER

TO:

Christos Tsiamis
Central New York Remediation Section
U.S. Environmental Protection Agency
290 Broadway, 20th Floor
New York, New York
10007-1866

SAY NO TO A TOXIC RED HOOK

WWW.NOTOXICREDHOOK.COM

Gowanus Superfund
Lynn Husum to: Region2 GowanusCanalComments 04/08/2013 12:24 PM

Dear Christos Tsiamis
I live 3 blocks from the canal. I support the Listing of the Gowanus Superfund site.

I have followed the discussions of the Superfund Cleanup and support the EPA's proposed methods for cleaning this Gowanus Superfund site.

It is important to me that the work be protected, as described in the Plan, from future contamination of all toxic inputs.

It is also important to me that the work be carried out in a safe manner and without truck traffic as described in the Plan.
Please stand by your words and don't let the plan change to appease the local government and development plans that may not have the neighborhood in their best interests
thanks
Lynn Husum
45 3rd street

Lynn Husum
Appaman Inc
195 Chrystie Street
Suite 502D
New York NY 10002
P 212.460.5480
F 212.4605481
www.appaman.com
Follow us on:
Facebook // Twitter // Instagram // Pinterest

I, the sender, vote that I do not want this project to proceed.
Zoe Pellegrino to: Region2 GowanusCanalComments 04/08/2013 12:07 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

- Children
- Numerous public and private schools which use the fields for physical education & sports teams
- Residents of the Red Hook Houses and the surrounding neighborhood
- Soccer, softball, baseball, football, handball, basketball, track & field teams and enthusiasts
- Swimmers of all ages
- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
Zoe Pellegrino
zoepelle@gmail.com
117 2nd Pl.
Brooklyn, NY
Neighbor

Gowanus superfund site
Eva Bogaty to: Region2 GowanusCanalComments 04/08/2013 11:16 AM

Hello,
I live 1 block from the canal. I support the Listing of the Gowanus Superfund site. It needs cleaning!!
Eva Bogaty

comment on gowanus superfund site

Daniel Kim to: Region2 GowanusCanalComments 04/08/2013 09:14 AM

Sent by: **danielpkim@gmail.com**

I live 2 blocks from the canal. I support the Listing of the Gowanus Superfund site.

I have followed the discussions of the Superfund Cleanup and support the EPA's proposed methods for cleaning this Gowanus Superfund site.

It is important to me that the work be protected, as described in the Plan, from future contamination of all toxic inputs.

It is also important to me that the work be carried out in a safe manner and without truck traffic as described in the Plan.

I ask that the work be accomplished with the lowest possible carbon foot print as carbon output is contributing to climate change conditions this area is facing.

Best,
Daniel

"SAY NO TO A TOXIC RED HOOK"

WWW.NOTOXICREDHOOK.COM

AS A (CIRCLE ONE) RESIDENT, BUSINESS / EMPLOYEE OR USER OF THE PARKS AND RECREATIONAL FACILITIES WITHIN RED HOOK, I AM/ WE ARE STRONGLY OPPOSED TO THE PROCESSING OF TOXIC SLUDGE DREDGED FROM THE GOWANUS CANAL SUPERFUND CLEANUP SITE AT A FACILITY PROPOSED TO BE BUILT RIGHT NEXT TO THE RED HOOK BALL FIELDS AND POOL ON PROPERTY OWNED BY AN INDIVIDUAL WHO HAS INCURRED SERIOUS FINES FOR ENVIRONMENTAL VIOLATIONS IN THE PAST. IT IS THE WRONG SITE FOR THIS IMPORTANT FACILITY.

SIGNATURE(S)/DATE:

Duane Stupp

ADDRESS:

215 CONOVER ST BKLYN NY 11231

TO:

Christos Tsiamis
Central New York Remediation Section
U.S. Environmental Protection Agency
290 Broadway, 20th Floor
New York, New York
10007-1866

SAY NO TO A TOXIC RED HOOK

WWW.NOTOXICREDHOOK.COM

I, the sender, vote that I do not want this project to proceed.

Clare McCarthy to: Region2 GowanusCanalComments 04/06/2013 09:33 PM

History: This message has been replied to.

As a civil servant of the community of Red Hook, I am strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

- Children
- Numerous public and private schools which use the fields for physical education & sports teams
- Residents of the Red Hook Houses and the surrounding neighborhood
- Soccer, softball, baseball, football, handball, basketball, track & field teams and enthusiasts
- Swimmers of all ages
- The Red Hook Food vendors and their customers
- Other visitors to our community

It would be devastating to the community.
Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
Clare McCarthy
clare.mccarthy@gmail.com
a civil servant

Resident Support for Gowanus Superfund Cleanup

catherine steindler to: Region2 GowanusCanalComments 04/07/2013 08:01 AM

Dear Mr. Tsiamis,

I am a resident of Cobble Hill and live near the Gowanus Superfund site. I am writing to register my strong support for the EPA's plan to clean this site. It is important to me that this project move forward, that the site be protected from future contamination, and that the work be carried out in a safe manner as described in the plan. I ask that the work be accomplished with the lowest possible carbon foot print. What is most important to me--much more important than speed-- is that the EPA do their clean up work thoroughly and that the canal remain clean.

Many thanks,

Catherine Steindler
193 Kane Street, Apt. 4
Brooklyn NY 11231

I support the EPA Gowanus Canal Superfund - Red Hook option.

The improvement to an active local maritime industrial business, the economic benefits it will bring, the jobs that it will create, are all important to me and what I believe is best for the majority of the community of Red Hook.

Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community are without harm or risk of such.

Please approve the Red Hook option.

(print)

Agueena — first name
Phillips — last name

30 Bush St — address
2A — apt.#

Brooklyn — city
— state
11231 — zip

(347) 945-0623 — area code & phone number

— email

x Agueena Phillips — signature
4/7/13 — date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

R. P.

I support the EPA Gowanus Canal Superfund - Red Hook option.

The improvement to an active local maritime industrial business, the economic benefits it will bring, the jobs that it will create, are all important to the community of Red Hook.

Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community are without harm or risk of such.

Please approve the Red Hook option.

(please print)

Linda Johnson

first name last name

428 Columbia St 2C

address apt.#

Brooklyn N.Y. 11231

city state zip

718 596-6794

area code & phone number

email

x Linda Johnson 4-7-13

signature date

mail to:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email to:

GowanusCanalComments.Region2@epa.gov

cc:

info@GowanusBayTerminal.com

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013 DEADLINE*

I support the EPA Gowanus Canal Superfund - Red Hook option.

The improvement to an active local maritime industrial business, the economic benefits it will bring, the jobs that it will create, are all important to the community of Red Hook.

Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community are without harm or risk of such.

Please approve the Red Hook option.

(please print)

CHASTITY — first name
Santiago — last name

135 Richards St — address
10E — apt.#

Brooklyn — city
NY — state
11231 — zip

347-337-4949 — area code & phone number

email

x Chastity Santiago — signature
4/7/13 — date

mail to:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email to:
GowanusCanalComments.Region2@epa.gov
cc:
info@GowanusBayTerminal.com

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013 DEADLINE*

I support the EPA Gowanus Canal Superfund - Red Hook option.

The improvement to an active local maritime industrial business, the economic benefits it will bring, the jobs that it will create, are all important to the community of Red Hook.

Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community are without harm or risk of such.

Please approve the Red Hook option.

(please print)

Nyetta Walker

first name / last name

167 Bush st 6-C

address / apt.#

Brooklyn NY 11231

city / state / zip

_____ _____

area code & phone number

_____

email

x Nyetta Walker 4/7/13

signature / date

mail to:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email to:

GowanusCanalComments.Region2@epa.gov

cc:

info@GowanusBayTerminal.com

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013 DEADLINE*

RHW

I support the EPA Gowanus Canal Superfund - Red Hook option.

The improvement to an active local maritime industrial business, the economic benefits it will bring, the jobs that it will create, are all important to the community of Red Hook.

Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community are without harm or risk of such.

Please approve the Red Hook option.

(please print)

Shawna Smith

first name last name

467 Columbia 6B

address apt.#

Brooklyn N.Y. 11231

city state zip

347-314-0005

area code & phone number

email

x [signature] 4-7-13

signature date

mail to:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email to:

GowanusCanalComments.Region2@epa.gov
cc:
info@GowanusBayTerminal.com

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013 DEADLINE*

I support the EPA Gowanus Canal Superfund - Red Hook option.

The improvement to an active local maritime industrial business, the economic benefits it will bring, the jobs that it will create, are all important to the community of Red Hook.

Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community are without harm or risk of such.

Please approve the Red Hook option.

(please print)

Rhesa Senn

first name | last name

527 Columbia Street 5C

address | apt.#

Brooklyn NY 11231

city | state | zip

1(718) 678-6011

area code & phone number

rhesasenn@yahoo.com

email

x _____ 4/17/2013

signature | date

mail to:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email to:

GowanusCanalComments.Region2@epa.gov

cc:

info@GowanusBayTerminal.com

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013 DEADLINE*

RHu

I support the EPA Gowanus Canal Superfund - Red Hook option.

The improvement to an active local maritime industrial business, the economic benefits it will bring, the jobs that it will create, are all important to the community of Red Hook.

Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community are without harm or risk of such.

Please approve the Red Hook option.

(please print)

Debra Traore

first name last name

80 Bush St 5B

address apt.#

Brklyn NY 11231

city state zip

(347) 760-7213

area code & phone number

email

x Debra Traore 4/7/13

signature date

mail to:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email to:

GowanusCanalComments.Region2@epa.gov

cc:

info@GowanusBayTerminal.com

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013 DEADLINE*

RHN

I support the EPA Gowanus Canal Superfund - Red Hook option.

The improvement to an active local maritime industrial business, the economic benefits it will bring, the jobs that it will create, are all important to the community of Red Hook.

Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community are without harm or risk of such.

Please approve the Red Hook option.

(please print)

Jacquelyn (first name) Pollard (last name)

30 Centre Mall (address) 4-A (apt.#)

Brooklyn (city) NY (state) 11231 (zip)

(718) - 908-0317
area code & phone number

JPollard102@yahoo.com
email

x Jacquelyn Pollard (signature) 4/7/13 (date)

mail to:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email to:
GowanusCanalComments.Region2@epa.gov
cc:
info@GowanusBayTerminal.com

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013 DEADLINE*

I support the EPA Gowanus Canal Superfund - Red Hook option.

The improvement to an active local maritime industrial business, the economic benefits it will bring, the jobs that it will create, are all important to the community of Red Hook.

Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community are without harm or risk of such.

Please approve the Red Hook option.

(please print)

HUGUAN — first name
HARDNETT — last name
428 COLUMBIA ST 2C — address
2C — apt.#
BROOKLYN — city
N.Y. — state
11231 — zip
917-850-3514 — area code & phone number

email

x HUGUAN HARDNETT — signature
4/7/13 — date

mail to:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email to:
GowanusCanalComments.Region2@epa.gov
cc:
info@GowanusBayTerminal.com

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013 DEADLINE*

RHN

I, the sender, vote that I do not want this project to proceed.

Lilian Otero to: Region2 GowanusCanalComments 04/07/2013 04:09 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

- Children
- Numerous public and private schools which use the fields for physical education & sports teams
- Residents of the Red Hook Houses and the surrounding neighborhood
- Soccer, softball, baseball, football, handball, basketball, track & field teams and enthusiasts
- Swimmers of all ages
- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
Lilian Otero
lili53@earthlink.net
40 Coffey Street
Brooklyn, NY
resident

I, the sender, vote that I do not want this project to proceed.

John Garcia to: Region2 GowanusCanalComments 04/07/2013 04:11 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Soccer, softball, baseball, football, handball, basketball, track & field teams and enthusiasts
- Swimmers of all ages
- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
John Garcia
fronts76@earthlink.net
40 Coffey Street
Brooklyn, NY
resident

I, the sender, vote that I do not want this project to proceed.

Caroline Parker to: Region2 GowanusCanalComments 04/07/2013 07:11 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

- Children
- Numerous public and private schools which use the fields for physical education & sports teams
- Residents of the Red Hook Houses and the surrounding neighborhood
- Soccer, softball, baseball, football, handball, basketball, track & field teams and enthusiasts
- Swimmers of all ages
- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
Caroline Parker
caroline@parkerstudio.com
101 Prince st
New York, NY

Yes to the Cleanup
Michael King to: Region2 GowanusCanalComments 04/07/2013 08:21 PM
Please respond to Michael King

We want the canal to be cleaned up as per the EPA Superfund's proposal. Without delay.

Michael, Melissa, Lily & Stella King
126 2 Street, 11231
miking7@earthlink.net

I support the EPA Gowanus Canal Superfund - Red Hook option.

The improvement to an active local maritime industrial business, the economic benefits it will bring, the jobs that it will create, are all important to the community of Red Hook.

Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community are without harm or risk of such.

Please approve the Red Hook option.

(please print)

Mary — first name
Scott — last name

28 9W 9th St — address
4B — apt.#

Bklyn — city
N.Y — state
11231 — zip

1-718-596-2353 — area code & phone number

email

x Mary Scott — signature
4/8/013 — date

mail to:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email to:
GowanusCanalComments.Region2@epa.gov
cc:
info@GowanusBayTerminal.com

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013 DEADLINE*

I support the EPA Gowanus Canal Superfund - Red Hook option.

The improvement to an active local maritime industrial business, the economic benefits it will bring, the jobs that it will create, are all important to the community of Red Hook.

Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community are without harm or risk of such.

Please approve the Red Hook option.

(please print)

Kiana — first name
Cornish — last name

28 in 4th st — address
4B — apt.#

Brooklyn — city
NY — state
11231 — zip

917 754-2038 — area code & phone number

KianaCornish917@gmail.com — email

x [signature] — signature
09/08/13 — date

mail to:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email to:
GowanusCanalComments.Region2@epa.gov
cc:
info@GowanusBayTerminal.com

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013 DEADLINE*

I support the EPA Gowanus Canal Superfund - Red Hook option.

The improvement to an active local maritime industrial business, the economic benefits it will bring, the jobs that it will create, are all important to the community of Red Hook.

Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community are without harm or risk of such.

Please approve the Red Hook option.

(please print)

Kiara — first name
Cornish — last name

28 West 9th Street — address
413 — apt.#

Brooklyn — city
NY — state
11231 — zip

917 754 3346 — area code & phone number

PjjL123@aol.com — email

x Kiara Cornish — signature
April 8th 2013 — date

mail to:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email to:
GowanusCanalComments.Region2@epa.gov
cc:
info@GowanusBayTerminal.com

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013 DEADLINE*

1a

I support the EPA Gowanus Canal Superfund - Red Hook option.

The improvement to an active local maritime industrial business, the economic benefits it will bring, the jobs that it will create, are all important to the community of Red Hook.

Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community are without harm or risk of such.

Please approve the Red Hook option.

(please print)

Yvette Mack

first name last name

428 Columbia Street 1B

address apt.#

Brooklyn New York 11231

city state zip

718 875-5688

area code & phone number

email

x Yvette Mack 04-8-2013

signature date

mail to:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email to:

GowanusCanalComments.Region2@epa.gov

cc:

info@GowanusBayTerminal.com

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013 DEADLINE*

RH

I support the EPA Gowanus Canal Superfund - Red Hook option.

The improvement to an active local maritime industrial business, the economic benefits it will bring, the jobs that it will create, are all important to the community of Red Hook.

Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community are without harm or risk of such.

Please approve the Red Hook option.

(please print)

Barsha Brown

first name last name

172 Columbia St 3F

address apt.#

Bklyn NY 11231

city state zip

area code & phone number

email

x Barsha Brown 4/8/13

signature date

mail to:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email to:

GowanusCanalComments.Region2@epa.gov
cc:
info@GowanusBayTerminal.com

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013 DEADLINE*

RHW

I support the EPA Gowanus Canal Superfund - Red Hook option.

The improvement to an active local maritime industrial business, the economic benefits it will bring, the jobs that it will create, are all important to the community of Red Hook.

Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community are without harm or risk of such.

Please approve the Red Hook option.

(please print)

Marcin — first name
Pristell — last name

428 Columbia — address
3A — apt.#

Brooklyn NY — city
— state
11231 — zip

718-858-4553
area code & phone number

email

x Maria Pristell — signature
4/08/2013 — date

mail to:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email to:
GowanusCanalComments.Region2@epa.gov
cc:
info@GowanusBayTerminal.com

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013 DEADLINE*

RHW

I support the EPA Gowanus Canal Superfund - Red Hook option.

The improvement to an active local maritime industrial business, the economic benefits it will bring, the jobs that it will create, are all important to the community of Red Hook.

Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community are without harm or risk of such.

Please approve the Red Hook option.

(please print)

Robert — first name
Jeffries — last name

420 Columbia — address
1C — apt.#

Brklyn — city
NY — state
11231 — zip

_____ _____
area code & phone number

_____
email

x Mr Robert Jeffries Jr — signature
4/8/13 — date

mail to:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email to:
GowanusCanalComments.Region2@epa.gov
cc:
info@GowanusBayTerminal.com

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013 DEADLINE*

RH

I support the EPA Gowanus Canal Superfund - Red Hook option.

The improvement to an active local maritime industrial business, the economic benefits it will bring, the jobs that it will create, are all important to the community of Red Hook.

Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community are without harm or risk of such.

Please approve the Red Hook option.

(please print)

Nathaniel Williams.

first name last name

472 Columbia St 3f

address apt.#

Bklyn NY 11231

city state zip

area code & phone number

email

x Williams Nathaniel 4/8/13

signature date

mail to:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email to:

GowanusCanalComments.Region2@epa.gov
cc:
info@GowanusBayTerminal.com

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013 DEADLINE*

BHW

I, the sender, vote that I do not want this project to proceed.
Sara Guilbeau to: Region2 GowanusCanalComments 04/06/2013 07:59 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

- Children
- Numerous public and private schools which use the fields for physical education & sports teams
- Residents of the Red Hook Houses and the surrounding neighborhood
- Soccer, softball, baseball, football, handball, basketball, track & field teams and enthusiasts
- Swimmers of all ages
- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
Sara Guilbeau
contactsarajoy@gmail.com
190 Columbia St. 3R
Brooklyn, NY
Resident

I, the sender, vote that I do not want this project to proceed.

Cesar Vallejo to: Region2 GowanusCanalComments 04/06/2013 09:11 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Numerous public and private schools which use the fields for physical education & sports teams
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- Swimmers of all ages
- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
Cesar Vallejo
Cesar.a.vall@gmail.com
190 Columbia St Apt 3R
Brooklyn, NY
Residence

Statement in Support of EPA Superfund Cleanup Plans for Gowanus Canal

David Congdon to: Region2 GowanusCanalComments 04/06/2013 04:27 PM

Cc: Nancy Golladay, David Congdon

Dear EPA:

I am writing this statement to the EPA in support of the Proposed Superfund Cleanup Plan for the Gowanus Canal. My wife and I have lived 1 ½ blocks from the Gowanus canal since 1976. I have strongly supported proposals intended to clean up the canal, including the initial Listing of the Gowanus Canal on the EPA's Superfund site. I have followed the discussions of the Superfund Cleanup at all of the different meetings (Federal, City, Community Board, CoRD, and FROGG), and support the EPA's proposed methods for cleaning up the Gowanus Canal Superfund site.

It is important to me that the work be protected from future recontamination of all toxic inputs, as described in the Plan. Also, it is important to me that the work be carried out in a safe manor and without truck traffic, as described in the Plan.

Since 1982, I have patiently listening to New York City officials promise to clean up the Gowanus Canal. Nothing ever came of those empty promises. Over the last three years, I have attended many community meetings listening to New York City officials claim that the EPA should step aside and let the City and their real estate developer cronies clean up the Gowanus Canal. I do not believe that this City administration has the political will or intention of cleaning up the canal. The City should pull its collective socks up and start complying with the NYSDEC Water Quality Standards instead.

Thank you,

David Congdon and Nancy Golladay
292 Hoyt Street
Brooklyn, N 11231
davidcongdon@att.net

I, the sender, vote that I do not want this project to proceed.

Jared Thompson to: Region2 GowanusCanalComments 04/06/2013 03:39 PM

As resident of the community of Red Hook, we are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

- Children
- Numerous public and private schools which use the fields for physical education & sports teams
- Residents of the Red Hook Houses and the surrounding neighborhood
- Soccer, softball, baseball, football, handball, basketball, track & field teams and enthusiasts
- Swimmers of all ages
- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
Jared Thompson
Jthompso87@gmail.com
383 Van brunt st. Apt. 2
Brooklyn, Ny
Resident

I, the sender, vote that I do not want this project to proceed.

Danielle Leiva to: Region2 GowanusCanalComments 04/06/2013 02:10 PM

History: This message has been replied to.

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Swimmers of all ages
- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
Danielle Leiva
Stumbledhelp@gmail.com

I, the sender, vote that I do not want this project to proceed.

Sarah Yates to: Region2 GowanusCanalComments 04/06/2013 12:39 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
Sarah Yates
sarahdyates@gmail.com
109 Meriden Rd
Rockaway, NJ
Parks User

PLEASE clean up our canal!!
Oliver J Jones to: Region2 GowanusCanalComments 04/06/2013 11:06 AM

I live 10 blocks from the canal. I support the Listing of the Gowanus Superfund site. I have followed the discussions of the Superfund Cleanup and support the EPA's proposed methods for cleaning this Gowanus Superfund site. It is important to me that the work be protected, as described in the Plan, from future contamination of all toxic inputs.

It is also important to me that the work be carried out in a safe manner and without truck traffic as described in the Plan.

I ask that the work be accomplished with the lowest possible carbon footprint as carbon output is contributing to climate change conditions thisarea is facing

Many thanks

Oliver Jones

American Express made the following annotations on Sat Apr 06 2013 08:06:44
****
"This message and any attachments are solely for the intended recipient and may contain confidential or privileged information. If you are not the intended recipient, any disclosure, copying, use, or distribution of the information included in this message and any attachments is prohibited. If you have received this communication in error, please notify us by reply e-mail and immediately and permanently delete this message and any attachments. Thank you."
American Express a ajouté le commentaire suivant le Sat Apr 06 2013 08:06:44
Ce courrier et toute pièce jointe qu'il contient sont réservés au seul destinataire indiqué et peuvent renfermer des renseignements confidentiels et privilégiés. Si vous n'êtes pas le destinataire prévu, toute divulgation, duplication, utilisation ou distribution du courrier ou de toute pièce jointe est interdite. Si vous avez reçu cette communication par erreur, veuillez nous en aviser par courrier et détruire immédiatement le courrier et les pièces jointes. Merci.
****

American Express Services Europe Limited Registered Office: Belgrave House, 76 Buckingham Palace Road, London SW1W 9AX Registered in England and Wales with Number 1833139

I, the sender, vote that I do not want this project to proceed.
marissa freeman to: Region2 GowanusCanalComments 04/06/2013 09:21 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Swimmers of all ages
- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
marissa freeman
marissacfreeman@gmail.com
20 Tiffany Place
Brooklyn, NY
Resident and Business

I, the sender, vote that I do not want this project to proceed.

cassandra floto to: Region2 GowanusCanalComments 04/06/2013 09:14 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Swimmers of all ages
- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
cassandra floto
cassandrawarner@rocketmail.com
14 Verona street, 2F
Brooklyn, NY
Resident

I, the sender, vote that I do not want this project to proceed.

jeremy floto to: Region2 GowanusCanalComments 04/06/2013 09:13 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
jeremy floto
contact@flotowarner.com
14 verona st, 2d
brooklyn, ny
resident

I, the sender, vote that I do not want this project to proceed.

Janice Vail to: Region2 GowanusCanalComments 04/06/2013 08:22 AM

As a park user of the community of Red Hook, I am strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Swimmers of all ages
- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
Janice Vail
jan1024v@aol.com
2833 Lafayette St.
Scranton, PA 18504
Park User

Rocco Rella to: Region2 GowanusCanalComments 04/06/2013 08:04 AM
Please respond to Rocco Rella

History: This message has been forwarded.

My family and I live 1 block from the Gowanus, it's very important to us that the canal is cleaned as best as possible and that the proper authority oversee the clean up.
Just this week a company it conducting core drilling in the area and did not properly clean the silt, it was left on the ground.

Thank you,
Rocco.

I, the sender, vote that I do not want this project to proceed.
Chan Dave to: Region2 GowanusCanalComments 04/05/2013 11:21 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Soccer, softball, baseball, football, handball, basketball, track & field teams and enthusiasts
- Swimmers of all ages
- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
Chan Dave
heydpch@yahoo.com.hk
135 Coffey Street
Brooklyn, NY
Resident

I, the sender, vote that I do not want this project to proceed.

Sarah Norton to: Region2 GowanusCanalComments 04/05/2013 07:31 PM

History: This message has been replied to.

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Swimmers of all ages
- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
Sarah Norton
gwinna42@angelic.com

I, the sender, vote that I do not want this project to proceed.

Joshua Becerril to: Region2 GowanusCanalComments 04/05/2013 06:54 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
Joshua Becerril
justbizjr@aol.com
79 wolcott st #405
Brooklyn, NY
Resident

I, the sender, vote that I do not want this project to proceed.

Sarah Ludington to: Region2 GowanusCanalComments 04/05/2013 04:45 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Swimmers of all ages
- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
Sarah Ludington
s.ludington@gmail.com
148 Coffey St.
Brooklyn, NY
resident

I, the sender, vote that I do not want this project to proceed.
Joan Maloney to: Region2 GowanusCanalComments 04/05/2013 01:05 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
Joan Maloney
jomash-rhny@usa.net
51 Dikeman Street
Brooklyn, NY
Resident

Gowanus Superfund site
Mike Yuen to: Region2 GowanusCanalComments 04/05/2013 12:41 PM

To whom it may concern,
I live 2 blocks from the canal and completely I support the Listing of the Gowanus Superfund site.

Having lived in the area for close to 15 years, we were very excited to hear that someone was going to take the time and money to clean up what is considered one of the most polluted waterways in America. I have two youg children and the toxins that are in the Gowanus is an ongoing concern. I have followed the discussions of the Superfund Cleanup and support the EPA's proposed methods for cleaning this Gowanus Superfund site.

It is important to me that the work be protected, as described in the Plan, from future contamination of all toxic inputs.

It is also important to me that the work be carried out in a safe manner and without truck traffic as described in the Plan.

I ask that the work be accomplished with the lowest possible carbon foot print as carbon output is contributing to climate change conditions this area is facing.

Michael Yuen-Killick
307 Carroll Street

Superfund Site
Michael Dobbs to: Region2 GowanusCanalComments 04/05/2013 12:36 PM

Hi!

I am for the current EPA plan. Superfund cleanups have been shown to be successful before. I hope that we continue to clean up toxic places: cleanups create jobs and improve the environment. I hope this project goes forward.

Best,
Michael Dobbs
Brooklyn, NY

--

In order to make an apple pie from scratch, you must first create the universe. -- Carl Sagan

Dylan Westfeldt to: Region2 GowanusCanalComments 04/05/2013 12:09 PM

History: This message has been replied to.

have followed the discussions of the Superfund Cleanup and support the EPA's proposed methods for cleaning this Gowanus Superfund site.

--

Dylan Westfeldt, Interpreter
English/Spanish/French
718 685 6044

Gowanus Canal comments
Emily Jenkins to: Region2 GowanusCanalComments 04/05/2013 12:09 PM

To whom it May Concern,
I live in Park Slope, Brooklyn and walk over the canal about 4 times a week, running errands and picking up my children from school on the other side. I support the Listing of the Gowanus Superfund site and the EPA's proposed methods for cleaning it. The work should be carried out in a safe manner and without truck traffic as described in the plan.

Emily Jenkins

Emily Jenkins
(646) 703-4956
ejenkins@mindspring.com
170 Prospect Park West
Apartment 4L
Brooklyn, NY 11215

Gowanus Canal
Jennifer Frantz to: Region2 GowanusCanalComments 04/05/2013 12:01 PM

I live a few short blocks from the canal. I support the Listing of the Gowanus Superfund site.

I have followed the discussions of the Superfund Cleanup and support the EPA's proposed methods for cleaning this Gowanus Superfund site.

It is important to me that the work be protected, as described in the Plan, from future contamination of all toxic inputs.

It is also important to me that the work be carried out in a safe manner and without truck traffic as described in the Plan.

I ask that the work be accomplished with the lowest possible carbon foot print as carbon output is contributing to climate change conditions this area is facing.

Thank you,
Jennifer Frantz
259 Columbia Street
Brooklyn, NY 11231

I support the listing of the Gowanus Superfund Site

Erin Kelly to: Region2 GowanusCanalComments 04/05/2013 12:00 PM

I live one block from the Gowanus Canal. I support the listing of the Gowanus Superfund site.
Thank you,
Erin Kelly
38 1st. St.
Brooklyn, NY 11231

Support for the EPA on Proposed Superfund Cleanup Plan
Potts, Janeen to: Region2 GowanusCanalComments 04/05/2013 11:59 AM

Dear Sir/ Madam,

I live 1 block from the canal. I support the Listing of the Gowanus Superfund site.

I have followed the discussions of the Superfund Cleanup and support the EPA's proposed methods for cleaning this Gowanus Superfund site.

It is important to me that the work be protected, as described in the Plan, from future contamination of all toxic inputs.

It is also important to me that the work be carried out in a safe manner and without truck traffic as described in the Plan.

I ask that the work be accomplished with the lowest possible carbon foot print as carbon output is contributing to climate change conditions this area is facing.

Sincerely,
Janeen Potts
11 Dennet Place Apt 2
Brooklyn, NY 11231

Follow Quad/Graphics in social media

I support the EPA plan for Gowanus clean up!!!
Georgia West to: Region2 GowanusCanalComments 04/05/2013 11:52 AM

Dear Mr. Tsiamis

I live on half a block from the canal at 27 1st Street, 11231, between Hoyt and Bond, and I vote. I have followed the discussions of the Superfund Cleanup and support the EPA's proposed methods for cleaning this Gowanus Superfund site. It is important to me that the work be protected, as described in the Plan, from future contamination of all toxic inputs.

It is also important to me that the work be carried out in a safe manner and without truck traffic as described in the Plan. I ask that the work be accomplished with the lowest possible carbon foot print as carbon output is contributing to climate change conditions this area is facing.

Thank you.
Georgia West Stacey

I, the sender, vote that I do not want this project to proceed.

Rachael Laumann to Region2 GowanusCanalComments 04/05/2013 11:04 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

- Children
- Numerous public and private schools which use the fields for physical education & sports teams
- Residents of the Red Hook Houses and the surrounding neighborhood
- Soccer, softball, baseball, football, handball, basketball, track & field teams and enthusiasts
- Swimmers of all ages
- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
Rachael Laumann
Rachael.laumann@NYU.edu
Resident

I, the sender, vote that I do not want this project to proceed.
Christopher Baginski to: Region2 GowanusCanalComments 04/05/2013 10:58 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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--
Christopher Baginski
chrisbaginski@gmail.com
139 Milton Street
Brooklyn, NY
11222

Gowanus Canal Superfund Cleanup Proposal

Barbara Brookhart to: Region2 GowanusCanalComments 04/05/2013 10:41 AM

April 5, 2013

Christos Tsiamis
Remedial Project Manager
Central New York Remediation Section
U.S. Environmental Protection Agency
290 Broadway, 20th Floor
New York, New York 10007-1866

Dear Mr. Tsiamis,

As a 30+ year resident of Carroll Gardens, I support the EPA's proposed methods for cleaning this Gowanus Superfund site. The communities adjacent to the canal have advocated for the clean up of the canal for many years, and we wholeheartedly supported the designation of the canal as a Superfund site, and support the EPA's Gowanus Canal Superfund Cleanup proposal.

I want to commend the US Environmental Protection Agency and its staff for an open and comprehensive community participatory process. It was quite an education, and the technical discussions were made in a way that lay people could understand the cleanup problems and proposal.

I am especially concerned about the combined sewer overflow problem, and any plans for more upland development should be put on hold until the City fully addresses this issue. They have been reluctant participants in the process, especially the CSO issue, and all of the clean up that is planned by the EPA would be for naught, if the CSO problem isn't ADEQUATELY addressed. The flooding of the adjacent neighborhoods with sewage during the Sandy hurricane should make the resolving of this problem the number one priority, and is why it is so important that the cleanup work be protected, as described in the Plan, from future contamination of all toxic inputs, especially the CSO outlets.

It is also important that the work be carried out in a safe manner, and without truck traffic as described in the Plan, as it is important that the work be accomplish with the lowest possible carbon footprint.

--

Barbara Brookhart
120 First Place #4B. Brooklyn, NY 111231
Mobile: 917-403-9832

8601 East Old Spanish Trail, #604
Tucson, AZ 85710-4360

Message from a supporter of the Gowanus Superfund Cleanup
Marie Proeller Hueston to: Region2 GowanusCanalComments 04/05/2013 10:09 AM

Good morning,

I am writing to express my whole-hearted support of the Listing of the Gowanus Superfund site. I live one block from the canal and feel that the clean up is incredibly important to the community. Also, I feel it is imperative that the clean up be done in the safest way possible.

Thank you for the opportunity to express my opinion, and thank you in advance for your work cleaning up this highly toxic waterway.

Sincerely,

Marie Hueston
1st St., Brooklyn

I, the sender, vote that I do not want this project to proceed.

Celia Land to: Region2 GowanusCanalComments 04/05/2013 09:48 AM

As part of the community of Red Hook, I/ am strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Swimmers of all ages
- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--

Celia Land
celia073@yahoo.com
260 Columbia St , #3
Brooklyn, NY
resident, park user

I, the sender, vote that I do not want this project to proceed.

Eric Saul to: Region2 GowanusCanalComments 04/05/2013 09:23 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
Eric Saul
eric@ericsaul.net
30 Dikeman Street, 3rd Floor
Brooklyn, NY
11231

I, the sender, vote that I do not want this project to proceed.

Kerlin Richter to: Region2 GowanusCanalComments 04/05/2013 08:15 AM

As a friend of the community of Red Hook, I am strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
Kerlin Richter
Kerlinsmail@gmail.com
A friend

I, the sender, vote that I do not want this project to proceed.
Beatrice Byrd to: Region2 GowanusCanalComments 04/05/2013 08:14 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
Beatrice Byrd
bbyrd32575@aol.com
40 Centre Mall, Apt. 1A
Brooklyn, NY
resident

I, the sender, vote that I do not want this project to proceed.
Vanessa Adeseko to: Region2 GowanusCanalComments 04/05/2013 08:02 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
Vanessa Adeseko
sevabelli@gmail.com
Red Hook , Beooklyn, New York
Resident

I, the sender, vote that I do not want this project to proceed.
jonathan browning to: Region2 GowanusCanalComments 04/05/2013 06:51 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
jonathan browning
pasjon@earthlink.net
36 carroll st.
brooklyn, ny
resident

I, the sender, vote that I do not want this project to proceed.
Tara Collazo to: Region2 GowanusCanalComments 04/05/2013 12:45 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
Tara Collazo
Lanae587@yahoo.com
205 Bergen street
Brooklyn, New York
Resident

I, the sender, vote that I do not want this project to proceed.
Marisol Castanos to: Region2 GowanusCanalComments 04/05/2013 12:17 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
Marisol Castanos
Marisol.styles99@gmail.com
2877
Brooklyn , Ny
Parks user

23 First Street
Brooklyn, NY 11231

April 5, 2013

Christos Tsiamis
Remedial Project Manager
Central NY Rem. Section
USEPA
290 Broadway, 20th FL.
New York, New York 10007-1866

Dear Mr. Tsiamis,

I am a life long resident of First Street in Brooklyn, one block from the Gowanus Canal. Two of my grandchildren also live on First Street. They are the sixth generation of my family to live in such close proximity to the Gowanus Canal. I applaud your very fine work in having the canal declared a super fund site, and very much appreciate your serious work improving the quality of life for all those people who live in and visit our neighborhood.

For more than 100 years the City of New York did nothing to relieve or eliminate the constant contamination of the canal. To date, the City continues to do nothing and literally exasperates the condition by encouraging high density housing along the shores of the Gowanus.

I just want you to know how vey much I, my family, and my neighbors, appreciate and applaud all that you are doing. I look forward to my grandchildren crossing the Carroll Street bridge on their way to school and witnessing a vastly improved eco system below and along the shores of the bridge. Thank you for your challenging and truly noble work.

Respectfully,

James J. Kenna

I, the sender, vote that I do not want this project to proceed.
Sanije Gjokaj to: Region2 GowanusCanalComments 04/04/2013 10:29 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
Sanije Gjokaj
Sgjokaj@gmail.com
185 marine avenue
Brooklyn, New York
User

I, the sender, vote that I do not want this project to proceed.
Niels Koizumi to: Region2 GowanusCanalComments 04/04/2013 10:15 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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--
Niels Koizumi
nielskoizumi@gmail.com
97 Pioneer Street
Brooklyn, NY
11231

I, the sender, vote that I do not want this project to proceed.
Gabrielle Blanchette to: Region2 GowanusCanalComments 04/04/2013 09:48 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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--
Gabrielle Blanchette
Gblanchette7@gmail.com
94 Pioneer Street
Brooklyn, New York
Residence

I, the sender, vote that I do not want this project to proceed.
Luz Vasquez to: Region2 GowanusCanalComments 04/04/2013 09:40 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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--
Luz Vasquez
sandilovex3@aol.com
21-MILL ST APT.6B
Brooklyn, NY
Resident

I, the sender, vote that I do not want this project to proceed.

Terumi Matthews to: Region2 GowanusCanalComments 04/04/2013 09:19 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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--

Terumi Matthews
terumi1@earthlink.net
136 Grand Street
New York, NY
Residence

Support for EPA Plan
Jeff Feola to: Region2 GowanusCanalComments 04/04/2013 09:06 PM

I live one block from the Gowanus Canal and would very much like to see the Canal cleaned up. In addition to cleaning up the toxins due to years of industrial use, I would also like to see an end to the problem of combined sewer overflows during storms. If at all possible, please also consider the problem of sewer backups into homes when there are heavy rains and storms.

Sincerely yours,

Jeff Feola
120 2 Street
Brooklyn 111231

--

I, the sender, vote that I do not want this project to proceed.
Claire Alba to: Region2 GowanusCanalComments 04/04/2013 08:58 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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--
Claire Alba
clairealba@rocketmail.com
54 Hawthorne St.
Brooklyn, NY
a person who cares about living conditions

Gowanus Canal
paul heller to: Region2 GowanusCanalComments 04/04/2013 08:23 PM
Please respond to paul heller

Dear Mr. Tsiamis,

I live near Fifth Avenue a few blocks away from the Gowanus Canal. I want you to know how strongly I and many of my neighbors feel about the premature nature of the Lightstone development. The EPA plan for remediation of some of the worse toxic conditions of the canal is what we want. After that is done, then there should be some discussion on whether commercial or non commercial development should take place along the canal. I urge the EPA to implement its plan as proposed.

The city government has clearly shown no interest in doing anything serious to clean the canal in the past. The history of the city's neglect is a fact. In the future, I would hate for people to say that we could have prevented another Love Canal but allowed developers who have greater influence on the city to build and then walk away. At the time of the Love Canal disaster it was said by a state official that the canal would be a "national symbol of a failure to exercise a sense of concern for future generations". We now have an opportunity to place safety and common sense over greed.

Respectfully,

Paul Heller, 322 First Street, Brooklyn, NY

I, the sender, vote that I do not want this project to proceed.

Stacey Zielinski to: Region2 GowanusCanalComments 04/04/2013 08:22 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--

Stacey Zielinski
Linskady@aol.com
298 Van Brunt St
Brooklyn, NY
Resident

I, the sender, vote that I do not want this project to proceed.
Harriet Zucker to: Region2 GowanusCanalComments 04/04/2013 08:22 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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--
Harriet Zucker
harithspi@gmail.com
110 King Street
Brooklyn, NY
residence

I, the sender, vote that I do not want this project to proceed.

Lisa Lagomarsino to Region2 GowanusCanalComments 04/04/2013 08:18 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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--
Lisa Lagomarsino
lisa.lagomarsino@gmail.com
152 Beard St
Brooklyn , NY
residence

I, the sender, vote that I do not want this project to proceed.

derek dominy to: Region2 GowanusCanalComments 04/04/2013 08:05 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

- Children
- Numerous public and private schools which use the fields for physical education & sports teams
- Residents of the Red Hook Houses and the surrounding neighborhood
- Soccer, softball, baseball, football, handball, basketball, track & field teams and enthusiasts
- Swimmers of all ages
- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
derek dominy
derekdominy@earthlink.net
398 van brunt st.
brooklyn, ny
resident,business owner

I, the sender, vote that I do not want this project to proceed.

Jake Beinecke to: Region2 GowanusCanalComments 04/04/2013 08:01 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

- Children
- Numerous public and private schools which use the fields for physical education & sports teams
- Residents of the Red Hook Houses and the surrounding neighborhood
- Soccer, softball, baseball, football, handball, basketball, track & field teams and enthusiasts
- Swimmers of all ages
- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--
Jake Beinecke
jake.beinecke@gmail.com

I, the sender, vote that I do not want this project to proceed.

Jenny Golden to: Region2 GowanusCanalComments 04/04/2013 07:55 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

- Children
- Numerous public and private schools which use the fields for physical education & sports teams
- Residents of the Red Hook Houses and the surrounding neighborhood
- Soccer, softball, baseball, football, handball, basketball, track & field teams and enthusiasts
- Swimmers of all ages
- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations profiting from the project. It is the wrong site for this important facility.

--

Jenny Golden
jennyalejandra@mac.com
424 Van Brunt Street
Brooklyn, NY
11231

Comments on Gowanus Canal Proposed Plan

Lena Golze Desmond to: Region2 GowanusCanalComments 04/17/2013 11:44 AM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Lena Golze Desmond

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

While the EPA's plan takes the critical step of calling for CSO retention for two of the Canal's worst outfalls many details will not be solidified until New York City submits their CSO Long Term Control Plan in 2015. It is critical for the EPA to stand firm on requiring retention tanks to control CSOs and to work with New York City towards the eventual goal of 100% elimination of CSOs from the Canal.

I support the EPA's commitment to dredge as much as 10 feet of contaminated sediment from the entire length of the canal, build a multi-layer cap on the bottom, and treat and dispose of this contaminated sediment offsite. I also believe that the EPA should listen to the wishes of the community in Red Hook who oppose the building of a CDF on the Red Hook waterfront to dispose of the least contaminated sediment.

Sincerely,

Ms. Lena Golze Desmond
137 E 38th St
New York, NY 10016-2650
(212) 684-4039

Comments on Gowanus Canal Proposed Plan

Asher Pacht to: Region2 GowanusCanalComments 04/17/2013 11:44 AM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Asher Pacht

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

While the EPA's plan takes the critical step of calling for CSO retention for two of the Canal's worst outfalls many details will not be solidified until New York City submits their CSO Long Term Control Plan in 2015. It is critical for the EPA to stand firm on requiring retention tanks to control CSOs and to work with New York City towards the eventual goal of 100% elimination of CSOs from the Canal.

I support the EPA's commitment to dredge as much as 10 feet of contaminated sediment from the entire length of the canal, build a multi-layer cap on the bottom, and treat and dispose of this contaminated sediment offsite. I also believe that the EPA should listen to the wishes of the community in Red Hook who oppose the building of a CDF on the Red Hook waterfront to dispose of the least contaminated sediment.

Sincerely,

Mr. Asher Pacht
20 Wilson St # 2
Beacon, NY 12508-2612

Comments on Gowanus Canal Proposed Plan

Catherine Bright to: Region2 GowanusCanalComments 04/17/2013 11:44 AM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Catherine Bright

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

While the EPA's plan takes the critical step of calling for CSO retention for two of the Canal's worst outfalls many details will not be solidified until New York City submits their CSO Long Term Control Plan in 2015. It is critical for the EPA to stand firm on requiring retention tanks to control CSOs and to work with New York City towards the eventual goal of 100% elimination of CSOs from the Canal.

I support the EPA's commitment to dredge as much as 10 feet of contaminated sediment from the entire length of the canal, build a multi-layer cap on the bottom, and treat and dispose of this contaminated sediment offsite. I also believe that the EPA should listen to the wishes of the community in Red Hook who oppose the building of a CDF on the Red Hook waterfront to dispose of the least contaminated sediment.

Sincerely,

Ms. Catherine Bright
615 Hudson St
New York, NY 10014-1810

Comments on Gowanus Canal Proposed Plan

Maury Hopson to: Region2 GowanusCanalComments 04/17/2013 11:44 AM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Maury Hopson

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

While the EPA's plan takes the critical step of calling for CSO retention for two of the Canal's worst outfalls many details will not be solidified until New York City submits their CSO Long Term Control Plan in 2015. It is critical for the EPA to stand firm on requiring retention tanks to control CSOs and to work with New York City towards the eventual goal of 100% elimination of CSOs from the Canal.

I support the EPA's commitment to dredge as much as 10 feet of contaminated sediment from the entire length of the canal, build a multi-layer cap on the bottom, and treat and dispose of this contaminated sediment offsite. I also believe that the EPA should listen to the wishes of the community in Red Hook who oppose the building of a CDF on the Red Hook waterfront to dispose of the least contaminated sediment.
Red Hook has been through enough from Storm Sandy without adding the depository for any sediment.

Sincerely,

Mr. Maury Hopson
134 W 11th St
New York, NY 10011-8332

Comments on Gowanus Canal Proposed Plan

Brian Ascher to: Region2 GowanusCanalComments 04/17/2013 11:44 AM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Brian Ascher

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

While the EPA's plan takes the critical step of calling for CSO retention for two of the Canal's worst outfalls many details will not be solidified until New York City submits their CSO Long Term Control Plan in 2015. It is critical for the EPA to stand firm on requiring retention tanks to control CSOs and to work with New York City towards the eventual goal of 100% elimination of CSOs from the Canal.

I support the EPA's commitment to dredge as much as 10 feet of contaminated sediment from the entire length of the canal, build a multi-layer cap on the bottom, and treat and dispose of this contaminated sediment offsite. I also believe that the EPA should listen to the wishes of the community in Red Hook who oppose the building of a CDF on the Red Hook waterfront to dispose of the least contaminated sediment.

Sincerely,

Mr. Brian Ascher
20 E 9th St
Apt 10d
New York, NY 10003-5944

Comments on Gowanus Canal Proposed Plan

Andrea Zinn to: Region2 GowanusCanalComments 04/17/2013 11:44 AM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Andrea Zinn

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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I support the EPA's commitment to dredge as much as 10 feet of contaminated sediment from the entire length of the canal, build a multi-layer cap on the bottom, and treat and dispose of this contaminated sediment offsite. I also believe that the EPA should listen to the wishes of the community in Red Hook who oppose the building of a CDF on the Red Hook waterfront to dispose of the least contaminated sediment.

Sincerely,

Mrs. Andrea Zinn
629 E 24th St
Brooklyn, NY 11210-1131

Comments on Gowanus Canal Proposed Plan

Elspeth Macdonald to: Region2 GowanusCanalComments 04/17/2013 11:45 AM
Sent by: **Riverkeeper <info@Riverkeeper.org>**
Please respond to Elspeth Macdonald

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

While the EPA's plan takes the critical step of calling for CSO retention for two of the Canal's worst outfalls many details will not be solidified until New York City submits their CSO Long Term Control Plan in 2015. It is critical for the EPA to stand firm on requiring retention tanks to control CSOs and to work with New York City towards the eventual goal of 100% elimination of CSOs from the Canal.

I support the EPA's commitment to dredge as much as 10 feet of contaminated sediment from the entire length of the canal, build a multi-layer cap on the bottom, and treat and dispose of this contaminated sediment offsite. I also believe that the EPA should listen to the wishes of the community in Red Hook who oppose the building of a CDF on the Red Hook waterfront to dispose of the least contaminated sediment.

Sincerely,

Ms. Elspeth Macdonald
303 6th St
Brooklyn, NY 11215-3205

Comments on Gowanus Canal Proposed Plan

Aaron Zakem to: Region2 GowanusCanalComments 04/17/2013 11:45 AM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Aaron Zakem

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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I support the EPA's commitment to dredge as much as 10 feet of contaminated sediment from the entire length of the canal, build a multi-layer cap on the bottom, and treat and dispose of this contaminated sediment offsite. I also believe that the EPA should listen to the wishes of the community in Red Hook who oppose the building of a CDF on the Red Hook waterfront to dispose of the least contaminated sediment.

Sincerely,

Mr. Aaron Zakem
236 E 36th St
Apt 4a
New York, NY 10016-3725

Comments on Gowanus Canal Proposed Plan

Liz Barry to: Region2 GowanusCanalComments 04/17/2013 11:45 AM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Liz Barry

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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I support the EPA's commitment to dredge as much as 10 feet of contaminated sediment from the entire length of the canal, build a multi-layer cap on the bottom, and treat and dispose of this contaminated sediment offsite. I also believe that the EPA should listen to the wishes of the community in Red Hook who oppose the building of a CDF on the Red Hook waterfront to dispose of the least contaminated sediment.

Sincerely,

Ms. Liz Barry
174 S 3rd St
Apt A1
Brooklyn, NY 11211-5369
(336) 269-1539

Comments on Gowanus Canal Proposed Plan

Michelle David to: Region2 GowanusCanalComments 04/17/2013 11:45 AM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Michelle David

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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I support the EPA's commitment to dredge as much as 10 feet of contaminated sediment from the entire length of the canal, build a multi-layer cap on the bottom, and treat and dispose of this contaminated sediment offsite. I also believe that the EPA should listen to the wishes of the community in Red Hook who oppose the building of a CDF on the Red Hook waterfront to dispose of the least contaminated sediment.

Sincerely,

Ms. Michelle David
52 Sutton St
Brooklyn, NY 11222-4404

Comments on Gowanus Canal Proposed Plan

Laura Neiman to: Region2 GowanusCanalComments 04/17/2013 11:45 AM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Laura Neiman

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

While the EPA's plan takes the critical step of calling for CSO retention for two of the Canal's worst outfalls many details will not be solidified until New York City submits their CSO Long Term Control Plan in 2015. It is critical for the EPA to stand firm on requiring retention tanks to control CSOs and to work with New York City towards the eventual goal of 100% elimination of CSOs from the Canal.

I support the EPA's commitment to dredge as much as 10 feet of contaminated sediment from the entire length of the canal, build a multi-layer cap on the bottom, and treat and dispose of this contaminated sediment offsite. I also believe that the EPA should listen to the wishes of the community in Red Hook who oppose the building of a CDF on the Red Hook waterfront to dispose of the least contaminated sediment.

Sincerely,

Ms. Laura Neiman
60 Seaman Ave
Apt 5g
New York, NY 10034-2821
(917) 690-8744

Comments on Gowanus Canal Proposed Plan

Mike Schade to: Region2 GowanusCanalComments 04/17/2013 11:45 AM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Mike Schade

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

While the EPA's plan takes the critical step of calling for CSO retention for two of the Canal's worst outfalls many details will not be solidified until New York City submits their CSO Long Term Control Plan in 2015. It is critical for the EPA to stand firm on requiring retention tanks to control CSOs and to work with New York City towards the eventual goal of 100% elimination of CSOs from the Canal.

I support the EPA's commitment to dredge as much as 10 feet of contaminated sediment from the entire length of the canal, build a multi-layer cap on the bottom, and treat and dispose of this contaminated sediment offsite. I also believe that the EPA should listen to the wishes of the community in Red Hook who oppose the building of a CDF on the Red Hook waterfront to dispose of the least contaminated sediment.

Sincerely,

Mr. Mike Schade
71 Sutton St # 2
Brooklyn, NY 11222-4403

Comments on Gowanus Canal Proposed Plan

Bruce Markens to: Region2 GowanusCanalComments 04/17/2013 11:45 AM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Bruce Markens

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

While the EPA's plan takes the critical step of calling for CSO retention for two of the Canal's worst outfalls many details will not be solidified until New York City submits their CSO Long Term Control Plan in 2015. It is critical for the EPA to stand firm on requiring retention tanks to control CSOs and to work with New York City towards the eventual goal of 100% elimination of CSOs from the Canal.

I support the EPA's commitment to dredge as much as 10 feet of contaminated sediment from the entire length of the canal, build a multi-layer cap on the bottom, and treat and dispose of this contaminated sediment offsite. I also believe that the EPA should listen to the wishes of the community in Red Hook who oppose the building of a CDF on the Red Hook waterfront to dispose of the least contaminated sediment.

Sincerely,

Mr. Bruce Markens
127 W 96th St
New York, NY 10025-6427

Comments on Gowanus Canal Proposed Plan

Donna Henes to: Region2 GowanusCanalComments 04/17/2013 11:45 AM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Donna Henes

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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I support the EPA's commitment to dredge as much as 10 feet of contaminated sediment from the entire length of the canal, build a multi-layer cap on the bottom, and treat and dispose of this contaminated sediment offsite. I also believe that the EPA should listen to the wishes of the community in Red Hook who oppose the building of a CDF on the Red Hook waterfront to dispose of the least contaminated sediment.

Sincerely,

Ms. Donna Henes
279 Sterling Pl
Brooklyn, NY 11238-4400

Comments on Gowanus Canal Proposed Plan

Bonnie Rosemstock to: Region2 GowanusCanalComments 04/17/2013 11:45 AM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Bonnie Rosemstock

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

While the EPA's plan takes the critical step of calling for CSO retention for two of the Canal's worst outfalls many details will not be solidified until New York City submits their CSO Long Term Control Plan in 2015. It is critical for the EPA to stand firm on requiring retention tanks to control CSOs and to work with New York City towards the eventual goal of 100% elimination of CSOs from the Canal.

I support the EPA's commitment to dredge as much as 10 feet of contaminated sediment from the entire length of the canal, build a multi-layer cap on the bottom, and treat and dispose of this contaminated sediment offsite. I also believe that the EPA should listen to the wishes of the community in Red Hook who oppose the building of a CDF on the Red Hook waterfront to dispose of the least contaminated sediment.

Sincerely,

Ms. Bonnie Rosemstock
107 E 104th St
New York, NY 10003
(212) 677-1972

Comments on Gowanus Canal Proposed Plan

Elena Busani to: Region2 GowanusCanalComments

04/17/2013 11:45 AM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Elena Busani

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

While the EPA's plan takes the critical step of calling for CSO retention for two of the Canal's worst outfalls many details will not be solidified until New York City submits their CSO Long Term Control Plan in 2015. It is critical for the EPA to stand firm on requiring retention tanks to control CSOs and to work with New York City towards the eventual goal of 100% elimination of CSOs from the Canal.

I support the EPA's commitment to dredge as much as 10 feet of contaminated sediment from the entire length of the canal, build a multi-layer cap on the bottom, and treat and dispose of this contaminated sediment offsite. I also believe that the EPA should listen to the wishes of the community in Red Hook who oppose the building of a CDF on the Red Hook waterfront to dispose of the least contaminated sediment.

Sincerely,

Ms. Elena Busani
600 W 239th St
Bronx, NY 10463-1207
(347) 995-3222

Comments on Gowanus Canal Proposed Plan

Joseph Alfano to: Region2 GowanusCanalComments 04/17/2013 11:45 AM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Joseph Alfano

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

While the EPA's plan takes the critical step of calling for CSO retention for two of the Canal's worst outfalls many details will not be solidified until New York City submits their CSO Long Term Control Plan in 2015. It is critical for the EPA to stand firm on requiring retention tanks to control CSOs and to work with New York City towards the eventual goal of 100% elimination of CSOs from the Canal.

I support the EPA's commitment to dredge as much as 10 feet of contaminated sediment from the entire length of the canal, build a multi-layer cap on the bottom, and treat and dispose of this contaminated sediment offsite. I also believe that the EPA should listen to the wishes of the community in Red Hook who oppose the building of a CDF on the Red Hook waterfront to dispose of the least contaminated sediment.

Sincerely,

Mr. Joseph Alfano
235 E 57th St
New York, NY 10022-2842

EPA Gowanus Canal Plan Comments

gregory durniak to: Region2 GowanusCanalComments 04/17/2013 11:45 AM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to gregory durniak

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. It's time to address the toxic sludge at the bottom of the canal and ongoing pollution.

It is critical for the EPA to stand firm on requiring retention tanks to control Combined Sewer Overflows and to work with New York City towards the eventual goal of 100% elimination of CSOs from the Canal.

I support the EPA's commitment to dredge as much as 10 feet of contaminated sediment from the entire length of the canal, build a multi-layer cap on the bottom, and treat and dispose of this contaminated sediment offsite.

I also believe the community in Red Hook is correct to oppose the building of a Confined Disposal Facility on the Red Hook waterfront to dispose of the least contaminated sediment.

Sincerely,

Mr. gregory durniak
4616 215th Pl
Apt 2d
Bayside, NY 11361-3477

Comments on Gowanus Canal Proposed Plan

Nora Nussbaum to: Region2 GowanusCanalComments 04/17/2013 11:45 AM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Nora Nussbaum

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

While the EPA's plan takes the critical step of calling for CSO retention for two of the Canal's worst outfalls many details will not be solidified until New York City submits their CSO Long Term Control Plan in 2015. It is critical for the EPA to stand firm on requiring retention tanks to control CSOs and to work with New York City towards the eventual goal of 100% elimination of CSOs from the Canal.

I support the EPA's commitment to dredge as much as 10 feet of contaminated sediment from the entire length of the canal, build a multi-layer cap on the bottom, and treat and dispose of this contaminated sediment offsite. I also believe that the EPA should listen to the wishes of the community in Red Hook who oppose the building of a CDF on the Red Hook waterfront to dispose of the least contaminated sediment.

Sincerely,

Ms. Nora Nussbaum
1710 Avenue H
Brooklyn, NY 11230-1812

Comments on Gowanus Canal Proposed Plan

Barbara Abramowitz to: Region2 GowanusCanalComments 04/17/2013 11:45 AM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Barbara Abramowitz

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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Sincerely,

Ms. Barbara Abramowitz
2678 Ocean Ave
Brooklyn, NY 11229-4663

Comments on Gowanus Canal Proposed Plan

Becky Howland to: Region2 GowanusCanalComments
Sent by: **Riverkeeper <info@Riverkeeper.org>**
Please respond to Becky Howland

04/17/2013 11:45 AM

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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Sincerely,

Ms. Becky Howland
150 Franklin St
New York, NY 10013-2913

Comments on Gowanus Canal Proposed Plan

melanie kaminsky to: Region2 GowanusCanalComments 04/17/2013 11:45 AM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to melanie kaminsky

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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Sincerely,

Miss melanie kaminsky
35 Eastern Pkwy
Apt 3j
Brooklyn, NY 11238-5616
(347) 247-7052

Comments on Gowanus Canal Proposed Plan
Dorothy & Dava CALVANI - WEINSTEIN 04/17/2013 11:45 AM
To: Region2 GowanusCanalComments
Sent by: **Riverkeeper <info@Riverkeeper.org>**
Please respond to Dorothy & Dava CALVANI - WEINSTEIN

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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Sincerely,

Ms. Dorothy & Dava CALVANI - WEINSTEIN
315 W 86th St
New York, NY 10024-3111

Comments on Gowanus Canal Proposed Plan

Daniella Liebling to: Region2 GowanusCanalComments 04/17/2013 11:45 AM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Daniella Liebling

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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Sincerely,

Ms. Daniella Liebling
269 12th St
Brooklyn, NY 11215-3919
(718) 788-2260

Comments on Gowanus Canal Proposed Plan

Michele Smith to: Region2 GowanusCanalComments 04/17/2013 11:45 AM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Michele Smith

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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Sincerely,

Ms. Michele Smith
25 Plaza St W
Brooklyn, NY 11217-3950

Comments on Gowanus Canal Proposed Plan

Leon Ransmeier to: Region2 GowanusCanalComments 04/17/2013 11:45 AM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Leon Ransmeier

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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Sincerely,

Mr. Leon Ransmeier
11 Maiden Ln
New York, NY 10038-4014

Comments on Gowanus Canal Proposed Plan

Pam Brocious to: Region2 GowanusCanalComments 04/17/2013 11:45 AM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Pam Brocious

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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Sincerely,

Ms. Pam Brocious
340 E 93rd St
Apt 14m
New York, NY 10128-5552
(917) 853-3191

Comments on Gowanus Canal Proposed Plan

Lee Van Put to: Region2 GowanusCanalComments 04/17/2013 11:45 AM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Lee Van Put

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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Sincerely,

Mr. Lee Van Put
441 W 56th St
Apt 2b
New York, NY 10019-3620
(914) 799-3843

Comments on Gowanus Canal Proposed Plan

VL Brandt to: Region2 GowanusCanalComments 04/17/2013 11:45 AM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to VL Brandt

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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Sincerely,

Ms. VL Brandt
28 W 10th St
New York, NY 10011-8711
(212) 228-5731

Comments on Gowanus Canal Proposed Plan

Nina Zain to: Region2 GowanusCanalComments 04/17/2013 11:45 AM

Sent by: Riverkeeper <info@Riverkeeper.org>

Please respond to Nina Zain

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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Sincerely,

Ms. Nina Zain
Pier 40 at West and Houston St
New York, NY 10014
(212) 233-3030

Comments on Gowanus Canal Proposed Plan

Pamela Wolff to: Region2 GowanusCanalComments 04/17/2013 11:45 AM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Pamela Wolff

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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Sincerely,

Mrs. Pamela Wolff
223 W 21st St
Apt 2n
New York, NY 10011-3120
(212) 255-8443

Comments on Gowanus Canal Proposed Plan

Catherine Outeiral to: Region2 GowanusCanalComments 04/17/2013 11:45 AM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Catherine Outeiral

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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Sincerely,

Ms. Catherine Outeiral
5607 17th Ave
Brooklyn, NY 11204-1835

Comments on Gowanus Canal Proposed Plan

James Cooper to: Region2 GowanusCanalComments 04/17/2013 11:45 AM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to James Cooper

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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Sincerely,

Mr. James Cooper
2517 18th St
Astoria, NY 11102-3553

Comments on Gowanus Canal Proposed Plan

Barbara Menkes to: Region2 GowanusCanalComments 04/17/2013 11:45 AM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Barbara Menkes

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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Sincerely,

Ms. Barbara Menkes
173 Sullivan St
New York, NY 10012-4945
(212) 677-0077

Comments on Gowanus Canal Proposed Plan

Patricia Hopkins to: Region2 GowanusCanalComments 04/17/2013 11:45 AM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Patricia Hopkins

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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Sincerely,

Ms. Patricia Hopkins
1202 Lexington Ave
126
New York, NY 10028-1439
(201) 433-3577

Comments on Gowanus Canal Proposed Plan

valerie gilbert to: Region2 GowanusCanalComments 04/17/2013 11:45 AM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to valerie gilbert

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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Sincerely,

Ms. valerie gilbert
no snail mail
New York, NY 10022-3736

I, the sender, vote that I do not want this project to proceed.

Tamika Easterling to Region2 GowanusCanalComments 04/17/2013 11:53 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

- Children
- Numerous public and private schools which use the fields for physical education & sports teams
- Residents of the Red Hook Houses and the surrounding neighborhood
- Soccer, softball, baseball, football, handball, basketball, track & field teams and enthusiasts
- Swimmers of all ages
- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--
Tamika Easterling
babbytus@yahoo.com
5801 Glenwood RD
Brooklyn, NewYork
Resident

I, the sender, vote that I do not want this project to proceed.

Andrea Sansom to: Region2 GowanusCanalComments 04/17/2013 11:56 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Swimmers of all ages
- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--
Andrea Sansom
andreacsansom@gmail.com
Richards
Brooklyn, New York
resident

Comments on Gowanus Canal Proposed Plan

David Gordon to: Region2 GowanusCanalComments 04/17/2013 12:14 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to David Gordon

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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Sincerely,

Mr. David Gordon
133 Bergen St
Brooklyn, NY 11217-2209

Comments on Gowanus Canal Proposed Plan

Zdenek Kriz to: Region2 GowanusCanalComments 04/17/2013 12:14 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Zdenek Kriz

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

While the EPA's plan takes the critical step of calling for CSO retention for two of the Canal's worst outfalls many details will not be solidified until New York City submits their CSO Long Term Control Plan in 2015. It is critical for the EPA to stand firm on requiring retention tanks to control CSOs and to work with New York City towards the eventual goal of 100% elimination of CSOs from the Canal.

I support the EPA's commitment to dredge as much as 10 feet of contaminated sediment from the entire length of the canal, build a multi-layer cap on the bottom, and treat and dispose of this contaminated sediment offsite. I also believe that the EPA should listen to the wishes of the community in Red Hook who oppose the building of a CDF on the Red Hook waterfront to dispose of the least contaminated sediment.

Sincerely,

Mr. Zdenek Kriz
44 Douglass St
Apt 2
Brooklyn, NY 11231-4714
(718) 237-4545

Comments on Gowanus Canal Proposed Plan

Gina Santonas to: Region2 GowanusCanalComments 04/17/2013 12:14 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Gina Santonas

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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Sincerely,

Ms. Gina Santonas
80 Jewel St
Brooklyn, NY 11222-3013

Comments on Gowanus Canal Proposed Plan

Elena Chernysheva to: Region2 GowanusCanalComments 04/17/2013 12:14 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Elena Chernysheva

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

While the EPA's plan takes the critical step of calling for CSO retention for two of the Canal's worst outfalls many details will not be solidified until New York City submits their CSO Long Term Control Plan in 2015. It is critical for the EPA to stand firm on requiring retention tanks to control CSOs and to work with New York City towards the eventual goal of 100% elimination of CSOs from the Canal.

I support the EPA's commitment to dredge as much as 10 feet of contaminated sediment from the entire length of the canal, build a multi-layer cap on the bottom, and treat and dispose of this contaminated sediment offsite. I also believe that the EPA should listen to the wishes of the community in Red Hook who oppose the building of a CDF on the Red Hook waterfront to dispose of the least contaminated sediment.

Sincerely,

Miss Elena Chernysheva
3091 Brighton 3rd St Apt 2a
Brooklyn, NY 11235-7335

Comments on Gowanus Canal Proposed Plan

Judith Weis to: Region2 GowanusCanalComments 04/17/2013 12:14 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Judith Weis

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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I support the EPA's commitment to dredge as much as 10 feet of contaminated sediment from the entire length of the canal, build a multi-layer cap on the bottom, and treat and dispose of this contaminated sediment offsite. I also believe that the EPA should listen to the wishes of the community in Red Hook who oppose the building of a CDF on the Red Hook waterfront to dispose of the least contaminated sediment.

Sincerely,

Dr. Judith Weis
170 W End Ave
Apt 12n
New York, NY 10023-5404
(212) 874-4598

Comments on Gowanus Canal Proposed Plan

Katie Grimm to: Region2 GowanusCanalComments 04/17/2013 12:14 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Katie Grimm

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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I support the EPA's commitment to dredge as much as 10 feet of contaminated sediment from the entire length of the canal, build a multi-layer cap on the bottom, and treat and dispose of this contaminated sediment offsite. I also believe that the EPA should listen to the wishes of the community in Red Hook who oppose the building of a CDF on the Red Hook waterfront to dispose of the least contaminated sediment.

Sincerely,

Ms. Katie Grimm
50 E 19th St Apt F6
Brooklyn, NY 11226-4451
(517) 242-1870

Comments on Gowanus Canal Proposed Plan

Cathie Currie to: Region2 GowanusCanalComments 04/17/2013 12:14 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Cathie Currie

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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Sincerely,

Dr. Cathie Currie
242 E 75th St
New York, NY 10021-2907

Comments on Gowanus Canal Proposed Plan

Michael Hodson to: Region2 GowanusCanalComments 04/17/2013 12:14 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Michael Hodson

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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I support the EPA's commitment to dredge as much as 10 feet of contaminated sediment from the entire length of the canal, build a multi-layer cap on the bottom, and treat and dispose of this contaminated sediment offsite. I also believe that the EPA should listen to the wishes of the community in Red Hook who oppose the building of a CDF on the Red Hook waterfront to dispose of the least contaminated sediment.

Sincerely,

Mr. Michael Hodson
106 Ridge St
Apt 1d
New York, NY 10002-2534
(516) 314-2898

Comments on Gowanus Canal Proposed Plan

Ellie Irons to: Region2 GowanusCanalComments 04/17/2013 12:14 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Ellie Irons

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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Sincerely,

Ms. Ellie Irons
1381 Myrtle Ave Apt 4a
Brooklyn, NY 11237-4523

Comments on Gowanus Canal Proposed Plan

Albert Ahronheim to: Region2 GowanusCanalComments 04/17/2013 12:14 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Albert Ahronheim

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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Sincerely,

Mr. Albert Ahronheim
222 E 80th St
New York, NY 10075-0558

Comments on Gowanus Canal Proposed Plan

Ann Bleefeld to: Region2 GowanusCanalComments 04/17/2013 12:14 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Ann Bleefeld

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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Sincerely,

Dr. Ann Bleefeld
614 W 152nd St
Apt 8
New York, NY 10031-1444
(347) 759-1294

Comments on Gowanus Canal Proposed Plan

Richard Stout to: Region2 GowanusCanalComments 04/17/2013 12:14 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Richard Stout

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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Sincerely,

Mr. Richard Stout
701 W 189th St
Apt 4g
New York, NY 10040-4049

Comments on Gowanus Canal Proposed Plan

Barbara Tuller Avellino to: Region2 GowanusCanalComments 04/17/2013 12:14 PM
Sent by: **Riverkeeper <info@Riverkeeper.org>**
Please respond to Barbara Tuller Avellino

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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Sincerely,

Ms. Barbara Tuller Avellino
50 E 78th St
Apt 10b
New York, NY 10075-1858

Comments on Gowanus Canal Proposed Plan

Andy Gale to: Region2 GowanusCanalComments 04/17/2013 12:14 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Andy Gale

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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Sincerely,

Mr. Andy Gale
573 Grand St Apt D902
New York, NY 10002-3288

Comments on Gowanus Canal Proposed Plan

Sarah Curtis to: Region2 GowanusCanalComments 04/17/2013 12:14 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Sarah Curtis

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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Sincerely,

Dr. Sarah Curtis
1410 Beverley Rd
Brooklyn, NY 11226-4514
(347) 789-1692

Comments on Gowanus Canal Proposed Plan

sandye renz to: Region2 GowanusCanalComments 04/17/2013 12:14 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to sandye renz

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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Sincerely,

Ms. sandye renz
172 12th St
Brooklyn, NY 11215-3918

Comments on Gowanus Canal Proposed Plan

Jean Gazis to: Region2 GowanusCanalComments 04/17/2013 12:14 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Jean Gazis

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long-neglected waterway to the community.

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I support the EPA's commitment to dredge as much as 10 feet of contaminated sediment from the entire length of the canal, build a multi-layer cap on the bottom, and treat and dispose of this contaminated sediment offsite. I also believe that the EPA should listen to the wishes of the community in Red Hook who oppose the building of a CDF on the Red Hook waterfront to dispose of the least contaminated sediment.

Sincerely,

Ms. Jean Gazis
498 2nd St
Brooklyn, NY 11215-2503
(718) 576-2084

Comments on Gowanus Canal Proposed Plan

Ethan Middlebrooks to: Region2 GowanusCanalComments 04/17/2013 12:15 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Ethan Middlebrooks

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to safety for the community.

While the EPA's plan takes the critical step of calling for CSO retention for two of the Canal's worst outfalls, many details will not be solidified until New York City submits their CSO Long Term Control Plan in 2015. It is critical for the EPA to stand firm on requiring retention tanks to control CSOs and to work with New York City towards the eventual goal of 100% elimination of CSOs from the Canal. New York City might very well try to waiver from a full elimination--the EPA needs to be a powerful ally and supporter of full cleanup and of New York City.

I support the EPA's commitment to dredge as much as ten feet of contaminated sediment from the entire length of the canal, build a multi-layer cap on the bottom, and treat and dispose of this contaminated sediment offsite. I also believe that the EPA should listen to the wishes of the community in Red Hook who oppose the building of a CDF on the Red Hook waterfront to dispose of the least contaminated sediment. Red Hook is a developing area with the potential for mixed income housing--a need in New York City. The neighborhood, historically poor, has for decades endured the pollution from the Canal. In the interests of environmental justice, the EPA needs to listen to the residents.

Sincerely,

Mr. Ethan Middlebrooks
3817 52nd St
Sunnyside, NY 11104-1027

Comments on Gowanus Canal Proposed Plan

Bernard Galiley to: Region2 GowanusCanalComments 04/17/2013 12:15 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Bernard Galiley

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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Sincerely,

Mr. Bernard Galiley
113 Lincoln Pl
Brooklyn, NY 11217-3605

Comments on Gowanus Canal Proposed Plan

Sandy Sobanski to: Region2 GowanusCanalComments 04/17/2013 12:15 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Sandy Sobanski

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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Sincerely,

Ms. Sandy Sobanski
358 E. E 19th St, 4R
New York, NY 10003 2842
(212) 683-2173

Comments on Gowanus Canal Proposed Plan

Christofer Wagner to: Region2 GowanusCanalComments 04/17/2013 12:15 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Christofer Wagner

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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Sincerely,

Mr. Christofer Wagner
316 W 82nd St
4r
New York, NY 10024-5356

Comments on Gowanus Canal Proposed Plan

June Hurst to: Region2 GowanusCanalComments 04/17/2013 12:15 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to June Hurst

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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Sincerely,

Ms. June Hurst
215 E 95th St Apt 9h
New York, NY 10128-4080

Comments on Gowanus Canal Proposed Plan

Marilyn Kaggen to: Region2 GowanusCanalComments 04/17/2013 12:15 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Marilyn Kaggen

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

While the EPA's plan takes the critical step of calling for CSO retention for two of the Canal's worst outfalls many details will not be solidified until New York City submits their CSO Long Term Control Plan in 2015. It is critical for the EPA to stand firm on requiring retention tanks to control CSOs and to work with New York City towards the eventual goal of 100% elimination of CSOs from the Canal.

I support the EPA's commitment to dredge as much as 10 feet of contaminated sediment from the entire length of the canal, build a multi-layer cap on the bottom, and treat and dispose of this contaminated sediment offsite. I also believe that the EPA should listen to the wishes of the community in Red Hook who oppose the building of a CDF on the Red Hook waterfront to dispose of the least contaminated sediment.

Sincerely,

Ms. Marilyn Kaggen
1910 Foster Ave
Brooklyn, NY 11230-1902
(718) 434-4375

Comments on Gowanus Canal Proposed Plan

Roxanne Warren to: Region2 GowanusCanalComments 04/17/2013 12:15 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Roxanne Warren

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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Sincerely,

Ms. Roxanne Warren
523 W 112th St
Apt 72
New York, NY 10025-1680
(212) 234-5678

Comments on Gowanus Canal Proposed Plan

Christopher Blyth to: Region2 GowanusCanalComments 04/17/2013 12:15 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Christopher Blyth

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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Sincerely,

Mr. Christopher Blyth
212 W 136th St
New York, NY 10030-2602

Comments on Gowanus Canal Proposed Plan

Jon Gordon to: Region2 GowanusCanalComments 04/17/2013 12:15 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Jon Gordon

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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Sincerely,

Mr. Jon Gordon
351 Marine Ave
Brooklyn, NY 11209-8055
(845) 216-4965

Comments on Gowanus Canal Proposed Plan

George Kormendi to: Region2 GowanusCanalComments 04/17/2013 12:15 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to George Kormendi

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I used to live near the Gowanus Canal, and walk over it daily on my way to work. Even back then, years back, I was well aware of the contaminated nature of the canal.

Today I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

While the EPA's plan takes the critical step of calling for CSO retention for two of the Canal's worst outfalls many details will not be solidified until New York City submits their CSO Long Term Control Plan in 2015. It is critical for the EPA to stand firm on requiring retention tanks to control CSOs and to work with New York City towards the eventual goal of 100% elimination of CSOs from the Canal.

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Sincerely,

Mr. George Kormendi
17 Chittenden Ave Apt 3d
New York, NY 10033-1130
(212) 740-0438

Comments on Gowanus Canal Proposed Plan

Merry Tucker to: Region2 GowanusCanalComments 04/17/2013 12:44 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Merry Tucker

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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Sincerely,

Ms. Merry Tucker
80 Perry St
New York, NY 10014-3256

Comments on Gowanus Canal Proposed Plan

helen wintrob to: Region2 GowanusCanalComments 04/17/2013 12:44 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to helen wintrob

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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Sincerely,

Dr. helen wintrob
118 8th Ave Apt 3d
Brooklyn, NY 11215-1520
(718) 783-0913

Comments on Gowanus Canal Proposed Plan

John Travis Compton to: Region2 GowanusCanalComments 04/17/2013 12:44 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to John Travis Compton

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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Sincerely,

Mr. John Travis Compton
22 Old Albany Post Rd
Rhinebeck, NY 12572-2653

Comments on Gowanus Canal Proposed Plan

John Cannatella to: Region2 GowanusCanalComments 04/17/2013 12:44 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to John Cannatella

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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Sincerely,

Mr. John Cannatella
86 E 4th St
New York, NY 10003-9041

Comments on Gowanus Canal Proposed Plan

joseph hartmann to: Region2 GowanusCanalComments 04/17/2013 12:44 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to joseph hartmann

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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Sincerely,

Mr. joseph hartmann
102-36 85ave
JAMAICA, NY 11418

Comments on Gowanus Canal Proposed Plan

Robert Leder to: Region2 GowanusCanalComments 04/17/2013 12:44 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Robert Leder

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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Sincerely,

Mr. Robert Leder
3840 Greystone Ave Apt 6q
Bronx, NY 10463-1913
(718) 796-5343

Comments on Gowanus Canal Proposed Plan

Ashton Crosby to: Region2 GowanusCanalComments 04/17/2013 12:44 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Ashton Crosby

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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Sincerely,

Mr. Ashton Crosby
523 W 112th St
New York, NY 10025-1614
(212) 300-4977

Comments on Gowanus Canal Proposed Plan

Nicholas Feltch to: Region2 GowanusCanalComments 04/17/2013 12:44 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Nicholas Feltch

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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Sincerely,

Mr. Nicholas Feltch
58 Maspeth Ave Apt 3f
Brooklyn, NY 11211-2576

Comments on Gowanus Canal Proposed Plan

John Keiser to: Region2 GowanusCanalComments 04/17/2013 12:44 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to John Keiser

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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Sincerely,

Mr. John Keiser
410 E 6th St Apt 17b
New York, NY 10009-6417
(212) 473-0980

Comments on Gowanus Canal Proposed Plan

Javier Rivera to: Region2 GowanusCanalComments 04/17/2013 12:44 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Javier Rivera

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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Sincerely,

Mr. Javier Rivera
55 S 3rd St
Brooklyn, NY 11249-5128
(917) 817-1238

Comments on Gowanus Canal Proposed Plan

S. Etherton to: Region2 GowanusCanalComments 04/17/2013 12:44 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to "S. Etherton"

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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Thank you.

Sincerely,

Ms. S. Etherton
504 E 63rd St
New York, NY 10065-7919

Comments on Gowanus Canal Proposed Plan

Alison Koffler to: Region2 GowanusCanalComments 04/17/2013 12:44 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Alison Koffler

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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Sincerely,

Mrs. Alison Koffler
2206 Holland Ave
Bronx, NY 10467-9433

Comments on Gowanus Canal Proposed Plan

Heather Cross to: Region2 GowanusCanalComments 04/17/2013 12:44 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Heather Cross

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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Sincerely,

Ms. Heather Cross
259 Kingsland Ave
Brooklyn, NY 11222-4880

Comments on Gowanus Canal Proposed Plan

Margaret Leonard to: Region2 GowanusCanalComments 04/17/2013 12:45 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Margaret Leonard

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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Sincerely,

Mrs. Margaret Leonard
1115 Crossbay Blvd.
Broad Channel, NY 11693-1129
(718) 474-5524

I, the sender, vote that I do not want this project to proceed.

Jessica Byrne to: Region2 GowanusCanalComments 04/17/2013 12:54 PM

As Resident of the community of Brooklyn, I am strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

- Children
- Numerous public and private schools which use the fields for physical education & sports teams
- Residents of the Red Hook Houses and the surrounding neighborhood
- Soccer, softball, baseball, football, handball, basketball, track & field teams and enthusiasts
- Swimmers of all ages
- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--
Jessica Byrne
jessicabarton@earthlink.net
483 Ocean Parkway 3A
Brooklyn, NY
Resident

Comments on Gowanus Canal Proposed Plan

Susan Yany to: Region2 GowanusCanalComments 04/17/2013 01:15 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Susan Yany

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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Sincerely,

Ms. Susan Yany
5847 78th Ave
Glendale, NY 11385-6022

Comments on Gowanus Canal Proposed Plan

Nancy Lipshitz to: Region2 GowanusCanalComments 04/17/2013 01:15 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Nancy Lipshitz

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

While the EPA's plan takes the critical step of calling for CSO retention for two of the Canal's worst outfalls many details will not be solidified until New York City submits their CSO Long Term Control Plan in 2015. It is critical for the EPA to stand firm on requiring retention tanks to control CSOs and to work with New York City towards the eventual goal of 100% elimination of CSOs from the Canal.

I support the EPA's commitment to dredge as much as 10 feet of contaminated sediment from the entire length of the canal, build a multi-layer cap on the bottom, and treat and dispose of this contaminated sediment offsite. I also believe that the EPA should listen to the wishes of the community in Red Hook who oppose the building of a CDF on the Red Hook waterfront to dispose of the least contaminated sediment.

Sincerely,

Ms. Nancy Lipshitz
279 1st St
Brooklyn, NY 11215-1921

Comments on Gowanus Canal Proposed Plan

Ann Barasch to: Region2 GowanusCanalComments 04/17/2013 01:15 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Ann Barasch

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

While the EPA's plan takes the critical step of calling for CSO retention for two of the Canal's worst outfalls many details will not be solidified until New York City submits their CSO Long Term Control Plan in 2015. It is critical for the EPA to stand firm on requiring retention tanks to control CSOs and to work with New York City towards the eventual goal of 100% elimination of CSOs from the Canal.

I support the EPA's commitment to dredge as much as 10 feet of contaminated sediment from the entire length of the canal, build a multi-layer cap on the bottom, and treat and dispose of this contaminated sediment offsite. I also believe that the EPA should listen to the wishes of the community in Red Hook who oppose the building of a CDF on the Red Hook waterfront to dispose of the least contaminated sediment.

Surely, surely this is a task that must be done. We have allowed this mess. It is our responsibility to clean it up. NO "if's, and's of but's" !! !

Sincerely,

Ms. Ann Barasch
1225 Park Ave
New York, NY 10128-1758

Comments on Gowanus Canal Proposed Plan

Linda Hartinian to: Region2 GowanusCanalComments 04/17/2013 01:15 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Linda Hartinian

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

While the EPA's plan takes the critical step of calling for CSO retention for two of the Canal's worst outfalls many details will not be solidified until New York City submits their CSO Long Term Control Plan in 2015. It is critical for the EPA to stand firm on requiring retention tanks to control CSOs and to work with New York City towards the eventual goal of 100% elimination of CSOs from the Canal.

I support the EPA's commitment to dredge as much as 10 feet of contaminated sediment from the entire length of the canal, build a multi-layer cap on the bottom, and treat and dispose of this contaminated sediment offsite. I also believe that the EPA should listen to the wishes of the community in Red Hook who oppose the building of a CDF on the Red Hook waterfront to dispose of the least contaminated sediment.

Sincerely,

Ms. Linda Hartinian
60 2nd Ave
Apt 18
New York, NY 10003-8622
(212) 533-8479

Comments on Gowanus Canal Proposed Plan

David Balfour to: Region2 GowanusCanalComments 04/17/2013 01:15 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to David Balfour

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

While the EPA's plan takes the critical step of calling for CSO retention for two of the Canal's worst outfalls many details will not be solidified until New York City submits their CSO Long Term Control Plan in 2015. It is critical for the EPA to stand firm on requiring retention tanks to control CSOs and to work with New York City towards the eventual goal of 100% elimination of CSOs from the Canal.

I support the EPA's commitment to dredge as much as 10 feet of contaminated sediment from the entire length of the canal, build a multi-layer cap on the bottom, and treat and dispose of this contaminated sediment offsite. I also believe that the EPA should listen to the wishes of the community in Red Hook who oppose the building of a CDF on the Red Hook waterfront to dispose of the least contaminated sediment.

Sincerely,

Mr. David Balfour
400 Central Park W
Apt 10h
New York, NY 10025-5838
(212) 866-7078

Comments on Gowanus Canal Proposed Plan

Michael Heimbinder to: Region2 GowanusCanalComments 04/17/2013 01:15 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Michael Heimbinder

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

While the EPA's plan takes the critical step of calling for CSO retention for two of the Canal's worst outfalls many details will not be solidified until New York City submits their CSO Long Term Control Plan in 2015. It is critical for the EPA to stand firm on requiring retention tanks to control CSOs and to work with New York City towards the eventual goal of 100% elimination of CSOs from the Canal.

I support the EPA's commitment to dredge as much as 10 feet of contaminated sediment from the entire length of the canal, build a multi-layer cap on the bottom, and treat and dispose of this contaminated sediment offsite. I also believe that the EPA should listen to the wishes of the community in Red Hook who oppose the building of a CDF on the Red Hook waterfront to dispose of the least contaminated sediment.

Sincerely,

Mr. Michael Heimbinder
669 Carroll St
3
Brooklyn, NY 11215-2001

Comments on Gowanus Canal Proposed Plan

George Louis Mayer to: Region2 GowanusCanalComments 04/17/2013 01:45 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to George Louis Mayer

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

While the EPA's plan takes the critical step of calling for CSO retention for two of the Canal's worst outfalls many details will not be solidified until New York City submits their CSO Long Term Control Plan in 2015. It is critical for the EPA to stand firm on requiring retention tanks to control CSOs and to work with New York City towards the eventual goal of 100% elimination of CSOs from the Canal.

I support the EPA's commitment to dredge as much as 10 feet of contaminated sediment from the entire length of the canal, build a multi-layer cap on the bottom, and treat and dispose of this contaminated sediment offsite. I also believe that the EPA should listen to the wishes of the community in Red Hook who oppose the building of a CDF on the Red Hook waterfront to dispose of the least contaminated sediment.

Sincerely,

Mr. George Louis Mayer
150 W End Ave # Ave-30p
New York, NY 10023-5702

Comments on Gowanus Canal Proposed Plan

Michael Mermin to: Region2 GowanusCanalComments 04/17/2013 01:45 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Michael Mermin

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

While the EPA's plan takes the critical step of calling for CSO retention for two of the Canal's worst outfalls many details will not be solidified until New York City submits their CSO Long Term Control Plan in 2015. It is critical for the EPA to stand firm on requiring retention tanks to control CSOs and to work with New York City towards the eventual goal of 100% elimination of CSOs from the Canal.

I support the EPA's commitment to dredge as much as 10 feet of contaminated sediment from the entire length of the canal, build a multi-layer cap on the bottom, and treat and dispose of this contaminated sediment offsite. I also believe that the EPA should listen to the wishes of the community in Red Hook who oppose the building of a CDF on the Red Hook waterfront to dispose of the least contaminated sediment.

Sincerely,

Mr. Michael Mermin
27 Prospect Park SW
Brooklyn, NY 11215-5939
(718) 832-5146

Comments on Gowanus Canal Proposed Plan

Neil Bleifeld to: Region2 GowanusCanalComments 04/17/2013 01:45 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Neil Bleifeld

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

Big pollution requires big cleanup. Don't let us down!

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

While the EPA's plan takes the critical step of calling for CSO retention for two of the Canal's worst outfalls many details will not be solidified until New York City submits their CSO Long Term Control Plan in 2015. It is critical for the EPA to stand firm on requiring retention tanks to control CSOs and to work with New York City towards the eventual goal of 100% elimination of CSOs from the Canal.

I support the EPA's commitment to dredge as much as 10 feet of contaminated sediment from the entire length of the canal, build a multi-layer cap on the bottom, and treat and dispose of this contaminated sediment offsite. I also believe that the EPA should listen to the wishes of the community in Red Hook who oppose the building of a CDF on the Red Hook waterfront to dispose of the least contaminated sediment.

Sincerely,

Mr. Neil Bleifeld
405 W 48th St
New York, NY 10036-1213
(212) 581-3849

Comments on Gowanus Canal Proposed Plan

Georgia Guida to: Region2 GowanusCanalComments 04/17/2013 01:45 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Georgia Guida

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

While the EPA's plan takes the critical step of calling for CSO retention for two of the Canal's worst outfalls many details will not be solidified until New York City submits their CSO Long Term Control Plan in 2015. It is critical for the EPA to stand firm on requiring retention tanks to control CSOs and to work with New York City towards the eventual goal of 100% elimination of CSOs from the Canal.

I support the EPA's commitment to dredge as much as 10 feet of contaminated sediment from the entire length of the canal, build a multi-layer cap on the bottom, and treat and dispose of this contaminated sediment offsite. I also believe that the EPA should listen to the wishes of the community in Red Hook who oppose the building of a CDF on the Red Hook waterfront to dispose of the least contaminated sediment.

Sincerely,

Mrs. Georgia Guida
1244 E 35th St
Brooklyn, NY 11210-4822
(718) 253-5959

Comments on Gowanus Canal Proposed Plan

David Sorensen to: Region2 GowanusCanalComments 04/17/2013 01:45 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to David Sorensen

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

While the EPA's plan takes the critical step of calling for CSO retention for two of the Canal's worst outfalls many details will not be solidified until New York City submits their CSO Long Term Control Plan in 2015. It is critical for the EPA to stand firm on requiring retention tanks to control CSOs and to work with New York City towards the eventual goal of 100% elimination of CSOs from the Canal.

I support the EPA's commitment to dredge as much as 10 feet of contaminated sediment from the entire length of the canal, build a multi-layer cap on the bottom, and treat and dispose of this contaminated sediment offsite. I also believe that the EPA should listen to the wishes of the community in Red Hook who oppose the building of a CDF on the Red Hook waterfront to dispose of the least contaminated sediment.

Sincerely,

Mr. David Sorensen
6804 138th St
Flushing, NY 11367-1630
(718) 520-8505

Comments on Gowanus Canal Proposed Plan

Barrett Benton to: Region2 GowanusCanalComments 04/17/2013 01:45 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Barrett Benton

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

While the EPA's plan takes the critical step of calling for CSO retention for two of the Canal's worst outfalls many details will not be solidified until New York City submits their CSO Long Term Control Plan in 2015. It is critical for the EPA to stand firm on requiring retention tanks to control CSOs and to work with New York City towards the eventual goal of 100% elimination of CSOs from the Canal.

I fully support the EPA's commitment to dredge as much as 10 feet of contaminated sediment from the entire length of the canal, build a multi-layer cap on the bottom, and properly and effectively treat and dispose of this contaminated sediment offsite. I also believe that the EPA should listen to the wishes of the community in Red Hook who oppose the building of a CDF on the Red Hook waterfront to dispose of the least contaminated sediment.

Sincerely,

Mr. Barrett Benton
150 16th St
Brooklyn, NY 11215-5301

Comments on Gowanus Canal Proposed Plan

Daniel Zaretsky to: Region2 GowanusCanalComments 04/17/2013 01:45 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Daniel Zaretsky

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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I support the EPA's commitment to dredge as much as 10 feet of contaminated sediment from the entire length of the canal, build a multi-layer cap on the bottom, and treat and dispose of this contaminated sediment offsite. I also believe that the EPA should listen to the wishes of the community in Red Hook who oppose the building of a CDF on the Red Hook waterfront to dispose of the least contaminated sediment.

Sincerely,

Mr. Daniel Zaretsky
205 W End Ave Apt 18n
New York, NY 10023-4823
(212) 600-0574

Comments on Gowanus Canal Proposed Plan

Pam Kray Gallivan to: Region2 GowanusCanalComments 04/17/2013 01:45 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Pam Kray Gallivan

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

While the EPA's plan takes the critical step of calling for CSO retention for two of the Canal's worst outfalls many details will not be solidified until New York City submits their CSO Long Term Control Plan in 2015. It is critical for the EPA to stand firm on requiring retention tanks to control CSOs and to work with New York City towards the eventual goal of 100% elimination of CSOs from the Canal.

I support the EPA's commitment to dredge as much as 10 feet of contaminated sediment from the entire length of the canal, build a multi-layer cap on the bottom, and treat and dispose of this contaminated sediment offsite. I also believe that the EPA should listen to the wishes of the community in Red Hook who oppose the building of a CDF on the Red Hook waterfront to dispose of the least contaminated sediment.

Sincerely,

Ms. Pam Kray Gallivan
60 E 8th St
Apt 22e
New York, NY 10003-6519

Comments on Gowanus Canal Proposed Plan

Audrey Komaroff to: Region2 GowanusCanalComments 04/17/2013 01:45 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Audrey Komaroff

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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Sincerely,

Ms. Audrey Komaroff
212 17th St
Brooklyn, NY 11215-5309

Comments on Gowanus Canal Proposed Plan

Edward Butler to: Region2 GowanusCanalComments 04/17/2013 01:45 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Edward Butler

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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Sincerely,

Dr. Edward Butler
36 E 69th St
New York, NY 10021-5019

Comments on Gowanus Canal Proposed Plan

Caledonia Kearns to: Region2 GowanusCanalComments 04/17/2013 01:45 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Caledonia Kearns

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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I support the EPA's commitment to dredge as much as 10 feet of contaminated sediment from the entire length of the canal, build a multi-layer cap on the bottom, and treat and dispose of this contaminated sediment offsite. I also believe that the EPA should listen to the wishes of the community in Red Hook who oppose the building of a CDF on the Red Hook waterfront to dispose of the least contaminated sediment.

Sincerely,

Ms. Caledonia Kearns
400 E 17th St
04
Brooklyn, NY 11226-5774
(917) 238-5219

Comments on Gowanus Canal Proposed Plan

Mel Neuhaus to: Region2 GowanusCanalComments 04/17/2013 01:45 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Mel Neuhaus

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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I support the EPA's commitment to dredge as much as 10 feet of contaminated sediment from the entire length of the canal, build a multi-layer cap on the bottom, and treat and dispose of this contaminated sediment offsite. I also believe that the EPA should listen to the wishes of the community in Red Hook who oppose the building of a CDF on the Red Hook waterfront to dispose of the least contaminated sediment.

Sincerely,

Mr. Mel Neuhaus
400 Argyle Rd
Brooklyn, NY 11218-5459

Comments on Gowanus Canal Proposed Plan

Catherine Torrey to: Region2 GowanusCanalComments 04/17/2013 01:45 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Catherine Torrey

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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I support the EPA's commitment to dredge as much as 10 feet of contaminated sediment from the entire length of the canal, build a multi-layer cap on the bottom, and treat and dispose of this contaminated sediment offsite. I also believe that the EPA should listen to the wishes of the community in Red Hook who oppose the building of a CDF on the Red Hook waterfront to dispose of the least contaminated sediment.

Sincerely,

Ms. Catherine Torrey
148 Luquer St
Brooklyn, NY 11231-4012
(718) 541-8288

Comments on Gowanus Canal Proposed Plan

Wheeler Jackson to: Region2 GowanusCanalComments 04/17/2013 02:15 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Wheeler Jackson

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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I support the EPA's commitment to dredge as much as 10 feet of contaminated sediment from the entire length of the canal, build a multi-layer cap on the bottom, and treat and dispose of this contaminated sediment offsite. I also believe that the EPA should listen to the wishes of the community in Red Hook who oppose the building of a CDF on the Red Hook waterfront to dispose of the least contaminated sediment.

Sincerely,

Mr. Wheeler Jackson
12 E 86th St
New York, NY 10028-0506
(212) 249-5891

Comments on Gowanus Canal Proposed Plan

Alisa Eilenberg to: Region2 GowanusCanalComments 04/17/2013 02:15 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Alisa Eilenberg

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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I support the EPA's commitment to dredge as much as 10 feet of contaminated sediment from the entire length of the canal, build a multi-layer cap on the bottom, and treat and dispose of this contaminated sediment offsite. I also believe that the EPA should listen to the wishes of the community in Red Hook who oppose the building of a CDF on the Red Hook waterfront to dispose of the least contaminated sediment.

Let's reduce illness by dealing with contaminants in the safest possible way.

Sincerely,

Mrs. Alisa Eilenberg
3006 Arlington Ave
Bronx, NY 10463-3311

Comments on Gowanus Canal Proposed Plan

Elise A Tollner to: Region2 GowanusCanalComments 04/17/2013 02:15 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Elise A Tollner

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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I support the EPA's commitment to dredge as much as 10 feet of contaminated sediment from the entire length of the canal, build a multi-layer cap on the bottom, and treat and dispose of this contaminated sediment offsite. I also believe that the EPA should listen to the wishes of the community in Red Hook who oppose the building of a CDF on the Red Hook waterfront to dispose of the least contaminated sediment.

Sincerely,

Ms. Elise A Tollner
12 Charles St Apt 5c
New York, NY 10014-3050

Comments on Gowanus Canal Proposed Plan

Mireya Herrera to: Region2 GowanusCanalComments 04/17/2013 02:15 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Mireya Herrera

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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Sincerely,

Ms. Mireya Herrera
276 Henry St Apt 1b
Brooklyn, NY 11201-4648
(310) 428-4656

Comments on Gowanus Canal Proposed Plan

Ellen Fleishman to: Region2 GowanusCanalComments 04/17/2013 02:15 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Ellen Fleishman

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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Sincerely,

Dr. Ellen Fleishman
401 8th Ave Apt 65
Brooklyn, NY 11215-3597
(718) 832-3923

Comments on Gowanus Canal Proposed Plan

David Glaser to: Region2 GowanusCanalComments 04/17/2013 02:15 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to David Glaser

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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Sincerely,

Dr. David Glaser
55 Perry St Apt 3a
New York, NY 10014-3219
(212) 229-1766

Re Gowanus Superfund site comments
Irene Van Slyke to: Region2 GowanusCanalComments 04/17/2013 02:25 PM

I strongly support the EPA Proposed Plan to clean the Gowanus Superfund site.

As the Proposed Plan establishes methods for removal of contaminated sediments for the entire width of the canal to the depth of clean native sediment, to permanently and impermeably cover whatever might remain, and has identified ways to prevent re-contamination and halt future toxic inputs;

irene and richard Van Slyke
206 Bergen Street
Brooklyn, NY 11217
718-852-5668

Comments on Gowanus Canal Proposed Plan

Steven Lowenthal to: Region2 GowanusCanalComments 04/17/2013 02:45 PM
Sent by: **Riverkeeper <info@Riverkeeper.org>**
Please respond to Steven Lowenthal

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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Sincerely,

Mr. Steven Lowenthal
167 W 71st St Apt 8
New York, NY 10023-3833

Comments on Gowanus Canal Proposed Plan

Lynn Rosenfeld to: Region2 GowanusCanalComments 04/17/2013 02:45 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Lynn Rosenfeld

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

While the EPA's plan takes the critical step of calling for CSO retention for two of the Canal's worst outfalls many details will not be solidified until New York City submits their CSO Long Term Control Plan in 2015. It is critical for the EPA to stand firm on requiring retention tanks to control CSOs and to work with New York City towards the eventual goal of 100% elimination of CSOs from the Canal.

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Sincerely,

Ms. Lynn Rosenfeld
131 Allen St Fl 4
New York, NY 10002-3002

Comments on Gowanus Canal Proposed Plan

Susan Buhner to: Region2 GowanusCanalComments 04/17/2013 02:45 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Susan Buhner

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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Sincerely,

Mrs. Susan Buhner
3031 44th St
Astoria, NY 11103-2243

Comments on Gowanus Canal Proposed Plan

James Rubins to: Region2 GowanusCanalComments 04/17/2013 02:45 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to James Rubins

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

As an active watersports participant and former Brooklyn resident who saw the Gowanus Canal every day and anjoyed its presence in my neighborhood, I write to endorse this message from Rvierkeeper and urge your careful consideration of it.

Here is Riverkeepr's message, supporting the EPA's proposed plan to clean up the Gowanus Canal Superfund site:

After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

While the EPA's plan takes the critical step of calling for CSO retention for two of the Canal's worst outfalls many details will not be solidified until New York City submits their CSO Long Term Control Plan in 2015. It is critical for the EPA to stand firm on requiring retention tanks to control CSOs and to work with New York City towards the eventual goal of 100% elimination of CSOs from the Canal.

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Sincerely,

Mr. James Rubins
2 W 67th St
New York, NY 10023-6241
(212) 362-2299

Comments on Gowanus Canal Proposed Plan

Fred Binkley to: Region2 GowanusCanalComments 04/17/2013 02:45 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Fred Binkley

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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Sincerely,

Mr. Fred Binkley
15 Sheridan Sq
New York, NY 10014-6847

Comments on Gowanus Canal Proposed Plan

Michele Temple to: Region2 GowanusCanalComments 04/17/2013 02:45 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Michele Temple

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis;

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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Sincerely,

Ms. Michele Temple
4226 69th St
Woodside, NY 11377-3923
(718) 672-3181

Comments on Gowanus Canal Proposed Plan

Merideth Genin to: Region2 GowanusCanalComments 04/17/2013 02:45 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Merideth Genin

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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Sincerely,

Ms. Merideth Genin
543 E 6th St
Apt 5f
New York, NY 10009-6678
private

Comments on Gowanus Canal Proposed Plan

Carl Arnold to: Region2 GowanusCanalComments 04/17/2013 02:45 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Carl Arnold

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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Sincerely,

Mr. Carl Arnold
156 Prospect Park W
Brooklyn, NY 11215-4513

Comments on Gowanus Canal Proposed Plan

Daniel Barnett to: Region2 GowanusCanalComments 04/17/2013 03:16 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Daniel Barnett

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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Sincerely,

Mr. Daniel Barnett
3604 Waldo Ave
Bronx, NY 10463-2265
(718) 432-0548

Comments on Gowanus Canal Proposed Plan

Phyllis Mintz to: Region2 GowanusCanalComments 04/17/2013 03:16 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Phyllis Mintz

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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Sincerely,

Ms. Phyllis Mintz
298 W 11th St
New York, NY 10014-2441

Comments on Gowanus Canal Proposed Plan

Lonnie Harrington to: Region2 GowanusCanalComments 04/17/2013 03:16 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Lonnie Harrington

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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Sincerely,

Mr. Lonnie Harrington
11845 204th St
Saint Albans, NY 11412-3504

Comments on Gowanus Canal Proposed Plan

Carole Di Tosti to: Region2 GowanusCanalComments 04/17/2013 03:46 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Carole Di Tosti

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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Sincerely,

Dr. Carole Di Tosti
8333 118th St Apt 6h
Kew Gardens, NY 11415-2339
(718) 846-0752

Comments on Gowanus Canal Proposed Plan

Cynthia Luna-Dulgov to: Region2 GowanusCanalComments 04/17/2013 03:46 PM
Sent by: **Riverkeeper <info@Riverkeeper.org>**
Please respond to Cynthia Luna-Dulgov

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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Sincerely,

Mrs. Cynthia Luna-Dulgov
9315 Fort Hamilton Pkwy
Brooklyn, NY 11209-7122
(917) 263-0629

Comments on Gowanus Canal Proposed Plan

Charlotte Grillot to: Region2 GowanusCanalComments 04/17/2013 03:46 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Charlotte Grillot

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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Sincerely,

Mrs. Charlotte Grillot
406 W 56th St
New York, NY 10019-3643

Comments on Gowanus Canal Proposed Plan

Richie Kessler to: Region2 GowanusCanalComments
Sent by: **Riverkeeper <info@Riverkeeper.org>**
Please respond to Richie Kessler

04/17/2013 03:46 PM

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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Sincerely,

Mr. Richie Kessler
2350 Broadway
New York, NY 10024-3214

Comments on Gowanus Canal Proposed Plan

Amanda Smock to: Region2 GowanusCanalComments 04/17/2013 03:46 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Amanda Smock

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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Sincerely,

Ms. Amanda Smock
469 Eastern Pkwy
Brooklyn, NY 11216-4440
(718) 938-4068

Comments on Gowanus Canal Proposed Plan

Matthew Benson to: Region2 GowanusCanalComments 04/17/2013 03:46 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Matthew Benson

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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I support the EPA's commitment to dredge as much as 10 feet of contaminated sediment from the entire length of the canal, build a multi-layer cap on the bottom, and treat and dispose of this contaminated sediment offsite. I also believe that the EPA should listen to the wishes of the community in Red Hook who oppose the building of a CDF on the Red Hook waterfront to dispose of the least contaminated sediment.

Sincerely,

Mr. Matthew Benson
629 Kappock St
Apt 2a
Bronx, NY 10463-7716
(917) 549-1129

Comments on Gowanus Canal Proposed Plan

Jessica Silver to: Region2 GowanusCanalComments 04/17/2013 03:46 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Jessica Silver

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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Sincerely,

Ms. Jessica Silver
250 Mercer St
Apt A503
New York, NY 10012-6130
(212) 677-1878

Comments on Gowanus Canal Proposed Plan

Imogene Ellis to: Region2 GowanusCanalComments 04/17/2013 03:46 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Imogene Ellis

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

Mr. Tsiamias,

I strongly support the proposed cleanup plan. I am an undergrad student who has grown up very close to the canal and am intensely aware of the need for remedial action on the site. This goal needs protection against the interests of developers in order to ensure even somewhat acceptable environmental health, especially for the residents in the area.

While the EPA's plan takes the critical step of calling for CSO retention for two of the Canal's worst outfalls many details will not be solidified until New York City submits their CSO Long Term Control Plan in 2015. It is critical for the EPA to stand firm on requiring retention tanks to control CSOs and to work with New York City towards the eventual goal of 100% elimination of CSOs from the Canal.

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Sincerely,

Miss Imogene Ellis
460 Sackett St
Brooklyn, NY 11231-5019

Comments on Gowanus Canal Proposed Plan

Thea Hetzner to: Region2 GowanusCanalComments 04/17/2013 03:47 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Thea Hetzner

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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Sincerely,

Ms. Thea Hetzner
3045 Hobart St
Woodside, NY 11377-1400
(347) 351-9953

Comments on Gowanus Canal Proposed Plan

Ed Dillon to: Region2 GowanusCanalComments 04/17/2013 03:47 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Ed Dillon

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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Sincerely,

Mr. Ed Dillon
5900 Arlington Ave Apt 15c
Bronx, NY 10471-1316

Comments on Gowanus Canal Proposed Plan

Mike Escobar to: Region2 GowanusCanalComments 04/17/2013 03:47 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Mike Escobar

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

More than anything, I'm looking to see the Gowanus Canal cleanup to be used as a model for environmental cleanups in similarly polluted water bodies. Biological treatment may be slower than some other proposed treatment methods, but I think that the benefits of a truly clean Gowanus would be worth the time and effort invested. Please support the use of bacteria, fungi, algae, oysters, mussels, etc. in the remediation efforts. We can't afford to look at the end of our nose, and use typical methodology that aren't often all that clean in themselves. We must look beyond to the goal of establishing biodiversity and new life in Gowanus and the entire NY Harbor. Dredging may be partially necessary, but it cannot be looked to as the complete answer.

Sincerely,

Mr. Mike Escobar
3 Terrace Ct
Albertson, NY 11507-2053
(516) 509-1135

Gowanus Canal Proposed Plan

Steven Jervis to: Region2 GowanusCanalComments 04/17/2013 04:16 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Steven Jervis

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I walk over the bridge over the Canal on UnionStreet sveeral times a week. I keep looking for signs of change (improvement).

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

While the EPA's plan takes the critical step of calling for CSO retention for two of the Canal's worst outfalls many details will not be solidified until New York City submits their CSO Long Term Control Plan in 2015. It is critical for the EPA to stand firm on requiring retention tanks to control CSOs and to work with New York City towards the eventual goal of 100% elimination of CSOs from the Canal.

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Sincerely,

Mr. Steven Jervis
71 Carroll St
Apt 5c
Brooklyn, NY 11231-2741

Comments on Gowanus Canal Proposed Plan

Yolanda Ivana cordoba to: Region2 GowanusCanalComments 04/17/2013 04:17 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Yolanda Ivana cordoba

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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Sincerely,

Ms. Yolanda Ivana cordoba
8925 Elmhurst Ave
Apt 406
Elmhurst, NY 11373-1530
(917) 312-4379

Comments on Gowanus Canal Proposed Plan

David Feguson to: Region2 GowanusCanalComments 04/17/2013 04:17 PM
Sent by: **Riverkeeper <info@Riverkeeper.org>**
Please respond to David Feguson

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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Sincerely,

Dr. David Feguson
411 W 22nd St
New York, NY 10011-2519

Comments on Gowanus Canal Proposed Plan

Sarah Gallagher to: Region2 GowanusCanalComments 04/17/2013 04:17 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Sarah Gallagher

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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We expect no less from our government!

Sincerely,

Ms. Sarah Gallagher
1136 1st Ave
New York, NY 10065-7963

Comments on Gowanus Canal Proposed Plan

Helen Cu to: Region2 GowanusCanalComments 04/17/2013 04:17 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Helen Cu

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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Sincerely,

Ms. Helen Cu
45 8th Ave
Brooklyn, NY 11217-3965
(718) 783-2619

Gowanus Canal PRAP Comment Attached

Mark Shames to: Region2 GowanusCanalComments 04/17/2013 04:36 PM

Dear Mr. Tsiamis:

Debra Scotto and I attach our personal comment with regard to the PRAP. We wish to thank you individually for your total commitment to the project but even more so for the surprising degree of frankness in your interactions with the community. We had come to expect obfuscation and opacity from our public officials as a matter of course. You restore hope for better days.

These comments are separate and apart from our participation on Community Board 6 and the CAG and are not intended to be viewed as a reflection of the sentiments of either the community board or the CAG.

Sincerely,

Mark C. Shames PRAP comment.pdf

Mark C. Shames
214 6th Avenue, 1C
Brooklyn, NY 11215
(917) 337-7821

&

Debra Scotto
206 Carroll Street
Brooklyn, NY 11231
(718) 834-0618

April 17, 2013

Christos Tsiamis
Remedial Project Manager
Central New York Remediation Section
U.S. Environmental Protection Agency
290 Broadway, 20th floor
New York, New York 10007-1866
GowanusCanalComments.Region2@epa.gov

Dear Mr. Tsiamis:

Let us begin by expressing our appreciation to the Environmental Protection Agency, Region 2 for adhering to the schedule that it set out at the commencement of this CERCLA process.

We were among those who were skeptical of EPA oversight of the Gowanus Canal. Our main environmental concerns for our neighborhood with respect to the canal were the coal tars in the upland MPG sites, the quality of the water in the canal and persistent localized flooding in the area adjacent to the canal that also resulted in sewer back up into the basements of homes along the canal. Unfortunately CERCLA was not designed to directly address these problems other than the coal tars.

Under those circumstances contra to our usual inclinations, we had judged it best to engage in a less demand oriented (Robert Moses) and more organic (Jane Jacobs) process. We envisioned the upland sites first being remediated along with the City's planned upgrades to the flushing tunnel and then once the sources of contamination were removed coming back to complete dealing with the issues remaining in the waters of the canal proper.

In that way, we hoped that it would jump start economic development with its substantial benefits along with a greater private participation in reducing sewer overflows into the canal. Such an approach would allow for a more flexible time horizon for attaining the secondary contact water quality that we believe essential to the best interests of our community. Under the CERCLA process it would be foolish not to coordinate completion of all elements within the, ten year, completion schedule.

We applaud the EPA for doing that testing which enabled it to determine that a failure to deal, at least in part, with the inflows of raw sewage into the canal would lead to its recontamination by toxins thus indirectly addressing a part of the water quality issue within the Superfund process.

The construction of retention basins suggested by the EPA in the PRAP will not only keep a significant amount of raw sewage out of the canal but it will undoubtedly aid in reducing the amount of flooding that is experienced by portions of the community. Retention basins seem to be the only option that will accomplish the goals of the community.

These unanticipated benefits from the CERCLA process unite the community behind the PRAP. These benefits must be maintained. While the construction of retention basins may exceed anticipated costs, they are the key element in justifying the initial massive cost of the project.

We are extremely disappointed that the language calling for the retention system is suggestive rather than compulsory. We are not sure that our municipality strapped for funds will feel that it can afford to take the hint. We fully support the remedy proposed with particular emphasis on the inclusion of the retention basins at the sites suggested in the PRAP.

Despite the cost savings that might be realized by doing containment of the less contaminated sediments locally it is in the best interests of area wide harmony to do dewatering by barge and treatment and disposal outside of the canal area. We have heard enough from our neighbors in Red Hook at various meetings to know that they do not want treatment

of the dredged materials in the area. We are equally confident that the Park Slope, Cobble Hill, Carroll Gardens, and Gowanus residents would reject accommodating the treatment of sediments within their borders, as well. We urge the EPA to abandon such local options.

If local treatment and containment were the EPA's preferred options, then local concerns should not have been a key element in the decision making process. Without the EPA standing firmly out front of such approaches, it was inevitable that the community would say no, even if such a stance may reflect an excess of caution.

There was also a paucity of outreach to the general public and even the opinion leaders of the community before rolling out such options in a comment period of limited duration. This has exposed the limitations to an approach where one supports and talks, almost exclusively, with those who will reflectively nod in agreement while failing to seek out those who are more questioning. The proposal as put forward provided negligible benefits to the local residents particularly when weighed against the perceived negatives.

We continue to have serious concern that carrying out the remedy will have deleterious effects on bulkheads throughout the canal area and that the cost of replacing deteriorated bulkheads may be a burden that will break the backs of innocent (non-prp) landowners. The issue of the bulkheads together with other important issues is not fully addressed in the plan and we must take on faith that approaches that work for the community will be found.

We have been advocates for connecting the residential communities of Carroll Gardens and Park Slope by expanding the residential character of much of the Gowanus corridor. With that future in mind the canal remediation ought to be undertaken with a view to achieving the highest standards reasonably attainable.

Sincerely,

Mark C. Shames

Debra Scotto

Proposed Gowanus Canal EPA PRAP
Joe Gardella to: Region2 GowanusCanalComments 04/17/2013 04:36 PM

Christos Tsiamis
Remedial Project Manager
Central New York Remediation Section
U.S. Environmental Protection Agency
290 Broadway, 20th Floor
New York, New York 10007-1866

Dear Christos Tsiamis

I am writing to provide my support in favor of the EPA PRAP (Proposed Remedial Action Plan) for the Gowanus Canal. I have been involved in some consultations with college faculty in New York City interested in long term environmental monitoring, and in the past months, at EPA Citizen Science workshops sponsored by Region 2 where issues on the Gowanus Canal are discussed.

I have been involved in similar issues in WNY, including the cleanup and removal of sediment in the Buffalo River.

As the Proposed Plan establishes methods for removal of contaminated sediments for the entire width of the canal to the depth of clean native sediment and to permanently and impermeably cover whatever might remain, and has identified ways to prevent re-contamination and halt future toxic inputs; I strongly support the EPA Proposed Plan to clean the Gowanus Superfund site.

Sincerely,

Joseph A. Gardella, Jr., Ph.D.
John and Frances Larkin Professor of Chemistry
University at Buffalo, SUNY

www.buffalo.edu/~gardella

Chair, CIty of Buffalo Environmental Management Commission
Chair, Lake Ontario Ordnance Works Community Action Council

Comments on Gowanus Canal Proposed Plan

Billie Biederman to: Region2 GowanusCanalComments 04/17/2013 04:46 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Billie Biederman

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

While the EPA's plan takes the critical step of calling for CSO retention for two of the Canal's worst outfalls many details will not be solidified until New York City submits their CSO Long Term Control Plan in 2015. It is critical for the EPA to stand firm on requiring retention tanks to control CSOs and to work with New York City towards the eventual goal of 100% elimination of CSOs from the Canal.

I support the EPA's commitment to dredge as much as 10 feet of contaminated sediment from the entire length of the canal, build a multi-layer cap on the bottom, and treat and dispose of this contaminated sediment offsite. I also believe that the EPA should listen to the wishes of the community in Red Hook who oppose the building of a CDF on the Red Hook waterfront to dispose of the least contaminated sediment.

Sincerely,

Ms. Billie Biederman
Stuyvesant Oval
New York, NY 10009-2144

Comments on Gowanus Canal Proposed Plan

Ursula Rodriguez to: Region2 GowanusCanalComments 04/17/2013 04:46 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Ursula Rodriguez

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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Sincerely,

Miss Ursula Rodriguez
8419 129th St
Kew Gardens, NY 11415-2809
(718) 775-3172

Comments on Gowanus Canal Proposed Plan

Virginia Hunter to: Region2 GowanusCanalComments 04/17/2013 04:46 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Virginia Hunter

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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Sincerely,

Miss Virginia Hunter
439 16th St
Apt 1rr
Brooklyn, NY 11215-8801
(828) 230-9494

Comments on Gowanus Canal Proposed Plan

Gail Sullivan to: Region2 GowanusCanalComments 04/17/2013 04:46 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Gail Sullivan

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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Sincerely,

Ms. Gail Sullivan
105 Arden St
New York, NY 10040-1117

Comments on Gowanus Canal Proposed Plan

Barbara Oakes to: Region2 GowanusCanalComments 04/17/2013 04:46 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Barbara Oakes

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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Sincerely,

Ms. Barbara Oakes
106 W 13th St Apt 6
New York, NY 10011-7825

Comments on Gowanus Canal Proposed Plan

Camille Kozlowski to: Region2 GowanusCanalComments 04/17/2013 04:46 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Camille Kozlowski

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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Sincerely,

Ms. Camille Kozlowski
333 Pearl St Apt 9b
New York, NY 10038-1650
(212) 346-7972

Comments on Gowanus Canal Proposed Plan

Josefina Vidal to: Region2 GowanusCanalComments 04/17/2013 04:46 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Josefina Vidal

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

While the EPA's plan takes the critical step of calling for CSO retention for two of the Canal's worst outfalls many details will not be solidified until New York City submits their CSO Long Term Control Plan in 2015. It is critical for the EPA to stand firm on requiring retention tanks to control CSOs and to work with New York City towards the eventual goal of 100% elimination of CSOs from the Canal.

I support the EPA's commitment to dredge as much as 10 feet of contaminated sediment from the entire length of the canal, build a multi-layer cap on the bottom, and treat and dispose of this contaminated sediment offsite. I also believe that the EPA should listen to the wishes of the community in Red Hook who oppose the building of a CDF on the Red Hook waterfront to dispose of the least contaminated sediment.

Sincerely,

Mrs. Josefina Vidal
4523 Broadway
Apt 6d
New York, NY 10040-2418
(917) 294-8881

Comments on Gowanus Canal Proposed Plan

Fred Koster to: Region2 GowanusCanalComments 04/17/2013 04:46 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Fred Koster

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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Sincerely,

Mr. Fred Koster
200 E 81st St
New York, NY 10028-2618

Comments on Gowanus Canal Proposed Plan

Alaina Johnson to: Region2 GowanusCanalComments 04/17/2013 04:46 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Alaina Johnson

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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Sincerely,

Ms. Alaina Johnson
721 Dunne Ct
Brooklyn, NY 11235-6122
(347) 673-5098

Comments on Gowanus Canal Proposed Plan

Laura Bailey to: Region2 GowanusCanalComments 04/17/2013 05:17 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Laura Bailey

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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Sincerely,

Ms. Laura Bailey
215 Thompson St
New York, NY 10012-1360
(516) 650-1287

Comments on Gowanus Canal Proposed Plan

Carol Dobson to: Region2 GowanusCanalComments 04/17/2013 05:17 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Carol Dobson

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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Sincerely,

Ms. Carol Dobson
2130 Broadway
Apt 405
New York, NY 10023-1714

Comments on Gowanus Canal Proposed Plan

Guy-Luc deVeaux to: Region2 GowanusCanalComments 04/17/2013 05:17 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Guy-Luc deVeaux

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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Sincerely,

Mr. Guy-Luc deVeaux
3226 Tibbett Ave
Bronx, NY 10463-3801

Comments on Gowanus Canal Proposed Plan

lucy koteen to: Region2 GowanusCanalComments 04/17/2013 05:17 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to lucy koteen

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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Sincerely,

Ms. lucy koteen
138 Lafayette Ave
Brooklyn, NY 11238-1005

Comments on Gowanus Canal Proposed Plan

Arthur Lapite to: Region2 GowanusCanalComments 04/17/2013 05:17 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Arthur Lapite

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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Sincerely,

Mr. Arthur Lapite
211 E 18th St
New York, NY 10003-3620
(212) 475-3336

Comments on Gowanus Canal Proposed Plan

Pat Almonrode to: Region2 GowanusCanalComments 04/17/2013 05:47 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Pat Almonrode

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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Sincerely,

Mr. Pat Almonrode
301 W 108th St
Apt 9a
New York, NY 10025-2780

Comments on Gowanus Canal Proposed Plan

Irving Lee to: Region2 GowanusCanalComments 04/17/2013 05:47 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Irving Lee

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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Sincerely,

Mr. Irving Lee
20 Confucius Plz
New York, NY 10002-6708

Comments on Gowanus Canal Proposed Plan

Laurie Spigel to: Region2 GowanusCanalComments 04/17/2013 05:47 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Laurie Spigel

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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Sincerely,

Ms. Laurie Spigel
5800 Arlington Ave
Bronx, NY 10471-1402

Comments on Gowanus Canal Proposed Plan

Radha Korman to: Region2 GowanusCanalComments 04/17/2013 05:47 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Radha Korman

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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Sincerely,

Mrs. Radha Korman
80 1st Ave Apt 3j
New York, NY 10009-6322

Comments on Gowanus Canal Proposed Plan

Stana Weisburd to: Region2 GowanusCanalComments 04/17/2013 05:47 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Stana Weisburd

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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Sincerely,

Ms. Stana Weisburd
75 Prospect Park W
Brooklyn, NY 11215-3078
(718) 369-7170

Comments on Gowanus Canal Proposed Plan

Susan Carroll to: Region2 GowanusCanalComments 04/17/2013 05:47 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Susan Carroll

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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Sincerely,

Miss Susan Carroll
32 03 150th Street
Flushing, NY 11354-3245

Comments on Gowanus Canal Proposed Plan

Maria Asteinza to: Region2 GowanusCanalComments 04/17/2013 05:47 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Maria Asteinza

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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Sincerely,

Ms. Maria Asteinza
7337 Austin St
Forest Hills, NY 11375-6258

Comments on Gowanus Canal Proposed Plan

Lynda Selde to: Region2 GowanusCanalComments 04/17/2013 06:17 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Lynda Selde

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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Sincerely,

Ms. Lynda Selde
5601 Riverdale Ave Apt 2a
Bronx, NY 10471-2120
(718) 796-8246

Comments on Gowanus Canal Proposed Plan

Evy Mayer to: Region2 GowanusCanalComments 04/17/2013 06:17 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Evy Mayer

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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Sincerely,

Ms. Evy Mayer
3050 Fairfield Ave
Bronx, NY 10463-3314
(718) 549-1344

Comments on Gowanus Canal Proposed Plan

Edward Carey to: Region2 GowanusCanalComments 04/17/2013 06:17 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Edward Carey

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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Sincerely,

Mr. Edward Carey
15033 20th Rd
Whitestone, NY 11357-3601
(718) 539-2884

Comments on Gowanus Canal Proposed Plan

Mary A Kelly to: Region2 GowanusCanalComments 04/17/2013 06:17 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Mary A Kelly

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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Sincerely,

Ms. Mary A Kelly
315 W 21st St Apt 3e
New York, NY 10011-3008

Comments on Gowanus Canal Proposed Plan

Shyama Orum to: Region2 GowanusCanalComments 04/17/2013 06:17 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Shyama Orum

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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Sincerely,

Ms. Shyama Orum
305 W. 285th #16E
New York, NY 10001

Comments on Gowanus Canal Proposed Plan

Christy Carosella to: Region2 GowanusCanalComments 04/17/2013 06:47 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Christy Carosella

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

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Sincerely,

Ms. Christy Carosella
10720 107th St
Ozone Park, NY 11417-2317

Comments on Gowanus Canal Proposed Plan

Maureen Kavanagh to: Region2 GowanusCanalComments 04/17/2013 06:47 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Maureen Kavanagh

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

While the EPA's plan takes the critical step of calling for CSO retention for two of the Canal's worst outfalls many details will not be solidified until New York City submits their CSO Long Term Control Plan in 2015. It is critical for the EPA to stand firm on requiring retention tanks to control CSOs and to work with New York City towards the eventual goal of 100% elimination of CSOs from the Canal.

I support the EPA's commitment to dredge as much as 10 feet of contaminated sediment from the entire length of the canal, build a multi-layer cap on the bottom, and treat and dispose of this contaminated sediment offsite. I also believe that the EPA should listen to the wishes of the community in Red Hook who oppose the building of a CDF on the Red Hook waterfront to dispose of the least contaminated sediment.

Sincerely,

Ms. Maureen Kavanagh
4825 43rd St Apt 2j
Woodside, NY 11377-6834

Comments on Gowanus Canal Proposed Plan

Megan Ryan to: Region2 GowanusCanalComments 04/17/2013 06:47 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Megan Ryan

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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Sincerely,

Ms. Megan Ryan
207 Midwood St
Brooklyn, NY 11225-5058

Comments on Gowanus Canal Proposed Plan

Elizabeth Ungar to: Region2 GowanusCanalComments 04/17/2013 06:47 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Elizabeth Ungar

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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Sincerely,

Ms. Elizabeth Ungar
420 Riverside DriveApartment 7H
New York, NY 10025
(212) 678-0567

Comments on Gowanus Canal Proposed Plan

Geraldine Borrell to: Region2 GowanusCanalComments 04/17/2013 06:47 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Geraldine Borrell

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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Sincerely,

Ms. Geraldine Borrell
305 Riverside Dr
New York, NY 10025-5286
(212) 663-8172

Comments on Gowanus Canal Proposed Plan

Myra Gordon to: Region2 GowanusCanalComments 04/17/2013 06:47 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Myra Gordon

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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Sincerely,

Ms. Myra Gordon
600 W 246th St
Bronx, NY 10471-3611

Comments on Gowanus Canal Proposed Plan

Susan Nahem to: Region2 GowanusCanalComments 04/17/2013 06:47 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Susan Nahem

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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Sincerely,

Mrs. Susan Nahem
7013 Park Dr E
Apt 13a
Flushing, NY 11367-1951
(347) 880-1547

I, the sender, vote that I do not want this project to proceed.

Kirsten Osthus to: Region2 GowanusCanalComments 04/17/2013 07:12 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

- Children
- Numerous public and private schools which use the fields for physical education & sports teams
- Residents of the Red Hook Houses and the surrounding neighborhood
- Soccer, softball, baseball, football, handball, basketball, track & field teams and enthusiasts
- Swimmers of all ages
- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--
Kirsten Osthus
kirstenosthus@gmail.com
Kirsten Osthus c/o Screwball Spaces 183 Lorraine St 3rd fl #83
Brooklyn, New York 11231
Art Studio

Comments on Gowanus Canal Proposed Plan

Marcia Robinson to: Region2 GowanusCanalComments 04/17/2013 07:17 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Marcia Robinson

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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Sincerely,

Ms. Marcia Robinson
3 Peter Cooper Rd
New York, NY 10010-6612
(212) 529-3894

Comments on Gowanus Canal Proposed Plan

Timothy Rosser to: Region2 GowanusCanalComments 04/17/2013 07:17 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Timothy Rosser

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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Sincerely,

Mr. Timothy Rosser
66 Crosby St
Apt 4e
New York, NY 10012-4420

Comments on Gowanus Canal Proposed Plan

Michael Eckblad to: Region2 GowanusCanalComments 04/17/2013 07:17 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Michael Eckblad

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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Sincerely,

Mr. Michael Eckblad
14 Verona St Apt 301
Brooklyn, NY 11231-1727

Comments on Gowanus Canal Proposed Plan

August Guyot to: Region2 GowanusCanalComments 04/17/2013 07:47 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to August Guyot

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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Sincerely,

Mr. August Guyot
65 Greene St
New York, NY 10012-4336
(212) 966-6630

Comments on Gowanus Canal Proposed Plan

Robert Puca to: Region2 GowanusCanalComments 04/17/2013 07:47 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Robert Puca

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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Sincerely,

Dr. Robert Puca
535 Dean St Apt 306
Brooklyn, NY 11217-2182

Comments on Gowanus Canal Proposed Plan

Tom Pfeffer to: Region2 GowanusCanalComments 04/17/2013 07:47 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Tom Pfeffer

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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Sincerely,

Mr. Tom Pfeffer
602 Driggs Ave
Brooklyn, NY 11211-3230
(718) 388-7760

Comments on Gowanus Canal Proposed Plan

Margaret Seely to: Region2 GowanusCanalComments 04/17/2013 07:47 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Margaret Seely

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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Sincerely,

Ms. Margaret Seely
635 Riverside Dr Apt 7a
New York, NY 10031-7118
(212) 281-9106

Comments on Gowanus Canal Proposed Plan

Maggie Siena to: Region2 GowanusCanalComments 04/17/2013 07:47 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Maggie Siena

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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Sincerely,

Ms. Maggie Siena
378 Vanderbilt Ave
Brooklyn, NY 11238-1505
(917) 952-0614

Comments on Gowanus Canal Proposed Plan

Benjamin Kessel to: Region2 GowanusCanalComments 04/17/2013 07:47 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Benjamin Kessel

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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Sincerely,

Mr. Benjamin Kessel
553 4th Ave
Brooklyn, NY 11215-4792

Comments on Gowanus Canal Proposed Plan

Kevin Mahoney to: Region2 GowanusCanalComments 04/17/2013 07:47 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Kevin Mahoney

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

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Sincerely,

Mr. Kevin Mahoney
234 Kingsley Ave
Staten Island, NY 10314-2305

Comments on Gowanus Canal Proposed Plan

nelly baldan badia to: Region2 GowanusCanalComments 04/17/2013 08:17 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to nelly baldan badia

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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Sincerely,

Ms. nelly baldan badia
300 E 51st St
New York, NY 10022-7806

Comments on Gowanus Canal Proposed Plan

Jessica Bader to: Region2 GowanusCanalComments 04/17/2013 08:17 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Jessica Bader

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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Sincerely,

Ms. Jessica Bader
121 E 31st St
New York, NY 10016-6834
(917) 385-4574

Comments on Gowanus Canal Proposed Plan

Salvina Scime to: Region2 GowanusCanalComments 04/17/2013 08:17 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Salvina Scime

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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Sincerely,

Ms. Salvina Scime
8726 52nd Ave
Elmhurst, NY 11373-3938

Comments on Gowanus Canal Proposed Plan

Suzie Baer to: Region2 GowanusCanalComments 04/17/2013 08:17 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Suzie Baer

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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Sincerely,

Ms. Suzie Baer
401 1st Ave Apt 9d
New York, NY 10010-4009
(212) 725-7404

Comments on Gowanus Canal Proposed Plan

Bobbie Dee Flowers to: Region2 GowanusCanalComments 04/17/2013 08:17 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Bobbie Dee Flowers

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

While the EPA's plan takes the critical step of calling for CSO retention for two of the Canal's worst outfalls many details will not be solidified until New York City submits their CSO Long Term Control Plan in 2015. It is critical for the EPA to stand firm on requiring retention tanks to control CSOs and to work with New York City towards the eventual goal of 100% elimination of CSOs from the Canal.

I support the EPA's commitment to dredge as much as 10 feet of contaminated sediment from the entire length of the canal, build a multi-layer cap on the bottom, and treat and dispose of this contaminated sediment offsite. I also believe that the EPA should listen to the wishes of the community in Red Hook who oppose the building of a CDF on the Red Hook waterfront to dispose of the least contaminated sediment.

Sincerely,

Mr. Bobbie Dee Flowers
418 W 17th St
Apt 22a
New York, NY 10011-5826

Comments on Gowanus Canal Proposed Plan

Ann Kaslow to: Region2 GowanusCanalComments 04/17/2013 08:47 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Ann Kaslow

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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I support the EPA's commitment to dredge as much as 10 feet of contaminated sediment from the entire length of the canal, build a multi-layer cap on the bottom, and treat and dispose of this contaminated sediment offsite. I also believe that the EPA should listen to the wishes of the community in Red Hook who oppose the building of a CDF on the Red Hook waterfront to dispose of the least contaminated sediment.

Sincerely,

Ms. Ann Kaslow
1025 E 16th St
Brooklyn, NY 11230-4403

Comments on Gowanus Canal Proposed Plan

Katie Garton to: Region2 GowanusCanalComments 04/17/2013 09:47 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Katie Garton

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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I support the EPA's commitment to dredge as much as 10 feet of contaminated sediment from the entire length of the canal, build a multi-layer cap on the bottom, and treat and dispose of this contaminated sediment offsite. I also believe that the EPA should listen to the wishes of the community in Red Hook who oppose the building of a CDF on the Red Hook waterfront to dispose of the least contaminated sediment.

Sincerely,

Ms. Katie Garton
430 W 34th St
New York, NY 10001-2308

Comments on Gowanus Canal Proposed Plan

Michael Fergot to: Region2 GowanusCanalComments 04/17/2013 09:47 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Michael Fergot

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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Sincerely,

Mr. Michael Fergot
1085 Park Ave Apt 8a
New York, NY 10128-1188

I, the sender, vote that I do not want this project to proceed.

Thomas Wilk to: Region2 GowanusCanalComments 04/17/2013 10:11 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

- Children
- Numerous public and private schools which use the fields for physical education & sports teams
- Residents of the Red Hook Houses and the surrounding neighborhood
- Soccer, softball, baseball, football, handball, basketball, track & field teams and enthusiasts
- Swimmers of all ages
- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--
Thomas Wilk
thomasedwardwilk@gmail.com
Brooklyn, NY
resident

Comments on Gowanus Canal Proposed Plan

Sharon Nolting to: Region2 GowanusCanalComments 04/17/2013 10:17 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Sharon Nolting

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

While the EPA's plan takes the critical step of calling for CSO retention for two of the Canal's worst outfalls many details will not be solidified until New York City submits their CSO Long Term Control Plan in 2015. It is critical for the EPA to stand firm on requiring retention tanks to control CSOs and to work with New York City towards the eventual goal of 100% elimination of CSOs from the Canal.

I support the EPA's commitment to dredge as much as 10 feet of contaminated sediment from the entire length of the canal, build a multi-layer cap on the bottom, and treat and dispose of this contaminated sediment offsite. I also believe that the EPA should listen to the wishes of the community in Red Hook who oppose the building of a CDF on the Red Hook waterfront to dispose of the least contaminated sediment.

Sincerely,

Ms. Sharon Nolting
348 E 9th St
Apt 13
New York, NY 10003-7916

Comments on Gowanus Canal Proposed Plan

Gerson Lesser to: Region2 GowanusCanalComments 04/17/2013 10:17 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Gerson Lesser

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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Sincerely,

Dr. Gerson Lesser
5800 Arlington Ave
Bronx, NY 10471-1402
(718) 543-5292

Comments on Gowanus Canal Proposed Plan

Mark Denecour to: Region2 GowanusCanalComments 04/17/2013 10:18 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Mark Denecour

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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Sincerely,

Mr. Mark Denecour
658 Carroll St
Apt 3d
Brooklyn, NY 11215-2019
(347) 410-0520

Comments on Gowanus Canal Proposed Plan

Stephen Coppola to: Region2 GowanusCanalComments 04/17/2013 10:48 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Stephen Coppola

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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Sincerely,

Mr. Stephen Coppola
137 Madison St
Brooklyn, NY 11216-1603

Comments on Gowanus Canal Proposed Plan

Bari Moss and David Slavin to: Region2 GowanusCanalComments 04/17/2013 10:48 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Bari Moss and David Slavin

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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I support the EPA's commitment to dredge as much as 10 feet of contaminated sediment from the entire length of the canal, build a multi-layer cap on the bottom, and treat and dispose of this contaminated sediment offsite. I also believe that the EPA should listen to the wishes of the community in Red Hook who oppose the building of a CDF on the Red Hook waterfront to dispose of the least contaminated sediment.

Sincerely,

Ms. Bari Moss and David Slavin
140 Riverside Dr
Apt 1k
New York, NY 10024-2605

Comments on Gowanus Canal Proposed Plan

Joseph Connors to: Region2 GowanusCanalComments 04/17/2013 10:48 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Joseph Connors

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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I support the EPA's commitment to dredge as much as 10 feet of contaminated sediment from the entire length of the canal, build a multi-layer cap on the bottom, and treat and dispose of this contaminated sediment offsite. I also believe that the EPA should listen to the wishes of the community in Red Hook who oppose the building of a CDF on the Red Hook waterfront to dispose of the least contaminated sediment.

Sincerely,

Mr. Joseph Connors
300 W 145th St
Apt 6f
New York, NY 10039-3146

Comments on Gowanus Canal Proposed Plan

Nick Yang to: Region2 GowanusCanalComments 04/17/2013 11:18 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Nick Yang

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

While the EPA's plan takes the critical step of calling for CSO retention for two of the Canal's worst outfalls many details will not be solidified until New York City submits their CSO Long Term Control Plan in 2015. It is critical for the EPA to stand firm on requiring retention tanks to control CSOs and to work with New York City towards the eventual goal of 100% elimination of CSOs from the Canal.

I support the EPA's commitment to dredge as much as 10 feet of contaminated sediment from the entire length of the canal, build a multi-layer cap on the bottom, and treat and dispose of this contaminated sediment offsite. I also believe that the EPA should listen to the wishes of the community in Red Hook who oppose the building of a CDF on the Red Hook waterfront to dispose of the least contaminated sediment.

Sincerely,

Mr. Nick Yang
2133 E 74th St
Brooklyn, NY 11234-6203

Comments on Gowanus Canal Proposed Plan

James Tate to: Region2 GowanusCanalComments 04/17/2013 11:18 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to James Tate

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

While the EPA's plan takes the critical step of calling for CSO retention for two of the Canal's worst outfalls many details will not be solidified until New York City submits their CSO Long Term Control Plan in 2015. It is critical for the EPA to stand firm on requiring retention tanks to control CSOs and to work with New York City towards the eventual goal of 100% elimination of CSOs from the Canal.

I support the EPA's commitment to dredge as much as 10 feet of contaminated sediment from the entire length of the canal, build a multi-layer cap on the bottom, and treat and dispose of this contaminated sediment offsite. I also believe that the EPA should listen to the wishes of the community in Red Hook who oppose the building of a CDF on the Red Hook waterfront to dispose of the least contaminated sediment.

Sincerely,

Mr. James Tate
345 Webster Ave Apt 4b
Brooklyn, NY 11230-1428
(718) 633-6764

Comments on Gowanus Canal Proposed Plan

Louise Calabro to: Region2 GowanusCanalComments 04/17/2013 11:18 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Louise Calabro

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

As a native New Yorker, I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

While the EPA's plan takes the critical step of calling for CSO retention for two of the Canal's worst outfalls many details will not be solidified until New York City submits their CSO Long Term Control Plan in 2015. It is critical for the EPA to stand firm on requiring retention tanks to control CSOs and to work with New York City towards the eventual goal of 100% elimination of CSOs from the Canal.

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Sincerely,

Ms. Louise Calabro
2 Bay Club Dr Apt 1g
Bayside, NY 11360-2918
(718) 631-7683

Comments on Gowanus Canal Proposed Plan

Artineh Havan to: Region2 GowanusCanalComments 04/17/2013 11:18 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Artineh Havan

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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Sincerely,

Ms. Artineh Havan
125 Greenpoint Ave Apt C7
Brooklyn, NY 11222-2214

Comments on Gowanus Canal Proposed Plan

Joan Abruzzo to: Region2 GowanusCanalComments 04/17/2013 11:48 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Joan Abruzzo

History: This message has been forwarded.

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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Sincerely,

Ms. Joan Abruzzo
1815 215th St
Apt 4k
Bayside, NY 11360-2132
(718) 229-3461

"SAY NO TO A TOXIC RED HOOK"

WWW.NOTOXICREDHOOK.COM

AS A (CIRCLE ONE) RESIDENT, BUSINESS / EMPLOYEE OR USER OF THE PARKS AND RECREATIONAL FACILITIES WITHIN RED HOOK, I AM/ WE ARE STRONGLY OPPOSED TO THE PROCESSING OF TOXIC SLUDGE DREDGED FROM THE GOWANUS CANAL SUPERFUND CLEANUP SITE AT A FACILITY PROPOSED TO BE BUILT RIGHT NEXT TO THE RED HOOK BALL FIELDS AND POOL ON PROPERTY OWNED BY AN INDIVIDUAL WHO HAS INCURRED SERIOUS FINES FOR ENVIRONMENTAL VIOLATIONS IN THE PAST. IT IS THE WRONG SITE FOR THIS IMPORTANT FACILITY.

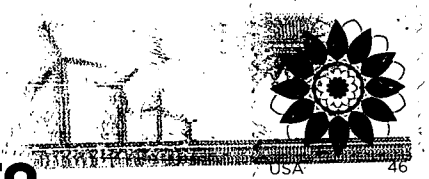
SIGNATURE(S)/DATE:

Rachel Foulk 4/17/13

ADDRESS:

14 Verona St. #2B Brooklyn

NY 11231



TO:

Christos Tsiamis
Central New York Remediation Section
U.S. Environmental Protection Agency
290 Broadway, 20th Floor
New York, New York
10007-1866

"SAY NO TO A TOXIC RED HOOK"

WWW.NOTOXICREDHOOK.COM

AS A (CIRCLE ONE) RESIDENT, BUSINESS / EMPLOYEE OR USER OF THE PARKS AND RECREATIONAL FACILITIES WITHIN RED HOOK, I AM/ WE ARE STRONGLY OPPOSED TO THE PROCESSING OF TOXIC SLUDGE DREDGED FROM THE GOWANUS CANAL SUPERFUND CLEANUP SITE AT A FACILITY PROPOSED TO BE BUILT RIGHT NEXT TO THE RED HOOK BALL FIELDS AND POOL ON PROPERTY OWNED BY AN INDIVIDUAL WHO HAS INCURRED SERIOUS FINES FOR ENVIRONMENTAL VIOLATIONS IN THE PAST. IT IS THE WRONG SITE FOR THIS IMPORTANT FACILITY.

SIGNATURE(S)/DATE:

JEAN SHIN

ADDRESS:

156 Conover St #1
Brooklyn NY 11231

TO:

Christos Tsiamis
Central New York Remediation Section
U.S. Environmental Protection Agency
290 Broadway, 20th Floor
New York, New York
10007-1866

THIS PLAN IS TERRIBLE!

SAY NO TO A TOXIC RED HOOK

WWW.NOTOXICREDHOOK.COM

"SAY NO TO A TOXIC RED HOOK"

WWW.NOTOXICREDHOOK.COM

AS A (CIRCLE ONE) RESIDENT, BUSINESS / EMPLOYEE OR USER OF THE PARKS AND RECREATIONAL FACILITIES WITHIN RED HOOK, I AM/ WE ARE STRONGLY OPPOSED TO THE PROCESSING OF TOXIC SLUDGE DREDGED FROM THE GOWANUS CANAL SUPERFUND CLEANUP SITE AT A FACILITY PROPOSED TO BE BUILT RIGHT NEXT TO THE RED HOOK BALL FIELDS AND POOL ON PROPERTY OWNED BY AN INDIVIDUAL WHO HAS INCURRED SERIOUS FINES FOR ENVIRONMENTAL VIOLATIONS IN THE PAST. IT IS THE WRONG SITE FOR THIS IMPORTANT FACILITY.

SIGNATURE(S)/DATE:

Andrea Land

ADDRESS:

279 N. 6th St. #3L

Brooklyn, NY 11211

TO:

Christos Tsiamis
Central New York Remediation Section
U.S. Environmental Protection Agency
290 Broadway, 20th Floor
New York, New York
10007-1866

Please remember the Hurricane!!

"SAY NO TO A TOXIC RED HOOK"

WWW.NOTOXICREDHOOK.COM

AS A (CIRCLE ONE) RESIDENT, BUSINESS / EMPLOYEE OR USER OF THE PARKS AND RECREATIONAL FACILITIES WITHIN RED HOOK, I AM/ WE ARE STRONGLY OPPOSED TO THE PROCESSING OF TOXIC SLUDGE DREDGED FROM THE GOWANUS CANAL SUPERFUND CLEANUP SITE AT A FACILITY PROPOSED TO BE BUILT RIGHT NEXT TO THE RED HOOK BALL FIELDS AND POOL ON PROPERTY OWNED BY AN INDIVIDUAL WHO HAS INCURRED SERIOUS FINES FOR ENVIRONMENTAL VIOLATIONS IN THE PAST. IT IS THE WRONG SITE FOR THIS IMPORTANT FACILITY.

SIGNATURE(S)/DATE: Margaret Coleman

303 Throop Ave 3R

ADDRESS:

Blyn NY 11206

10007182399

TO:

Christos Tsiamis
Central New York Remediation Section
U.S. Environmental Protection Agency
290 Broadway, 20th Floor
New York, New York
10007-1866

SAY NO TO A TOXIC RED HOOK

WWW.NOTOXICREDHOOK.COM

I support the EPA Gowanus Canal Superfund - Red Hook option.

The improvement to an active local maritime industrial business, the economic benefits it will bring, the jobs that it will create, are all important to me and what I believe is best for the majority of the community of Red Hook.

Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community are without harm or risk of such.

Please approve the Red Hook option.

(print)

Sherry (first name) DAVIS (last name)

106 Dwight (address) 8A (apt.#)

BKlyn (city) _____ (state) 11231 (zip)

_____ (area code & phone number)

Sherryd22674 GMail.com (email)

X Sherry Davis (signature) 4/18/13 (date)

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

RP

I support the EPA Gowanus Canal Superfund - Red Hook option.

The improvement to an active local maritime industrial business, the economic benefits it will bring, the jobs that it will create, are all important to me and what I believe is best for the majority of the community of Red Hook.

Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community are without harm or risk of such.

Please approve the Red Hook option.

(print)

Edward — first name

Gulotta — last name

31 Cumbre Mall — address

4/C — apt.#

NYC — city

NY — state

11231 — zip

_____ _____ — area code & phone number

_____ — email

x Edward Gulotta — signature

4/15/13 — date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

RJ

I support the EPA Gowanus Canal Superfund - Red Hook option.

The improvement to an active local maritime industrial business, the economic benefits it will bring, the jobs that it will create, are all important to me and what I believe is best for the majority of the community of Red Hook.

Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community are without harm or risk of such.

Please approve the Red Hook option.

(print)

JOHN — first name

Nunez — last name

9 Lorraine St — address

3C — apt.#

Brooklyn — city

N.Y — state

11231 — zip

B47 671-4462 — area code & phone number

TheCnapster614@AOL.COM — email

X John Nunez — signature

4-18-13 — date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

KP

I support the EPA Gowanus Canal Superfund - Red Hook option.

The improvement to an active local maritime industrial business, the economic benefits it will bring, the jobs that it will create, are all important to me and what I believe is best for the majority of the community of Red Hook.

Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community are without harm or risk of such.

Please approve the Red Hook option.

(print) Lynette Daniely

first name last name

15 Mill Street 5C

address apt.#

Bklyn NY 11231

city state zip

347.574.2457

area code & phone number

dreams2050m@yahoo.com

email

x Lynette Daniely 4/18/13

signature date

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

R.P.

I support the EPA Gowanus Canal Superfund - Red Hook option.

The improvement to an active local maritime industrial business, the economic benefits it will bring, the jobs that it will create, are all important to me and what I believe is best for the majority of the community of Red Hook.

Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community are without harm or risk of such.

Please approve the Red Hook option.

(print)

Sonia Cruz

first name _____ last name _____

414 Columbia St. 4B

address _____ apt.# _____

Brooklyn NY 11231

city _____ state _____ zip _____

_____

area code & phone number

_____

email

X _____ 4/15/13

signature _____ date _____

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

A.P.

I support the EPA Gowanus Canal Superfund - Red Hook option.

The improvement to an active local maritime industrial business, the economic benefits it will bring, the jobs that it will create, are all important to me and what I believe is best for the majority of the community of Red Hook.

Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community are without harm or risk of such.

Please approve the Red Hook option.

(print)

Keisha — first name
Smith — last name

420 Columbia St — address
4B — apt.#

Brooklyn — city
NY — state
11231 — zip

347 525-7575
area code & phone number

email

x K. Smith — signature
1/18/13 — date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

R.S

I support the EPA Gowanus Canal Superfund - Red Hook option.

The improvement to an active local maritime industrial business, the economic benefits it will bring, the jobs that it will create, are all important to me and what I believe is best for the majority of the community of Red Hook.

Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community are without harm or risk of such.

Please approve the Red Hook option.

(print)

Emily — first name
Maldonado — last name

21 Mill St. — address
apt.#

Brooklyn — city
NY — state
1123/ — zip

917-916-0282 — area code & phone number

email

x Emily Maldonado — signature
4/18/2013 — date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

R.S.

I support the EPA Gowanus Canal Superfund - Red Hook option.

The improvement to an active local maritime industrial business, the economic benefits it will bring, the jobs that it will create, are all important to me and what I believe is best for the majority of the community of Red Hook.

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Please approve the Red Hook option.

(print)

Alex — first name
Williams — last name

40 Dikeman — address
PVT — apt.#

BKlyn — city
NY — state
11233 — zip

area code & phone number
718-593-5958

email

x Alex Williams — signature
4-18-13 — date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

R.S.

I support the EPA Gowanus Canal Superfund - Red Hook option.

The improvement to an active local maritime industrial business, the economic benefits it will bring, the jobs that it will create, are all important to me and what I believe is best for the majority of the community of Red Hook.

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Please approve the Red Hook option.

(print)

Marissa — first name

Williams — last name

80 Dwight St — address

73 — apt.#

Brooklyn — city

NY — state

11231 — zip

718 313 3014 — area code & phone number

Marissa.m.williams@aol.com — email

x [signature] — signature

4-18-2014 — date

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

R.C.

I support the EPA Gowanus Canal Superfund - Red Hook option.

The improvement to an active local maritime industrial business, the economic benefits it will bring, the jobs that it will create, are all important to me and what I believe is best for the majority of the community of Red Hook.

Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community are without harm or risk of such.

Please approve the Red Hook option.

(print)

Wanda — first name

Medina — last name

14 Huntington — address

1 — apt.#

Brooklyn — city

NY — state

11231 — zip

646 302-5251 — area code & phone number

email

x Wanda Medina — signature

4/18/13 — date

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

0 P

I support the EPA Gowanus Canal Superfund - Red Hook option.

The improvement to an active local maritime industrial business, the economic benefits it will bring, the jobs that it will create, are all important to me and what I believe is best for the majority of the community of Red Hook.

Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community are without harm or risk of such.

Please approve the Red Hook option.

(print)

Matoka Penny

first name | last name

116 Columbia St

address | apt.#

BKLYN | N.Y. | 11231

city | state | zip

917 669-1916

area code & phone number

email

x Matoka Penny | 4/18/13

signature | date

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

I support the EPA Gowanus Canal Superfund - Red Hook option.

The improvement to an active local maritime industrial business, the economic benefits it will bring, the jobs that it will create, are all important to me and what I believe is best for the majority of the community of Red Hook.

Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community are without harm or risk of such.

Please approve the Red Hook option.

(print)

Timothy — first name
Colvin — last name

414 Columbia — address
2D — apt.#

Brooklyn — city
NY — state
11231 — zip

718 813-3851 — area code & phone number

TimDogg1968@yahoo.com — email

x Timothy Colvin — signature
4/18/13 — date

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

I support the EPA Gowanus Canal Superfund - Red Hook option.

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Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community are without harm or risk of such.

Please approve the Red Hook option.

(print)

Archie — first name
Braddy — last name

28 W 9th Street — address
41 — apt.#

Brooklyn — city
NY — state
11231 — zip

347 488-9387 — area code & phone number

email

x Archie Braddy — signature
4/18/13 — date

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

RP

I support the EPA Gowanus Canal Superfund - Red Hook option.

The improvement to an active local maritime industrial business, the economic benefits it will bring, the jobs that it will create, are all important to me and what I believe is best for the majority of the community of Red Hook.

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Please approve the Red Hook option.

(print)

Delcia (first name) Knowles (last name)

82 Dwight St. (address) 2G (apt.#)

Brooklyn (city) N.Y. (state) 11231 (zip)

(347) 406-1717 (area code & phone number)

(email)

x Delcia Knowles (signature) 4/18/13 (date)

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

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Please approve the Red Hook option.

(print)

LORENZO — first name
BOSTON — last name
31 CENTRE MALL — address
3A — apt.#
BKLYN — city
N.Y. — state
11231 — zip
347 489-3414 — area code & phone number

email

X WOODYENTERPRISE1@GMAIL.COM — signature
4/18/13 — date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

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Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community are without harm or risk of such.

Please approve the Red Hook option.

(print)

Carmen Velez

first name last name

799 Henry St 4D

address apt.#

Brooklyn N.Y. 11201

city state zip

347-307-6687

area code & phone number

CVelez7735@yahoo.com

email

X _____ 4/15/13

signature date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

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Please approve the Red Hook option.

(print)

Cheryl (first name) Hayes (last name)

108 Mill ST (address) 4C (apt.#)

Bklyn (city) NY (state) 11231 (zip)

718 852-3822 (area code & phone number)

(email)

X Cheryl L Hayes (signature) 4/18/13 (date)

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

I support the EPA Gowanus Canal Superfund - Red Hook option.

The improvement to an active local maritime industrial business, the economic benefits it will bring, the jobs that it will create, are all important to me and what I believe is best for the majority of the community of Red Hook.

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Please approve the Red Hook option.

(print)

Barbara Smith
first name last name

444 Columbia St
address apt.#

Brooklyn NY 11231
city state zip

_____ _____
area code & phone number

_____
email

x Barbara Smith 4/18/13
signature date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

I support the EPA Gowanus Canal Superfund - Red Hook option.

The improvement to an active local maritime industrial business, the economic benefits it will bring, the jobs that it will create, are all important to me and for the community of the Red Hook.

Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community is without harm or risk of such.

Please approve the Red Hook option.

(print)

Steven Juel

first name | last name

79-Lorraine St 30

address | apt.#

city | state | zip

area code & phone number

email

x Steven Juel 4/18/13

signature | date

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

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Please approve the Red Hook option.

(print)

ADAM — first name

RAMOS — last name

507 LORRINE — address

5B — apt.#

BKLYN. — city

N.Y. — state

11231 — zip

718-522-2113 — area code & phone number

email

x Adam Ramos — signature

4/18/13 — date

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

Christos Tsiamis
Remedial Project Manager
Central New York Remediation Section
U.S. Environmental Protection Agency
290 Broadway, 20th Floor
New York, New York 10007-1866

April 18, 2013

Dear Christos Tsiamis

I am writing to provide my support in favor of the EPA PRAP (Proposed Remedial Action Plan) for the Gowanus Canal. I have been involved in some consultations with college faculty in New York City interested in long term environmental monitoring, and in the past months, at EPA Citizen Science workshops sponsored by Region 2 where issues on the Gowanus Canal are discussed.

I run a small neighborhood environmental education group called Grass-roots and am concerned about many environmental issues. When I took a tour of the Gowanus and the neighborhood led by FROGGs last Spring I was so distraught with what these people are living with. How wonderful that it might now be cleaned up. I am all for the EPA plan!

As the Proposed Plan establishes methods for removal of contaminated sediments for the entire width of the canal to the depth of clean native sediment and to permanently and impermeably cover whatever might remain, and has identified ways to prevent re-contamination and halt future toxic inputs; I strongly support the EPA Proposed Plan to clean the Gowanus Superfund site.

Sincerely,

Bonnie Lane Webber

Bonnie Lane Webber
1155 Park Avenue, 5SE
New York, NY 10128 1209

Comments on Gowanus Canal Proposed Plan

Sandra Dal Cais to: Region2 GowanusCanalComments 04/18/2013 12:48 AM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Sandra Dal Cais

History: This message has been forwarded.

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

While the EPA's plan takes the critical step of calling for CSO retention for two of the Canal's worst outfalls many details will not be solidified until New York City submits their CSO Long Term Control Plan in 2015. It is critical for the EPA to stand firm on requiring retention tanks to control CSOs and to work with New York City towards the eventual goal of 100% elimination of CSOs from the Canal.

I support the EPA's commitment to dredge as much as 10 feet of contaminated sediment from the entire length of the canal, build a multi-layer cap on the bottom, and treat and dispose of this contaminated sediment offsite. I also believe that the EPA should listen to the wishes of the community in Red Hook who oppose the building of a CDF on the Red Hook waterfront to dispose of the least contaminated sediment.

Sincerely,

Mrs. Sandra Dal Cais
4534 Bliss street
Woodside, NY 11377

Comments on Gowanus Canal Proposed Plan

Georgia Allen to: Region2 GowanusCanalComments 04/18/2013 12:48 AM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Georgia Allen

Apr 17, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

While the EPA's plan takes the critical step of calling for CSO retention for two of the Canal's worst outfalls many details will not be solidified until New York City submits their CSO Long Term Control Plan in 2015. It is critical for the EPA to stand firm on requiring retention tanks to control CSOs and to work with New York City towards the eventual goal of 100% elimination of CSOs from the Canal.

I support the EPA's commitment to dredge as much as 10 feet of contaminated sediment from the entire length of the canal, build a multi-layer cap on the bottom, and treat and dispose of this contaminated sediment offsite. I also believe that the EPA should listen to the wishes of the community in Red Hook who oppose the building of a CDF on the Red Hook waterfront to dispose of the least contaminated sediment.

Sincerely,

Ms. Georgia Allen
933 Putnam Ave Apt 1
Brooklyn, NY 11221-3590

Comments on Gowanus Canal Proposed Plan

Tom Dowling to: Region2 GowanusCanalComments 04/18/2013 03:48 AM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Tom Dowling

Apr 18, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

Greetings.

This is to advise you I support the EPA's proposed plan to clean up the Brooklyn, NY Gowanus Canal Superfund site. It is very polluted and it's only right to clean it up.

Also, a comprehensive plan that addresses ongoing pollution from combined sewer outfalls (CSOs) is important to restoring some semblance of cleanliness to this waterway and the harbor and swimming areas it is close to such as Coney Island and South Beach, Staten Island, etc.

Please require retention tanks or a similar solution to control CSOs and to work with New York City towards the eventual goal of 100% elimination of CSOs from the Canal.

I support the EPA's commitment to dredge as much as 10 feet of contaminated sediment from the entire length of the canal and treat and dispose of this contaminated sediment offsite.

Thank you and regards.

Sincerely,

Mr. Tom Dowling
832 40th St
Apt 1l
Brooklyn, NY 11232-3843

I, the sender, vote that I do not want this project to proceed.

Yvette Rojas to: Region2 GowanusCanalComments 04/18/2013 06:05 AM

History: This message has been replied to.

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

- Children
- Numerous public and private schools which use the fields for physical education & sports teams
- Residents of the Red Hook Houses and the surrounding neighborhood
- Soccer, softball, baseball, football, handball, basketball, track & field teams and enthusiasts
- Swimmers of all ages
- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--
Yvette Rojas
Msyrojas@gmail.com

Comments on Gowanus Canal Proposed Plan

Patricia A. Chernoff to: Region2 GowanusCanalComments 04/18/2013 07:48 AM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to "Patricia A. Chernoff"

Apr 18, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

While the EPA's plan takes the critical step of calling for CSO retention for two of the Canal's worst outfalls many details will not be solidified until New York City submits their CSO Long Term Control Plan in 2015. It is critical for the EPA to stand firm on requiring retention tanks to control CSOs and to work with New York City towards the eventual goal of 100% elimination of CSOs from the Canal.

I support the EPA's commitment to dredge as much as 10 feet of contaminated sediment from the entire length of the canal, build a multi-layer cap on the bottom, and treat and dispose of this contaminated sediment offsite. I also believe that the EPA should listen to the wishes of the community in Red Hook who oppose the building of a CDF on the Red Hook waterfront to dispose of the least contaminated sediment.

This is important for a neighborhood I once lived in.

Sincerely,

Ms. Patricia A. Chernoff
771 W End Ave
New York, NY 10025-5572
(212) 662-7668

Comments on Gowanus Canal Proposed Plan

Nancy Hough to: Region2 GowanusCanalComments 04/18/2013 07:48 AM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Nancy Hough

Apr 18, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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Sincerely,

Mrs. Nancy Hough
808 W End Ave
Apt 706
New York, NY 10025-5310

Comments on Gowanus Canal Proposed Plan

Erma Lewis to: Region2 GowanusCanalComments 04/18/2013 08:48 AM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Erma Lewis

Apr 18, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

While the EPA's plan takes the critical step of calling for CSO retention for two of the Canal's worst outfalls many details will not be solidified until New York City submits their CSO Long Term Control Plan in 2015. It is critical for the EPA to stand firm on requiring retention tanks to control CSOs and to work with New York City towards the eventual goal of 100% elimination of CSOs from the Canal.

I support the EPA's commitment to dredge as much as 10 feet of contaminated sediment from the entire length of the canal, build a multi-layer cap on the bottom, and treat and dispose of this contaminated sediment offsite. I also believe that the EPA should listen to the wishes of the community in Red Hook who oppose the building of a CDF on the Red Hook waterfront to dispose of the least contaminated sediment.

Sincerely,

Ms. Erma Lewis
1736 63rd St
Brooklyn, NY 11204-2801
(347) 831-9041

Comments on Gowanus Canal Proposed Plan

jeffrey silman to: Region2 GowanusCanalComments 04/18/2013 08:49 AM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to jeffrey silman

Apr 18, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

While the EPA's plan takes the critical step of calling for CSO retention for two of the Canal's worst outfalls many details will not be solidified until New York City submits their CSO Long Term Control Plan in 2015. It is critical for the EPA to stand firm on requiring retention tanks to control CSOs and to work with New York City towards the eventual goal of 100% elimination of CSOs from the Canal.

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Sincerely,

Dr. jeffrey silman
1 Sidney Pl
Brooklyn, NY 11201-4442
(718) 852-1178

Make Sure the Gowanus Canal is Cleaned

lawrence rosin to: Region2 GowanusCanalComments 04/18/2013 08:49 AM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to lawrence rosin

Apr 18, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

You should continue your clean-up plan for the Gowanus Canal. People should be held accountable for the pollution they cause. It's like you have to replace what you buy. The fish that live there could get die. This can disrupt the food chain.

Sincerely,

Mr. lawrence rosin
S.A.
Brooklyn, NY 11224

I, the sender, vote that I do not want this project to proceed.

fritz ewins to: Region2 GowanusCanalComments 04/18/2013 09:02 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

- Children
- Numerous public and private schools which use the fields for physical education & sports teams
- Residents of the Red Hook Houses and the surrounding neighborhood
- Soccer, softball, baseball, football, handball, basketball, track & field teams and enthusiasts
- Swimmers of all ages
- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--
fritz ewins
fritz@fritzst.com
25 dikeman street
brooklyn, ny
residential and business

Comments on Gowanus Canal Proposed Plan

Rimma Bitman to: Region2 GowanusCanalComments 04/18/2013 09:18 AM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Rimma Bitman

Apr 18, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

While the EPA's plan takes the critical step of calling for CSO retention for two of the Canal's worst outfalls many details will not be solidified until New York City submits their CSO Long Term Control Plan in 2015. It is critical for the EPA to stand firm on requiring retention tanks to control CSOs and to work with New York City towards the eventual goal of 100% elimination of CSOs from the Canal.

I support the EPA's commitment to dredge as much as 10 feet of contaminated sediment from the entire length of the canal, build a multi-layer cap on the bottom, and treat and dispose of this contaminated sediment offsite. I also believe that the EPA should listen to the wishes of the community in Red Hook who oppose the building of a CDF on the Red Hook waterfront to dispose of the least contaminated sediment.

Sincerely,

Ms. Rimma Bitman
230 Riverside Dr
New York, NY 10025-6105

Gowanus Canal Proposed Plan Cleanup
Robert Rice to: Region2 GowanusCanalComments 04/18/2013 09:26 AM

History: This message has been replied to.

Christos Tsiamis
Remedial Project Manager
Central New York Remediation Section
U.S. Environmental Protection Agency
290 Broadway, 20th Floor

New York, New York 10007-1866

As the Proposed Plan Cleanup Plan for the Gowanus Canal establishes methods for removal of contaminated sediments for the entire width and length of the canal, to the depth of clean native sediment, and has identified ways to prevent re-contamination and halt future toxic inputs; I supports the EPA Proposed Plan to clean the Gowanus Superfund site.

I appreciate that the plan will not remove canal sediment by trucking, but will use the water way for this purpose. As the design for this work moves forward, I ask that remediation methods with the lowest carbon-foot-print be employed where possible. I support the constructive use of sediment materials following EPA regulations. And it is important to me that this cleanup plan grant the EPA the necessary authority to insure the sewer overflows do not foul the finished remedy.

I look forward to a finished canal remedy that will make for a healthy community.
In future, it would be better for EPA to be proactive to prevent the need for clean-ups. It's disheartening to

Comments on Gowanus Canal Proposed Plan

Julienne Blechman to: Region2 GowanusCanalComments 04/18/2013 10:19 AM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Julienne Blechman

Apr 18, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

While the EPA's plan takes the critical step of calling for CSO retention for two of the Canal's worst outfalls many details will not be solidified until New York City submits their CSO Long Term Control Plan in 2015. It is critical for the EPA to stand firm on requiring retention tanks to control CSOs and to work with New York City towards the eventual goal of 100% elimination of CSOs from the Canal.

I support the EPA's commitment to dredge as much as 10 feet of contaminated sediment from the entire length of the canal, build a multi-layer cap on the bottom, and treat and dispose of this contaminated sediment offsite. I also believe that the EPA should listen to the wishes of the community in Red Hook who oppose the building of a CDF on the Red Hook waterfront to dispose of the least contaminated sediment.

Sincerely,

Mrs. Julienne Blechman
176 Nevins St
Brooklyn, NY 11217-2611

Comments on Gowanus Canal Proposed Plan

Brian Thompson to: Region2 GowanusCanalComments 04/18/2013 10:19 AM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Brian Thompson

Apr 18, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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Sincerely,

Mr. Brian Thompson
285 Prospect Pl
Apt 2d
Brooklyn, NY 11238-3913
(917) 821-9042

Comments on Gowanus Canal Proposed Plan

Bobbi Siegelbaum to: Region2 GowanusCanalComments 04/18/2013 10:49 AM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Bobbi Siegelbaum

Apr 18, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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Sincerely,

Ms. Bobbi Siegelbaum
640 W 239th St
Bronx, NY 10463-1238

Comments on Gowanus Canal Proposed Plan

Ronald Christensen to: Region2 GowanusCanalComments 04/18/2013 10:49 AM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Ronald Christensen

Apr 18, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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Sincerely,

Mr. Ronald Christensen
1610 E 2nd St
Brooklyn, NY 11230-6928
(718) 336-9490

Comments on Gowanus Canal Proposed Plan

Sebouh Yegparian to: Region2 GowanusCanalComments 04/18/2013 10:49 AM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Sebouh Yegparian

Apr 18, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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Sincerely,

Mr. Sebouh Yegparian
190 Green St Apt 402
Brooklyn, NY 11222-1490

Comments on Gowanus Canal Proposed Plan

P Marks to: Region2 GowanusCanalComments 04/18/2013 10:49 AM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to P Marks

Apr 18, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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Sincerely,

Ms. P Marks
PO Box 90494
Brooklyn, NY 11209-0494

Comments on Gowanus Canal Proposed Plan

Carl Teitelbaum to: Region2 GowanusCanalComments 04/18/2013 11:19 AM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Carl Teitelbaum

Apr 18, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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Sincerely,

Mr. Carl Teitelbaum
374 Bond St
Brooklyn, NY 11231-5024

Comments on Gowanus Canal Proposed Plan

Seth Perlman to: Region2 GowanusCanalComments 04/18/2013 11:19 AM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Seth Perlman

Apr 18, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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Sincerely,

Mr. Seth Perlman
138 Hemlock Rd
Manhasset, NY 11030-1216

Comments on Gowanus Canal Proposed Plan

Linda Mitchell to: Region2 GowanusCanalComments 04/18/2013 11:49 AM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Linda Mitchell

Apr 18, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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Sincerely,

Mrs. Linda Mitchell
40 E 94th St
Apt 32d
New York, NY 10128-0759

Comments on Gowanus Canal Proposed Plan

Joel Spiegelman to: Region2 GowanusCanalComments 04/18/2013 11:49 AM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Joel Spiegelman

Apr 18, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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Sincerely,

Mr. Joel Spiegelman
165 E 19th St Apt 5g
Brooklyn, NY 11226-4823
(917) 592-0777

I, the sender, vote that I do not want this project to proceed.

James Wisz to: Region2 GowanusCanalComments 04/18/2013 12:17 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

- Children
- Numerous public and private schools which use the fields for physical education & sports teams
- Residents of the Red Hook Houses and the surrounding neighborhood
- Soccer, softball, baseball, football, handball, basketball, track & field teams and enthusiasts
- Swimmers of all ages
- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--
James Wisz
wiszkid@gmail.com
19 Delavan St.
New York, NY
Resident

Comments on Gowanus Canal Proposed Plan

Fletcher Cossa to: Region2 GowanusCanalComments 04/18/2013 12:49 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Fletcher Cossa

Apr 18, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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I support the EPA's commitment to dredge as much as 10 feet of contaminated sediment from the entire length of the canal, build a multi-layer cap on the bottom, and treat and dispose of this contaminated sediment offsite. I also believe that the EPA should listen to the wishes of the community in Red Hook who oppose the building of a CDF on the Red Hook waterfront to dispose of the least contaminated sediment.

Sincerely,

Mr. Fletcher Cossa
622 E 20th St
New York, NY 10009-1410
(212) 477-5255

Comments on Gowanus Canal Proposed Plan

Janice Everett to: Region2 GowanusCanalComments 04/18/2013 12:49 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Janice Everett

Apr 18, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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Sincerely,

Ms. Janice Everett
280 Nevins St # 33
Brooklyn, NY 11217-3028
(646) 662-2938

Comments on Gowanus Canal Proposed Plan

Katherine Babiak to: Region2 GowanusCanalComments 04/18/2013 12:49 PM
Sent by: **Riverkeeper <info@Riverkeeper.org>**
Please respond to Katherine Babiak

Apr 18, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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Sincerely,

Ms. Katherine Babiak
99 Bank St
New York, NY 10014-2109
(212) 727-3638

Comments on Gowanus Canal Proposed Plan

Nick Widzowski to: Region2 GowanusCanalComments 04/18/2013 01:19 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Nick Widzowski

Apr 18, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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Sincerely,

Mr. Nick Widzowski
3036 34th St
Astoria, NY 11103-5247

Comments on Gowanus Canal Proposed Plan

Robin K. Elkman to: Region2 GowanusCanalComments
Sent by: **Riverkeeper <info@Riverkeeper.org>**
Please respond to "Robin K. Elkman"

04/18/2013 01:19 PM

Apr 18, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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Sincerely,
Robin K. Elkman
468 12th St.
B`klyn, NY 11215

Sincerely,

Ms. Robin K. Elkman
468 12th St
Brooklyn, NY 11215-5247

I, the sender, vote that I do not want this project to proceed.
Cat Overman to: Region2 GowanusCanalComments 04/18/2013 02:06 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

- Children
- Numerous public and private schools which use the fields for physical education & sports teams
- Residents of the Red Hook Houses and the surrounding neighborhood
- Soccer, softball, baseball, football, handball, basketball, track & field teams and enthusiasts
- Swimmers of all ages
- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--
Cat Overman
Cat.overman104@gmail.com
116 Wolcott St, Apt 3
Brooklyn, NY
Resident

Comments on Gowanus Canal Proposed Plan

Gene Binder to: Region2 GowanusCanalComments 04/18/2013 02:19 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Gene Binder

Apr 18, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

While the EPA's plan takes the critical step of calling for CSO retention for two of the Canal's worst outfalls many details will not be solidified until New York City submits their CSO Long Term Control Plan in 2015. It is critical for the EPA to stand firm on requiring retention tanks to control CSOs and to work with New York City towards the eventual goal of 100% elimination of CSOs from the Canal.

I support the EPA's commitment to dredge as much as 10 feet of contaminated sediment from the entire length of the canal, build a multi-layer cap on the bottom, and treat and dispose of this contaminated sediment offsite. I also believe that the EPA should listen to the wishes of the community in Red Hook who oppose the building of a CDF on the Red Hook waterfront to dispose of the least contaminated sediment.

Sincerely,

Mr. Gene Binder
5900 Arlington Ave
Apt 9c
Bronx, NY 10471-1310
(718) 884-4269

Comments on Gowanus Canal Proposed Plan

Valerie Dare to: Region2 GowanusCanalComments 04/18/2013 02:19 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Valerie Dare

Apr 18, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

While the EPA's plan takes the critical step of calling for CSO retention for two of the Canal's worst outfalls many details will not be solidified until New York City submits their CSO Long Term Control Plan in 2015. It is critical for the EPA to stand firm on requiring retention tanks to control CSOs and to work with New York City towards the eventual goal of 100% elimination of CSOs from the Canal.

I support the EPA's commitment to dredge as much as 10 feet of contaminated sediment from the entire length of the canal, build a multi-layer cap on the bottom, and treat and dispose of this contaminated sediment offsite. I also believe that the EPA should listen to the wishes of the community in Red Hook who oppose the building of a CDF on the Red Hook waterfront to dispose of the least contaminated sediment.

Sincerely,

Miss Valerie Dare
12017 Newport Ave
Rockaway Park, NY 11694-1966

Comments on Gowanus Canal Proposed Plan

Lundberg Rob to: Region2 GowanusCanalComments 04/18/2013 02:54 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Lundberg Rob

Apr 18, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

While the EPA's plan takes the critical step of calling for CSO retention for two of the Canal's worst outfalls many details will not be solidified until New York City submits their CSO Long Term Control Plan in 2015. It is critical for the EPA to stand firm on requiring retention tanks to control CSOs and to work with New York City towards the eventual goal of 100% elimination of CSOs from the Canal.

I support the EPA's commitment to dredge as much as 10 feet of contaminated sediment from the entire length of the canal, build a multi-layer cap on the bottom, and treat and dispose of this contaminated sediment offsite. I also believe that the EPA should listen to the wishes of the community in Red Hook who oppose the building of a CDF on the Red Hook waterfront to dispose of the least contaminated sediment.

Sincerely,

Mr. Lundberg Rob
611 E 17th St Apt 3
Brooklyn, NY 11226-6659

Comments on Gowanus Canal Proposed Plan

Lisa Weisberg to: Region2 GowanusCanalComments 04/18/2013 04:26 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Lisa Weisberg

Apr 18, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

While the EPA's plan takes the critical step of calling for CSO retention for two of the Canal's worst outfalls many details will not be solidified until New York City submits their CSO Long Term Control Plan in 2015. It is critical for the EPA to stand firm on requiring retention tanks to control CSOs and to work with New York City towards the eventual goal of 100% elimination of CSOs from the Canal.

I support the EPA's commitment to dredge as much as 10 feet of contaminated sediment from the entire length of the canal, build a multi-layer cap on the bottom, and treat and dispose of this contaminated sediment offsite. I also believe that the EPA should listen to the wishes of the community in Red Hook who oppose the building of a CDF on the Red Hook waterfront to dispose of the least contaminated sediment.

Sincerely,

Ms. Lisa Weisberg
404 E 79th St
Apt 10g
New York, NY 10075-1406

Comments on Gowanus Canal Proposed Plan

Neil Fraser to: Region2 GowanusCanalComments 04/18/2013 04:56 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Neil Fraser

Apr 18, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

While the EPA's plan takes the critical step of calling for CSO retention for two of the Canal's worst outfalls many details will not be solidified until New York City submits their CSO Long Term Control Plan in 2015. It is critical for the EPA to stand firm on requiring retention tanks to control CSOs and to work with New York City towards the eventual goal of 100% elimination of CSOs from the Canal.

I support the EPA's commitment to dredge as much as 10 feet of contaminated sediment from the entire length of the canal, build a multi-layer cap on the bottom, and treat and dispose of this contaminated sediment offsite. I also believe that the EPA should listen to the wishes of the community in Red Hook who oppose the building of a CDF on the Red Hook waterfront to dispose of the least contaminated sediment.

Sincerely,

Mr. Neil Fraser
151 1st Ave
174
New York, NY 10003-2965

Comments on Gowanus Canal Proposed Plan

Mark Barkan to: Region2 GowanusCanalComments 04/18/2013 05:56 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Mark Barkan

Apr 18, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am not even certain if the Gowanus Canal can be cleaned up after all the spillage by Mobil Oil and it's big oil cousins during World War II. But if it can be cleaned, it should be. People live in the immediate area and when there's a heavy rain the Canal overflows directly into the East River ... the Atlantic Ocean is right there.

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

While the EPA's plan takes the critical step of calling for CSO retention for two of the Canal's worst outfalls many details will not be solidified until New York City submits their CSO Long Term Control Plan in 2015. It is critical for the EPA to stand firm on requiring retention tanks to control CSOs and to work with New York City towards the eventual goal of 100% elimination of CSOs from the Canal.

I support the EPA's commitment to dredge as much as 10 feet of contaminated sediment from the entire length of the canal, build a multi-layer cap on the bottom, and treat and dispose of this contaminated sediment offsite. I also believe that the EPA should listen to the wishes of the community in Red Hook who oppose the building of a CDF on the Red Hook waterfront to dispose of the least contaminated sediment.

Sincerely,

Mr. Mark Barkan
13915 83rd Ave
Briarwood, NY 11435-1561

Comments on Gowanus Canal Proposed Plan

frank crespo to: Region2 GowanusCanalComments 04/18/2013 05:56 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to frank crespo

Apr 18, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

While the EPA's plan takes the critical step of calling for CSO retention for two of the Canal's worst outfalls many details will not be solidified until New York City submits their CSO Long Term Control Plan in 2015. It is critical for the EPA to stand firm on requiring retention tanks to control CSOs and to work with New York City towards the eventual goal of 100% elimination of CSOs from the Canal.

I support the EPA's commitment to dredge as much as 10 feet of contaminated sediment from the entire length of the canal, build a multi-layer cap on the bottom, and treat and dispose of this contaminated sediment offsite. I also believe that the EPA should listen to the wishes of the community in Red Hook who oppose the building of a CDF on the Red Hook waterfront to dispose of the least contaminated sediment.

Sincerely,

Mr. frank crespo
175 Wyckoff St
Brooklyn, NY 11217-2207

Comments on Gowanus Canal Proposed Plan

Barry Smith to: Region2 GowanusCanalComments 04/18/2013 06:26 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Barry Smith

Apr 18, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

While the EPA's plan takes the critical step of calling for CSO retention for two of the Canal's worst outfalls many details will not be solidified until New York City submits their CSO Long Term Control Plan in 2015. It is critical for the EPA to stand firm on requiring retention tanks to control CSOs and to work with New York City towards the eventual goal of 100% elimination of CSOs from the Canal.

I support the EPA's commitment to dredge as much as 10 feet of contaminated sediment from the entire length of the canal, build a multi-layer cap on the bottom, and treat and dispose of this contaminated sediment offsite. I also believe that the EPA should listen to the wishes of the community in Red Hook who oppose the building of a CDF on the Red Hook waterfront to dispose of the least contaminated sediment.

Sincerely,

Mr. Barry Smith
796 E 19th St
Brooklyn, NY 11230-1808

Comments on Gowanus Canal Proposed Plan

Gordon Wood Anderson to: Region2 GowanusCanalComments 04/18/2013 08:26 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Gordon Wood Anderson

History: This message has been forwarded.

Apr 18, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is quite important to returning this long neglected waterway to the community.

While the EPA's plan takes the critical step of calling for CSO retention for two of the Canal's worst outfalls, many details will not be solidified until New York City submits their CSO Long Term Control Plan in 2015. It is critical for the EPA to stand firm on requiring retention tanks to control CSOs and to work with New York City towards the eventual goal of 100% elimination of CSOs from the Canal.

I support the EPA's commitment to dredge as much as 10 feet of contaminated sediment from the entire length of the canal, build a multi-layer cap on the bottom, and treat and dispose of this contaminated sediment offsite. I also believe that the EPA should listen to the wishes of the community in Red Hook who oppose the building of a CDF on the Red Hook waterfront to dispose of the least contaminated sediment.

Sincerely,

Dr. Gordon Wood Anderson
528 W 111th St
Apt 24
New York, NY 10025-1934
(212) 595-9677

Comments on Gowanus Canal Proposed Plan

Preston Turco to: Region2 GowanusCanalComments 04/18/2013 08:27 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Preston Turco

Apr 18, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

While the EPA's plan takes the critical step of calling for CSO retention for two of the Canal's worst outfalls many details will not be solidified until New York City submits their CSO Long Term Control Plan in 2015. It is critical for the EPA to stand firm on requiring retention tanks to control CSOs and to work with New York City towards the eventual goal of 100% elimination of CSOs from the Canal.

I support the EPA's commitment to dredge as much as 10 feet of contaminated sediment from the entire length of the canal, build a multi-layer cap on the bottom, and treat and dispose of this contaminated sediment offsite. I also believe that the EPA should listen to the wishes of the community in Red Hook who oppose the building of a CDF on the Red Hook waterfront to dispose of the least contaminated sediment.

Sincerely,

Mr. Preston Turco
360 S 4th St
Brooklyn, NY 11211-6402
Enter your phone number here

Comments on Gowanus Canal Proposed Plan

Adam Cooperstock to: Region2 GowanusCanalComments 04/18/2013 08:57 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Adam Cooperstock

Apr 18, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

While the EPA's plan takes the critical step of calling for CSO retention for two of the Canal's worst outfalls many details will not be solidified until New York City submits their CSO Long Term Control Plan in 2015. It is critical for the EPA to stand firm on requiring retention tanks to control CSOs and to work with New York City towards the eventual goal of 100% elimination of CSOs from the Canal.

I support the EPA's commitment to dredge as much as 10 feet of contaminated sediment from the entire length of the canal, build a multi-layer cap on the bottom, and treat and dispose of this contaminated sediment offsite. I also believe that the EPA should listen to the wishes of the community in Red Hook who oppose the building of a CDF on the Red Hook waterfront to dispose of the least contaminated sediment.

Sincerely,

Mr. Adam Cooperstock
355 E 72nd St Apt 8f
New York, NY 10021-4657

Comments on Gowanus Canal Proposed Plan

Jonathan Spencer to: Region2 GowanusCanalComments 04/18/2013 10:27 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Jonathan Spencer

Apr 18, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

While the EPA's plan takes the critical step of calling for CSO retention for two of the Canal's worst outfalls many details will not be solidified until New York City submits their CSO Long Term Control Plan in 2015. It is critical for the EPA to stand firm on requiring retention tanks to control CSOs and to work with New York City towards the eventual goal of 100% elimination of CSOs from the Canal.

I support the EPA's commitment to dredge as much as 10 feet of contaminated sediment from the entire length of the canal, build a multi-layer cap on the bottom, and treat and dispose of this contaminated sediment offsite. I also believe that the EPA should listen to the wishes of the community in Red Hook who oppose the building of a CDF on the Red Hook waterfront to dispose of the least contaminated sediment.

Sincerely,

Mr. Jonathan Spencer
91 Park Terrace West
Apt B
New York, NY 10034
(212) 942-7186

Comments on Gowanus Canal Proposed Plan

Claudine Strazza to: Region2 GowanusCanalComments 04/18/2013 11:27 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Claudine Strazza

Apr 18, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

While the EPA's plan takes the critical step of calling for CSO retention for two of the Canal's worst outfalls many details will not be solidified until New York City submits their CSO Long Term Control Plan in 2015. It is critical for the EPA to stand firm on requiring retention tanks to control CSOs and to work with New York City towards the eventual goal of 100% elimination of CSOs from the Canal.

I support the EPA's commitment to dredge as much as 10 feet of contaminated sediment from the entire length of the canal, build a multi-layer cap on the bottom, and treat and dispose of this contaminated sediment offsite. I also believe that the EPA should listen to the wishes of the community in Red Hook who oppose the building of a CDF on the Red Hook waterfront to dispose of the least contaminated sediment.

Sincerely,

Ms. Claudine Strazza
50 Battery Pl
New York, NY 10280-1517

I, the sender, vote that I do not want this project to proceed.

Hannah Holden to: Region2 GowanusCanalComments 04/18/2013 11:53 PM

History: This message has been forwarded.

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

- Children
- Numerous public and private schools which use the fields for physical education & sports teams
- Residents of the Red Hook Houses and the surrounding neighborhood
- Soccer, softball, baseball, football, handball, basketball, track & field teams and enthusiasts
- Swimmers of all ages
- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--

Hannah Holden
hannahmaureen@gmail.com
406 Classon Ave
Brooklyn, NY
Visitor

I support the EPA Gowanus Canal Superfund - Red Hook option.

The improvement to an active local maritime industrial business, the economic benefits it will bring, the jobs that it will create, are all important to me and what I believe is best for the majority of the community of Red Hook.

Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community are without harm or risk of such.

Please approve the Red Hook option.

(print)

Bernadette — first name
Durant — last name

85 Lorraine — address
4e — apt.#

BK — city
NY — state
11231 — zip

347 689-3080 — area code & phone number

email

x Bernadette Durant — signature
4/19/12 — date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

RP

I support the EPA Gowanus Canal Superfund - Red Hook option.

The improvement to an active local maritime industrial business, the economic benefits it will bring, the jobs that it will create, are all important to me and what I believe is best for the majority of the community of Red Hook.

Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community are without harm or risk of such.

Please approve the Red Hook option.

(print)

LAMONT — first name
CARR — last name

100 Centre Mall — address
53 — apt.#

BICCLN — city
N.Y. — state
11231 — zip

_____ _____ — area code & phone number

_____ — email

X Lamont Carr — signature
4/19 — date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

RP

I support the EPA Gowanus Canal Superfund - Red Hook option.

The improvement to an active local maritime industrial business, the economic benefits it will bring, the jobs that it will create, are all important to me and what I believe is best for the majority of the community of Red Hook.

Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community are without harm or risk of such.

Please approve the Red Hook option.

(print)

Melissa (first name) Forbes-Holloway (last name)

748 Henry St (address) 5A (apt.#)

Bklyn (city) NY (state) 11231 (zip)

646 737-5490 (area code & phone number)

(email)

X M. Holloway (signature) 4-19-13 (date)

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

RP

The improvement to an active local maritime industrial business, the economic benefit it will bring, the jobs that it will create, and all important to me and what I believe is best for the community [illegible]

Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure that workers [illegible] risk of such.

Please approve the Red Hook option.

(print)

JEFF — first name

RANSOM — last name

754 HENRY STREET — address

SD — apt.#

BKLYN — city

N.Y. — state

11231 — zip

718-222-9169 — area code & phone number

NONE — email

x Jeff Ransom — signature

4/19/13 — date

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

The improvement to an active local maritime industrial business, the economic benefits it will bring, the jobs that it will create, are all important to the [illegible] majority of the community of Red Hook.

I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community are without harm or risk of such.

Please approve the Red Hook option.

(print)

Jaz-zhane Wade

first name last name

754 henry st Ln

address apt.#

Brooklyn NY 11231

city state zip

718 852-4463

area code & phone number

email

x Jaz-zhane Wade 4/19/13

signature date

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE ***APRIL 26th, 2013*** ***DEADLINE!***

I support the EPA Gowanus Canal Superfund - Red Hook option

The improvement to an active local maritime industrial business, the economic benefits it will bring, the jobs that it will create, are all important to [illegible] majority of the community of [illegible]

Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community are without harm or risk of such.

Please approve the Red Hook option.

(print)

Khadijah — first name
Wade — last name

754 Henry St — address
6A — apt.#

Brooklyn — city
N.Y — state
11231 — zip

347 777 7247 — area code & phone number

email

x Khadijah Wade — signature
4/19/13 — date

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

I support the EPA Gowanus Canal Superfund - Red Hook option.

The improvement to our waterways, the economic benefits it will bring, the jobs that it will create, are all important issues and what I believe is best for the majority of the community of Red Hook.

Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community are without harm or risk of such.

Please approve the Red Hook option.

(print)

Lamont — first name
Hill — last name

795 Hicks St. — address
2E — apt.#

Brooklyn — city
NY — state
11231 — zip

area code & phone number

email

X — signature
4/19/13 — date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

I support the EPA Gowanus Canal Superfund - Red Hook option.

The improvement to an active local maritime industrial business, the economic benefits it will bring, the jobs that it will create, are all important to me and what I believe is best for the majority of the community of Red Hook.

Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community are without harm or risk of such.

Please approve the Red Hook option.

(print)

Jonathan — first name
Abrew — last name

124 Bush St — address
6R — apt.#

Brooklyn — city
NY — state
11231 — zip

_____ _____ — area code & phone number

_____ — email

X Jonathan Abrew — signature
4/19 — date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

I support the EPA Gowanus Canal Superfund - Red Hook option.

The improvement to an active local maritime industrial business, the economic benefits it will bring, the jobs that it will create, are all important to me and what I believe is best for the majority of the community of Red Hook.

Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community are without harm or risk of such.

Please approve the Red Hook option.

(print)

Angel C.

first name last name

PO Box 1

30641

address apt.#

Brklyn NY 11231

city state zip

661 350-1727

area code & phone number

email

X [signature] 4-19-13

signature date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE APRIL 26th, 2013 DEADLINE!

RP

I support the EPA Gowanus Canal Superfund - Red Hook option.

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Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community are without harm or risk of such.

Please approve the Red Hook option.

(print)

Juanita — first name

Staton — last name

100 Centre Mall — address

6D — apt.#

Brooklyn — city

NY — state

11231 — zip

718 625-3276 — area code & phone number

staton349@aol.com — email

x Juanita Staton — signature

9/19 — date

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KP

I support the EPA Gowanus Canal Superfund - Red Hook option.

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Please approve the Red Hook option.

(print)

Vernan — first name
Douglas — last name

1555 Nostrand Avenue — address
5E — apt.#

Brooklyn — city
NY — state
11226 — zip

347 351.5306 — area code & phone number

dougV1985@gmail.com — email

X _____ — signature
4/19/13 — date

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Please approve the Red Hook option.

(print)

Shanti — first name
Susankar — last name

617 Hicks St — address
5A — apt.#

BKlyn — city
NY — state
11231 — zip

_____ _____ — area code & phone number

V.Susankar@Yahoo.com — email

X _____ — signature
4/19/2013 — date

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Please approve the Red Hook option.

(print)

George McCorkle
first name

last name

116 Mill St #4B
address

4B
apt.#

Brooklyn, NY
city

NY
state

11231
zip

718
area code & phone number

718 - 852-3817
email

x George McCorkle
signature

04/19/13
date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
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Please approve the Red Hook option.

(print)

Tiffany ~~Reed~~ Reed
first name

Reed
last name

752 Henry St 1E
address apt.#

Brooklyn NY 11231
city state zip

347 334-4041
area code & phone number

email

X Tiffany Reed 4.19.13
signature date

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PP

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Please approve the Red Hook option.

(print)

LINDA — first name
JONES — last name

748 HENRY ST — address
6F — apt.#

BROOKLYN — city
NY — state
11231 — zip

(347) 498-1151 — area code & phone number

email

X [signature] — signature
4/19/13 — date

mail:
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email:
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LP

I support the EPA Gowanus Canal Superfund - Red Hook option.

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Please approve the Red Hook option.

(print)

Mark — first name
Harrison — last name

152 Henry St — address
8R — apt.#

Brklyn — city
N.Y — state
11231 — zip

718 643 6815 — area code & phone number

email

x Mark Harrison — signature
4/19/ — date

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Please approve the Red Hook option.

(print)

Jamie — first name

M Cahill — last name

10F Monroe — address

1/a — apt.#

Bklyn — city

NY — state

11231 — zip

_____ _____ — area code & phone number

_____ — email

X _____ — signature

5/14/13 — date

mail:
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Please approve the Red Hook option.

(print)

Michelle Boone
first name last name

[illegible] Columbia St
address apt.#

Brooklyn NY 11231
city state zip

area code & phone number

email

X Michelle Boone 4-19-2013
signature date

mail:
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Please approve the Red Hook option.

(print)

Brandon Harper
first name last name

467 Columbia St. 5D
address apt.#

Brooklyn N.Y. 11231
city state zip

718 624-3606
area code & phone number

email

x [signature] 4-19-13
signature date

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Please approve the Red Hook option.

(print)

Vance — first name
Welch — last name

754 Henry St — address
6A1 — apt.#

Brooklyn — city
NY — state
11231 — zip

718 852-4463 — area code & phone number

email

X _____ — signature
4/19/13 — date

mail:
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Please approve the Red Hook option.

(print)

Quincy Shannon — first name

Quinn — last name

95 Centre Mall — address

5B — apt.#

Brooklyn New York — city

NY — state

11231 — zip

_____ _____ — area code & phone number

_____ — email

X _____ — signature

4/19 2013 — date

mail:
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Please approve the Red Hook option.

(print)

Lorraine ~~Lowman~~ Lowman
first name last name

748 Henry St 5C
address apt.#

Brooklyn NY 11231
city state zip

347 272 9294
area code & phone number

email

X Lorraine Lowman 4/19/13
signature date

mail:
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LP

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Please approve the Red Hook option.

(print)

Johnnie Ellis — first name

Ellis — last name

~~348~~ 748 Henry St ~~39~~ 5C

address — apt.#

Brooklyn — city

NY — state

~~11215~~ 11231 — zip

(917) 449-3621

area code & phone number

email

X Johnnie Ellis — signature

04/19/13 — date

mail:

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R.P.

I support the EPA Gowanus Canal Superfund - Red Hook option.

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Please approve the Red Hook option.

(print)

Tyrell — first name
Gibbs — last name
22 mill Street — address
4A — apt.#
Bklyn — city
NY — state
11231 — zip
718 - 855 - 4505 — area code & phone number
Tgibbs1987@gmail.com — email
X — signature
4-19-13 — date

mail:
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email:
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RP

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Please approve the Red Hook option.

(print)

Vanessa — first name
Staton — last name

100 Centre Mall — address
6D — apt.#

Brooklyn — city
NY — state
11231 — zip

347 238-0542 — area code & phone number

v.staton129@gmail.com — email

X [signature] — signature
4/19/13 — date

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Please approve the Red Hook option.

(print)

James — first name
Bradley — last name

416 Columbia St — address
1C — apt.#

_____ — city
_____ — state
11231 — zip

BKLN NY — area code & phone number

347-422-0877 — email

X James Bradley — signature
4-19-13 — date

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Manhattan, NY 100007-1866

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Please approve the Red Hook option.

(print)

Divina — first name
Temple — last name

22 Mill Street — address
2C — apt.#

New York — city
Brooklyn — state
11231 — zip

347 653-2047 — area code & phone number

dtemple@stjhs.org — email

x Divina Temple — signature
4-19-13 — date

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Manhattan, NY 100007-1866

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Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community are without harm or risk of such.

Please approve the Red Hook option.

(print)

John — first name
Torres — last name

108 Mill St — address
2B — apt.#

Brooklyn — city
N.Y. — state
11231 — zip

11231 (347) 546-2068 — area code & phone number

email

x John Torres — signature
4-19-13 — date

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Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community are without harm or risk of such.

Please approve the Red Hook option.

(print)

Diane Wade

first name last name

764 Henry Street 6A

address apt.#

Brooklyn N.Y. 11231

city state zip

(718) 852-4463

area code & phone number

email

x Diane Wade 4/19/13

signature date

mail:

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290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

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Please approve the Red Hook option.

(print)

Jessie Smith

first name last name

467 Columbia Street 5D

address apt.#

Brooklyn NY 11231

city state zip

718 624-3006

area code & phone number

email

X Jessie Smith 4/19/13

signature date

mail:

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290 Broadway, 20th Floor
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email:

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Please approve the Red Hook option.

(print)

Tracy (first name) Boynton (last name)

770 Henry Street (address) 1D (apt.#)

Brooklyn (city) NY (state) 11231 (zip)

(347) 885-9474 (area code & phone number)

(email)

x Tracy Boynton (signature) 4/19/13 (date)

mail:

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290 Broadway, 20th Floor
Manhattan, NY 100007-1866

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Please approve the Red Hook option.

(print)

Celia Wellington

first name last name

93 Centre Mall 1-1

address apt.#

Brooklyn NJ 1123[illegible]

city state zip

_____

area code & phone number

_____

email

x Celia Wellington 4/19/13

signature date

mail:

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290 Broadway, 20th Floor
Manhattan, NY 100007-1866

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Please approve the Red Hook option.

(print)

Deborah — first name

Diaz — last name

344 Liberty Way — address

1B — apt.#

BKlyn — city

NY — state

11209 — zip

718 864 1430 — area code & phone number

email

X _____ — signature

4/19/13 — date

mail:
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Manhattan, NY 100007-1866

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Please approve the Red Hook option.

(print)

Sabrina — first name
Holmes — last name

752 Henry Street — address — apt.#

Brooklyn — city
NY — state
11231 — zip

646 9388656 — area code & phone number

SAbrinaholmes654@yahoo — email

X _____ — signature
4/19/13 — date

mail:
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290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
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Please approve the Red Hook option.

(print)

Moses — first name
Torres — last name

761 Hicks Street — address
3E — apt.#

Brooklyn — city
NY — state
11231 — zip

_____ _____ — area code & phone number

MosesTorres44@gmail.com — email

X Moses Torres — signature
4/16/13 — date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

I support the EPA Gowanus Canal Superfund - Red Hook option.

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Please approve the Red Hook option.

(print)

Renee — first name
Hill — last name

754 Henry St — address
apt.#

BKLYN — city
N.Y. — state
11231 — zip

area code & phone number

email

x Renee Hill — signature
4/19/13 — date

mail:
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Fax:
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Please approve the Red Hook option.

(print)

ALEXANDER — first name
TORRES — last name

108 Mill St — address
2B — apt.#

BKlyn — city
NY — state
11231 — zip

(347) 678-4991 — area code & phone number

email

x Alexander Torres — signature
4/19/13 — date

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Please approve the Red Hook option.

(print)

Michael — first name
Rodirguez — last name

611 ~~Conover~~ Hicks st — address
5F — apt.#

BK/yn — city
N.Y — state
11231 — zip

347 772 7627 — area code & phone number

email

x Joseph Rodirguez — signature
4/19 — date

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Please approve the Red Hook option.

(print)

SHARON WADE

first name last name

754 HENRY STREET 5D

address apt.#

BROOKLYN N.Y. 11231

city state zip

718-222-9169

area code & phone number

email

x Sharon Wade 4/19/13

signature date

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Please approve the Red Hook option.

(print)

Zayaronda Smith

first name last name

465 Columbia Street 5B

address apt.#

Brooklyn NY 11231

city state zip

718-690-4219

area code & phone number

email

x Zayaronda Smith 4-19-2013

signature date

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email:

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Please approve the Red Hook option.

(print)

Lizardo — first name
NINO — last name

752 Henry st SB
address — apt.#

Brooklyn — city
N.Y. — state
11231 — zip

area code & phone number
347-693-1509
email

X Lizardo nino — signature
04-19-13 — date

mail:
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Please approve the Red Hook option.

(print)

Reyna Leon. Leon.
first name last name

467 columbia St. 1A. 1A
address apt.#

BKlyn NY 11231.
city state zip

_____ _____
area code & phone number

_____
email

X Reyna Leon. 4-19-13.
signature date

mail:
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Please approve the Red Hook option.

(print)

Stewart — first name

Belinda — last name

752 Henry — address

3C — apt.#

NY — city

NY — state

11231 — zip

718-423-6815 — area code & phone number

email

x [signature] — signature

4/19/2013 — date

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Please approve the Red Hook option.

(print)

Elisa — first name

Cosme — last name

108 Mill St — address

6C — apt.#

Brooklyn — city

N.Y. — state

11231 — zip

1 347-355-2865 — area code & phone number

email

x Elisa Cosme — signature

4/19 — date

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Manhattan, NY 100007-1866

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Please approve the Red Hook option.

(print)

Marcos (first name) Ayala (last name)

58 Lorraine St (address) 1 (apt.#)

Brooklyn (city) New York (state) 11231 (zip)

(area code & phone number)

(email)

X Marcos Ayala (signature) 4/19/13 (date)

mail:

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Please approve the Red Hook option.

(print)

Annette Freeman

first name last name

34 West 9th St 2F

address apt.#

BKlyn N.Y. 11231

city state zip

area code & phone number

email

x Annette Freeman 4-19-13

signature date

mail:

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Please approve the Red Hook option.

(print)

Diane Gregg

first name last name

11 Bush St

address apt.#

Brooklyn NY 11231

city state zip

area code & phone number

email

x Diane Gregg 4/19/13

signature date

mail:

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Please approve the Red Hook option.

(print)

Sheila Campbell
first name last name

416 Columbia St
address apt.#

Brooklyn NY 11231
city state zip

area code & phone number

email

x Sheila Campbell 4/19/13
signature date

mail:
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email:
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Please approve the Red Hook option.

(print)

Theresa / Ajayi

first name last name

505 Columbia St

address apt.#

Brooklyn NY 11231

city state zip

area code & phone number

email

x Theresa Ajayi 4/19/13

signature date

mail:

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290 Broadway, 20th Floor
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Please approve the Red Hook option.

(print)

Valerie Hall

first name: Valerie — last name: Hall

address: 15 Bush Street — apt.#:

city: Brooklyn — state: NY — zip: 11231

area code & phone number:

email:

x Valerie Hall — signature

4/19/13 — date

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

GowanusCanalComments.Region2@epa.gov

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Please approve the Red Hook option.

(print)

Loretta Bradley

first name last name

40 Center Place

address apt.#

Brooklyn NY 11231

city state zip

Brooklyn

area code & phone number

email

x Loretta Bradley 4/19/13

signature date

mail:

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290 Broadway, 20th Floor
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email:

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Please approve the Red Hook option.

(print)

Chauncey (first name) Gore (last name)

80 Dwight st
address apt.#

Brooklyn (city) NY (state) 11231 (zip)

_____ _____
area code & phone number

_____
email

x Chauncey Gore (signature) 4/19/13 (date)

mail:
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Please approve the Red Hook option.

(print)

Debra (first name) Traore (last name)

80 Bush St (address) 5B (apt.#)

Bklyn (city) NY (state) 11231 (zip)

(area code & phone number)

(email)

x Debra Traore (signature) 4/19/13 (date)

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Please approve the Red Hook option.

(print)

Marcos — first name
Cruz — last name

443 Columbia St — address
5E — apt.#

Brooklyn — city
NY — state
11231 — zip

718 624-1760 — area code & phone number

email

x Marcos Cruz — signature
4/19/13 — date

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Please approve the Red Hook option.

(print)

Lillian Paris — first name
Paris — last name

38 Centre Mall — address
6-E — apt.#

Brooklyn — city
N.Y. — state
11231 — zip

_____ _____ — area code & phone number

_____ — email

x Lillian Paris — signature
4-19-13 — date

mail:
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Please approve the Red Hook option.

(print)

IRA — first name
Vanderpool — last name

38 Bush St — address
4D — apt.#

Bklyn — city
NY — state
11231 — zip

718 522-2113 — area code & phone number

email

x [signature] — signature
4/19/13 — date

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Please approve the Red Hook option.

(print)

Lillian Tiffany

first name last name

38 Bush St 4D

address apt.#

Bklyn NY 11231

city state zip

(718) 522-2113

area code & phone number

email

x Lillian Tiffany 4/14/13

signature date

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Please approve the Red Hook option.

(print)

INA (first name) TIFFANY (last name)

38 Bush St (address) 4D (apt.#)

BKlyn (city) NY (state) 11231 (zip)

718 522-2113 (area code & phone number)

(email)

X Ina Tiffany (signature) 4/19/13 (date)

mail:
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Please approve the Red Hook option.

(print)

Connie — first name
Major — last name

11 Bush st
address — apt.#

Brooklyn — city
NY — state
11231 — zip

area code & phone number

email

x Connie Major — signature
4/19/13 — date

mail:

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Please approve the Red Hook option.

(print)

Catherine (first name) Connor (last name)

416 Columbia St (address) 5E (apt.#)

Brooklyn (city) NY (state) 11231 (zip)

(area code & phone number)

(email)

x Catherine Connor (signature) 4/19/13 (date)

mail:

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290 Broadway, 20th Floor
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email:

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Please approve the Red Hook option.

(print)

Raymond Corbin

first name last name

795 Hicks St 6B

address apt.#

Bklyn NY 11231

city state zip

_____

area code & phone number

_____

email

X [signature] 4-19-20

signature date

mail:

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Fax:

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email:

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Please approve the Red Hook option.

(print)

Risa — first name
Afford — last name

38 Centre mall — address — apt.#

Brooklyn — city
Ny — state
11231 — zip

area code & phone number

email

x Risa Afford — signature
4/19/13 — date

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

I support the EPA Gowanus Canal Superfund - Red Hook option.

The improvement to an active local maritime industrial business, the economic benefits it will bring, the jobs that it will create, are all important to me and what I believe is best for the majority of the community of Red Hook.

Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community is without harm or risk of such.

Please approve the Red Hook option.

(print)

Allison Williams

first name last name

452 Columbia St

address apt.#

Brooklyn NY 11231

city state zip

area code & phone number

email

x Allison Williams 4/19/13

signature date

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

I support the EPA Gowanus Canal Superfund - Red Hook option.

The improvement to an active local maritime industrial business, the economic benefits it will bring, the jobs that it will create, are all important to me and for the community of the Red Hook.

Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community is without harm or risk of such.

Please approve the Red Hook option.

(print)

Karen — first name
Snyder — last name

495 Columbia St — address
3D — apt.#

Brkyn, N.Y. 11231 — city
N.Y. — state
11231 — zip

_____ _____ — area code & phone number

_____ — email

x Karen Snyder — signature
4/19/13 — date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

Received 4/19

I support the EPA Gowanus Canal Superfund - Red Hook option.

The improvement to an active local maritime industrial business, the economic benefits it will bring, the jobs that it will create, are all important to me and what I believe is best for the majority of the community of Red Hook.

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Please approve the Red Hook option.

(print)

Cornelia — first name
DAVIS — last name

30 Bush Street — address
apt.#

Brooklyn — city
NY — state
11231 — zip

area code & phone number

email

x Cornelia Davis — signature
date

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

RH

Recieved 4/19

I support the EPA Gowanus Canal Superfund - Red Hook option.

The improvement to an active local maritime industrial business, the economic benefits it will bring, the jobs that it will create, are all important to me and what I believe is best for the majority of the community of Red Hook.

Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community are without harm or risk of such.

Please approve the Red Hook option.

(print)

Armitina Smith
first name last name

714 Henry Street 3A
address apt.#

Brooklyn - NYC. BKNY 11231
city state zip

646 6248600
area code & phone number

Armitina@gmail.com
email

X Armitina Smith
signature date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

RP

Received 4/19

I support the EPA Gowanus Canal Superfund - Red Hook option.

The improvement to an active local maritime industrial business, the economic benefits it will bring, the jobs that it will create, are all important to me and what I believe is best for the majority of the community of Red Hook.

Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community are without harm or risk of such.

Please approve the Red Hook option.

(print)

Iris — first name
Harden — last name

829 Hicks St — address
2B — apt.#

Brooklyn — city
NY — state
11231 — zip

718 403-0593 — area code & phone number

email

x _____ — signature
_____ — date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

R.P.

Received
4/19

I support the EPA Gowanus Canal Superfund - Red Hook option.

The improvement to an active local maritime industrial business, the economic benefits it will bring, the jobs that it will create, are all important to me and what I believe is best for the majority of the community of Red Hook.

Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community are without harm or risk of such.

Please approve the Red Hook option.

(print)

JODY ~~ROBINSON~~ ROBINSON

first name last name

15A DWIGHT ST.

address apt.#

BROOKLYN N.Y. 11231

city state zip

917 645 3053

area code & phone number

email

x Jody Robinson

signature date

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

2 D

Received 4/19

I support the EPA Gowanus Canal Superfund - Red Hook option.

The improvement to an active local maritime industrial business, the economic benefits it will bring, the jobs that it will create, are all important to me and what I believe is best for the majority of the community of Red Hook.

Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community are without harm or risk of such.

Please approve the Red Hook option.

(print)

Néstor — first name
Arroyo — last name

address — 1A — apt.#

108 Mill St — city
NY — state
11231 — zip

Brooklyn — area code & phone number

1347 · 290 - 0809 — email

x Néstor Arroyo — signature
date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

O.D

I support the EPA Gowanus Canal Superfund - Red Hook option. Received 4/19

The improvement to an active local maritime industrial business, the economic benefits it will bring, the jobs that it will create, are all important to me and what I believe is best for the majority of the community of Red Hook.

Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community are without harm or risk of such.

Please approve the Red Hook option.

(print)

JEAN — first name

KINSLER — last name

P.O. Box 310 317 — address

apt.#

BROOKLYN NY 11231 — city / state / zip

area code & phone number

email

X _____ signature

_____ date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

R.P.

Leeewd 4/17

I support the EPA Gowanus Canal Superfund - Red Hook option.

The improvement to an active local maritime industrial business, the economic benefits it will bring, the jobs that it will create, are all important to me and what I believe is best for the majority of the community of Red Hook.

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Please approve the Red Hook option.

(print)

Christopher — first name
DiBenedetto — last name

92 Centra Mall — address
apt.#

BKlyn — city
NY — state
11231 — zip

347 575 4446 — area code & phone number

email

x _____ — signature
date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

RR

Received 4/19

I support the EPA Gowanus Canal Superfund - Red Hook option.

The improvement to an active local maritime industrial business, the economic benefits it will bring, the jobs that it will create, are all important to me and what I believe is best for the majority of the community of Red Hook.

Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community are without harm or risk of such.

Please approve the Red Hook option.

(print)

TONY IVAN

first name last name

592 CLIFTON 7S

address apt.#

city state zip

(718) 852-8470

area code & phone number

email

X

signature date

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

Comments on Gowanus Canal Proposed Plan

David Danziger to: Region2 GowanusCanalComments 04/19/2013 01:29 AM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to David Danziger

History: This message has been forwarded.

Apr 19, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

While the EPA's plan takes the critical step of calling for CSO retention for two of the Canal's worst outfalls many details will not be solidified until New York City submits their CSO Long Term Control Plan in 2015. It is critical for the EPA to stand firm on requiring retention tanks to control CSOs and to work with New York City towards the eventual goal of 100% elimination of CSOs from the Canal.

I support the EPA's commitment to dredge as much as 10 feet of contaminated sediment from the entire length of the canal, build a multi-layer cap on the bottom, and treat and dispose of this contaminated sediment offsite. I also believe that the EPA should listen to the wishes of the community in Red Hook who oppose the building of a CDF on the Red Hook waterfront to dispose of the least contaminated sediment.

Sincerely,

Mr. David Danziger
35 Prospect Park W
Brooklyn, NY 11215-2393

Comments on Gowanus Canal Proposed Plan

Damon Bishop to: Region2 GowanusCanalComments 04/19/2013 02:59 AM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Damon Bishop

Apr 19, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution, a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

While the EPA's plan takes the critical step of calling for CSO retention for two of the Canal's worst outfalls, many details will not be solidified until New York City submits their CSO Long Term Control Plan in 2015. It is critical for the EPA to stand firm on requiring retention tanks to control CSOs and to work with New York City towards the eventual goal of 100% elimination of CSOs from the Canal.

I support the EPA's commitment to dredge as much as 10 feet of contaminated sediment from the entire length of the canal, build a multi-layer cap on the bottom, and treat and dispose of this contaminated sediment offsite. I also believe that the EPA should listen to the wishes of the community in Red Hook who oppose the building of a CDF on the Red Hook waterfront to dispose of the least contaminated sediment.

Sincerely,

Mr. Damon Bishop
3220 Broadway # 3a
Apt 3a
Astoria, NY 11106-2609
(917) 282-8011

Comments on Gowanus Canal Proposed Plan

Alan Stein to: Region2 GowanusCanalComments 04/19/2013 05:30 AM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Alan Stein

Apr 19, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

While the EPA's plan takes the critical step of calling for CSO retention for two of the Canal's worst outfalls many details will not be solidified until New York City submits their CSO Long Term Control Plan in 2015. It is critical for the EPA to stand firm on requiring retention tanks to control CSOs and to work with New York City towards the eventual goal of 100% elimination of CSOs from the Canal.

I support the EPA's commitment to dredge as much as 10 feet of contaminated sediment from the entire length of the canal, build a multi-layer cap on the bottom, and treat and dispose of this contaminated sediment offsite. I also believe that the EPA should listen to the wishes of the community in Red Hook who oppose the building of a CDF on the Red Hook waterfront to dispose of the least contaminated sediment.

Sincerely,

Mr. Alan Stein
7335 Utopia Pkwy
Fresh Meadows, NY 11366-1524

Comments on Gowanus Canal Proposed Plan

Anna Ellis to: Region2 GowanusCanalComments 04/19/2013 07:30 AM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Anna Ellis

Apr 19, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

I grew up next to the Gowanus Canal - smelling the stench from the CSOs during summer rainstorms and marveling at the oil spills as I walked over the Union Street bridge. The EPA's plan will stop CSOs from further polluting the Canal, at the same time as removing contaminated sediment at the bottom of the waterway. The EPA is addressing both of these issues with cleanup methods that will eliminate pollution from the canal and prevent future contaminations.

Sincerely,

Ms. Anna Ellis
460 Sackett St
Brooklyn, NY 11231-5019

Comments on Gowanus Canal Proposed Plan

Brian Fink to: Region2 GowanusCanalComments 04/19/2013 09:00 AM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Brian Fink

Apr 19, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

While the EPA's plan takes the critical step of calling for CSO retention for two of the Canal's worst outfalls many details will not be solidified until New York City submits their CSO Long Term Control Plan in 2015. It is critical for the EPA to stand firm on requiring retention tanks to control CSOs and to work with New York City towards the eventual goal of 100% elimination of CSOs from the Canal.

I support the EPA's commitment to dredge as much as 10 feet of contaminated sediment from the entire length of the canal, build a multi-layer cap on the bottom, and treat and dispose of this contaminated sediment offsite. I also believe that the EPA should listen to the wishes of the community in Red Hook who oppose the building of a CDF on the Red Hook waterfront to dispose of the least contaminated sediment.

Sincerely,

Mr. Brian Fink
390 2nd St Apt 13
Brooklyn, NY 11215-2407
(215) 789-9764

Comments on Gowanus Canal Proposed Plan

Jeremiah Blatz to: Region2 GowanusCanalComments 04/19/2013 09:00 AM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Jeremiah Blatz

Apr 19, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution, a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

While the EPA's plan takes the critical step of calling for CSO retention for two of the Canal's worst outfalls, many details will not be solidified until New York City submits their CSO Long Term Control Plan in 2015. It is critical for the EPA to stand firm on requiring retention tanks to control CSOs and to work with New York City towards the eventual goal of 100% elimination of CSOs from the Canal.

I support the EPA's commitment to dredge as much as 10 feet of contaminated sediment from the entire length of the canal, build a multi-layer cap on the bottom, and treat and dispose of this contaminated sediment offsite.

Sincerely,

Mr. Jeremiah Blatz
159 Madison Ave Apt 2a
New York, NY 10016-5434
(646) 234-1745

Comments on Gowanus Canal Proposed Plan

Jennifer Savage to: Region2 GowanusCanalComments 04/19/2013 10:00 AM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Jennifer Savage

Apr 19, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

While the EPA's plan takes the critical step of calling for CSO retention for two of the Canal's worst outfalls many details will not be solidified until New York City submits their CSO Long Term Control Plan in 2015. It is critical for the EPA to stand firm on requiring retention tanks to control CSOs and to work with New York City towards the eventual goal of 100% elimination of CSOs from the Canal.

I support the EPA's commitment to dredge as much as 10 feet of contaminated sediment from the entire length of the canal, build a multi-layer cap on the bottom, and treat and dispose of this contaminated sediment offsite. I also believe that the EPA should listen to the wishes of the community in Red Hook who oppose the building of a CDF on the Red Hook waterfront to dispose of the least contaminated sediment.

Sincerely,

Ms. Jennifer Savage
36 E 69th St
New York, NY 10021-5019

Comments on Gowanus Canal Proposed Plan

Nancy Edwards to: Region2 GowanusCanalComments 04/19/2013 10:00 AM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Nancy Edwards

Apr 19, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

While the EPA's plan takes the critical step of calling for CSO retention for two of the Canal's worst outfalls many details will not be solidified until New York City submits their CSO Long Term Control Plan in 2015. It is critical for the EPA to stand firm on requiring retention tanks to control CSOs and to work with New York City towards the eventual goal of 100% elimination of CSOs from the Canal.

I support the EPA's commitment to dredge as much as 10 feet of contaminated sediment from the entire length of the canal, build a multi-layer cap on the bottom, and treat and dispose of this contaminated sediment offsite. I also believe that the EPA should listen to the wishes of the community in Red Hook who oppose the building of a CDF on the Red Hook waterfront to dispose of the least contaminated sediment.

Sincerely,

Mrs. Nancy Edwards
320 W End Ave Apt 2b
New York, NY 10023-8159

Comments on Gowanus Canal Proposed Plan

Michael Macelhiney to: Region2 GowanusCanalComments 04/19/2013 10:00 AM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Michael Macelhiney

Apr 19, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

While the EPA's plan takes the critical step of calling for CSO retention for two of the Canal's worst outfalls many details will not be solidified until New York City submits their CSO Long Term Control Plan in 2015. It is critical for the EPA to stand firm on requiring retention tanks to control CSOs and to work with New York City towards the eventual goal of 100% elimination of CSOs from the Canal.

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Sincerely,

Mr. Michael Macelhiney
325 E 80th St # 3g
Apt 3g
New York, NY 10075-0645

EPA Clean-up of the Gowanus

Carl Teitelbaum to: Region2 GowanusCanalComments 04/19/2013 10:02 AM

Hello,

I live one block away from the Gowanus Canal and I'm in favor of a full EPA clean-up of all toxins in the canal. In doing so, all development of the land contiguous to the canal should be subject to a full Environmental Impact Study focusing on how any proposed development of the land and proposed changes to the bulkhead will impact the clean-up effort, the flow of water in the canal, the impact of storms on the canal and surrounding properties, the CSO situation and all pertinent environmental issues.

The canal must be cleaned up. Any development next to the canal must be thoroughly studied to determine long-term effects.

Sincerely,

Carl Teitelbaum
374 Bond Street
Brooklyn, NY 11231

Comments on Gowanus Canal Proposed Plan

Ciro Di Donna to: Region2 GowanusCanalComments 04/19/2013 10:30 AM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Ciro Di Donna

Apr 19, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

While the EPA's plan takes the critical step of calling for CSO retention for two of the Canal's worst outfalls many details will not be solidified until New York City submits their CSO Long Term Control Plan in 2015. It is critical for the EPA to stand firm on requiring retention tanks to control CSOs and to work with New York City towards the eventual goal of 100% elimination of CSOs from the Canal.

I support the EPA's commitment to dredge as much as 10 feet of contaminated sediment from the entire length of the canal, build a multi-layer cap on the bottom, and treat and dispose of this contaminated sediment offsite. I also believe that the EPA should listen to the wishes of the community in Red Hook who oppose the building of a CDF on the Red Hook waterfront to dispose of the least contaminated sediment.

Sincerely,

Mr. Ciro Di Donna
14956 17th Rd
Whitestone, NY 11357-2542

Comments on Gowanus Canal Proposed Plan

Laura Bilodeau to: Region2 GowanusCanalComments 04/19/2013 10:31 AM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Laura Bilodeau

Apr 19, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

As a Park Slope resident, and concerned New Yorker, I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

While the EPA's plan takes the critical step of calling for CSO retention for two of the Canal's worst outfalls many details will not be solidified until New York City submits their CSO Long Term Control Plan in 2015. It is critical for the EPA to stand firm on requiring retention tanks to control CSOs and to work with New York City towards the eventual goal of 100% elimination of CSOs from the Canal.

I support the EPA's commitment to dredge as much as 10 feet of contaminated sediment from the entire length of the canal, build a multi-layer cap on the bottom, and treat and dispose of this contaminated sediment offsite. I also believe that the EPA should listen to the wishes of the community in Red Hook who oppose the building of a CDF on the Red Hook waterfront to dispose of the least contaminated sediment.

Sincerely,

Ms. Laura Bilodeau
312 Prospect Ave
Brooklyn, NY 11215-5521

Comments on Gowanus Canal Proposed Plan

Sarah Bacon to: Region2 GowanusCanalComments 04/19/2013 10:31 AM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Sarah Bacon

Apr 19, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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Sincerely,

Ms. Sarah Bacon
505 Court St Apt 9d
Brooklyn, NY 11231-3960
(718) 755-3618

I, the sender, vote that I do not want this project to proceed.

Sharon Johnson to: Region2 GowanusCanalComments 04/19/2013 10:54 AM

As a resident of the community of Red Hook, I am strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

- Children
- Numerous public and private schools which use the fields for physical education & sports teams
- Residents of the Red Hook Houses and the surrounding neighborhood
- Soccer, softball, baseball, football, handball, basketball, track & field teams and enthusiasts
- Swimmers of all ages
- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--
Sharon Johnson
redhooksharon@yahoo.com
258 Van Brunt St #3
Brooklyn, NY
residence

I, the sender, vote that I do not want this project to proceed.

John Siciliani to: Region2 GowanusCanalComments 04/19/2013 11:00 AM

As resident/park user of the community of Red Hook, I am strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

- Children
- Numerous public and private schools which use the fields for physical education & sports teams
- Residents of the Red Hook Houses and the surrounding neighborhood
- Soccer, softball, baseball, football, handball, basketball, track & field teams and enthusiasts
- Swimmers of all ages
- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--

John Siciliani
johnsic@gmail.com
29 Tiffany Place
Brooklyn, NY
Resident/Park User

Comments on Gowanus Canal Proposed Plan

Taryn Matusi to: Region2 GowanusCanalComments 04/19/2013 11:31 AM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Taryn Matusi

Apr 19, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

While the EPA's plan takes the critical step of calling for CSO retention for two of the Canal's worst outfalls many details will not be solidified until New York City submits their CSO Long Term Control Plan in 2015. It is critical for the EPA to stand firm on requiring retention tanks to control CSOs and to work with New York City towards the eventual goal of 100% elimination of CSOs from the Canal.

I support the EPA's commitment to dredge as much as 10 feet of contaminated sediment from the entire length of the canal, build a multi-layer cap on the bottom, and treat and dispose of this contaminated sediment offsite. I also believe that the EPA should listen to the wishes of the community in Red Hook who oppose the building of a CDF on the Red Hook waterfront to dispose of the least contaminated sediment.

Sincerely,

Ms. Taryn Matusi
9 Hyde St
Saratoga Springs, NY 12866-3805

Comments on Gowanus Canal Proposed Plan

Kristina Pentek to: Region2 GowanusCanalComments 04/19/2013 01:31 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Kristina Pentek

Apr 19, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

While the EPA's plan takes the critical step of calling for CSO retention for two of the Canal's worst outfalls many details will not be solidified until New York City submits their CSO Long Term Control Plan in 2015. It is critical for the EPA to stand firm on requiring retention tanks to control CSOs and to work with New York City towards the eventual goal of 100% elimination of CSOs from the Canal.

I support the EPA's commitment to dredge as much as 10 feet of contaminated sediment from the entire length of the canal, build a multi-layer cap on the bottom, and treat and dispose of this contaminated sediment offsite. I also believe that the EPA should listen to the wishes of the community in Red Hook who oppose the building of a CDF on the Red Hook waterfront to dispose of the least contaminated sediment.

Sincerely,

Ms. Kristina Pentek
268 10th St
Brooklyn, NY 11215-3908
(202) 294-8791

Comments on Gowanus Canal Proposed Plan

Emily Chambliss to: Region2 GowanusCanalComments 04/19/2013 01:31 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Emily Chambliss

Apr 19, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

While the EPA's plan takes the critical step of calling for CSO retention for two of the Canal's worst outfalls many details will not be solidified until New York City submits their CSO Long Term Control Plan in 2015. It is critical for the EPA to stand firm on requiring retention tanks to control CSOs and to work with New York City towards the eventual goal of 100% elimination of CSOs from the Canal.

I support the EPA's commitment to dredge as much as 10 feet of contaminated sediment from the entire length of the canal, build a multi-layer cap on the bottom, and treat and dispose of this contaminated sediment offsite. I also believe that the EPA should listen to the wishes of the community in Red Hook who oppose the building of a CDF on the Red Hook waterfront to dispose of the least contaminated sediment.

Sincerely,

Miss Emily Chambliss
1514 Prospect Pl
Brooklyn, NY 11213-2427

Comments on Gowanus Canal Proposed Plan

Angelica Falcinelli to: Region2 GowanusCanalComments 04/19/2013 02:01 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Angelica Falcinelli

Apr 19, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

While the EPA's plan takes the critical step of calling for CSO retention for two of the Canal's worst outfalls many details will not be solidified until New York City submits their CSO Long Term Control Plan in 2015. It is critical for the EPA to stand firm on requiring retention tanks to control CSOs and to work with New York City towards the eventual goal of 100% elimination of CSOs from the Canal.

I support the EPA's commitment to dredge as much as 10 feet of contaminated sediment from the entire length of the canal, build a multi-layer cap on the bottom, and treat and dispose of this contaminated sediment offsite. I also believe that the EPA should listen to the wishes of the community in Red Hook who oppose the building of a CDF on the Red Hook waterfront to dispose of the least contaminated sediment.

Sincerely,

Miss Angelica Falcinelli
398 Hancock St
Apt 2
Brooklyn, NY 11216-2648

Comments on Gowanus Canal Proposed Plan

Denice Park to: Region2 GowanusCanalComments 04/19/2013 09:02 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Denice Park

Apr 19, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

While the EPA's plan takes the critical step of calling for CSO retention for two of the Canal's worst outfalls many details will not be solidified until New York City submits their CSO Long Term Control Plan in 2015. It is critical for the EPA to stand firm on requiring retention tanks to control CSOs and to work with New York City towards the eventual goal of 100% elimination of CSOs from the Canal.

I support the EPA's commitment to dredge as much as 10 feet of contaminated sediment from the entire length of the canal, build a multi-layer cap on the bottom, and treat and dispose of this contaminated sediment offsite. I also believe that the EPA should listen to the wishes of the community in Red Hook who oppose the building of a CDF on the Red Hook waterfront to dispose of the least contaminated sediment.

Sincerely,

Dr. Denice Park
275 W 96th St # 20f
Apt 20f
New York, NY 10025-6262

Comments on Gowanus Canal Proposed Plan

Jennifer Sta. Ines to: Region2 GowanusCanalComments 04/19/2013 09:02 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to "Jennifer Sta. Ines"

Apr 19, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

While the EPA's plan takes the critical step of calling for CSO retention for two of the Canal's worst outfalls many details will not be solidified until New York City submits their CSO Long Term Control Plan in 2015. It is critical for the EPA to stand firm on requiring retention tanks to control CSOs and to work with New York City towards the eventual goal of 100% elimination of CSOs from the Canal.

I support the EPA's commitment to dredge as much as 10 feet of contaminated sediment from the entire length of the canal, build a multi-layer cap on the bottom, and treat and dispose of this contaminated sediment offsite. I also believe that the EPA should listen to the wishes of the community in Red Hook who oppose the building of a CDF on the Red Hook waterfront to dispose of the least contaminated sediment.

Sincerely,

Miss Jennifer Sta. Ines
236 24th St Apt 2r
Brooklyn, NY 11232-1492

the Gowanus Canal
Melissa Whelan to: Region2 GowanusCanalComments 04/19/2013 09:05 PM

Melisa Callahan - Whelan
83 Dikeman St
#1
Brooklyn, NY 11231

Christos Tsiamis
Project Manager,
Central New York Remediation Section of the U.S. Environmental Protection Agency
Region 2
290 Broadway, 20th floor
New York, New York 10007-1866
Email: GowanusCanalComments.Region2@epa.gov

19 April 2013

Mr. Tsiamis:

I am certain you are aware of the firestorm surrounding the EPA proposals regarding dewatering and containment of the toxic sludge resulting from clean – up of the Gowanus Canal. As the deadline for public comments approaches I felt compelled to add my voice to personally appeal to you for sanity in this proposal.

This area was recently decimated by superstorm Sandy, and along with the water from the bay the toxins and who knows what else came into our neighborhood, as our streets were flooded up to 5 feet in some areas. And yet the EPA continues with some of the proposals to place a dewatering plant and CDF in this very area.

My first question would be: has anyone thought of the potential damage that would ensue from another storm? After all, we have been virtually guaranteed one, in our flood rezoning, insurance increases and the recommendations to build our homes 5-8 feet above the current ground level.

I must also wonder why, when there are clearly many safe, effective methods for de-watering sludge in place on barges, would a proposal be put forth to add additional handling to this highly toxic material, bring it onto the land in my neighborhood near a neighborhood recreational facility?

Why must my neighborhood process and house this waste, placed here by corporations who have no interest in the health and well- being of my neighbors? Why must we bear the burden just to save the polluters themselves money?

I am vehemently opposed to any solution which involves stabilizing the sludge on-site and keeping it in Red Hook in any form. I am concerned that the dewatering of the sludge will create odors which are inappropriate next to the Red Hook Ball Fields and the beloved Red Hook Food Vendors. The amount of stench produced and the area it affects has not been sufficiently studied. What we do know is that it would last, at minimum, six years, and this is an unhealthy situation for those of us who use this area for fitness and recreation. Would we find ourselves in the same situation as the residents of the towns surrounding Onondoga Lake?

Additionally, in an area where such healthy endeavors are occurring, and the amount of toxicity released into the atmosphere in the dewatering process has not been studied, it seems inappropriate to house waste from the canal in any here. According to your [EPA's] own report, "Tests to assess the leachability of NAPL (toxic contaminants)... would need to be performed (on the concrete)... Permanent institutional controls would be required to ensure the long-term effectiveness of this option..." The Red Hook community, already suffering from such health situations such as high asthma rates from the Brooklyn Queens Expressway, does not desire a site built with materials potentially leaching toxic contaminants.

The EPA can do better than this. I am certain of it. I am certain that if everyone really considered the health and well- being of the community, another solution could be found. I politely request that the EPA, the city and my representatives take into consideration these concerns as they all plan for my future as a Red Hook resident, public space user, city resident and fresh air breather.

Thank You,

Melissa Callahan - Whelan

"Why be a song when you can be a symphony"

Please consider the environment before printing this email

I support the EPA Gowanus Canal Superfund - Red Hook option.

The improvement to an active local maritime industrial business, the economic benefits it will bring, the jobs that it will create, are all important to me and for the community of the Red Hook.

Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community is without harm or risk of such.

Please approve the Red Hook option.

(print)

Gail Pressley

first name last name

493 Columbia 1E

address apt.#

Brklyn N.Y 11231

city state zip

area code & phone number

email

X Gail Pressley 4-20-13

signature date

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

I support the EPA Gowanus Canal Superfund - Red Hook option.

The improvement to an active local maritime industrial business, the economic benefits it will bring, the jobs that it will create, are all important to me and what I believe is best for the majority of the community of Red Hook.

Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community is without harm or risk of such.

Please approve the Red Hook option.

(print)

Cathy — first name
McKnight — last name

505 Columbia St — address
4E — apt.#

Brooklyn — city
NY — state
11231 — zip

(— area code & phone number

email

x Cathy McKnight — signature
4/20/13 — date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

I, the sender, vote that I do not want this project to proceed.

Marisol Rojas to: Region2 GowanusCanalComments 04/20/2013 02:11 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

- Children
- Numerous public and private schools which use the fields for physical education & sports teams
- Residents of the Red Hook Houses and the surrounding neighborhood
- Soccer, softball, baseball, football, handball, basketball, track & field teams and enthusiasts
- Swimmers of all ages
- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--
Marisol Rojas
Mari.truitt@gmail.com
561 - 6th ave
Brooklyn, Ny 11215
Resident

Comments on Gowanus Canal Proposed Plan

Orlando R Reyes Sr to: Region2 GowanusCanalComments 04/20/2013 03:02 AM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Orlando R Reyes Sr

Apr 20, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

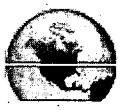
I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

While the EPA's plan takes the critical step of calling for CSO retention for two of the Canal's worst outfalls many details will not be solidified until New York City submits their CSO Long Term Control Plan in 2015. It is critical for the EPA to stand firm on requiring retention tanks to control CSOs and to work with New York City towards the eventual goal of 100% elimination of CSOs from the Canal.

I support the EPA's commitment to dredge as much as 10 feet of contaminated sediment from the entire length of the canal, build a multi-layer cap on the bottom, and treat and dispose of this contaminated sediment offsite. I also believe that the EPA should listen to the wishes of the community in Red Hook who oppose the building of a CDF on the Red Hook waterfront to dispose of the least contaminated sediment. Shameful.....

Sincerely,

Mr. Orlando R Reyes Sr
651 W 171st St
New York, NY 10032-3001



I, the sender, vote that I do not want this project to proceed.
Nancy Konigsberg to: Region2 GowanusCanalComments 04/20/2013 09:58 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

- Children
- Numerous public and private schools which use the fields for physical education & sports teams
- Residents of the Red Hook Houses and the surrounding neighborhood
- Soccer, softball, baseball, football, handball, basketball, track & field teams and enthusiasts
- Swimmers of all ages
- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--
Nancy Konigsberg
nkathome@bellsouth.net
1857 Cross Green Way
Fleming Island, , Florida
family resident

Comments on Gowanus Canal Proposed Plan

michael salvatore to: Region2 GowanusCanalComments 04/20/2013 10:03 AM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to michael salvatore

Apr 20, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

While the EPA's plan takes the critical step of calling for CSO retention for two of the Canal's worst outfalls many details will not be solidified until New York City submits their CSO Long Term Control Plan in 2015. It is critical for the EPA to stand firm on requiring retention tanks to control CSOs and to work with New York City towards the eventual goal of 100% elimination of CSOs from the Canal.

I support the EPA's commitment to dredge as much as 10 feet of contaminated sediment from the entire length of the canal, build a multi-layer cap on the bottom, and treat and dispose of this contaminated sediment offsite.

Sincerely,

Mr. michael salvatore
52 1st St
Brooklyn, NY 11231-5002
(718) 834-8192

Comments on Gowanus Canal Proposed Plan

John King to: Region2 GowanusCanalComments 04/20/2013 11:03 AM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to John King

Apr 20, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

While the EPA's plan takes the critical step of calling for CSO retention for two of the Canal's worst outfalls many details will not be solidified until New York City submits their CSO Long Term Control Plan in 2015. It is critical for the EPA to stand firm on requiring retention tanks to control CSOs and to work with New York City towards the eventual goal of 100% elimination of CSOs from the Canal.

I support the EPA's commitment to dredge as much as 10 feet of contaminated sediment from the entire length of the canal, build a multi-layer cap on the bottom, and treat and dispose of this contaminated sediment offsite. I also believe that the EPA should listen to the wishes of the community in Red Hook who oppose the building of a CDF on the Red Hook waterfront to dispose of the least contaminated sediment.

Sincerely,

Mr. John King
308 Carlton Ave
Apt 1
Brooklyn, NY 11205-4610

Proposed Plan for the Gowanus Canal

Rosario Murphy to: Region2 GowanusCanalComments 04/20/2013 01:04 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Rosario Murphy

Apr 20, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. I live one block from this site. I have lived here for over 30 years. Periodically attempts have been made to reduce the stench and to reduce the waste disposal problem that plagues our community.

It is essential that the EPA insist upon retention tanks to control CSOs and to work with New York City towards the eventual goal of 100% elimination of CSOs from the Canal.

I support the EPA's commitment to dredge at least 10 feet of contaminated sediment from the entire length of the canal. They must build a multi-layer cap on the bottom, and treat and dispose of this contaminated sediment offsite. I also believe that the EPA should heed the wishes of the community in Red Hook who oppose the building of a CDF on the Red Hook waterfront to dispose of the least contaminated sediment.

Sincerely,
Rosaro Murphy

Sincerely,

Ms. Rosario Murphy
52 1st St
Brooklyn, NY 11231-5002

PRAP
patrianyc to: Region2 GowanusCanalComments 04/20/2013 01:12 PM
Please respond to patrianyc

Christos Tsiamis
Project Manager
Central New York Remediation Section
U.S. Environmental Protection Agency
290 Broadway, 20th Floor
New York, NY 1007-1866

Dear Mr. Tsiamis,

I am a co-op owner and resident of Carroll Gardens and am writing to you to give my full support to the PRAP.

As someone invested and living in this community for over 30 years I praise the total commitment you and your team have demonstrated for the health and safety of this community and your openness in working closely with the community to help us understand the full Superfund process.

Sincerely,

Patricia Constantino
40 Third Street, #4
Brooklyn, N.Y. 11231

Sent from my Samsung Epic™ 4G Touch

Comments on Gowanus Canal Proposed Plan

Lara Frater to: Region2 GowanusCanalComments 04/20/2013 03:34 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Lara Frater

Apr 20, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

While the EPA's plan takes the critical step of calling for CSO retention for two of the Canal's worst outfalls many details will not be solidified until New York City submits their CSO Long Term Control Plan in 2015. It is critical for the EPA to stand firm on requiring retention tanks to control CSOs and to work with New York City towards the eventual goal of 100% elimination of CSOs from the Canal.

I support the EPA's commitment to dredge as much as 10 feet of contaminated sediment from the entire length of the canal, build a multi-layer cap on the bottom, and treat and dispose of this contaminated sediment offsite. I also believe that the EPA should listen to the wishes of the community in Red Hook who oppose the building of a CDF on the Red Hook waterfront to dispose of the least contaminated sediment.

Sincerely,

Ms. Lara Frater
8949 Metropolitan Ave
Rego Park, NY 11374-5325
(718) 478-1773

I, the sender, vote that I do not want this project to proceed.

Paul Cowler to: Region2 GowanusCanalComments 04/20/2013 06:55 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

- Children
- Numerous public and private schools which use the fields for physical education & sports teams
- Residents of the Red Hook Houses and the surrounding neighborhood
- Soccer, softball, baseball, football, handball, basketball, track & field teams and enthusiasts
- Swimmers of all ages
- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--

Paul Cowler
Paulcowler@yahoo.com
84 Lorraine street. Apt1
Brooklyn , Ny
11231

Comments on Gowanus Canal Proposed Plan

Andrew Martin to: Region2 GowanusCanalComments 04/20/2013 09:34 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Andrew Martin

Apr 20, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

Hi,

I want to send a note in support of the EPA's proposed plan to clean up the Gowanus Canal Superfund site.

I am no expert on the specifics of what is required to make the Gowanus healthy and vibrant; however, I know that substantial, and possibly costly, action will be required to make it so.

As a New York and Brooklyn resident I express a strong desire to bring this contaminated and neglected waterway back to health.

Sincerely,

Mr. Andrew Martin
308 Knickerbocker Ave # 3
Brooklyn, NY 11237-3104
(718) 644-0021

April 21, 2013

Christos Tsiamis
Remedial Project Manager
Central New York Remediation Section
U.S. Environmental Protection Agency
290 Broadway, 20th Floor
New York, New York 10007-1866

Dear Christos Tsiamis

I am writing to provide my support in favor of the EPA PRAP (Proposed Remedial Action Plan) for the Gowanus Canal. As the Proposed Plan establishes methods for removal of contaminated sediments for the entire width of the canal to the depth of native sediment and to permanently and impermeably cover whatever might remain, and has identified ways to prevent re-contamination and halt future toxic inputs; I strongly support the EPA Proposed Plan to clean the Gowanus Superfund site.

Although I do not live near the Canal, I am aware of the issues and support the EPA's plan to clean it up.

Sincerely,

Bernice Haber

April 21, 2013

Christos Tsiamis
Remedial Project Manager
Central New York Remediation Section
U.S. Environmental Protection Agency
290 Broadway, 20th Floor
New York, New York 10007-1866

Dear Christos Tsiamis

I am writing to provide my support in favor of the EPA PRAP (Proposed Remedial Action Plan) for the Gowanus Canal. As the Proposed Plan establishes methods for removal of contaminated sediments for the entire width of the canal to the depth of native sediment and to permanently and impermeably cover whatever might remain, and has identified ways to prevent re-contamination and halt future toxic inputs; I strongly support the EPA Proposed Plan to clean the Gowanus Superfund site.

Although I do not live near the Canal, I am aware of the issues and support the EPA's plan to clean it up.

Sincerely,

SIDNEY KRUMHOLZ
350 First Avenue - 1C
New York, NY 10010

I support the EPA Gowanus Canal Superfund - Red Hook option.

The improvement to an active local maritime industrial business, the economic benefits it will bring, the jobs that it will create, are all important to me and what I believe is best for the majority of the community of Red Hook.

Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community are without harm or risk of such.

Please approve the Red Hook option.

(print)

Terona — first name
Brown — last name

476 Columbia — address
5A — apt.#

Brooklyn — city
New York — state
Brooklyn — state
11231 — zip

1347 384-2499 — area code & phone number

email

x Terona Brown — signature
4/21/13 — date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

Robert Puca to: Region2 GowanusCanalComments 04/21/2013 12:24 AM

History: This message has been replied to.

Dear Mr. Tsiamis:

Words cannot fully express my gratitude I have for you and your (Region 2) team. Your expertise and passion in doing the right thing to protect our environment and the overall health and safety of this community have been proven many times over with your dedicated and transparent commitment in working closely with us and helping us to understand the full Superfund process.

Scientifically technical and politically sensitive, you and your team were there to clarify and balance the differences and to unite a community toward a comprehensive cleanup so desperately and deservingly due.

To find a place you can call home is a rare find. To find a place with selfless, generous, caring community-minded people is a blessing. I have been fortunate to come across both and now triple-blessed to have you and your team a part of it.

I wholeheartedly support the PRAP and deeply believe and trust you and your team will thoroughly clean and protect the Gowanus Canal for us now and all future generations to come.

With the deepest respect and thanks,

Gowanus Canal
Grant Scribner to: Region2 GowanusCanalComments 04/21/2013 11:59 AM

April 21, 2013

Christos Tsiamis
Remedial Project Manager
Central New York Remediation Section
U.S. Environmental Protection Agency
290 Broadway, 20th Floor
New York, New York 10007-1866

Dear Christos Tsiamis,

I am writing to provide my support in favor of the EPA PRAP (Proposed Remedial Action Plan) for the Gowanus Canal. As the Proposed Plan establishes methods for removal of contaminated sediments for the entire width of the canal to the depth of native sediment and to permanently and impermeably cover whatever might remain, and has identified ways to prevent re-contamination and halt future toxic inputs; I strongly support the EPA Proposed Plan to clean the Gowanus Superfund site.

Although I do not live near the Canal, I am aware of the issues and support the EPA's plan to clean it up.

Sincerely,
Grant Scribner
3633 Weightman St.
Philadelphia, PA 19129

I, the sender, vote that I do not want this project to proceed.
Theresa Young to: Region2 GowanusCanalComments 04/21/2013 12:47 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

- Children
- Numerous public and private schools which use the fields for physical education & sports teams
- Residents of the Red Hook Houses and the surrounding neighborhood
- Soccer, softball, baseball, football, handball, basketball, track & field teams and enthusiasts
- Swimmers of all ages
- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--
Theresa Young
theresayoung@yahoo.com
149 Franklin Street #4F
Brooklyn, NY
Parks user

Comments on Gowanus Canal Proposed Plan

Raymond Murphy to: Region2 GowanusCanalComments 04/21/2013 05:07 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Raymond Murphy

Apr 21, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

While the EPA's plan takes the critical step of calling for CSO retention for two of the Canal's worst outfalls many details will not be solidified until New York City submits their CSO Long Term Control Plan in 2015. It is critical for the EPA to stand firm on requiring retention tanks to control CSOs and to work with New York City towards the eventual goal of 100% elimination of CSOs from the Canal.

I support the EPA's commitment to dredge as much as 10 feet of contaminated sediment from the entire length of the canal, build a multi-layer cap on the bottom, and treat and dispose of this contaminated sediment offsite. I also believe that the EPA should listen to the wishes of the community in Red Hook who oppose the building of a CDF on the Red Hook waterfront to dispose of the least contaminated sediment.

Sincerely,

Mr. Raymond Murphy
2043 E 35th St
Brooklyn, NY 11234-4921

Fw: Comments on the Gowanus Canal
Katherine Schwarz to: Region2 GowanusCanalComments 04/21/2013 08:46 PM
Please respond to Katherine Schwarz

April 21, 2013

Christos Tsiamis
Remedial Project Manager
Central New York Remediation Section
U.S. Environmental Protection Agency
290 Broadway, 20th Floor
New York, New York 10007-1866

Dear Christos Tsiamis

I am writing to provide my support in favor of the EPA PRAP (Proposed Remedial Action Plan) for the Gowanus Canal. As the Proposed Plan establishes methods for removal of contaminated sediments for the entire width of the canal to the depth of native sediment and to permanently and impermeably cover whatever might remain, and has identified ways to prevent re-contamination and halt future toxic inputs; I strongly support the EPA Proposed Plan to clean the Gowanus Superfund site.

Although I do not live near the Canal, I am aware of the issues and support the EPA's plan to clean it up.

Thank you for your attention in this matter,

Katherine Schwarz, MS, MPH
19 Bridge Street
Nyack, NY 10960

I, the sender, vote that I do not want this project to proceed.
Shari Pascarosa to: Region2 GowanusCanalComments 04/21/2013 08:56 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

- Children
- Numerous public and private schools which use the fields for physical education & sports teams
- Residents of the Red Hook Houses and the surrounding neighborhood
- Soccer, softball, baseball, football, handball, basketball, track & field teams and enthusiasts
- Swimmers of all ages
- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--
Shari Pascarosa
sharijb@gmail.com
158 Maple Street
Brooklyn, New York
REsident

I support the EPA Gowanus Canal Superfund - Red Hook option.

The improvement to an active local maritime industrial business, the economic benefits it will bring, the jobs that it will create, are all important to me and for the community of the Red Hook.

Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community is without harm or risk of such.

Please approve the Red Hook option.

(print)

BARON Goddard

first name last name

23 Dykeman St House

address apt.#

N.Y. N.Y. 11231

city state zip

—

area code & phone number

—

email

x B Goddard 4/22/13

signature date

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

I support the EPA Gowanus Canal Superfund - Red Hook option.

The improvement to an active local maritime industrial business, the economic benefits it will bring, the jobs that it will create, are all important to me and for the community of the Red Hook.

Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community is without harm or risk of such.

Please approve the Red Hook option.

(print)

Michelle (first name) Lugo (last name)

82 Dwight St (address) 7A (apt.#)

Bklyn (city) NY (state) 11231 (zip)

(area code & phone number)

(email)

x Michelle Lugo (signature) 4/22/2013 (date)

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

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The improvement to an active local maritime industrial business, the economic benefits it will bring, the jobs that it will create, are all important to me and what I believe is best for the majority of the community of Red Hook.

Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community are without harm or risk of such.

Please approve the Red Hook option.

(print)

Sean — first name
Green — last name

712 Henry Street — address
5-D — apt.#

Brooklyn — city
N. Y. — state
11231 — zip

(718) 643-1303 — area code & phone number

email

X _____ — signature
4-22-2013 — date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

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Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community are without harm or risk of such.

Please approve the Red Hook option.

(print)

K — first name

Hill — last name

11 Mill st — address

2D — apt.#

B'Klyn — city

NY — state

11231 — zip

_____ _____ — area code & phone number

_____ — email

X _____ — signature

4/22 — date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

R.R.

I support the EPA Gowanus Canal Superfund - Red Hook option.

The improvement to an active local maritime industrial business, the economic benefits it will bring, the jobs that it will create, are all important to me and what I believe is best for the majority of the community of Red Hook.

Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community are without harm or risk of such.

Please approve the Red Hook option.

(print)

Tynisha — first name
Cruz — last name

16 Mill St — address
1B — apt.#

Brooklyn — city
NY — state
11231 — zip

718 858 6819 — area code & phone number

TynishaCruz@aim.com — email

x Tynisha Cruz — signature
4/22/13 — date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

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Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community are without harm or risk of such.

Please approve the Red Hook option.

(print)

KATRINA — first name

JOYNER — last name

311 Centre Mall — address

5J — apt.#

Bklyn — city

NY — state

1123 — zip

347-285-5848 — area code & phone number

trina07joyner@yahoo.com — email

X Katrina Joyner — signature

4/22/13 — date

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

GowanusCanalComments.Region2@epa.gov

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Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community are without harm or risk of such.

Please approve the Red Hook option.

(print)

Priscilla — first name
Bush — last name

108 Mill st — address
1D — apt.#

Brooklyn — city
N.Y. — state
1123 — zip

917-202-1615
area code & phone number

trianna108@aol.com
email

x Priscilla Bush — signature
4/22-13 — date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

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Please approve the Red Hook option.

(print)

Vernon Dunkin

first name last name

365 Richard St 5A

address apt.#

Brooklyn N.Y. 11231

city state zip

_____ _____

area code & phone number

_____

email

X Vernon Dunkin 4/22

signature date

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

GowanusCanalComments.Region2@epa.gov

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Please approve the Red Hook option.

(print)

Erica Bodrick

first name last name

82 Dwight St

address apt.#

Brklyn n.y. 11231

city state zip

1917- 348 1242

area code & phone number

email

x Erica Bodrick 4-22

signature date

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

GowanusCanalComments.Region2@epa.gov

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Please approve the Red Hook option.

(print)

FAHeeM Bush

first name last name

426 Columbia St

address apt.#

BrooKLyN N.Y. 11231

city state zip

718 237 1974

area code & phone number

email

x Faheem Bush 4-22

signature date

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

GowanusCanalComments.Region2@epa.gov

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Please approve the Red Hook option.

(print)

Peter — first name
Cosme — last name

754 Henry St — address — apt.#

Brooklyn — city
N.Y. — state
11231 — zip

718 - 858-7952 — area code & phone number

email

X Peter Cosme — signature
4-22 — date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

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Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community are without harm or risk of such.

Please approve the Red Hook option.

(print)

Monique Williams
first name last name

80 Bush 3C
address apt.#

Brooklyn NY 11231
city state zip

347-725-4117
area code & phone number

email

x Monique Williams 4/12
signature date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

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Please approve the Red Hook option.

(print)

Miriam — first name
Williams — last name

80 Dwight St — address
7B — apt.#

BKLYN — city
NY — state
11201 — zip

_____ _____
area code & phone number

_____
email

x Miriam Williams — signature
4/22 — date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

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Please approve the Red Hook option.

(print)

L. Barkesdale

first name last name

88 Bwright St. 13D

address apt.#

Brooklyn NY 11231

city state zip

area code & phone number

email

x L. Barkesdale 4/27

signature date

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

I support the EPA Gowanus Canal Superfund - Red Hook option.

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Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community are without harm or risk of such.

Please approve the Red Hook option.

(print)

George — first name
Grey — last name

135 Richards St — address
#7C — apt.#

Brooklyn — city
NY — state
11231 — zip

(347) 474-3744 — area code & phone number

email

x _____ — signature
04/22/13 — date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

I support the EPA Gowanus Canal Superfund - Red Hook option.

The improvement to an active local maritime industrial business, the economic benefits it will bring, the jobs that it will create, are all important to me and what I believe is best for the majority of the community of Red Hook.

Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community are without harm or risk of such.

Please approve the Red Hook option.

(print)

Debbie — first name
Bowers — last name
101 Centre Mall — address
410 — apt.#
Brooklyn — city
NY — state
11231 — zip
1-347-405-0241 — area code & phone number
email
x Debbie Bowers — signature
4-22 — date

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

I support the EPA Gowanus Canal Superfund - Red Hook option.

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Please approve the Red Hook option.

(print)

Sean — first name

Henderson — last name

31 Centre Mall — address

apt.#

Brooklyn — city

W.V. — state

11231 — zip

area code & phone number

email

x Sean Henderson — signature

4/27 — date

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

GowanusCanalComments.Region2@epa.gov

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Please approve the Red Hook option.

(print)

Yvette — first name
Mosley — last name

624 Clinton St — address
6R — apt.#

Brooklyn — city
N.J — state
11231 — zip

_____ _____ — area code & phone number

_____ — email

x Yvette Mosley — signature
4.22.2013 — date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

R.P.

I support the EPA Gowanus Canal Superfund - Red Hook option.

The improvement to an active local maritime industrial business, the economic benefits it will bring, the jobs that it will create, are all important to me and what I believe is best for the majority of the community of Red Hook.

Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community are without harm or risk of such.

Please approve the Red Hook option.

(print)

Rawle (first name) Williams (last name)

85 Lorraine
address apt.#

Brooklyn (city) NY (state) 11231 (zip)

area code & phone number

1-347-855-0781
email

x Rawle S Williams (signature) 4/22/2013 (date)

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

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Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community are without harm or risk of such.

Please approve the Red Hook option.

(print)

Lawrence Silva

first name | last name

Brooklyn

address | apt.#

9 Lorraine St | N.Y. | 45

city | state | zip

Bklyn

area code & phone number

email

X _____ 4/22

signature | date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

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Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community are without harm or risk of such.

Please approve the Red Hook option.

(print)

MARLON WOODS
first name last name

=52 HENRY 3A
address apt.#

BKLYN N.Y 11231
city state zip

718 858-6905
area code & phone number

email

x Marlon Woods 6/22
signature date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

I support the EPA Gowanus Canal Superfund - Red Hook option.

The improvement to an active local maritime industrial business, the economic benefits it will bring, the jobs that it will create, are all important to me and what I believe is best for the majority of the community of Red Hook.

Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community are without harm or risk of such.

Please approve the Red Hook option.

(print)

John — first name
Reed — last name

65 Dash Street — address
6E — apt.#

Brooklyn — city
NY — state
11231 — zip

646-342-9905 — area code & phone number

email

x John Reed — signature
4/22/13 — date

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Please approve the Red Hook option.

(print)

Quanisha Perez
first name last name

414 Columbia St 2D
address apt.#

Brooklyn NY 11231
city state zip

917 669-1916
area code & phone number

dadondivaBK@aol.com
email

x [signature] 4-22-13
signature date

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Please approve the Red Hook option.

(print)

Evaristo — first name
Garcia J.R — last name

87 Lorraine St — address
5C — apt.#

BK — city
N.Y — state
11231 — zip

1347 334-0684 — area code & phone number

email

x Evaristo Garcia Jr — signature
4-22-13 — date

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Please approve the Red Hook option.

(print)

Samantha Muray

first name last name

626 Clinton St 6E

address apt.#

Brooklyn NY 11231

city state zip

347 889-4745

area code & phone number

SamanthaM718@yahoo.com

email

x Samantha Muray 4-22-13

signature date

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Please approve the Red Hook option.

(print)

Daryl — first name
Aponte — last name

1370 Madison St. — address
1 — apt.#

Brooklyn — city
N.Y. — state
11237 — zip

347-984-2838
area code & phone number

Daryl Aponte 13@aol.com
email

x Daryl Aponte — signature
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Please approve the Red Hook option.

(print)

Dawn _____

first name

_____

last name

85 Lorraine St 1B

address

apt.#

_____ _____ _____

city state zip

317 777-3157

area code & phone number

_____

email

x Dawn Bapst 4.22.13

signature date

mail:

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Please approve the Red Hook option.

(print)

TERRANCE ATKINSON

first name last name

108 MILL ST SC

address apt.#

BKLYN NY 11231

city state zip

342 491-1732

area code & phone number

email

X _____ 4/22/13

signature date

mail:

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Please approve the Red Hook option.

(print)

Michael — first name
Rosa — last name

442 Columbia St — address
4B — apt.#

Brooklyn — city
NY — state
11231 — zip

1347-937-4337
area code & phone number

mikeYAKAMKL16@gmail.com
email

x Michael Rosa — signature
4/22/13 — date

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Please approve the Red Hook option.

(print)

Lorraine C. — first name
Square — last name

189 Richards Street — address
apt.#

Brooklyn — city
N.Y. — state
11231 — zip

347 471-3601 — area code & phone number

Lorraine.Square@gmail.com — email

x Lorraine Square — signature
4-22-13 — date

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Please approve the Red Hook option.

(print)

Isabella Mellon

first name last name

11 Lorain St 2C

address apt.#

Brooklyn, N.Y 11231

city state zip

area code & phone number

email

x [signature] 4/22

signature date

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Please approve the Red Hook option.

(print)

first name: Carrie

last name: Major

address: 11 Bush

apt.# 3D

city: Brooklyn

state: N.Y.

zip: 11231

area code & phone number:

email:

x Carrie Major

signature

4/22

date

mail:
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Please approve the Red Hook option.

(print)

Nathaniel — first name
mack — last name

9 Lorraine — address
3E — apt.#

Brooklyn — city
NY — state
1123 — zip

_____ _____ — area code & phone number

BBmack428@yahoo.com — email

x Nathaniel Mack — signature
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Please approve the Red Hook option.

(print)

Nigsia — first name
Fonseca — last name

442 Columbia St — address
5C — apt.#

Brooklyn — city
NY — state
11231 — zip

718 600-4748 — area code & phone number

email

x N. Fonseca — signature
4-22-13 — date

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Please approve the Red Hook option.

(print)

Jose — first name
Serrano — last name
34 W 9th St — address
1-B — apt.#
Brooklyn — city
N.Y — state
11231 — zip
347 768 0300 — area code & phone number
CHEM01@MSN.com — email
x Jose M Serrano Jr. — signature
4/22/13 — date

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Please approve the Red Hook option.

(print)

Shayna (first name) Stevens (last name)

34 W 9th Street (address) 1B (apt.#)

Brooklyn (city) NY (state) 11231 (zip)

347 786-0302 (area code & phone number)

stevensshayna@yahoo.com (email)

x Shayna Stevens (signature) 4/22/13 (date)

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Please approve the Red Hook option.

(print)

Joshua Morales
first name last name

36 West 9st
address apt.#

Brooklyn NY 11231
city state zip

_____ _____
area code & phone number

_____
email

X _____ 4/27/13
signature date

mail:
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Please approve the Red Hook option.

(print)

Stephanie Rodriguez
first name last name

36 W 9th St
address apt.#

Bklyn NY 11231
city state zip

_____ _____
area code & phone number

_____
email

x S Rodriguez 4/22/13
signature date

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Please approve the Red Hook option.

(print)

Jose — first name
Vasquez — last name

445 Columbia St — address
6A — apt.#

Brooklyn — city
NY — state
11231 — zip

1347 693 2929 — area code & phone number

HAZEDiFF360@Yahoo.com — email

X _____ — signature
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Please approve the Red Hook option.

(print)

Silton Goddard

first name last name

65 Bush St 3C

address apt.#

Brooklyn N.Y. 11231

city state zip

area code & phone number

email

X S. Goddard 4/22

signature date

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Please approve the Red Hook option.

(print) Nicole Safi

first name last name

100 Centre Mall

address apt.#

Brooklyn NY 11231

city state zip

area code & phone number

email

X Nicole Safi 4-22

signature date

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Please approve the Red Hook option.

(print)

Deron (first name) Sprinkle (last name)

486 columbia Street (address) SA-B (apt.#)

Brooklyn (city) NY (state) 11231 (zip)

347- 512-0473 (area code & phone number)

Prince2D15@gmail.com (email)

x Deron Sprinkle (signature) 4/22/13 (date)

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Please approve the Red Hook option.

(print)

Charisse (first name) Valerie (last name)

95 Centre Mall (address) 3D (apt.#)

Brooklyn (city) NY (state) 11231 (zip)

718 790-2916 (area code & phone number)

CValrie@yahoo.com (email)

x Charisse Valerie (signature) 4/22/12 (date)

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Please approve the Red Hook option.

(print)

Louie (first name) Vega (last name)

17 Lorraine (address) 1A (apt.#)

Bklyn (city) N.Y. (state) 11231 (zip)

_____ _____
area code & phone number

_____
email

x Louie Vega (signature) 4/22 (date)

mail:
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Please approve the Red Hook option.

(print)

Richard — first name
Hertzog — last name

631 Hicks St. — address
6P — apt.#

Brklyn — city
NY — state
11231 — zip

(718) 522-4012 — area code & phone number

email

x Richard Hertzog — signature
4/22/13 — date

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Please approve the Red Hook option.

(print)

Sabrina (first name) Grant (last name)

149 Richard St (address) 3B (apt.#)

Brooklyn (city) NY (state) 11231 (zip)

347 314-9527 (area code & phone number)

Brinja0914@gmail.com (email)

X Sabrina Grant (signature) 04/22/13 (date)

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Please approve the Red Hook option.

(print)

Trisha Brown

first name last name

70 Bush st 2P

address apt.#

Bklyn NY 11231

city state zip

718 775-2685

area code & phone number

email

X _____ 4/22/13

signature date

mail:

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212 637 3966

email:

GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

I support the EPA Gowanus Canal Superfund - Red Hook option.

The improvement to an active local maritime industrial business, the economic benefits it will bring, the jobs that it will create, are all important to me and what I believe is best for the majority of the community of Red Hook.

Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community are without harm or risk of such.

Please approve the Red Hook option.

(print)

ALAN — first name
BULLUS — last name

38 Bush St — address
6C — apt.#

BROOKLYN — city
NY — state
11231 — zip

718 260-8955 — area code & phone number

email

x _____ — signature
4-26-13 — date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

I support the EPA Gowanus Canal Superfund - Red Hook option.

The improvement to an active local maritime industrial business, the economic benefits it will bring, the jobs that it will create, are all important to me and what I believe is best for the majority of the community of Red Hook.

Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community are without harm or risk of such.

Please approve the Red Hook option.

(print)

Domonique Mayfield
first name last name

770 Henry St 2d
address apt.#

Brooklyn _____ 11231
city state zip

518 364-7651
area code & phone number

nyesmaimayfield@yahoo.com
email

X Domonique Mayfield 04/22/13
signature date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

I support the EPA Gowanus Canal Superfund - Red Hook option.

The improvement to an active local maritime industrial business, the economic benefits it will bring, the jobs that it will create, are all important to me and what I believe is best for the majority of the community of Red Hook.

Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community are without harm or risk of such.

Please approve the Red Hook option.

(print)

AARON — first name

STEWART — last name

~~114 E 55 St Brklyn~~ 135 Richards St. #4 — address / apt.#

Brooklyn — city

_____ — state

_____ — zip

(347) (455) 7007 — area code & phone number

_____ — email

X _____ — signature

4-22-13 — date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

I support the Red Hook Option of the EPA Gowanus Canal Superfund cleanup.

The improvement to an active local maritime industrial business, the economic benefits it will bring, the jobs that it will create, are all important to me and what I believe is best for the majority of the community of Red Hook.

Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community are without harm or risk of such.

Please approve the Red Hook option.

(print)

Kanya Russell

first name last name

22 mill street 6a

address apt.#

Brooklyn NY 1123

city state zip

718 406-7893

area code & phone number

email

I am 18 years of age or older

x Kanya Russell 4/22/13

sign date

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE APRIL [illegible]

MR

Comments on Gowanus Canal Proposed Plan

Margaret Ellis to: Region2 GowanusCanalComments 04/22/2013 11:39 AM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Margaret Ellis

Apr 22, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

While the EPA's plan takes the critical step of calling for CSO retention for two of the Canal's worst outfalls many details will not be solidified until New York City submits their CSO Long Term Control Plan in 2015. It is critical for the EPA to stand firm on requiring retention tanks to control CSOs and to work with New York City towards the eventual goal of 100% elimination of CSOs from the Canal.

I support the EPA's commitment to dredge as much as 10 feet of contaminated sediment from the entire length of the canal, build a multi-layer cap on the bottom, and treat and dispose of this contaminated sediment offsite. I also believe that the EPA should listen to the wishes of the community in Red Hook who oppose the building of a CDF on the Red Hook waterfront to dispose of the least contaminated sediment.

Sincerely,

Miss Margaret Ellis
460 Sackett St
Brooklyn, NY 11231-5019

Comments on Gowanus Canal Proposed Plan

Circe Skaife to: Region2 GowanusCanalComments 04/22/2013 11:39 AM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Circe Skaife

Apr 22, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

While the EPA's plan takes the critical step of calling for CSO retention for two of the Canal's worst outfalls many details will not be solidified until New York City submits their CSO Long Term Control Plan in 2015. It is critical for the EPA to stand firm on requiring retention tanks to control CSOs and to work with New York City towards the eventual goal of 100% elimination of CSOs from the Canal.

I support the EPA's commitment to dredge as much as 10 feet of contaminated sediment from the entire length of the canal, build a multi-layer cap on the bottom, and treat and dispose of this contaminated sediment offsite. I also believe that the EPA should listen to the wishes of the community in Red Hook who oppose the building of a CDF on the Red Hook waterfront to dispose of the least contaminated sediment.

Sincerely,

Miss Circe Skaife
474 Sackett St
Brooklyn, NY 11231-5019

Comments on Gowanus Canal Proposed Plan

Kara Matthews to: Region2 GowanusCanalComments 04/22/2013 01:39 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Kara Matthews

Apr 22, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community. As a New York City kayaker, I am particularly interested in seeing the Canal cleaned. Pollution in the Canal affects all of our local waterways.

While the EPA's plan takes the critical step of calling for CSO retention for two of the Canal's worst outfalls many details will not be solidified until New York City submits their CSO Long Term Control Plan in 2015. It is critical for the EPA to stand firm on requiring retention tanks to control CSOs and to work with New York City towards the eventual goal of 100% elimination of CSOs from the Canal.

I support the EPA's commitment to dredge as much as 10 feet of contaminated sediment from the entire length of the canal, build a multi-layer cap on the bottom, and treat and dispose of this contaminated sediment offsite.

Sincerely,

Mrs. Kara Matthews
4519 42nd St Apt 3f
Sunnyside, NY 11104-2922

Comments on Gowanus Canal Proposed Plan

Gail Schleiter to: Region2 GowanusCanalComments 04/22/2013 04:10 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Gail Schleiter

Apr 22, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

While the EPA's plan takes the critical step of calling for CSO retention for two of the Canal's worst outfalls many details will not be solidified until New York City submits their CSO Long Term Control Plan in 2015. It is critical for the EPA to stand firm on requiring retention tanks to control CSOs and to work with New York City towards the eventual goal of 100% elimination of CSOs from the Canal.

I support the EPA's commitment to dredge as much as 10 feet of contaminated sediment from the entire length of the canal, build a multi-layer cap on the bottom, and treat and dispose of this contaminated sediment offsite. I also believe that the EPA should listen to the wishes of the community in Red Hook who oppose the building of a CDF on the Red Hook waterfront to dispose of the least contaminated sediment.

Sincerely,

Ms. Gail Schleiter
103 Macdougal St Apt 20
New York, NY 10012-1217

THE CITY OF NEW YORK
COMMUNITY BOARD SIX

Marty Markowitz
Borough President

Daniel M. Kummer
Chairperson

Craig Hammerman
District Manager

April 23, 2013

Christos Tsiamis
Remedial Project Manager
Central New York Remediation Section
U.S. Environmental Protection Agency
290 Broadway, 20th floor
New York, New York 10007-1866

Re: Proposed Remedial Action Plan for Gowanus Canal Superfund Site

Dear Mr. Tsiamos:

I am writing to advise you that at its April 8, 2013 general meeting Brooklyn Community Board 6 resolved unanimously to conditionally approve of the Environmental Protection Agency's (EPA's) Proposed Remedial Action Plan (PRAP) for the Gowanus Canal Superfund Site in our district, as released by the agency in December 2012, and to submit the following comments concerning the PRAP in connection with the current public comment process.

Before turning to the substance of our comments, it is important that we take a moment to acknowledge the extraordinary lengths, depths and breadths you and your colleagues have gone to in working with us and our community. Many members of our community have commented on the energy, care and accessibility your team has demonstrated by attending numerous meetings, patiently educating us and generally raising awareness about the importance of remediating the Gowanus Canal environment. We also commend the EPA for adhering to the timeframes it projected when it launched this undertaking. The speed, accessibility and transparency with which the EPA has approached this project has set a high bar and a great example to which other agencies and projects should aspire.

The following substantive comments are primarily the result of careful consideration, discussion and drafting by the dedicated members of our Environmental Protection Committee and our District Office staff. However, it is also important to note that in submitting these comments, we are not writing on a blank slate. Indeed, many of the comments below are drawn from or built upon prior resolutions and positions that Brooklyn CB6 has taken in a variety of contexts as we have dealt with Gowanus Canal issues and proposals. Some of our comments are presented in the form of questions to which we respectfully request that EPA provide responses in due course.

1. Our initial comments concern the EPA's remedial action objectives (PRAP, page 15):

Comment 1(A): *We generally concur with the EPA's Remedial Action Objectives, with the exceptions noted in the next two comments.*

Comment 1(B): *Brooklyn CB6 has consistently supported Gowanus Canal water quality improvement to SC (secondary contact) standards with regular pathogen monitoring. We urge the City, State and Federal government to commit that this will be the standard achieved for water quality in the Canal.*

Comment 1(C): *We are very concerned that this PRAP may not eliminate migration of Nonaqueous Phase Liquid (NAPL) into the canal, nor prevent/minimize NAPL serving as a source of future contamination, given that (i) two of the three Manufactured Gas Plant (MGP) sites do not have remedial plan commitments, and (ii) the dredge/cap options do not include native sediment, where NAPL is found in its greatest concentration.*

2. With regard to the proposed Remedial Action Alternatives relating to Dredging/Capping Sediment Alternatives (PRAP, page 18, pp 20-22):

Comment 2(A): *NAPL that is less dense than water, or LNAPL, has a tendency to rise to the height of the water table over time. The majority of the NAPL constituents are LNAPL, and it was found to be in greatest concentration in the native sediment in RTA 2. We question why all of the remedies only suggest going as deep as the soft sediment and not include portions of the native sediment where NAPL may be a source of recontamination over time; we have no assurances that the treatment, isolation and armor layers as generically described will be effective. We would like more specificity regarding the layers, particularly the type(s) of treatment that would be considered for this location.*

Comment 2(B): *Capital Costs include assumption that cost of bulkhead upgrade/stabilization will be included (Table 9, Note 1). We assume these costs to be expensive. We believe that Potentially Responsible Parties (PRPs) should bear those costs, and that non-PRP property owners should not have to shoulder the cost of bulkhead work that is necessary because of the remedies selected, and would like assurances that non-PRPs will not be responsible for them.*

Comment 2(C): *Bulkhead upgrade and stabilization work also has the potential to be extremely disruptive to existing property owners and businesses. What is the plan for minimizing interruptions to existing businesses and compensating for temporary relocations if needed, business losses and other undue negative economic impacts?*

Comment 2(D): *We urge the integration of soft edges as an alternative to metal bulkheads wherever practicable, and the introduction of flora and fauna appropriate for the absorption of run-off and natural treatment of contaminants and toxins that may be present.*

Comment 2(E): *We understand that the PRP's under EPA oversight will be responsible for contracting the actual remediation work. In that connection, we highlight that Brooklyn CB6 has a responsible development policy which recommends, among other things, the use of local*

and diverse contractors, local hiring, prevailing wages, employing green practices, etc. To the extent practicable, we urge the EPA to insist that any work done under this remedial action plan adheres to the Brooklyn CB6 Responsible Development Policy (attached).

Comment 2(F): *We ask that the EPA ensure that the community is meaningfully involved in the siting and ultimate selection of any upland staging area(s) that would be used as part of the PRAP. It is our strong view that criteria for the selection of staging areas should include (i) minimizing negative impacts on surrounding communities, and (ii) not impeding progress on any other existing and contemplated projects. We also request more descriptive detail concerning the actual dredging and treatment operations.*

Comment 2(G): *In considering proposed remedial alternatives, the lack of access to professional and objective technical assistance for members of our community in Gowanus and in the adjacent Red Hook community, especially at this critical juncture, has become a significant constraint. We would appreciate a written response to the Technical Assistance Grant application that we previously submitted through Friends of Brooklyn CB6, Inc. (the Community Board's affiliate 501c3 organization), which would have given us access to such resources.*

3. With regard to the proposed Remedial Action Alternatives relating to Sediment Treatment/Disposal Options (PRAP, pages 18-19; 20-24):

Comment 3(A): *We regret that there has not been a greater opportunity to engage the broader community to fully understand and explore the impacts of the various options on our neighborhoods. There remains considerable opposition, and lack of community acceptance, to on-site stabilization and treatment, especially in the absence of any well-defined public benefits that the impacted community would derive.*

Comment 3(B): *Is there a limitation, a radius, on how far the dredged sediment could be transported to a local, on-site dewatering and transfer facility? Who would own/operate/monitor the dewatering and transfer facility? What are the associated impacts from such an operation?*

Comment 3(C): *It becomes somewhat of an academic exercise to consider Options A, B and C without factoring in the surrounding context as a frame of reference. To that extent, we are curious and would like to know what sites were under active consideration and what criteria the EPA uses to evaluate them.*

Comment 3(D): *Can the end product from Options D and E be used locally in flooding remediation projects (like the DEP high-level storm sewer Capital project), distributed green infrastructure projects (like the construction of bioswales, etc.), and other Capital projects similarly supported and requested by Brooklyn CB6 to reduce project costs? Can it be used for construction of other projects under consideration as Source Control Remedial Components (such as in-line storage tanks, etc.) and associated impacts from former Manufactured Gas Plant remediation efforts (such as a replacement pool facility, etc.)? Knowing the ultimate end use possibilities would better illustrate any possible public benefits and give the community vital information to make better, informed recommendations.*

Comment 3(E): *Does having an abundance of construction product available to the community under Options D and E make the necessary Capital work in the Gowanus area more attractive to the City as a cost-savings? Who owns the product? Can it be given back to the community in the form of making it available for Capital projects?*

Comment 3(F): *The Confined Disposal Facility (CDF) in Options F and G would only be considered further based on community acceptance and approval by NYSDEC and other agencies. "Community acceptance" is a highly subjective measure. How will the EPA evaluate and measure "community acceptance"?*

Comment 3(G): *Of the three concrete mixing facilities located at the canal, two have expressed an interest in providing stabilization services for the project (PRAP, page 24). How will EPA evaluate them? Can the stabilization services component be subject to the same applicable provisions of the Brooklyn CB6 Responsible Development Policy in terms of hiring locally, use of local and diverse contractors, prevailing wages, green practices, etc.?*

Comment 3(H): *With regard to Option G, how will the EPA guarantee that the public is protected from possible exposure pathways being created by the impact of storm and tidal surge events on the on-site processing equipment at the CDF? Who owns the existing waterbody at the CDF? Could an equal amount of land at the north end of the CDF property be ceded to the Parks Department and become part of the existing public park as a public benefit? What is the public benefit in the current concept? Can the CDF activities be subject to the same applicable provisions of the Brooklyn CB6 Responsible Development Policy in terms of local hiring, use of local contractors, prevailing wages, green processes, etc.? What are the costs and the benefits of Option G, specifically with regard to the impact and the risks of the CDF on the Red Hook community?*

4. With regard to the proposed Remedial Action Alternatives relating to the Manufactured Gas Plant Source Control Measures (PRAP page 19):

Comment 4(A): *As noted above in Comment 2A, LNAPL was found to be in greatest concentration in the native sediment in RTA 2, particularly in areas around the three MGP sites. Without knowing the MGP remedies, there is no way to ensure that the elimination of NAPL migration into the canal will be accomplished, which are two of the EPA's Remedial Action Objectives. How will the EPA guarantee that its remedial strategies will effectively prevent or minimize the recontamination of the canal without having remedial commitments in place for all three MGP sites?*

Comment 4(B): *What contingencies will the EPA be prepared to employ in the event of subsequent recontamination coming from MGP sites? What role will the EPA play in the future monitoring of this potential source of recontamination?*

Comment 4(C): *What is the statute of limitations for how long a potential responsible party is responsible after the oversight agency has signed off on their proposed remedy and it has been implemented?*

5. With regard to the proposed Remedial Action Alternatives relating to Combined Sewer Overflow (CSO) Solids Control Measures (PRAP, pages 19-20):

Comment 5(A): *On its face, the proposed use of large in-line storage tanks appears to have great merit; however, to fully and fairly evaluate this concept, we request additional information about the proposed in-line storage tanks, including, at a minimum, (i) a detailed explanation how their respective recommended sizes were determined, (ii) projections modeling their anticipated impact on retaining CSO solids, and (iii) a basis for cost estimates.*

Comment 5(B): *If in-line storage tanks are added to the City's existing sewage infrastructure we request inclusion of other beneficial elements that would add further value to the system, such as deodorization treatment and other possible in-vessel pre-treatments.*

Comment 5(C): *Brooklyn CB6 finds the separation of CERCLA remedies from CWA concerns troubling and invites an even more aggressive approach to CSO abatement provided that sufficient modeling and justification is presented and included in the discussion. To that end, what influences will EPA have over the development of an LTCP that fully reflects the community's goals, particularly as it applies to water quality standards?*

Comment 5(D): *Can the EPA insist that a "demand response" campaign be included amongst the proposed remedies to raise awareness, affect normative behaviors, and include a community action component to reduce CSO impacts? Can the EPA demonstrate its support by making resources available to implement such a campaign?*

Comment 5(E): *If an in-line storage tank is sited at the Thomas Greene Park and Douglass-Degraw Pool, will the EPA help offset the resulting temporary loss of access to this public facility?*

6. Lastly, with regard to the EPA's Proposed Remedies by Remedial Target Areas (PRAP, pages 29-31?):

Comment 6(A): *Brooklyn CB6 would like to see the Fifth Street Basin included in the scope of the remedial action plan for environmental remediation as it was originally an integral part of the canal and its inclusion would eliminate its potential as a source of recontamination in the future.*

Comment 6(B): *Overall, Brooklyn CB6 would like to support the PRAP, but cannot yet endorse the plan fully without addressing the many concerns and unanswered questions raised in our comments. In particular, we are not convinced that the disposal options as set forth in Options D and G are appropriate, without a clear demonstration of community acceptance for either option. We believe the EPA must first offer a positive finding that the social, economic and political implications of each option have been considered so that this exercise becomes more about real, contextual community planning.*

* * *

Thank you for the opportunity to comment on the PRAP. Again, we deeply appreciate the EPA's efforts to date and look forward to our continued work together on this critical long-term remedial project.

Sincerely,

/ S /

Daniel M. Kummer
Chairperson

cc: Hon. Michael Bloomberg
Hon. Marty Markowitz
Hon. Charles E. Schumer
Hon. Kirsten Gillibrand
Hon. Nydia Velázquez
Hon. Jerrold Nadler
Hon. Joan Millman
Hon. Félix Ortiz
Hon. Velmanette Montgomery
Hon. Eric Adams
Hon. Steve Levin
Hon. Sara M. Gonzalez
Hon. Brad Lander
Deputy Mayor Caswell Holloway
Judith A. Enck, Admininstrator, EPA/Region 2
Venetia Lannon, Region Director, NYS DEC/Region 2
President Seth W. Pinsky, NYC EDC + SIRR
Commissioner Carter Strickland, NYC DEP
Commissioner Veronica M. White, NYC DPR
Daniel Walsh, Director, NYC OER

Brooklyn Community Board 6
RESPONSIBLE DEVELOPMENT POLICY

Adopted by a unanimous vote of the Community Board at its December 9, 2009 general meeting; Revised at its February 9, 2011 general meeting

WHEREAS Brooklyn Community Board 6 is deeply concerned about the quality of life, health and safety, the quality of construction, and working conditions and employment opportunities on construction projects in our district, the preservation of the "essential character of the community", and our environment, and the avoidance of actions "detrimental to the public welfare"; and

WHEREAS, too often, our community has seen developers, contractors and subcontractors who violate the health, safety, buildings, noise, and workplace laws and standards of New York City, jeopardize the health and lives of their workers, and permit dangerous and severe nuisances for adjacent property owners; and

WHEREAS we believe that responsible developers and contractors can deliver quality construction projects and operate quality developments to benefit and not unnecessarily harm the community or the environment; and

WHEREAS governing law contemplates a broad role for the Community Board in weighing the interests of public welfare within its community district regarding land use, development and improvement matters ("Land Use Matters") in general, and in particular regarding Land Use Matters that come before the Community Board for findings and recommendations in connection with an application for a variance, a zoning change, an amendment of an urban renewal plan, a disposition of City-owned property or another action under the City's Uniform Land Use Review Procedures ("ULURP")[1];

COMMUNITY BOARD 6 of the BOROUGH OF BROOKLYN hereby RESOLVES to encourage all developers, contractors, subcontractors, architects, and engineers working in our district to abide by as many of the Responsible Development Standards outlined below as possible, to the greatest extent possible, with the understanding that it may not be possible to meet all standards due to the cost constraints inherent in particular

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[1] The Community Board, as the first of its many enumerated duties, must "consider the needs of the district which it serves" (Charter of the City of New York, Chapter 70, Section 2800(d)(1)).

The Community Board exercises "the initial review of applications and proposals of public agencies and private entities for the use, development or improvement of land located in the community district, including the conduct of a public hearing and the preparation and submission to the city planning commission of a written recommendation" (City Charter, Chapter 70, Section 2800(d)(17)).

The Community Board and, in turn, the Board of Standards and Appeals, in reviewing any application for a variance of zoning provisions governing such land use, must make specific findings "so that the spirit of the law shall be observed, public safety secured, and substantial justice done" (Zoning Resolution of the City of New York, Article VII, Chapter 2, Section 72-21). The "Board of Standards and Appeals may prescribe such conditions or restrictions applying to the grant of a variance as it may deem necessary in the specific case, in order to minimize the adverse effects of such variance upon other property in the neighborhood" (Zoning Resolution, Article VII, Chapter 2, Section 72-22).

Among the specific findings required as a condition to the grant of any such variance is "that the variance, if granted, will not alter the essential character of the neighborhood or district in which the zoning lot is located; will not substantially impair the appropriate use or development of adjacent property; and will not be detrimental to the public welfare" (Zoning Resolution, Article VII, Chapter 2, Section 72-21(c)).

projects, and with the understanding that fulfillment of some of the standards may involve tradeoffs that make fulfillment of other standards difficult or impossible to attain.

COMMUNITY BOARD 6 hereby further RESOLVES, in connection with any Land Use Matter involving new construction, substantial renovations or additions totaling at least 10,000 square feet that comes before it for findings and recommendations in connection with an application for a variance, a zoning change, an amendment of an urban renewal plan, a disposition of City-owned property or another action under ULURP, Community Board 6 shall take the following actions (collectively, the "Large Project Review Process"):

1. request information from the applicant regarding the extent to which the applicant intends to comply, and has complied, with the standards herein, with respect to the applicant, the developer, the contractor, the subcontractors, the architect, and the engineer, including information documenting their respective track records; and

2. request that the applicant make a commitment that it, the developer, the contractor, the subcontractors, the architect, and the engineer will comply with these Responsible Development Standards to the greatest possible extent (subject to the limitations expressed above); and

3. ask the applicant to identify the developer, the contractor, major subcontractors, the architect, and the engineer, at the time of the application, rather than after project approval; but where this is not feasible, to ask the applicant and developer to commit to selecting responsible contractors, architects, and engineers; require contractors to select responsible subcontractors; and provide CB6 with documentation of compliance, when determined; and

4. consider such information and the track records of the applicant and the developer, contractor, subcontractors, architect, and engineer, in each case to the extent that they relate to safety issues, in determining whether the intended course of action may be detrimental to the public welfare or instead likely to secure public safety and minimize adverse effects on our district.

To facilitate the Large Project Review Process, Community Board 6 will ask the applicants and developers to submit documentation to the Community Board documenting their track records and commitment, and that of their contractor, major subcontractors, architect, and engineer in the areas above. Where possible, we will accept and consider reports, licensing, registration, or other information provided by the relevant parties to the City of New York, or collected and provided by the City. In each of these areas, we are looking for both a documented track record, and a stated commitment to operate in a responsible way on the project.

Flexibility in documenting a multi-year track record will be given to new businesses which provide evidence of commitment to these Responsible Development Standards, but do not yet have a multi-year track record. Construction managers (and others who shall perform a role similar to, or in supervision of, a general contractor) should be treated as contractors for all purposes under these Responsible Development Standards.

CB6 shall make a form with a checklist for this policy available on its website, so that applicants and developers can learn of it as early as possible, and shall advise applicants of this policy at the initial meeting (if one is held prior to the official review process), or as soon as we receive notice that an application has been filed with a public agency. Applicants and developers should submit their responses in writing at least one (1) week prior to the Land Use or other CB6 committee meeting at which the project will be reviewed, including copies of all responses and attachments by email, so that they may forwarded easily to committees.

If information is not supplied, we may consider that failure in making our findings and recommendations.

Responsible Development Standards

Category	Evidenced by:
Experience/ capacity	• Track record of successfully performing the services at issue, on projects of similar size and scope. • References from other communities that provide evidence of past compliance with these standards.
Compliance with local laws	• A history (generally of at least five years) of, and a commitment to, complying with applicable public laws, including health and safety, wage & hour, insurance and bonding, and anti-discrimination/equal employment opportunity laws.
Good neighbor policies	• A commitment to meeting with neighboring residents and businesses on a regular basis to discuss and plan schedules, equipment routings, traffic impacts, and other disruptions, and the handling of complaints. • A 24-hour contact number for neighbors • A commitment to notify local precincts of street closures well in advance. • References from other communities that provide evidence of past compliance with these standards.
Construction safety	• A track record of, and commitment to, operating worksites that are safe and healthy, for both workers and neighbors, as evidenced by OSHA-10 (all workers) and OSHA-30 (supervisors) forms, as well as other information provided by the City, State, or Federal government.
Wage & benefits standards	• A track record of, and a commitment to, paying prevailing wages and benefits, area-standard wages & benefits, or living wages & benefits, as applicable.
Hiring & training	• Documented participation (and commitment to continued participation) in New York State-certified apprenticeship programs in trades in which they are working. • A track record of, and commitment to, giving local residents, women, and minorities an affirmative opportunity to obtain and retain employment.
Disclosure	• Willingness to disclose the necessary information for the community board to consider the applicant/developer/contractor's track record and commitment to these Responsible Development Standards.
Union contractor or comparable safety records	• Establishment of safe worksites, appropriate safety training, and fair worker treatment (including an opportunity for workers to organize and express grievances), to ensure compliance with safety rules and safe working conditions.
Locally-owned and locally-based businesses	• Support the use of local contractors and other businesses to maximize the positive economic impact of development investment in our community, and make it more likely that local employees will be hired.
Affirmative opportunities	• Support women-owned, minority-owned and veteran-owned, developers, contractors, subcontractors, architects, engineers, and other businesses.
Affordable housing	• Wherever possible, incorporate affordable housing to the greatest extent possible.
Contextual development; commercial and residential streets	• Development should fit in with its surroundings in a reasonable manner. • We encourage active streetscapes on commercial blocks, and encourage the maintenance of quiet residential side streets.
Environmental Impact/Sustainability	• Compliance with the standards of applicable green rating programs, such as the Energy Star Plus Indoor Air Package; Energy Star Advanced New Home Construction; Enterprise Green Communities Initiative; NAHB Green Building Standards; and/or the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED) Certification program.

BROOKLYN ECONOMIC DEVELOPMENT CORPORATION

April 23, 2013

Christos Tsiamis
Project Manager
Central New York Remediation Section
U.S. Environmental Protection Agency
290 Broadway, 20th Floor
New York, New York 10007-1866

Dear Mr. Tsiamas:

On behalf of Brooklyn Economic Development Corporation (BEDC), I am writing to support the GBX/Gowanus Bay Terminal proposal for treating and disposing of the sludge removed from the Gowanus Canal.

When the determination of the Canal as a Superfund site was first promulgated, I had deep concerns on many levels. While I know and understand that the toxicity the Canal in it current form poses to the community, I also feared that the designation would halt any kind of redevelopment efforts for many years as the logistical questions of how to clean the canal and where to dump the sludge were negotiated. I know that there are few places left in the US that willingly accept toxic sludge and I understand why; as communities all over the country try to clean up and reuse brownfield sites for purposes of job creation and community revitalization, who would want to *add* contaminants to the soil where they might leach and contaminate adjacent sites and aquifers?

The GBX Terminal solves this problem in a very elegant and prudent way! It dramatically reduces the potential truck trips to and from the site, carrying their toxic cargo – this benefits the community not only from a noise and congestion standpoint, but as a way to avoid truck exhaust that has led to asthma and other respiratory problems in the Red Hook community.

Secondly, the end result is a community amenity – a waterfront park will further add to the livability of this community, which is so congested with high-rise housing and closely built industrial plants. As the Greenway project grows and expends in Brooklyn, this park will add another link to the green "necklace" that the Brooklyn waterfront can become.

Third, it helps preserve jobs and industry in a community that desperately needs them. So many "economic development" projects in Red Hook have had disappointing results – the Cruise Ship Terminal that created few jobs, the IKEA that created part-time retail jobs. Certainly, these projects have enhanced the Red Hook community, but their local economic impact has been muted.

2001 Oriental Boulevard, T-4162
Brooklyn, New York 11235-2333
(718) 368-6790 telephone
(718) 368-6788 fax
www.bedc.org
www.facebook.com/BrooklynEDC
Blog.bedc.org

The Gowanus Bay terminal has been a presence in Red Hook for many years. The product they provide is *essential* to the continued rebuilding of New York City. There are few places for them to relocate to if Red Hook completely de-industrializes and that is not a desired outcome in the continuing redevelopment of Red Hook! The most vibrant communities in NYC support jobs and industries of many types. BEDC has been an advocate for industrial uses, *where appropriate,* in Brooklyn for our entire 34-year history. This is an appropriate use, and the GBX Terminal will not only allow The Gowanus Bay Terminal to stay and grow, but benefit the community in terms of jobs and amenities.

If this plan is implemented, the clean-up of the Gowanus Canal can begin sooner rather than later and the community can begin planning for a future without a toxic gash running through it. That dream has been a long time coming, and this project helps move it closer to reality.

I have been an advocate of community-based brownfield clean-ups for many years. I was part of the original statewide Pocantico Roundtable on Brownfields which advocated for better Brownfield clean-up regulations in New York State. I currently serve as Vice Chair of the Board of New Partners for Community Revitalization, a non-profit organization well known to your agency, which is in the forefront of environmental solutions to brownfield issues. [Note: I write as an individual and not on behalf of New Partners.] Certainly the Gowanus Canal rises to a higher threat level than a typical brownfield, but as governments across New York State avoid clean-ups because they know there are no easy solutions to where to put the waste and what to do with the remediated land, we in Brooklyn are not subject to that same dilemma. We have a sound clean-up solution and we have a community that is desirable and ready to react to the positive change that a cleaner Gowanus Canal can bring.

The people of Red Hook, the residents of Public Housing, who have stuck it out for many years amidst decay, crime, being ignored, marginalized and dumped on, support this project. They see its intrinsic value. They do not support it based on whether or not the value of their houses will go up or down – they understand that it is about the long-term, healthy future for ALL Red Hook residents.

Based on the soundness of the science, the positive economic development impacts, and the faith of the long-term residents of Red Hook, BEDC endorses this project and urges you to move it forward.

Sincerely,

Joan Bartolomeo
President, BEDC

ABOUT BEDC

Brooklyn Economic Development Corporation's mission is to seek to create and expand economic opportunity throughout Brooklyn by implementing business and neighborhood development and planning activities to support and create sustainable jobs, industries and communities.

Founded in 1979 to stimulate economic growth and neighborhood stability in Kings County, the Brooklyn Economic Development Corporation (BEDC) has evolved into a multi-service, business and community development organization serving over 1000 clients per year. Our expanding and enhanced services are structured to meet the unique challenges facing entrepreneurs in a constantly changing, dynamic urban economic environment. In thirty-four years of service to the business community, BEDC has provided training, technical assistance and counseling to over 20,000 established or potential business owners.

I support the EPA Gowanus Canal Superfund - Red Hook option.

The improvement to an active local maritime industrial business, the economic benefits it will bring, the jobs that it will create, are all important to me and for the community of the Red Hook.

Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community is without harm or risk of such.

Please approve the Red Hook option.

(print)

William J — first name
Smith — last name

451 Columbia St — address
5B — apt.#

Bklyn — city
N.Y. — state
11231 — zip

347-948-2719 — area code & phone number

none — email

x William Smith — signature
4-23-13 — date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

I support the EPA Gowanus Canal Superfund - Red Hook option.

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Please approve the Red Hook option.

(print)

Krystal ~~Garcia~~ (first name) Garcia (last name)

82 Dwight Street (address) 10A (apt.#)

Brooklyn (city) NY (state) 11231 (zip)

347 383-1347 (area code & phone number)

Krystalblue17@yahoo.com (email)

x Krystal Garcia (signature) 4/23/13 (date)

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Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

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Please approve the Red Hook option.

(print)

Brandon Ellis
first name last name

38 Bush Street SD
address apt.#

Brooklyn NY 11231
city state zip

347 763 0004
area code & phone number

brandonbe@yahoo.com
email

x B Ellis 4/03/13
signature date

mail:
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Fax:
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Please approve the Red Hook option.

(print)

Katy Henriez
first name last name

465 Columbia St 3C
address apt.#

Dklyn. N.Y. N.Y. 11231
city state zip

area code & phone number

email

x Katy Henriez 4/23/13
signature date

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290 Broadway, 20th Floor
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Please approve the Red Hook option.

(print)

John — first name
Hickman — last name

486 Columbia St. 2D
address — apt.#

Brooklyn — city
N.Y. — state
11231 — zip

718 855-6332 Cell 347-320-6417
area code & phone number

email

x [signature] 4/23/13
signature — date

mail:
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Please approve the Red Hook option.

(print)

Alexandria — first name
Malone — last name

420 Columbia St — address
1B — apt.#

Brooklyn — city
NY — state
11231 — zip

646 498 9061 — area code & phone number

AMUNOZ107@gmail.com — email

x A Malone — signature
4-23-13 — date

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Manhattan, NY 100007-1866

Fax:
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Please approve the Red Hook option.

(print)

liz — first name

cambreleri — last name

28 West 9st 6d — address / apt.#

city — state — zip

area code & phone number

email

x Liz Cambreleri 4/23/13 — signature / date

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Fax:
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Please approve the Red Hook option.

(print)

Calvin — Jones

first name — last name

420 Coolman — 1-C

address — apt.#

city — state — zip

area code & phone number

email

x Calvin Jones — 4/23/2013

signature — date

mail:
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Fax:
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Please approve the Red Hook option.

(print)

Karleth (first name) White (last name)

470 Columbia (address) 2C (apt.#)

Brooklyn (city) NY (state) 11231 (zip)

347-801-7039 (area code & phone number)

Karleth pretty@gmail.com (email)

x Karleth White (signature) 4/23/13 (date)

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290 Broadway, 20th Floor
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Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

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Please approve the Red Hook option.

(print)

Jeanette — first name
Torres — last name

450 Columbia St — address
6C — apt:#

Bklyn — city
NY — state
11231 — zip

917 300-0030 — area code & phone number

email

x Jeanette Torres — signature
4-23-2013 — date

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Please approve the Red Hook option.

(print)

VANCE — first name
BROOKS — last name

795 Hicks St — address
2D — apt.#

BROOKLYN — city
NYC — state
[redacted] 11231 — zip

(347) 595 2624 — area code & phone number

email

x Vance Brooks — signature
4/23/13 — date

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290 Broadway, 20th Floor
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Fax:
212 637 3966

email:
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Please approve the Red Hook option.

(print)

Idalia Quinones
first name last name

75 Bush Street 4-D
address apt.#

Brooklyn NY 11231
city state zip

area code & phone number

email

X Idalia Quinones 4/23/13
signature date

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Please approve the Red Hook option.

(print)

Doris — first name

Mc Millian — last name

470 Columbia — address

2C — apt #

Brooklyn — city

NY — state

11231 — zip

11231 347 485 1836

area code & phone number

email

x Doris Mc Millian 4/23/13

signature — date

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Please approve the Red Hook option.

(print)

MORRIS — first name
FLYNN — last name

467 Columbia St. — address
4D — apt.#

BKLYN — city
NY — state
11231 — zip

347 651-3104 — area code & phone number

email

X [signature] — signature
9-25-13 — date

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Please approve the Red Hook option.

(print)

Angela ~~Saez~~ — first name

Saez — last name

484 columbia St. — address

1B — apt.#

BK/Yn — city

N.Y — state

11231 — zip

_____ — area code & phone number

_____ — email

X Angela Saez — signature

4/23/13 — date

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290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

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GowanusCanalComments.Region2@epa.gov

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Please approve the Red Hook option.

(print)

Dean — first name
Bosss — last name

505 Columbia — address
apt.#

Brooklyn — city
NY — state
11231 — zip

374 300 335-4738
area code & phone number

email

X Deam Bosss — signature
4-23-13 — date

mail:
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290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

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Please approve the Red Hook option.

(print)

Mary — first name

Vasquez — last name

495 Columbia St — address

apt.#

Brooklyn — city

NY — state

11231 — zip

area code & phone number

email

x Mary Vasquez — signature

4/23/13 — date

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

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Please approve the Red Hook option.

(print)

J. Andrews
first name last name

442 Columbia St 4-F
address apt.#

Bklyn N.Y. 11231
city state zip

area code & phone number

email

x Jan-Rockbook@yahoo.com 4/23/13
signature date

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Please approve the Red Hook option.

(print)

Christy Middleton

first name | last name

address | apt.#

111 Columbia St | BKLYN | 11231

city | state | zip

347- 609-6803

area code & phone number

email

x Christy Middleton | 4/23

signature | date

mail:
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290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

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Please approve the Red Hook option.

(print)

Albert — first name
Clark — last name

752 Henry Street — address
1E — apt.#

Brooklyn — city
NY — state
11231 — zip

347 397-3653 — area code & phone number

Albertclark30@yahoo.com — email

x Albert Clark — signature
04/23/13 — date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

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Please approve the Red Hook option.

(print)

James Dickerson
first name last name

791 Hicks 5A
address apt.#

Brooklyn NY 11231
city state zip

718 864-8774
area code & phone number

Blackazz88@gmail.com
email

x James Dickerson 1-23-13
signature date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

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Please approve the Red Hook option.

(print)

VAKEEN WARMSLEY

first name last name

83A Visitation (PL)

address apt.#

BROOKLYN NY 11231

city state zip

347 483-8023

area code & phone number

email

X [signature] 4/23

signature date

mail:

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Fax:

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email:

GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

I support the EPA Gowanus Canal Superfund - Red Hook option.

The improvement to an active local maritime industrial business, the economic benefits it will bring, the jobs that it will create, are all important to me and what I believe is best for the majority of the community of Red Hook.

Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community are without harm or risk of such.

Please approve the Red Hook option.

(print)

NAKEIA GRIEM

first name last name

817 Hicks St 37

address apt.#

BKLYN NY 11231

city state zip

718 855 1603

area code & phone number

GRIEMKEIA@YAHOO.COM

email

x Nakeia Griem 4/23/13

signature date

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

I support the EPA Gowanus Canal Superfund - Red Hook option.

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Please approve the Red Hook option.

(print)

Nicola Ronsaville

first name last name

320 Nassau Ave Apt 2B 2R

address apt.#

Brklyn NY 11231

city state zip

347 265 6712

area code & phone number

email

x Nicola Ronsaville 4/23/13

signature date

mail:

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290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

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Please approve the Red Hook option.

(print)

Tyada Major
first name last name

11 Bush Street 3D
address apt.#

Brooklyn NY 11231
city state zip

516 943-2778
area code & phone number

Tyada20@gmail.com
email

x Tyada Major 4/23/13
signature date

mail:
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290 Broadway, 20th Floor
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Fax:
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email:
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Please approve the Red Hook option.

(print)

Crockett — first name
Stacey — last name

428 Columbia St, — address
3D — apt.#

Bklyn — city
NY — state
11231 — zip

718 - 490 - 8719 — area code & phone number

email

x S. Crockett — signature
4-23-13 — date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

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Please approve the Red Hook option.

(print)

Alfonso — first name

Hernandez — last name

420 Columbia St — address

6B — apt.#

Brooklyn — city

NY — state

11231 — zip

917 676 - 2827 — area code & phone number

email

x [signature] — signature

4-23-13 — date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
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email:
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Please approve the Red Hook option.

(print)

Michelle (first name) Perry (last name)

444 Columbia st (address) 6F (apt.#)

Brooklyn (city) N.Y (state) 11231 (zip)

(347) 864-3473 (area code & phone number)

(email)

x Michelle Perry (signature) 4/23/2013 (date)

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
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Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

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Please approve the Red Hook option.

(print)

Iris — first name
Hernandez — last name

414 Columbia — address
6A — apt.#

Brooklyn — city
NY — state
11231 — zip

347 300-0051 — area code & phone number

email

x [signature] — signature
4/23/2013 — date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
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email:
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Please approve the Red Hook option.

(print)

David — first name
McCoy — last name

135 Richards st — address
8B — apt.#

Brooklyn — city
NY — state
11231 — zip

718 522-2353 — area code & phone number

Dmccoy135@yahoo.com — email

x David McCoy — signature
5/23/13 — date

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Fax:
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Please approve the Red Hook option.

(print)

Steven (first name) Wilson Jr. (last name)

451 Columbia Street (address) 6C (apt.#)

Brooklyn (city) N.Y. (state) 11231 (zip)

718 717-4498 (area code & phone number)

qsct.owner@gmail.com (email)

x Steven Wilson Jr. (signature) 4/23/13 (date)

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email:
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Please approve the Red Hook option.

(print)

Leonidesa Santiago

first name last name

416 Columbia St 3F

address apt.#

B Klyn NY 11231

city state zip

718- 388-3460

area code & phone number

email

X Leonidesa Santiago 4/23/13

signature date

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
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Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

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Please approve the Red Hook option.

(print)

Jason	Jackson
first name	last name

466 Columbia St	4 D
address	apt.#

Brooklyn	NY	11231
city	state	zip

718	909- 2577
area code & phone number	

email

x Jason Jackson	4/23
signature	date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
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Fax:
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Please approve the Red Hook option.

(print)

ILYA (first name) Dixon (last name)

15 Mill (address) 3-C (apt.#)

New York (city) Bklyn (state) 11231 (zip)

347-752-6760 (area code & phone number)

(email)

x (signature) 2/23-13 (date)

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
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email:
GowanusCanalComments.Region2@epa.gov

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Please approve the Red Hook option.

(print)

Virginia Hunt

first name last name

address apt.#

111 Columbia St BKLYN 11231

city state zip

347- 858-7952

area code & phone number

email

X V. Hunt 4/23

signature date

mail:
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Please approve the Red Hook option.

(print)

William Hudson

first name last name

929 Hicks 4C

address apt.#

Brooklyn NY 11231

city state zip

718 - 414-0033

area code & phone number

email

x William Hudson 4/22/13

signature date

mail:

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Manhattan, NY 100007-1866

Fax:

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email:

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Please approve the Red Hook option.

(print)

Lashawn Sowell

first name last name

467 Columbia St 3F

address apt.#

Brooklyn NY 11231

city state zip

347-868-2387

area code & phone number

email

x Lashawn Sowell 4/23

signature date

mail:

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Fax:

212 637 3966

email:

GowanusCanalComments.Region2@epa.gov

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Please approve the Red Hook option.

(print)

LAUNA — first name
WRIGHT — last name

100 CLINTON ST — address
3A — apt.#

BROOKLYN — city
NY — state
11231 — zip

718 272-4867 — area code & phone number

wrightlauna@aol.com — email

X [signature] — signature
1/25/13 — date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
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Fax:
212 637 3966

email:
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Please approve the Red Hook option.

(print)

Ireal — first name
Jacobs — last name

445 - Columbia st — address
4D — apt.#

Brooklyn — city
N-Y — state
11231 — zip

347 - 765 - 64-50 — area code & phone number

email

X [signature] — signature
4/13 — date

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US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
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email:
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Please approve the Red Hook option.

(print)

Michelle (first name) Eaddy (last name)

453 Columbia St (address) 2C (apt.#)

Brooklyn (city) NY (state) 11231 (zip)

516 220-4367 (area code & phone number)

Michelle.caddy13@stjohns.edu (email)

X [signature] 4/23/2013 (date)

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Please approve the Red Hook option.

(print)

Annabell — first name
Lyons — last name
451 Columbia St — address
LE — apt.#
Brooklyn — city
[blank] — state
11231 — zip

[blank] [blank] — area code & phone number
lyonsannaball@yahoo.com — email
X [signature] — signature
4/23/13 — date

mail:
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290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
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Please approve the Red Hook option.

(print)

Shanaya Boston
first name last name

37 Centre Mall 1c
address apt.#

Bklyn Ny 11231
city state zip

(347) 489-4887
area code & phone number

email

x Shanaya Boston 4/23/13
signature date

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Manhattan, NY 100007-1866

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email:
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I support the Red Hook Option of the EPA Gowanus Canal Superfund cleanup.

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Please approve the Red Hook option.

(print)

TySheen Trammell
first name last name

748 Henry St
address apt.#

Brooklyn NY 11231
city state zip

347 330 3202
area code & phone number

email
I am 18 years of age or older

x TySheen Trammell 4.23.13
sign date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

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Please approve the Red Hook option.

(print)
Vanessa Paris A.S.
first name last name

38 Centre Mall 6E
address apt.#

Brooklyn NY 11231
city state zip

347 645-3512
area code & phone number

email
I am 18 years of age or older

x Vanessa Paris 4/23/13
sign date

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290 Broadway, 20th Floor
Manhattan, NY 100007-1866

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212 637 3966

email:
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A. S.

Please approve the Red Hook option.

(print)

FIDUANA JIMENEZ

first name last name

M9 LORRAINE ST

address apt.#

Brooklyn NY 11231

city state zip

347 734 9794

area code & phone number

email

I am 18 years of age or older

X _____ 4-23-13

sign date

mail:

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290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

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Please approve the Red Hook option.

A.S.

(print)

Khadiyah | Bennett

first name | last name

79 Lorraine St | 3A

address | apt.#

Brooklyn, | NY | 11231

city | state | zip

718-855-5862

area code & phone number

email

I am 18 years of age or older

x [signature] | 4-23-13

sign | date

mail:

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290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

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email:

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Please approve the Red Hook option. A. S.

(print)

Veronica Harrison

first name last name

495 Co 1B

address apt.#

Brooklyn NY 11231

city state zip

718 855-5091

area code & phone number

email

I am 18 years of age or older

x Veronica Harrison 4-23-2013

sign date

mail:

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Manhattan, NY 100007-1866

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Please approve the Red Hook option.

A.S.

(print)

Shonda Leacock

first name last name

80 Bush St 3D

address apt.#

Brooklyn NY 11231

city state zip

718 874-3313

area code & phone number

email

I am 18 years of age or older

x Shonda Leacock 4/23/13

sign date

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

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A-5

Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community are without harm or risk of such.

Please approve the Red Hook option.

(print)

Jamel Waston

first name last name

466 Columbia Street 4A

address apt.#

Brooklyn Ny Ny 11231

city state zip

11231 917-586-9687

area code & phone number

email

I am 18 years of age or older

x Jamel Waston 4/23/13

sign date

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

I support the Red Hook Option of the EPA Gowanus Canal Superfund cleanup.

The improvement to an active local maritime industrial business, the economic benefits it will bring, the jobs that it will create, are all important to me and what I believe is best for the majority of the community of Red Hook.

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Please approve the Red Hook option.

A.S.

(print)

Shizia — first name
Milton — last name

624 Clinton St — address
4B — apt.#

Brooklyn — city
NY — state
11231 — zip

718 314-9627 — area code & phone number

email

I am 18 years of age or older

x [signature] — sign
4-23-2013 — date

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

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Please approve the Red Hook option.

A. 5.

(print)

Mildred — first name
Villegas — last name

38 Centre Mall 4F — address — apt.#

Brooklyn — city
NY — state
11231 — zip

718 858-1452 — area code & phone number

millie.vnyc@yahoo.com — email

I am 18 years of age or older

x Mildred Villegas — sign
4/23/13 — date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

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Please approve the Red Hook option.

A. S.

(print)

Shalema Staton

first name last name

831 Hicks St SB

address apt.#

Brooklyn NY 11231

city state zip

347-841-4280

area code & phone number

email

I am 18 years of age or older

x Shalema Staton 4/23/13

sign date

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

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Please approve the Red Hook option.

A. S.

(print)

Ryan (first name) Harris (last name)

100 Dwight st (address) 2B (apt.#)

Brooklyn (city) NY (state) 11231 (zip)

718 625 2166 (area code & phone number)

(email)

I am 18 years of age or older

x Ryan Harris (sign) 4-23-2013 (date)

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

GowanusCanalComments.Region2@epa.gov

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Please approve the Red Hook option.

A. S.

(print)

Gloria Daisley

first name last name

38 Centre Mall 6F

address apt.#

Brooklyn NY 11231

city state zip

718 230-1415

area code & phone number

email

I am 18 years of age or older

x Gloria Daisley 4/22/13

sign date

mail:

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290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

GowanusCanalComments.Region2@epa.gov

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A. 5.

Please approve the Red Hook option.

(print)

Jepel — first name
Gibbs — last name

288 10th AVE — address
3E — apt.#

New York — city
N.Y — state
10001 — zip

212-654-7703 — area code & phone number

email

I am 18 years of age or older

x Jepel Gibbs — sign
4-23-2013 — date

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

GowanusCanalComments.Region2@epa.gov

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Please approve the Red Hook option.

A. S.

(print)

Kristel — first name

GIARG — last name

15 m. 11 — address

6C — apt.#

Brooklyn — city

NY — state

11231 — zip

917 9828883 — area code & phone number

K [redacted] a yahoo.com — email

I am 18 years of age or older

x [signature] — sign

4/08/13 — date

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

GowanusCanalComments.Region2@epa.gov

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A. S.
A. S.

Please approve the Red Hook option.

(print)

IDA — first name
Willis — last name

30 Centre Mall — address
5A — apt.#

Brooklyn — city
NY — state
11231 — zip

718 852 1228 — area code & phone number

email

I am 18 years of age or older

x Ida Willis — sign
4-23-2013 — date

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

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Please approve the Red Hook option.

A.S.

(print)

~~[redacted]~~ Geraldine Lawrence

first name last name

85 Corraine St 2E

address apt.#

Brooklyn NY 11231

city state zip

917 242-8760

area code & phone number

email

I am 18 years of age or older

x Geraldine Lawrence 4-23-2013

sign date

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

GowanusCanalComments.Region2@epa.gov

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A.S.

Please approve the Red Hook option.

(print)

Veronica — first name
Alston — last name

75 Bush St — address — apt.#

Brooklyn — city
NY — state
11231 — zip

718 797 2406 — area code & phone number

email

I am 18 years of age or older

x Veronica Alston — sign
4-23-2013 — date

mail:

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290 Broadway, 20th Floor
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Fax:

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email:

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Please approve the Red Hook option.

A.S.

(print)

Luz · Velez

first name last name

507 Columbia St 3C

address apt.#

Brooklyn NY 11231

city state zip

347 8896802

area code & phone number

email

I am 18 years of age or older

x [signature] 4-23-2013

sign date

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

GowanusCanalComments.Region2@epa.gov

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Please approve the Red Hook option.

(print)

Leroy — first name
Gooding — last name

88 Coffey St — address
B — apt.#

Brooklyn — city
NY — state
11231 — zip

347 482-5271
area code & phone number

email
I am 18 years of age or older

x _____ 4/23/13
sign — date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

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Please approve the Red Hook option.

(print)

Russell Dickerson
first name last name

92 Centre mall 1F
address apt.#

Brooklyn NY 11231
city state zip

917 474-4636
area code & phone number

email
I am 18 years of age or older

x Russell Dickerson 4-23-13
sign date

mail:
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290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

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Please approve the Red Hook option.

(print)

Shameeka Hankins

first name last name

426 Columbia Street 4E

address apt.#

Brooklyn N.Y 11231

city state zip

_____ _____

area code & phone number

Shnt77@Aol.Com

email

I am 18 years of age or older

x Shameeka Hankins 4/23/2013

sign date

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

GowanusCanalComments.Region2@epa.gov

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Please approve the Red Hook option.

(print)

Jodi — first name
Robinson — last name

15 a dwight st — address
— apt.#

Brooklyn — city
N.Y — state
11231 — zip

718 701-7020 — area code & phone number

Jodirobinson10@gmail.com — email

I am 18 years of age or older

x Jodi Robinson — sign
4/23/13 — date

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

GowanusCanalComments.Region2@epa.gov

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Please approve the Red Hook option.

(print)

Tahvon (first name) Gorham (last name)

Tahvon Gorham (address) 2B (apt.#)

451 Columbia (city) NY (state) 11231 (zip)

347 (area code & phone number)

1341-833-8982 (email)

I am 18 years of age or older

x Tahvon Gorham (sign) 4/23/13 (date)

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
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Fax:

212 637 3966

email:

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Please approve the Red Hook option.

(print)

ROBERT BOSTIC

first name last name

486 COLUMBIA ST 4A

address apt.#

BKLYN NY 11213

city state zip

347-942-2343-

area code & phone number

email

I am 18 years of age or older

x Robert Bostic 4/23/13.

sign date

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
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212 637 3966

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GowanusCanalComments.Region2@epa.gov

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Please approve the Red Hook option.

(print)

Ashley Harrison
first name last name

111 e Mill Street 3D
address apt.#

Brooklyn N.Y. 11231
city state zip

917 652-2299
area code & phone number

email
I am 18 years of age or older

x [signature] 4/23/13
sign date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

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Please approve the Red Hook option.

(print)

Mike — first name

Gonzalez — last name

813 Hicks Street — address

4B — apt.#

Brooklyn — city

NY — state

11231 — zip

_____ — area code & phone number

MGonz@gmail.com — email

I am 18 years of age or older

x Mike Gonzalez — sign

4/23/2013 — date

mail:

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290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

GowanusCanalComments.Region2@epa.gov

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Please approve the Red Hook option.

(print)

Hector — first name
Morales — last name

~~426 Columbia st.~~ 330 Marshall st. — address
3A — apt.#

Paterson — city
N. J. — state
07503 — zip

8973 244-9655
area code & phone number

email
I am 18 years of age or older

x [signature] — sign
04-23-13 — date

mail:
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290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

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Please approve the Red Hook option.

(print)

Celestine (first name) McMeans (last name)

450 columbia St (address) 4C (apt.#)

Brooklyn (city) NY (state) 11231 (zip)

(area code & phone number)

(email)

I am 18 years of age or older

x Celestine McMeans (sign) 4-23-13 (date)

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

GowanusCanalComments.Region2@epa.gov

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Please approve the Red Hook option.

(print)

Yvonne Santiago

first name last name

465 Columbia St 4B

address apt.#

Bklyn N.Y 11231

city state zip

(347) 889-5948

area code & phone number

email

I am 18 years of age or older

x Yvonne Santiago 4-23-13

sign date

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

GowanusCanalComments.Region2@epa.gov

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Please approve the Red Hook option.

(print) VERNON BARTEE

first name last name

341-10 ST 16C

address apt.#

Bklyn ~~NY~~ N.Y 11215

city state zip

341 760 7373

area code & phone number

email

I am 18 years of age or older

x Vernon L Bartee 4-23-13

sign date

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

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Please approve the Red Hook option.

(print)

Jesus — first name
Hernandez — last name

817 Hicks St — address
317 — apt.#

Brooklyn — city
N.Y. — state
11231 — zip

_____ _____
area code & phone number

_____
email
I am 18 years of age or older

x Jesus Hernandez — sign
9/23/13 — date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

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Please approve the Red Hook option.

(print)

Victor — first name
Gonzalez — last name

35 - Dwight Street — address
1B — apt.#

Brooklyn — city
NY — state
11231 — zip

347-463-9069 — area code & phone number

email

I am 18 years of age or older

x Victor M Gonzalez — sign
4/23/13 — date

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

I support the Red Hook Option of the EPA Gowanus Canal Superfund cleanup.

The improvement to an active local maritime industrial business, the economic benefits it will bring, the jobs that it will create, are all important to me and what I believe is best for the majority of the community of Red Hook.

Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community are without harm or risk of such.

Please approve the Red Hook option.

(print)

Virgen Borges — Borges
first name — last name

35-Dwight Street — 1-B
address — apt.#

Brooklyn. — NY. — 11231
city — state — zip

347. 942-3571
area code & phone number

buggyborges@gmail.com
email

I am 18 years of age or older

x Virgen Borges — 4/23/13
sign — date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

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Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community are without harm or risk of such.

Please approve the Red Hook option.

(print)

Carmen Morales

first name last name

466 Columbia St 4B

address apt.#

Brooklyn NY 11231

city state zip

347 536-1122

area code & phone number

email

I am 18 years of age or older

x Carmen Morales 4-24-2013

sign date

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

I support the Red Hook Option of the EPA Gowanus Canal Superfund cleanup.

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Please approve the Red Hook option.

(print)

Walter — first name

Juncal — last name

30 Centre Mall — address

1A — apt.#

Brooklyn — city

NY — state

11231 — zip

347-820-7222 — area code & phone number

email

I am 18 years of age or older

X Walter Juncal — sign

4/23/13 — date

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

I support the EPA Gowanus Canal Superfund - Red Hook option.

The improvement to an active local maritime industrial business, the economic benefits it will bring, the jobs that it will create, are all important to me and what I believe is best for the majority of the community of Red Hook.

Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community are without harm or risk of such.

Please approve the Red Hook option.

(print)

Nashane — first name
McCoy — last name

135 richard street — address
83 — apt.#

New York — city
NY — state
11231 — zip

11231 718 522 2353 — area code & phone number

Nasmccoy15@gmail.com — email

X Nashane McCoy — signature
4/23 — date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

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Please approve the Red Hook option.

(print)

Amanda — first name

Ayles — last name

426 Columbia St — address — apt.#

Brooklyn — city

NY — state

11231 — zip

347 683 4777 — area code & phone number

email

x Amanda Ayles — signature

4/23 — date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

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Please approve the Red Hook option.

(print)

Jacqueline Jackson

first name last name

772 Henry St 3A

address apt.#

B'klyn. N.Y. 11231

city state zip

1-929-234-0461

area code & phone number

email

X J. Jackson 4/23/13.

signature date

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

GowanusCanalComments.Region2@epa.gov

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Please approve the Red Hook option.

(print)

Robyn (first name) Alston (last name)

address: 450 Columbia apt.#: 1123

city: Brooklyn state: NY zip:

area code & phone number:

email:

x Robyn Alston 4/23

signature date

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

GowanusCanalComments.Region2@epa.gov

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Please approve the Red Hook option.

(print)

Daniel (first name) Curtis (last name)

8621 Fairfield (address) (apt.#)

BKLYN (city) NY (state) 11236 (zip)

347 279-7696 (area code & phone number)

(email)

x Curtis Daniel (signature) 4/23/13 (date)

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

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Please approve the Red Hook option.

(print)

Gregory — first name
Hill — last name

311 Hicks Street — address — apt.#

Brooklyn — city
NY — state
11231 — zip

347 245 - 5910 — area code & phone number

Brooklynlol@gci.com — email

x [signature] — signature
4/23/13 — date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

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Please approve the Red Hook option.

(print)

David — first name
Williams — last name

31 Centre Mall — address
6A — apt.#

Brooklyn — city
NY — state
11231 — zip

347 625-0313 — area code & phone number

email

x David Williams — signature
4/23/13 — date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

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Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community are without harm or risk of such.

Please approve the Red Hook option.

(print)

Toby (first name) HICKS (last name)

754 Henry Street (address) 6B (apt.#)

Brooklyn (city) NY (state) 11231 (zip)

718-581-6246 (area code & phone number)

Wreck100@gmail.com (email)

X [signature] (signature) 4/23 (date)

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

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Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community are without harm or risk of such.

Please approve the Red Hook option.

(print)

Tiffany Harper

first name last name

426 Columbia St #2E

address apt.#

Brooklyn NY 11231

city state zip

area code & phone number

email

X [signature] 4/23/13

signature date

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

Comments on Gowanus Canal Proposed Plan

Pam Devereux to: Region2 GowanusCanalComments 04/23/2013 07:11 AM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Pam Devereux

Apr 23, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site, a critically important project for transforming this long neglected waterway into a community asset.

I cannot support the building of a CDF on the Red Hook waterfront to dispose contaminated sediment from the canal. Relocating the blight of one community to another is not a reasonable solution.The economic health of Red Hook is highly dependent on the health of its waterfront and the public perception of the environmental health of the community. Contamination led to economic decline in Gowanus, and the same will happen in Red Hook -- a community that has done much to pull itself up.

I ask that you please listen to the Red Hook community's requests and find another location for the CDF. Red Hook is not your answer.

Sincerely,

Ms. Pam Devereux
4837 40th St
Apt 1
Sunnyside, NY 11104-4104

Comments on Gowanus Canal Proposed Plan

Alicia Rubi to: Region2 GowanusCanalComments 04/23/2013 09:42 AM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Alicia Rubi

Apr 23, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

While the EPA's plan takes the critical step of calling for CSO retention for two of the Canal's worst outfalls many details will not be solidified until New York City submits their CSO Long Term Control Plan in 2015. It is critical for the EPA to stand firm on requiring retention tanks to control CSOs and to work with New York City towards the eventual goal of 100% elimination of CSOs from the Canal.

I support the EPA's commitment to dredge as much as 10 feet of contaminated sediment from the entire length of the canal, build a multi-layer cap on the bottom, and treat and dispose of this contaminated sediment offsite. I also believe that the EPA should listen to the wishes of the community in Red Hook who oppose the building of a CDF on the Red Hook waterfront to dispose of the least contaminated sediment.

Sincerely,

Mrs. Alicia Rubi
POBox
NYC, NY 10463

Comments on Gowanus Canal Proposed Plan

Darian Mark to: Region2 GowanusCanalComments 04/23/2013 10:42 AM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Darian Mark

Apr 23, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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I support the EPA's commitment to dredge as much as 10 feet of contaminated sediment from the entire length of the canal, build a multi-layer cap on the bottom, and treat and dispose of this contaminated sediment offsite. I also believe that the EPA should listen to the wishes of the community in Red Hook who oppose the building of a CDF on the Red Hook waterfront to dispose of the least contaminated sediment.

Sincerely,

Miss Darian Mark
225 E 57th St
New York, NY 10022-2822

I, the sender, vote that I do not want this project to proceed.

jason maas to: Region2 GowanusCanalComments 04/23/2013 12:02 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

- Children
- Numerous public and private schools which use the fields for physical education & sports teams
- Residents of the Red Hook Houses and the surrounding neighborhood
- Soccer, softball, baseball, football, handball, basketball, track & field teams and enthusiasts
- Swimmers of all ages
- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--
jason maas
jasonamaas@gmail.com
481 van brunt st. #9B
Brooklyn, NY
Business

I, the sender, vote that I do not want this project to proceed.

Sallie Sanders to: Region2 GowanusCanalComments 04/23/2013 12:21 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Residents of the Red Hook Houses and the surrounding neighborhood
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- Swimmers of all ages
- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--

Sallie Sanders
stravaigin@gmail.com
170 Broadway 6B
Brooklyn, NY
Parks User & Employee

EPA's Proposed PRAP
Anne Darer to: Region2 GowanusCanalComments 04/23/2013 01:12 PM

Dear Mr. Tsiamis:

As someone who lives and work in the area and have been an eyewitness to the foulness that descends, I support your plan to clean the Gowanus Canal. I want the EPA to DO IT.
Please clean the canal and including the CSO's.

Let's stop the toxic waste overflows ASAP.

Sincerely yours,

Anne Darer
VP Property Management
Licensed RE Agent
Brownstone Management
Brownstone Homes
718 499 6030 x3
f. 866 264 5747
anne@brownstonemgt.com

This message is for the designated recipient only and may contain privileged, proprietary, or otherwise private information. If you have received it in error, please notify the sender immediately and delete the original. Any other use of the email by you is prohibited.

Gowanus Clean up
Erin Schreiner to: Region2 GowanusCanalComments 04/23/2013 01:16 PM

Dear Mr. Tsiamis:

No more Poo Poo Tsunamis!
I love your plan to clean the Gowanus Canal AS IS and I want the EPA to JUST DO IT!
Clean the entire canal including the CSO's!
Sincerely yours,

--

Erin Schreiner
Bibliographer
Brooklyn, NY
+1 516 680 9473

I, the sender, vote that I do not want this project to proceed.

Franco Ficili to: Region2 GowanusCanalComments 04/23/2013 03:43 PM

History: This message has been replied to.

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

- Children
- Numerous public and private schools which use the fields for physical education & sports teams
- Residents of the Red Hook Houses and the surrounding neighborhood
- Soccer, softball, baseball, football, handball, basketball, track & field teams and enthusiasts
- Swimmers of all ages
- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--
Franco Ficili
francoficili@jfhvac.com

I, the sender, vote that I do not want this project to proceed.

steven abel to: Region2 GowanusCanalComments 04/23/2013 03:55 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Swimmers of all ages
- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--
steven abel
abelsteven@aol.com
131 sackett st
brooklyn, ny
parks user, resident

I, the sender, vote that I do not want this project to proceed.

Amyt Eckstein to: Region2 GowanusCanalComments 04/23/2013 04:04 PM

As a resident and parks user in Red Hook, I strongly oppose the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The possible toll on the community is tremendous. It seems better to leave the toxic waste where it is then to process in a residential area.

The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

- Children
- Numerous public and private schools which use the fields for physical education & sports teams
- Residents of the Red Hook Houses and the surrounding neighborhood
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- Swimmers of all ages
- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

Please do the right thing and choose an existing site that is skilled in such treatment and has a history of safe business practices.

--

Amyt Eckstein
amyteckstein@hotmail.com
93 Pioneer St
Brooklyn, NY
Resident / Parks User

I, the sender, vote that I do not want this project to proceed.
MARITZA PABON to: Region2 GowanusCanalComments 04/23/2013 04:07 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Swimmers of all ages
- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--
MARITZA PABON
maritzapabon@gmail.com
1654 8th Avenue
Brooklyn, NY
Parks user

I, the sender, vote that I do not want this project to proceed.

Rob Russo to: Region2 GowanusCanalComments 04/23/2013 04:13 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Swimmers of all ages
- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--
Rob Russo
Robertedwardrusso@gmail.com
14 Verona street apt 1F
Brooklyn, Ny
Resident

I, the sender, vote that I do not want this project to proceed.

Tamara VIpond to: Region2 GowanusCanalComments 04/23/2013 04:13 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Swimmers of all ages
- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--
Tamara VIpond
tamsong27@hotmail.com
24 Reed Street
Brooklyn, NY
Brooklyn Crab Restaurant

I, the sender, vote that I do not want this project to proceed.
Charnjiv Singh to: Region2 GowanusCanalComments 04/23/2013 04:17 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Swimmers of all ages
- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--
Charnjiv Singh
Chrubrar@gmail.com
95 verona st
Brooklyn, Ny
11231

I, the sender, vote that I do not want this project to proceed.

Rodney Willie to: Region2 GowanusCanalComments 04/23/2013 04:26 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

- Children
- Numerous public and private schools which use the fields for physical education & sports teams
- Residents of the Red Hook Houses and the surrounding neighborhood
- Soccer, softball, baseball, football, handball, basketball, track & field teams and enthusiasts
- Swimmers of all ages
- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--

Rodney Willie
themediablitz@gmail.com
694 Henry St
Brooklyn, Ny
resident

I, the sender, vote that I do not want this project to proceed.
Dustin Yellin to: Region2 GowanusCanalComments 04/23/2013 04:27 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Swimmers of all ages
- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--
Dustin Yellin
dustin@pioneerworks.org
159 Pioneer St.
Brooklyn, New York
Business, residential,

I, the sender, vote that I do not want this project to proceed.

Eddie Burlem to: Region2 GowanusCanalComments 04/23/2013 04:45 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Swimmers of all ages
- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--

Eddie Burlem
burlemiv@yahoo.com
259 Columbia Street
Brooklyn, NY
Resident

I, the sender, vote that I do not want this project to proceed.

Julia Miller to: Region2 GowanusCanalComments 04/23/2013 04:58 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Soccer, softball, baseball, football, handball, basketball, track & field teams and enthusiasts
- Swimmers of all ages
- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--

Julia Miller
juljul@earthlink.net
218 Degraw Street
Brooklyn, NY 11231
Resident

Comments on Gowanus Canal Proposed Plan

Jeanne Grifo to: Region2 GowanusCanalComments 04/23/2013 05:35 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Jeanne Grifo

Apr 23, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am a lifelong resident of Cobble Hill and homeowner for many, many years. I have been involved in many community issues as well. I have often walked/ or driven over the canal. I support the EPA Superfund cleanup of the Gowanus Canal.

Sincerely,

Ms. Jeanne Grifo
55 Cheever Pl
Brooklyn, NY 11231-3004

Comments on Gowanus Canal Proposed Plan

Eve Delachartre to: Region2 GowanusCanalComments 04/23/2013 05:35 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Eve Delachartre

Apr 23, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

While the EPA's plan takes the critical step of calling for CSO retention for two of the Canal's worst outfalls many details will not be solidified until New York City submits their CSO Long Term Control Plan in 2015. It is critical for the EPA to stand firm on requiring retention tanks to control CSOs and to work with New York City towards the eventual goal of 100% elimination of CSOs from the Canal.

I support the EPA's commitment to dredge as much as 10 feet of contaminated sediment from the entire length of the canal, build a multi-layer cap on the bottom, and treat and dispose of this contaminated sediment offsite. I also believe that the EPA should listen to the wishes of the community in Red Hook who oppose the building of a CDF on the Red Hook waterfront to dispose of the least contaminated sediment.

Sincerely,

Ms. Eve Delachartre
5031 46th St
Woodside, NY 11377-7324

I, the sender, vote that I do not want this project to proceed.

David Rodriguez to: Region2 GowanusCanalComments 04/23/2013 05:50 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Numerous public and private schools which use the fields for physical education & sports teams
- Residents of the Red Hook Houses and the surrounding neighborhood
- Soccer, softball, baseball, football, handball, basketball, track & field teams and enthusiasts
- Swimmers of all ages
- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--

David Rodriguez
drod613@gmail.com
106 Dwight Street # 1B
Brooklyn, NY
Resident

I, the sender, vote that I do not want this project to proceed.

Grace Poulsen to: Region2 GowanusCanalComments 04/23/2013 06:01 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Residents of the Red Hook Houses and the surrounding neighborhood
- Soccer, softball, baseball, football, handball, basketball, track & field teams and enthusiasts
- Swimmers of all ages
- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--
Grace Poulsen
graciej13@gmail.com
109 Bergen St
Brooklyn, NY
Resident

I, the sender, vote that I do not want this project to proceed.

Jason Talavera to: Region2 GowanusCanalComments 04/23/2013 06:21 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Soccer, softball, baseball, football, handball, basketball, track & field teams and enthusiasts
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- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--

Jason Talavera
jasontalavera1@yahoo.com
106 Dwight Street
Brooklyn, NY
Resident

I, the sender, vote that I do not want this project to proceed.
iris maenza to: Region2 GowanusCanalComments 04/23/2013 06:22 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Swimmers of all ages
- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--
iris maenza
irisfm@yahoo.com
53 carroll street
brooklyn, ny
resident

I, the sender, vote that I do not want this project to proceed.
Samuel Berliner to: Region2 GowanusCanalComments 04/23/2013 06:42 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Swimmers of all ages
- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--
Samuel Berliner
samberliner@gmail.com
79 Wolcott St, #104
Brooklyn, NY
Resident

I, the sender, vote that I do not want this project to proceed.

Debbie Graham to: Region2 GowanusCanalComments 04/23/2013 07:51 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Swimmers of all ages
- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--
Debbie Graham
Debbiegraham180@gmail.com
180 Coffey St
Brooklyn, NY
Resident

I, the sender, vote that I do not want this project to proceed.

Luis Gonzalez to: Region2 GowanusCanalComments 04/23/2013 08:16 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Swimmers of all ages
- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--
Luis Gonzalez
luis-a-gonzalez@live.com
Brooklyn, NY
Resident Redhook

I, the sender, vote that I do not want this project to proceed.

Arleny Henriquez to: Region2 GowanusCanalComments 04/23/2013 10:00 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Swimmers of all ages
- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--
Arleny Henriquez
arlenyhenriquez@gmail.com
135 coffey street
brooklyn, ny
11231

Comments on Gowanus Canal Proposed Plan

alida davis to: Region2 GowanusCanalComments 04/23/2013 10:06 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to alida davis

History: This message has been forwarded.

Apr 23, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

While the EPA's plan takes the critical step of calling for CSO retention for two of the Canal's worst outfalls many details will not be solidified until New York City submits their CSO Long Term Control Plan in 2015. It is critical for the EPA to stand firm on requiring retention tanks to control CSOs and to work with New York City towards the eventual goal of 100% elimination of CSOs from the Canal.

I support the EPA's commitment to dredge as much as 10 feet of contaminated sediment from the entire length of the canal, build a multi-layer cap on the bottom, and treat and dispose of this contaminated sediment offsite. I also believe that the EPA should listen to the wishes of the community in Red Hook who oppose the building of a CDF on the Red Hook waterfront to dispose of the least contaminated sediment.

Sincerely,

Ms. alida davis
193 Wilson Park Dr
Tarrytown, NY 10591-3031
(413) 923-4632

I support the Red Hook Option of the EPA Gowanus Canal Superfund cleanup.

The improvement to an active local maritime industrial business, the economic benefits it will bring, the jobs that it will create, are all important to me and what I believe is best for the majority of the community of Red Hook.

Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community are without harm or risk of such.

Please approve the Red Hook option.

(print)

Jarrett — first name
Lovett — last name

4 Columbia st — address
3B — apt.#

Brooklyn — city
NY — state
11231 — zip

347 599 6253
area code & phone number

email

I am 18 years of age or older

X J. Lovett — sign
4-24-2013 — date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

I support the Red Hook Option of the EPA Gowanus Canal Superfund cleanup.

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Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community are without harm or risk of such.

Please approve the Red Hook option.

(print) Amanda Mendoza

first name last name

124 Lorraine St 2B

address apt.#

Brooklyn NY 11231

city state zip

347 228- 6967

area code & phone number

email

I am 18 years of age or older

x Amanda Mendoza 4-24-2013

sign date

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

GowanusCanalComments.Region2@epa.gov

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Please approve the Red Hook option.

(print)

Sean — first name

Murphy — last name

address — apt.#

Brooklyn — city

NY — state

11231 — zip

347 579-3034 — area code & phone number

email

I am 18 years of age or older

x Sean Murphy — sign

4-24-2013 — date

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

GowanusCanalComments.Region2@epa.gov

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Please approve the Red Hook option.

(print)

Shon (first name) Bruce (last name)

80 Bush st (address) 3 (apt.#)

Brooklyn (city) NY (state) 11231 (zip)

347 775-4609 (area code & phone number)

(email)

I am 18 years of age or older

x Shon Bruce (sign) 4-24-2013 (date)

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

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Please approve the Red Hook option.

(print)

Rocky (first name) Harris (last name)

100 Dwight St
address apt.#

Brooklyn, (city) NY (state) 11231 (zip)

347 262 1257
area code & phone number

email

I am 18 years of age or older

x Rocky Harris (sign) 4-24-2013 (date)

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

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Please approve the Red Hook option.

(print)

Victor — first name
Fields — last name

80 Bush St — address
6D — apt.#

Brooklyn — city
NY — state
11231 — zip

718 749-6982 — area code & phone number

email

I am 18 years of age or older

x V. Fields — sign
4-24-2013 — date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

I support the Red Hook Option of the EPA Gowanus Canal Superfund cleanup.

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Please approve the Red Hook option.

(print)

Eli — first name
Wells — last name

Columbia St — address
1B — apt.#

Brooklyn — city
NY — state
11231 — zip

347 445-8259 — area code & phone number

email

I am 18 years of age or older

x E. Wells — sign
4-24-2013 — date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

I support the EPA Gowanus Canal Superfund - Red Hook option.

The improvement to an active local maritime industrial business, the economic benefits it will bring, the jobs that it will create, are all important to me and for the community of the Red Hook.

Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community is without harm or risk of such.

Please approve the Red Hook option.

(print)

Richard — first name
Banks — last name

80 Dwight St — address
7G — apt.#

Brklyn — city
NY — state
11231 — zip

718 6884659 — area code & phone number

email

x R. Banks — signature
4/24/13 — date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

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Please approve the Red Hook option.

(print)

Nagawri (first name) Smith (last name)

[redacted] 6D
address apt.#

Brooklyn (city) NY (state) 11231 (zip)

347 785-3495
area code & phone number

email

I am 18 years of age or older

X N. Smith (sign) 4-24-2013 (date)

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

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Please approve the Red Hook option.

(print)

Rafael Guerrero
first name | last name

285 Alton Place, 1 1/4 G
address | apt.#

Brooklyn, NY, 11206
city | state | zip

347 3508180
area code & phone number

email

x [signature]
signature

4/24/13
date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

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Please approve the Red Hook option.

(print)

Emery — first name
DANIELS — last name

815 Hicks St — address
5E — apt.#

Brooklyn — city
NY — state
11231 — zip

347 996 7894 — area code & phone number

biggspromo@aol.com — email

X [signature] — signature
4/24/13 — date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

I support the Red Hook Option of the EPA Gowanus Canal Superfund cleanup.

The improvement to an active local maritime industrial business, the economic benefits it will bring, the jobs that it will create, are all important to me and what I believe is best for the majority of the community of Red Hook.

Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community are without harm or risk of such.

Please approve the Red Hook option.

(print)

Yomaris Perez

first name last name

347- 53 2

address apt.#

Brooklyn N.Y 11220

city state zip

area code & phone number

email

I am 18 years of age or older

x Yomaris Perez 4-24-13

sign date

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

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Please approve the Red Hook option.

(print)

Terry (first name) Bamfield (last name)

address

426 Columbia Apt 5H (city) NY (state) 11231 (zip) (apt.#)

area code & phone number

POPPA928@YAHOO.COM

email

I am 18 years of age or older

x [signature] (sign) 4-24-13 (date)

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Please approve the Red Hook option.

(print)

Johnshawn Ramirez

first name last name

274 Ralph AVE 5B

address apt.#

Brooklyn NY 11233

city state zip

1718 (851 8929

area code & phone number

email

I am 18 years of age or older

x Johnshawn Ramirez 4/24/13

sign date

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Please approve the Red Hook option.

(print)

Dayshawn [redacted] Ramirez

first name last name

468 Columbia 1B

address apt.#

Brooklyn NY 11231

city state zip

1917 749 5618

area code & phone number

email

I am 18 years of age or older

x Dayshawn Ramirez 4/24/13

sign date

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Please approve the Red Hook option.

(print)

Dashonne Ebanks

first name last name

100 Dwight St 1B

address apt.#

Brooklyn NY 11231

city state zip

347 659-2450

area code & phone number

Dashonne1@gmail.com

email

I am 18 years of age or older

x Dashonne Ebanks 4/24/13

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Please approve the Red Hook option.

(print)

Michael (first name) Abdullah (last name)

117 North oxford walk (address) 4G (apt.#)

Brooklyn (city) N.Y. (state) 11205 (zip)

718-855-5022 (area code & phone number)

flybaymike30@Gmail.com (email)

I am 18 years of age or older YES

x [signature] (sign) 4/24/13 (date)

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Fax:
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email:
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Please approve the Red Hook option.

(print)

Shakera Ra Ramirez

first name last name

467 Columbia St 6B

address apt.#

Brooklyn NY 11231

city state zip

347 314-0005

area code & phone number

Shakera_Ramirez@yahoo.com

email

I am 18 years of age or older

x Shakera Ramirez 4/24/13

sign date

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Fax:

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Please approve the Red Hook option.

(print)

Anthony — Pittenger

first name — last name

451 Columbia St — 4C

address — apt.#

Brooklyn — N.Y. — 11231

city — state — zip

917-757-7196

area code & phone number

email

I am 18 years of age or older

x [signature] — 4/24/13

sign — date

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email:

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Please approve the Red Hook option.

(print)

Amy (first name) Binin (last name)

253 Kane Street (address) 2F (apt.#)

Brooklyn (city) NY (state) 11231 (zip)

917-733-3842 (area code & phone number)

aminobi@aol.com (email)

x Amy Binin (signature) 4/24/13 (date)

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Please approve the Red Hook option.

(print)

Dante — first name
Bruno — last name

464 Columbia — address
4E — apt.#

Brooklyn — city
NY — state
11231 — zip

area code & phone number

email

x Dante Bruno — signature
4-24-13 — date

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Please approve the Red Hook option.

(print)

Jason — first name
Tomellas — last name

1965 Lafayette Ave — address
9H — apt.#

Bronx — city
NY — state
10473 — zip

718- 445-5011 — area code & phone number

Tomec36@aol.com — email

X _____ — signature
4-24-13 — date

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Please approve the Red Hook option.

(print)

Keri (first name) Goldberg (last name)

42 W. 13th St (address) 26 (apt.#)

NY (city) NY (state) 10011 (zip)

212 675-4893 (area code & phone number)

(email)

X Keri Goldberg (signature) 4/24/13 (date)

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Please approve the Red Hook option.

(print)

TERESA LOPEZ — LOPEZ

first name — last name

470 Columbia st — 5D

address — apt.#

Bklyn — NY — 11231

city — state — zip

718-858 2315

area code & phone number

email

x Theresa Lopez — 4/24/13

signature — date

mail:

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Please approve the Red Hook option.

(print)

Carmen Cruz

first name last name

48 Columbia St #2C

address apt.#

Brooklyn N.Y. 11231

city state zip

347-299-6105

area code & phone number

email

x Carmen Cruz 4/26/13

signature date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

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GowanusCanalComments.Region2@epa.gov

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Please approve the Red Hook option.

(print)

Derrick Dark

first name last name

470 Columbia 2C

address apt.#

Brooklyn NY 11231

city state zip

11231 347-724-2133

area code & phone number

email

x [signature] 4/21/13

signature date

mail:

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290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

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email:

GowanusCanalComments.Region2@epa.gov

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Please approve the Red Hook option.

(print)

Denise — first name
Torres — last name

135 Richards — address
14-F — apt.#

Brooklyn — city
NY — state
11231 — zip

area code & phone number

email

X _____ — signature
4/24/13 — date

mail:
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Please approve the Red Hook option.

(print)

VALTER MARTINIANO MARTINIANO

first name last name

address apt.#

94 DIKEMAN St Brooklyn

city state zip

N.Y. NY - NY 11231

area code & phone number

646 624 3821

email

x Valter Martiniano April 24/2013

signature date

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Please approve the Red Hook option.

(print)

Rodriguez — first name
Rosa — last name

791 Hicks Street
address
apt.#

Brooklyn — city
N.Y. — state
11231 — zip

area code & phone number

email

x Rosa Rodriguez — signature
4/24/13 — date

mail:
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Please approve the Red Hook option.

(print)
Natalie — first name
Desesus — last name

11 Lorraine St — address
2A — apt.#

Brooklyn — city
NY — state
11231 — zip

718 852-0287 — area code & phone number

Ndejesus1990@yahoo.com — email

x Natalie Desesus — signature
4/24/13 — date

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Please approve the Red Hook option.

(print)

Hector — first name
Rosa — last name

604 Clinton St — address
5A — apt.#

Brooklyn — city
N.Y. — state
11231 — zip

area code & phone number

email

x [signature] — signature
4/24/13 — date

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email:
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Please approve the Red Hook option.

(print)

Earnestine ROSS

first name last name

484 Columbia Street 1C

address apt.#

Brooklyn N.Y. 11231

city state zip

area code & phone number

email

x Earnestine Ross 4/24/13

signature date

mail:

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Please approve the Red Hook option.

(print)

Eddie B. Soto JR
first name last name

795 Hicks ST 2F
address apt.#

Brooklyn NY 11231
city state zip

area code & phone number

email

x E. Soto 4-24-13
signature date

mail:
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Please approve the Red Hook option.

(print)

Kim Veeney
first name

Veeney
last name

Kim Veeney 167
address apt.#

Morraine St NY 11231
city state zip

Brooklyn
area code & phone number

email

x Kim Veeney 4-24-13
signature date

mail:
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Please approve the Red Hook option.

(print)

Carl Faulkner

first name last name

11 Bush St S-A

address apt.#

Brooklyn NY 11231

city state zip

718 625 8275

area code & phone number

email

X Carl Faulkner 04/24/03

signature date

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Please approve the Red Hook option.

(print)

Eduardo Diaz
first name last name

472 Columbia St 1F
address apt.#

Brooklyn NY 11231
city state zip

3474357419
area code & phone number

email

X [signature] 4-24-2013
signature date

mail:
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Please approve the Red Hook option.

(print)

Elizabeth — first name
Adams — last name

11 Lorraine st — address
3A — apt.#

Bklyn — city
NY — state
11221 — zip

718 522-7002 — area code & phone number

email

x Elizabeth — signature
4-24-13 — date

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email:
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Please approve the Red Hook option.

(print)

Alyisa — first name
Fritz — last name

458 Columbia St — address
3B — apt.#

Bklyn — city
NY — state
11231 — zip

718 797 1121 — area code & phone number

email

x Alyisa Fritz — signature
4-24-13 — date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

I support the EPA Gowanus Canal Superfund - Red Hook option.

The improvement to an active local maritime industrial business, the economic benefits it will bring, the jobs that it will create, are all important to me and what I believe is best for the majority of the community of Red Hook.

Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community is without harm or risk of such.

Please approve the Red Hook option.

(print)

Anne R. Dougherty
first name last name

744 Westminster Rd.
address apt.#

Brooklyn NY 11230
city state zip

917-297-3872
area code & phone number

annedoriish@verizon.net
email

x Anne R. Dougherty 4/24/13
signature date

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Please approve the Red Hook option.

(print)

Deborah Ricard

first name last name

624 Ocean Avenue

address apt.#

Brooklyn NY 11226

city state zip

area code & phone number

dricard123@hotmail.com

email

x Ricard 4/24/13

signature date

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Please approve the Red Hook option.

(print)

Ilia — first name
Lopez Cosme — last name

606 Clinton Street — address
2D — apt.#

Brooklyn — city
N.Y. — state
11231 — zip

area code & phone number

email

x Ilia Lopez Cosme — signature
4/24/13 — date

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Please approve the Red Hook option.

(print)

Helen — first name

McMahon — last name

125 Coffey St. — address

2R — apt.#

Brooklyn — city

NY — state

11231 — zip

_____ — area code & phone number

catch227273@aol.com — email

x Helen McMahon — signature

4/24/13 — date

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Please approve the Red Hook option.

(print)

Sophie (first name) Bell (last name)

36 Saint Marks Place (address) (apt.#)

Brooklyn (city) NY (state) 11217 (zip)

(area code & phone number)

(email)

x Sophie Bell (signature) 4/24/13 (date)

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Please approve the Red Hook option.

(print)

Carolyn — first name
Lee — last name

464 Columbia St — address
2B — apt.#

Brooklyn — city
N.Y — state
11231 — zip

(347) 243-1519
area code & phone number

email

X Carolyn Lee — signature
4/24/13 — date

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Please approve the Red Hook option.

(print)

Natasha — first name
Boston — last name

15 Mill Street — address
3C — apt.#

Brooklyn — city
N.Y. — state
11231 — zip

1-347-763 2610 — area code & phone number

Tashia0130@aol.com — email

x Natasha Boston — signature
4/24/13 — date

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Please approve the Red Hook option.

(print)

Lydia (first name) Carpio (last name)

151 Richards St. (address) 2A (apt.#)

Brooklyn (city) N.Y. (state) 11231 (zip)

718 812-4815 (area code & phone number)

(email)

x Lydia Carpio (signature) 4/24/13 (date)

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Please approve the Red Hook option.

(print)

Melissa — first name
Melendez — last name

38 Centre Mall — address
5D — apt.#

Brooklyn — city
N.Y. — state
11231 — zip

area code & phone number

email

x M. Melendez — signature
4/24/13 — date

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Please approve the Red Hook option.

(print)

[illegible] | [illegible]
first name | last name

[illegible] | [illegible]
address | apt.#

Brooklyn | NY | 11231
city | state | zip

917 - 242 - 8769
area code & phone number

email

X [illegible] 4/24/2013
signature | date

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Please approve the Red Hook option.

(print)

Steven Harris
first name last name

355 Bush 5A
address apt.#

Brooklyn NY 11231
city state zip

(347)824-3484
area code & phone number

email

X [signature] 4-24-13
signature date

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Please approve the Red Hook option.

(print)

Shirley — first name
Lovett — last name

475 Columbia St — address
3B — apt.#

Bklyn — city
N.Y — state
11231 — zip

area code & phone number

email

x Shirley Lovett — signature
4-24-2013 — date

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Please approve the Red Hook option.

(print)

JUDITH Miranda
first name last name

16 mill st 6-B
address apt.#

Brooklyn N.Y. 11231
city state zip

area code & phone number

email

X Judith Miranda 3-24-2013
signature date

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Please approve the Red Hook option.

(print)

first name	last name
K Mary Ann	Laborda

address	apt.#
445 East 5th St,	Apt F2

city	state	zip
Brooklyn	NY	11218

area code & phone number: 718 908 - 9098

email: marilab16@hotmail.com

x _____ (signature) 4/24/13 (date)

mail:
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290 Broadway, 20th Floor
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Fax:
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email:
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Please approve the Red Hook option.

(print)

Lexi — first name
Boxer — last name

11 Waverly Pl — address
2F — apt.#

New York — city
NY — state
10003 — zip

203 249 3600 — area code & phone number

Lexbox123@aol.com — email

X _____ — signature
4/24/13 — date

mail:
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290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
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email:
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Please approve the Red Hook option.

(print)

Taylor (first name) Nash (last name)

459 Columbia Street (address) 5B (apt.#)

Brooklyn (city) NY (state) 11231 (zip)

(area code & phone number)

TaylorNash45@gmail.com (email)

x [signature] (signature) 4/24/13 (date)

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Please approve the Red Hook option.

(print)

Shawn Sutter

first name last name

466 Columbia St 7A

address apt.#

Brooklyn NY 11231

city state zip

area code & phone number

email

X Shawn Sutter 4/24/13

signature date

mail:

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Please approve the Red Hook option.

(print)

first name	last name
WILLIE	CORLEY

address: 470 - Columbia apt.#: 2G

city: BKY state: NY zip:

area code & phone number:

email:

x Willi Corley 4/24/13

signature date

mail:
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Please approve the Red Hook option.

(print)

Jennifer (first name) Fleming (last name)

350 - 57th St. (address) (apt.#)

Brooklyn (city) NY (state) 11220 (zip)

(area code & phone number)

(email)

X (signature) 4/24/13 (date)

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Please approve the Red Hook option.

(print)

Thomas Finan
first name last name

604 Clinton St 1D
address apt.#

Brooklyn NY 11231
city state zip

area code & phone number

email

X Thomas Finan 4/24/13
signature date

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Please approve the Red Hook option.

(print)

Adam — first name
Mc Gilvery — last name

464 Columbia St — address
4B — apt.#

Brooklyn — city
NY — state
11231 — zip

area code & phone number

email

x [signature] — signature
4/24/13 — date

mail:
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Please approve the Red Hook option.

(print) Jose Lopez

first name: Jose | last name: Lopez

address: 124 Bush St | apt.#: 5A

city: Brooklyn | state: NY | zip: 11231

area code & phone number:

email:

x _____ signature | date: 4/24/13

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Please approve the Red Hook option.

(print)

Michael — first name
Manigo — last name

82 Dwight St — address
8G — apt.#

Brooklyn — city
NY — state
11231 — zip

347 686 2167 — area code & phone number

email

x [signature] — signature
4/24/13 — date

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Please approve the Red Hook option.

(print)

Dwight — first name
Allen — last name

486 Columbia St — address
4B — apt.#

Brooklyn — city
NY — state
11231 — zip

area code & phone number

email

x [signature] — 24 April 2013 — signature / date

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IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

1

I support the EPA Gowanus Canal Superfund - Red Hook option.

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Please approve the Red Hook option.

(print)

Aylise (first name) Sheftall (last name)

458 Columbia Street (address) 3B (apt.#)

Brooklyn (city) NY (state) 11231 (zip)

718-797-1121 (area code & phone number)

(email)

x Aylise Sheftall (signature) 4-24-13 (date)

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Please approve the Red Hook option.

(print)

Samantha (first name) Roberson (last name)

444 Columbia St (address) 4F (apt.#)

Brooklyn (city) NY (state) 11231 (zip)

917 651- 7102 (area code & phone number)

baby1303@Gmail.com (email)

x Samantha C. Roberson (signature) 4-24-13 (date)

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290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

GowanusCanalComments.Region2@epa.gov

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Please approve the Red Hook option.

(print)

Yolanda (first name) Rodriguez (last name)

606 Clinton St. (address) 1C (apt.#)

Brooklyn (city) N.Y. (state) 11231 (zip)

(area code & phone number)

(email)

x Yolanda Rodriguez (signature) 4/24/13 (date)

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

I support the EPA Gowanus Canal Superfund - Red Hook option.

The improvement to an active local maritime industrial business, the economic benefits it will bring, the jobs that it will create, are all important to me and what I believe is best for the majority of the community of Red Hook.

Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community is without harm or risk of such.

Please approve the Red Hook option.

(print)

Bernarda Rodriguez
first name / last name

829 Hicks St 1E
address / apt.#

Brooklyn NY 11231
city / state / zip

_____
area code & phone number

_____
email

x [signature] 4/24/13
signature / date

mail:
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Please approve the Red Hook option.

(print)

Ronell (first name) mckay (last name)

464 columbia street (address) 1C (apt.#)

Brooklyn (city) N.Y (state) 11231 (zip)

347 740-8629 (area code & phone number)

rrilla2@gmail.com (email)

x R. McKay (signature) 4/24/13 (date)

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Please approve the Red Hook option.

(print)

Jum — first name
France — last name

484 Columbia St — address
6C — apt.#

Brooklyn — city
NY — state
11231 — zip

347 506 6420 — area code & phone number

email

x Jum France — signature
4/24/13 — date

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Please approve the Red Hook option.

(print)

Mildred — first name
Montero — last name

420 - Columbia St — address
6-A — apt.#

Brooklyn — city
NY — state
11231 — zip

area code & phone number

Mildred_Montero@~~yahoo~~yahoo.com — email

x [signature] — signature
4/24/13 — date

mail:
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1

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Please approve the Red Hook option.

(print)

Alexa — first name
Ramirez — last name

467 Columbia St — address
1B — apt.#

BklyN — city
NY — state
11231 — zip

347 7995618 — area code & phone number

email

X [signature] — signature
4/24/13 — date

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Please approve the Red Hook option.

(print)

John — first name
Berryhill Jr — last name

93 Center Mall — address
SC — apt.#

Bklyn — city
N.Y. — state
11231 — zip

347-867-7777 — area code & phone number

email

X John Berryhill Jr — signature
4-24-2013 — date

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Please approve the Red Hook option.

(print)

Nicole — first name
Crump — last name

317 N 2st — address
apt.#

Allentown — city
PA — state
18102 — zip

347-202-2097 — area code & phone number

email

x [signature] — signature
4-24-13 — date

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Please approve the Red Hook option.

(print)

Ada — first name
Matos — last name

82 Dwight St — address
10D — apt.#

Brooklyn — city
NY — state
11231 — zip

347 ——— — area code & phone number

A.matos250@yahoo.com — email

x A. Matos — signature
4/24/13 — date

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Please approve the Red Hook option.

(print)

GARY (first name) IVEY (last name)

GARY IVEY 1E
address apt.#

486 Columbia St NY 11231-2024
city state zip

BROOKLYN
area code & phone number

email

x [signature] 04-24-13
signature date

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Fax:
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Please approve the Red Hook option.

(print)

Maria Davila
first name last name

505 Columbus St apt 4B 4B
address apt.#

city state zip

area code & phone number

email

X Maria Davila 4/24/13
signature date

mail:
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Please approve the Red Hook option.

(print)

K — first name
Als — last name

40 Centre Mall — address
4B — apt.#

Bklyn — city
NY — state
11231 — zip

718 222-8889 — area code & phone number

email

x [signature] — signature
4/24/13 — date

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Please approve the Red Hook option.

(print)

McDonald — first name

Russell — last name

22 Mill St — address

6A — apt.#

Brooklyn — city

NY — state

11231 — zip

718 404 7645 — area code & phone number

email

I am 18 years of age or older

x McDonald Russell — sign

4/24 — date

mail:

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Please approve the Red Hook option.

(print)

Alice (first name) Tapia (last name)

167 Bush St. 2D
address apt.#

Brooklyn (city) NY (state) 11231 (zip)

347 636-0836
area code & phone number

womeintouch@gmail.com
email

I am 18 years of age or older

x Alice Tapia (sign) 4/24/13 (date)

mail:
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email:
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Please approve the Red Hook option.

(print)

Beatrice — first name
Gonzalez — last name

16 Hill St — address
6E — apt.#

Brooklyn — city
NY — state
11231 — zip

(718) 858-6782 — area code & phone number

email

I am 18 years of age or older

x Beatrice Gonzalez — sign
4/24/13 — date

mail:

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290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

GowanusCanalComments.Region2@epa.gov

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Please approve the Red Hook option.

(print)

Tammeisha Stith

first name last name

15 Bush Street 3D

address apt.#

Brooklyn NY 11231

city state zip

718 797-2406

area code & phone number

T.Stth@aol.com

email

I am 18 years of age or older

x _____ 4/24/13

sign date

mail:

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Fax:

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email:

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Please approve the Red Hook option.

(print)

Larry Berry
first name | last name

11 Lorraine street 6A
address | apt.#

Brooklyn NY 11231
city | state | zip

347 208 5805
area code & phone number

larry1.berry92@yahoo.com
email

I am 18 years of age or older

x Larry Berry 4/23/13
sign | date

mail:

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Please approve the Red Hook option.

(print)

Kourtnea Stith
first name last name

75 Bushs 3D
address apt.#

Brooklyn NY 11231
city state zip

718 797-2406
area code & phone number

Kourtnea.Stith@gmail.com
email

I am 18 years of age or older

x K. Stith 4/24/13
sign date

mail:

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Please approve the Red Hook option.

(print)

Joseph ~~Alston~~ Alston

first name last name

75 Bush St 3D

address apt.#

Brooklyn NY 11231

city state zip

718 797 2406

area code & phone number

email

I am 18 years of age or older

X _____ 4-24-2013

sign date

mail:

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Please approve the Red Hook option.

(print)

Kashif — first name
Paniagua — last name

450 Columbia st — address
3B — apt.#

Brooklyn — city
Ny — state
11231 — zip

347 742-3035 — area code & phone number

email

I am 18 years of age or older

x Kashif Paniagua — sign
4-24-2013 — date

mail:

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Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community are without harm or risk of such.

Please approve the Red Hook option.

(print)

Crystal — first name
Sostre — last name

748 Henry St — address
3E — apt.#

Brooklyn — city
NY — state
11231 — zip

718 875-5242 — area code & phone number

RCSostre@gmail.com — email

I am 18 years of age or older

x [signature] — sign
4/13 — date

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Manhattan, NY 100007-1866

Fax:
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email:
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Please approve the Red Hook option.

(print)

KHADeem — first name
Spartman — last name

37 Centre mall — address
3E1 — apt.#

Brooklyn — city
NY — state
11231 — zip

718 930-8732 — area code & phone number

email

I am 18 years of age or older

X K. Spartman — sign
9.24.13 — date

mail:

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290 Broadway, 20th Floor
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Please approve the Red Hook option.

(print)

DAISY — first name

RAMOS — last name

126 Pioneer ST. — address

4 E — apt.#

BKLYN. — city

N.Y. — state

11231 — zip

_____ _____ — area code & phone number

_____ — email

x Daisy Ramos — signature

4/24/13 — date

mail:

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Please approve the Red Hook option.

(print)

Jermaine Gregg
first name last name

11 Bausch St LA
address apt.#

Brooklyn N.Y. 11231
city state zip

917 564-5331
area code & phone number

JermaineGregg@Gmail.com
email

X Jermaine Gregg 4/24/13
signature date

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Please approve the Red Hook option.

(print)

Yuvid — first name
Morla — last name

770 Henry St — address
3B — apt.#

Brooklyn NY — city
New York — state
10037 — zip

(347) 353-3153 — area code & phone number

email

x [signature] — signature
4/24 — date

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Fax:
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email:
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Please approve the Red Hook option.

(print)

Jerone — first name
Britt — last name

772 Henry Street — address
3D — apt.#

Brooklyn — city
N.Y. — state
11231 — zip

(718) 243-1754 — area code & phone number

Jeronebritt26@yahoo.com — email

X _____ — signature
4/24 — date

mail:
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Manhattan, NY 100007-1866

Fax:
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email:
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I support the EPA Gowanus Canal Superfund - Red Hook option.

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Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community is without harm or risk of such.

Please approve the Red Hook option.

(print)

Geraldo — first name
Garcia — last name

829 Hicks — address
6E — apt.#

Brooklyn — city
NY — state
11231 — zip

area code & phone number

email

X signature
4/24 — date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

I support the EPA Gowanus Canal Superfund - Red Hook option.

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Please approve the Red Hook option.

(print)

Henry — first name
Clarke Sr — last name

507 Columbia St — address
2B — apt.#

NYC — city
NY — state
11231 — zip

1718 536-9609 — area code & phone number

email

x Henry P Clarke Sr — signature
4/24/13 — date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
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Please approve the Red Hook option.

(print)

Ty'Quasia Plowden

first name last name

82 Dwight St 3A

address apt.#

Bklyn N.Y 11231

city state zip

718-852-9106

area code & phone number

email

x Ty'Quasia Plowden 4-24-13

signature date

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

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Please approve the Red Hook option.

(print)

Luis — first name

Perez — last name

722 Henry — address

1B — apt.#

BKlyn — city

NY — state

11231 — zip

347 783-4641 — area code & phone number

email

I am 18 years of age or older

X [signature] — sign

4/24 — date

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

GowanusCanalComments.Region2@epa.gov

2

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Please approve the Red Hook option.

(print)

Irene — first name
Sanchez — last name

38 Bush St — address
1D — apt.#

Brooklyn — city
N.Y — state
11231 — zip

347-827-6073
area code & phone number

Irene3988@Yahoo.com
email

I am 18 years of age or older

x Irene Sanchez — sign
4/24/13 — date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

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Please approve the Red Hook option.

(print)

Russell — first name
Goddard — last name

472 Columbia — address
5D — apt.#

Brooklyn — city
NY — state
11231 — zip

_____ _____ — area code & phone number

_____ — email

I am 18 years of age or older

X _____ — sign
4-24-12 — date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

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Please approve the Red Hook option.

(print)

Iesha — first name

Webster — last name

82 Dwight Street — address

6E — apt.#

Bklyn, ny — city

11231 — zip

347-564-6310
718-596-4047 — area code & phone number

edjpmpa@aol.com — email

I am 18 years of age or older

x Lesliah Webster — sign

4-24-13 — date

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

GowanusCanalComments.Region2@epa.gov

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Please approve the Red Hook option.

(print)

Freddy — first name
Blondell — last name

444 Columbia st. — address
1B — apt.#

Brooklyn — city
NY — state
11231 — zip

347 278 3429 — area code & phone number

FBlondell@Aol.com — email

I am 18 years of age or older

X _____ 4-24-13 —
sign — date

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

GowanusCanalComments.Region2@epa.gov

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Please approve the Red Hook option.

(print)

Iris — first name

Chico — last name

38 Bush St — address

IB — apt.#

Brooklyn — city

NY — state

11231 — zip

347 777-9681 — area code & phone number

Iris Chico 123@gmail.com — email

I am 18 years of age or older

x Iris Chico — sign

4/24/13 — date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

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Please approve the Red Hook option.

(print)

EARL — first name

THOMPSON — last name

101 CENTRE — address

5-D — apt.#

BROOKLYN — city

N.Y. — state

11231 — zip

718 674-2945 — area code & phone number

email

I am 18 years of age or older

x Earl Thomp — sign

4-24-13 — date

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

GowanusCanalComments.Region2@epa.gov

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Please approve the Red Hook option.

(print)

Juan — first name
Martinez — last name

80 Dwight St — address
3C — apt.#

Brooklyn — city
NY — state
11231 — zip

area code & phone number

Cacuba@gmail.com — email

I am 18 years of age or older

X Juan Martinez 4/29
sign — date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

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Please approve the Red Hook option.

(print)

Raven — first name
Bush — last name

108 Mills — address
1D — apt.#

Bklyn — city
NY — state
11231 — zip

718 - 797-0414 — area code & phone number

Ravenbsh@gmail.com — email

I am 18 years of age or older

x [signature] — sign
4-24-13 — date

mail:
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290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

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Please approve the Red Hook option.

(print)

JERMAINE — first name
GRADY — last name

116 Mill st — address
4D — apt.#

BKLYN — city
NY — state
11231 — zip

714 858 1319 — area code & phone number

JGRADY1975@GMAIL — email

I am 18 years of age or older

x [signature] — sign
4/24/2013 — date

mail:
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290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

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Please approve the Red Hook option.

(print)

Lateek White

first name | last name

100 centre mall 3A

address | apt.#

Brooklyn New York 11231

city | state | zip

718 625-3832

area code & phone number

athurmond1983.@yahoo.com

email

I am 18 years of age or older

x [signature] 4/24/13

sign | date

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

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Please approve the Red Hook option.

(print)

Gerald (first name) Galloway (last name)

116 Mill street (address) 3A (apt.#)

Brooklyn (city) NY (state) 11231 (zip)

11231 347-599-1119 (area code & phone number)

gallowaygerald21@yahoo.com (email)

I am 18 years of age or older

x Gerald O. Galloway (sign) 4/24/13 (date)

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

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Please approve the Red Hook option.

(print)

Irene Hunt

first name last name

40 Centre Mall 6F

address apt.#

Brooklyn NY 11231

city state zip

917 640-3864

area code & phone number

email

I am 18 years of age or older

x [signature] 4/24/13

sign date

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

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Please approve the Red Hook option.

(print)

Murodillo — first name

Najmiev — last name

129 Dwight st — address — apt.#

Brooklyn — city

NY — state

11231 — zip

718 522-4422 — area code & phone number

email

I am 18 years of age or older

X _____ — sign

4/22/13. — date

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

GowanusCanalComments.Region2@epa.gov

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Please approve the Red Hook option.

(print)

Balfour — first name
Thompson — last name

129 Dwight Street — address
apt.#

Brooklyn — city
New York — state
11231 — zip

area code & phone number

Bizzy4R@Aol.com — email

I am 18 years of age or older

X _____ — sign
04/24/2013 — date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

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Please approve the Red Hook option.

(print)

Steven — first name
Washington — last name

444 Columbia St — address
2B — apt.#

Brooklyn — city
NY — state
11231 — zip

~~917~~ 678-631-6800
area code & phone number

Stevenwash87@gmail.com
email

I am 18 years of age or older

x Steven Washington — sign
4/24/13 — date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

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Please approve the Red Hook option.

(print)

Timothy (first name) Loyd (last name)

Brooklyn N.Y. 12A
address apt.#

135 Richard street. NY 11231
city state zip

718 781 5379
area code & phone number

Timdawggs@gmail.com
email

I am 18 years of age or older

x [signature] 4-24-13
sign date

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

GowanusCanalComments.Region2@epa.gov

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Please approve the Red Hook option.

(print)

Kenya (first name) Peavy (last name)

444 Columbia St (address) 2B (apt.#)

Brooklyn (city) NY (state) 11231 (zip)

678 361 6800
area code & phone number

Stevenlwash87@gmail.com
email

I am 18 years of age or older

x [signature] (sign) 4/24 (date)

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

GowanusCanalComments.Region2@epa.gov

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Please approve the Red Hook option.

(print)

David Loyd

first name last name

135 Richard Street. 12A

address apt.#

Brooklyn N.Y. 11231

city state zip

718 781 53 79

area code & phone number

Timdawgg@gmail.com

email

I am 18 years of age or older

x [signature] 4-24-13

sign date

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

GowanusCanalComments.Region2@epa.gov

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Please approve the Red Hook option.

(print)

Jamal — first name
Cates — last name

9 Lorraine St — address
3D — apt.#

Brooklyn — city
N.Y — state
11231 — zip

347 320 4445
area code & phone number

MarlygredHook@yahoo.com
email

I am 18 years of age or older

x Jamal Cates — sign
4/24/13 — date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
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Please approve the Red Hook option.

(print)

Vernon — first name

Neal — last name

135 Richard st — address

5A — apt.#

Brooklyn — city

NY — state

11231 — zip

347 398-3317 — area code & phone number

email

I am 18 years of age or older

x Vernon Neal — sign

4/24/13 — date

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

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Please approve the Red Hook option.

(print)
LONNIE BODRICK
first name last name

9C
address apt.#

82 Dwight St N.Y 11231
city state zip

(347) 931-9296
area code & phone number

email
I am 18 years of age or older

X Lonnie Bodrick 4/24
sign date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

I, the sender, vote that I do not want this project to proceed.
krystle cooper to: Region2 GowanusCanalComments 04/24/2013 12:32 AM

History: This message has been forwarded.

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

- Children
- Numerous public and private schools which use the fields for physical education & sports teams
- Residents of the Red Hook Houses and the surrounding neighborhood
- Soccer, softball, baseball, football, handball, basketball, track & field teams and enthusiasts
- Swimmers of all ages
- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--
krystle cooper
dimplezz89@gmail.com
124 bush street
brooklyn, new york
resident

I, the sender, vote that I do not want this project to proceed.

Patti KELLY to: Region2 GowanusCanalComments 04/24/2013 01:11 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Soccer, softball, baseball, football, handball, basketball, track & field teams and enthusiasts
- Swimmers of all ages
- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--

Patti KELLY
pkellystainedglass@yahoo.com
368 east 8th street
New York, New York
Parks User

I, the sender, vote that I do not want this project to proceed.

Letitia Doggett to: Region2 GowanusCanalComments 04/24/2013 02:36 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Soccer, softball, baseball, football, handball, basketball, track & field teams and enthusiasts
- Swimmers of all ages
- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--

Letitia Doggett
tcdoggett@aol.com
30 Windsor Place
Brooklyn , NY
resident

I, the sender, vote that I do not want this project to proceed.

stephanie sanders to: Region2 GowanusCanalComments 04/24/2013 07:48 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Soccer, softball, baseball, football, handball, basketball, track & field teams and enthusiasts
- Swimmers of all ages
- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--
stephanie sanders
stephanias58@gmail.com
28 3rd place
Brooklyn, NY
resident

I, the sender, vote that I do not want this project to proceed.

Tony Rivera to: Region2 GowanusCanalComments 04/24/2013 08:54 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Numerous public and private schools which use the fields for physical education & sports teams
- Residents of the Red Hook Houses and the surrounding neighborhood
- Soccer, softball, baseball, football, handball, basketball, track & field teams and enthusiasts
- Swimmers of all ages
- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--
Tony Rivera
Tony812many@gmail.com

(no subject)
NYCFireSprinkler to: Region2 GowanusCanalComments 04/24/2013 09:06 AM

Mr. Christos Tsiamis,

I have spent a great deal of my life going back and forth through Red Hook , working as a young boy with my father and living in other parts of Brooklyn. I always had faith in Red Hook, even when people said don't walk the streets here years ago I never paid mind because there was always feeling of unity here regardless of the path people had taken they stood together to protect this area RIGHT or WRONG.

A new dawn has occurred here with educated, health conscious people that are graciously filled the streets adopting Red Hook as their own. I have grasped Red Hook and not only grown as a businessman here but opened my heart and moved my whole life here. Now that I am fully invested and growing a family here You would like to replenish the poison once here but in a different way.

I am first and foremost a business minded professional and I understand the logistics and power created with assets and I am aware of the circulation of monies within.

I ask you this question :

How will this development benefit the people fully invested here ?

It will not, this will force me to move my investments prior to appreciation
force me to move my family and begin to set roots elsewhere

Then my business will follow on the outward progression leaving Red Hook stranded again, giving allegiance to others to proceed as they see fit without regard.

I understand this is what you want and I can not sit idle to allow this to reroute my home.

Maybe you can come down here and fool some masses but I am not so obedient. I will fight for my home and I will strive to implode any plans against my business here.

We have a great community here the stands together and does not panic during depression but only unites and prospers.

My family left Greece for a better way to provide for me and sacrificed there life for mine, I will not let them down and allow the destruction of what they built. I know were I came from and am willing to fight for were I am.

It is possible that legislation may provide a path for this, but I live here and a clear path of prosperity will not easily be taken.

YOU WANT RED HOOK ? YOU WILL HAVE TO FIGHT FOR IT AS I DID.

Even if I cannot stop you I can make sure others will not benefit from this and there will be a mass of contractors deterred from losing money to benefit you.

Is it really worth it to take my home ? Do you really want to look all the babies here and smile while you destroy their future.

Please advise me accordingly Tell me how will this benefit me as a resident ?
How will you guarantee the security and safety of my family ?

I appreciate your time. John Alatsis

John's Plumbing & Heating Inc.

166 Dikeman Street
Brooklyn, New York 11231
Phone: (718)797-2103 ~ Fax: (718)797-5687NYCFIRESPRINKLER@AOL.COM

EPA GOWANUS CANAL CLEAN-UP PLAN

Dillon, Lori to: Region2 GowanusCanalComments 04/24/2013 10:07 AM
Cc: Natalie Loney

Dear Mr. Tsiamis:

No more Poo Poo Tsunamis!

I love your plan to clean the Gowanus Canal AS IS and I want the EPA to JUST DO IT!

Clean the entire canal including the CSO's!

In the immortal words of Princess Leia:

This is our most desperate hour. Help [us], Obi-Wan Kenobi. You're [our] only hope!

Sincerely yours,
Lori

Lori G. Dillon
Carroll Gardens resident since 1990 (President Street between Hoyt and Bond)

Lori G. Dillon
Litigation Coordinator
Cadwalader, Wickersham & Taft LLP
One World Financial Center, 19-225
200 Liberty Street
New York, NY 10281
tel. 212-504-6480
fax 212-504-6666
lori.dillon@cwt.com
www.cadwalader.com

Wait 'til this year!

please consider the environment before printing this email

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Fwd: [CGNA] DO you want another poo poo tsunami in the Gowanus Canal? Write to the EPA by Friday!

Beverly Dicovello to: Region2 GowanusCanalComments 04/24/2013 10:30 AM

History: This message has been replied to.

Sent from my iPhone

Begin forwarded message:

From: TRIADA SAMARAS <lltcomet@msn.com>
Date: April 24, 2013 10:00:50 AM EDT
Subject: [CGNA] DO you want another poo poo tsunami in the Gowanus Canal? Write to the EPA by Friday!

DO you want another poo poo tsunami in the Gowanus Canal??
Write to the EPA by Friday! See BELOW:

Do you remember the Gowanus Canal's Poo Poo Tsunami? You SHOULD!
It was a toxic and disgusting event fully illustrating the Gowanus Canal's CSO's (Combined Sewer Overflows) problem in video better than any full length lecture on the topic could ever do. The PMFA bog exclaimed: "HOLY CRAP!" and featured the video.

Do we, the residents of the Gowanus Canal area, want the Gowanus Canal to have any more poo poo tsunamis??? Of course not! The EPA's Proposed PRAP (Plan to Clean Up the Gowanus Canal) currently includes the treatment of the CSO problem.

If you would like to see the CSO's problem addressed along with the other chemical contamination in the Gowanus Canal, you must speak up by the Friday April 27 deadline. You must make your voice heard this week.

We at CORD urge you to: PLEASE!
Take one giant civic step forward for our neighborhood and send a "YES" email to the EPA!

Write to the EPA by Friday! See BELOW:

Dear Mr. Tsiamis:

No more Poo Poo Tsunamis!
I like love your plan to clean the Gowanus Canal AS IS and I want the EPA to JUST DO IT!
Clean the entire canal including the CSO's!
Sincerely yours,
xxxxxxxxx

Mail your comments to:

Christos Tsiamis
Project Manager
Central New York Remediation Section
U.S. Environmental Protection Agency
290 Broadway, 20th Floor
New York, New York 10007-1866
Or email your comments to:
e-mail: GowanusCanalComments.Region2@epa.gov

OR, contact
Natalie Loney, Community Involvement Coordinator, at 212-637-3639,
loney.natalie@epa.gov.to:
e-mail:GowanusCanalComments.Region2@epa.gov
The deadline is this Friday April 27.
JUST DO IT.

Reply via web post Reply to sender Reply to group Start a New Topic Messages in this topic (1)

Recent Activity:
Visit Your Group
The CGNA listserv is an all volunteer community forum serving Carroll Gardens. Everyone from the neighborhood - renters, owners, business owners and others who work here - are welcome.

The CGNA meets at the Hannah Senesh Community Day School, 342 Smith St (1st & 2nd Pl). Meetings are held in the first floor Conference Room (take elevator in lobby to #1) from 7:00PM til 9:00PM. Repeats: This event repeats every month on the first Wednesday until Wednesday June 13, 2012.
questions? Maria Pagano:call 718 858 4699 or email: <rhea436@aol.com>

Group Email Addresses
Related Link: http://www.carrollgardensbrooklyn.org/
Post message: CGNA@yahoogroups.com
Subscribe: CGNA-subscribe@yahoogroups.com
Unsubscribe: CGNA-unsubscribe@yahoogroups.com
List owner: CGNA-owner@yahoogroups.com

MARKETPLACE

YAHOO! GROUPS
Switch to: Text-Only, Daily Digest • Unsubscribe • Terms of Use • Send us Feedback

Tsiamis, Christos

From: Eymund Diegel [eymund@gmail.com]
Sent: Wednesday, April 24, 2013 10:34 AM
To: Tsiamis, Christos
Cc: Carr, Brian
Subject: Superfund Plan comments from Eymund Diegel
Attachments: 0_Superfund Proposed Plan Comments_ Eymund Diegel April 2013.pdf

Dear Christos,

Please find attached some comments on the Superfund Team's Proposed Remedial Action Plan.

Thanks to all for the great work you have been doing on moving the cleanup program forward.

Best

Eymund

2011 July 17 Gowanus Canal oxygenation aerator "life support" flotation buoy covered in sewage scum. *photo by by backgroundgeo_Flickr*

Comments on the Gowanus Canal Superfund Site Proposed Remedial Action Plan

by Eymund Diegel, Gowanus Canal Community Advisory Group at large member and local resident

439 Sackett Street, Brooklyn, New York, 11231 telephone: 1 718 596 1464 e-mail: eymund@gmail.com

Eymund Diegel
439 Sackett Street
Brooklyn, NY 11231
Tel. 1 718 596 1464
e-mail: eymund@gmail.com

22 April 2013

RE: GENERAL LETTER OF SUPPORT FOR THE GOWANUS CANAL SUPERFUND PLAN, RED HOOK LANDFILL OPTION, AS WELL AS CONCERNS & SUGGESTIONS FOR ADDITIONAL ACTIONS (5TH STREET BASIN, CANAL WIDENING, UPLAND SITE ACQUISITION & FLOOD MANAGEMENT PLANNING)

Dear Superfund Team,

I would like to compliment the community groups, USEPA, NYSDEC and New York City on working together to cleanup our neighborhood waterway and to create a world class waterfront asset for New York City.

Overall, I think this is a good well thought out plan, prepared in an impressively short time with meaningful and constructive community input.

The inclusion of the community concerns about combined sewer overflows and long term water quality improvements will be an investment appreciated for generations to come.

I strongly support the Superfund Team's philosophy of "What happens in Vegas, stays in Vegas" and feel that the on site management of dredge spoils at the proposed Red Hook Landfill Facility or some other locally selected site is the most sustainable and cost effective solution.

I would like to comment in greater detail on a number of aspects of the Plan:

1- Landfilling & Sludge Management Proposals
2- Canal Edge Treatment & Wetland Reconstruction
3- Soil Remediation & Water Quality Standards Targets & Use Attainability Analysis
4- Integration of Watershed wide planning into the water quality remediation plan
5- Upland opportunity sites for the Plan
6- Archeological commemoration projects

Thank you for the hard work you have all put into this plan.

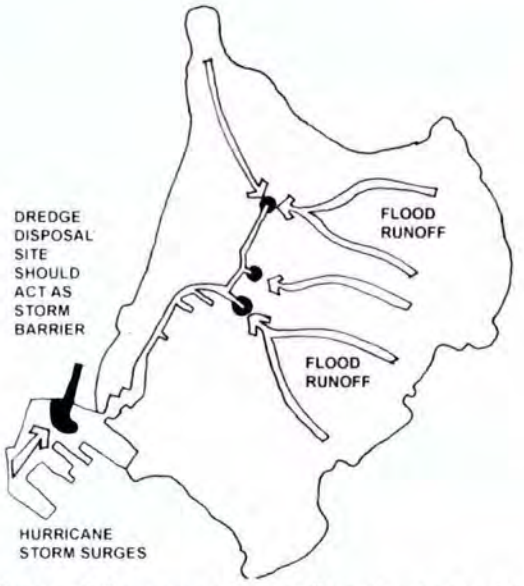
Eymund

Landfilling & Sludge Management Proposals

Remediation of contaminated dredge spoils should happen locally. This includes the more contaminated coal tar sludges from the upper part of the Canal.

I support the proposal to have a remediation facility built on the Gowanus Bay Terminal site in Red Hook. It will provide an opportunity to rebuild the Red Hook waterfront on a more sustainable, community friendly partnership model.

Because it is uniquely sited at the mouth of the Gowanus Canal it can help advance the goals of the City's Coastal Resiliency Plan to create storm surge breakers that can **help reduce flooding levels** in Red Hook and Gowanus.



General Gowanus Canal floodwater entry points in the Watershed

The Gowanus Bay Terminal waterfront redevelopment plan **supports the City's commitment to improving air quality by reducing freight truck traffic** on local highways and increasing facilities for low emissions waterborne transport. Air pollution from the Brooklyn Queens Expressway is currently the primary environmental health hazard for local residents, far greater than any risks from buried Gowanus industrial pollutants.

Supporting the lowest carbon footprint solution by looking at local water borne based scenarios and maintaining a sustainable industrial waterfront will help reduce air pollution while **finding a common ground for the sometimes competing land uses that will revitalize the Gowanus Canal and its watershed.**

2012 Red Hook proposed oyster reefs wave breakers, Scape_Landscape Architecture, Rising Currents MOMA Exhibit

Primary Public Hazard in Red Hook and Gowanus is Air Pollution, not Soil or Water Pollution

Local Superfund sludge processing and new docks can help with this Air Quality problem: Darker brown on map shows major truck generated PM 2.5 dust pollutants from Brooklyn Queens Expressway, closer to housing than the Gowanus Bay Terminal (GBX) site. A revitalized harbor transport system will help move bulk transport from trucks to cleaner barges.
Map from 2009 NYC Community Air Quality Survey.

Diesel truck yard parking lot at 2nd Street and Gowanus Canal with asthma causing fume traces on wall

By designing the Superfund plan to use waterborne transport, and restructuring the Canal to make it easier to use for sustainable water based transport, the Superfund Team will be improving not just water and soil pollution reduction targets, but air quality goals ones as well.

Respect Red Hook Residents' Concerns about "No Toxics" in our backyard. Even at a distance of 2000 feet from the closest home, the concerns by some local residents that a temporary state of the art Red Hook waste management facility is an undesirable neighbor is appreciated and should be addressed. More education and outreach focused on Red Hook is needed for dialogue as the Plan moves forward.

The **measure of community support or opposition for the landfill site should be based on an objective survey or referendum of local residents**, not just a vocal minority. Should the Red Hook site be rejected, the Superfund Team should make every effort to find another **local** processing alternative. All sites should be subject to the SEQRA environmental review process. Other potential Gowanus Canal sludge processing site candidates could include the following:

Public Place
(459 Smith Street)

Bayside Fuel Depot
(510 Sackett Street) for which redevelopment and remediation plans have been considered

Thomas Greene Park waterfront site
(226 Nevins, corner of Nevins and Butler Street)

Oil saturated soils at the Fulton MGP / Thomas Greene Park, 226 Nevins waterfront lot truck yard
31 July 2011

Abandoned Bayside Fuel Depot site on Sackett Street, affected by Fulton MGP plume and oil runoff.
8 July 2112

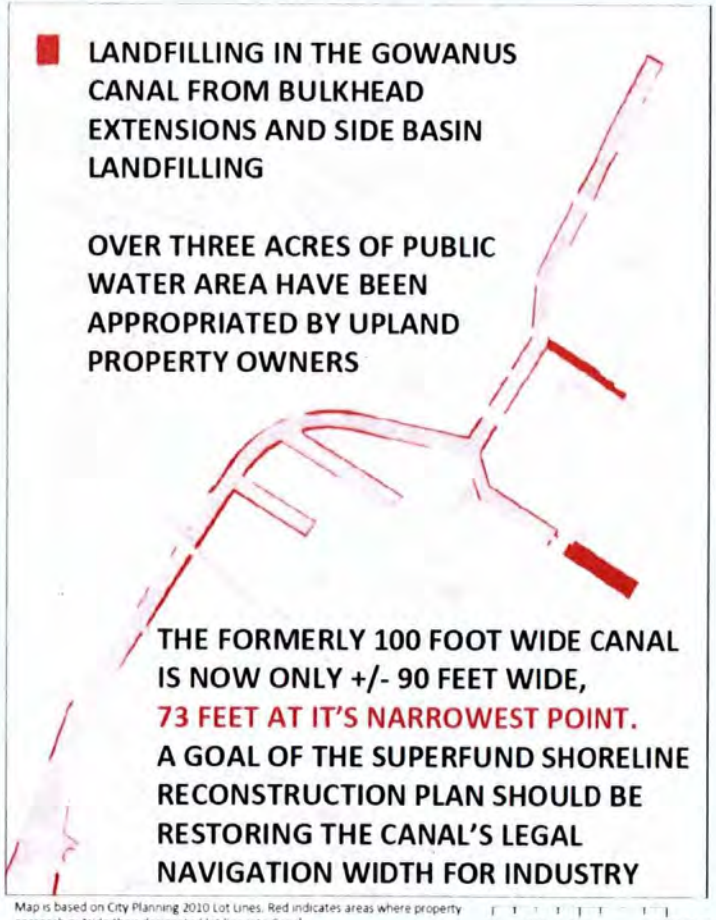
Public Place / Citizens Manufacturing Gas Plant site / Gowanus Green Redevelopment Site, Huntington St.
15 December 2012

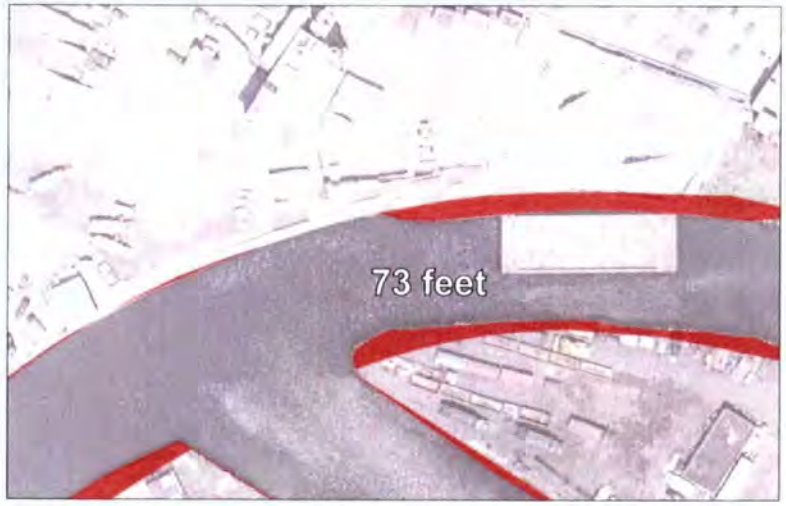
All pictures courtesy of the Gowanus Canal Conservancy Grassroots Mapping Balloon Photography Program

All the above Gowanus waterfront sites are already heavily contaminated and should be looked at as potential staging areas for the sludge processing as the cleanup proceeds from north to south, and from the side basins to the main Canal.

Eminent domain measures have been used unsuccessfully by the City to revitalize Gowanus Canal sites such as Public Place. Instead of eminent domain, the City and EPA should work cooperatively with the current owners through the Mayor's Office for Environmental Remediation to integrate these upland sites into the current Superfund Plan. The current property owners would all benefit from increased property values as a result of both on site cleanup and Canal remediation.
As a local resident, **I would personally welcome a temporary cleanup facility at the end of my Sackett Street block** given the promises of a cleaned up waterfront and street end water access.

To support waterfront industrial redevelopment, the Superfund team should **strategically pursue landfilling opportunities that can help better engineer the Gowanus flood plain for climate change**, for example at the mouth of the Canal. It also needs to address the haphazard water encroachments that have occurred over the decades. The Plan should be reviewed by qualified flood plain specialists from the US Army Corps of Engineers.



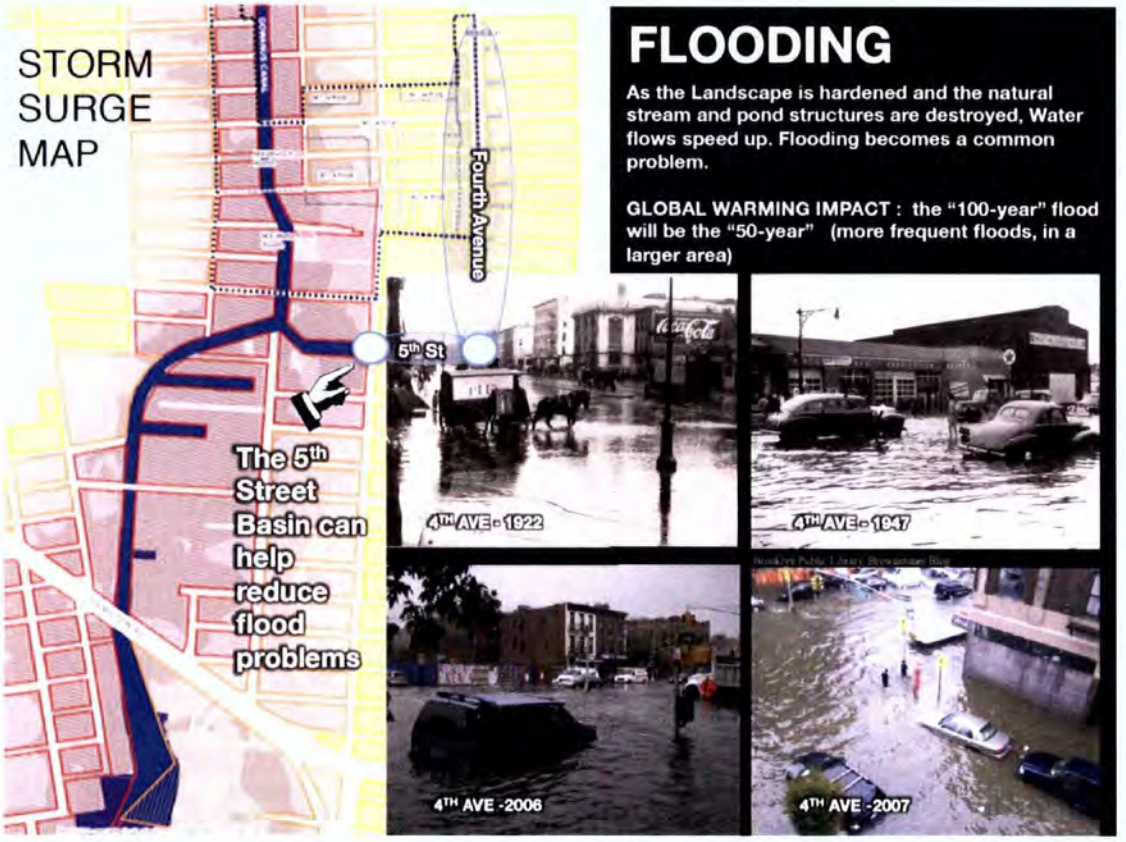


73 feet wide Gowanus Canal Bottleneck at Marmurstein Bus Depot and Ferrara Brothers Site. Canal was originally 100 feet wide, but illegal encrochments now make barging difficult

The Plan should remove the landfilling that is contributing to higher flood plain levels for local residents. The Community Advisory Group unanimously passed a resolution calling for the Superfund Plan to aim at **maintaining historical bulkhead heights** (+/- 4 feet above mean sea level) and **maintaining the historical canal width** (100 feet) where this was practicable.

There is concern that the current Remedial Design bulkhead proposal will further worsen the already congested Canal by adding a third generation of bulkheads.

Local barge operators have pointed out that to meet the City's transportation goals of a Sustainable Waterfront that obstructions in the Gowanus Canal would have to be removed to make larger barge navigation possible. This means **widening the Canal** in strategic spots.



"These houses are built on low ground, and the kindness of the contractor in making a public dump of the vacant lot in front of them has so arranged matters that ***the rain water from the lot in question and also from the property between there and Third avenue flood into them****. When it rains, they are flooded, and the surface drains become a nuisance instead of a help, the drains are so elevated that the ends of the perimeter are actually lower than the ends of the street.* ***Connection with the canal which is only sixty or a hundred feet away would remove all the trouble****."*

A TOUR THROUGH THE THIRD DISTRICT; Some Objectionable Italian Tenements and Pestilential Dumping Grounds
THE CONDITION OF BROOKLYN'S STREETS AND HOUSES.
Brooklyn Daily Eagle,
9 May 1885

Great grandpa's old fashioned common sense flood engineering advice should be integrated into the Superfund Plan.

The Plan's proposal to remove contaminated landfill in the First Street Basin is an excellent one. A second candidate for similar treatment is **5th Street Basin**. The strategic location of the landfilled 5th Street Basin will help alleviate the recurring flooding problem centered near 4th Avenue and Third Street. By including the 5th Street Basin in the final cleanup plan local property owners who have endured a century of contaminated flooding will be able to say: "Superfund made a real difference".

Reducing runoff flooding has been identified as goal of the PlaNYC Climate Resiliency Plan. A Superfund plan that does not strategically address measures to control future contamination dispersal from almost certain future flooding is not a plan.

Soft Edges should be a key part of the new shoreline design
Brooklyn Bridge Park wetlands
image from Valkenburgh Associates, ASLA, 2013

Former Denton's Pond / 4th Street Basin - freshwater **wetlands reemerging from remediation excavations**; Whole Foods shopping center site
Photo by by K. Lapp, November 2008

Canal Soft Edge Treatment & Wetland Reconstruction;

"I bend, therefore I survive"
The marsh reed in Aesop's Fables

THE REMEDIATION DESIGN MUST SUPPORT THE US ARMY CORPS HARBOR ESTUARY PROGRAM'S ECOLOGICAL RESTORATION GOALS.

The Superfund Plan needs to detail the issues of **wetlands mitigation banking** as it applies to the proposed remedy. The Red Hook disposal facility is projected to landfill 10 acres of what are currently legally protected "Open Waters of the US". In addition, another 3 acres of the Gowanus Canal have been filled over the last decades, and are legally outstanding violations of the Clean Water Act.

The Plan needs to clarify **legal status of Gowanus Canal infilling** and what needs to be removed under existing waterfront / wetland management laws, and what falls under CERCLA jurisdiction / obligations. There is concern that the Canal bulkhead prototypes being developed by NYSDEC and National Grid will further **shrink already limited water area of Canal by building out additional bulkheads** into water.

It should instead be expanding them, and integrating the proposed 70 foot rezoned Public Access canal edge setback into the engineering design of the new bulkheads. It should consider **the possibility of a curvilinear wetland enhanced Canal edge at strategic sites** where major excavation will be necessary, such as at Thomas Greene Park and at Public Place.

The Plan should restore the Canal to its 100 foot minimum width as a navigable waterway. Where new bulkheads have to encroach into water for pollution control and logistics reasons (e.g. the Bond Lorraine Sewer restriction on Public Place) then the opposite site of the Canal has to be expanded and owners compensated where there is a property taking (versus an encroachment removal).

Under the Army Corps "No Net Loss of Wetlands" policy, this will provide opportunities to implement habitat restoration goals of the Harbor Estuary Program and the Comprehensive Restoration Plan.

SUPERFUND & FLOOD MANAGEMENT
Superfund managers have clearly stated that the "Environmental Protection Agency is not in the business of flood management". By dredging the Canal from its current average 8 foot depth to a new depth of 19 feet, they will defacto be increasing the Canal's capacity for receiving flood waters by 100%. **Whether they like it or not, the Superfund program *is* in the business of flood management.**

Some candidate sites for flood plain reconstruction and wetland mitigation banking:
First Street Gowanus Canal Basin (currently landfilled)

5th Street Gowanus Canal Basin / 4th Street Basin (currently landfilled)

7th Street Basin (currently very shallow open water)

Marmurstein Bus Lot / Salt Lot waterfront edge, opposite Public Place 73 foot wide "bottleneck" section (see earlier map).

Brooklyn Rapid Transit / Powerhouse Environmental Arts Center Canal waterfront edge site (70 feet right of way would need to be purchased by City from the current owner)

Former City Waterworks Site; the upland portion of the truck maintenance lot between **Thomas Greene Park** and Gowanus Canal is heavily contaminated. It will need to be excavated and purchased by the City, potentially for a CSO or storm tank and the doubling of the Park's size.

Fig. 25: The water square during dry periods (ca. 90 % of the year)
Fig. 26: During medium rainfall the water square serves as water playground (approx. 30 times a year)
Fig. 27: Only the heaviest and longest rainfalls raise the level of water to one meter (once a year)
Fig. 25 – 27: Rendering of the pilot water square with different water levels (© De Urbanisten)

Fig. 28: Top view of the pilot water square during dry periods, medium rain and heavy storms (left to right) (© De Urbanisten)

Water Sensitive Urban Design; "Flood Park" in Rotterdam Holland, designed to absorb flood surges.

Thomas Greene Park (the Fulton Gas Works Site) should have its "brownfield cap" removed, the coal tar plume should be excavated, and the flood management functions of historic Brouwer's Pond (which the Gas Works was built on) should be restored and integrated with the Canal.

The doubling of the Park's size would compensate the community for the time the Park and pool is unusable during the necessary coal tar removal and remediation.

The concept of Potentially Responsible Parties / City Tax Payers purchasing land as part of the Remedy must be discussed to meet stated goals and obligations (e.g. CSO reduction / storm tanks) and the City's CEQR guidelines to provide upgraded Gowanus open space requirements under the rezoning plan. Given the trend towards future planned recreational waterfront uses for the Canal, industrial stakeholders should also be consulted for barge access priorities and integration planning with community "soft edges" and recreational goals for the Canal.

FLOOD MANAGEMENT PLANNING SUMMARY

The Superfund Plan engineering solutions should support the City's Coastal Resiliency Plan and the USACE Harbor Estuary Program. A **watershed wide model for water runoff** should quantify Canal sewer, runoff impacts and pollution dispersal during severe flood scenarios and dredging and bulkhead designs matched accordingly. Specific opportunities for a flood management include the remediation of Thomas Greene Park (The Fulton MGP site). The Park's expanded Canal waterfront should be regraded to a 4 ft grade above mean sea level, down 8 feet from its current 12 ft elevation. This would allow the now expanded Park to act as an emergency flood water basin.

For Public Place (the Citizens MGP site), Canal side public access along waterway portions of site of should be regraded to the lower 4ft grade to better manage storm surges and waterfront enjoyment issues. The grade can go higher once past the proposed setback to address water table and residential construction concerns.

Keeping the lower historical bulkhead height has the benefit of allowing the new 50 feet steel bulkheads to be driven 8 feet deeper, providing that much more sub surface barrier control for the coal tar plume.

First Street Basin Fresh Water Restoration Site - 2012 December 15 Denton's Spring fresh water inflow diluting Post Hurricane Sandy Gowanus Canal raw sewage overflows, captured by a camera mounted on a balloon sponsored by Liberty Industrial Gases and pulled by Gowanus Dredgers Canoe Club / Conservancy Grassroots Mappers

1766 Ratzer Map with Denton's Pond with current street overlay and approximate location of Darby's Patch landfill – The **5th Street Basin** is a potential wetland restoration site. "AM" stands for Al Madinah School, **the largest number of students (600) directly on a Superfund site in America.**

THERE IS HOPE - WHAT CLEAN WATER MAKES POSSIBLE... Reappearance of Denton's Pond when toxic soils dug were out of Whole Foods site. *Photo by Robert Gusskind, 2007, July 10*

If ducks tried to cross Denton's Pond today ... How can Superfund help reestablish a more natural infrastructure ?

PHASING OF REMEDIATION - The Superfund Plan should **prioritize those sections of the site where the most human activity is expected**. This highlights the 4th Street Basin, / 5th Street Basin restoration, and the Al Madinah School area and Whole Foods Area open space reconstruction. Prioritizing high density use areas in the side basins could run concurrently with the current North South dredging and cleanup proposal.

By prioritizing high human use areas of the Canal, immediate high profile impacts can be achieved from what will be a very long term process. A key priority area is the Fifth Street Basin / Whole Foods Site, expected to attract thousands of people to the Canal waterfront, with public waterfront access currently under construction.

CONTROLLING OUTFLOWS & NOT THROWING OUT THE BABY WITH THE BATHWATER.

The Superfund Plan has stated that all outflows that have been identified will be blocked. But... some outflows are beneficial.

Fresh water should not be treated as a negative piped outflow to be blocked. Where possible, Superfund Plan should integrate **stream daylighting goals** and natural habitat restoration plans into the City owned abandoned Canal street ends, in particular on Second Street and First Street. This will earn the Team some appreciative quacks.

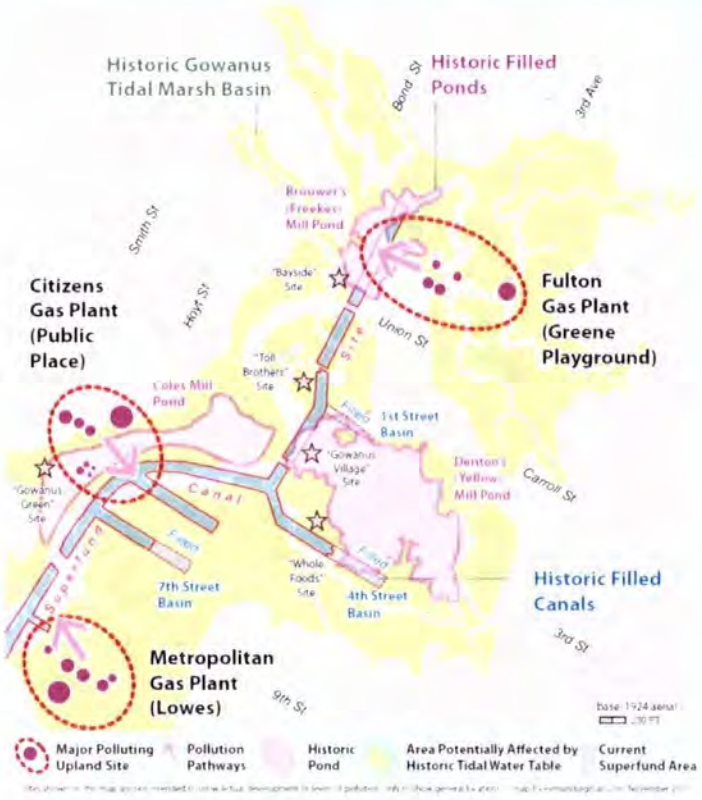
Bergen Stream, currently a flowing stream being permanently pumped out of local basements needs to be disconnected from its suspected sewer connection to the Bond Lorraine Sewer Main and the RH 35 CSO and reconnected to the Canal.

The Superfund Team needs to work with NYCDEP to systematically map historic streams that have been diverted into the now overwhelmed sewer system. This can be done by reviewing the existing NYCDEP video footage of the Bond Lorraine sewer shot by Gannett Fleming / Dvirka and Bartilucci and looking for unmapped side inflows. Dye tracing and wet weather underwater tunnel photography is also needed. Where such fresh water loads can be identified they should be redirected to street end waterfront "Sponge Park" connections to the Canal to reduce combined sewer overflows.

Inflows of Seabring's Brook into the Gowanus Flushing Tunnel, February 2013
An example of technical challenges faced by the City's engineers. The new sewer force main is being used temporarily as a pump pipe for natural stream inflows during tunnel construction.

Denton's Pond creek, hidden behind bulwarks at 2nd Street and flowing into Canal, March 2011
An example of a natural watercourse that could be restored by "Green Infrastructure" connections for the Third Avenue High Level Storm Sewer - currently planned to be discharged at Carroll Street Bridge with possible scouring impacts.

INTEGRATE CRITICAL UPLAND SITES INTO THE RECORD OF DECISION LONG TERM PLANNING GOALS



The Plan is still missing an integrated mapping of overall polluted upland sites and their impacts on the water.

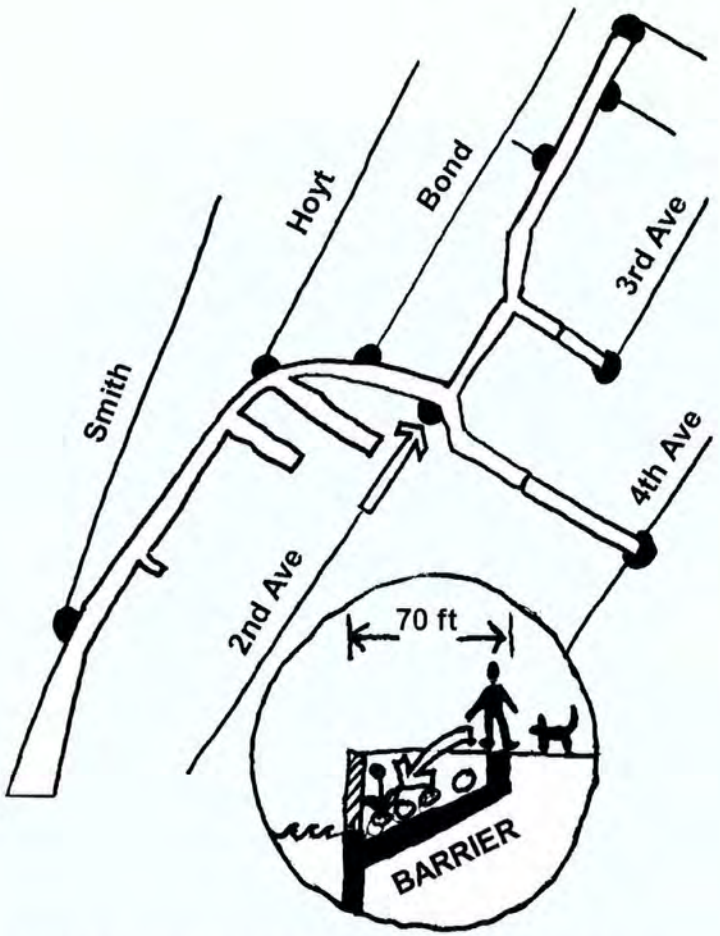
The overall brownfield "plume" area is estimated to be 178 acres, based on a 2007 Columbia University study. The extents and depth of three major MGP coal tar plumes should be clearly shown on a single map using the latest EPA and NYSDEC findings.

The Remedial Investigation has sidestepped this issue of an integrated flood plain wide pollution assessment. The Plan could benefit from a better **structural overview of contaminated landfilled soil area**, the depth and nature of landfilling, location of pollution plumes, and dispersion estimates on streams and tidal forces that disperse those pollutant hot spots. Some notes on landfilling history around 4th Ave are given later in my comments.

This would give people interested in investing in the Canal's future a clearer spatial sense beyond the otherwise very well researched waterfront lots. The EPA has stated that remediation standards and actions will be informed by long term plans for the Canal and its adjacent uplands.

SUPERFUND IS NOT "JUST A CLEANUP" – IT IS **A HALF A BILLION DOLLAR INVESTMENT PLAN INTO OUR INDUSTRIAL, RESIDENTIAL AND RECREATIONAL WATERFRONT FUTURE.**

The Superfund Design Plan and the Final Record of Decision (ROD) need to **integrate upland linkages** from various community plans into the structural design of the new bulkheads and dredging. Existing community plans (Gowanus Community Development Corporation Plan, City Planning Rezoning Plan, Friends of CB6 Brownfields Opportunity Area Plan) all need to be part of the cleanup decision making PLANNING process.
This includes plans for new residential developments at both the Carroll Street Bridge (Lightstone) and Public Place (Gowanus Green), both including canoe dock and waterfront access proposals. Both of these proposals will require custom bulkhead designs (e.g. steps to water access) and the proposed Remedy must be flexible enough to accommodate these proposals.



REMEDIAL DESIGN SHOULD INCLUDE PUBLIC WATERFRONT STREET END SETBACKS IN CLEANUP SOLUTION

Another example is the City's Green Infrastructure Plan for the Canal, as demonstrated by Sponge Park Plan prototype for 2nd Street. New bulkheads should be inset and stepped at street ends to allow for street end bio filter designs.

I would like to further highlight and discuss some of the sites around the Canal that can contribute to better integration between the federal dredging program and the State and City upland site remediation plans.

It is important that strategic sites that provide opportunity for the surrounding community be included in Superfund's Record of Decision. They need to be identified, thoroughly discussed and integrated into a coherent plan that meshes with Superfund's remediation and engineering goals.

Several sites around the Canal are "Keystone" sites that will connect our rapidly growing neighborhoods with the remediated waterfront.

Local Gowanus Canal Citizens using Grassroots Mapping tools to highlight sites and local knowledge that are important to them. As follows are some details on particular strategic Superfund relevant sites.

The Gowanus Canal Sponge Park Plan (Gowanus Canal Conservancy / dland studio) with historic overlay notes from the CAG Archeology Committee discussions highlighting sites of special interest. These areas have been the focus of more detailed research by the Conservancy's Grassroots Mapping team, with help from the Gowanus Dredgers and Proteus Gowanus.

Thomas Greene Park / Fulton Manufacturing Gas Plant Site Remediation and Expansion

Side of Canal next to Thomas Greene Park should be used for storm holding tanks, cleaned sludge disposal and an expanded park and new community recreation center.

Photos: Google Aerials Circa 2010

Park redesign courtesy of Joseph Barrick, Gowanus by Design Water Works competition.

The 2011 Superfund Tourism Map, showing generalized outline of Fulton MGP Coal Tar Plume that needs to be excavated down to 30 feet (or as deemed necessary)

The City would acquire the parcels between Thomas Greene Park and the Gowanus Canal as part of its Combined Sewer Overflow (CSO) elimination requirement. The first 100 feet from Canal would be reconstructed as a tidal wetlands to create filter habitats, with stormwater holding tanks under the reconstructed Park and pools.

1766 Ratzer Map of Thomas Green Park Area with 2011 Kite Aerial showing how sinking tarmac matches streams. Coal Tar leaches from Park to Canal via spring system

Potential spring outflow at end of Degraw Street from Park

Sinking at Thomas Greene Park from historic stream beds

2011 May 31 photo by Eymund Diegel

What can we do better ?

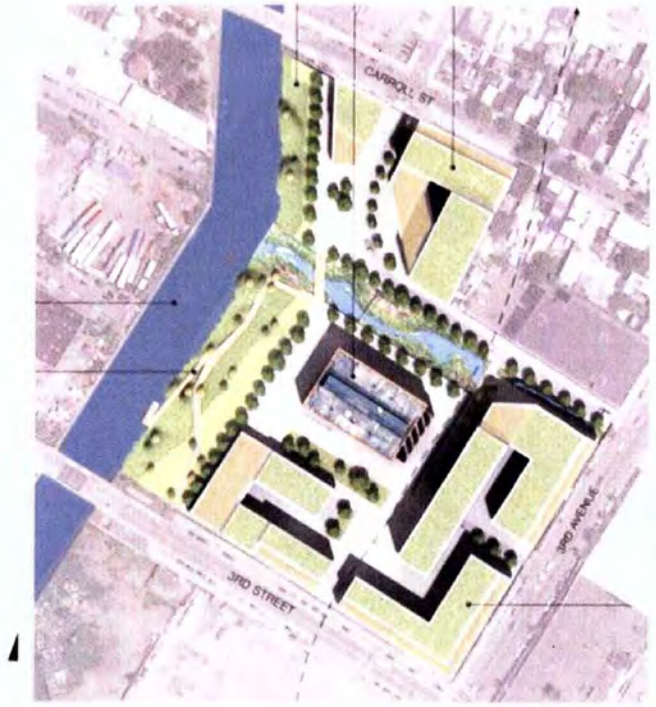
The City, instead of properly cleaning up the Fulton Manufacturing Gas Plant site simply covered it with tarmac and called it Thomas Greene Park.

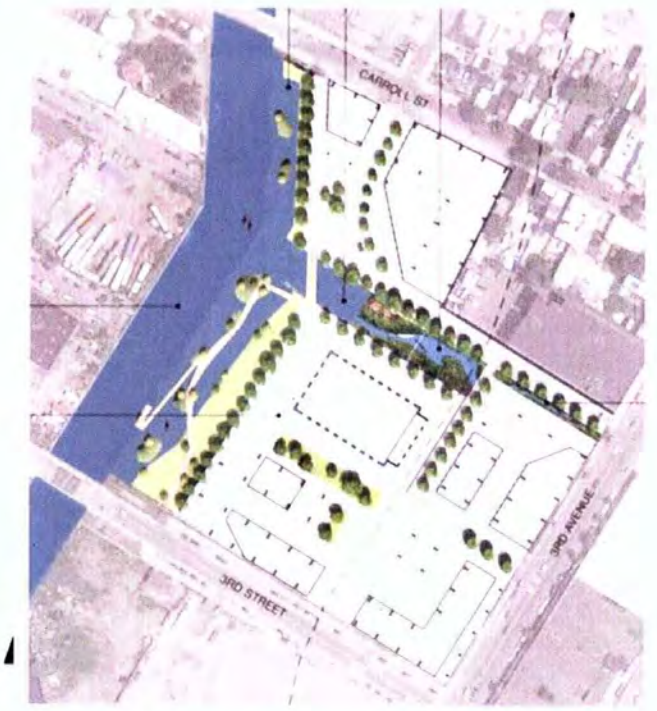
Over the years, streams and tidal marshes on which the gas plant was built have caused parts of Park to subside, while carrying coal tar contamination into the Gowanus Canal waters. Currently the "remediation" plan calls for building a wall along the Canal to block the contamination.

That is not good enough.

The New York City Park's Department needs to work with the EPA, National Grid and NYSDEC to properly excavate the coal tar contaminated soils under the pools.

DEVELOPMENT STUDY SITE





THE FIRST STREET BASIN WATERFRONT AREA : A Conceptual Study for the Daylighting of the First Street Basin and the integration of a tidal wetland bank by Ate Atema, 2011. With the acquisition of this site by the Powerhouse Environmental Arts Foundation, and the site opposite by the Lightstone Residential development, it is important that special attention be given to waterfront design requirements and Superfund dredging implications for any plans these sites may have.

Overlay of a 1766 Map of the Denton Tide Mill on top of a 2012 balloon aerial of the First Street Basin

Gowanus Dredger at the First St. Basin landfill. The Basin contains historic Denton's Spring: Check out the stream video of a restoration opportunity.

LOCAL KNOWLEDGE COMMUNITY PARTICIPATION FEEDBACK / "GRASSROOTS" MAPPING OF DENTON'S SPRING.
An example of how weed patterns growing through concrete cracks led to the discovery of substantial fresh water flows coming out from underneath the Figliolia Building's foundations. **This outflow was missed by the Superfund Pipe Survey,** and with a second one hidden behind the bulwarks at 2nd Street, they have the highest flows of any pipes going into the Canal.

Underwater Bridge idea from Brabant Holland

2011 Marking High Tide, David Lam Park, Vancouver, photo by Don Vaughan

Timeless Tides Marker installed on side of Gowanus Canal to mark Brouwer's Tidal Dam, 7 April 2013

REMEMBERING AMERICA – MOVING FROM SUPERFUND TO CELEBRATING THE CANAL'S UNIQUE HISTORY

UNION STREET BRIDGE / BROUWER'S MILL DAM ARCHEOLOGICALLY SIGNIFICANT AREA

This is the main area of the Superfund Site with historical commemorative significance. Once dredged this strategic site of America's First Battle for Independence should be commemorated by an appropriate waterfront feature, whether an underwater bridge, tidal steps, or some other design the community feels appropriate.

GOWANUS TIDAL MILLS

KEEPING THE WHEELS OF PROGRESS TURNING..
The comprehensive and well researched Archeological Study of the Gowanus Canal Superfund Site and its surrounding areas by Hunter Research noted the significance of the First Street Basin Site in American history. The site was the backdrop for an 1858 painting by Alonzo Chappel depicting the Battle of Long Island.

With the growing interest in Battle of Brooklyn events, the report's recommendation to study the site for a commemorative structure is an important one. For example, a reconstructed tidal mill could serve as water science education center for local schools. The Canal is currently a field trip destination for several local schools.

It is suggested that as the dredging program moves forward that the Superfund Team consider the Figliolia Building property, (currently for rent) and the adjoining First Street Basin (City owned) as a construction site management office. **The First Street Basin lot would be the perfect place for a community information trailer on Superfund progress as the plan moves forwards.**

Vanderveer Tide Mill in Canarsie, Brooklyn, showing water wheel and sluiceway
Photograph by Daniel Berry Austin, circa 1899, Brooklyn Museum

AN EXAMPLE OF A HISTORIC TIDAL MILL THAT COULD BE RECONSTRUCTED AS AN ENVIRONMENTAL SCIENCE CENTER IN THE FIRST STREET BASIN

COMMUNITY OUTREACH & ENVIRONMENTAL EDUCATION

2012, 5 March – "How Bridges Work", an educational program on the Gowanus Canal sponsored by the Gowanus Dredgers Canoe Club, here with International School of Brooklyn students. The Gowanus Canal has become a major educational destination for local schools, used as a workshop site by local universities and toured by many overseas delegations.

As part of the Community Advisory Groups and the Superfund Team's Public Information campaign it is proposed that construction management facilities for the Superfund cleanup include a physical public information center. It can be as humble as a weather protected information board with progress maps and key facts. As funding and community organizations evolve, it could become **a permanent Environmental Education Center** located on one of the currently landfilled Canal basins.

INCLUSION OF THE 5TH STREET BASIN (4th STREET BASIN EXTENSION) INTO THE FINAL SUPERFUND PLAN
The Superfund Team made the decision to include First Street Basin in the Cleanup Plan but not the Fifth Street Basin. The Community Advisory Group unanimously supported the 5th Street Basin's inclusion in the Cleanup Plan. Below is more detailed discussion as to why the 5th Street Basin should be included:

POLLUTION: It is polluted enough to qualify as an integral part of Superfund Site. Many other parts of current Gowanus Canal Superfund Site are less polluted than the Fifth Street Basin.

FLOOD MANAGEMENT: The Basin is strategically located to reduce contaminated flooding for local businesses

COMBINED SEWER OVERFLOW (CSO) REDUCTION: The 5th Street Basin provides a better strategic location for stormwater or CSO tanks. Both of the current CSO tank proposals (Salt Lot and Greene Park) are located in the worst section of the Gowanus flood zone, while the 5th Street Basin is located at edge of the flood zone.

OPEN SPACE REQUIREMENTS: The City needs to expand open space for the growing population of the watershed's neighborhoods. 600 students are directly adjacent to the Canal Superfund site, without recreational open space.

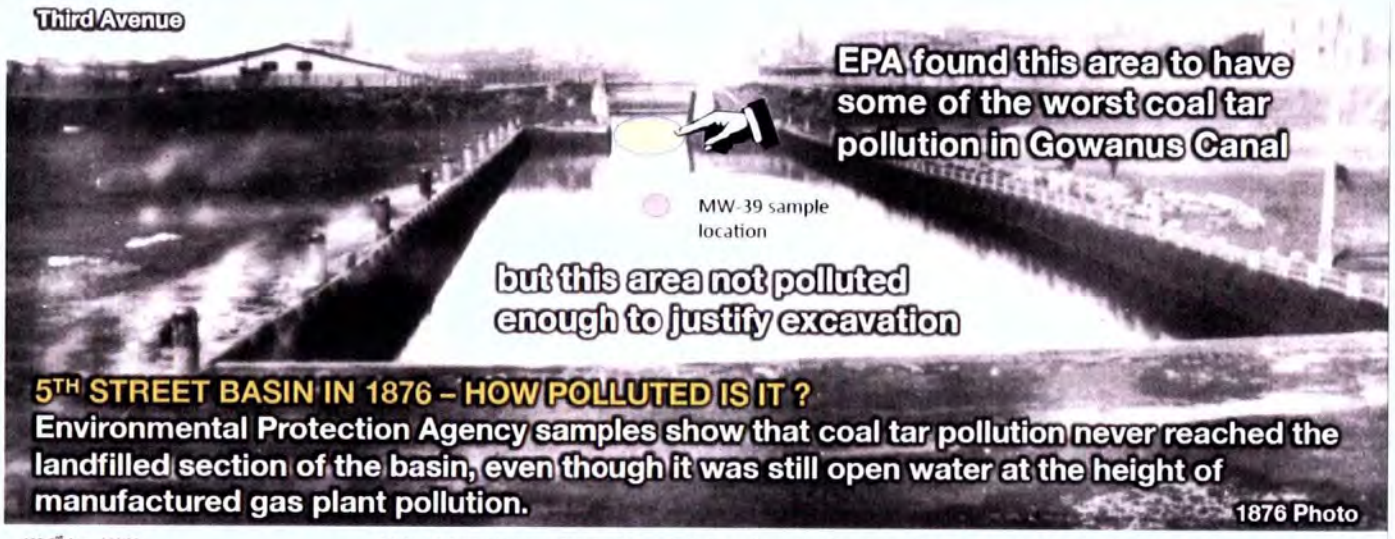
EPA HAS LEGAL MANDATE: Cleanup to open space standards can best be achieved by Federal EPA standards, not City or State ones, which have failed the community, both in allowing illegal dumping in the Canals and Park construction on coal tar plumes.

SUSTAINABLE: The 5th Street Basin was the historic outflow for Vechte's Creek, the natural outflow point for Park Slope rain waters. These waters are currently mechanically pumped and sent all the way to the Brooklyn Navy Yard through a failing overwhelmed sewer system. The 5th Street Basin provides a sustainable **gravity fed** solution to stormwater management.

CONNECTION CORRIDOR: The Basin is a key identified greenway linkage in the Gowanus Canal Conservancy's Sponge Park Plan, currently being used by the City as part of its Green Infrastructure Strategy. Thousands of shoppers and recreational users are expected to converge on the redeveloped 4th Street Basin / Whole Foods Park, and the currently landfilled basin is the missing link to Brooklyn's Greenway and open space network. The 5th Street Basin provides a connection opportunity for Park Slope to the watershed's largest open space: the Gowanus Canal – it brings people to Superfund's results.

2011, 31 July – Balloon aerial of 5th Street Basin / 4th Street Basin Connection, Al Madinah School, American Can Factory, Whole Foods Site and Third Ave.
Grassroots Balloon photo courtesy of Gowanus Canal Conservancy

4th Street / 5th Street Basin Remediation. The 4th Street Basin is mapped as one of the highest coal tar contaminant zones in the Canal. It is slated for contaminated sludge removal and in-situ stabilization. Currently, the immediately connecting landfilled (confusingly named) 5th Street Basin is only proposed for remediation under the States Brownfield program. The Superfund Team's reason for this is that it is not contaminated enough to qualify for inclusion in the Superfund Remediation.



403 3rd Ave - MW39
VOC Concentrations in Soils ug/mg
Gowanus Canal Remedial Investigation
Brooklyn, New York

MW-39 Sample Location Coal Tar Pollution Results: Worst results were at 30 feet depth with Ethylbenzene, a toxic oil, at **8,600 ug per kg** . For comparison, the MW-27 First Street Basin sample had a count of **45,000** for the same chemical. The 87A water boring in 4th Street Basin had a mean reading of **74,100 ug per kg** for Ethylbenzene.

Location ID	Field ID	Sample Type	Top Depth	Bottom Depth	Unit	cis-1,3-dichloropropene		Cyclohexane		Dibromochloromethane		Dichlorodifluoromethane		Ethylbenzene		Isopropylbenzene (cumene)		m, p xylenes		Methyl acetate		Methyl ethyl ketone (2-butanone)		Methyl isobutyl ketone		Methylcyclohexane	
GCMW-39	059-2130	N	5	10	ft	4.5	U	4.5	U	4.5	U	4.5	U	4.5	U	4.5	U	4.5	U	4.5	U	11		8.9	U	4.5	U
GCMW-39	059-2131	N	10	15	ft	4.7	U	4.7	U	4.7	U	4.7	U	0.14	J	4.7	U	0.47	J	4.7	U	9.4	U	9.4	U	4.7	U
GCMW-39	059-2132	N	15	20	ft	4.6	U	4.6	U	4.6	U	4.6	U	0.19	J	4.6	U	0.47	J	4.6	U	8.3	J	9.1	U	4.6	U
GCMW-39	059-2133	N	20	25	ft	5.1	U	5.1	U	5.1	U	5.1	U	0.18	J	5.1	U	0.51	J	5.1	U	8.8	J	10	U	5.1	U
GCMW-39	059-2134	N	25	30	ft	1,300	U	1,300	U	1,300	U	1,300	U	1,800		530	J	2,000		1,300	U	2,700	U	2,700	U	1,300	U
GCMW-39	059-2135	N	30	35	ft	3,200	U	3,200	U	3,200	U	3,200	U	6,400		1,500	J	6,900		3,200	U	6,300	U	6,300	U	3,200	U
GCMW-39	059-2136	N	36.5	37	ft	2,900	U	2,900	U	2,900	U	2,900	U	8,600		1,800	J	8,400		2,900	U	5,800	U	5,800	U	2,900	U
GCMW-39	059-2137	N	40	40.5	ft	4.7	U	4.7	U	4.7	U	4.7	U	0.26	J	4.7	U	0.7	J	4.7	U	9.4	U	9.4	U	4.7	U

There has been concern expressed by artists at the American Can Factory that the "triage" approach being used by the EPA, of only remediating the "worst offenders" is still letting substantially contaminated areas slip through the cracks.

WHO SHOULD BE IN CHARGE ? HAS ENFORCEMENT OF NEW YORK STATE DEPT. OF ENVIRONMENTAL CONSERVATION (NYSDEC) CLEANUP STANDARDS BY THE ENVIRONMENTAL PROTECTION AGENCY (EPA**)** BEEN ADEQUATE ?
I am concerned that NYSDEC is not enforcing cleanup standards required by the EPA on polluted upland Gowanus Canal sites. An example is the NYSDEC Brownfield Whole Foods Site, which was allowed to proceed with construction while pollution remained in the ground. Cleanup requirements seem to have been negotiated downwards to a "good enough" standard.

photo of Whole Foods construction site by Martin Bisi, Dec. 2013

Map of Contaminants Remaining on Whole Foods Site by BL Co.

The Whole Foods / BL Co. Site Remediation Report, available at the Carroll Gardens Public Library lists *unremediated* lead concentrations of 2320 parts per million (ppm), arsenic at 24.7 ppm and Benzoathracene at 7.4 ppm. This is for an area under construction as a recreational waterfront greenway, and remaining contamination levels don't meet NYSDEC standards.

Some questions are raised by the Whole Foods Report: Will the Superfund Canal Cleanup and State Brownfield Cleanup only clean out the "worst offenders" ? Will substantial pollution still be left behind ? **The Record of Decision should aim for the highest cleanup standards, and apply and enforce those standards to upland NYSDEC managed sites as well.**

There is strong concern that the "Use Attainability Analysis" strategy adopted NYSDEC and NYCDEP of "well, we can only cleanup to what is reasonable" may result in a substandard cleanup, especially for the community's water quality and open space recreation goals. After listening to the DEP's lawyers at a CAG meeting, I became concerned that my young daughter would be invoking "Use Attainability Analysis" for why the "Clean Room Act" did not apply to her having to clean her room.

It is important that the various cleanup agencies clearly explain what cleanup standards have been met and not met and avoid using legal tactics to evade publically mandated responsibilities to ensure clean and safe environments.

The Superfund Team must enforce the law, both for CERCLA and the directly related Clean Water Act, and **reject legal attempts to dilute cleanup standards**.

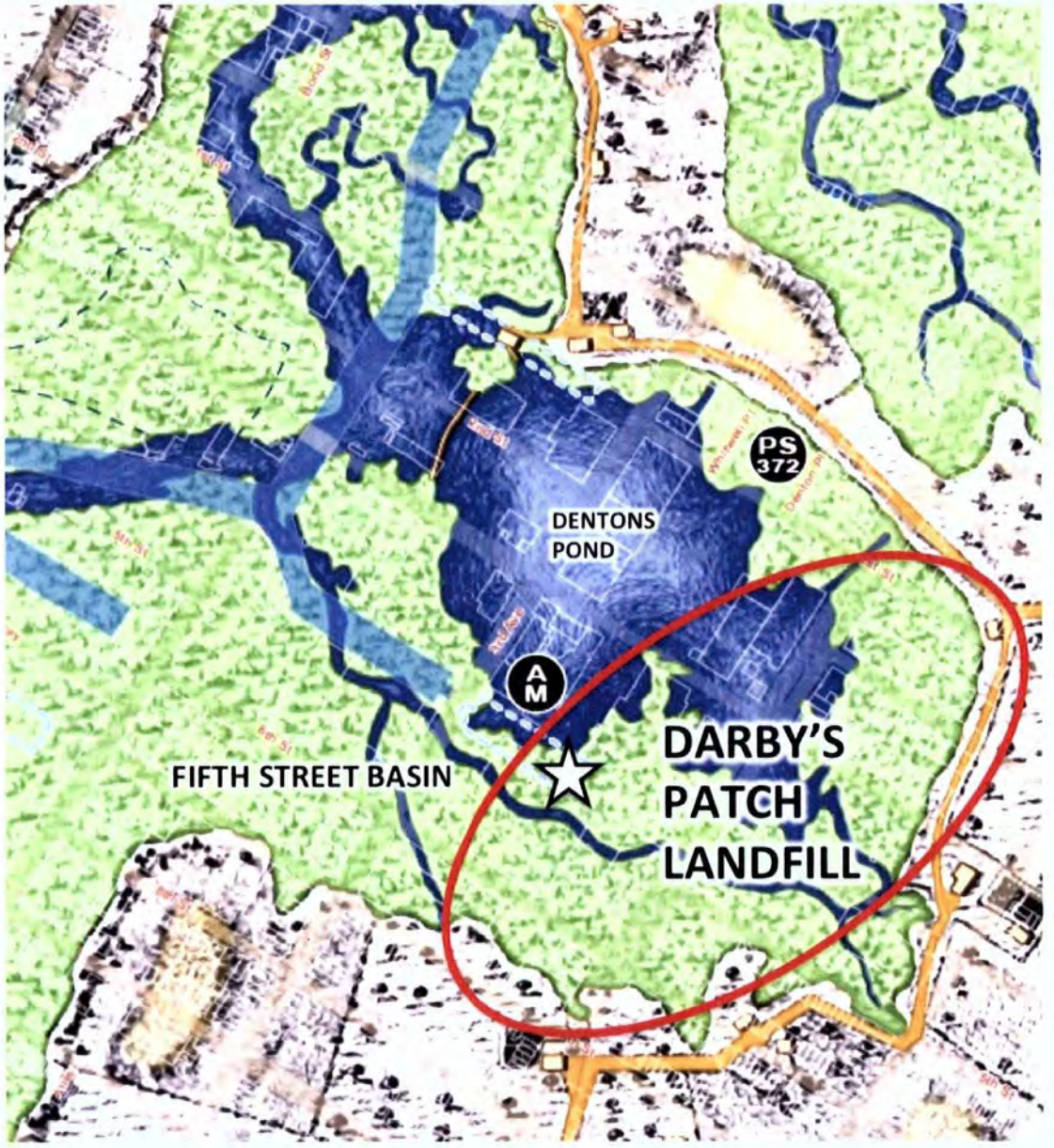
REMAINING CONTAMINATION

GRID CODING	COMPOUND	TRACK 4 SITE SPECIFIC RESTRICTED USE SCGN (PPM)	CONCENTRATION (PPM)	ELEVATION (FT)
A-1	BENZO(a)PYRENE	1	5.3	7 TO 5
A-2	BENZO(a)ANTHRACENE	5.6	5.6	6 TO 4
A-3	BENZO(a)PYRENE	1	6.6	6 TO 4
A-4	BENZO(a)ANTHRACENE	5.6	7.4	6 TO 4
A-6	BENZO(a)PYRENE	1	7.4	6 TO 4
A-6	BENZO(b)FLUORANTHENE	8	7.4	6 TO 4
B-1	BENZO(a)PYRENE	1	1.4	5 TO 3
B-2	BENZO(a)PYRENE	1	2.9	4 TO 2
B-3	BENZO(a)PYRENE	1	2.8	4 TO 2
B-4	BENZO(a)PYRENE	1	1.6	5 TO 3
B-5	LEAD	1,000	1,290	6 TO 4
B-6	BENZO(a)ANTHRACENE	5.6	22	7 TO 5
B-6	BENZO(a)PYRENE	1	1.6	7 TO 5
B-6	BENZO(b)FLUORANTHENE	8	1.6	7 TO 5
B-6	INDENO(1,2,3-cd)PYRENE	5.6	8.2	7 TO 5
B-6	ARSENIC	18	16.7	7 TO 5
C-1	BENZO(a)PYRENE	1	1	4 TO 2
C-2	BENZO(a)PYRENE	1	3.9	4 TO 2
C-3	BENZO(a)PYRENE	1	2.1	4 TO 2
C-4	BENZO(a)PYRENE	1	3.5	4 TO 2
C-5	BENZO(a)PYRENE	1	4.3	5 TO 3
C-6	BENZO(a)PYRENE	1	1	7 TO 5
D-2	BENZO(a)PYRENE	1	1.3	4 TO 2
D-3	BENZO(a)ANTHRACENE	5.6	38	3 TO 1
D-3	BENZO(a)PYRENE	1	31	3 TO 1
D-3	BENZO(b)FLUORANTHENE	8	31	3 TO 1
D-3	INDENO(1,2,3-cd)PYRENE	5.6	15	3 TO 1
D-3	ARSENIC	18	23.7	3 TO 1
D-4	BENZO(a)PYRENE	1	1.9	3 TO 1
D-5	BENZO(a)ANTHRACENE	5.6	6.6	4 TO 2
D-5	BENZO(a)PYRENE	1	5.3	4 TO 2
D-5	DIBENZO(a,h)ANTHRACENE	0.560	1.1	4 TO 2
D-5	LEAD	1,000	2,320	4 TO 2
D-6	BARIUM	400	542	4 TO 2
E-1	BENZO(a)PYRENE	1	1	8 TO 7
E-1	ARSENIC	18	17.4	8 TO 7
E-1	BARIUM	400	413	8 TO 7
E-2	BENZO(a)PYRENE	1	2.9	4 TO 2
E-3	BENZO(a)PYRENE	1	3.5	3 TO 1
E-4	BENZO(a)PYRENE	1	2.8	3 TO 1
F-1	BENZO(a)PYRENE	1	1.8	8 TO 7
F-2	ARSENIC	18	24.7	2 TO 0
F-4	BENZO(a)PYRENE	1	3.8	4 TO 2
F-5	LEAD	1,000	1,210	3 TO 1

List of Contaminants remaining on Whole Foods Site by BL Co. Engineers

Local library kids on top of site plan of their future Whole Foods play ground What is "clean enough ?"

1766 Ratzer Map with 5th street Basin & Darby's Patch Landfill



The Gowanus Canal was formerly one of the largest tidal salt marshes in New York City. Within the marshes, Denton's Pond was fed by the rapid rainwater runoff from Park Slope and a number of natural springs, including Vechte's Spring which used to provide the drinking water for what is now the Old Stone House.

From the 1850's onwards the pond started being landfilled, with the area along the Gowanus Road being used as a municipal garbage dump known as Darby's Patch.

When Fourth Avenue was surveyed in 1851, more rapid landfilling occurred with 20 to 30 feet of fill, ash and industrial wastes from waterfront factories burying the Pond.

Because of its strategic location the 5th Street Basin, built on the Pond's edge, can play a key role in restoring the natural functions of the Canal in receiving Park Slope's water.

The 5th Street basin is being proposed as a cheaper more effective alternative than the proposed sewer tanks closer to the Canal. I support its inclusion in the Superfund Cleanup Plan.

A HISTORY OF LANDFILLING OF THE GOWANUS CANAL SUPERFUND SITE UPLAND AREA

The Remedial Investigation had some data gaps with regards to the nature of landfilling around the Gowanus Canal Superfund site. Some background material is submitted here to suggest that the 5th Street Basin, currently excluded from the Cleanup Plan, be given a second look and included in the remediation proposals. There is concern that the eastern end of the 5th street landfill, closest to 4th avenue was used as a municipal landfill by the City, and would contain **contaminants typical of 1850's industrial Brooklyn**. Additional soil borings should be taken there in light of community efforts to get the 5th Street Basin become the solution to 4th Avenues flooding and sewer overflow problems.

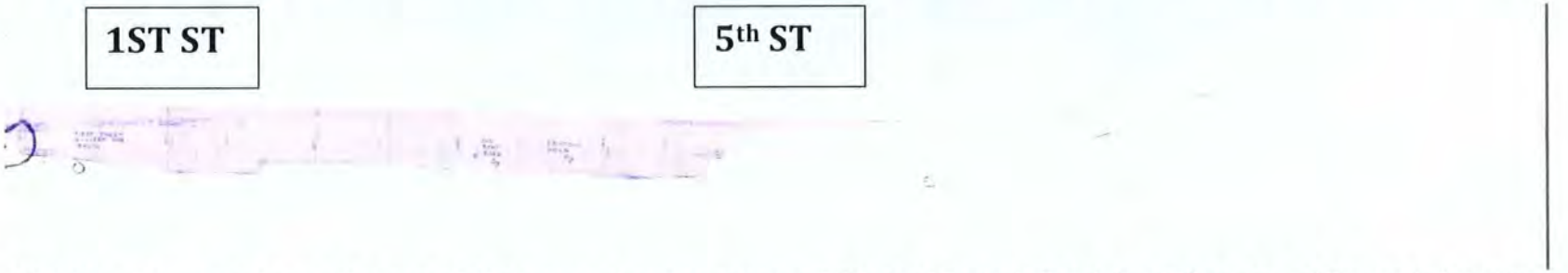
Brooklyn Landfill Dump, circa 1872, typical of those that filled the Gowanus tidal marshes, and a garbage dump rag picker photo by George Bradford Brainerd, courtesy of Brooklyn Museum

A HISTORIC DESCRIPTION OF DARBY'S PATCH LANDFILL

The sunken lots, which two years ago were twenty feet below the street surface, are being filled in fast nominally with ashes, but really with lobster and fruit cans, waste paper, rags, old boots and in some instances, garbage and street refuse. Fifty or sixty teams and wagons are now filling in the ***great sunken lot on the corner of Carroll and Fourth avenue*** *....Darby's Patch was a densely populous shanty town containing over a thousand squatters who paid no rent and acknowledged no rivals except the grim and dignified goat, the phlegmatic hog and the independent flocks of geese and ducks which went sailing down the filthy ponds between the* ***great heaps of ashes and refuse which the city was kind enough to throw there****.... The sunken block upon which the shanties stood is now the property of a gentleman named LYNCH. He is selling city lots in it. They would not have brought $500 each a year ago, when there were* ***thirty feet below street*** *level in some places. The surface of these lots is clean earth, but* ***the substratum is ashes and refuse.***

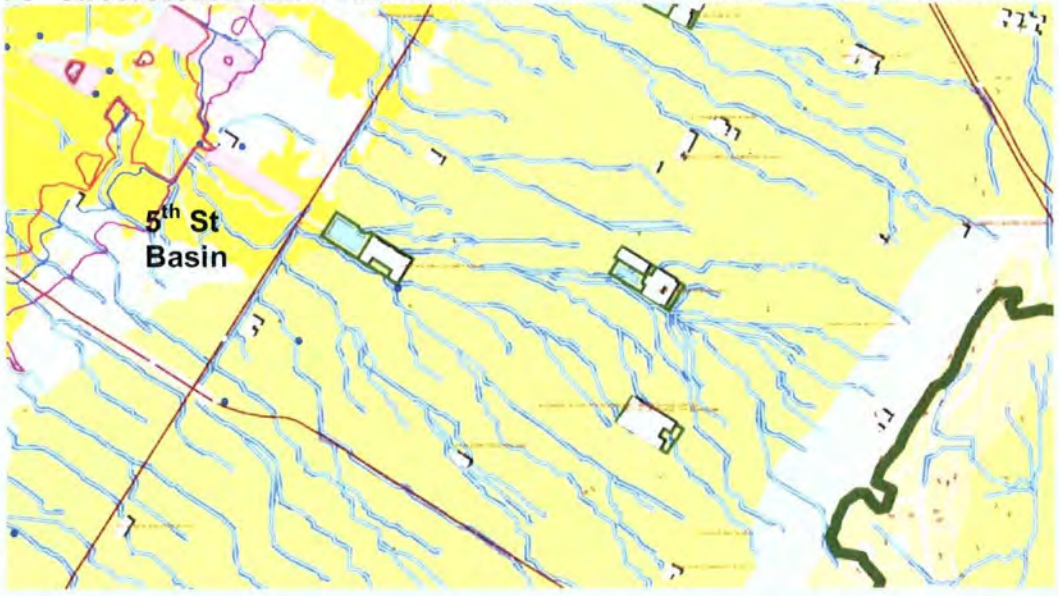
A TOUR THROUGH THE THIRD DISTRICT Some Objectionable Italian Tenements and Pestilential Dumping Grounds THE CONDITION OF BROOKLYN'S STREETS AND HOUSES. Brooklyn Daily Eagle, 9 May 1885

4th Avenue Landfilling Concerns on 5th Street Basin Component of Gowanus Canal Superfund Site Study Area



1851 Road Grading Survey Section of 4th Avenue showing average 25 feet of Darby's Patch landfill on top of Denton's Pond in blue and oldest shallow section of 5th Street section that would have received oldest most varied industrial and urban wastes

Fourth Street Basin frozen with remnant outflows of Vechtes Brook melting the ice
photo by K_Lapp, January 18 2009



Runoff Model showing convergence of surface runoff to the 5th Street Basin. This rapid runoff is the major cause of 4th Avenue property flooding. Blue squares indicate rain holding cisterns that could be built in City owned playgrounds to retain runoff for later discharge via the 5th street Basin. Yellow shows the historic Gowanus Marsh and blue the general direction of runoff and groundwater infiltration today. Red shows the extent of the Sandy Flood Area and lavender various storm and sewer holding tank options.
(modeled by Eymund Diegel using a 2004 Digital Elevation Model and ArcHydro software)

The Gowanus Canal Conservancy Grassroots 2012 Mapping program noted melted ice at this location (similar to the 2009 photo) indicative of salt runoff , However, the Third Ave roadbed is bermed here, making salt runoff unlikely. There is a need to cross check the source of melting chemical or warmer water.

The current plan calls for some form of barrier at the end of the 4th Street Basin to prevent any form of contamination that may leach from the upland area. This is a problem, as hydrologically, this particular point is the primary runoff flow connection from Park Slope. Any blocking off of the 4th Street Basin / 5th Street basin will exacerbate flooding and water table problems for 4th Avenue residents, and the American Can Factory in particular.

It is proposed that the Superfund Plan include the currently landfilled segment of the 5th Street Basin to become an integral part of the Gowanus Canal, with open water and a reconstructed wetland park connected to the Whole Foods Greenway.

The 5th Street Basin should be added to the list of sites submitted by EPA to NYCDEP for study as to its suitability for Combined Sewer Overflow tanks (currently limited to the 2nd Avenue Salt Lot and Thomas Greene Park). Better still, as part of the NYC Green Infrastructure Plan it is proposed that the site be studied for a **stormwater diversion** area (not sewer overflow tank) that would be a cheaper and more sustainable alternative to the CSO holding tank proposal.

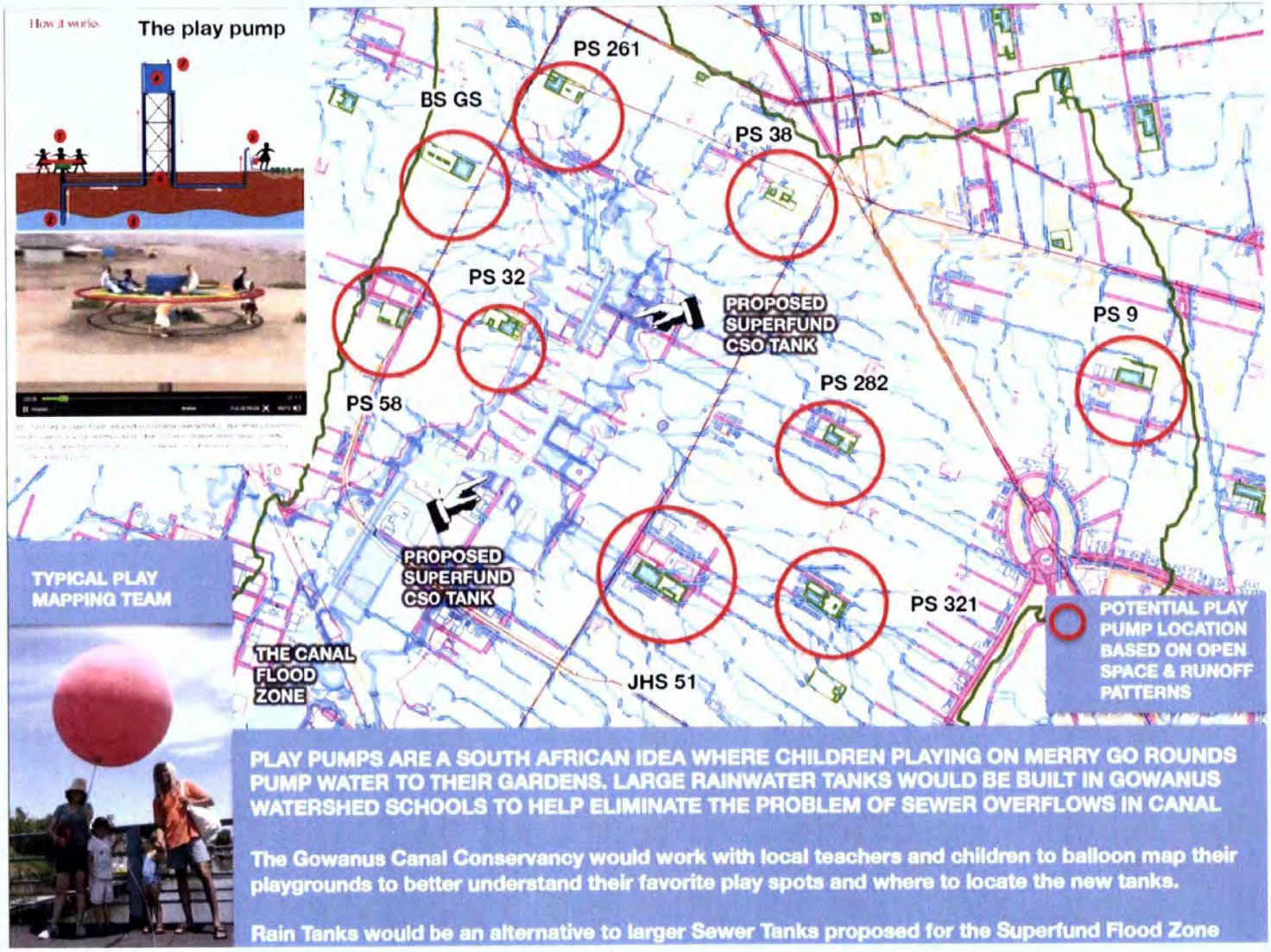
I think that combined sewer tanks are bad idea. They are only treating the symptom, not the cause of the problem.
A better solution are smaller more strategically located rain water holding tanks in upslope sites that would make the more expensive (tax payer funded) sewer tanks unnecessary by diverting overflow causing rainwater from the sewer pipes. Rainwater, even when polluted by street runoff is much easier to treat than toilet and industrial sewage.

The 5th Street Basin would be restored to its natural function as a stream and public park incorporating pollution runoff best management practices tested in the Staten Island Bluebelt Plan.

The 5th Street Basin would be part of a comprehensive watershed stormwater management plan incorporating street creeks, holding tank and infiltration swale technologies as appropriate that would be linked to Green Infrastructure in the adjacent JJ Byrne Park , Old Stone House gardens and Junior High School 51 playgrounds and proposed 4th Street Park.

THE 5TH STREET BASIN MAKES A BETTER ALTERNATIVE FOR STORMWATER AND SEWER OVERFLOW MANAGEMENT THAN THE CURRENTLY PROPOSED CSO RETENTION TANK AT 2ND AVENUE & 5TH STREET 9 (THE " SALT LOT") AND AT THOMAS GREENE PARK.

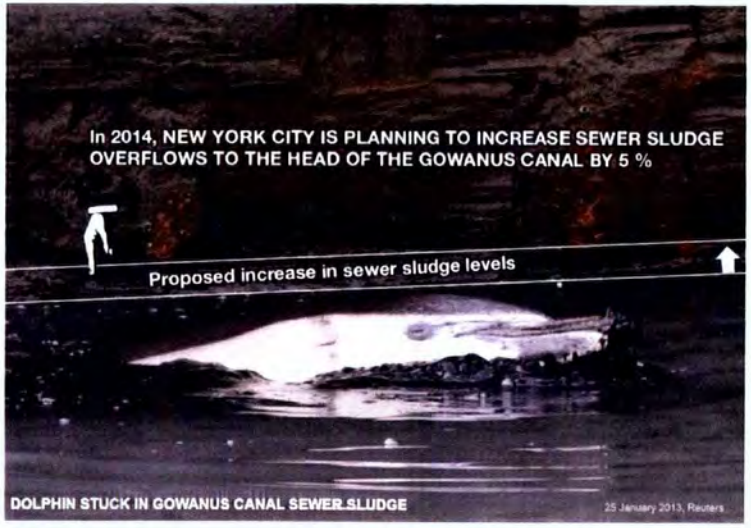
THE PLAY PUMP PLAN – a rough study on the feasibility of identifying school owned playgrounds suitable for the construction of large rain holding tanks. Kids playing on merry go rounds would pump rainwater back to street and trees after the storm has passed. This is an example of Watershed wide planning supported by the Conservancy.



CONCLUSION

Watershed Wide Superfund Solution: A rebuilt tree pit area next to PS 58 could help reduce Gowanus Canal RH 35 toxic sewer overflows

Rainwater Tanks for a gravity fed playground and street runoff management system that reconstructs natural hydrology
2011 photo from "Street Creeks" proposal by Ate Atema



No More Sludge Increases: Dolphin dying in coal tar contaminated sewer sludge in what could be reconstructed wetland and waterfront park
Photo by Reuters, January 2011

Support a swimmable Gowanus Canal water quality standard.
Gogo the Gowanus muskrat looking forward to a Superfund cleanup related water quality reclassification from Class SD (horrible) to Class SC (sort of ok for swimming)
Photo by Adam Katzman, May 2011

GOWANUS CANAL SUPER FUND ME!

Sludgie the Superfund whale graphic by Anne Martin, 2009

Community groups have worked hard to develop cleaner sustainable neighborhoods around the Gowanus Canal, and to support the City and Government to meet their environmental mandates.

The Superfund Cleanup Plan is a unique opportunity for City, State and Federal agencies to find a common ground that can help improve New York City as a whole.

Superfund and the Clean Water Act need to work together to ensure that cleanup goals for the Gowanus Canal are not just hypothetical percentages of "modeled" sewer volumes but real reductions aiming to bring sewer volumes and toxic contaminants to Zero.

The primary goal of the Clean Up Plan remains the removal of centuries of contaminated sludge and preventing recontamination. However, for the person walking across a Canal bridge, it is the *visible* component of the cleanup that will define its success - the removal of the floating sewage and oil slicks.

With the well thought strategies that the Environmental Protection Agency has come up with, and the great Team they have assembled, I look forward to the Plan's implementation and a cleaner Canal.

I, the sender, vote that I do not want this project to proceed.

Leslie Shipman to: Region2 GowanusCanalComments 04/24/2013 10:36 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

- Children
- Numerous public and private schools which use the fields for physical education & sports teams
- Residents of the Red Hook Houses and the surrounding neighborhood
- Soccer, softball, baseball, football, handball, basketball, track & field teams and enthusiasts
- Swimmers of all ages
- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--
Leslie Shipman
leslie.shipman@gmail.com
14 Verona St. #108
Brooklyn, NY
resident

I, the sender, vote that I do not want this project to proceed.

Meilan Chiu to: Region2 GowanusCanalComments 04/24/2013 10:47 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--

Meilan Chiu
mlchiu@gmail.com
93 Pioneer Street
Brooklyn, NY
Resident

No Toxic Red Hook
TERUMI MATTHEWS to: Region2 GowanusCanalComments 04/24/2013 11:08 AM

Dear Mr. Christos,

Thank you so much for listening to our community regarding the CDF, and agreeing that it will not come to Red Hook. It meant a lot to us that Walter Mudgan came to our neighborhood to speak to us on April 16th, 2013, at the Brooklyn Community High School on Conover Street, and told us that if the community does not want it, then it will not happen.

Best,
Terumi Matthews

I, the sender, vote that I do not want this project to proceed.

Marianne Thomas to: Region2 GowanusCanalComments 04/24/2013 11:43 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--

Marianne Thomas
Mgavinthomas@gmail.com
20 Dikeman street
Brooklyn, Ny
Resident

I, the sender, vote that I do not want this project to proceed.

Daniella Llebling to: Region2 GowanusCanalComments 04/24/2013 11:44 AM

History: This message has been forwarded.

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--

Daniella Llebling
daniliebling@yahoo.com
269 12th Street
Brooklyn, NY

I, the sender, vote that I do not want this project to proceed.
Anneliese Semotan to: Region2 GowanusCanalComments 04/24/2013 03:24 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--
Anneliese Semotan
a_semotan@yahoo.com
172 Coffey Street
Brooklyn, NY
Resident

please proceed

Jerret Engle to: Region2 GowanusCanalComments 04/24/2013 03:50 PM

As a resident of the neighborhood I just want to say we support the EPA project and would like to see it get underway as soon as possible.

It's very important to the health and welfare of our neighborhood.

thank you,

Jerret Engle
410 1/2 Clinton St.
Brooklyn, NY 11231

Please Clean the Gowanus Inlet
cervo to: Region2 GowanusCanalComments 04/24/2013 06:38 PM

Dear Mr. Tsiamis,

We are desperately in need of the help you propose for the Gowanus area. People live, work and die of disease in the area given the century long neglect that you are able to redress. We are most grateful to the EPA for this effort and find it a wonderful demonstration of reasoned democracy for the good of all in Brooklyn and those the city serves.

Yours truly,
Steven Hart, PhD
478 Warren St.
Brooklyn, 11217
917 744 6151

Comments on The Gowanus Canal Cleanup from Red Hook GAGS(Groups Against Garbage Sites)
Louis So
to:
Region2 GowanusCanalComments
04/24/2013 08:24 PM
Hide Details
From: Louis So <redhookgagsbklyn@aol.com>

To: Region2 GowanusCanalComments@EPA

History: This message has been forwarded.

1 Attachment

EPA Letter from GAGS[1].doc

To Christos Tsiamis
Project Manager, Central New York Remediation Center

Dear Christos,

Attached are the comments of Rd Hook GAGS(Groups Against Garbage Sites). These comments were unanimously approved by 9 to 0 by our board of directors.

Red Hook GAGS
(Groups Against Garbage Sites)

200 Conover Street
Brooklyn, NY 11231

Phone & Fax: (718) 624-4643
Email: redhookgagsbklyn@AOL.com

Red Hook GAGS (Groups Against Garbage Sites) has been a leading environmental advocacy organization that has been fighting for Environmental Justice and to keep noxious and environmentally harmful uses out of Red Hook since 1997. Our Board of Directors is comprised of a cross section of Red Hook, including 5 members from Red Hook Public Housing and this comment statement was voted on unanimously by our board.

Though we fully support the Superfund clean up of the Gowanus Canal, it is our position that the dewatering of all of its toxic material and the detoxification of 1/3 of this material should not be located at the GBX facility in the Gowanus Bay Terminal in Red Hook, and building a CDF (Confined Disposal Facility) on an expanded footprint of this site is detrimental to all of the residents of Red Hook.

In the first place, this site is adjacent to one of Red Hooks most important assets: The Red Hook Recreational Area and Park. This area is home to 9 Baseball fields, 2 soccer fields, a world class running track, one of Brooklyn's largest public pools with an attached gymnasium, an urban farm and Brooklyn's beloved Central American food vendors. This park provides immeasurable economical and quality of life value to the Red Hook community and to all of Brooklyn. Common sense and science indicates that the odor alone from bringing all of this toxic waste is detrimental to all of the positive uses close to this site. Furthermore, the amount of toxicity released into the air during the loading and unloading involved in the dewatering and detoxification process has not been fully studied and is a major concern to Red Hook and the people who use these facilities:

- Children
- Numerous public and private schools which use the fields for physical education & sports teams
- Residents of the Red Hook Houses and the surrounding neighborhood

- Soccer, softball, baseball, football, handball, basketball, track & field teams and enthusiasts
- Swimmers of all ages
- The Red Hook Food vendors and their customers
- Other visitors to our community

With all of the promises from the EPA, their own record indicates that nothing is 100 percent guaranteed from mishaps. This is especially true of this facility after Super Storm Sandy, with the risk of immitigable consequences for not only our park but the whole neighborhood including Public Housing, which is extremely close to the proposed site.

As regards to the CDF, According to the EPA's own report, "Tests to assess the leach ability of NAPL (toxic contaminants)... would need to be performed and permanent institutional controls would be required to ensure the long-term effectiveness of this option..." The Red Hook community does not desire a site built with materials that needs permanent monitoring because of potentially leaching toxic contaminants.

With all due respect, there is a serious lack of trust in the owner of and lobbyist for this site. They have floated 3 different drafts of what they propose. Every time the community finds dangerous flaws in their proposals, they change the proposal to placate the concerns. This moving target leads to more distrust. What this pattern says to the community is that they'll say anything and then do whatever they want. Why in their second proposal do they proudly announce that they would convert waste to energy and oddly enough a study was done by Columbia University on the feasibility of importing tons of putrescible garbage(that's the stinky stuff) a day to burn at the Quadrozzi site. But when the community (excuse the play on words) got wind of it, it was no longer mentioned or addressed. Whatever they build on this site from concrete plants to asphalt plants or a garbage burning facility, will bring increased truck traffic to a park. GBX has told us on many occasions that they have the right of way to build whatever the zoning allows. That might be true, but we don't want to give them more land mass to facilitate them doing it.

Red Hook has been the target of noxious use facilities for over 20 years. To float a relatively small number of jobs at the expense of dumping on

this community negates the environmental justice which we have been fighting for, for years. And this is clearly an Environmental Justice issue.

As the EPA has a list of remedies that involve processing the dredged material off-site for beneficial use, we strongly urge them to select ***any*** option that will prevent Red Hook from once again being a dumping ground.

Respectfully Submitted by

Lou Sones
Coordinator
Red Hook GAGS

Fwd: [CGNA] DO you want another poo poo tsunami in the Gowanus Canal? Write to the EPA by Friday!
Jenna Lehman
to:
Region2 GowanusCanalComments
04/24/2013 08:25 PM
Hide Details
From: Jenna Lehman <lehmajen@kean.edu>

To: Region2 GowanusCanalComments@EPA

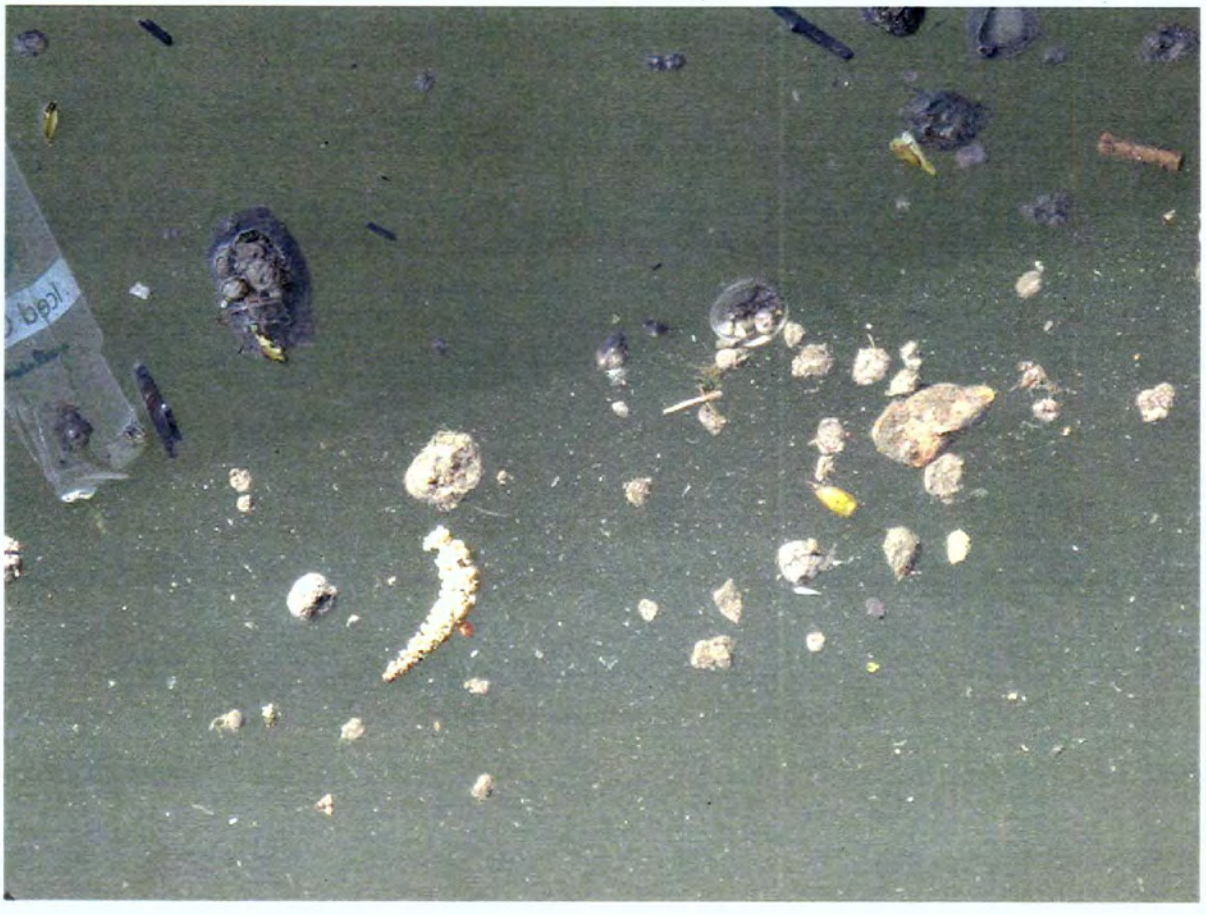
1 Attachment

Poo Poo Tsunami 2010.jpg

WE LOVE YOUR PLAN, EPA.....JUST DO IT!

signed, Jenna Lehman

Do you want more of this in the Gowanus Canal?? (see attached poo poo photo)



Comments on Gowanus Canal Proposed Plan

Gabriel Reichler to: Region2 GowanusCanalComments 04/24/2013 08:41 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Gabriel Reichler

Apr 24, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

While the EPA's plan takes the critical step of calling for CSO retention for two of the Canal's worst outfalls many details will not be solidified until New York City submits their CSO Long Term Control Plan in 2015. It is critical for the EPA to stand firm on requiring retention tanks to control CSOs and to work with New York City towards the eventual goal of 100% elimination of CSOs from the Canal.

I support the EPA's commitment to dredge as much as 10 feet of contaminated sediment from the entire length of the canal, build a multi-layer cap on the bottom, and treat and dispose of this contaminated sediment offsite. I also believe that the EPA should listen to the wishes of the community in Red Hook who oppose the building of a CDF on the Red Hook waterfront to dispose of the least contaminated sediment.

Sincerely,

Mr. Gabriel Reichler
275 W 96th St
New York, NY 10025-6200
(646) 370-9107

April 25, 2013

To:
Christos Tsiamis
Project Manager Central New York Remediation Section
U.S. Environmental Protection Agency
290 Broadway, 20th Floor
New York, NY 10007-1866

From:
Andrea Kondaks Sansom
206 Richards Street
Brooklyn, NY 11231

Dear Mr Tsiamis -

Thank you for the considerable time and dedication you've given to those Brooklyn communities affected by the Gowanus Superfund Site and thank you, especially, for the EPA willingness to hear those in Red Hook, Brooklyn. That the EPA stated at the last and final meeting here on April 16th, 2013, that the proposed Confined Disposal Facility does not have community support and therefore will not happen in Red Hook is a tremendous relief to our community.

While I fully support and recognize the necessity of the Gowanus clean-up, it is for manifold reasons that I am against the Red Hook option and, having been to the meetings and spoken with you on the phone, I'll not repeat myself here.

I am obliged, however, to enter my objection and please read beyond the ellipses below for my less technical response:

With regard to the EPA Gowanus Superfund Site Proposal (from PRAP, page 19, pages 22–24):

I oppose any options in the PRAP that include on-site stabilization of dredged materials and maintaining these materials in any form within the confines of the neighborhood of Red Hook. While the Gowanus Canal stretches through many neighborhoods, and was polluted over the course of many years by a variety of offenders, these proposals place undue burden with the remedy for cleanup in perpetuity in Red Hook. The neighborhoods impacted by the canal will be dredged, and the canal will be cleaned, the polluters will have completed their requirements under the PRAP the EPA will complete the task and leave the site, yet Red Hook will be "stuck" with the toxic remnants of the substances dredged from the bottom of the canal. Additionally, Red Hook residents will be faced with a CDF that it is vehemently opposed to, that adds no value to the environs of the neighborhood and is owned by a corporation/individual with an exceptionally poor environmental and community track record.

Likewise, I oppose Option E: On-site stabilization and on-site beneficial use.

The on- site beneficial use requirements remain undefined, and as such may still pose a significant risk to the health to the residents of my community. While beneficial use may be limited for the areas indicated in beneficial use, the residents of my neighborhood, both current and future, have no guarantee as to the level of enforcement of such, and to the level of adherence to property owners of such restrictions. The current proposed property owner currently has unpaid fines for illegal dumping of toxic material into Erie Basin, and was also cited in court for dumping in Newtown Creek. We cannot trust this corporation to be a good steward of our coastal waters.

I also oppose Option g: On-site stabilization and placement in on-site constructed CDF

With the creation of the CDF comes a substantial amount of land granted to a private land owner as a result of the on-site stabilization use of the dewatered material. NTRH also opposes the grant of land to a private developer in an undefined manner. I oppose this option, or any option, that includes the granting of new land to a private entity.

Lastly, I oppose Option f: Off-site stabilization and placement in on-site constructed CDF.

As previously stated, any option that brings a CDF to the neighborhood for long term storage of dewatered "sludge" is unacceptable. Research is beginning to demonstrate that the disruption of equilibrium by internal or external effects will eventually result in the release of contaminants from dewatered materials previously thought stabilized in CDFs. This indicates that there is insufficient evidence to tell us that over time and in response to changing conditions mobilization of some contaminants is possible, and I I do not accept this option in my neighborhood.

...

With regard to the necessary de-watering of the dredged material, it is my understanding that this phase of the clean-up will not be determined until the initial proposed remedies are decided upon. I understand, then, that at some later date there will be another round of public forum to address the options for the de-watering phase. What I respectfully ask is that the burden of de-watering be equally borne by those communities affected by the superfund site at large; that no cost is spared by those responsible for the clean-up in this de-watering phase; that remedies that will instead spare the various communities the particulate, vapor, odiferous, or any potentially toxic or sickening result of de-watering be utilized with re-time monitoring.

I oppose the installation of a de-watering facility in Red Hook, any facility that stockpiles dredged material and particularly one adjacent to a very popular and widely utilized recreational area, a public pool and the proposed Brooklyn Greenway initiative.

I strenuously oppose the installation of a CDF and/or de-watering facility being constructed in flood zone A and, thereby, any remedy that would have even the remotest chance of introducing contaminants in any form - dredged, dessicated, liquid - to the community of Red Hook in the event of a devastating weather event. Given the fact that Red Hook has experienced two flooding events in the past three years, one of which having disastrous effects on the community which will require years of recovery, I am astonished that the proposal was put forth in the first place; that EPA, city officials, CAG members, etc., did not see fit to revisit the implications of such a facility in a flood-prone area.

I need to express to you the sadness, confusion and outrage that has arisen in my community as a result of the EPA/GBX CDF and de-watering proposal. Red Hook residents – and then only some – learned of the Red Hook option during or after the February 13th, 2013 meeting at a time when most if not all of this community were still trying to put our lives back together – as we continue to do now – post Superstorm Sandy. That we were then burdened with the demanding and urgently time-sensitive need to research, respond to and, to the best of our ability, reasonably grasp the long and short-term implications of this complex and extremely important proposal is something we should have been spared. Those of us in the community who took it upon ourselves to learn as much as we could, being non-scientists, feel we should have had our own expert guidance and council and that, under the serious flood circumstances, these should have been provided us.

If we have made any errors in our efforts to galvanize the very reasonable resistance collectively expressed throughout all of our community, we urge you to forgive those slight mistakes and recognize the passion, care and determination that have resulted in this brief public comment period. We have spent countless hours and precious energy in informing ourselves and our community. We absolutely wish that the April 16th meeting arranged by GBX and Reg Flowers had been announced to the general community of Red Hook by its organizers. This privately arranged meeting amounted, in my mind, to subterfuge and was a shameful attempt to co-opt the very well-intended and tremendous concern felt throughout all of our corner of South Brooklyn.

That there was such a turnout and resounding opposition to the Red Hook option even when this meeting was at the bidding of GBX could be no better testament to the consensus of our community.

Similarly, it was very confusing to anyone who attended the February 13th meeting to find the GBX literature entitled "Fulfilling a Green Future" distributed at what we believed was an EPA meeting. Most if not all of us assumed this to be EPA literature and, when we discovered this false, felt duped and misled.

With regard to the EPA's responsibility toward Environmental Justice, it is clear that Red Hook, being in great part a minority or low-income community, falls under EPA determinations of Environmental Justice. Further, as Red Hook already suffers a disproportionate rate of asthma owing to it's proximity to the Brooklyn Queens

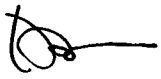
Expressway, extant or previous waste facilities, other local industry, I assume that section 6.2.1 under EPA Environmental Justice guidelines is pertinent to Red Hook.

Because no substantial and permanent employment would come to Red Hook as a result of the Red Hook/GBX proposal(s), no persuasive argument can be made that this community stands to benefit overall from the Red Hook option. Residents were clear at the April 16th meeting that the risk of toxic exposure, even if you say it is remote, is not worth a few job training positions.

At this point, Christos, I'd like to remind you that when I asked you if you would want a CDF/de-watering facility in your own community on the property of an individual who has not demonstrably remedied or acknowledged his own company's environmental violations, your response was: probably not.

I and we in Red Hook hope that our community will cease to bear the environmental burden it has borne historically and that, given our recent flood experience, the community of Red Hook be given full consideration and due care in the future unfolding of the Gowanus clean-up. Should it be the case that we will need to continue to oppose any remedy, we will do so with steadfast determination.

Again, thank you for your patience, hard work and willingness to listen.



Andrea Kondaks Sansom

NRDC
THE EARTH'S BEST DEFENSE

40 West 20th Street
New York, NY 10011
(212) 727-2700
Fax (212) 727-1773

April 25, 2013

Christos Tsiamis
Remedial Project Manager
Central New York Remediation Section
U.S. Environmental Protection Agency
290 Broadway, 20th Floor
New York, New York 10007-1866

via email: GowanusCanalComments.Region2@epa.gov

Re: Gowanus Canal Superfund Site – Proposed Plan

Dear Mr. Tsiamis:

On behalf of Natural Resources Defense Council ("NRDC") and its 1.3 million members and activists, I write to submit comments in support of the Environmental Protection Agency's ("EPA") December 2012 "Proposed Plan" for the Gowanus Canal Superfund Site.[1] NRDC commends EPA for focusing its attention on this long-neglected, highly polluted, urban waterway and for developing a plan intended to remove from the canal, and/or permanently sequester from potential routes of human and ecological exposure, the most significant toxic contamination in the canal. We express our support for community efforts to ensure that the cleanup is completed both expeditiously and safely.

We submit this letter to emphasize our support for EPA's proposal to address ongoing sources of contamination as part of the Superfund remedy, particularly combined sewage overflows ("CSOs") near the head of the canal, which threaten to recontaminate areas targeted for intensive cleanup.

NRDC has been involved for decades in efforts to ensure that New York City solves its 30 billion-gallon-per-year sewage overflow problem, consistent with the requirements of the federal Clean Water Act. We support the 2012 CSO administrative consent order ("CSO Order") between New York City and the New York State Department of Environmental Conservation ("NYSDEC"), which commits the city to (i) implement specific "gray" infrastructure projects in particular drainage areas, (ii) meet targets for green infrastructure implementation citywide, and (iii) critically, to develop Long Term Control Plans ("LTCPs")

[1] http://www.epa.gov/region2/superfund/npl/gowanus/pdf/gowanus_prap.pdf

BROOKLYN ECONOMIC DEVELOPMENT CORPORATION

April 25, 2013

Christos Tsiamis
Project Manager
Central New York Remediation Section
U.S. Environmental Protection Agency
290 Broadway, 20th Floor
New York, New York 10007-1866

Dear Mr. Tsiamas:

On behalf of Brooklyn Economic Development Corporation (BEDC), I am writing to support the Gowanus Bay Terminal (GBX) proposal for dewatering, water purification, remediation, and beneficial reuse of the dredge removed from the Red Hook portion of Gowanus Canal.

When the determination of the Canal as a Superfund site was first promulgated, I had deep concerns on many levels. While I know and understand that the toxicity the Canal in its current form poses to the community, I also feared that the designation would halt any kind of redevelopment efforts for many years as the logistical questions of how to clean the canal and where to dump the dredge were negotiated. I know that there are few places left in the US that are permitted to accept contaminated dredge and I understand why; as communities all over the country try to clean up and reuse brownfield sites for purposes of job creation and community revitalization, who would want to *add* contaminants to the soil where they might leach and contaminate adjacent sites and aquifers?

The GBX Terminal solves this problem in a very elegant and prudent way! It eliminates truck trips transporting dredge from the site entirely – this benefits the community not only from a noise and congestion standpoint, but as a way to avoid truck exhaust that has led to asthma and other respiratory problems in the Red Hook community.

Secondly, the end result is a community amenity – a waterfront park that GBX seeks to build on the new upland that will further add to the livability of this community. As the Brooklyn Greenway project grows and expands in Brooklyn, this park will add another link to the green "necklace" that the Brooklyn waterfront can become.

Third, it helps preserve and create jobs and industry in a community that desperately needs them, and in a way that that compliments the neighborhood by use of waterborne commerce rather than truck dependence. So many "economic development" projects in Red Hook have had disappointing results – the Cruise Ship Terminal that created few jobs, the IKEA that created part-time retail jobs. Certainly, these projects have enhanced the Red Hook community, but their local economic impact has been muted.

The Gowanus Bay Terminal GBX has been a presence in Red Hook for many years. The product they provide is *essential* to the continued rebuilding of New York City. There are few places for small industrial businesses to relocate to if Red Hook completely de-industrializes, and that is not a desired outcome in the continuing redevelopment of Red Hook! The most vibrant communities in NYC

that build upon the gray and green projects specified in the AOC to identify *additional* CSO reduction projects necessary to achieve compliance with state water quality standards.

The CSO Order makes clear that the City's CSO reduction obligations in the Gowanus Canal are not limited to the specific projects identified in the CSO Order itself. Rather, under the CSO Order, the City, through the LTCP, must achieve any additional reductions necessary to meet not only existing water quality standards, which correspond to the canal's current "designated uses," but also any higher standards corresponding to the canal's "highest attainable use." We fully expect that, following the Superfund cleanup, more extensive recreational and ecological uses will be attainable in the canal than are reflected in the canal's current designated uses under state law. It is critical to ensure that ongoing CSO discharges do not preclude such uses or otherwise undermine the remedial goals of the Superfund cleanup.

EPA's Proposed Plan rightly concludes that the City's LTCP for the Gowanus Canal, which is due for submission to NYSDEC in June 2015, should be required to achieve CSO reductions at a level necessary to prevent recontamination of the Superfund site and to ensure the long-term integrity of the Superfund remedy. We applaud NYSDEC for concurring in this determination, and for committing to coordinate with EPA to ensure the Gowanus LTCP achieves this goal.

We also look forward to participating in the City's process of developing LTCPs for the Gowanus Canal and waterbodies throughout the city. We stand ready to support the City's efforts to identify the most cost-effective combinations of green and gray infrastructure to meet the requirements of both the CSO Order and the Gowanus Canal Superfund remedy.

Thank you for your consideration of these comments.

Sincerely,

Lawrence M. Levine
Senior Attorney

I support the Red Hook Option of the EPA Gowanus Canal Superfund cleanup.

The improvement to an active local maritime industrial business, the economic benefits it will bring, the jobs that it will create, are all important to me and what I believe is best for the majority of the community of Red Hook.

Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community are without harm or risk of such.

Please approve the Red Hook option.

(print)

Clyde — first name
Ellison — last name

75 Bush st — address
5B — apt.#

Brooklyn — city
NY — state
11231 — zip

347 743-9698 — area code & phone number

email

I am 18 years of age or older

X _____ sign
4-25-2013 — date

mail:
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290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

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Please approve the Red Hook option.

(print)

Lance — first name

Lovett — last name

93 Centre Mall — address

4B — apt.#

Brooklyn — city

N.Y — state

11231 — zip

347 722 2835 — area code & phone number

HandsumLance@Yahoo.com — email

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Please approve the Red Hook option.

(print)

Andre | Taylor Jr

first name | last name

451 Columbia St | 6A

address | apt.#

Brooklyn NY | NY | 11231

city | state | zip

11231 718-893-2461

area code & phone number

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I am 18 years of age or older

x [signature] | 4-25-13

sign | date

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(print)

Steven — first name
Bruce — last name

451 Columbia St — address
1E — apt.#

Brooklyn — city
NY — state
11231 — zip

area code & phone number

email

I am 18 years of age or older

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Please approve the Red Hook option.

(print)

Afrika Mills — first name

Mills — last name

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347 636-2319 — area code & phone number

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x Afrika Mills — sign

01.25.13 — date

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Please approve the Red Hook option.

(print)

AARON — first name
CHERRY — last name

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X Aaron J Cherry Jr. — sign
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Please approve the Red Hook option.

(print)

Kevin — first name

Rivera — last name

12 mile st — address

1B — apt.#

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NY — state

11231 — zip

347-403-5756 — area code & phone number

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Please approve the Red Hook option.

(print)

Tyrone — first name
Brown — last name

address
2 — apt.#

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347 227 9460 — area code & phone number

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support jobs and industries of many types. BEDC has been an advocate for industrial uses, *where appropriate,* in Brooklyn for our entire 34-year history. This is an appropriate use, and the EPA Gowanus Canal Superfund Red Hook Option will not only allow GBX to stay and grow, but benefit the community in terms of jobs and amenities. If this plan is implemented, the clean-up of the Gowanus Canal can begin sooner rather than later and the community can begin planning for a future without a toxic gash running through it. That dream has been a long time coming, and this project helps move it closer to reality.

I have been an advocate of community-based brownfield clean-ups for many years. I was part of the original statewide Pocantico Roundtable on Brownfields which advocated for better Brownfield clean-up regulations in New York State. I currently serve as Vice Chair of the Board of New Partners for Community Revitalization, a non-profit organization well known to your agency, which is in the forefront of environmental solutions to brownfield issues. [Note: I write as an individual and not on behalf of New Partners.] Certainly the Gowanus Canal rises to a higher threat level than a typical brownfield, but as governments across New York State avoid clean-ups because they know there are no easy solutions to where to put the waste and what to do with the remediated land, we in Brooklyn are not subject to that same dilemma. We have a sound clean-up solution and we have a community that is desirable and ready to react to the positive change that a cleaner Gowanus Canal can bring.

The people of Red Hook, the residents of Public Housing, who have stuck it out for many years amidst decay, crime, being ignored, marginalized and dumped on, support this project. They see its intrinsic value. They do not support it based on whether or not the value of their houses will go up or down – they understand that it is about the long-term, healthy and sustainable future for ALL Red Hook residents.

Based on the soundness of the science, the positive economic development impacts, and the faith of the long-term residents of Red Hook, BEDC endorses this project and urges you to move the Red Hook Option forward.

Sincerely,

Joan Bartolomeo
President, BEDC

ABOUT BEDC

Brooklyn Economic Development Corporation's mission is to seek to create and expand economic opportunity throughout Brooklyn by implementing business and neighborhood development and planning activities to support and create sustainable jobs, industries and communities.

Founded in 1979 to stimulate economic growth and neighborhood stability in Kings County, the Brooklyn Economic Development Corporation (BEDC) has evolved into a multi-service, business and community development organization serving over 1000 clients per year. Our expanding and enhanced services are structured to meet the unique challenges facing entrepreneurs in a constantly changing, dynamic urban economic environment. In thirty-four years of service to the business community, BEDC has provided training, technical assistance and counseling to over 20,000 established or potential business owners.

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Please approve the Red Hook option.

(print)

William (first name) Hudson (last name)

3 Centre Mall (address) 3C (apt.#)

Brooklyn (city) NYC (state) 11231 (zip)

(718)-689-9676 (area code & phone number)

(email)

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X William Hudson (sign) 4/25/13 (date)

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Please approve the Red Hook option.

(print)

Pemall — first name
Thomas — last name

609 Clinton St — address
SC — apt.#

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Please approve the Red Hook option.

(print)

Tyrell — first name
McBride — last name

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1C — apt.#

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Please approve the Red Hook option.

(print)

Charlotte I — first name
Bivines — last name

486 Columbia St — address
1.d — apt.#

Brooklyn — city
N.Y. — state
11231 — zip

917 202-8632 — area code & phone number

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x Charlotte Bivines — signature
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Please approve the Red Hook option.

(print)

Borahnie — first name
Garcia — last name
484 Colombia St — address
4A — apt.#
Brooklyn — city
NY — state
11231 — zip
11231 646 409-9450 — area code & phone number
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x Borahnie Garcia — signature
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Please approve the Red Hook option.

(print)

JAIO Sanchez

first name last name

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address apt.#

Brklyn NY 11231

city state zip

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area code & phone number

email

X 4-25-13

signature date

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Please approve the Red Hook option.

(print)

LAUREN GARRETT

first name last name

505 Columbia St D

address apt.#

Brooklyn N.Y 11231

city state zip

area code & phone number

email

X Laura Howett 4-25-13

signature date

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Please approve the Red Hook option.

(print)

Tiffany (first name) Garrett (last name)

505 Columbia Street (address) 3D (apt.#)

Brooklyn (city) NY (state) 11231 (zip)

(area code & phone number)

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x Tiffany Garrett (signature) 4-25-13 (date)

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(print)

SanJean — first name
Holloway — last name

17 Lorraine — address
#1D — apt.#

Brooklyn — city
NY — state
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718-858-1726 — area code & phone number

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(print)

Felix (first name) Ortiz (last name)

17 Lorraine St. (address) 2C (apt.#)

Brooklyn (city) N.Y (state) 11231 (zip)

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x Felix Ortiz (signature) 4/25/13 (date)

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(print)

Rosa — first name
Mendez — last name

123 - Lorraine st — address
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Brooklyn — city
N.Y — state
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area code & phone number

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x Rosa Mendez — signature
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(print)

Tiffany — first name

Sistrunk — last name

address

apt.#

465 Columbia St — city

B.K. — state

11231 — zip

area code & phone number

email

x Tiffany Sistrunk — signature

4-25-13 — date

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

I support the EPA Gowanus Canal Superfund - Red Hook option.

The improvement to an active local maritime industrial business, the economic benefits it will bring, the jobs that it will create, are all important to me and what I believe is best for the majority of the community of Red Hook.

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Please approve the Red Hook option.

(print)

Lloyd F — first name
Fraser — last name

17 Lorraine St. — address
5A — apt.#

BKlyn — city
N.Y. — state
11231 — zip

area code & phone number

email

x Lloyd Fraser — signature
4/25/13 — date

mail:
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Manhattan, NY 100007-1866

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Please approve the Red Hook option.

(print)

Emanuel — first name
Harris — last name

505 Columbia St. — address
4-F — apt.#

Brooklyn — city
New York — state
11231 — zip

area code & phone number

email

x Emanuel Harris — signature
4-25-13 — date

mail:
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Fax:
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Please approve the Red Hook option.

(print)

~~Carmen~~ Amada ~~Trado~~ Mercado
first name last name

34 ~~78~~ W. 9th St. ~~58~~ 1F
address apt.#

BKlyn N.Y. 11231
city state zip

area code & phone number

email

x Amada Mercado 4/25/13
signature date

mail:
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Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
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Please approve the Red Hook option.

(print)

Pedro Nieves

first name last name

151 Richard St 2A

address apt.#

Brooklyn N.Y 11231

city state zip

area code & phone number

email

I am 18 years of age or older

x Pedro Nieves 4/25/13

sign date

mail:

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Please approve the Red Hook option.

(print)

Sequoia Bessard
first name last name

493 Columbia Street 1.B
address apt.#

Brooklyn N.Y. 11231
city state zip

917 202-8632
area code & phone number

email

I am 18 years of age or older

x Sequoia Bessard 4/25/13
sign date

mail:

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Fax:

212 637 3966

email:

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Please approve the Red Hook option.

(print)

Genera Bivines

first name last name

486 Columbia Street 1.D

address apt.#

Brooklyn N.Y. 11231

city state zip

718 624-0568

area code & phone number

email

I am 18 years of age or older

x Genera Bivines 4/25/13

sign date

mail:

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Fax:

212 637 3966

email:

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Please approve the Red Hook option.

(print)

Christina Sanez

first name | last name

486 Columbia St. #2B

address | apt.#

B'Klyn N.Y. 11231

city | state | zip

area code & phone number

email

x Christina Sanez 4/25/13

signature | date

mail:

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Please approve the Red Hook option.

(print)

Letitia Daggett

first name last name

30 Windsor Place

address apt.#

Brooklyn NY 11215

city state zip

917 817 5452

area code & phone number

tdaggett@aol.com

email

I am 18 years of age or older

x [signature] 4-25-13

sign date

mail:

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Please approve the Red Hook option.

(print)

JASON — first name
LITTLE — last name

177 E 4TH ST — address
— apt.#

BROOKLYN — city
NY — state
11218 — zip

(347) 249-0291 — area code & phone number

JASONLITTLE@BEETOMIX.COM — email

I am 18 years of age or older

x Jason Little — sign
Apr 26 4-25-13 — date

mail:
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212 637 3966

email:
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Please approve the Red Hook option.

(print)

Charlene Batista

first name last name

420 3C

address apt.#

Brooklyn NY 11231

city state zip

[redacted]

area code & phone number

email

I am 18 years of age or older

x [signature] 4/25/13

sign date

mail:

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email:

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Please approve the Red Hook option.

(print)

Nereida Lopez
first name last name

486 Columbia Street #3C
address apt.#

Brooklyn N.Y. 11231
city state zip

347 220-7336
area code & phone number

msbadass1129@aol.com
email

I am 18 years of age or older

x Nereida Lopez 4/25/13
sign date

mail:

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Manhattan, NY 100007-1866

Fax:

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Please approve the Red Hook option.

(print)

Julio — first name
Sostre — last name

829 Hicks St — address
2E — apt.#

Brooklyn — city
NY — state
11231 — zip

718 570-1259 — area code & phone number

email

I am 18 years of age or older

x [signature] — sign
4-25-13 — date

mail:

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Fax:

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Please approve the Red Hook option.

(print)

Kathleen — first name
Rivera — last name

484 Columbia St — address
4B — apt.#

Brooklyn — city
NY — state
11231 — zip

718 852-6570
area code & phone number

[redacted] KathleenPotoretty@yahoo.com
email

I am 18 years of age or older

x [signature] — sign
4/25/13 — date

mail:
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Manhattan, NY 100007-1866

Fax:
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email:
GowanusCanalComments.Region2@epa.gov

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Please approve the Red Hook option.

(print)

Israel — first name
Antonetty — last name

484 Columbia St — address
4B — apt.#

Brooklyn — city
NY — state
11231 — zip

718 852-6570
area code & phone number

Israel Antonetty @ yahoo.com
email

I am 18 years of age or older

X _____ 4/25/13
sign — date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

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Please approve the Red Hook option.

(print)

Ada ~~Soto~~ Soto

first name last name

484 Columbia St 4A

address apt.#

Brooklyn N.Y. 11231

city state zip

917 688-6070

area code & phone number

adainnyc@yahoo.com

email

I am 18 years of age or older

x Ada M. Soto 04/25/13

sign date

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
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Fax:

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Please approve the Red Hook option.

(print)

Brunilda Perez

first name last name

829 Hicks St #1E

address apt.#

BKlyn N.Y. 11231

city state zip

area code & phone number

email

I am 18 years of age or older

x Brunilda Perez 4/25/13

sign date

mail:

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Please approve the Red Hook option.

(print)

Anna Townsend

first name last name

468 Greene Ave Bk

address apt.#

NY 11216

city state zip

917 913 4603

area code & phone number

anna1starr@gmail.com

email

I am 18 years of age or older

x [signature] 4/25/13

sign date

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Please approve the Red Hook option.

(print)

Sonia — first name

Cruz — last name

414 Columbia St — address

4b — apt.#

Brooklyn — city

NY — state

11231 — zip

_____ — area code & phone number

_____ — email

I am 18 years of age or older

X S. [signature] — sign

4-25-13 — date

mail:

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Please approve the Red Hook option.

(print)

Eddie ~~Perez~~ Perez
first name last name

484 Columbia st. 3B
address apt.#

Bklyn NY 11231
city state zip

718-669-0017
area code & phone number

email

I am 18 years of age or older

x [signature] 4/25/13
sign date

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Please approve the Red Hook option.

(print)

James — first name
Williams — last name

484 Columbia St. — address
6E — apt.#

BKlyn — city
N.Y. — state
11231 — zip

area code & phone number

email

I am 18 years of age or older

x [signature] — sign
4/25/13 — date

mail:

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Please approve the Red Hook option.

(print)

Carmen (first name) Tirado (last name)

28 W. 9th st (address) 5A (apt.#)

BKlyn (city) N.Y. (state) 11231 (zip)

(area code & phone number)

(email)

x Carmen Tirado (signature) 4/25/13 (date)

mail:
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email:
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Please approve the Red Hook option.

(print)

ROBERT (first name) LOPEZ (last name)

486 Columbia St. (address) 3C (apt.#)

BKlyn (city) N.Y. (state) 11231 (zip)

(area code & phone number)

(email)

x Robert Lopez (signature) 4/25/13 (date)

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Please approve the Red Hook option.

(print)

Israel I — first name
Delgado — last name

106 Verona — address
10b — apt.#

BKlyn — city
N.Y. — state
11231 — zip

347 275-6801
area code & phone number

email
I am 18 years of age or older

X Israel Delgado — sign
4-25-13 — date

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Please approve the Red Hook option.

(print)

Lloyd C. Cofield
first name last name

17 Lorraine St. #5D
address apt.#

~~17 Lorraine~~ Bklyn N.Y. 11231
city state zip

area code & phone number

email

I am 18 years of age or older

x Lloyd Cofield 4/25/13
sign date

mail:
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Please approve the Red Hook option.

(print)

Steven ~~Wilson~~ Wilson Jr.
first name last name

451 Columbia Street 6C
address apt.#

Bklyn NY. 11231
city state zip

718 717-4498
area code & phone number

qscr.owner@gmail.com
email

x Steven Wilson Jr. 4/25/13
signature date

mail:
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email:
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Please approve the Red Hook option.

(print)

Emily — first name
Cruz — last name

31 Centre — address
2D — apt.#

Bklyn. — city
NY. — state
11231 — zip

347-444-5641
area code & phone number

email

I am 18 years of age or older

x [signature] — sign
4/25/13 — date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

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Please approve the Red Hook option.

(print)

RAMON — first name
CASTRO — last name

831 Hicks — address
4A — apt.#

BKLYN — city
NY — state
11231 — zip

347 362 2857 — area code & phone number

RCASTRO718@ com — email

I am 18 years of age or older

x RAMON CASTRO — sign
4/25/13 — date

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Please approve the Red Hook option.

(print)

Angel (first name) Torres (last name)

450 Columbia St (address) 6C (apt.#)

BKlyn (city) N.Y. (state) 11231 (zip)

(area code & phone number)

(email)

I am 18 years of age or older

x Angel Torres (sign) 4/25/13 (date)

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Please approve the Red Hook option.

(print)

EMMA (first name) Rodriguez (last name)

Lorraine St 6B
address apt.#

Brooklyn (city) N.Y. (state) 11231 (zip)

1-(718)237-8753
area code & phone number

email

I am 18 years of age or older

x Emma Rodriguez (sign) 4-25-13 (date)

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Please approve the Red Hook option.

(print)

ANA CRUZ — first name

CRUZ — last name

2A — apt.#

38 Bush St — address

NY — state

11231 — zip

Brooklyn NY — city

area code & phone number

email

I am 18 years of age or older

X _____ 4-25-13

sign — date

mail:

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Please approve the Red Hook option.

(print)

Aracelis — first name
Cosme — last name

9 Lorraine — address
2D — apt.#

Brooklyn — city
NY — state
11231 — zip

718-855-2718
area code & phone number

Cosme_aracel,5@yahoo.com
email

I am 18 years of age or older

x [signature] — sign
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Please approve the Red Hook option.

(print)

Alida — first name
Lugo — last name

1776 Lorraine St. — address
4C — apt.#

Brooklyn — city
N.Y. — state
11231 — zip

area code & phone number

email

I am 18 years of age or older

x Alida Lugo — sign
4/25/13 — date

mail:

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Please approve the Red Hook option.

(print)

Angela (first name) Garcia (last name)

16 Lorraine St. (address) #5B (apt.#)

Brooklyn (city) N.Y. (state) 11231 (zip)

(area code & phone number)

(email)

I am 18 years of age or older

x Angela Garcia (sign) 4/25/13 (date)

mail:

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Please approve the Red Hook option.

(print)

DIONISIO — first name
THOMAS — last name

591 E 87TH ST — address — apt.#

BROOKLYN — city
N.Y — state
11236 — zip

718 282-4825 — area code & phone number

email

I am 18 years of age or older

X _____ — sign
4/25/13 — date

mail:
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Please approve the Red Hook option.

(print)

Nicholas Aviles

first name last name

17 Lorraine ST 1A

address apt.#

Brooklyn NY 11231

city state zip

347 775-8110

area code & phone number

AvilesNicholas@yahoo.com

email

I am 18 years of age or older

x [signature] 4/25/13

sign date

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Please approve the Red Hook option.

(print)

Sherrisse Bivines
first name | last name

486 columbia St 1D
address | apt.#

Brooklyn NY 11231
city | state | zip

718 - 624 - 0568
area code & phone number

AmirahBivines@yahoo.com
email

I am 18 years of age or older

x Sherrisse Bivines 4-25-13
sign | date

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Please approve the Red Hook option.

(print)

Nathan Zakari
first name last name

484 Columbia St 6D
address apt.#

Brooklyn NY 1123
city state zip

347 874-5128
area code & phone number

email

x [signature] 4/25/13
signature date

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Please approve the Red Hook option.

(print)

Priscilla Hackel

first name last name

190 Seeley St

address apt.#

BKlyn NY 11218

city state zip

area code & phone number

email

x Priscilla Hackel 4-25-13

signature date

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Please approve the Red Hook option.

(print)

James (first name) Howley (last name)

190 Seeley St (address) R F (apt.#)

Brooklyn (city) N.Y. (state) 11218 (zip)

(area code & phone number)

(email)

X James Howley (signature) 4-25-13 (date)

mail:
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290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

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Please approve the Red Hook option.

(print)

FRANK GLOVER — first name
GLOVER — last name

831 HICKS ST. #6C
address — apt.#

BROOKLYN — city
N.Y — state
zip

BROOKLYN
area code & phone number

718-237-1070
email

I am 18 years of age or older

X Frank Glover — sign
4/25/13 — date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

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Please approve the Red Hook option.

(print)

Brenda (first name) Tubbs (last name)

484 Columbia St. (address) 5B (apt.#)

BKlyn (city) N.Y. (state) 11231 (zip)

(area code & phone number)

(email)

I am 18 years of age or older

x Brenda Tubbs (sign) 4-25-13 (date)

mail:
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Please approve the Red Hook option.

(print)

Gerard (first name) Carter (last name)

507 Columbia st (address) 1D (apt.#)

Brooklyn (city) N.Y (state) 11231 (zip)

(area code & phone number)

(email)

I am 18 years of age or older

X Gerard Carter (sign) 4/25/13 (date)

mail:
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Please approve the Red Hook option.

(print)

Sharlyn (first name) marin (last name)

31 Centre Mall (address) apt #2C (apt.#)

Brooklyn (city) NY (state) 11231 (zip)

718 233 5093
area code & phone number

sharlynmarin[illegible]@gmail.com
email

I am 18 years of age or older

x Sharlyn Marin (sign) 4/25/13 (date)

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Please approve the Red Hook option.

(print)

[illegible] | LUKE

first name | last name

484 Columbia St. | 2E

address | apt.#

BKlyn | N.Y. | 11231

city | state | zip

area code & phone number

email

I am 18 years of age or older

x [signature] | 4/25/13

sign | date

mail:

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Please approve the Red Hook option.

(print)

Kenya Tubbs
first name last name

484 Columbia St. 5B
address apt.#

Brooklyn N.Y 11231
city state zip

area code & phone number

email

I am 18 years of age or older

x Kenya Tubbs 4-25-13
sign date

mail:

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Please approve the Red Hook option.

(print)

DonMarie Tiziano
first name last name

611 Hicks Street 4A
address apt.#

Brooklyn NY 11231
city state zip

917 238-3374
area code & phone number

Ree1378@Gmail.com
email

I am 18 years of age or older

x DTiziano 4/25/13
sign date

mail:
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Please approve the Red Hook option.

(print)

Emma Nash
first name last name

451 Columbia Street 5B
address apt.#

Brooklyn NY 11231
city state zip

347 882- 4405
area code & phone number

email

I am 18 years of age or older

x Emma Nash 4/25/2013
sign date

mail:

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Please approve the Red Hook option.

(print)

HAROLD — first name
BUSSEY — last name

606 Clinton St — address
2A — apt.#

Bklyn — city
N.Y — state
11231 — zip

347-7398877 — area code & phone number

email

I am 18 years of age or older

x Harold Bussey — sign
4/25/13 — date

mail:
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Please approve the Red Hook option.

(print)

Keith — first name
Smith — last name

161 Bush St — address
2A — apt.#

BKlyn — city
N.Y. — state
11231 — zip

347 617-0176 / 347 435-9411
area code & phone number

None
email
I am 18 years of age or older

x Keith Smith — sign
4/25/13 — date

mail:
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Please approve the Red Hook option.

(print)

Tanyanette (first name) Miller (last name)

791 Hicks St (address) 2A (apt.#)

Brooklyn (city) NY (state) 11231 (zip)

(718) 875-1086 (area code & phone number)

(email)

I am 18 years of age or older

x Tanyanette Miller (sign) 4/25/13 (date)

mail:

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290 Broadway, 20th Floor
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email:

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Please approve the Red Hook option.

(print) Terrance Singleton

first name last name

70 Bush 4B

address apt.#

BKLyn N.Y 11231

city state zip

area code & phone number

917 757-5006

email

I am 18 years of age or older

x Terrance Singleton 4/25/13

sign date

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

I support the EPA Gowanus Canal Superfund - Red Hook option.

The improvement to an active local maritime industrial business, the economic benefits it will bring, the jobs that it will create, are all important to me and what I believe is best for the majority of the community of Red Hook.

Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community is without harm or risk of such.

Please approve the Red Hook option.

(print)

RAMONA Melendez
first name last name

505 Columbia St 6B
address apt.#

BKLYN NY 11231
city state zip

area code & phone number

email

X R. Melendez 4/25/13
signature date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

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Please approve the Red Hook option.

(print)

Stephanie (first name) Aponte (last name)

502 Columbia St (address) 6A (apt.#)

Brklyn (city) NY (state) 11231 (zip)

(area code & phone number)

(email)

X S. Aponte (signature) 4/25/13 (date)

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
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Please approve the Red Hook option.

(print)

MARITZA — first name
Lopez — last name

124 BUSH ST. — address
3A — apt.#

Brooklyn — city
NY — state
11231 — zip

area code & phone number

email

x Maritza Lopez — signature
4/25/13 — date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

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Please approve the Red Hook option.

(print)

Tyquon S. — first name
Scott — last name

442 Columbia St. — address
4F — apt.#

Brooklyn — city
N.Y. — state
11231 — zip

_____ — area code & phone number

TorchTasTic@gmail.com — email

x _____ — signature
4/25/13 — date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

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Please approve the Red Hook option.

(print)

JO ANN — first name
Wall — last name

507 Columbia — address
1A — apt.#

New York — city
Brooklyn — state
11231 — zip

area code & phone number

email

x Jo-Ann Wall — signature
4/25/13 — date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

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Please approve the Red Hook option.

(print)

Rasheed Johnson
first name last name

505 Columbia Street 7D
address apt.#

Brooklyn NY 11231
city state zip

area code & phone number

Rasheed377@gmail.com
email

x Rasheed Johnson 4/25/2015
signature date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

1

Rec'd 4/25/13

I support the Red Hook Option of the EPA Gowanus Canal Superfund cleanup.

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A. S.

Please approve the Red Hook option.

(print)

Carmen Saez

first name last name

79 Lorraine St 5A

address apt.#

Brooklyn NY 11231

city state zip

347 529-4889

area code & phone number

email

I am 18 years of age or older

x Carmen Saez

sign date

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

GowanusCanalComments.Region2@epa.gov

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Please approve the Red Hook option.

(print)

Taylor Nash

first name last name

451 Columbia Street SB

address apt.#

Brooklyn NY 11231

city state zip

_____ _____

area code & phone number

_____

email

I am 18 years of age or older

X _____ _____

sign date

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

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Please approve the Red Hook option.

(print)

PHILIP MERCADO _____

first name last name

_____

address apt.#

486 COLUMBIA St apt 3B. _____ _____

city state zip

1347-581-7688

area code & phone number

_____

email

I am 18 years of age or older

x Phillip MERCADO _____

sign date

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

GowanusCanalComments.Region2@epa.gov

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Please approve the Red Hook option.

(print)

Timothy Williams _____
first name last name

428 Columbia 1E
address apt.#

[redacted] Brooklyn NY 11231
city state zip

_____ _____
area code & phone number

_____
email

I am 18 years of age or older

x Timothy Williams _____
sign date

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

GowanusCanalComments.Region2@epa.gov

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Please approve the Red Hook option.

(print)

FRANKLIN P. PIZARRO
first name last name

416 COLUMBIA ST 6E
address apt.#

BROOKLYN N.Y. 11231
city state zip

area code & phone number

email

I am 18 years of age or older

X
sign date

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

GowanusCanalComments.Region2@epa.gov

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Please approve the Red Hook option.

(print)

KEEM / JAMISON

first name / last name

428 Columbia ST / 2-B

address / apt.#

Brooklyn / NY / 11231

city / state / zip

_____ _____

area code & phone number

_____

email

I am 18 years of age or older

x Keem Jamison _____

sign / date

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

Recd 4/26/13

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Please approve the Red Hook option.

(print)

Haasan | Stevens

first name | last name

16 Mills | 3A

address | apt.#

Brooklyn | NY | 11231

city | state | zip

718 852-7820

area code & phone number

email

I am 18 years of age or older

x Haasan Stevens | _____

sign | date

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

GowanusCanalComments.Region2@epa.gov

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Please approve the Red Hook option.

(print)

Helen Saez

first name last name

79 Lorraine St 5A

address apt.#

Brooklyn NY 11231

city state zip

347 483-2038

area code & phone number

email

I am 18 years of age or older

x Helen Saez

sign date

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

GowanusCanalComments.Region2@epa.gov

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A. S.

Please approve the Red Hook option.

(print)

~~Edna~~ Gloria — first name

Smith — last name

79 Lorraine St — address

6C — apt.#

Brooklyn, — city

NY — state

11231 — zip

718 935 1205 — area code & phone number

email

I am 18 years of age or older

x Gloria Smith — sign

date

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

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Please approve the Red Hook option.

(print)

Steven Stevens

first name | last name

73 Visitation Pl | A

address | apt.#

Brklyn | NY | 11231

city | state | zip

area code & phone number

Steven@yahoo.com

email

x

signature | date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

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email:
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Please approve the Red Hook option.

(print)

Tonjia (first name) Andrews (last name)

28 West 9th (address) 1B (apt.#)

Bklyn (city) NY (state) 11231 (zip)

347 202 1280 (area code & phone number)

(email)

X Tonjia Andrews (signature) (date)

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

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Please approve the Red Hook option.

(print)

Shacora — first name
Watson — last name

92 centre mall — address
1-F — apt.#

Brooklyn — city
N.Y — state
11231 — zip

347 690 - 9495 — area code & phone number

Ronsy9/R1219@Yahoo.com — email

x Shacora Watson — signature
_____ — date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE APRIL 26th, 2013 DEADLINE!

Recd 4/25/13

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Please approve the Red Hook option.

(print)

Tony — DeDona

first name — last name

93 Carroll Mall — 1F

address — apt.#

Bklyn — N.Y. — 11231

city — state — zip

718-625-4162

area code & phone number

email

x Tony DeDona

signature — date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

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Recd 4/25/13

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Please approve the Red Hook option.

(print)

Michael Alicea

first name last name

address apt.#

493 Columbia St 11231

city state zip

Brooklyn

area code & phone number

917 605 - 1691

email

X Michael Alicea

signature date

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

GowanusCanalComments.Region2@epa.gov

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Please approve the Red Hook option.

(print)

Kayreen Fludd

first name last name

11 Lorraine st 5A

address apt.#

Bklyn NY 11231

city state zip

347 272-6959

area code & phone number

email

x Kayreen Fludd

signature date

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

Comments on Gowanus Canal Proposed Plan

Diane McMillian to: Region2 GowanusCanalComments 04/25/2013 07:13 AM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Diane McMillian

Apr 25, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

While the EPA's plan takes the critical step of calling for CSO retention for two of the Canal's worst outfalls many details will not be solidified until New York City submits their CSO Long Term Control Plan in 2015. It is critical for the EPA to stand firm on requiring retention tanks to control CSOs and to work with New York City towards the eventual goal of 100% elimination of CSOs from the Canal.

I support the EPA's commitment to dredge as much as 10 feet of contaminated sediment from the entire length of the canal, build a multi-layer cap on the bottom, and treat and dispose of this contaminated sediment offsite. I also believe that the EPA should listen to the wishes of the community in Red Hook who oppose the building of a CDF on the Red Hook waterfront to dispose of the least contaminated sediment.

Sincerely,

Ms. Diane McMillian
PO Box 50443
Brooklyn, NY 11205-0443
(917) 531-3697

I, the sender, vote that I do not want this project to proceed.

Yeshwant Chitalkar to: Region2 GowanusCanalComments 04/25/2013 07:53 AM

I do not see any benefit to the community in building the CDF in Red Hook and only see potential problems down the road that were either not transparently disclosed or foreseen.
Therefore, why am I being asked support the CDF?

--

Yeshwant Chitalkar
Yeshwant91@gmail.com
91 Pioneer St.
Brooklyn, NY
Resident

I, the sender, vote that I do not want this project to proceed.

Daniel Genova to: Region2 GowanusCanalComments 04/25/2013 08:41 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

- Children
- Numerous public and private schools which use the fields for physical education & sports teams
- Residents of the Red Hook Houses and the surrounding neighborhood
- Soccer, softball, baseball, football, handball, basketball, track & field teams and enthusiasts
- Swimmers of all ages
- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

–
Daniel Genova
eyegrease@earthlink.net
2152 73rd St.
Brooklyn, New York
Inlaw of Red Hook residents

Gowanus CAG PRAP Position #1
Jerry Armer to: Region2 GowanusCanalComments 04/25/2013 09:39 AM
Please respond to Jerry Armer

Mr. Christos Tsiamis,
The following and the attached document reflect the Gowanus CAG's first comment on the Gowanus PRAP

The Gowanus Superfund Community Advisory Group (Gowanus GAG)
Statement To The EPA
On The PRAP

The Gowanus Superfund Community Advisory Group (Gowanus CAG) would like to thank the US EPA Gowanus team at Region 2 for their leadership, transparency, timeliness and their ability to listen to the many & varied concerns, wants, desires and needs of the greater Gowanus community. Their ability to synthesize the various statements into a coherent RAP indicates their commitment to this project.

The CAG would like to remind EPA of the resolution passed unanimously by the full group in 2012. The CAG wants to make certain that the Record of Decision for the Gowanus cleanup gives the EPA sufficient authority to meet the goals of the April 5, 2012 CSO Resolution

The Gowanus Superfund Community Advisory Group fully supports the U.S. Environmental Protection Agency in its finding that New York City's Combined Sevier Overflows are a significant contributor of harmful sediment and Superfund regulated PA Hs and metals to the canal. The CAG takes the position that the total elimination of CSOs into the Gowanus Canal is the only acceptable solution to the problem. The CAG asks that the EPA, under their Superfund authority, take the necessary measures that will ensure protection of the proposed remedy from ongoing CSO sediment solids deposits and the release of PAHs and other toxins."

The CAG requests the inclusion of the entire 5th Street Basin in the EPA Superfund

Remediation Plan CAG Position #1.doc.docx

The Gowanus Superfund Community Advisory Group (Gowanus GAG) Statement To The EPA

The Gowanus Superfund Community Advisory Group (Gowanus CAG) would like to thank the US EPA Gowanus team at Region 2 for their leadership, transparency, timeliness and their ability to listen to the many & varied concerns, wants, desires and needs of the greater Gowanus community. Their ability to synthesize the various statements into a coherent RAP indicates their commitment to this project.

The CAG would like to remind EPA of the resolution passed unanimously by the full group in 2012. The CAG wants to make certain that the Record of Decision for the Gowanus cleanup gives the EPA sufficient authority to meet the goals of the April 5, 2012 CSO Resolution

The Gowanus Superfund Community Advisory Group fully supports the U.S. Environmental Protection Agency in its finding that New York City's Combined Sevier Overflows are a significant contributor of harmful sediment and Superfund regulated PAHs and metals to the canal. The CAG takes the position that the total elimination of CSOs into the Gowanus Canal is the only acceptable solution to the problem. The CAG asks that the EPA, under their Superfund authority, take the necessary measures that will ensure protection of the proposed remedy from ongoing CSO sediment solids deposits and the release of PAHs and other toxins."

The CAG requests the inclusion of the entire 5th Street Basin in the EPA Superfund Remediation Plan

The CAG requests the inclusion of the entire 5th Street Basin in the EPA Superfund Remediation Plan.

The CAG requests the inclusion of the entire 5th Street Basin in the EPA Superfund Remediation Plan.

I, the sender, vote that I do not want this project to proceed.

Edith Yates to: Region2 GowanusCanalComments 04/25/2013 09:47 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Swimmers of all ages
- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--
Edith Yates
yateseeh@gmail.com
Red Hook, NY
Park User

ATSDR
Suzie Stempel to: Region2 GowanusCanalComments 04/25/2013 10:21 AM

To Whom it May Concern:

I see no mention of the ATSDR findings in the Human Health Risks section of this plan. Upon further investigation, it looks as if this report has not yet been completed. This process has already been completed for Newtown Creek, which was listed as a Superfund site well after the Gowanus. Will the ATSDR be completed for the Gowanus Canal? If so, when will these findings be made public, and how will they be incorporated into the remediation plan?

Thank You,

Suzie Stempel

Doctoral Candidate
Earth and Environmental Sciences
The Graduate Center
City University of New York

Gowanus CAG Position #2 Statement on the Gowanus PRAP

Jerry Armer to: Region2 GowanusCanalComments 04/25/2013 10:44 AM

Please respond to Jerry Armer

History: This message has been forwarded.

Mr.Christos Tsiamis
Gowanus Remedial Project Manager

The following & attached is the Position #2 statement from the Gowanus Canal CAG on the Gowanus PRAP

Gowanus Community Advisory Group's (CAG) Statement #2 on the PRAP
Approved at its April 23, 2013 meeting.

In addition to the comments submitted earlier, (please see attached Position #1) the Gowanus Community Advisory Group (CAG) submits the following statements as their public comment on the PRAP.

The Gowanus Canal Community Advisory Group, comprised of fifty plus (50+) members representing over thirty organizations and 20 non organizational members, wishes to thank the EPA Region 2 Gowanus Team for their transparency, dedication and true to their word timeliness during these first phases of the Superfund process.

You came to us faced with a Herculean task and we knew it. We are appreciative of your continued commitment to community, and in particular, to CAG involvement. We want to thank you for your willingness to reach out to the various communities surrounding the Gowanus Canal and being responsive to their concerns. We know that it was precisely this respectful collaborative spirit, the constant exchange of information, sharing of concerns, ideas, hopes and possibilities which led us to the Proposed Plan before us today.

We are in support of the Proposed Plan which:

---cleans and caps the bottom of the Canal

---prevents recontamination from the uplands and

---effectively addresses the known toxic compounds contributed by the Combined Sewer Overflow (CSO) at their source, while simultaneously helping us get closer to our goal of CSO elimination in the Canal

We move forward with confidence in the knowledge that we have been heard.

As the Proposed Plan establishes methods for removal of contaminated sediments for the entire width and length of the Canal, to the depth of the native sediment, and has identified ways to prevent re-contamination and halt future toxic inputs; the Gowanus CAG supports the EPA Proposed Plan to clean the Gowanus Superfund site.

The CAG looks forward to continued open discussions with the EPA as project design details are developed.

CAG Position #2.doc

CAG Position #1.doc.docx

comment
Marisa Schwartz to: Region2 GowanusCanalComments 04/25/2013 10:29 AM

WE LOVE YOUR PLAN, EPA.....JUST DO IT!"
signed
Marisa Schwartz, resident

The Gowanus Superfund Community Advisory Group (Gowanus GAG) Statement To The EPA

The Gowanus Superfund Community Advisory Group (Gowanus CAG) would like to thank the US EPA Gowanus team at Region 2 for their leadership, transparency, timeliness and their ability to listen to the many & varied concerns, wants, desires and needs of the greater Gowanus community. Their ability to synthesize the various statements into a coherent RAP indicates their commitment to this project.

The CAG would like to remind EPA of the resolution passed unanimously by the full group in 2012. The CAG wants to make certain that the Record of Decision for the Gowanus cleanup gives the EPA sufficient authority to meet the goals of the April 5, 2012 CSO Resolution

The Gowanus Superfund Community Advisory Group fully supports the U.S. Environmental Protection Agency in its finding that New York City's Combined Sevier Overflows are a significant contributor of harmful sediment and Superfund regulated PAHs and metals to the canal. The CAG takes the position that the total elimination of CSOs into the Gowanus Canal is the only acceptable solution to the problem. The CAG asks that the EPA, under their Superfund authority, take the necessary measures that will ensure protection of the proposed remedy from ongoing CSO sediment solids deposits and the release of PAHs and other toxins."

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The CAG looks forward to continued open discussions with the EPA as project design details are developed.

Comments on Gowanus Canal Proposed Remedial Action Plan

Roy Sloane to: Region2 GowanusCanalComments 04/25/2013 11:19 AM

History: This message has been forwarded.

Dear Mr. Tsiamis,

Attached please find the comments prepared by the Cobble Hill Association's CAG representative Jerry Armer. Our executive board has reviewed and voted unanimously to support these comments. We support and deeply appreciate all the efforts by the EPA to clean up the Gowanus Canal. Thank you on behalf of all of the members of the Cobble Hill community.

Sincerely,
Roy Sloane, President
Cobble Hill Association, Inc.
P.O. Box 376
Brooklyn, NY 11201

GowanusPRAPcomments.pdf

COBBLE HILL ASSOCIATION•P.O. BOX 376•BROOKLYN•NY 11201

Comments on Gowanus Canal Proposed Remedial Action Plan

The Cobble Hill Association (CHA) would like to commend the US EPA and the local Region 2 staff that has worked cooperatively with the Gowanus Community Advisory Group (CAG) over these last two and one half years in understanding the various desires of the communities surrounding the Gowanus Canal Superfund site.

The CHA generally concurs with the EPA's Remedial Action Objectives as outlined in PRAP and looks forward to a positive working relationship with the EPA Region 2 staff in the next phases(s) of the Superfund Clean-up of the Gowanus Canal.

The CHA through the Gowanus CAG has supported Gowanus Canal water quality improvements to SC (secondary Contact) standards with regular pathogen monitoring. We would like to see a stronger commitment from the City, State and Federal governments that standard would be achieved.

We are concerned how the future elimination of the migration of Nonaqueous Phase Liquids (NAPL) will be achieved, since two of the three Manufactured Gas Plant (MGP) sites do not have remedial plan commitments in place.

We support the integration of soft edges as an alternative to metal bulkheads wherever practicable, and the introduction of flora and fauna appropriate for the control and absorption of water runoff and the natural treatment of contaminants that may be present.

The proposal for the placing of a Confined Disposal Facility (CDF) in Red Hook has generated a significant level of negative comments in Red Hook and has managed to divide the Red Hook community and to pit one community against another community. Since the EPA has not stated the methodology as to how they will "measure the Red Hook community's acceptance" of the CDF in Red Hook, the CHA cannot support this option.

The CHA is totally committed to the full and complete elimination of CSOs into the Gowanus Canal. This must be achieved not in the distant future, but must be accomplished within the EPA's time frame of cleaning up the Gowanus Canal with all proven and accepted techniques.

Though some questions remain, overall, the CHA as a member of the Gowanus CAG supports the PRAP.

patrianyc to: Region2 GowanusCanalComments 04/25/2013 11:20 AM
Please respond to patrianyc

History: This message has been forwarded.

We love your plan EPA .....JUST DO IT!

Patricia Constantino
Carroll Gardens
Sent from my Samsung Epic™ 4G Touch

Msg for the EPA: Please clean the Gowanus Canal!

mary mcgeary to: Region2 GowanusCanalComments, Natalie Loney 04/25/2013 11:44 AM

Cc: Mary McGeary

History: This message has been forwarded.

To Whom It May Concern:

I would like to say: YES! Please clean the canal!
No more Poo Poo Tsunamis! I like love your plan to clean the Gowanus Canal AS IS and I want the EPA to JUST DO IT! Clean the entire canal including the CSO's!

Sincerely yours,

Mary McGeary
Cobble Hill, Brooklyn

Gowanus Canal/Red Hook Brooklyn
jessiesheehan to: Region2 GowanusCanalComments 04/25/2013 11:56 AM

History: This message has been forwarded.

To whom it may concern:

I live in Red Hook, Brooklyn with my husband and two small children and I am writing to inform you that I am absolutely opposed to the EPA's latest plan to clean up the Gowanus Canal., as this plan involves storing the contaminated dredged materials from the canal in the waters surrounding my beloved neighborhood, Red Hook. I am convinced that these stored materials would cause serious health risks to my family and my neighbors, many of whom are elderly and many of whom have small children, like myself. I understand that the Gowanus Canal needs to be cleaned and I am in favor of doing so, but I will not stand to have Red Hook become a depository for the Canals' contaminants.

Thank you.

Sincerely Yours,

Jessica Sheehan

164 Coffey Street Apt. 2

Brooklyn, NY 11231

--
Jessie Sheehan
(917) 602-8375
www.jessiesheehan.com

Go Anus Canal
Jim Green to: Region2 GowanusCanalComments 04/25/2013 12:44 PM

History: This message has been forwarded.

"Gow-Anus" Canal is how we pronounce it my neighborhood around 3rd/Bond. As result of our last hurricane, the waste flowed up over the curb not far from our building. Keep in mind people that are depending, and waiting on your field study completion. "
Jim Green

I, the sender, vote that I do not want this project to proceed.

Sopheap Phang to: Region2 GowanusCanalComments 04/25/2013 02:35 PM

History: This message has been forwarded.

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--
Sopheap Phang
Sopemonster@gmail.com
355 6th ave 4th fl
Brooklyn, Ny
Resident

Loney, Natalie

From: Kimberly Forte [kforte16@gmail.com]
Sent: Thursday, April 25, 2013 3:40 PM
To: Loney, Natalie
Subject: Opposition to EPA's Plan to CDF Plan for Gowanus Canal

Dear Ms. Loney,

I am resident of Red Hook and I am writing to share my opposition to the EPA's current plan to build a confided disposal facility with the purpose of remediating toxic materials and mixing them with cement.
As a resident, I think this plan will be harmful to our community and furthermore, I do not believe John Quadrozzi, whose company has polluted the Gowanus for years, should benefit from the EPA plan. I hope that you see our community is clearly not in favor of this plan and further does not trust Mr. Quadrozzi.

Best,
Kim Forte
398 Van Brunt Street, Rear House
Brooklyn, NY 11231

I, the sender, vote that I do not want this project to proceed.

Pravin Premkumar to: Region2 GowanusCanalComments 04/25/2013 03:44 PM

History: This message has been forwarded.

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

–
Pravin Premkumar
pravin@pravin.com
7144258054
New York, NY
Residential

Letter

carly yates to: Region2 GowanusCanalComments 04/25/2013 03:48 PM

History: This message has been forwarded.

Mr Tsiamis,
Please find the attached letter for your records.

Best,
Carly Yates

Dear MrT.pdf

8.8 design
www.8point8design.com

carly yates
carly@8point8design.com

25 Dikeman Street
Brooklyn, NY 11231
p / f -347.721.3711
cell-917.605.1996

04/25/2013

Christos Tsiamis
Project Manager,
Central New York Remediation Section of the U.S. Environmental Protection Agency
Region 2
290 Broadway, 20th floor
New York, New York 10007-1866
Email: GowanusCanalComments.Region2@epa.gov

Mr. Tsiamis,

My name is Carly Yates, I live at 25 Dikeman Street in Red Hook, Brooklyn. I am writing to you today to express my deepest concern to the EPA's Gowanus Superfund proposal in relation to the community of Red Hook.

I am a mother and small business owner. My business is 8.8 Design LLC an Interior Design studio located in Red Hook. I am an informed and protective member of this community. When hurricane Sandy hit, one third of my house was devastated and every physical aspect of my business was destroyed, Gone. This is unfortunately the common story for residents and business owners in our beloved village. In the time spanning from the storm Oct 31st until the last EPA meeting at P.S-15, February 15th my full time job was recovery. That focus shifted upon learning of the EPA's proposal option for Red Hook. I heard a brief of the proposal from my neighbor as he was walking to that meeting and I was in disbelief. How could such an impactful proposition be put to this community yet I hadn't heard anything of it? That reason is that I like my neighbors were focused on the crisis and recovery.

Since that time I have dedicated many hours a day to educating myself on this topic, researching and discussing information with my neighbors; a well educated, passionate and diverse group of caring individuals to inform this community of the choice they are being asked to make. That 1st week after I learned of the Red Hook options E,F & G. I started asking everyone I knew in this community if they had heard about it and only 1/10 had. That was a shocking and unacceptable ratio when compared to the magnitude the impact of those options could have on this community.

When the community did become aware of these options through our efforts it was outstanding that E, F or G options are not welcome in our community as your team witnessed on April 16th at South Brooklyn Community High School. This is also evident via the petitions, letters and postcards you have received.

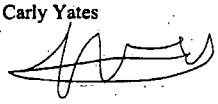
Mr. Tsiamis there is much I could say regarding the private party this proposal, proposes to be engaged with but that point has been made and displayed. I will say on that topic that I am surprised that a man of your obvious intelligence would not have immediately discarded such a party. This is because these options were presented to us in the format of trust. *Trust* that the CDF would be safe, and *Trust* that the air quality and environmental impact would be fine. When your office does not support those assurances with scientific studies and data you are asking us to TRUST you and the proposed entity. When we are told those studies are done after the proposal stage that is asking too much of this historically dumped upon and now storm damaged community.

My family and I are not opposed to the cleaning of the canal but are strongly opposed to any option that would expect Red Hook to shoulder the burdens of that clean up. Building a CDF or a "de-watering facility and/or remediation facility" within red hook and/or options E, F & G is unacceptable. I expect the EPA to design a process that shares all burdens equally while holding the immediate and long-term health effects of person and property above all else. Especially held above any cost savings to the polluters. I also expect the EPA to use any means necessary to ensure that real time data be used to monitor particles released into the atmosphere during all stages of this process and make that data public knowledge.

The EPA's proposal and studies were done in a pre-sandy condition, I strongly urge you to re-test the sediments at the bottom of the canal in the Red Hook portion to make sure that the composition of the sediment is of the same make up. Your proposal plan is based upon this composition and thus re-testing is prudent. I worry that the EPA's stated "lesser contaminated" material in that portion of the canal has changed to higher toxicity levels. I also worry that another storm surge could devastate the clean up procedures causing short and long-term health problems from spilled material. I expect that all possible engineering technologies be used and all precautions taken to ensure the health and safety of all communities should another storm surge happen during the cleanup, sparing no expense.

I thank you and your team for coming back to Red Hook to hear the community once our storm ravaged and recovery focused community really did have your attention. Thank you for stating over and over that the CDF would not be built and confirming that dewatering on barges along the canal is a plausible and a likely alternative to a facility in Red Hook. I / We will of course be paying very close attention that these options are discounted in the design phase as stated. We were asked to give support to or reject these options and rejection is well proven and documented.
I will consider the issue of trust re-set but will be watching closely.

Unwaveringly,
Carly Yates



25 Dikeman Street, Brooklyn NY 11231
Co-founder of No Toxic Red Hook (NTRH)

Ecl. Please note versions of this letter are being sent to following recipients:
cc:
President Barack Obama (via US mail)
United States Senator Charles Schumer (via electronic mail and facsimile)
New York State Governor Andrew M. Cuomo (via US mail)
New York State Senator Velmanette Montgomery (via electronic mail)
New York City Council Speaker Christine C. Quinn (via facsimile)
New York's 7th Congressional District Congresswoman Nydia M. Velazquez (via electronic mail)
New York City Councilman Brad Lander (via facsimile)
New York New York City Councilwoman Sara Gonzalez (via electronic mail)
New York Times, Metro Reporter, Joseph Berger (via electronic mail)

I, the sender, vote that I do not want this project to proceed.

Melissa Landais to: Region2 GowanusCanalComments 04/25/2013 06:11 PM

As a resident of the community of Red Hook, I am strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--

Melissa Landais
Mitzi_73@yahoo.com
29 Wolcott Street
Brooklyn, NY
Resident

I, the sender, vote that I do not want this project to proceed.
Diane Fargo to: Region2 GowanusCanalComments 04/25/2013 06:13 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

–
Diane Fargo
dfargo8266@aol.com
110 Pioneer St
Brooklyn, NY
resident

I, the sender, vote that I do not want this project to proceed.

Tara Renee to: Region2 GowanusCanalComments 04/25/2013 06:20 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--
Tara Renee
Tararenee712@hotmail.com
Henry street
Brooklyn, Ny
Resident

I, the sender, vote that I do not want this project to proceed.

jake baker to: Region2 GowanusCanalComments 04/25/2013 06:22 PM

History: This message has been replied to.

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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--
jake baker
testbryanfisher@chalkable.com

National Grid PRAP Comments
Hathaway, Roger to: Region2 GowanusCanalComments 04/25/2013 06:29 PM

History: This message has been forwarded.

Christos,

On behalf of National Grid, I submit the attached comments on the PRAP for the Gowanus Canal Superfund Site. The transmittal letter is included in the document.

Thank you,

Roger Hathaway

Roger Hathaway, PE
Vice President
GEI Consultants, Inc.
455 Winding Brook Drive
Suite 201
Glastonbury, CT 06033

Phone: (860) 368-5316
Cell: (860) 604-7147
Fax: (860) 368-5307

www.geiconsultants.com

CONFIDENTIALITY NOTICE The information in this transmittal (including attachments, if any) may be privileged and confidential and is intended only for the recipient(s) listed above. Any review, use, disclosure, distribution or copying of this transmittal, in any form, is prohibited except by or on behalf of the intended recipient. If you have received this transmittal in error, please notify me immediately by reply email and destroy all copies of the transmittal.

National Grid PRAP Comments 04252013.pdf

Robert D. Teetz
Vice President
Environmental Services

nationalgrid

April 25, 2013

Via overnight mail and electronic mail
Christos Tsiamis
Project Manager
United States Environmental Protection Agency
New York Remediation Branch
290 Broadway
20th floor
New York, New York 10007

***Re*: National Grid comments on the United States Environmental Protection Agency Proposed Remedial Action Plan for the Gowanus Canal**

Dear Mr. Tsiamis:

Please find enclosed comments, with appendices, by National Grid on the United States Environmental Protection Agency Proposed Remedial Action Plan for the Gowanus Canal. We thank you for your consideration and look forward to continuing to work with you.

Very truly yours,

Robert D. Teetz
Vice President
Environmental Services

cc.: Brian Carr, Esq.

175 East Old Country Road, Hicksville, NY 11801
T:516/ 545 2577 ▪ F:516/ 545 3300 ▪ robert.teetz @us.ngrid.com ▪ www.nationalgrid.com

nationalgrid

Comments on the United States Environmental Protection Agency December 2012 Proposed Remedial Action Plan for the Gowanus Canal Superfund Site

Submitted April 25, 2013

Table of Contents

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II. Executive Summary 5

III. Comments on the Gowanus Canal 11

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Appendices

Appendix A: List of submittals for the Gowanus Canal Administrative Record

Appendix B: Draft Comments on Gowanus PRAP and Geotechnical Investigation of Gowanus Canal Sediments: NAPL Expression, prepared for National Grid, by Dr. Danny Reible.

Appendix C: Feasibility and Practicality of Dredging in the Gowanus Canal, prepared for National Grid, by Dr. Michael Palermo.

Appendix D: Comments on the U.S. Environmental Protection Agency Gowanus Canal Proposed Remedial Action Plan, prepared for National Grid, by Baird Inc. April 2013.

Appendix E: Comments on Upland Source Control and the Potential for Canal Recontamination, prepared for National Grid, by Exponent, Inc.

Appendix F: Dr. Marc Wilkenfeld CV

Appendix G: Gowanus Canal: Response to NYDEC Approach for Storm water Control, prepared for National Grid, by Woodard & Curran, Inc.

Appendix H: In Situ Solidification Treatability Study Status Report, prepared for National Grid, by GEI Consultants, Inc.

Appendix I: CSO Investigation – Sediment Cores and Analytical Results, prepared for National Grid, by GEI Consultants, Inc.

Appendix J: CSO Investigation – CSO Samples and Analytical Results, prepared for National Grid, by GEI Consultants, Inc.

Appendix K: Initial Geotechnical Investigation in Support of Cap Design, prepared for National Grid, by GEI Consultants, Inc.

Appendix L: RTA 3B figures, prepared for National Grid, by GEI Consultants Inc.

I. INTRODUCTION

National Grid commends the Environmental Protection Agency (EPA) for its significant efforts in addressing the challenges posed by remediation of the Gowanus Canal. In addition to decades worth of contamination from hundreds of industrial sources, the Canal is impacted by significant contamination from municipal combined sewer overflows (CSOs), storm water outfalls, and other direct outfalls that continue to this day. Addressing the environmental state of the Canal became all the more challenging when the complexity of the waterbody and the community desire for a speedy remediation were added. Commendably, the EPA has worked extremely hard and has strived to satisfy community expectations by expediting the Remedial Investigation (RI) and Feasibility Study (FS), and issuing a Proposed Remedial Action Plan (PRAP) within two years.

For its part, National Grid quickly recognized the challenge posed by the Gowanus Canal and has stepped up to be part of the solution. After it acquired the companies that held responsibility for the manufactured gas plant (MGP) sites in Brooklyn, National Grid moved expeditiously and used significant resources to remediate the legacy MGP sites, which are located along the Canal. National Grid immediately began and continues to participate in community meetings, communicating with citizens groups, and working with community officials and representatives. In addition, National Grid has collaborated closely with the EPA and conducted a number of essential studies, which it has shared with EPA.[1] Lastly, National Grid assembled experienced, nationally recognized experts to assist in reviewing the technical aspects of the FS Addendum and the PRAP, and to offer expert insights to assist the EPA. All of these efforts are aimed at making the remedy one that is appropriate, sustainable and, most important, successful.

The EPA's understandably fast tracking of the RI / FS, however, did not come without consequences. The record pace to select the final remedy this year has left insufficient time to fully understand the Gowanus Canal eco-system and to evaluate how a proposed remedy will perform under future conditions. Indeed, the Contaminated Sediment Technical Advisory Group (CSTAG) recognized this challenge when it warned that the EPA was proceeding without a complete understanding of all of the Canal elements (EPA 2012a). National Grid's experts have echoed this concern and agree that significant design studies, flexibility, and adaptive management are needed to increase the probability of success.

Nonetheless, the PRAP is a bold first step toward proposing a remedy that, if designed based on good science and implemented under a flexible Record of Decision (ROD), can achieve meaningful remediation. Seeking to align the Clean Water Act (CWA) with the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA or Superfund), the EPA has set out a blueprint to address our national problem of ongoing combined and sanitary sewer discharges to urban water systems. The PRAP correctly proposes that the CSOs be addressed now with a combination of interim and long-term controls. The EPA, however, needs to go further because the proposed CSO storage tanks may not capture a sufficient volume of the

[1] A list of the studies and other documents that National Grid has submitted to EPA for inclusion in the Gowanus Administrative Record is attached as Appendix A.

contamination, including petrogenic and pyrogenic polycyclic aromatic hydrocarbons (PAHs), metals, pesticides, and other contaminants associated with fine particles discharged from the CSOs during the total duration of CSO events. This issue, plus specific identification of interim controls, must be addressed in the ROD. If they are not addressed and the much needed CSO controls are postponed until after the remainder of the Canal remedy is implemented, recontamination will occur quickly, wasting not only time and resources, but also resulting in an inability to meet water quality objectives and to attain sustained sediment improvements, needless and substantial disruption, and significant disappointment to the community.[2]

That being said, National Grid recognizes CSO control poses a difficult challenge. Like the decades old contamination left over from the industry of another era that poses its own challenges, the CSO system is dated and its infrastructure is complex. Improving the CSO system is not easy and certainly cannot be done overnight. Any improvements will be very expensive and pose unique technical challenges. To the extent complete CSO control proves to be infeasible and continuing discharges of polluted water are not fully addressed, it will be impossible to effectively remediate the Canal. In addition to adequately controlling the inflow of sediments and contaminants from the CSOs and storm water discharges, other industrial sources need to be identified and controlled. Accordingly, the EPA must be prepared to set in the ROD realistic remedial action objectives (RAOs) and performance standards which recognize and are calibrated to the level of control that is achievable in the near term. Due to remaining uncertainties regarding the appropriateness and specific design requirements for remedy components like dredging, capping, and sediment disposal, the ROD should contain language that allows for the application of alternative methods and techniques that are acceptable to EPA.

Equally important to source control, the EPA needs to work with all parties to study and design remedy components like dredging, capping, and sediment disposal, refine the conceptual site model that evaluates all potential current and future exposure pathways, collect additional data to understand sediment and contaminant transport, and then clarify RAOs and performance standards. Along the way, the design process should not be blind to the potential for equally effective and more efficient alternatives. As a result, the ROD should be flexible enough to allow application of such potential alternatives and allow for real-time modification of the remedy even while it is being implemented. Such an adaptive management approach will enable the parties to work together to design an appropriate and sustainable remedy that will need to be done only once.

[2]Careful consideration of the remedial evaluation factors set forth in the National Contingency Plan (NCP) is also critical in developing the ROD. Those factors – overall protection of human health and the environment, compliance with Applicable or Relevant and Appropriate Requirements (ARARs), long-term effectiveness and permanence, reduction of toxicity, mobility, or volume, short-term effectiveness, implementability, cost, and state and community acceptance – are markers against which the remedy should be measured. A remedy that allows for recontamination fails to meet those measures.

The comments that follow outline many of the important design tasks in more detail and propose specific and practical recommendations in the Conclusion. National Grid has been and continues to be prepared to do its part in these efforts. For the remedy to succeed, all stakeholders must keep an open mind and accept the realities that the Canal is an extremely difficult setting, there will likely be delays, and there needs to be an honest discussion about real need for CSO control and best practices for dredge and cap design. If we work together and do the right thing, then together we can work to restore the Gowanus Canal and achieve the clean waterway that all stakeholders desire.

II. EXECUTIVE SUMMARY

The PRAP's plan to mesh the requirements of the CWA and CERCLA establishes the Gowanus Canal as a significant opportunity to chart a new course in urban waterway remediation. If design of the remedy is undertaken with appropriate planning, flexibility, and adaptive management, the EPA will not only be in a position to make significant positive strides toward addressing CSOs and perfecting innovative technologies that can have benefit around the nation, but it will have done a great service to the Gowanus community.

In order to reach those accomplishments, the EPA must move from the concepts contained in the PRAP to specifics in the ROD. The EPA must now work with all parties to create a detailed plan that will control sources to the maximum achievable level, while simultaneously maintaining flexibility and employing an adaptive management approach to designing the rest of the remedy. Once the impacts of source controls are known, the EPA and the parties should reevaluate matters in light of this newly developed information and move in the appropriate direction. To the extent sources cannot be controlled fully, the Canal cannot be cleaned to the extent all would like. Hard choices about the use and ecological recovery will need to be made. These choices must be fully vetted during the design process, so that all parties, including the community, know what the future vision of the Canal is. Only with such vision, known and acknowledged by all stakeholders, can a cooperative effort be had that will make this project a success.

The experts brought together by National Grid will benefit the EPA and the community, as their experience-based recommendations will facilitate creation of the needed vision and plan. They stand ready to assist in the significant efforts that lie ahead, and if afforded the needed flexibility, will help fill in data gaps and help design a remedy that will be the most successful and, therefore, only need to be performed once.

The Gowanus Canal system and the performance of the proposed remedy under future conditions remain largely unexplored. Indeed, as made clear in the accompanying comments by Michael Palermo, P.E., Ph.D. and Alex Brunton, Ph.D. of Baird & Associates, the proposed dredge and cap remedy not only requires evaluation of a host of issues that are not considered in the PRAP, but modeling results raise questions about whether the remedy, as proposed, can meet its objectives. For example, once the flushing tunnel is operational, the increased flow will adversely affect the proposed sand benthic layer and possibly wash it downstream. Continued commercial navigation similar to what is conducted now could also compromise any cap due to

propeller induced scouring, which alone could negate the benefits intended from all capping. There may also be periods of hypoxia in remediation target area (RTA) 2 due to reduction in flow caused by an increased depth resulting from dredging.

On the other hand, and contrary to the EPA's PRAP assumptions, testing by Danny Reible, Ph.D. has found no evidence that non-aqueous phase liquid (NAPL) will be mobilized by the weight of a sediment cap; Drs. Palermo and Reible advise that soft sediment can be capped successfully; and early field work indicates that In-Situ Stabilization (ISS) may very well be suitable as well.

The following is a summary of key observations that have been raised by experts retained by National Grid, which are attached as Appendices B through G:

- **Professor Danny Reible, Ph.D.** is a nationally recognized expert on capping technologies, including geotechnical issues and constraints for capping, cap design, evaluating recontamination, cap performance, and long term protectiveness. Dr. Reible's observations are provided as Appendix B and include:

    - Capping of soft sediments should not be ruled out as a potential technique for isolating deeper contaminants. Soft sediment capping has been conducted successfully at other contaminated sites.

    - Initial testing has not observed NAPL mobility in the soft sediments, which may simplify capping and may allow capped soft sediments to be left in place to stabilize NAPL in deeper native sediments (Appendix K).

    - Cap requirements will vary along the length of the Canal depending on sediment conditions, presence of NAPL, groundwater expression, ebullition and navigational requirements. The cap should be designed for specific conditions to optimize placement, functionality, and long term operational costs.

- **Michael Palermo, Ph.D., P.E.** was a Director of the United States Army Corps of Engineers Center for Contaminated Sediments and is an expert in evaluating capping and dredging, including among other things, feasibility, planning, overall coordination and sequencing, volume and production rates, costs, and effectiveness. Dr. Palermo's observations are provided as Appendix C and include:

    - Dredging to the native sand layer may needlessly compromise the existing bulkheads along many parts of the Canal, resulting in potential failure of the cap.

    - Capping soft sediments in select areas of the Canal should not be discounted, but rather should be evaluated during the design process.

    - Commercial navigation in the upper portions of the Canal (RTA 1 and RTA 2) will be interrupted during construction of the remedy. After construction, commercial navigation is likely to cause severe stress on any cap. Given the limited water-dependent industry currently in the upper reaches and the

significant interruption of commerce that will occur during construction of the remedy, serious consideration should be given to the extent of commercial tug and barge navigation permanently allowed in these reaches.

- Significant additional studies will be required to fully define and design the remedy. The full implications of the site conditions, the need for some of the proposed remedy components, the potential negative impacts of some proposed actions, the effectiveness of some components, and the practicability of implementing some of the components must be fully evaluated.

- Flexibility, within the bounds of meeting remediation goals, is essential for addressing complex sites like the Gowanus Canal.

- **Baird & Associates** are experts in marine engineering, hydrodynamic and sediment transport modeling and water quality modeling and navigation studies. Baird has developed a calibrated model of the Gowanus Canal, and performed a vessel impacts study, numerical modeling, modeling of CSO flow and sediment inputs, historical analysis of Canal sediment and contaminant dynamics, and modeling of water quality and contaminant transport (Appendix D). Dr. Brunton, who performed the modeling, offers the following conclusions:

  - Sediments entering the Canal through the existing CSO discharges are deposited near the CSO outfalls and comprise the existing soft sediment layer. This condition will continue even after the flushing tunnel is reactivated. Sand deposition near the outfalls will continue (depending upon their location in the Canal) under flushing tunnel flow. Fine sediment (silts and clays) will be redistributed through the Canal and end up in deeper areas of the Canal.

  - The elevations selected for the final cap remedy will determine where ongoing solids in the CSO discharges will collect in the Canal. Deep dredging in the upper reaches of the Canal will result in low water velocities and settling of solids onto the bottom of the Canal, as well as lower dissolved oxygen (DO) levels in the water column. The resulting Canal will at times fail to meet CWA requirements, even with the flushing tunnel active, if the design does not account for these considerations.

  - Bed sheer stresses associated with current Canal tug and barge traffic will destroy the benthic zone in areas with shallow (less than 30 feet deep) water. Baird & Associates believes commercial navigation creates formidable challenges to maintaining cap integrity and ecological recovery in RTAs 1, 2, and 3a.

  - Continued accumulation of CSO sediments above the cap is expected to occur under the proposed remedy conditions. This accumulation may compromise ecological recovery.

  - Higher flow velocities are likely to result, at least locally, during the implementation of some components of the remedy. These include use of sheet

piling, or silt fences which may restrict flow in the channel, operation of barges and tugs, and normal navigation activities. Any of these operations may result in velocities that scour contaminated sediment from the bottom of the Canal and redistribute it downstream. The remedial design will need to account for potentially damaging flow velocities.

- **Exponent** has performed an analysis of sediment chemistry data and an evaluation of sources, risk, and dredging risks and effects (Appendix E). Paul Boehm, Ph.D. and Tarek Saba, Ph.D., who performed the analysis, offer the following conclusions:

    - Shallow accumulated sediments and associated contaminants in the Canal likely originated from the CSOs and other upland sources of sedimentation. The sources of sediments are ongoing and will continue unless the CSOs, storm sewers and other upland sources are addressed.

    - Following review and analysis of work performed by GEI, Exponent confirmed that accumulated sediments have elevated levels of a variety of pathogens and pharmaceuticals and personal care products (PPCPs) that are similar to those found in CSO discharges. These compounds will continue to accumulate and cause toxicity in the shallow sediments until CSO and other upland discharges are addressed.

    - PAH distribution in the sediments occurs at different depths. The lower depths are largely attributable to, among other things, the MGPs. PAH distribution in the accumulated shallower sediments point to a range of potential sources including petroleum spills, road runoff, and other materials which likely enter the Canal through the CSOs, storm sewers, and direct groundwater discharges. These sources will need to be addressed in addition to the MGPs to lower future PAH levels in post remediation surface sediments.

    - In RTA 3b, elevated contaminants are present in limited areas ("hot spots") and should be addressed using a targeted approach as opposed to the proposed remedy of dredging the entirety of RTA 3b.

- **Mutch Associates, LLC**. and GEI Consultants, Inc. (GEI) have developed a groundwater model for the Gowanus watershed. The model suggests the following conclusions:

    - Groundwater flows into the Canal, primarily in its upper reaches (RTA 1 and RTA 2). Groundwater flow rates in RTA 3b are significantly lower.

    - Introduction of impermeable barriers along the sides of the Canal will deflect groundwater flow toward New York Harbor. The groundwater table will tend to mound behind impermeable barriers, potentially resulting in localized flooding.

- **Marc Wilkenfeld, M.D.,** a Board Certified Occupational Physician and GEI have analyzed Canal-related pathogen and public health issues. Dr. Wilkenfeld's curriculum

vitae is attached as Appendix F. Dr. Wilkenfeld and GEI have made the following observations:

- The CSOs are releasing a broad range of pathogens and PPCPs. The potential for these compounds, which are not addressed in the FS for the Gowanus Canal, to pose a health threat to those who come into contact with Canal waters should be carefully evaluated by the appropriate public health and environmental regulatory authorities.

- **Woodard & Curran**, an environmental engineering firm with sewer design expertise, has evaluated CSO data and cap recontamination by ongoing sources. Janet Robinson and Vincent Spada, P.E., have evaluated the proposed remedy and the presumed upgrades to the CSOs (Appendix G) and offer the following observations:

  - EPA's observation that the CSOs have been and will continue to be a significant source of sediments and contaminants to the Canal is well founded. The CSOs are widely documented to contribute the levels and types of contaminants seen in the accumulated Canal sediments.

  - The City of New York has indicated that its Waterbody / Watershed Facility Plan (WWFP) is essentially going to be the City's long term control plan (LTCP), which is due in June 2015. The WWFP, as written with the addition of some planned sewer separation and green infrastructure, will not offer the same level of CSO control that is recommended in the PRAP.

  - The PRAP proposed CSO controls of an eight million gallon storage tank and a four million gallon storage tank is an accepted and proven CSO control technology that will provide CSO control for low intensity storm events.

  - EPA suggests that capturing the first 40 percent of the total discharge volume of each storm will likely capture the storms first flush, which is needed to ensure protectiveness of the proposed remedy. There is not sufficient characterization of the Gowanus CSO discharges during storm events to support this conclusion.

  - The EPA's proposed remedy includes storage tanks to capture about 65 percent of the total annual CSO discharge volume to the Canal. To better ensure that the protectiveness of the remedy is maintained, EPA should consider using the CSO presumptive level of 85 percent capture of annual CSO discharge volume as a criterion, the standard set forth in EPA's CSO Policy.

  - Another approach to reducing CSO loading may be to establish a total maximum daily load (TMDL) for total suspended solids (TSS) in the CSO discharge. The CWA requires establishment of TMDLs for water bodies that do not meet water quality standards after application of technology-based effluent limits, which will likely be the case in the Canal post-remedy.

- The proposed CSO control improvements discussed in the PRAP (including installation of tanks to capture first flush) are based on planning level design information (less than two percent complete) and numerous assumptions, including CSO discharge volumes and volume of first flush. Flow monitoring and hydraulic modeling and post construction monitoring must be conducted for the Gowanus system and may result in the requirement of additional CSO controls beyond the proposed storage tanks. Planning and design of the CSO controls must be flexible and include contingencies to expand CSO controls to account for this outcome.

GEI, an environmental engineering firm with remediation expertise, has performed the following studies:

- ISS may be a feasible technology for stabilization of Canal sediments, even though this technology was ruled out as a feasible technology during the FS. More recent bench scale ISS treatability studies conducted by GEI and Geo-Con (Appendix H) indicate that a number of additives and mixtures of soft and native sediments achieved typical performance standards for strength and permeability.

- GEI has performed repeated, seasonal sampling of surface sediments to evaluate toxicity, chemistry, and the benthic community condition throughout the Canal (GEI 2011a, 2012a, 2012b). Results of this sampling provide the following conclusions:

  - Toxicity and poor benthic community conditions are the result of a wide variety of contaminants and non-contaminant stressors. Chemical contaminants contributing to toxicity include PAHs, polychlorinated biphenyls (PCBs), metals, pathogens, and PPCPs. Non-chemical stressors that strongly impair the benthic community include low DO and poor sediment substrate conditions that result from the organic enrichment caused by CSO discharges. Therefore, control of ongoing sources of non-contaminant stressors (e.g., from CSOs and other urban runoff by way of storm water outfalls) will be needed to ensure that a sediment remedy based on reducing toxicity is successful and that full ecological recovery is achieved.

  - After the installation of the cap, exposure to NAPL associated with the former MGPs and other upland sources will be effectively eliminated, and will no longer contribute to toxicity in the Canal. Toxicity will be dominated by a number of other factors, including PAHs, PCBs, and metals derived from the CSOs, storm drains, and road runoff. Performance standards too narrowly focused on existing conditions, specifically on PAH associated with NAPL, may not provide sufficient protection to ensure ecological recovery. While remedy performance initially should be judged based on the physical integrity of the cap, longer term performance should be established following an evaluation of causes and sources of any toxicity that might remain in sediments deposited after completion of the remedy.

- The benthic community in RTA 3b is significantly healthier, and appears to be less impacted by chemical contamination, low DO stress, and poor substrate condition in comparison to the rest of the Canal. In RTA 3b, greater benthic species diversity and density were observed consistently, even to the point of including commercially important species such as blue mussels (*Mytilus edulus*). Combined with only limited hot spot areas in RTA 3b, this argues strongly for a different and less disruptive remedy in this reach. The relative lack of impacts in RTA 3b is wholly inconsistent with a remedy in which nearly 50 percent of all the sediment slated for dredging in the PRAP is found in this area.

III. COMMENTS ON THE GOWANUS CANAL PROPOSED REMEDIAL ACTION PLAN

A. Optimize the Remedy with Vision, Flexibility, and Adaptive Management

National Grid is not just a service provider to the Gowanus Canal communities, but is an active community member and supporter that has embraced the Superfund process. National Grid is well known among community officials, representatives, and groups and participates regularly with the public at Gowanus Superfund meetings. National Grid has offered to fund the Community Advisory Group Facilitator, offered technical support to citizen groups, and has supported EPA jobs programs, among many other actions. We have listened to the community and submit that the Canal remediation is not just about technical processes, studies, and data. Make no mistake, those are critical and will be discussed at length herein, but community concerns must also be considered.

This is all the more important given that implementation of the remedy, no matter what the form, is likely to have significant ramifications such as noise, odor, inconvenience, and disruption to local businesses. With its lack of detail, the PRAP inadvertently presents an overly optimistic picture and schedule. Contrary to some of the language in the PRAP, the large dredging, sheet piling, and removal / treatment components will certainly cause disruption and the enormity of the tasks that lay ahead will require careful collaborative and time consuming logistical planning.

The foregoing issues require realistic thought, serious discussion, and real understanding. Surely, everyone wants a clean Canal, while at the same time minimizing disruption and leaving neighborhoods intact, but the Gowanus remediation is so immense and complex that the EPA, no matter how well intentioned, cannot simply order it to happen. Rather, the EPA must first come to a vision of the future of the Canal. Once that vision is reached, an adaptive management approach that encourages identification and study of innovative solutions, allows for modification of such solutions to fit different areas of the Canal, and facilitates resolution of the technical contradictions in the proposed remedy (i.e., continued commercial navigation versus ecological restoration), must follow.

While National Grid is not supporting any specific future use for the Canal, there are various and competing interests that will need to be resolved in the final design of the remedy.

For example: Will the Canal be remediated for recreation or dredged for commercial navigation? How important is benthic recovery, especially given that the Canal may very well never be swimmable and fishable? What is to be done with the flushing tunnel, the CSOs, and other discharge pipes? Will the CSOs and pipes truly be controlled or is that simply unrealistic given technical limitations, costs, and politics? If they are not controlled fully, real remediation of the Canal will not be achieved. Should this scenario come to pass, background levels of contaminant concentrations that are anticipated post-remedy should be established. The community must then recognize that years of disruption will achieve only a limited improvement in water quality.

National Grid believes strongly that the EPA must supplement technical considerations in the ROD with a mixed dose of reality and "vision" of the future of the Canal. The community must not only know what it will face during the years of construction, but it must understand that due to technical realities, it is simply not possible for the remedy to accomplish all things for all parties. Stakeholders will have to compromise during the design of the remedy. The remedy can neither be dictated as it is in the PRAP, nor should remedial technologies be applied rigidly throughout the Canal length; rather, the approaches need to be tailored to specific reaches. National Grid is committed to a flexible approach and will work in good faith with all stakeholders to tailor the design so that future use of the Canal can be optimized along its entire length.

Analysis of the complex Canal hydrodynamics in conjunction with external factors like the flushing tunnel, sediment disruption by vessels and barges, and CSO flows highlights significant problems with the remedy as presently set forth in the PRAP. For example, in order for the flushing tunnel to move sediment (and contamination) under design conditions, there must be a gradually sloped, relatively shallow bed elevation throughout the Canal. Dredging RTA 2, as called for in the PRAP, will thus hamper the performance of the flushing tunnel and lead to dramatic re-sedimentation in the middle of the Canal (Appendix D) that will require routine maintenance dredging. Sedimentation will also bring additional organic matter which can increase oxygen demand as bacteria and other organisms feed on it, thus starving the water and sediments within the Canal of DO.

At first glance, it would seem that re-thinking the dredge depth in RTA 2 is in order to help achieve the intended workings of the flushing tunnel. That, however, could hamper commercial navigation. To the extent commercial navigation is desired and must be retained, ecological restoration (needed to meet the RAO of reducing risk to the benthic community) will be impeded. Commercial navigation could also frustrate several of the expressed desires of certain stakeholders within the community, including soft siding along the Canal, wetlands mitigation, public access, recreational use, and shallow benches or sponge parks. Continued commercial navigation affects another critical component of the remedy – the cap. Propeller scour will require that much larger stone be used to create the armor layer. Even then, vessel traffic would still destroy the benthic layer.

In RTA 1, where there is no commercial navigation, the flushing tunnel will do exactly what it is intended to do – refresh water quality in an otherwise stagnant water body. This is achieved by flushing sediments (in particular organic sediments) down the Canal and into

Gowanus Bay. This, however, will also push the critical sand benthic layer down the Canal, thus defeating the ecological goal of the remedy.[3]

Flexibility in the ROD that allows the use of a range of demonstrated techniques is the lynchpin that will optimize the remedy throughout the Canal.[4] The geometry of the Canal should be designed according to modeling that suggests shallower depths at the head of the Canal with gradual deepening along the length optimize flow, maximize DO levels, and move sediments out to the Bay. Soft sediment capping in RTA 1 and RTA 2 is another optimization technique because less dredging means less need for bulkhead replacement and sheet piling, less disruption to the community, and a shorter overall implementation schedule.

Capping may also be optimized to provide a substrate for the benthic community, while still containing deeper contaminants. Solidified material, reactive layers, and various armoring layers must all be explored, and even then, they may be appropriate in different amounts and configurations depending upon location within the Canal. Wetlands plantings (requiring shallower channel depths) and public access points could be located in the turning basins where flow velocities will be lower. Soft siding of the Canal would have to be balanced with the need to maintain proper hydraulics.

Within this scheme of optimization, National Grid's experts suggest that deep draft commercial navigation may best be limited to the lower portions of the Canal (RTA 3b). This is the area where most shipping currently occurs and is also the area maintained by the Army Corps as a federal shipping channel. Navigation above RTA 3b could be limited to recreational and shallow draft, low horsepower or mechanically towed vessels that will cause minimal disturbance to the benthic sand cap.

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[3]Further complicating matters is the lack of available information on the schedule, sequencing, and future operational conditions associated with the flushing tunnel upgrades. The design of the cap and dredge remedy must take the flushing tunnel operation into account to allow both the CWA and CERCLA objectives to be achieved. In view of the fact that the City of New York has agreed to provide its hydraulic model for CSOs on Newtown Creek, similar information should certainly be made available for use during the Gowanus remedy design, including identification and design of both the interim and long term CSO controls described in the PRAP.

[4]The cost estimates contained in the PRAP may very well be underestimated. For example, the FS speaks of an unrealistic seven day per week, 12-hour per day work schedule and too small sheet piles. On the other hand, the FS leaves open the volume of wastes requiring disposal as hazardous waste. This could be a high potential cost differential. Even the cost for long term operation and maintenance of the remedy cited in the FS is an extremely low two million dollars over 30 years (present value). Given the data gaps and implementability issues which have not yet been addressed, it is difficult, if not impossible, to compare the costs of remedial options in the manner required by the NCP.

B. CONTROL ALL SOURCES

The EPA Principles for Managing Contaminated Sediment Risks at Hazardous Waste Sites, Principle One is "control sources early." The Principles go on to instruct, "[a]s early in the process as possible, site managers should try to identify all direct and indirect continuing sources of significant contamination to the sediments under investigation."

The historical industrial nature of the Gowanus area and its long and complex history of industrial uses are well known. Those uses have impacted the Canal in a variety of ways, leaving a number of contaminant sources and potential migration pathways that must be addressed. National Grid's MGPs formerly located along the Gowanus Canal are identified in the PRAP as a source and National Grid accepts responsibility for this historical contamination by its predecessor companies. National Grid is committing a substantial investment of time, energy, and financial resources to ensure that all three MGPs are being properly addressed to control potential sources to the Canal. National Grid simply seeks to have other sources treated in the same way.

The key sources of contamination are identified in the PRAP, and each one must be defined and controlled early:

- MGPs and other upland industrial sources
- CSO discharges
- Other pipes discharging to the Canal.

The ultimate remedy for the Canal should address both historical and ongoing sources. Identification and investigation of sources, and the design and installation of a remedy are complex engineering and regulatory challenges. The ROD should establish a sequence of the Canal remedy that controls all ongoing sources first, and then moves on to the active sediment remedy.[5]

(1) MGPs and Other Upland Industrial Sources

National Grid is already working with the New York State Department of Environmental Conservation (DEC) and the EPA to remediate the former MGPs. National Grid recognizes the importance of eliminating past sources of contamination to the Canal first and will continue to do its part. A remedy for the former Citizens Gas Works MGP (a/k/a Carroll Gardens/Public Place) that includes soil removal, a barrier wall and NAPL collection system designed to prevent future potential migration of coal tar has been approved by the DEC. National Grid is moving forward with this upland remedy and is hopeful that potential sources from Citizens will be controlled prior to initiation of remedial construction in RTA 2 on the Gowanus Canal.

[5]Proper sequencing of source control and remedial implementation will also facilitate both short-term and long-term effectiveness of the remedy, primary factors in determining consistency with the NCP. *See* 40 C.F.R. § 300.430(f)(1)(i)(B).

Similarly, at the former Fulton MGP site, National Grid is working on the FS with the DEC. Simultaneously, National Grid is working with the DEC to prioritize as an Interim Remedial Measure a barrier wall and NAPL collection system to effectively prevent future potential migration of NAPL from the site. National Grid anticipates that the barrier system will be completed in conjunction with the schedule proposed by the EPA, so that potential sources from Fulton will be controlled prior to initiation of remedial construction on RTA 1 on the Gowanus Canal.

Finally, at the former Metropolitan MGP site, National Grid is completing the RI report and will be starting on the FS for the site, which will include a source control barrier/collection system. Again, National Grid expects that the Metropolitan barrier system will be constructed in keeping with EPA's schedule so that potential sources from Metropolitan will be controlled prior to initiation of remedial construction on RTA 2 on the Gowanus Canal.

The MGPs, however, are by no means the only potential sources of uplands contamination, including coal tar. Various environmental databases and historical records (EDR 2009) have identified thousands of other contaminated or potentially contaminated sites within the Canal sewer shed / water shed that may cause the remedy to fail in achieving sustainable water quality improvement due to direct and / or indirect groundwater discharge to sewers and then to the Canal by the CSOs. Historical operations along the Canal include approximately 80 parcels directly adjacent to the Canal that may be responsible for groundwater impacts (including the former MGP sites along the Canal).

The RI relied heavily on data collected by National Grid from its upland MGP sites to define potential upland sources to the Canal. Additional work performed by the EPA to identify and quantify additional upland sources led to the conclusion that "[w]ith the exception of PCBs, all classes of contaminants that were sampled (for VOCs, SVOCs, PCBs, pesticides and metals) were detected in samples from both the shallow and intermediate groundwater throughout the length of the [C]anal." The PRAP fails to address the identification and interception/remediation of any of the sources (with the exception of the MGPs), except to say that upland sites will be addressed by DEC. All of these sources of contamination must also be identified and controlled first and all parties must cooperate in the same fashion that National Grid is. Failure to address all upland sources will compromise the success of the remedy.

(2) CSOs

(i) Introduction

The CSOs are one of the most, if not the most, vexing problems of the Gowanus project. While the most significant ongoing and future source of sediments and contaminants to the Canal, the CSOs are also the mainstay of the Gowanus water shed / sewer shed system. Having been put in place over a century ago, the CSOs cannot just be replaced, shut down or separated. On the other hand, if the CSOs continue to operate, the Gowanus Canal will continue to receive more than 350 million gallons of raw sewage from CSO discharges every year (New York City Department of Environmental Protection (DEP) 2008) and the soft sediments and their

associated contaminants that are attributable to storm water and CSO discharges will continue to accumulate.[6] Under such circumstances, the question is not whether the CSOs should be addressed, but rather, to what extent the CSOs can be addressed given the urban and technical realities.

(ii) Human Health and Success of the Remedy

There is evidence that the most significant source of new contaminants to the soft sediments is in fact the CSOs. Sampling of water discharged from the CSOs during a storm event in September 2012 contained suspended and dissolved solids as well as the range of contamination and foreign constituents found throughout the Canal sediments, including PAHs, PCBs, metals, pathogens, and PPCPs (Appendix J).7 This mix of contaminants threatens the success of any remedy and is set forth in the following table:

[6]Geochronology age-dating of the sediments using ^{137}Cesium and ^{210}Lead (performed by Battelle on behalf of NewFields Environmental Forensics Practice) revealed that the top four feet of soft sediments, with accumulated high organic carbon, post-date the 1950s when the MGPs were shut down. The deeper (native) sediments, on the other hand, are much older (NewFields 2007) and reflect contaminants from MGPs and other historical sources. Similarly, comparison of bathymetry data collected from 2010 through 2012 confirm that soft sediment continues to collect in the Canal (GEI 2011a, 2012a, 2012b), while modeling of sediment fate and transport demonstrates that sediments discharged from the CSOs are deposited along the bed of the Canal (Appendix D). Lastly, sampling of the top four feet of the soft sediment layer in the vicinity of the CSOs confirms the presence of CSO derived chemicals throughout the soft sediment. These chemicals include caffeine, hormones, pathogens, and a variety of PPCPs associated with CSO discharges (Appendix I).

[7]Discharge of sedimentation from the CSOs – as opposed to transportation into the Canal from New York Harbor via tidal action – is supported by multiple lines of evidence. The notion that the Harbor is the source of sedimentation is counter-intuitive based on the presence of CSO sediment mounds above low tide elevation. The DEC Consent Order (signed by New York City) that mandates dredging of these mounds to mitigate CSO "nuisance odors" (Gowanus Canal Waterbody / Watershed Facility Plan Report (DEP 2008). If tidal action was truly moving sediments and water up the entire length of the Canal, tidal flushing would be much greater than has been documented. Furthermore, the flushing tunnel, whose very purpose is to flush stagnant sewage from the Canal, would not be needed. Surficial sediment data demonstrate the presence of pathogens (e.g. fecal coliform) and PPCP compounds in the sediments that are only associated with CSO effluent. Indeed, triclosan and estradiol have both been found in shallow sediments in the Canal (GEI 2011a, 2012a, 2012b). Finally, bathymetric surveys illustrate that discharges from the CSO outfalls cause scour immediately in front of the pipes, as well as deposition of sediments just outside of these localized scour zones.

Pathogens	**Endocrine Disrupting Compounds (EDCs) and PPCPs (continued)**	**Metals**
C. perfringens	Methadone	Cobalt
Coliphage, Male Specific	Naproxen	Copper
Coliphage, Somatic	Nonylphenol	Iron
E.Coli	Nonylphenol Diethoxylate	Lead
Enterococci	Nonylphenol Monoethoxylate	Magnesium
Fecal Coliform	Oxybenzone	Manganese
Giardia	Phenytoin (5,5-Diphenylhydantion/Dilantin)	Mercury
EDCs and PPCPs		Nickel
Acetaminophen	Progesterone	Potassium
alpha-Estradiol	Salicylic Acid	Selenium
Androstenedione	Sulfamethoxazole	Silver
Bisphenol A	Testosterone	Sodium
Caffeine	Trimethoprim	Vanadium
Carbamazepine	**Pesticides**	Zinc
Diazepam	gamma-Chlordane	**Other**
Diclofenac	**Herbicides**	VOCs, including BTEX
Estradiol	2,2-Dichloropropionic acid	SVOCs, including PAHs
Estriol	**Metals**	Total Petroleum Hydrocarbons
Estrone	Aluminum	PCBs
Fluoxetine	Antimony	Free Cyanide
Gemfibrozil	Arsenic	Ammonia
Hydrocodone	Barium	Dissolved Organic Carbon

Pathogens	Endocrine Disrupting Compounds (EDCs) and PPCPs (continued)	Metals
Ibuprofen	Cadmium	Total Dissolved Solids
Iopromide	Calcium	Total Suspended Solids
Meprobamate	Chromium	Total Organic Carbon

Needless to say, the continuing discharges from the CSOs pose an ongoing risk to both human health and the environment and must therefore be a primary target of any remedy.[8] The EPA human health risk assessment (EPA, 2011) concluded that there is a significant risk to human health from incidental ingestion of and dermal exposure to carcinogenic PAHs and PCBs in Canal surface sediment. The presence of these contaminants in Canal surface sediment is primarily attributable to storm water and continuing CSO discharges.

National Grid's human health risk assessment also concluded that there is significant risk to human health from exposure to pathogens and PPCPs (GEI; 2011a, 2012a, 2012b), which EPA did not evaluate. Pathogen and PPCP contamination has been detected throughout the Canal surface sediment. Dr. Wilkenfeld has reviewed the status of the Canal and advises that currently there is a risk of disease including gastroenteritis and other infectious disease from exposure to the sewage in the Canal. Other documented health effects from exposure to sewage include irritation (burning eyes, sore throat, cough); an odor response (headache, nausea, vomiting); and toxic effects (skin disorders, fatigue) (Bridges, 2003; Thorn and Kerekes, 2001). Epidemiological studies also indicate an increased risk of cancer and liver disease from exposure to sewage (Thorn and Kerekes, 2001; Wild et al. 2005; Pizzo et al. 2011).

Dr. Wilkenfeld also notes that pathogens and PPCPs, including EDCs such as estrone and beta-estradiol -- which were also detected in Canal surface water and surface sediment -- contribute to significant human health risk. Exposure to these EDCs in Canal surface water and surface sediment can result in increased cancer and non-cancer risks to human health due to their estrogenic mode of action and resulting increased toxicity.

The PRAP identifies the need for CSO controls and assumes that reduction of solids discharge in the range of only 58 to 74 percent will achieve the preliminary remediation goals (PRGs). Given the ongoing and expected future recreation activity in the Canal, and the recent Hurricane Sandy experience where CSO contaminated Canal water actually invaded homes, clearly more control of CSO contaminants are needed if this issue is to truly be addressed.

In addition to protecting health, the CSOs must be controlled lest they defeat any remedy. Analytical data collected near the outfalls (Appendix I) and sediment transport modeling (Appendix D) support the conclusion that at least the upper four feet of accumulated sediment is

[8]In fact, the NCP identifies the overall protection of human health and the environment as a threshold criterion in selecting a remedy. *See* 40 C.F.R. § 300.430(f)(1)(i)(A).

comprised of highly organic soft sediments and are not derived from the former MGPs. In other words, the age of the shallow sediments is very recent, substantially post-dating MGP operations. Although the PRAP acknowledges the proposed Gowanus system upgrades by the City of New York will achieve some level of CSO source reduction, it is far short of what is necessary to meet RAOs. The PRAP goes on to state that, "[t]he cumulative impact of these projected flow reductions and flushing improvements on sediment transport and deposition cannot currently be predicted with a high degree of confidence." Still other City proposed improvements are even less certain because they rely on the implementation of LTCP improvements that have not even been conceived.

The PRAP proposed CSO storage tank improvements will yield some improvements to water quality. However, even under the best case scenario – assuming all of the improvements are actually implemented and achieve the desired results – the remaining 26 percent to 42 percent of the load of contaminants from the CSOs as estimated by EPA will continue to enter the Canal.[9] Furthermore, hydrodynamic and transport modeling indicates that this sediment will settle out and re-contaminate the surface of the Canal bed, even with the flushing tunnel operational.

The storage tanks may not have enough storage volume to reduce CSO solids and contaminants to levels necessary to be protective of the remedy. Contrary to the conclusions of Stein (2006), which are relied upon in the FS to calculate tank size, TSS data collected during a CSO discharge event, indicates that TSS is not concentrated during the first flush (Appendix G). Indeed, as Woodard & Curran explain, the potential exists for a continued discharge of contaminants to the Canal during rain events that produce a flow volume in excess of the capacity of both the tanks and the conveyance system (Appendix G).[10] While these data are not conclusive, they make clear that potential frequency and volume of storm water that may be discharged needs to be studied further, especially in light of climate change predictions that storm events will be more frequent and severe.

(iii) If CSO Control is Infeasible, the RAOs Must be Modified and the Canal Conditions Must Become the Background

Failure to stop discharges from the CSOs will have significant ramifications for everything from the most fundamental success / failure of the remedy to accomplishing the RAOs of reducing human health and ecological risks. Current plans by the City of New York

[9]Dr. Brunton of Baird notes that the PRAP appears to underestimate the full extent of sediment discharge from the CSOs. A mass balance for the upper Canal suggests that the one to two inches per year of sedimentation noted in the PRAP could be understated by as much as five to ten times.

[10]Woodard & Curran explained, "The scientific literature suggests that the potential for continued discharge of PAHs and metals to the Canal during storm events that produce a flow volume in excess of the capacity of both the tanks and the sewer system, still exists." This is so because "the first flush tends to include a larger proportion of coarse particulate matter. Since PAH concentrations tend to be higher on finer particulates, PAHs in the CSO flow may continue to be discharged to the Canal later in a storm event, after the CSO tanks are full." (Appendix G).

will not stop contamination from the CSOs. To the extent the City cannot reach full CSO control because it is technically infeasible or prohibitively costly or both, then the EPA, and the City should strive to implement the maximum achievable CSO reductions before the remedy is implemented. The extent of CSO reductions should then be carefully evaluated. Only after understanding the continued loadings into the Canal, can a cap be implemented with any chance of success.

Under current circumstances, the initial step of establishing performance standards in the PRAP is premature since the major ongoing source of contamination will not be controlled. To the extent infeasible or cost prohibitive to fully control CSO discharges any ongoing contribution should be considered background for the Canal and the remedy design should factor in those ongoing sources. Once the background loading to the Canal is understood, future uses of the Canal should be tailored to be protective of human health, as determined appropriate by the relevant public health agencies. Depending on the extent and success of CSO controls, future use may still include some public access restrictions.

Finally, and regardless of the remedy that is ultimately decided upon for the CSOs, the EPA should create and implement a program to measure baseline pathogen levels prior to initiation of any remedy, and this program must be ongoing since pathogen levels do not remain static. Samples must be continuously collected over the course of months and testing must follow remediation to confirm a reduction in pathogens. Parameters for pathogen levels protective of all populations, including pathogen RAOs and risk based PRGs that consider water quality criteria for recreation, must all be established and even then, additional studies may be required as action is taken in the Canal.

(3) Non-CSO Pipes

Other sources in addition to the CSOs, such as roadway runoff, petroleum facilities, and the hundreds of non-CSO pipes, likely account for significant PAH and other loadings to the Canal surface sediment. National Grid understands the importance of controlling potential sources and has implemented serious efforts to clean up legacy MGP sites. However, there are other non-CSO sources that require examination. Accidental releases of contaminants around the Canal occur frequently and impact the Canal through sewers, permitted, and non-permitted discharge points. The DEC has extensive documentation of such contaminant releases to the Canal. Some of these accidental spills included diesel fuels and waste oils with sheens visible on Canal surface water. Petroleum products, oils containing PCBs, and dielectric fluids were also found to be impacting manholes around the Canal at numerous locations. Many other spills were reported in the DEC files to be of unknown sources, some of which were reported to be an "ongoing problem" directly impacting the Canal. This is in addition to the hundreds of thousands of gallons of raw sewage that impacted the Canal over the past 20 years from pump and gate failures, as documented by DEC (Appendix E).

The RI documented almost 250 pipes that are discharging to the Canal. The RI did not evaluate wet weather discharges from any of these pipes. As a result, the chemical loading from these unpermitted discharges is unknown. Even though wet weather sampling of these discharges was not undertaken, the RI did evaluate dry-weather discharges from 12 pipes and identified 18 VOCs, 21 SVOCs, and 18 metals, and cyanide in the dry weather unpermitted

discharges. The RI report concluded that flow rates of less than one liter per minute were inconsequential and hence were not sampled under dry flow conditions. However, one liter per minute is the equivalent of 0.264 gallons per minute or 380 gallons per day or 138,700 gallons per year. Furthermore, that is for only a single pipe. Thus, loading from the over 200 unpermitted pipes could be a significant factor in evaluation of a site remedy. At the very least, good science requires that it be explored.

Approximately 14 of the pipes have state pollutant discharge elimination system permits. These include both industrial discharges and storm sewer discharges. All of these sources must be identified, quantified, and controlled before implementing the sediment remedy. Seventy-four million gallons of storm water and roadway runoff are discharged to the Canal each year through storm sewers and overland runoff (DEP 2008). The PRAP characterizes these pipes as "insignificant" and the cost to address them as "minimal" with little, if any, support and without any regard to how the pipes will be addressed by DEC or how making required adjustments will affect permit holders. Exponent has noted that the EPA's investigations of unpermitted pipes is more of a "snapshot" and does not provide the entire story because they were not conducted concurrent with releases of contaminants from upland sources. "Surface sediments adjacent to these pipe outfalls are far more representative of cumulative and time-integrated inputs of contaminants from the upland sources." (Appendix E).

(4) Conclusion: Control All Sources First

Since data from the Canal sediments makes clear that CSO and other outfall inputs of contaminants are continuing, the EPA, consistent with the CSTAG recommendations, must make controlling all contamination sources around the Canal a priority in the ROD. Otherwise, any dredging will be a wasteful use of resources and the Canal sediment will be recontaminated.[11] Only then, when all sources of contamination to the Canal are addressed to the degree practicable using sound science and engineering, proven technologies, a background level of ongoing

[11]In 2007, the Sediment Management Work Group presented to the Battelle Conference the results of, "[a] survey of recently completed contaminated sediment remedial actions [which] identified a total of twenty sites in which sediment had become recontaminated" (Nadeau and Skaggs). All had become recontaminated largely because of no assessment or incomplete assessment prior to remedy selection of the risk of recontamination by continuing sources. CSOs and storm sewer outfalls were listed among the "dominant" sources that may lead to the recontamination. At one site, the Anacostia River, sediments covered the cap near to and downstream of an active CSO. Monitoring results after only 18 months indicated that the cap was containing the targeted contaminated sediments, but new sediments containing elevated PAHs from urban sources were accumulating on top of the cap. Sites like Anacostia, and by implication the Gowanus Canal, are important because they make clear that when sediment response actions are planned in areas receiving urban discharges, steps to ensure source control prior to implementing sediment cleanups must be taken. To avoid recontamination, careful study is necessary and source control must be of an equal or greater priority than the sediment response action itself.

contribution is established, and a control plan with specific steps and schedules is in place – can the parties begin their work to implement a successful and sustainable remedy.

C. THE CANAL MUST BE THOROUGHLY CHARACTERIZED BEFORE ANY EFFECTIVE REMEDY CAN BE DESIGNED

The PRAP is largely focused on a one-size-fits all remedy of dredge and cap across the entire Canal. This approach is based on assumptions and does not take into account the myriad of variation in conditions along and within the Canal. Successful design and completion of the work requires that all of the variations be considered in the remedy selection process.

(1) Sediment Variation

Sampling results for sediments along the Canal show variation in characteristics, including contaminant levels, chemical properties, geotechnical properties, and mobility (Appendix K). Design of the remedy must accommodate the variations in sediment characteristics to protect existing bulkheads and provide future stability for the cap.

(2) Operational Variation

The PRAP views the Canal as static and thus does not fully consider how the Canal will operate in the future. As a result, the remedy is focused on containment of historical releases. Although important, controlling such releases is only one part of a very complex system. The ROD must consider the impacts and need to control all significant releases, future operations, and the full range of complicating variables.

The PRAP acknowledges that the conditions in the Canal are likely to change as a result of upgrades to the CSO system related to the New York City WWFP. There will be additional changes in the future as a result of the yet-to-be-written New York City LTCP. These changes can have significant implications for the design and performance of the remedy. Furthermore, climate change, and the potential for sea level rise, present issues that were not discussed in the PRAP and will pose challenges during the design. As stated by the New York City Panel on Climate Change (New York City 2010), "[c]limate change poses challenges to planning for coastal waterfront development in New York City, given the uncertain but significant risks of progressive sea level rise and enhanced flooding of low-lying neighborhoods and infrastructure, increased transportation disruptions, increased structural damage, impaired operations, increased beach and shorefront erosion, and loss of wetlands." All of these risks apply to the Gowanus Canal, the Harbor, and surrounding neighborhoods. The final remedy must consider the hydrodynamics of the Canal given rising sea levels and potential for greater storm surges. The design should evaluate the potential for continued and possibly more frequent flooding in the surrounding neighborhoods. The proposed work on the CSO and storm sewer systems must consider the potential for larger and more frequent discharges to the Canal. Finally, these considerations underscore the need for the remedy that will need to be adaptable as conditions change into the future.

There is also the flushing tunnel, which is set to be re-activated in 2014. In an effort to assess the effects of the City's actions, National Grid undertook sediment transport and hydrodynamic modeling of the Canal. These studies demonstrate that increased flow from the flushing tunnel will have a variety of effects on future conditions in the Canal including, bed shear and sediment transport, scour of finer bottom material, and changes in water chemistry and biological conditions such as the reintroduction of marine borers affecting the integrity of timber bulkheads / pilings.

As explained by Drs. Palermo and Brunton, when moored barges and sheet pile enclosures are coupled with the flushing tunnel, flow velocities in the Canal will increase even more, which will increase scour (Appendices C and D). All of this must be carefully evaluated as a part of the remedial design effort.

DO must be maintained to support benthic invertebrate communities and other aquatic life. In accordance with the New York State Water Quality Standards, as a Class SD saline waterbody, the DO in the Canal should never be less than the acute criterion of 3.0 mg/L. However, during the summer of 2012, DO concentrations were less than 3.0 at 28 of 29 sampling stations in RTA 1 and RTA 2 (GEI 2012a). Although the flushing tunnel was not operational during that sampling event, the aeration system in RTA 1 was operating. Testing has shown it was insufficient to maintain DO levels to support aquatic life. Furthermore, 11 of the 29 stations in RTA 1 and RTA 2 had zero benthic invertebrates and most other stations had fewer than 100 organisms per square meter. During other sampling events (GEI 2011a, 2012b), all but two of these sampling stations had hundreds to thousands of invertebrates per square meter. This is strong evidence that lack of DO, even more so than chemical concentrations, will limit the benthic community in the Canal. For the remedy to be successful, and for the Canal to support a healthy benthic community, DO must be addressed as the primary consideration in the RAOs and performance metrics, rather than simply focusing on mitigation of chemical toxicity as do the current RAOs. Modeling of DO levels in the Canal with the flushing tunnel reactivated projects that DO levels are not expected to meet CWA requirements in RTA 2 (Appendix D). The Baird results for DO have identified periods of hypoxia in RTA 2 following large CSO events.

Lastly, even if the volume of solids entering the Canal is reduced, the deposition of potentially toxic sediments from ongoing point sources is not expected to stop. National Grid's hydrodynamic model indicates that solids will continue to settle out in the Canal even with the proposed increased flow generated by the flushing tunnel. According to EPA's proposed remedy, routine maintenance dredging of solids will be required for the life of the Canal. In addition, the full impact of the flushing tunnel still remains unknown. Sediment transport and hydrodynamic modeling has revealed that sediments are likely to come out of suspension in areas of the Canal where there is a significant decrease in velocities. Deeper dredging in RTA 1 and RTA 2 could thus result in settling of sediments with the return of sediment mounds and associated odor and contamination over the long term (Appendix D). Modeling has also identified parameters that have yet to be addressed, including flow conditions, flux of suspended sediment and contaminants, bed shear, and sediment transport and fate.

In summary, the success of the remedy depends primarily on short and long term CSO controls. The FS and PRAP do not include sufficient evaluation of the effects of these controls on the remedy. The evaluation performed by National Grid raises a wide variety of issues concerning the implementability and long term performance of the remedy under the proposed conditions.

(3) Groundwater Flow Variation

Transport mechanisms, including movement of NAPL and dissolved phase constituents in groundwater (leading to discharge of NAPL and groundwater to the Canal), need to be better understood in order to achieve a successful remedial design.

Groundwater modeling and NAPL mobility testing performed by National Grid indicate that contaminant fate and transport vary along the Canal and may require different controls in different reaches and sub-reaches (GEI 2011b and Appendix B). This is especially important given that the majority of the Canal bulkheads are highly permeable timber cribbing structures that allow groundwater to migrate into the Canal. The proposed remedy, however, may require impermeable bulkheads (like those being designed by National Grid for the MGP sites), to stop groundwater migration and thus mitigate the discharge of contaminants to the Canal from other responsible party sites. Groundwater modeling shows that impervious bulkheads will cause groundwater to deflect in different directions and to mound behind the bulkheads. To resolve this issue at the MGP sites, where barrier walls are planned, National Grid is exploring installing liners throughout the sites to minimize infiltration and consequently mounding behind the barrier walls. Under drain systems to collect ground water may also be needed should it rise above an unacceptable level.

There is a high potential for deflection and mounding to flood basements and properties. The effects of the remedy on groundwater flow thus may require responsible parties to explore groundwater controls. This should include a comprehensive groundwater modeling review of each system and how each interrelates. This would be performed in conjunction with the design of the remedy.

Modeling also demonstrates that the majority of groundwater discharge to the Canal (approximately 70 percent) in RTA 1 comes through the Canal floor (GEI 2011b). Design of the cap in this area in particular will require significant pre-design studies, including studies to identify discharge areas and to estimate flow rates.

D. CONSTRUCTION, ENGINEERING, AND FUTURE USE CONSIDERATIONS

(1) Dredging and Capping

As explained by Dr. Palermo, all dredging projects are unique because each must address specific site conditions and objectives, not to mention deal with specific unforeseen conditions. There is no doubt that the Gowanus Canal will offer up its own challenges that will result in delays and setbacks. The PRAP does not appear to consider this or the varying site conditions

and sediment characteristics throughout the Canal. Matters are further complicated in the Canal because of components, like the CSO system, that are in motion and ongoing and subject to change when the flushing tunnel is reactivated. Armed with experience, Dr. Palermo has recognized these unknown variables and how they reduce the dredge remedy proposed in the PRAP to "little more than a concept." (Appendix C).

Given the conceptual nature of the PRAP, much time must be afforded for extensive study and work to design the dredging portion of the remedy. Basic physical characteristics of the Canal such as water depths, bathymetry, currents, wave energies, the presence and nature of infrastructure and debris, and geotechnical conditions must all be considered. After evaluating the physical setting, dredging allowances, sediment re-suspension, and total volume must be calculated. Finally, the limited access to the Canal, lack of open space for staging, loading / off-loading, and treatment, and tight clearances and space for work within the waterbody must be resolved.[12]

With all of the unknowns outlined above, the very specific remedy components that are set forth in the PRAP are ill-advised and could be counter-productive. This approach cannot be justified given the present preliminary knowledge about the site and sediment conditions and the limited state of technical evaluations conducted to date. Once again, flexibility and adaptive management are essential to design this part of the remedy and to ensure its success. To that end, Drs. Palermo and Reible have identified several studies that, if performed, would help in remedy design:

- **Remedial Design Field Investigations**. Data gaps regarding sediment transport; hydrodynamics associated with ever changing Canal conditions due to the CSOs, the flushing tunnel, other pipes, and flow variations during construction; groundwater flows (lateral and vertical); geotechnical conditions of the soft and native sediments; and bulkhead conditions, and near shore building foundation conditions should receive additional study.

- **Cap Design and Performance Studies**. This would include evaluation of the basic issues such as the need for an armor layer, performance of armoring layers, and in situ stabilization (ISS) to stabilize both soft and native sediments.

- **Performance Standards Evaluation**. Performance standards are a touchstone of the remedial design and are needed for sediment re-suspension, contaminant release to water and air, and dredging production and timeline for completion of dredging.

- **Dredging Production and Throughput Evaluation**. An evaluation of dredging production and sediment throughput from dredging to final disposal should be conducted.

[12]These challenges all affect the implementability and cost of the remedy, important factors identified by the NCP. *See* 40 C.F.R. § 300.430(f)(1)(i)(B).

- **Contaminant Release Studies**. Sediment characteristics coupled with high concentrations of contaminants and the presence of NAPL in some areas raise the potential for contaminant release. A study of sediment re-suspension potential, contaminant release potential to water and air, and residual sediments due to dredging should be conducted.

- **Sediment Re-suspension and Contaminant Release Control Evaluations**. The PRAP calls for the most stringent and aggressive form of engineered re-suspension control -- a sheet pile enclosure. More technical evaluation is needed to determine either the need for such control or the potential impact of such control on sediment erosion and the contaminant releases that will follow. Use of hard enclosures may actually result in higher contaminant releases to the Bay as compared to dredging without enclosures.

- **Operations Plan**. The PRAP includes a proposed sequence of work. However, a more comprehensive evaluation of operational aspects is needed to fully assess the practicality and community impacts associated with implementing the remedy. By way of example, the PRAP does not address the feasibility of removing the significant amount of buried debris in the Canal which in itself is an enormous and complex undertaking.

- **Monitoring and Management Plan**. Similarly, a more comprehensive evaluation of monitoring aspects is needed to more fully assess the effectiveness of the remedy.

- **Field Pilot Studies**. Field pilot studies will also be needed to confirm the effectiveness of some remedy components. Pilot studies may include dredging an area to assess sediment re-suspension, contaminant release, and source strengths; as well as cap placement to verify the ability to place caps in both the soft and native sediment layers.

- **Re-handling and Transport Study**. Careful planning of re-handling and transport of sediments is the key to compatibility. Areas for staging and offloading, and sediment treatment must be identified.

- **Sediment Treatability Studies**. The FS and the PRAP identify either stabilization and / or thermal desorption as the treatment and disposal options. Additional treatment studies would help uncover additional options and find a disposal approach.

- **Beneficial Use Studies**. The PRAP identifies beneficial use as the option for all dredged sediment. This may be difficult to implement given the volumes of sediments involved and the lack of a market for sediments with properties as found in the Canal.

- **Landfill Investigation**. Although the PRAP calls for beneficial use of all the dredged sediments, placement in landfills should also be investigated. Evaluations should be conducted to determine required pre-treatment or treatment, logistics of re-handling and transport to the landfills, capacity of landfills that may be considered and the acceptability of the Canal sediments for placement at those landfills from the standpoint of dewatering and workability.

- **Confined Disposal Investigation**. The PRAP includes potential use of a combined disposal facility (CDF) for sediment disposal. Acknowledging the apparent opposition to a CDF and taking no position on it, National Grid submits that if the EPA decides to move forward, more comprehensive studies are needed. Indeed, perhaps a contained aquatic disposal site is an option or a CDF outside the project footprint which could offer true community benefit such as waterfront park land. Initial investigation should focus on possible sites within the basins and Gowanus Bay, and consider volume, site bathymetry, and compatibility for future landside development. Engineering, contaminant pathway, and pathway control should also be evaluated.

The expedited schedule has made it challenging to get to the full range of studies National Grid believes are important (including the list above). Many of these studies would support the development of a more robust conceptual site model that fully identifies sources of contamination and describes fate and transport mechanisms. Such a model is a cornerstone of the CERCLA process and is integral to designing a remedy. As a result, for the remedy concepts outlined in the PRAP to be successful, National Grid believes the ROD should provide for additional time and flexibility for all of the required work to be planned, coordinated, and performed. Data will have to be analyzed, changes in courses of action may have to be made, and new steps may have to be planned. All the while, residents, public officials, and community groups will need to be kept informed.

(2) Navigation

Although the Canal is no longer the heavily trafficked industrial channel it once was, current commercial navigation has a significant impact on remedy design for the Gowanus Canal. The Baird Vessel Impact Study (VIS) Report, submitted to EPA on December 14, 2012 and summarized in Appendix D, found continued deep draft commercial navigation on the Canal could present a serious challenge to the restoration of a benthic habitat layer atop the cap as proposed in the PRAP. If allowed to continue post-remedy, impacts from commercial vessels (notably tugs and barges) that currently mobilize, transport, and redistribute sediments and contaminants in RTA 2 and other shallow portions of the Canal, would likely destroy any habitat.

The Baird VIS provided an analysis of propeller wash calculations to determine the potential for bed sediment mobilization. This coupled with three-dimensional numerical modeling (including flow around moored barges and propeller scour of the Canal bed by vessels underway) from the Baird Sediment Transport Modeling Study, highlights the extensive work and analysis that is required before a final remedy is chosen.

The Baird VIS report documented that despite the continued decline in commercial navigation, vessels and barges nevertheless impact the Canal bed in the following ways:

- Changes to local flow patterns;

- Tugs and barges are a direct and significant influence on flow velocities (and therefore sediment movement) in the Canal;

- Flow velocities increased by at least 600-800 percent ; and

- Vessel contact (or "grounding") with the Canal bed in RTA 2.

A detailed vessel traffic analysis using Automated Identification System (AIS) vessel tracking data identified five active docks located in the Canal between 3rd Street and the Gowanus Expressway. The present-day operations include tug and barge activities for two steel recyclers, two aggregate importers, and one fuel oil importer. Tugs make up over 99 percent of the vessel trips. Over half of all the trips are to the Bayside Fuel Oil Depot located next to Smith Street (at the lower reach of RTA 2).

While the trips to destinations above 9th Street are fewer than trips to the lower Canal, they may be more significant for sediment mobilization due to shallower water depths in the middle and upper Canal. The shallow sediments in RTA 2 show direct evidence of repeated barge groundings. Multi-beam bathymetric surveys very clearly show sediment bed scour caused by barges.

The barge and tug transits not only occur at high water as suggested in the FS (CH2M Hill 2011), but at all stages of tide (including low waters), demonstrating that the FS may have underestimated the potential for commercial vessel traffic to mobilize Canal sediments and contaminants as well as the potential to impact the viability of the future remedy. It is clear that the current vessel traffic in the Canal not only mobilizes and redistributes sediment and contaminants, but propeller wash can mobilize sediments as large as cobbles and boulders – materials much larger than those observed in the Canal bed or proposed for the benthic layer of the cap. Given this fact, it is reasonable to conclude that bed sediments are regularly mobilized into the water column by vessel activity.

For the remedy to succeed, National Grid's experts suggest that allowing commercial navigation in the Canal in RTA 1 and RTA 2 should be carefully considered. While one answer would be to dredge deeper, this will create a different set of problems. The increased depths proposed in the PRAP will decrease water velocity and DO levels in the Canal. This will compromise the ability of the flushing tunnel upgrades to achieve DO standards that satisfy CWA requirements. In addition lower velocities will lead to deposition of CSO solids and sediment on the cap, in turn further reducing DO concentrations and compromising the integrity of the remedy.

Because there is no current commercial navigation in RTA 1, alternative dredging depths should be explored. It is important to note that none of these options would preclude recreational boating from shallow draft boats that are regularly used in the Canal.

Navigation depths proposed for RTA 2 that would leave the cap surface only 16 feet below the water surface at slack tide are a concern. At this depth, the benthic sand cover would likely be continuously disturbed by tug prop wash and scour. This problem and the fact that access to dock facilities in RTA 2 will be lost for extended periods of time during construction of the remedy, speak in favor of additional discussion about supporting commercial navigation in RTA 2.

In RTA 3, sediment depths at the mouth of the Canal reflect current navigational activities. Dredging to greater depths will potentially interrupt navigation dependent businesses and likely result in slower velocities and deposition of fine sediments coming from the Canal, compromising the integrity of the remedy.

E. THE FULL RANGE OF POTENTIAL TECHNOLOGIES SHOULD BE AVAILABLE FOR USE IN THE REMEDY

The FS evaluated a broad range of proven and potential technologies for use in the Canal. Yet, many were eliminated by the EPA during the screening process. Studies performed by National Grid indicate that a variety of techniques eliminated during screening may actually be useful in the final Canal remedy. The ROD should allow further testing and possible use of any viable technique for dredging and/or isolation of sediments.

It is National Grid's belief that sediment removal requirements set in the PRAP still need further evaluation. There is a much wider range of potential technologies that could be employed to achieve RAOs than those included in the PRAP. Maximum flexibility is needed to optimize the use of any or all of these technologies during the design process. Processes like ISS, capping soft sediments without pre-dredging, capping-only remedies, in-situ amendments to reduce bioavailability of contaminants, and alternate approaches in RTA 3 should all be explored. Treatment and disposal also need to be given a hard look.

(1) ISS

The PRAP does identify ISS as a means to mitigate NAPL release in native sediment. However, it does not recommend ISS of soft sediment because the FS considered it technically infeasible, though no performance studies were undertaken. National Grid has undertaken bench scale ISS testing of Canal soft sediment, and the data suggests it may very well be a viable approach (Appendix H). Soft sediment samples from RTA 2 and Turning Basin 1 were successfully solidified in a preliminary round of testing. This work was performed on "worst-case scenario" samples of 100 percent soft sediment. A second round of testing investigated the benefits of mixing the soft sediment with native sediment during solidification. This mimics the blending that could occur as the mixing auger moves up and down the soft and native sediment column to incorporate cement grout. Mixtures of native and soft sediments solidify with less cement than if they are treated separately because of the higher sand and gravel content and lower moisture content of the native sediment.

The effect on groundwater flow patterns resulting from sediment ISS was also noted as a concern. Rather than discounting ISS's potential use as a blanket approach, it would be preferable to better understand groundwater flow dynamics and design accordingly. For example, a portion of the Canal could be solidified, and an adjacent portion left unsolidified as a hydraulic release point topped with a permeable reactive cap like that proposed in the PRAP. Including soft sediment solidification as an option in the ROD will preserve flexibility to combine several appropriate technologies to create a complete and sustainable remedy.

The FS noted potential issues with ebullition and methane upwelling resulting in potential cap uplift. Solidification of the soft sediments and the NAPL-impacted native sediments could inhibit these phenomena. Solidified sediments could also improve bulkhead toe stability and potentially eliminate or reduce the loading to support sheeting, simplifying the design.

In summary, while the PRAP acknowledges ISS may be a useful technology for treating NAPL in native sediments, testing performed by National Grid indicates that both native and soft sediments are promising candidates for solidification. Depending on the final design of the remedy, solidification could be used to help control NAPL in deeper sediments, assist in stabilizing soft sediments to shore up bulkheads (in lieu of or in conjunction with using sheet piles), as a treatment to improve the handling characteristics of sediments used to form the base for soft siding, or to improve the handling of sediments prior to transport offsite or placement in a CDF. While any of these uses may be applicable, the actual use of ISS should be determined based on performance and cost evaluations during the design process. Bench scale tests performed to date (Attachment H) show sufficient promise to include ISS as a potential component of any remedy developed for the Canal.

(2) Capping soft sediments without pre-dredging

The soft sediment layers are heterogeneous throughout the Canal. As summarized in Table 2 of the PRAP, the soft sediments average 54 percent solids with a 35 percent sand fraction. As noted by Drs. Palermo and Reible, caps have been installed successfully at sites with softer and more challenging sediments. Based on field observations of sediment cores, the sand fraction of the soft sediments in some areas of the Canal increases with depth (GEI 2009 and Appendix I). Accordingly, partial dredging of the soft sediments may be best in some areas because it will expose material even better suited for supporting a cap.

To the extent there is concern that soft sediments and any NAPL held therein might be destabilized by uneven placement of cap material, the cap may be placed in thin lifts to avoid point loading. Field observations of sediment cores and the data summarized in the sediment physical characteristics table (PRAP Table 2) suggest that the soft sediments in some reaches of the Canal may have sufficient bearing capacity that could very well do away with special cap placement techniques.

With regard to releasing NAPL, Dr. Reible points out that residual NAPL is unlikely to be mobilized by the weight of a sediment cap. Preliminary testing of sediment samples near the soft-native interface and with vertical loading equivalent to 10 feet of sand showed only trace amounts of NAPL expressed (Appendix B). Finally, NAPL impacts in soft sediment are generally lower than in native sediment (Appendix B). Removal of the soft sediment could actually promote upward migration from the native sediment.

In summary, the EPA should weigh the benefits of removing categories of contaminants (e.g., PCBs and metals) via complete removal of soft sediments against the cost of complete soft sediment removal, the likelihood of cap failure (low), and the fact that native sediments contain higher concentrations of some contaminants than do soft sediments (Appendix B). Flexibility is critical to designing and implementing a successful and sustainable remedy.

(3) RTA 3 Should be Approached Differently

RTA 3b is dissimilar from the other RTAs in terms of size, depth, navigational requirements, hydrology, benthic community characteristics, and level of impacts. Whereas RTAs 1 and 2 are narrow and relatively uniform in width, RTA 3 widens and is more irregular in shape and is also deeper. In fact, RTA 3b is three to five times as wide and, generally one and a half to two times as deep as the rest of the Canal. Also, RTA 3b has the most commercial navigation, but the least concentrations of constituents within soft sediments, including NAPL (saturated impacts are limited to one, western area).

The shape, location and dimensional differences affect a number of other characteristics which can have significant influence on the remedy from upwelling rates of groundwater to sediment flux. Yet, despite these significant differences, the PRAP selects virtually the same remedial approach for RTA 3b as the remainder of the Canal. The Draft FS (CH2M Hill, 2012) appears to over-generalize the nature and extent of impacts within the Canal soft sediments, when in fact this RTA warrants a different approach.

As it stands now, the proposed remedy will result in high costs, level of effort, and disruption to navigation and business that are out of proportion with the low levels of reduction (if any) of risk to human health and the environment that would be gained. A remedial approach that is modified to meet the specific characteristics of RTA 3b makes much more sense. Such an approach could not only decrease the overall level of complexity in the implementation of the remedy, but it could decrease the level of business interruption to nearby commercial facilities, lower resource consumption and decrease the overall cost of construction while still achieving the RAOs outlined in the PRAP.

(i) The Hydrology and NAPL Impacts are Different

Section 4.3.1 of the FS discusses screening of dredging and capping as a remedial technology. This section states "although little NAPL is present in RTA 3, groundwater upwelling through PAH-contaminated sediments in some portions of RTA 3 may pose a concern" (CH2M Hill, 2011). Groundwater modeling demonstrates that the preferential pathways for upwelling follow the alignment of the original Gowanus Creek, with most upwelling occurring further up the Canal in RTAs 1 and 2. The amount of upwelling in RTA 3 (3a and 3b combined) represents only 12 percent of the total groundwater upwelling spread over half of the area of the Canal. This discharge represents roughly 12 percent of the total groundwater upwelling in the Canal (GEI 2011b). This relatively small flux indicates that groundwater velocities are much lower in RTA 3 (and especially the much wider RTA 3b) than RTAs 1 and 2. The results of the quantitative analyses of groundwater (GEI 2011b) should quell the theoretical concern that NAPL could migrate upward in RTA 3b due to groundwater velocity.

Alternative 5 (as opposed to Alternative 7 which was selected for the remainder of the Canal (EPA, 2012b)), was selected for RTA 3b in part because "NAPL impacts in the southern portion of the project area are much less significant and less pervasive than those observed in the upper reaches of the canal" (CH2M Hill, 2011). Further investigation should be undertaken to identify impacted portions of RTA 3b that may then be specifically targeted for remediation. Such a more targeted approach makes much more sense than simply applying Alternative 5 to the entire area.

(ii) The Sediment Chemistry is Different

Although fewer sediment samples have been collected in RTA 3b than in the rest of the Canal (GEI 2009, 2011a, 2012a, 2012b; EPA 2011), it is nonetheless clear that sediments in RTA 3b contain lower concentrations of potentially toxic chemicals than much of the rest of the Canal. Statistical analyses, conducted to evaluate differences in chemical concentrations among and between RTAs (shown graphically in Figures 1 through 6 of Appendix L), indicated that for each of the chemical constituents and constituent groups discussed below, there are relatively lower risks of effects from other chemical contaminants in the soft sediments of RTA 3b.

Total PAH16 in surficial (zero to six inch depth) sediments, measured as the sum of the 16 EPA priority pollutant PAHs, was greatest in RTA 2 and the least in RTA 1 and RTA 3b (Figure 1 of Appendix L). Statistical analysis indicated significant pairwise differences between RTA 3b and all other areas, though RTA 3b is most similar to RTA 1. Concentrations ranges of total PAH16 in subsurface samples in each RTA generally overlap with those of surficial concentrations (Figure 2 of Appendix L). However, the noticeably lower concentrations of total PAH16 within RTA 3b surficial sediment may be the result of natural recovery processes.

Total PAH34 in surface sediment pore water (i.e. interstitial water), measured as the sum of parent and alkylated PAHs using solid phase micro-extraction (SPME), was consistent with bulk surface sediment PAH16 results: Concentration was greatest in RTA 2 and the least in RTA 1 and RTA 3b (Figure 3 of Appendix L). The median PAH34 concentration in pore water was the least in RTA 3b, which may at least partially explain the benthic community results discussed in the next section.

Estimation of PAH pore water toxic units (IWTU) from PAH concentrations measured in pore water using SPME is the most reliable method to estimate the toxicity of PAHs to benthic invertebrates in sediments (EPA 2003, Hawthorne et al, 2005, 2007). IWTU in surficial samples in RTA 3b were less than 10, indicating toxicity resulting from PAHs would likely be minimal. This is in contrast to RTA 2, in which the median IWTU was greater than 10 (Figure 4 of Appendix L). Statistical test results for IWTU were similar to those described for PAH34 in pore water.

Total PCBs concentrations, measured as the sum of PCB aroclors, in Canal sediments followed a very similar spatial pattern to that of PAH16, with surface concentrations in RTA 3b being similar to RTA 1 and significantly less than RTA 2 (Figure 5 of Appendix L). Patterns in subsurface PCB concentrations were similar but less distinct than the surficial concentrations.

Concentrations of lead in surficial samples in RTA 3b were significantly less than those in RTA 1, 2, and 3a (Figure 6 of Appendix L). Consistent with other analytes, subsurface patterns were similar to surficial patterns, but variability was greater.

What is more, the highest PAH concentrations in RTA 3b are localized in sediment abutting the boundaries of this RTA. In contrast, the top four feet of soft sediment in the remainder of RTA 3b contains much lower PAH concentrations. Figure 7 of Appendix L shows this pattern of PAH concentrations in sediment cores located within RTA 3b. The “Alternative Remedial Approaches” section below describes in more detail how the distinctive sediment

impacts at the edges of RTA 3b ("hot spots") influence the mean concentrations of impacts when the location of the impacts is taken into account.

(iii) Sediment Toxicity and Benthic Community Health are Different

GEI performed three rounds of benthic sampling concurrent with chemistry and toxicity samples in the Canal between January 2011 and May 2012. Sediment toxicity was variable within each RTA, indicating that location-specific factors are important. However, in general median survival in laboratory toxicity tests was greater in RTA 3b than in RTA 2 and 3a (Figure 8 of Appendix L). These results support the concept that only impacted portions of RTA 3b need be identified and specifically targeted for remediation.

In general, the benthic invertebrate community observed in the Canal represents an estuarine community adapted to soft substrate habitat and that is highly tolerant to disturbed conditions including organic enrichment and low DO (GEI 2011a, 2012a, 2012b). Stress-tolerant annelid worms, specifically of the classes *Polychaeta* and *Oligochaeta*, are the dominant invertebrates, representing greater that 50 percent of the benthic invertebrate community.

Despite the relatively homogenous invertebrate community throughout the Canal, several patterns in the benthic invertebrate community in RTA 3b are clear that further distinguish this RTA from the rest of the Canal:

- The greatest number of taxa was observed within RTA 3b where the Canal opens into Gowanus Bay (Figure 9 of Appendix L). Fifty-six of the 86 taxa (70 percent) identified in all the sampling events were observed in RTA 3b.

- RTAs 3a and 3b were the only areas where Mollusca were observed consistently in samples collected during all events (winter, summer, and spring). Additionally *Mytilus edulus* (blue mussel), a commercially important invertebrate species with known sensitivity to environmental stressors, were observed at two locations in RTA 3b during the spring sampling event.

- RTA 3b maintained a more consistent and stable benthic community across two years and three seasons of sampling. Patterns of number of taxa (Figure 9 of Appendix L), benthic density (Figure 10 of Appendix L), and benthic species diversity (Figure 11 of Appendix L) measured between seasonal events, indicate that the severe benthic community stress that occurred during the summer in most of the Canal had little effect in RTA 3b.

In summary, more hospitable conditions exist for the benthic community in RTA 3b. While toxicity was observed in some locations, the toxicity was not uniform throughout RTA 3b. The physical habitat conditions and DO stress that, in combination with chemical toxicity, severely limit the benthic community in most of the Canal, appear to be significantly improved in RTA 3b, facilitating the observed significant improvement in benthic community health and stability.

(iv) Issues with the Proposed Alternative for RTA 3b

According to Table F-3 of the FS, the combined estimated dredging volumes of RTAs 1 and 2 is 307,000 cubic yards (CY). The estimated volume of RTA 3b alone is 257,000 CY. Thus, under the currently selected alternative, slightly less than half of the dredging work for the entire remediation will be performed in what is accepted to be the least impacted portion of the Canal. Dredging all of the soft sediment in RTA 3b, as called for in the PRAP, will bring disruptions, expense, worker and public risk, resuspension of contaminants within the water column, increased levels of dissolved contaminants, and an extended period of construction,[13] while obtaining minimal, if any, improvements in risk reduction.

As noted in the FS, RTA 3b is used for commercial navigation. Removing all of the soft sediment from EPA will no doubt disrupt those businesses. RTA 3b is also larger and deeper and would invariably take longer to remediate as compared to the narrower areas of the Canal, further protracting business interruptions. Additionally, due to the width, barge traffic would be crossing the channel frequently to unload the dredged sediment for dewatering. There would also be disruption to benthic community.

(v) Alternative Remedial Approaches for RTA 3b

Based on the available information, the proposed remedy for RTA 3b could be altered to reduce construction time, business interruption, and costs, while at the same time comply with all RAOs. This can be done by combining multiple approaches, including dredging only those areas of RTA 3b that contain the most significant impacts (i.e. "hot spots"), allowing natural recovery processes currently taking place to continue, and employing adaptive management as new data becomes available.

To illustrate the importance of addressing sediment hot spots, as opposed to dredging the entire soft sediment, the Table 1 in Appendix L compares the average PAH16 concentrations in the hot spots versus the remainder of RTA 3b. Identification of the hot spots in RTA 3b is presented in Figure 7 of Appendix L. PAH16 concentration in the top two feet of hot spots is an average of 808 mg/kg, as compared to 31 mg/kg in other locations. For the two to four feet range in the soft sediment, the PAH16 concentrations averaged 828 mg/kg for the hot spots, versus 23 mg/kg in other locations. This contrast in concentrations calls for defining and addressing hot spots, as opposed to dredging the entire soft sediment.

In areas outside the hotspots, the accumulation of sediment with relatively low PAH concentrations has been occurring (e.g., core 142 has 9.4 and 6.7 mg/kg PAH16 in the 0-2' and 2-3.8' of sediment, respectively). Certainly, PAH levels at this location suggest that this and other similar locations do not need to be dredged.

[13]Production rate estimates for remedial dredging from contractors for recent similar projects indicate that removal of the large amount of sediment targeted for RTA 3b could take as long as two years.

Based on these results, the RTA 3b remedial action should include identifying the extent of hotspots in RTA 3b and addressing them, as opposed to dredging the entire area in which large volumes of clean sediment has been accumulating. Indeed, this approach has been adopted in other Superfund Sites (e.g., the Hylebos waterway), and has been effective in addressing risks.

Over time, natural recovery processes will also improve the quality of the sediment. A sediment transport and deposition model would provide a quantitative basis and provide certainty in the effectiveness of the natural recovery processes to address contamination in-situ. Areas where the soft sediments are removed could be capped with the treatment, isolation, and armor layered cap as outlined in the PRAP, while areas dredged for navigation could be left at depth with no cap. To the extent there is concern that NAPL in adjacent soft sediments may be destabilized, as noted above, the level of NAPL impacts in RTA 3b are minimal with the only NAPL saturation limited to a single location.

The required exploration and analytical data needed to define remedial action levels and the RTA 3b hot spot areas to be dredged would be collected as part of the predesign investigation. Although there is currently not enough data to compare dredging volumes of the currently selected remedial alternative and alternative proposed herein, given the size of RTA 3b, the reduction in total dredging volume by targeting hot spots could be significant.

Additionally, adaptive management should be considered for any remedy selected. Additional data will be collected from RTA 3b for remedial design, and the selected remedy should be flexible enough to incorporate the more refined understanding of the soft sediment present that the additional data will provide.

Finally, as discussed in the hydrology section of this report, the available data indicates that a comparatively small amount of groundwater is upwelling in RTA 3b, which may negate the need for the treatment layer as currently proposed.

(vi) Conclusion

RTA 3b is a unique portion of the Canal that requires consideration of a different remedial approach. Disproportionate levels of dredging within RTA 3b (slightly less than half of all soft sediments are contained within this RTA), the level of construction, sediment handling, and disruption all contrast starkly with the localized nature of the impacts. The alternative currently proposed in the PRAP does not perform as well for the nine NCP factors (listed in footnote two) when compared to other targeted remedial approaches leading to the need for reexamination of the approach in RTA3. A different, more targeted approach would be as effective, more implementable, result in significant savings in time and cost, minimize resusupension and minimize impact to the community (e.g., less sediment handling, traffic, and odor). The NCP requires that EPA weigh all of these factors when selecting a remedy.

(4) Tailored Design for Optimal Cap Performance

The quality of the sediments, potential for groundwater discharge, current bulkhead conditions, and navigational requirements vary significantly along the length of the Canal. Additional modeling, design studies, and pilot tests are needed to evaluate optimal cap configuration and NAPL control measures. The ROD should acknowledge the need for such

additional studies, allow for flexibility in design of the cap to meet RAOs, and provide a full palette of potential capping technologies for use in constructing the final remedy.

A cap with treatment, isolation, and armor layers, like that proposed in the PRAP, may be appropriate for some portions of the Canal. However, the dimensions and compositions of these layers will require a substantial design effort, and therefore should not be prescribed in the ROD. Also, different areas of the Canal will require different cap configurations. At least three categories of caps, consisting of variations of treatment, isolation, armor, sand, and impermeable layers, may be required to optimize the final remedy. The type of cap required will also vary with underlying sediment characteristics, potential for groundwater discharge, amount of NAPL present, potential for methane gas production and ebullition, Canal depth, and navigational requirements.

The PRAP specified a single cap design of a one and a half foot armor layer of stone, a one foot isolation layer of sand and gravel, and a six inch to one foot treatment layer of clay. As noted, the cap design will need to be variable based on specific needs within each reach of the Canal. For example, oil-absorbing material like oleophilic clay, should be targeted where it provides the greatest benefit, can be monitored, and can be replaced at the end of its design life. If relatively impermeable zones of solidified sediment are to be created, oleophilic clay should be deployed elsewhere and only in zones where groundwater communicates freely with surface water. A broadly applied single-design cap of the type designated in the PRAP will be difficult to monitor and evaluate.

A treatment layer of oleophilic clay like that proposed in the PRAP is likely not needed over solidified sediment since the solidification process dramatically reduces contaminant mobility, the very thing that a reactive cap is intended to treat. These technologies are simply redundant. An armor layer is also likely not needed over solidified sediments since the sediments are less susceptible to scour. A benthic habitat layer could be installed over the ISS matrix to facilitate habitat restoration.

A thinner benthic cap offers the advantage of reducing dredge volumes and thereby minimizing waste. Prop wash calculations are needed to determine sizing and thickness of the benthic supporting sand and gravel layer. The calculations would evaluate the type of vessel and draft for the specific portion of the Canal to provide the grain size (armor) and thickness of benthic cover to protect against prop wash. This was similarly completed in Appendix D of the FS and in models completed more recently for the Canal (Appendix D).

Finally, an impermeable cap may be useful for portions of the Canal in conjunction with adjacent areas of benthic or treatment (PRAP-style) caps. Impermeable cap areas (and solidified sediments) will force ground water to discharge through permeable cap areas, where treatment layers could be employed to intercept contaminants. This would be similar to a “funnel and gate” system and may provide a more practicable approach than a treatment layer across the entire Canal. It would also better facilitate monitoring for cap effectiveness. If replacement of a treatment zone is required, it could be more targeted and would not require a widespread dredge effort.

The FS expressed concern that methane gas "may be generated beneath the cap, causing potential uplift and deformation without special design considerations" (CH2M Hill, 2011). National Grid believes it is premature to eliminate the option of a low permeable cap before the design process identifies potentially appropriate technologies to address this concern. Gas venting can be managed, and the generation of gas in a low oxygen environment at the base of the cap may not be as severe as anticipated (Appendix B).

Additional modeling, design studies, and pilot tests are needed to evaluate optimal cap configuration and NAPL control measures. Therefore, the type of cap(s) to be installed should be determined during the design process, which requires flexibility to accomplish this in the ROD.

(5) PRGs and Performance Goals

The remedy will be manageable only if reasonable performance standards are put in place. As such, a proper understanding of the final remedial conditions and the future operating conditions in the Canal must be considered in light of establishing measurable and meaningful performance standards. The following discusses the issues involved.

The PRAP specifies that PRGs for protection of the ecological community be used as performance standards to evaluate the effectiveness of the post-remedy "clean surface." The PRAP identifies three PRGs / performance standards: PAHs (20 mg/kg), Copper (80 mg/kg), and lead (94 mg/kg) [EPA 2012b]. These PRGs were developed to support RAOs to reduce risks to benthic organisms and herbivorous birds in the Canal from direct contact with PAHs, PCBs, and metals in the sediments as well as from dietary exposure, respectively.

National Grid agrees that establishing a "clean surface" cap following remedial construction will accomplish the RAOs of reducing risk to benthic organisms and herbivorous birds because any remaining sediment contaminants will be isolated from exposure to post-remedy benthic organisms and birds. However, the PRAP approach toward establishing performance standards is not sustainable. While the remedy recommended in the PRAP will result in a "clean surface," the PRAP specifically acknowledges that additional ongoing sources of contamination will continue to discharge to the Canal. In other words, PAHs, copper, lead, and other contaminants will all continue to be transported to the Canal via storm water discharges, CSO overflow events, and via the other 200+ outfalls that have not yet been quantified from a contaminant of concern (COC) loading perspective.[14] Given these other ongoing sources from CSO discharges and various other undefined upland discharges, the

[14]PAHs in particular have a multitude of origins that will be carried via storm and sanitary discharges to the Canal including roadway runoff, rooftop drainages, and overland flow from paved surfaces. It has been extensively documented (Menzie 2002) that roadway runoff contains PAHs originating from crankcase motor oils, asphalt particulates, abraded tire particulates, and combustion fallout (e.g. diesel soot). These ubiquitous urban sources of PAHs along with roofing tar PAH sources have chemical forensic fingerprint signatures (pyrogenic) that are similar to other sources of PAHs related to tar that would be isolated beneath the proposed cap (Boehm 2006, Yang 2010, Valle 2007, and Yunker 2002).

concept of a "clean surface" in the Canal is not likely to persist for very long following implementation of the sediment remedy.

Further, the DEP has stated that as part of its LTCP for the Canal, it intends to implement a high-level sewer separation for some of the largest CSO outfalls on the Canal. The intent is to further reduce future sanitary discharges, but with that comes the unintended consequence of bringing roadway runoff contaminants directly into the Canal. This runoff also contains significant loads of COCs, and thus likely will increase the likelihood that the sediment remedy will fail to meet the PRGs due to recontamination.

(6) Background Reference Conditions are Not Currently Defined

The PRAP states that background concentrations of COCs in the Canal, "after all of the major canal-related sources of contamination have been reduced or controlled is likely to be at the upper end of the range of reference concentrations in the Upper New York Bay sediments, i.e., 14 mg/kg PAHs, because of ongoing contributions from uncontrolled surface water runoff and storm water discharges" [EPA 2012b]. The basis for this statement is that,

> [t]he canal . . . is a water body contained in a constructed confined space of relatively regular geometry and shallow depth. Its only natural surface water inputs are from the New York Harbor through tidal exchanges from the south end of the canal and through Flushing Tunnel flow at the northern end. Deposition of solids in the canal from these two main sources and small amounts of exposed soil, historic fill, and rooftop and surface drainage would constitute the background level (i.e. regional) level of contamination[.]

This characterization of the Canal, although accurate, does not fully acknowledge that the post-remedy environment of the Canal will continue to concentrate and receive storm water and overland flow discharges from the heavily urbanized and industrialized properties and uses that surround the Canal and that the high-level sewer separation will in fact increase roadway runoff into the Canal. In addition, the CSO controls that will be implemented likely will not completely stop ongoing discharges of raw sewage into the Canal, and the residual amount that cannot be controlled must be factored into any assessment of future background conditions. Lastly, the conclusion that background levels would be reflective of the reference concentrations in Upper New York Bay sediments (14 mg/kg PAHs) is not accurate. There is no physical mechanism that would account for the Upper Bay sediments to have similar background concentrations to the future sediments in the confined Gowanus that will continue to receive discharges from the surrounding industrial areas.

(7) Selection of Appropriate Performance Measures and Monitoring Programs

Given the containment type remedy using a combination of cap and cutoff measures proposed in the PRAP, ecological risk will primarily be reduced by minimizing migration of COCs through the cap into the surface sediments where the benthic community will re-establish itself. However, as discussed above, the ongoing source discharges to the top of the "clean surface" cap will make it difficult to determine whether the constructed remedy is effective at

achieving this objective. Therefore, effective performance monitoring must be able to differentiate contaminants that are migrating through the cap and / or associated sidewall containment systems, from the contaminants being discharged on top of the cap from ongoing sources.

The PRAP makes reference to chemical analyses of PAHs to evaluate the origins of the PAHs that will find their way atop the cap, post-remedy. Presumably, the intent is to distinguish petrogenic (petroleum related) PAHs from pyrogenic PAHs, such as MGP tars. However, there are many current-day sources of pyrogenic PAHs that will continue to be discharged to the Canal (crank-case oils, combustion particulate fallout, boiler exhaust soots, roofing tars, road sealants, etc.) making the sources of PAHs from ongoing storm and CSO discharge difficult to distinguish from sources of legacy PAHs that may migrate up through the cap.

Therefore, until such time as the ongoing discharges from CSOs, storm water outfalls, roadway, parking lot, and roof drain runoff are controlled, National Grid believes that the performance standards proposed in the PRAP cannot differentiate between performance of the remedy and ongoing source loading to the Canal.

With regard to monitoring the effectiveness of the constructed remedy both in the near-term (prior to comprehensive source controls in place) and in the long-term (after source controls are in place), an adaptive management approach is suggested to address the performance of the remedy. This means that performance standards should be developed for the monitoring of cap integrity and a separate plan should be developed for monitoring ongoing discharges to the Canal and the effect of any COC loading to the surface of the cap. To accomplish this:

- A physical cap integrity standard should be implemented by monitoring for the observation of sheen and or NAPL migration through the cap. The details of the monitoring program can be worked out in the design of the actual remedy. However, a simple approach (that has been implemented at other sediment cap sites) would be to periodically use a probe in a regular grid pattern to check for potential sheen generation through the upper armoring and sand layers of the cap.

- Depending on the specific construction of the cap, monitoring for COC migration through the cap should be specified in the cap monitoring plan. Such monitoring could be achieved through the use of probes, coring or passive sampling devices. Final selection of a cap monitoring approach should be based on the final design of the cap.

- During the design of the remedy, data also should be collected on the range and rate of discharge of various COCs and other stressors associated with ongoing CSO and storm sewer discharges. These data should be used to establish an interim baseline condition for expected background levels of COC concentrations that would provide a more realistic sense of what levels of contamination are anticipated post-remedy.

- Finally, similar to recommendations made in the PRAP, toxicity to benthic organisms in the Canal will need to be evaluated post-remedy to confirm that benthic toxicity is indeed being reduced as intended in the RAOs. The goals for this post-remedy evaluation of benthic toxicity should be twofold: First, it is important to determine whether ongoing

sources of COC recontamination of the "clean surface" will cause the remedy to fail by introducing toxic concentrations of COCs. Second, the numeric PRGs selected in the PRAP are likely to need adjustments post-remedy because they are based on current numeric relationships between sediment COC concentrations and toxicity. Because such correlations will change substantially following the generation of the "clean surface," strict adherence to the existing PRGs post-remedy cannot help determine whether RAOs are being achieved.

- During the interim period between the construction of the cap and the elimination of ongoing discharges, the cap monitoring program and the benthic toxicity evaluation should be implemented to assess the performance of the remedy.

Following implementation of the CSO and other direct discharge effluent controls, National Grid recommends that the performance standards should be re-evaluated to determine appropriate toxicity-based performance standards that would be protective of the benthic community. Under this adaptive management approach, following comprehensive source controls, a thorough evaluation of the remaining urban background toxicity to benthic organisms should be performed.

This adaptive management approach to modify the standards and monitoring programs as conditions change in the Canal is warranted for evaluating the performance of the remedy.

IV. CONCLUSION

As is common during this type of complex remediation project, there are many open questions that have yet to be answered. All of them, however, are manageable so long as the EPA works with the responsible parties to provide the additional time and flexibility to do all the required work that remains outstanding. That being said, there is one thing that is immediately critical to the ultimate success of any remedy: First, all sources must be controlled to the maximum extent practicable. National Grid is actively addressing its MGP sites along the Canal. This first and most basic principle of remediation requires that the CSOs, all other discharge pipes, and all uplands sources be identified and characterized and that a long-term plan be put in place that will finally end these sources of contamination.

To succeed, these controls must be implemented before any remedy construction work begins. The critical source control plan must be designed around control measures that have been demonstrated to be effective. To the extent interim controls are required, they too must be identified and their efficacy clearly documented. If the EPA and the City of New York determine that CSO discharges cannot be fully controlled, then we must understand the extent to which these discharges will continue as ongoing sources of contamination. The remedy must be designed to accommodate those influences and the performance standards measuring success of the remedy must realistically account for these ongoing sources. Lastly, the final depths of the Canal needs to be optimized to the ultimate operation and flow rates of the flushing tunnel to ensure both cap stability and to maximize the ability of the flushing tunnel to remove sediments and maintain acceptable DO levels.

Once source control is accomplished, sediment remediation work can go forward: In those areas requiring a bank to bank dredge, private parties who own bulkheads and who allowed them to decay must bring their property up to code; the various sediments and areas of the Canal with their differing characteristics, must all be evaluated and accounted for; and future use of the Canal must be considered and perhaps re-visited. As discussed previously, the final design of the cap will need to balance a number of competing priorities including optimal geometry to avoid sediment deposition and recontamination of the cap, operation of the flushing tunnel to avoid destruction of the benthic sand layer and t commercial navigation in the upper reaches of the Canal.

Finally, there are the "nuts and bolts." The remedy, in whatever form it eventually takes, is going to be a challenge for this community for years with, among other things, dislocation, odors, and noise. Controls for these challenges need to be worked into the final remedy. Basic construction components must also be more fully fleshed out. National Grid's experts explain that sheet pile enclosures, underwater debris removal, groundwater deflection and mounding, dredge production and throughput, treatment, and disposal all pose serious challenges that need better planning and coordination. Given the highly congested, urban environment, even things like simple physical access to the Canal and the availability of nearby land for staging and treatment still need to be evaluated carefully.

All of the issues outlined in these comments must be the subject of many good faith conversations among all of the stakeholders and parties. National Grid started the conversation long ago by cooperating with EPA and other authorities to address its upland MGPs (currently a work in progress) and to undertake informative studies. National Grid is continuing the conversation with these comments and with the expert comments that are attached. It is our hope that EPA will reply with a concerted effort to control all sources, a planning approach that allows sufficient flexibility and timing to allow National Grid and other responsible parties to continue the needed work, and with an open mind to let available experts assist in designing the remedy.

To that end, National Grid requests that EPA incorporate the following concepts into the ROD:

- The ROD should acknowledge that the operational status of the Canal will change dramatically over the next decade in ways that are not fully predictable, and allow flexibility in the design and implementation of the remedy to accommodate these changes.

- The ROD should require an assessment of navigational uses of the Canal with the aim of striking the proper balance between commercial traffic and restoration of ecological conditions. Baird & Associates believes deep draft commercial navigation creates formidable challenges to maintaining cap integrity and ecological recovery in RTAs 1, 2, and 3a.

- The ROD should allow flexibility to incorporate soft sediment capping, ISS of soft and native sediments, different types of capping in different areas of the Canal, and other similar technologies, all based on evaluations during the remedy design.

- The ROD should provide a framework and reasonable schedule for coordinating the regulatory programs responsible for upland site remediation with the CERCLA remedy proposed for the Canal to ensure that, to the maximum extent practicable, upland sources are controlled before construction begins on the remedy.

- The ROD should provide a framework and approach to mitigate and control potential contaminant discharge to the Canal of all permitted and unpermitted pipe discharges including storm sewers to avoid failure of the remedy to achieve sustainable water quality improvement.

- Since remedy success is dependent on the implementation of CSO controls, the ROD should clearly show how a reduction in volume and toxicity from the CSO discharges will be achieved. The ROD should present clear calculations on the future projected volume of contaminants entering the Canal, address the uncertainty associated with the "presumed" future scenarios, and provide estimates of contaminant loading under interim and long term sediment control measures.

- Control of all sources, including the CSOs, should be implemented to the maximum extent practicable prior to the Canal-wide remedy, to prevent recontamination of the "clean surface."

- The ROD should acknowledge the use of modeling – both hydrodynamic and groundwater – during the design to optimize the remedy based on variations in different segments of the Canal and flow conditions after the re-start of the flushing tunnel.

- The ROD should acknowledge the chemical, structural and ecological differences in RTA 3b. The remedy for RTA 3b should be re-evaluated and less-intrusive alternative approaches including hot spot removal and monitored natural attenuation should be considered, especially given that RTA 3b represents nearly 50 percent of all sediments slated for removal in the PRAP.

- The ROD should specify that the performance of the remedy will be based on the post-remedy operation of the Canal. Post-remedy ongoing discharges of pollutants must be realistically accounted for. Performance standards for the remedy should be developed for both the remedial systems designed to control and isolate releases from historical sources, and the impacts from ongoing discharges associated with CSOs and storm sewers. Performance standards should be adapted as conditions in the Canal change.

The Gowanus Canal remedy presents an opportunity to address an age-old problem of our urban waterways. The EPA has seized this opportunity with the Gowanus PRAP and started the much needed dialogue. Now, the EPA must start the hard work that could very well shape a new direction for sediment sites. Given the significance of the Gowanus, EPA and the parties must work together to control sources, plan, and study. This work, however, must be grounded in sound science and engineering practicality and follow a common vision with stakeholders finding areas of compromise to achieve a successful result.

In addition, if all sources are able to be controlled in true working fashion, the EPA should pursue all means to make that happen and National Grid will certainly do its part. If, however, full source control is not practical, alternative means must be taken to arrive at the best solution possible. Under either scenario, the ROD must employ an adaptive management approach that will identify interim and long range controls that are realistic, allow sufficient time and flexibility to analyze the effects of such controls while at the same time planning out the rest of the remedy, and encourage equally effective and more efficient alternatives in order to optimize the remedy that is ultimately selected.

National Grid thanks the EPA for their consideration.

LIST OF ACRONYMS

AIS	Automated Identification System
ARAR	Applicable or Relevant and Appropriate Requirements
BTEX	Benzene, Toluene, Ethylbenzene, Xylene
CDF	Combined Disposal Facility
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
COC	Contaminant of Concern
CSO	Combined Sewer Overflow
CSTAG	Contaminated Sediment Technical Advisory Group
CWA	Clean Water Act
CY	Cubic yards
DEC	New York State Department of Environmental Conservation
DEP	New York City Department of Environmental Protection
DO	Dissolved oxygen
EDC	Endocrine Disrupting Compounds
EPA	United States Environmental Protection Agency
FS	Feasibility Study
GEI	GEI Consultants, Inc.
ISS	In-Situ Stabilization
IWTU	Pore Water Toxic Units
LTCP	New York City's Long Term Control Plan
mg/kg	milligram per kilogram
mg/L	milligram per Liter
MGP	Manufactured Gas Plant
NAPL	Non-Aqueous Phase Liquid
NCP	National Contingency Plan
PAH	Polycyclic Aromatic Hydrocarbons
PCBs	Polychlorinated Biphenyls
PPCPs	Pharmaceuticals and Personal Care Products
PRAP	Proposed Remedial Action Plan
PRG	Preliminary Remediation Goal
RAO	Remedial Action Objectives
RI	Remedial Investigation
ROD	Record of Decision
RTA	Remedial Target Area
SPME	Solid Phase Micro-Extraction
SVOCs	Semi-Volatile Organic Compounds
TMDL	Total Maximum Daily Load
TSS	Total Suspended Solids
VIS	Vessel Impact Study
VOCs	Volatile Organic Compounds
WWFP	Waterbody/Watershed Facility Plan

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Appendix A

List of submittals for the Gowanus Canal Administrative Record

Appendix A

List of submittals for the Gowanus Canal Administrative Record

Document Title	Date	Sent To	Sent By
Investigation Report	12/29/2009	Hank Willems NYSDEC	GEI on behalf of T. Bell National Grid
Email – Revised Scope of Work for Monitoring Well Work plan	5/18/2010	Christos Tsiamis USEPA	T. Bell National Grid
Email – Gowanus – Draft EPA Monitoring Well Work Plan FSP/QAPP/HASP Documents for Review	5/18/2010	Christos Tsiamis USEPA	T. Bell National Grid
Email – Gowanus – Draft EPA Monitoring Well Work Plan & Transmittal Letters	5/18/2010	Christos Tsiamis USEPA	T. Bell National Grid
Phase 3 Remedial Investigation Technical Approach - comment letter to USEPA	5/19/2010	Christos Tsiamis USEPA	T. Bell National Grid
Email – Monitoring Well installation Work Plan, Gowanus Canal Superfund Site	6/17/2010	Christos Tsiamis USEPA	B. Conte GEI on behalf of National Grid
Monitoring Well Installation Work Plan	6/17/2010	Christos Tsiamis USEPA	D. Terry GEI on behalf of National Grid
Email – Updated monitoring Well Installation Work Plan, Gowanus Canal Superfund Site	6/22/2010	Christos Tsiamis USEPA	B. Conte GEI on behalf of National Grid
CSO/Gowanus Canal Pathogen Sampling Scope of Work	7/8/2010	Christos Tsiamis USEPA	M. Felter GEI on behalf of National Grid
Groundwater Model Work Plan - letter	9/13/2010	Christos Tsiamis USEPA	T. Bell National Grid
Surface Sediment Sampling Plan - letter	9/13/2010	Christos Tsiamis USEPA	T. Bell National Grid
Email – Gowanus Canal electronic submittal of groundwater and soil chemistry data	10/14/2010	Christos Tsiamis USEPA	T. Bell National Grid
Email – Gowanus pharmaceutical Electronic Data Deliverables	10/21/2010	Christos Tsiamis USEPA Andrew Judd CH2MHill	J. Wargo GEI
Health and Safety Plan (HASP) Gowanus Canal	11/23/2010	Christos Tsiamis USEPA	D. Terry GEI on behalf of National Grid
Monitoring Well Installation and Sampling Report	11/23/2010	Christos Tsiamis USEPA	D. Terry and M. Felter GEI on behalf of National Grid
Email – signature page Gowanus Canal HASP	11/24/2010	Christos Tsiamis USEPA	M. Felter GEI on behalf of National Grid
Email – Surface water and sediment sampling location map and Sampling Schedule	1/10/2011	Christos Tsiamis USEPA	M. Felter GEI on behalf of National Grid

Appendix A

List of submittals for the Gowanus Canal Administrative Record

Document Title	Date	Sent To	Sent By
Baird Modeling Report	4/10/2011	Christos Tsiamis USEPA	W.F. Baird & Associates
CSO/Gowanus Canal Sampling and Screening-Level Risk Assessment Report - letter	4/28/2011	Christos Tsiamis USEPA	D. Terry and M. Felter GEI on behalf of National Grid
Concept for Combined Dredging/Capping Remedy Memo	7/25/2011	Christos Tsiamis USEPA	M. Palermo - Palermo Consulting
Memorandum: Revisions to the Gowanus Canal Superfund Site Surface Water and Sediment Sampling Schedule and QAPP Revision 2	8/11/2011	Christos Tsiamis USEPA Andrew Judd CH2MHill	D. Terry GEI on behalf of National Grid
Flow, Sediment Transport and Groundwater Modeling During the Remedial Design Process	09/11	USEPA	W.F. Baird & Associates
Email – access to Gowanus Canal Property GIS Database	9/16/2011	Christos Tsiamis, Brian Carr USEAP	D. Terry GEI on behalf of National Grid
Gowanus Canal Superfund Site Numerical Surface Water Modeling	10/4/2011	Christos Tsiamis USEPA	Prepared by W.F. Baird; transmitted by GEI on behalf of National Grid
Gowanus Canal Superfund Site - letter	10/4/2011	Christos Tsiamis USEPA	T. Bell National Grid
December 2010 Bathymetry Data - letter	10/19/2011	Christos Tsiamis USEPA	D. Terry and M. Felter on behalf of National Grid
CSTAG Review - letter	10/20/2011	Christos Tsiamis USEPA	C. Willard - National Grid
Sediment and Surface Water Sampling Winter Summary Report	10/28/2011	Christos Tsiamis USEPA	M. Felter GEI on behalf of National Grid
Gowanus Canal RI/FS Process Presentation to EPA CSTAG	11/3/2011	USEPA	National Grid
Groundwater Model Report	12/22/2011	Christos Tsiamis USEPA	D. Terry and M. Felter on behalf of National Grid
National Grid - NYCDEP CSO Flow and Sediment Data Request	4/20/2012	Christos Tsiamis USEPA	T. Bell National Grid
CSO Sediment Lines of Evidence	4/21/2012	Christos Tsiamis USEPA	T. Bell National Grid
Gowanus Canal - Letter	4/24/2012	Walter Mugdan USEPA	R. Teetz National Grid
Geotechnical Investigation Work Plan for Cap Design	4/24/2012	Walter Mugdan USEPA	R. Teetz National Grid
In-Situ Solidification Treatability Study Work Plan	4/24/2012	Walter Mugdan USEPA	R. Teetz National Grid
QAPP Rev 0 Gowanus Canal Superfund Site	4/24/2012	Walter Mugdan USEPA	R. Teetz National Grid

Appendix A

List of submittals for the Gowanus Canal Administrative Record

Document Title	Date	Sent To	Sent By
Geotechnical Investigation Work Plan for Dredging and Cap Design	5/9/2012	Christos Tsiamis USEPA	A. Prophete National Grid
Presentation - Gowanus Canal - PAH Discussion	5/9/2012	USEPA	GEI and Exponent
National Remedy Review Board Site Review - letter to Amy Legare	6/1/2012	Amy Legare USEPA	R. Teetz National Grid
Email – CSO investigation work plan – response to comments	6/5/2012	Christos Tsiamis USEPA	T. Bell National Grid
Email – CSO Investigation Work Plan Gowanus Canal Superfund Site	6/5/2012	Christos Tsiamis USEPA	T. Bell National Grid
Gowanus CSO Sampling QAPP Rev 0	6/6/2012	Christos Tsiamis USEPA	M. Felter GEI on behalf of National Grid
Email – Sed Flume Results (Appendix A of pending Baird Hydrodynamic model report)	6/7/2012	Christos Tsiamis USEPA	T. Bell National Grid
List of Data Requests from National Grid to NYCDEP	6/22/2012	Christos Tsiamis USEPA	T. Bell National Grid
NYSDEC comments to National Remedy Review Board Site Review - letter to Amy Legare	6/28/2012	Amy Legare USEPA	R. Teetz National Grid
Sediment and Surface Water Sampling Summer Summary Report	7/25/2012	Christos Tsiamis USEPA	M. Felter GEI on behalf of National Grid
Gowanus CSO Sampling QAPP Rev 1	7/5/2012	Christos Tsiamis USEPA	M. Felter GEI on behalf of National Grid
Information request letter to Walter Mugdan	7/6/2012	Walter Mugdan USEPA	R. Teetz National Grid
Revised CSO Investigation Work Plan	9/10/2012	Christos Tsiamis USEPA	V. Spada Woodard & Curran
Email – response to comments on additional data collection for Hydrodynamic Model	10/19/2012	Christos Tsiamis USEPA	T. Bell National Grid
Gowanus Canal Numerical Surface Water Modeling Phase 1 Report	10/22/2012	Christos Tsiamis USEPA	Prepared by W.F. Baird; transmitted by T. Bell National Grid
Email – Additional data collection for hydrodynamic model	11/2/2012	Christos Tsiamis USEPA	T. Bell National Grid
Email – two technical memoranda from Baird and Mutch Associates responding to the Louis Berger Group's presentations to EPA regarding origin of sediments in the Gowanus Canal	11/7/2012	Christos Tsiamis USEPA	D. Terry GEI on behalf of T. Bell National Grid
Baird Vessel Impact Study	12/14/2012	Christos Tsiamis USEPA	T. Bell National Grid
Gowanus Spring Sediment and Surface Water Sampling Summary Report	12/21/2012	Christos Tsiamis USEPA	K. Bradley GEI on behalf of National Grid

Appendix B

Draft Comments on Gowanus PRAP and Geotechnical Investigation of Gowanus Canal Sediments: NAPL Expression, prepared for National Grid, by Dr. Danny Reible.

Correspondence

Danny Reible
10300 Indigo Broom Loop
Austin, TX 78733

Date: April 23, 2013

Re: **Gowanus Canal Superfund Site Proposed Remedial Action Plan**

I submit the following comments on the United States Environmental Protection Agency (EPA) Proposed Remedial Action Plan (PRAP) for the Gowanus Canal.

I am a Board Certified Environmental Engineer with a Bachelor of Science in Chemical Engineering from Lamar University, and a Master of Science and Doctorate in Chemical Engineering from the California Institute of Technology. I am a Fellow of the American Institute of Chemical Engineers and the American Association for the Advancement of Science. In 2005, I was elected to the National Academy of Engineering for "the development of widely used means of managing contaminated sediments"

I am the Bettie Margaret Smith Chair of Environmental Health Engineering in the Department of Civil, Architectural and Environmental Engineering and Director of the Center for Research in Water Resources at the University of Texas.

I have coauthored four National Research Council committee reports on risk assessment and remediation of contaminated sites and have written two textbooks, Fundamentals of Environmental Engineering and Diffusion Models of Environmental Transport, and edited four other texts including one focused specifically on the management of contaminated sediments. I have published more than 150 journal papers and chapters in books.

Within the area of contaminated sediments I am most recognized for my work on the design and assessment of sediment capping alternatives.

I have reviewed the PRAP and agree with my colleague, Dr. Michael Palermo, that more study and work remains to be done before a final alternative is selected. Based on my experience, capping options exist (i.e., capping soft sediment) that have not been adequately considered by the EPA.

(1) Alternatives were ruled out prematurely

Although the PRAP proposes seven alternative remedial plans, only two, alternatives five and seven, were retained. Alternatives two and three involved partial sediment removal and a conventional cap (alternative two) or a treatment layer with a conventional cap (alternative three). Alternatives four and six involved dredging of the entire soft sediment column and conventional capping (alternative four) or stabilization (alternative six). Alternatives two and three were rejected

because of concerns about the technical challenges of capping over low strength sediments, and possible destabilization of non-aqueous phase liquid (NAPL). Alternatives four and six were rejected because they did not include a treatment layer.

I believe these alternatives were screened out prematurely. Capping is the primary means of achieving remediation of the Canal, but the specific form of capping that is most appropriate and effective is not yet clear based on the currently available site data. Accordingly, those options that have been screened out should not have been. For example, in portions of the Canal it is likely that even alternative two (conventional capping) will be effective. It is also unclear if any of the remedial alternatives that focused solely on the sediment will achieve the desired risk reduction in the Canal. Passive or active management of groundwater contamination may be required to achieve a lasting sediment remedy. More site-specific information needs to be obtained and more analysis needs to be performed before creating and selecting among the various alternatives.

Lastly, to the extent the PRAP cities my own work (Reible, 2005) as a basis for screening out alternatives, I respectfully submit that my work suggests only that the alternatives that were screened out might require additional assessment and/or modified construction methods for successful implementation.

Although the PRAP is correct that the low bearing capacity of soft, fine-grained sediment with high water content makes capping difficult, it by no means makes it impossible. The soft sediments in the Gowanus Canal that we have examined often contain significant quantities of sand and exhibit water contents of less than 50% (total sample basis). This does not suggest that the sediments are particularly soft and unlikely to be successfully capped. Caps have been placed on sediments with essentially no sand content and far higher moisture contents. Conventional techniques (bucket placement) were used on soft sediments in the Anacostia River (Reible, Lampert et al. 2006). Slurry placement has also been used at a number of sites where soft sediments were of concern (e.g. Silver Lake, Massachusetts; Soda Lake, Wyoming; Roxana Marsh, Indiana; Onondaga Lake, New York). Special techniques have also been adapted for sediments that have had no measurable shear stress or bearing capacity. Low density material and placement using minimum disturbance approaches were used in Welch Creek in North Carolina over exceedingly soft and weak contaminated sediments.

To the extent there is concern that capping the soft sediment could destabilize NAPL present in the sediment, such concern is over-emphasized. Past experience at a variety of contaminated sediment sites suggests that NAPL has often weathered prior to remedial evaluation such that it is largely immobile due to loss of more mobile, lower viscosity constituents as well as loss of any NAPL greater than residual saturations. "Could destabilize" is not “will destabilize" and NAPL mobility and expression as a result of capping should have been assessed.

To the extent that alternatives two, four, and six were rejected because “an armored sand cap is not sufficient to control the long-term flux of NAPL and dissolved-phase contaminants,” alternative six includes stabilization of the top three to five feet of native sediment. Such treatment has the potential to eliminate long-term flux of NAPL and substantially reduce the flux of dissolved-

phase contaminants. Furthermore, I am unaware of any definitive analysis that suggests that such a cap would not work in at least portions of the Gowanus Canal. To the contrary, in the Pine Street Canal (Burlington, Vermont) a sand cap was placed over very soft NAPL contaminated sludges and with the exception of a single location where the sludges were the weakest and thickest, the cap has been effective. As an added precaution, organophilic clay was added to contain the NAPL where the sand cap was not effective. At the Gowanus Canal, it is certainly possible, if not likely, that an armored sand cap may be effective over at least portions of the Canal and that amendments to manage NAPL or dissolved contaminant flux may be needed only in portions of the Canal. This was apparently not quantitatively assessed prior to the screening out of such remedies from the Canal. A proper evaluation of NAPL mobility via in situ and laboratory testing in conjunction with groundwater modeling will be required to make informed decisions on cap components.

(2) Cap integrity

Ensuring cap integrity is a key component of cap design and construction. Without detailed assessment of the potential risks of cap failure and the resulting contaminant exposure, it is difficult to evaluate the different alternatives. Again, the decision to rule out alternatives appears to have been made prematurely without assessment of the variations in effects along the length of the Canal of reactivation of the flushing tunnel, combined sewer overflows, and continued navigation in the Canal. Stormwater flows may cause sediment resuspension and the contaminant loads associated with such flows may lead to substantial recontamination of sediments. Current commercial navigation in portions of the Canal likely cause substantial sediment and contaminant resuspension. It is unclear if continued commercial navigation in the upper 2/3 of the Canal is consistent with long-term sediment remedial goals under any of the PRAP alternatives. The flushing tunnel will also likely necessitate substantive differences in remedial design in the upper reaches of the Canal compared to the rest of the Canal.

(3) Required studies and work

The following data collection approaches, which are well known and have become standard since 1998 when they were outlined in the EPA Capping Guidance (Palermo, Maynord et al. 1998), are critical to selection, design, and implementation of any capping remedy, and should be followed here:

(a) Identify the remedial objective. The Canal faces multiple inputs including uncontrolled groundwater, combined sewer overflows, stormwater, and releases from sediment. Moreover, current plans for the Canal include reactivation of the flushing tunnel and continued navigation that could lead to erosion and thus undermine the remedy. Evaluation of the hydrodynamics of the Canal under future use and operating scenarios (e.g. flushing tunnel and commercial navigation) is needed to effectively address these questions.

(b) Identify the geotechnical characteristics of the sediment layer to be capped. The degree to which the soft sediments can form a foundation for a cap, the ability to stabilize and solidify these sediments in-place, and their stability under flushing tunnel and commercial navigation operations, is

unknown. Variation in these properties over the length of the Canal and how that variation might affect remedial designs is also unknown. Among the testing required to address these questions are geotechnical testing (strength, consolidation, NAPL and contaminant expression) (Erten, Gilbert et al. 2011) over the length of the Canal and solidification testing of particular Canal sediments for strength and contaminant control.

(c) Identify contaminant physical characteristics, concentrations, and fluxes. Although sampling to date has identified contaminant concentrations in sediments and confirmed the presence of NAPL, additional testing is needed to evaluate mobile phases (dissolved or NAPL), mobile phase concentration (porewater or mobile NAPL concentration), and fluxes (groundwater and contaminant fluxes). Since the phase of concern and fluxes are expected to vary widely over the length of the Canal and with depth into the sediments, characterization is critical at those portions of the Canal and at depth horizons that might contribute to surface fluxes after partial implementation of a remedy. Until studied and known, these issues pose significant uncertainties for cap design and could ultimately determine whether sediment remediation in any form should be pursued,

(d) Identify potential capping materials and their characteristics, including any amendments that might be necessary to effectively contain contaminants. The characteristics of a cap (stability, chemical containment) are a strong function of the available capping materials. The need for any amendment material to enhance performance of a cap also depends upon the foundation cap materials and their characteristics. Lastly, the performance of many specific cap amendments, including organophilic clay for NAPL containment and carbon (manufactured or natural carbons) for dissolved contaminant mitigation are strongly site dependent and require site specific testing to evaluate their expected performance and feasibility.

(e) Design cap thickness and composition. The information outlined above will help inform a cap design. The selection of cap materials and conceptual design, however, also require modeling of consolidation and NAPL expression during cap loading and modeling of chemical migration through specific cap compositions to identify potentially effective caps and their viability in the Canal. Key questions that remain are whether a cap can be effective in the environment of the Canal or whether any sediment remedy may achieve remedial goals given ongoing sources and the potential for recontamination.

(f) Evaluate potential erosive forces that might impact a cap and the resulting impacts on cap design. A critical component of the design of a cap in the Gowanus Canal is the integration into future uses and operation of the Canal. The ability to cap the Canal is dependent upon the erosive forces generated by future commercial navigation and the operation of the flushing tunnel and is a strong function of water depth. It is far from clear that the proposed sediment remedy can work in conjunction with the current plans for the flushing tunnel and continued navigation. The evaluation of future use and operating scenarios must be coupled with analysis of potential cap designs.

(g) Evaluate appropriate equipment and placement techniques. The Canal currently poses significant logistical challenges to a large-scale sediment remedial project. All of the challenges

identified, such as access, open space for staging, and clearances and space for work, will also make it difficult to cap as desired.

(h) Iterate as necessary to finalize the design. It is to be expected that the analysis outlined above, will result in design requirements that are incompatible with the proposed plan, and thus iteration will be required, which will require more analysis, and which will require more time.

(i) Implement the design. Regardless of repeated iteration and analysis, significant uncertainties will remain that can only be managed during implementation so long as flexibility and adaptive management are allowed.

(j) Monitor performance and apply adaptive management as necessary to achieve remedial goals. Given the uncertain status and effects of components like control of ongoing sources, reactivation of the flushing tunnel, and future navigation within the Canal, adaptive management becomes even more critical to evaluate cap performance. In general, the focus should be on measures of available and mobile contaminants rather than bulk solids, which is not particularly useful to address cap performance (e.g .Lampert, Lu et al. 2013).

Conclusions

My review of the PRAP and my knowledge and experience with contaminated sediment management suggests the following

- The PRAP prematurely rejects capping upon soft sediments and sediments containing NAPL, and arbitrarily removes from consideration alternatives that involve capping directly on soft sediments or after partial dredging of the soft sediments.
- The PRAP focuses on the sediments rather than on potential sources of recontamination such as combined sewer overflows, stormwater, groundwater, and sediment resuspension due to commercial navigation and the flushing tunnel. Failure to consider these effects may limit the ultimate success of any remedial alternative. The PRAP does not recognize the critical importance of groundwater on long-term effectiveness of any sediment remedy and the need to integrate groundwater management with in-Canal remedies.
- The PRAP does not recognize that there exists a variety of different conditions within the Canal that may encourage selection of one or more of the alternatives screened out.
- Further assessment and evaluation is required before I could recommend any particular remedial approach and have any confidence in its appropriateness and effectiveness.

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Erten, M. B., R. B. Gilbert, C. S. El Mohtar and D. D. Reible (2011). "Development of a laboratory procedure to evaluate the consolidation potential of soft contaminated sediments." ASTM geotechnical testing journal 34(5): 467-475.

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Danny Reible, PhD, PE, BCEE, NAE

April 1, 2013

From: Danny D. Reible, Chadi El Mohtar, Mintae Kim, Alexandre Martinez

To: GEI Consultants, Inc.
400 Unicorn Park Drive
Woburn, MA 01801

Re: **Geotechnical Investigation of Gowanus Canal Sediments: NAPL Expression**

Summary

Selected sediments samples from the Gowanus Canal were subjected to geotechnical testing for potential NAPL expression. The testing followed the methodology of Erten et al. (2011)[1]. The samples were selected on the basis of measurable NAPL content (based upon PID readings from sonic cores in the same interval) and location near the interface of the "soft" and "native" sediments in the Canal. The sediments that may be exposed after dredging and that will require capping to contain sediment contaminants. The purpose of the testing was to determine the potential for NAPL expression.

Of the three samples, two samples were fine-grained material containing 9-15% hexane extractible material (HEM, EPA Method 9071B) divided by total sample weight) or 20-32% HEM per dry solids, and one was more sandy material containing approximately 3% HEM (total basis), 4% HEM (dry solids basis). HEM is used here as a surrogate for NAPL content although HEM may overpredict NAPL content if there is significant extractible organic material in the samples. All samples were subjected to loadings equivalent to up to 10 feet of sand in five stages. No samples released meaningful quantities of NAPL as a result of this loading. One sample with a higher content of NAPL did release a non-measurable trace quantity of NAPL during loading. Significantly, no substantial NAPL was expressed even though the samples were subjected to volumetric strains (volume reduction during consolidation) of 16-18% of the fine-grained samples and 2.5-5% of the coarser samples.

This testing indicates that the methodology of Erten et al. (2011) may be used for NAPL expression testing in these sediments and that the NAPL present in the sediment samples is at a residual saturation that is unlikely to be mobilized by loading with the weight of a sediment cap. The trace amounts of NAPL expressed in one sample suggests that disturbance can release small amounts of material that could ultimately lead to sheens. Further testing is required to confirm whether these conclusions are generally applicable in the Canal.

[1] Erten, M.B., R. Gilbert, C.S. El Mohtar, D.D. Reible, Development of a laboratory procedure to evaluate the consolidation potential of soft contaminated sediments, *Geotechnical Testing Journal, 34*, 5, September (2011)

Methodology and Results

Selected sediments samples from the Gowanus Canal were subjected to geotechnical testing for potential NAPL expression. The testing followed the methodology of Erten et al. (2011)[1] which is designed to evaluate the potential for NAPL expression under loadings typical of placement of a sediment cap. Three samples were taken and designated:

- GC-B-002
- GC-B-004
- GC-B-005

These samples were selected based on testing of samples with tar impacts or elevated PID readings in sonic cores over the same tube sample interval and location near the interface of accumulated "soft" sediments and alluvial/sand "native" deposits.

Three eight-inch-long sections were cut from the bottom of each sample core and tested at the University of Texas at Austin. Four triaxial consolidation tests were performed on samples obtained from the three Shelby tubes. Iit should be noted that the tubes were subjected to some disturbance during shipping as a result of shipping while horizontal. As a result, the samples were likely to be less consolidated and the NAPL more mobile than in undisturbed cores.

Characterization of the samples included

- Density and estimated mass of dry solids based on NAPL and Water content
- NAPL, mobile organic contaminant content- Measured via EPA 9071B, Hexane Extractible Material
- Water Content- Measured by drying overnight at 105 C

Measurements were conducted on pre-consolidated samples as well as at the top, middle and bottom of consolidated cores. All measurements were conducted in triplicate although occasional samples were lost or invalidated.

Typically a Ko consolidation test is run to simulate field conditions. In a Ko consolidation test, the vertical and horizontal principle effective stresses are not equal and the ratio between the two is chosen to insure that the specimen consolidates only vertically (no lateral strains). For the soft sediments, the vertical effective stresses are usually higher than the normal effective stresses to insure Ko conditions. With only three samples it was not possible to determine the appropriate Ko value and a value of 0.7 (horizontal to vertical effective stress) was used based on previous results on soft sediment testing. This was likely lower than optimum and one sample (GC-B-005) failed horizontally during testing. Volumetric strain and NAPL displacement can still be determined although other consolidation parameters would not be estimated accurately. These parameters were estimated as part of other geotechnical testing and so this was not considered a serious limitation for the current testing.

The samples were first removed from the tube and trimmed down to the testing diameter of two inches. Figure 1 below shows the early stages of trimming on specimen GC-B-004(p1) obtained from tube GC-B-004. Note the limited presence of contaminants in samples from this tube and the heterogeneity of their distribution. Figure 2 shows specimens GCB-004(P1) and GC-B-002 after being trimmed down to testing diameter. The specimens were then placed in a second

trimming device to cut off the top and bottom to insure they were parallel and perpendicular to the heigh of the specimen (Figure 3).

After trimming, the specimens were placed in the triaxial setup through a split mold (Figure 4a). Before the cell is assembled and testing begins (Figure 4b), bladder accumulaters were used to collect the effluent. General comments about the specimens and consolidation testing performed are as follows:

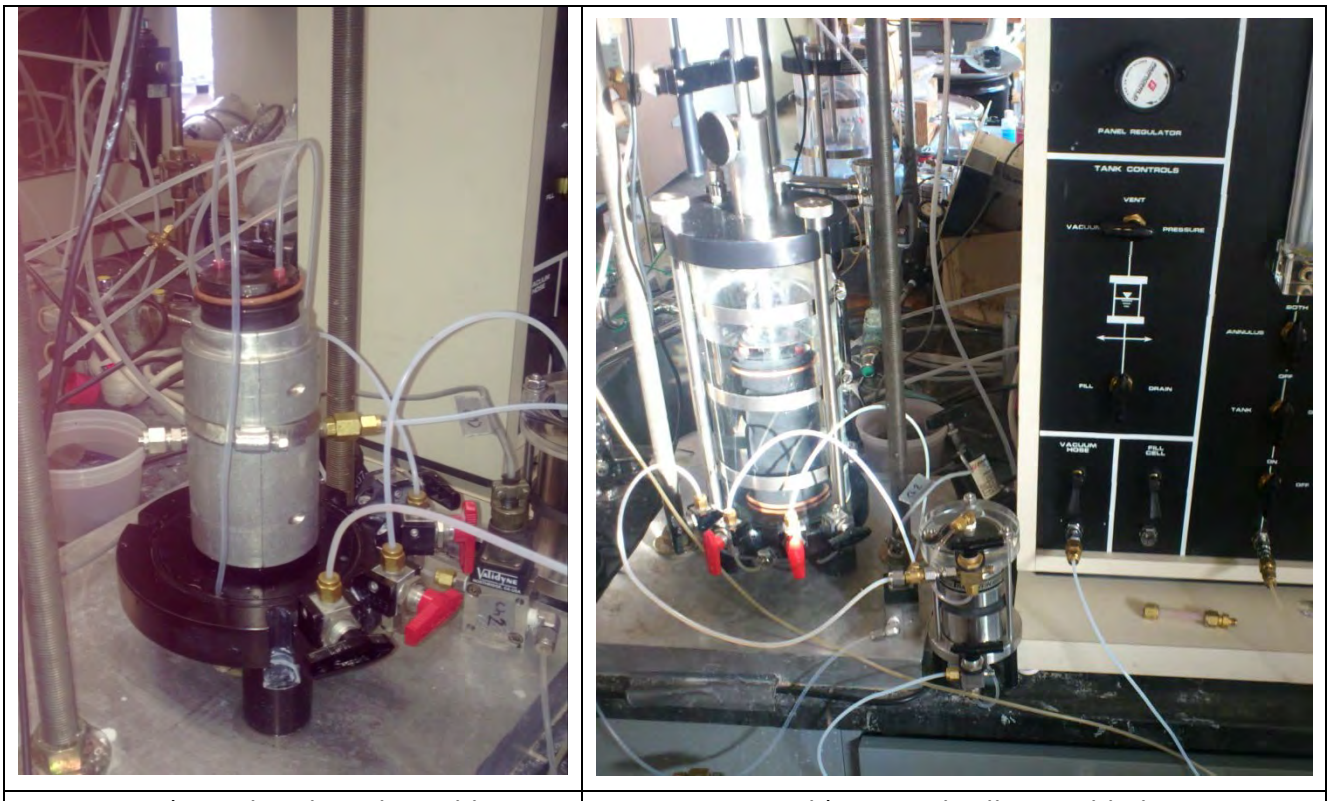
1) The samples cannot be considered undisturbed since they were not stored and shipped properly. Specimen GC-B-002 had traces of contaminents that were already expelled from the specimen due to disturbance during shipping. Since they were not undistubed, there is a higher likelihood that contaminants would be mobile.
2) Samples GC-B-002 and GC-B-005 appeared more contaminated (Figure 2b and 3). Sample GC-B-005 had more "roots" and other debris that made trimming more challenging and eventually resulted in the specimen failing during consolidation.
3) The soil in sample GC-B-004 was light brown with occasional non-uniform pockets of NAPL or other organic rich material (Figure 1). The soil was coarser than that of the other two samples, with a higher sand content.
4) Sample GC-B-002 was tested first. Due to a transducer failure, high precision consolidation information was not recorded although volume changes due to consolidation at regular intervals were recorded manually and analyzed herein.
5) With the limited number of samples, Ko could not be identified and therefore the results reported here should be used with caution as they do not reflect true Ko conditions. Additional tests are needed to determine Ko for these sediments before a true Ko consolidation can be run.

Figure 1: early stages of trimming on specimen GC-B-004(P1)

a) GC-B-004(P1)	b) GC-B-002

Figure 2: specimens trimmed to final diameter of 2”

Figure 3: trimming top and bottom of specimen GC-B-002.



a) Within the split mold | b) Triaxial cell assembled

Figure 4: specimen setup in the triaxial cell.

Consolidation was conducted in five stages as shown in Table 1, exposed sediment and then capped with the equivalent of up to 10 feet of sand in 2.5 foot stages. Water depth (to set hydrostatic pressures) was assumed to be 10 ft. Table 1 summarizes the stresses used for the testing and the equivalent field conditions.

Table 1: lab stresses and equivalent field conditions

Depth to top of specimen (ft)	Thickness of sand cap (ft)	Depth of water to top of specimen (ft)	Horizontal Effective Stress (psi)	Vertical Effective Stress (psi)	Back Pressure (psi)	Horizontal Total Stress (psi)	Vertical Total Stress (psi)
2.5	-	10	0.47	0.68	5.5	5.97	6.18
2.5	2.5	10	1.31	1.88	5.5	6.81	7.38
2.5	5.0	10	2.16	3.09	5.5	7.66	8.59
2.5	7.5	10	2.95	4.21	5.5	8.45	9.71
2.5	10.0	10	3.82	5.45	5.5	9.32	10.95

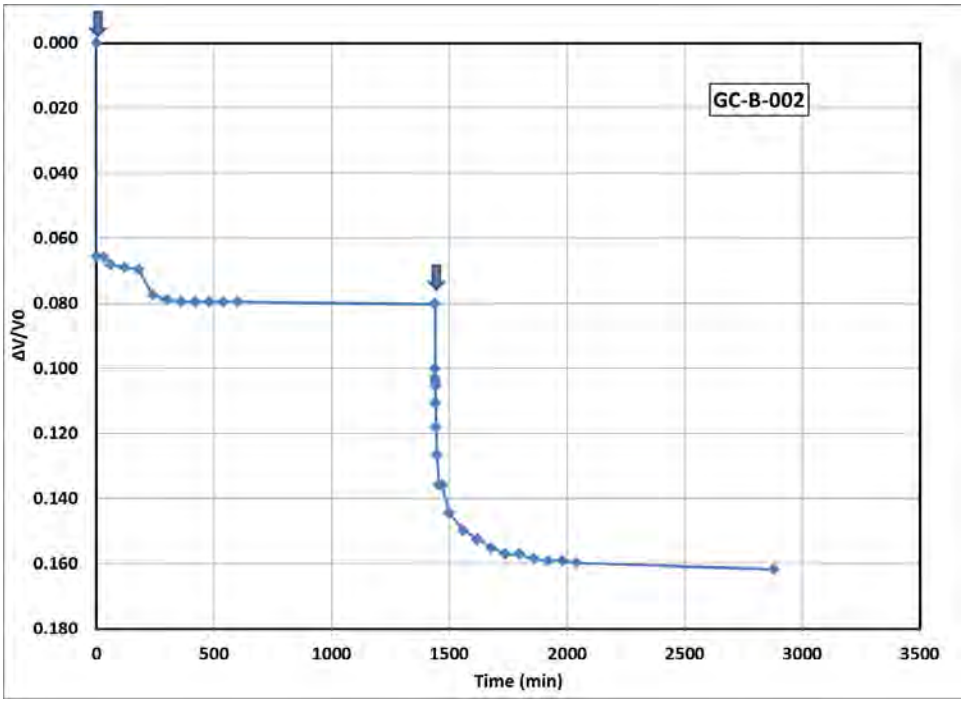
The volumetric strains versus time for each of the specimens and estimated NAPL (as measured by HEM) and water contents are shown in Figures 4-7. In each figure the placement of additional load on the sample is shown by the vertical arrows. For Sample GC-B-002, the maximum load was placed in two steps while for other samples, the load was applied in 5 steps. The fine-grained sediment samples GC-B-002 and GC-B-005 showed >20% initial NAPL contents and water contents in the 70-100% range (mass NAPL or water per mass dry solids). The coarse grained sediment sample GC-B-004-1 and GC-B-004-2 showed initial oil contents of less than 5% and a water content of 25%. There was similar variability as measured by absolute standard deviation between replicates of all samples which meant that the lower NAPL content

of sample GC-B-004 samples exhibited a relatively high relative standard deviation (+/- ~100%). Samples GC-B-002 and GC-B-005 samples showed similar absolute variability but much lower relative variability due to the higher NAPL/HEM contents. The fine grained samples consolidated approximately 16-18% with the loading of the equivalent of 10 feet of sand. The coarser sample consolidated <5%. None of the samples expressed meaningful amounts of NAPL. Trace observations of expressed NAPL however indicate that the sediments could lead to transient sheens if disturbed.

Post-consolidation sampling showed that some redistribution of NAPL and water had occurred in the samples despite negligible NAPL release. Water mobilized to the near surface and water was expressed from the top of the sediment during the consolidation process. NAPL, however, had apparently replaced water at the bottom of the sample. Samples collected post-consolidation from the top of the specimens showed elevated water contents and depleted NAPL levels (as measured by HEM) while bottom samples showed the reverse trends.

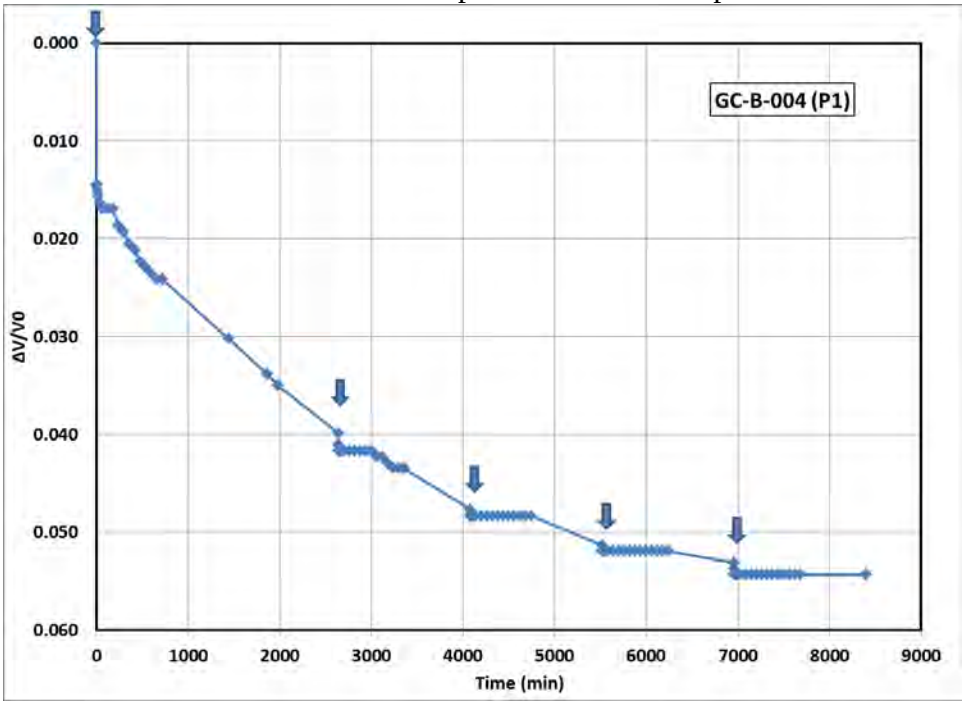
Although this testing was preliminary in nature, it suggests that the NAPL currently present in sediments in the Gowanus Canal is unlikely to be mobilized by capping. Further testing is required to confirm whether these conclusions are generally applicable in the Canal.

Figure 5: Sample GC-B-002 consolidation profile and water/NAPL content statistics pre and post consolidation. The full load of the equivalent of 10 foot of cap was placed in two steps with rapid sample consolidation immediately after application. Total sample strain was 16%. No meaningful NAPL was displaced, only water. NAPL redistributed slightly through the sample with some movement to the bottom of the sample as water was displaced.



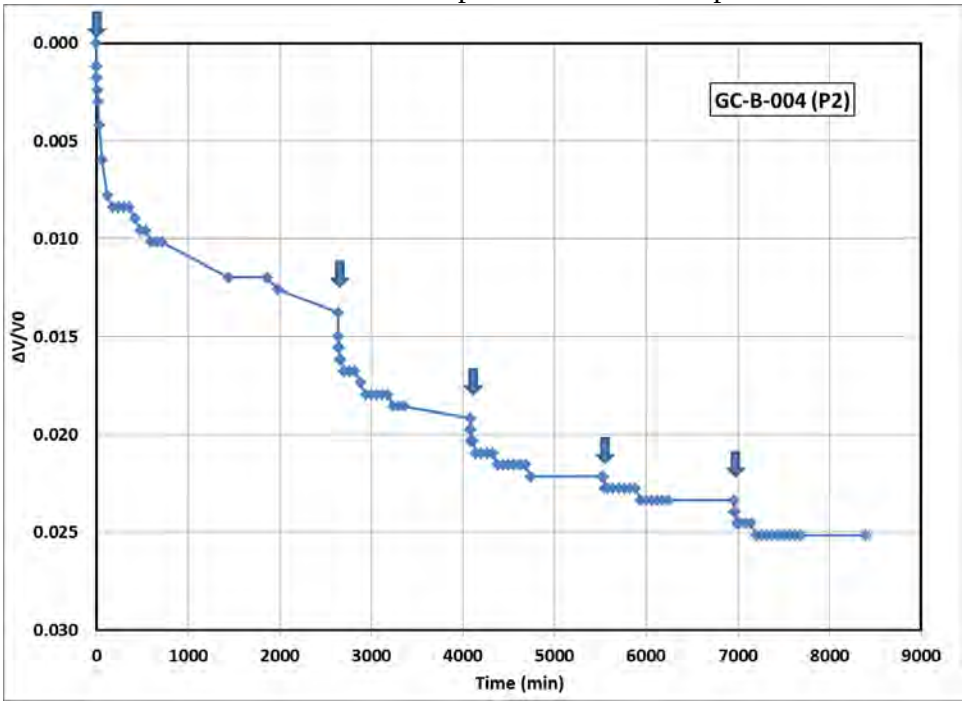
Core GC-B-002			Post Consolidation		
		Undisturbed	Bottom	Middle	Top
Density of sample	(kg/m3)wet sample	1.31	1.33	1.40	1.32
SD	+-	0.10	0.09	0.09	0.04
Water Content	g water/g sample	48.56%	37.79%	38.76%	42.27%
SD	+-	0.65%	6.97%	2.21%	1.29%
% HEM	g HEM/g sample	9.09%	13.55%	11.17%	9.61%
SD	+-	1.99%	1.91%	2.29%	0.28%
Water Content	g water/g dry solid	114.69%	77.67%	77.40%	87.86%
SD	+-	2.19%	10.05%	3.87	1.85
% HEM	g HEM/g dry solid	21.47%	27.86%	22.30%	19.97%
SD	+-	2.88%	7.48%	3.91%	1.36%

Figure 6: Sample GC-B-004-1 consolidation profile and water/NAPL content statistics pre and post consolidation. The full load of the equivalent of 10 foot of cap was placed in five steps with rapid sample consolidation immediately after application. Total sample strain was 5.5% as a result of water displacement. NAPL redistributed slightly through the sample with some movement to the bottom of the sample as water was displaced.



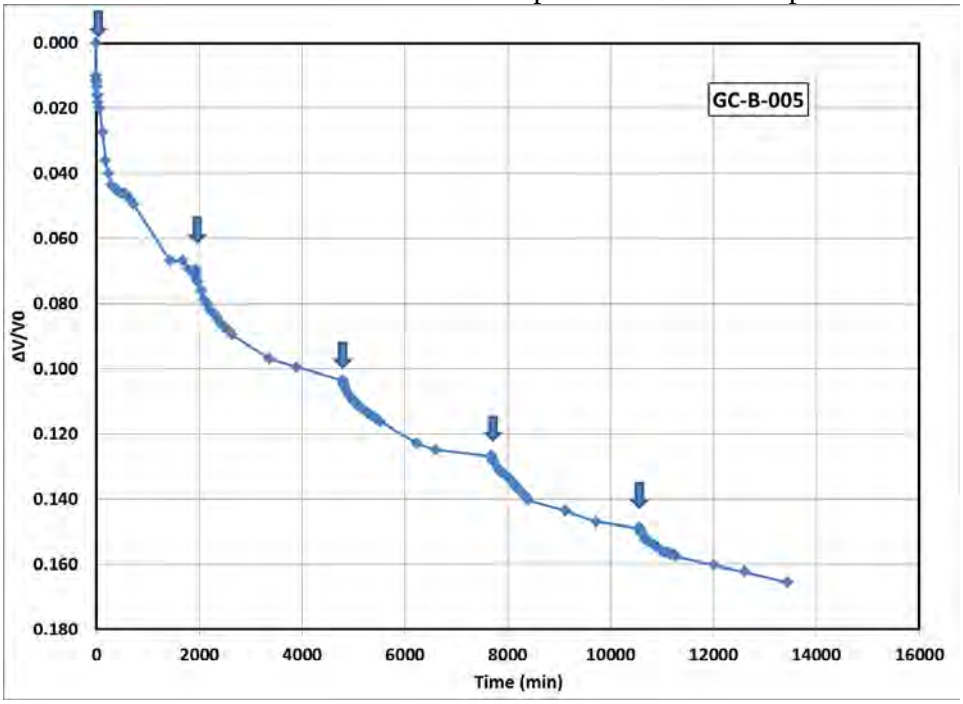
Core II : GC-B-004			Post Consolidation		
		Undisturbed	Bottom	Middle	Top
Density of sample	(kg/m3)wet sample	1.85	1.93	2.23	1.95
SD	+-	0.08	0.03	0.26	0.16
Water Content	g water/g sample	19.82%	10.13%	12.87%	13.90%
SD	+-	0.60%	0.30%	0.69%	0.27%
% HEM	g HEM/g sample	2.81%	4.96%	2.67%	1.64%
SD	+-	3.12%	3.12%	2.36%	0.04%
Water Content	g water/g dry solid	25.61%	11.93%	15.24%	16.46%
SD	+-	3.23%	3.15%	2.56%	0.39%
% HEM	g HEM/g dry solid	3.63%	5.84%	3.16%	1.94%
SD	+-	4.45%	4.42%	3.41%	0.28%

Figure 7: Sample GC-B-004-2 consolidation profile and water/NAPL content statistics pre and post consolidation. The full load of the equivalent of 10 foot of cap was placed in five steps with rapid sample consolidation immediately after application. Total sample strain was 2.5% as a result of water displacement. NAPL redistributed slightly through the sample with some movement to the bottom of the sample as water was displaced.



Core II : GC-B-004			Post Consolidation		
		Undisturbed	Bottom	Middle	Top
Density of sample	(kg/m3)wet sample	1.85	2.03	2.06	2.10
SD	+-	0.08	0.03	0.12	0.06
Water Content	g water/g sample	19.82%	17.95%	16.21%	13.71%
SD	+-	0.60%	0.54%	0.30%	0.09%
% HEM	g HEM/g sample	2.81%	5.65%	2.05%	1.70%
SD	+-	3.12%	1.79%	2.73%	0.75%
Water Content	g water/g dry solid	25.61%	23.49%	19.89%	16.21%
SD	+-	3.23%	1.95%	2.77%	0.76%
% HEM	g HEM/g dry solid	3.63%	7.40%	2.50%	2.02%
SD	+-	4.45%	2.60%	3.88%	1.07%

Figure 8: Sample GC-B-005 consolidation profile and water/NAPL content statistics pre and post consolidation. The full load of the equivalent of 10 foot of cap was placed in five steps with rapid sample consolidation immediately after application. The sample partially collapsed during the test although total sample strain was still measurable. Total sample strain was approximately 16% as a result of water displacement. NAPL redistributed slightly through the sample with some movement to the bottom of the sample as water was displaced.



Core III : GC-B-005			Post Consolidation		
		Undisturbed	Bottom	Middle	Top
Density of sample	(kg/m3)wet sample	1.50	1.18	1.36	1.31
SD	+-	0.05	0.09	0.09	0.03
Water Content	g water/g sample	37.21%	28.90%	33.66%	35.59%
SD	+-	2.74%	3.83%	0.95%	1.98%
% HEM	g HEM/g sample	15.11%*	22.40%	14.77%	15.59%
SD	+-	12.38%*	2.00%	1.79%	2.00%
Water Content	g water/g dry solid	78.08%	59.34%	65.26%	72.88%
SD	+-	12.97%	5.78%	2.24%	3.45%
% HEM	g HEM/g dry solid	31.70%	46.00%	28.63%	31.92%
SD	+-	17.72%	4.76%	2.71%	3.45%

* Pre-consolidation measurements were subject to large variations due to uneven distribution of NAPL, causing equally large variability in water content and HEM/dry solids ratio

Appendix C

Feasibility and Practicality of Dredging in the Gowanus Canal. Prepared for National Grid by Dr. Michael Palermo. April 2013.

Michael R. Palermo, PhD, PE
Mike Palermo Consulting

Feasibility and Practicality of Dredging in the Gowanus Canal

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National Grid has retained Dr. Michael R. Palermo, Mike Palermo Consulting, with expertise in environmental dredging and dredged sediment treatment and disposal, to evaluate the feasibility and practicality of environmental dredging and dredged sediment treatment and disposal as proposed in the United States Environmental Protection Agency (EPA) Proposed Remedial Action Plan (PRAP) for the Gowanus Canal.

I. Qualifications

I have been an engineer concentrating on dredging, dredged material management, and contaminated sediment remediation for almost 40 years, since 1974. I have extensive experience in both design and technical oversight of navigation dredging and contaminated sediment remediation. I have supported government agencies and responsible parties on a number of large-scale sediment remediation projects, including Hudson River (New York), Housatonic River (Massachusetts), Fox River, (Wisconsin), Onondaga Lake (New York), and Portland Harbor (Oregon).

I hold Bachelors and Masters degrees in Civil Engineering from Mississippi State University and a Ph.D. in Environmental and Water Resources Engineering from Vanderbilt University. I have served with the United States Army Corps of Engineers (the Army Corps) as a Research Civil Engineer and Director of the Center for Contaminated Sediments at the Engineer Research and Development Center at the Waterways Experiment Station, where I managed and conducted both research and applied studies for the Army Corps, the EPA, the Department of Justice, the National Oceanic and Atmospheric Administration, and the United States Navy, among others.

In addition to being a member of the Western Dredging Association (WEDA), the International Navigation Association, and the American Society of Civil Engineers, I have served as an Adjunct Professor of Engineering at Texas A&M University and Mississippi State University. I am also an Associate Editor for the WEDA Journal of Dredging Engineering and have served on numerous national and international workgroups and peer-review panels.

I have written a number of articles and guidance documents on dredging, dredged material disposal technology, and contaminated sediments remediation. I have been the lead author of Army Corps, EPA, and international guidance documents pertaining to contaminated sediments, including the Army Corps / EPA 2008 Technical Guidelines for Environmental Dredging of

Contaminated Sediments, the EPA 2005 Contaminated Sediment Remediation Guidance for Hazardous Waste Sites, and the EPA 1998 Guidance for In-Situ Subaqueous Capping of Contaminated Sediment.

II. Introduction

Dredging projects require a specific expertise, and even then, much hands-on experience. These comments are offered in a spirit of cooperation and support to provide recommendations that have been informed by my work on a number of real dredging projects and that will hopefully not just improve the PRAP, but also lead to a workable and successful remedy for the Gowanus Canal.

EPA has completed a Remedial Investigation (RI) and a Feasibility Study (FS) and I have reviewed both, along with numerous other documents, as part of this evaluation. Although my evaluation focuses on dredging, dredged sediment treatment and disposal, and post-dredging cap design and implementation, other components of the PRAP are also considered because they relate to dredging. Compatibility of dredging, in-situ stabilization, capping, and sediment treatment and disposal are extremely important and must be evaluated in order to design any remedy.

The RI identified two major sediment layers in the Canal: A surficial layer of "soft" sediments which have accumulated since the Canal and bulkheads were constructed, and an underlying layer of "native" sediment which dates back to the time when the Canal was in its natural state. Both layers are contaminated, but NAPL impacts are more severe in the native sediment, presenting challenges with respect to dredging in this layer. Further, exposing the native sediment will make it harder for the post-dredging cap to be effective. The two-layer stratigraphy in the Canal therefore plays an important role in defining dredging elevations and has significant effect upon the scale and complexity of the dredging remedy put forward in the PRAP.

The RI also identified three Remediation Target Areas (RTAs) corresponding to the upper (RTA 1), middle (RTA 2), and lower (RTA 3) reaches of the Canal. Conditions and sediment characteristics unique to each RTA have bearing upon how dredging may differ in each RTA. In other words, the one remedy outlined in the PRAP does not necessarily fit all three areas. This then adds yet another dimension to the Canal that must be evaluated.

The FS set forth seven remedial alternatives, ranging from "No Action" to active remediation with dredging the soft and native sediment layers, followed by capping. Only two alternatives were evaluated in detail: Alternative 5 which calls for complete dredging of the soft sediment layer, followed by capping; and Alternative 7 which calls for complete dredging of the soft layer, followed by in situ stabilization (ISS) of the surficial native sediment layer in areas of active NAPL migration, followed by capping.

The PRAP follows closely the findings described in the FS. The PRAP calls for application of Alternative 5 to RTA 3 and application of Alternative 7 to RTA 1 and RTA 2. The PRAP, however, neither builds upon nor explains the descriptions of Alternatives 5 and 7 beyond the

limited information presented in Table 4-4 of the FS (for purposes of this memo, the PRAP is assumed to incorporate the concepts provided in Table 4-4).

The comments that follow focus primarily on the steps needed to get from the PRAP to an implementable remedy. Based on my experience, I submit there is still much study and work to be done during the design phase. The Record of Decision for the Canal must provide flexibility to incorporate the results of these important studies and to allow time to shape new plans and work into the ultimate remedy. Based on my experience as well as my work with Dr. Danny Reible, who has also reviewed the PRAP and is commenting on it, I believe that capping soft sediments in select areas of the Canal should not be discounted, but rather should be evaluated during the design process.

III. The ROD Should Include Flexibility and a Realistic Timeline

The PRAP calls for application of remedy components in a very specific manner with little appearance of flexibility. In my experience, flexibility, within the bounds of meeting remediation goals, is essential to address complex sites like the Gowanus Canal. There are numerous components to even the simplest environmental dredging project that require extensive advance study and planning. I have found that as each dredging projects unfolds, unforeseen conditions and events arise that not only create delay, but may mandate overhaul of the entire project. The PRAP appears to make no accounting for this reality. To the contrary, significant components of the PRAP appear to have been based on limited, if any, information and evaluations. As a result, critical issues like the need for some components of the PRAP, the effectiveness of certain proposed actions, the potential negative impacts of other proposed actions, and the ability to implement the proposed plan all remain unknown to a large degree.

With the need for flexibility comes the need for sufficient time, especially with the type of involved dredge and cap remedy called for in the PRAP. The PRAP targets five years for project completion, but offers few details on the sequencing, coordination, and production rates, to name a few of the things required to meet this goal. By way of example, production rates must be calculated at the conceptual level based on conservative assumptions for operating production rates and operational and quality of life constraints. During remedial design, these rates will be refined as the unique constraints presented by the Canal geometry and the requirements for compatibility with transport, re-handling, and disposal become known. Likewise, the type, size and availability of treatment and staging areas will impact the time-line.

In short, based on my experience with these types of dredging projects, and given the need for advance thinking, planning, and coordination, as well as the unforeseen conditions, delays, and setbacks that are always inevitable, setting a target time as the PRAP does, is not prudent. It will only lead to disappointment and, worse, resentment. The ROD should omit the five year target and wait until a more realistic time frame can be set depending upon the outcome of the remedial design efforts.

IV. Capping Soft Sediments Should be Evaluated

Much of the proposed plan appears to have been shaped by the notion that soft sediment cannot support a cap. Apart from the fact that removal of all soft sediments — a mass removal

approach — and removal of more sediment "in case of cap failure" are wholly inconsistent with EPA guidance, there is no evidence in the PRAP that supports this notion.

The "golden rule" of capping is to place the cap in thin layers over large areas, gradually building up thickness. If this rule is followed, a cap can be constructed on the Canal soft sediment layer. At Gowanus, the soft sediment layer contains a significant fraction of sand size particles, while the solids content averages 51% by weight, a value higher than the average for many contaminated sediment sites. Plasticity is also low. Also, the cap can be designed more easily if founded on the soft sediment where NAPL migration will not easily occur. The higher PAH concentrations and NAPL with depth strongly favor a combined remedy approach with limited sediment removal followed by engineered capping. This approach will also reduce contaminant releases during implementation and increase long term effectiveness.

Shear strength (the strength of the sediments to resist a bearing or sliding failure) also plays a role in supporting a cap over the soft sediment. Shear strength increases as you move down deeper into a sediment column. This is so because the pressure of the sediment column increases as you move down, thus consolidating (compacting and compressing) the deeper sediment. Under such circumstances, dredging of even a few feet of the soft sediment in the Canal will leave a surface with a higher shear strength than the original soft sediment surface. This new and stronger "pre-consolidated" soft sediment surface may very well support a cap. However, much geotechnical evaluation coupled with time and flexibility to review and digest evaluation data will be necessary to establish whether or not this will be the case.

The geometry of the Canal also lends itself to capping the soft sediment. Mud waves, which are a risk with any soft sediment occur when sediment squeezes out laterally as the cap is placed. This leads to an uneven surface, which makes capping much more complicated and less effective. The Canal bulkheads (and bulkhead reinforcements) provide lateral containment for cap placement, reducing the potential for mud waves. Placing the cap in thin layers across the full width of the Canal to build up the cap will reduce the risk of mud waves. And, the geometry of the Canal is suited for placement of geotextiles, if needed, for increasing the strength of the sediments to support a cap.

Finally and perhaps most important, the EPA's misguided notion that soft sediment cannot be capped is contradicted by the fact that caps have been placed successfully on soft sediment at a number of sites:

- Soda Lake (Wyoming) - Capping materials were mixed with water to form a slurry which was pumped through four inch pipe to a spreader barge, where it was distributed using an eight foot wide diffuser box. The pipeline discharge entered the diffuser box in a way that sprayed the slurry upward against a baffled surface. This surface distributed the slurry in a lateral fashion less than one foot above the water column and promoted uniform distribution. In shallower areas, the cap was placed using an aerial disbursement method.

•Fox River (Wisconsin) – Cap material was placed using hydraulic slurry conveyed by pipeline to a floating mechanical spreader with a spreader wheel, similar to those that spread salt on roadways.

•Silver Lake (Massachusetts) - A dissipater/spreader assembly (spreader box) consisting of a 20 foot wide perforated diffuser pipe extended across the top of the spreader box, with an angled steel plate was mounted on a barge. The angled plate dissipated energy while directing and spreading sand. The same equipment was used for a phase of the Fox River project.

•St. Louis River (Minnesota) - A sand sub-cap was placed hydraulically using a barge with a spreader box fed by a dredge pump. As the barge advanced using a cable system, the spreader box dissipated energy to allow the sand to settle gently as a uniform layer.

•Mocks Pond (Indiana) – Cap material slurry was pumped to a spreader barge through eight inch pipe, where it was distributed using a 16footwide diffuser plate. The plate distributed the slurry in a lateral fashion less than one foot above the water column and promoted uniform material distribution.

•Ward Cove (Alaska) –A sand cap was placed by using an eight and one-half cubic yard bucket that was welded to hold an amount of material equivalent to a six inch placement over the 300 square foot arc of the bucket swing. The material was released below the water surface within 10 to 20 feet of the bottom.

•Onondaga Lake (New York) – A large spreader plate system, similar to the one used at Silver Lake, was used. Cap material slurry was conveyed by pipeline to the spreader using a 12 inch pipeline.

Photos of the equipment used at these projects are attached.

The foregoing shows the wide variety of equipment designs and placement techniques that have been utilized around the nation to resolve the challenge of capping soft sediment. Clearly then, the option of capping the soft sediment layer should not be dismissed out of hand as in the PRAP, but should be evaluated as part of the remedial design.

V. The PRAP Fails to Consider the Practicalities of Dredging

Implementing dredging as part of the remedy for major sites like the Gowanus Canal is a complex undertaking, involving a range of issues. Some issues can be addressed in design, but others relate directly to the practicality of dredging and the ability to effectively implement a remedy. The EPA Office of Emergency Response recognized the complexity of such projects as early as 2002, and engaged the Army Corps to develop guidelines for environmental dredging for sediment remediation. I was the lead author of those guidelines, published by the Corps as the Technical Guidelines for Environmental Dredging of Contaminated Sediments (Palermo et.

al. 2008) (the Guidelines). EPA identified the Guidelines as a supporting document for the EPA Contaminated Sediment Remediation Guidance for Hazardous Waste Sites (EPA 2005), commonly called the "Superfund Sediment Guidance." The Guidelines and the Superfund Sediment Guidance provide the framework for designing, implementing, and monitoring environmental dredging projects.

(a) Dredging Operations

The PRAP does not consider how dredging operations should be conducted in view of the challenges presented by the Canal site conditions. Site conditions and sediment characteristics are of particular importance when planning dredging, treatment, and disposal. These components are challenging at the Gowanus Canal because they vary throughout the water body, are in perpetual motion because of the ongoing nature of sources like the combined sewer overflows (CSOs), and are subject to dramatic change in the near and distant future. One significant change in the Canal will occur when the flushing tunnel is reactivated. Increased flow from the tunnel coupled with CSO inputs and natural tidal and river flow fluctuations will make for a very active system that will mobilize sediment and contamination. Dredging and capping actions, if done strictly in accordance with the PRAP, will further stir things up by exacerbating the flow. This will cause sediment scouring during and immediately following dredging operations. The PRAP addresses none of this, and as a result the dredge and cap remedy as proposed therein is little more than a concept.

In addition, basic physical characteristics of the Canal must be evaluated because any one by itself has the potential to undermine the dredge and cap remedy. As with the active and changing components of the Canal, the PRAP contains little or no discussion of how site conditions such as water depths, bathymetry (especially slopes), currents, wave energies, the presence and nature of major infrastructure (i.e., bulkheads, piers, abandoned pilings, bridges, utility crossings, pipelines), the presence and nature of debris in Canal sediments, and geotechnical conditions (i.e., stratification of underlying sediment layers, depth to bedrock, physical properties of foundation layers) will impact the dredging operations. All of these things must also be considered as part of the remedial design.

Consideration of over dredging allowances, potential for sediment resuspension, and behavior related to removal, post-dredging treatment, and disposal — all very necessary parts of any dredge design — are essentially absent in the PRAP. The remedial design must account for overdredging (additional dredging depth to account for equipment inaccuracies) and must evaluate the allowable tolerances around target elevations. Other operational factors such as ability to dredge along a sloping bottom and limits on precision of removal must also be considered in defining the total volume of material to be dredged. None of these dredging design specifics were considered in the PRAP, and this has resulted in an underestimation of the dredging volumes, operational challenges, and timelines required to implement the PRAP remedy.

Future use of the Canal should also be considered. One of the most basic and important questions asked when designing a remedy is, "What do we want this site to look like post-remedy?" Underlying the answer to this question for the Gowanus Canal are issues like

commercial versus recreational navigation use, habitat restoration / enhancement, future shoreline and adjacent upland development, and engineering practicalities associated with shoreline stability. All of these issues must be addressed in the remedial design. Especially critical among these issues is re-thinking of Canal uses that require greater water depth. Given that the Canal has seen limited use (as revealed by the present state of sediment accumulation) and the plans for residential / recreational development along the Canal, it is unlikely that there will be a need for deeper navigation depths. At the very least, it appears that the upper portion of the Canal will eventually be limited to recreational traffic, which reduces any requirement for depth and thus reduces the need for dredging.

Finally, simple access to the waterbody is extremely critical when it comes to dredging. In addition to the need for open space for staging, loading / off-loading, and treatment, clearances and space for work within the waterbody determine equipment and operational approaches for both dredging and capping. For example, in the Gowanus Canal, horizontal clearances at bridges in RTA 3 constrain access from the bay. The narrow channel width of 40 feet between abutments, at several other bridges constrain ability to work in the Canal. Similarly, land-side access is limited by the dense development along both sides of the Canal. As a result, there are few, if any, areas adjacent to the Canal suitable for staging, re-handling, and treatment. These constraints, plus the narrow width of the Canal for most of its length will limit the size and operation of dredge barges, sediment transport barges, and tugs. Not only are none of these things mentioned in the PRAP, but certain components recommended in the PRAP like the enclosures to control resuspension, which will reduce the Canal width by half, actually magnify the already significant constraints that are sure to hamper a dredge operation and increase the time required to complete a remedy.

(b) Impacts of Dredging

In addition to the site characteristics and operational specifics that are not considered in the PRAP, the consequences of the remedial actions proposed are also not included. This is a fundamental mistake that often arises because of single focus on “how to do the dredging.” After the dredging is undertaken, it often becomes clear that insufficient provision was made for how to handle the impacts of the dredging, with disastrous results.

All dredges stir up (resuspend) some sediment into the water column during the dredging operation, and resuspension results in release of contaminants in dissolved form to the water and as a volatile release to the air. Resuspension evaluations with appropriate modeling are needed to predict suspended solids concentrations as a function of distance and time and related potential for contaminant release to water and air. These estimates can be based on field experience or empirical or analytical models (e.g., the Army Corps DREDGE model or more sophisticated numerical sediment transport models). Results are then compared to performance standards for resuspension or water quality standards for suspended sediments or turbidity. The need for control measures (such as restrictions on the rate and timing of operations or deployment of silt curtain or hard containments) can then be determined. No such evaluations were conducted or even considered in developing the PRAP.

At the Gowanus, site-specific estimates of resuspension rates need to be performed before any design is put in place. Estimates should be based on procedures provided in the Army Corps Guidelines, considering the site specific sediment characteristics of the Canal (both for the soft and native sediments) and the anticipated dredge types and sizes. The resuspension estimates will inform the subsequent estimates of contaminant release rates for water and air.

Lastly, the PRAP fails to account for "residual sediments," sediments found at the post-dredge surface either within or adjacent to the dredging footprint that contain contaminants at concentrations above the action level. Residual sediments can be generated and left behind by the digging action of the dredge or can be missed by the dredging operation due to poor characterization of the sediments. Residual sediments pose a significant risk because they result in contaminant releases from the dredged surface prior to cap placement. This was a real problem at the Hudson River Superfund Site, where scour of loose residual sediments at the new, post-dredge surface, resulted in a high degree of contaminant release. This problem may even be worse in the Gowanus Canal due to the higher concentrations of contaminants of concern and the PRAP plan to dredge to the native sediment where NAPL is much more concentrated.

(c) Resuspension Controls

Evaluation results for sediment resuspension, contaminant release, and residual sediments should be compared with performance standards to determine if operational and engineering controls are needed during dredging, and if so, whether they will be effective. Operational controls are those associated with dredging, such as adjustment of dredge type or size, bucket wash tanks, changes in the rate of operation or advancement of the dredge. Engineering controls include structural containments such as sheet pile enclosures or silt curtains to control sediment resuspension. Controls for resuspension also help control contaminant release to water and air.

Operational and engineered controls, however, are not only expensive, but they can significantly limit the amount of material that can be dredged at any one time and therefore reduce efficiency. Further, the improper use of controls can have significant negative impacts like increasing sediment resuspension and / or the time needed to complete the project.

The FS requires that sheetpile enclosures be used. Furthermore, it assumes that all dredging and capping will be conducted within the enclosures, the enclosures will capture all resuspended sediment, and overlying water from the enclosures will be treated prior to opening the enclosures. These assumptions were included in the PRAP without the benefit of any technical evaluations and without consideration of the potential negative impacts of implementing such controls.

Sheetpile enclosures will significantly narrow the Canal. My construction experience shows that once the bulkheads are reinforced, the enclosures could reduce the width of the Canal by more than half. This will increase flow velocities around the enclosure, which will increase shear (force on the bottom sediment), which will increase erosion (movement of the bottom sediment). This will become even worse once the flushing tunnel is turned back on and transport barges appear. Lastly, modeling indicates that moored barges will also cause an increase in scour. Transport barges will have the same effect. It is possible that sediment erosion and related

contaminant release could be greater with enclosures, as opposed to dredging without enclosures. These issues were not addressed in the PRAP and directly relate to the ability to implement the remedy.

Sheetpile enclosures, if used, will also concentrate resuspension of sediments within the enclosures. The enclosure will thus turn into a concentrated source for more releases to air, which will mean significant odor throughout the community. Although resuspension within the enclosure may stop once dredging is complete and suspended sediment may settle out, significant dissolved concentrations will remain in the water column. To remedy this unwanted situation, EPA proposes dilution-based flushing by treating two volumes of water from the enclosure prior to opening them. This, however, is a waste of resources because groundwater will continue to discharge laterally and from below into the enclosure, and leakages through the sheetpiles will occur. As a result, EPA's dilution-based flushing will not treat the enclosure water sufficiently, and once the enclosure is opened, a sudden pulse release will occur. Also, treating the water and then discharging it outside the enclosure into the dirtier Canal makes no sense. It may be better to discharge the treated water inside the enclosure, which will reduce contaminant concentrations in the slug of water released when the enclosure is moved.

If the need for enclosures is established in the design, an alternative to the sheetpile enclosure chosen by EPA may be reinforced silt curtains. In fact, this very design worked well at the Bangor (Maine) site, a site along the Penobscot River with significant NAPL, flow variability, and a 14 foot tidal fluctuation. The silt curtains were attached to spaced anchor piles with mesh reinforcement to reduce curtain sailing and tears. A baffle configuration was used to allow for exchange of water from the large tidal fluctuation. The mesh was cyclone fencing material, but other mesh materials such as hardware cloth are also effective. Although the Penobscot River bank had an inset that saved the curtain from being directly exposed to river current / flow, the same could be accomplished in the Gowanus Canal by installing a short sheetpile deflector wall at the upstream end, which would also shield the curtain from direct flow. Construction of this alternative design would take less time, be less intrusive to the community with respect to noise and emissions, and would allow for greater flexibility in alternating the enclosure from side to side and along longitudinal reaches of the Canal.

The foregoing makes clear that the degree of controls needed is site-specific and should only be applied when conditions clearly dictate. They should not be set, as they are in the PRAP, solely because they can be (EPA 2005). Indeed, operational controls such as fixed arm equipment, enclosed buckets, operation of the dredge within a primary oil boom and silt curtain Moon Pool, secondary oil booms, and bucket washing and catch pans may very well be more effective than enclosures in maintaining an acceptable level of releases during dredging and capping in the Canal. A site-specific evaluation should be conducted for the remedial design to first establish the need to control sediment re-suspension, and second if needed, an evaluation should be conducted to evaluate the type of controls that should be used, whether they will be effective, and whether such controls could also have negative impacts.

(d) Material Re-handling

Another key issue not considered in the PRAP is the compatibility of the dredging, treatment, and disposal or reuse of the dredged sediments. Careful planning and design of rehandling and transport is critical because rehandling operations should be limited as much as possible to minimize the risk of spills and releases. Community intrusions (e.g., odor, noise, lighting, traffic and other issues) should also be considered, and health and safety plans should address both workers and community members. In order to reducing bottlenecks and maintaining throughput of material from the dredge to transport to treatment to disposal, transport and rehandling must be associated with dredge operations very closely, generally in the form of a detailed Operations Plan. The PRAP does none of this and all of this will take time.

With mechanical dredging, multiple re-handling steps between the dredge and disposal of sediments are usually required. Material is usually placed directly into barges for transport to an offloading or staging area where the dredged sediments undergo dewatering and / or treatment. The dewatered / treated sediments are then rehandled to trucks or barges for transport to the disposal site. Neither the FS nor the PRAP discuss this in any detail. Rather, EPA simply says all treatment / disposal options will include barging dredged sediment to a "local on-site dewatering and transfer facility." Again, the PRAP does not account for inevitable delays due to things like public concern and releases, not to mention the very real challenges to re-handling and transport posed by the limited access to the Canal, the Canal geometry, and the lack of space for staging and operations. Accordingly, refined studies and evaluations are required for purposes of remedial design and siting specific areas for staging and offloading, and sediment treatment.

(e) Transport and treatment of Dredged Sediments

The narrow width of the Canal will hamper placement of dredged sediments into transport barges. As explained above, bulkhead reinforcement and construction coupled with the use of control enclosures, will cut the width of the Canal by more than half. Such narrow confines will limit barge traffic to one way only, will not allow for barge turning, and will slow ingress / egress for barge rotations. Further, the small width will effectively eliminate navigation upstream of the active working area and will likely limit the project to use of a single operating dredge. These issues need to be evaluated in light of the required dredge sizes and dredging barge dimensions as well as the likely dimensions of transport barges.

The PRAP suggests that dewatering be done at an on-site staging area, followed by treatment of the water. It is quite possible that no acceptable offloading or treatment / re-handling sites can be located along the Canal because such arrangement requires not only space on land for a treatment plant, but also space in the Canal to moor multiple barges and to allow time for settling and generation of free decant water.

Location of such a transfer / dewatering facility may not even be the best approach from a public acceptance standpoint. Such a facility will be another source for emissions and noise and light. Such a facility will also create an offloading / re-handling step that may not be necessary.

Finally, an on-site area with limited space is not likely to allow for docking or offloading of multiple barges, which will possibly cause delays.

To the extent facilities off-site will be considered, that will affect the dredging operations in proportion to the distance away from the Canal. Transit times will directly influence the required number of transport barges and the size of the barges so as to avoid dredging delays. Although experience with a number of projects has shown that redundancy in equipment and operations can reduce down time and allow for continuing throughput of materials, this must be studied.

(f) Sediment Treatment and Beneficial Use

The treatment and disposal options in the FS and PRAP involve stabilization and / or thermal desorption, but do not provide any technical evaluations regarding the necessity or effectiveness of this approach. Thermal desorption will not reduce the concentrations of metal contaminants in the sediments. Sediments will therefore still be required to be placed in a landfill. EPA selected these approaches without the benefit of any treatability studies and without considering whether a specific treatment approach is workable or optimal for the Canal sediments.

A major consideration is the need or benefit of a sediment treatment approach. Stabilization may be needed for meeting the "paint filter test" so the material may be accepted for landfill disposal. However, the need for thermal desorption should be fully established. If the material would be acceptable for landfill placement without thermal desorption, there is no justification for requiring that treatment.

Furthermore, most sediment treatment technologies have not seen wide use because of high unit costs and difficulties treating sediments at the rate at which they are removed. Particle size separation and solidification / stabilization have comparatively lower unit costs and are more commonly implemented. Treatment of sediment solids to reduce toxicity or mobility of contaminants may be considered, but are not commonly used because of high cost and the need for permanent disposal of the treated sediment.

Beneficial use of sediments is also limited by the lack of cost-effective uses (EPA 2005). Landfill cover and construction fill are two uses that have worked, but the potential treatment requirements, levels of residual contamination following treatment, and physical nature of the fine-grained sediments normally associated with remediation sites present significant challenges to most beneficial uses. Beneficial use will be especially difficult for Non-NAPL impacted sediments from RTA 1 and for all sediments from RTA 3 because of the volumes of sediments involved and the lack of a market for sediments with the properties found in the Canal.

Several technical / logistical evaluations are needed to determine if beneficial use for Canal sediments is practical. Landfill cover is the best possibility, but agreements will be needed with landfills regarding the rate of throughput that can be accepted and total volume requirements. In general, total volumes of material needed for landfill cover are far less than the capacity of most landfills. Use as construction fill is also a possibility, but specific projects must be identified that will match the timeline for generation of material from the Canal as well as the properties of the material generated. These issues are real impediments to application of large volumes of

material from a remediation project for beneficial use, and they cannot be merely assumed to be workable.

(g) Landfill Disposal

Off-site disposal of sediments in licensed landfills is an option that is common to most remediation projects, and the Gowanus Canal project should be no different. This is so because on-site disposal is limited in the New York City region. However, there are a number of issues that can complicate landfill disposal. These are requirements for pre-treatment or treatment, logistics of rehandling and transport to the landfill, capacity of the landfill, and acceptability of the sediments for the landfill.

The PRAP assumes that sediments will be stabilized to the degree needed to pass the paint filter test, and that the sediments will be transported by truck from the processing facility to a Subtitle D landfill. The PRAP, however, makes no mention of the degree of dewatering needed for landfill placement and the workability of sediments for landfill placement, even if they pass the paint filter test. Indeed, at the Fox River site, some landfills required a higher tipping fee for dewatered sediments that had poor workability. Furthermore, agreements will be needed with specific landfills regarding the rate of throughput that will be accepted and the total capacity for sediments that will be handled over the total timeline of the project.

(h) CDF Option

The PRAP includes a confined disposal facility (CDF) option for one of the turning basins that will contain sediments from RTA 3 only because those sediments are the least contaminated. To the extent the Region pursues a CDF, the more contaminated sediments from RTAs 1 and 2 should not be precluded. There are no technical constraints (or to my knowledge regulatory constraints) limiting use of a CDF based on contaminant concentrations. CDFs can be designed with contaminant pathway controls that are as effective as any in hazardous waste landfills. Similarly, the PRAP requirement that only solidified material may be placed in a CDF is also unfounded. This requirement is not based on any technical evaluation. The CDF option, should it move forward, must, like all other components of the proposed remedy, be better planned and studied and afforded flexibility in design to meet performance standards.

VI. Conclusions

(a) Dredging Feasibility and Practicalities

The conclusions regarding the feasibility and practicality of the dredging and sediment treatment / disposal remedy set forth in the Gowanus Canal PRAP are summarized as follows:

- The PRAP calls for application of remedy components in a very specific manner with little or no flexibility. This approach is neither supported by the present level of knowledge about the site and sediment conditions, nor is it supported by the level of technical evaluations conducted to date. Experience has shown that flexibility, within the

bounds of meeting remediation goals, is essential for addressing complex sites like the Gowanus Canal.

- The feasibility of implementing several of the specific components of the proposed plan as described in the PRAP is questionable, considering the site conditions, physical constraints, the nature of the sediments, and the potential for stringent performance standards. The limited geometries of the Canal, potential for bulkhead instability and need for reinforcements, future operation of the flushing tunnel, presence of significant debris, and the presence of NAPL and contaminants of concern at high concentrations, all point to difficulties with dredging.

- Many components of the proposed plan were based on limited information and evaluations. Many technical evaluations and studies are needed to determine the full implications of the site conditions, the need for some of the proposed components, the potential negative impacts of some proposed actions, the effectiveness of some components, and the practicability of implementing some of the components.

(b) Summary of Required Evaluations and Studies

A significant technical effort will be required to fully determine feasibility, practicality, and effectiveness of the remedy and then to optimize the remedy ultimately chosen. This effort should include laboratory testing studies, hydrodynamic / sediment transport modeling studies, groundwater modeling, bench treatability studies, contaminant pathway testing, field investigations, and pilot studies. Such a comprehensive and complex effort will require close coordination among the various parties and significant time.

Required evaluations and studies pertaining to the dredging component are as follows:

- **Remedial Design Field Investigations.** Important data gaps exist for basic processes such as sediment transport, hydrodynamics resulting from changing conditions, groundwater flow conditions, geotechnical conditions, and bulkhead condition mapping and sampling. These aspects have not been characterized to the extent necessary for comparison of the remedial options and for remedial design. The gaps should be addressed with a coordinated series of remedial design field investigations.

- **Navigation Study.** Future navigation needs as well as future maintenance should be assessed. This assessment should include both commercial and residential / recreational potential.

- **Performance Standards Evaluation.** Performance standards (numeric limits or criteria related to the dredging operation) are a touchstone of remedial design. Categories of performance standards may include those related to sediment resuspension, water quality or air quality standards for contaminant release to water and air, and dredging production and timeline for completion of dredging. The specifics of meeting ARARs should be established using an effects-based approach and should consider the background concentrations and potential for recontamination of the Canal. Similar considerations apply to performance standards for the capping and sediment treatment and disposal

components. Evaluations of performance standards should be discussed with the agencies in the early stages of the remedial design, not later.

- **Dredging Production and Throughput Evaluation.** An evaluation of dredging production and sediment throughput from dredging to final disposal should be conducted. Mechanical dredging is the approach most suited for the Canal, but specifics like the size and numbers of dredges as well as redundancy and flexibility of use of equipment to avoid delays and bottlenecks must be determined. This will inform the desired timeline for completion of the remedy, which at this juncture is unrealistic. A production and throughput evaluation should also be performed to identify potential constraints resulting from control measures and the interface between the dredging and subsequent transport and rehandling components of the remedy.

- **Contaminant Release Studies.** Sediment characteristics for the Canal, high concentrations of contaminants, including NAPL in some areas and sediment layers, create a potential for contaminant release. A study of sediment resuspension potential, contaminant release potential to water and air, and residual sediments should be conducted. This effort would include laboratory testing for source strengths, and near field and far field modeling of release behaviors. This study is critical in determining the potential short-term effectiveness and long-term effectiveness of environmental dredging for the site, and the potential need for control measures. The potential contaminant releases due to a dredging operation should be compared with releases due to sediment erosion in the Canal with and without the use of controls such as sheetpile enclosures.

- **Sediment Resuspension and Contaminant Release Control Evaluations.** The PRAP calls for the most stringent and intrusive form of engineered resuspension control -- a sheetpile enclosure. No technical evaluations were conducted to determine either the need for such control or the potential impact of such control on sediment erosion and contaminant release. Considering the geometry of the Canal and the potential influence of the flushing tunnel, the use of hard enclosures may actually result in higher contaminant releases as compared to dredging without enclosures. A site-specific evaluation should be conducted to establish the need for engineered controls. If controls are needed, options must be evaluated to determine the most appropriate and effective control for the Canal, as well as the potential for negative impacts.

- **Operations Plan.** The PRAP's limited sequence of work is inadequate and a more comprehensive evaluation of operational aspects is needed to assess more fully the practicality of implementing the remedy. Among other things, an Operations Plan with detailed dredging prisms; delineation of dredging management units; description of dredge cuts, layback slopes, and box cuts; a sequence of operations; detailed mobilization and demobilization and construction timelines, complete descriptions of all equipment to be used; design and use of control measures; and methods for monitoring progress must be developed. This, however, can only be developed after all of the studies outlined in these comments are completed.

- **Monitoring and Management Plan.** Although these comments focus on dredging planning, design, and implementation, it cannot be forgotten that monitoring will be required to ensure the various performance standards are met. A Monitoring Plan should be developed during the remedial design and agreed to by all parties. This plan should include the monitoring equipment and techniques to be used (e.g. specific instruments, sampling devices, coring equipment); the protocols for sampling, handling and testing of samples (e.g. numbers and locations for sampling, compositing schemes, and testing procedures); and a description of how the monitoring data will be interpreted. Monitoring baseline conditions is critical during the remedial design phase for purposes of comparing conditions prior to, and immediately following, reactivation of the flushing tunnel.

- **Field Pilot Studies.** Field pilot studies will be needed to demonstrate the effectiveness at full scale for some remedy components. The pilot studies could include full scale dredging to assess sediment resuspension and contaminant release source strengths as well as full scale cap placement operations to field verify the ability to place caps on both the soft and native sediment. Specific objectives of the pilot studies will require an assessment of the needs based on the results of earlier investigations.

Required evaluations and studies pertaining to the sediment treatment/ disposal components of the Canal remedy are:

- **Rehandling and Transport Study.** Careful planning and design of the rehandling and transport components of the remedy is the key to compatibility. Areas for staging, offloading, and sediment treatment must be identified; and dredge to transport barge issues need to be evaluated in light of the required dredge sizes and dredging barge dimensions as well as the likely dimensions of transport barges. In-barge stabilization, including both treatability and operations, should be evaluated as part of the remedial design studies.

- **Sediment Treatability Studies.** EPA has identified treatment and disposal options in the FS and PRAP that involve either stabilization and / or thermal desorption. However, it appears EPA selected these approaches without the benefit of any treatability studies and without considering whether a specific treatment approach is workable or optimal for Canal sediments. A full bench-scale treatability study should be conducted to evaluate solidification / stabilization, thermal desorption, ISS, and treatment related to potential beneficial uses and potential landfill placement. The testing for ISS should be conducted on both the soft and native sediments.

- **Beneficial Use Studies.** Beneficial use will be difficult to implement considering the volumes of sediments involved and the market for sediments with the properties found in the Canal. A marketing study, aimed at identifying the potential demand for use of the Canal sediments, should be conducted to determine if there is any real potential for this option.

- **Landfill Investigation.** Although the proposed plan calls for beneficial use of all dredged sediments, placement in landfills should be investigated as one aspect of remedy optimization. Evaluations should be conducted to determine required pre-treatment or treatment, logistics of rehandling and transport, capacity of landfills that will be under consideration, and the acceptability of sediments from the Canal for placement in those landfills from the standpoint of dewatering and workability.

- **Confined Disposal Investigation.** To the extent EPA pursues use of a CDF, more comprehensive studies should be conducted. In addition to a CDF, a Contained Aquatic Disposal (CAD) may be considered. The initial investigation should focus on possible sites within the basins and Gowanus Bay, considering volumes, site bathymetry, and compatibility for future landside development. The more comprehensive studies would include the engineering design aspects as well as contaminant pathway testing and pathway control evaluations.

VII. References

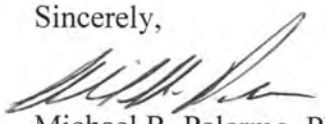
References cited in these comments are as follows:

Environmental Protection Agency. 2005. Contaminated Sediment Remediation Guidance for Hazardous Waste Sites. OSWER 9355.0-85, U.S. Environmental Protection Agency, Office of Solid Waste and Emergency Response, Washington, D.C.
http://www.epa.gov/superfund/health/conmedia/sediment/guidance.htm

Palermo, M., P. Schroeder, T. Estes, and N. Francingues. 2008. Technical Guidelines for Environmental Dredging of Contaminated Sediments. Technical Report ERDC/EL TR-08-29, U.S. Army Engineer Research and Development Center, Vicksburg, MS.
http://el.erdc.usace.army.mil/elpubs/pdf/trel08-29.pdf

If there are any questions, please call at (601) 831-5412 or email at mike@mikepalermo.com.

Sincerely,



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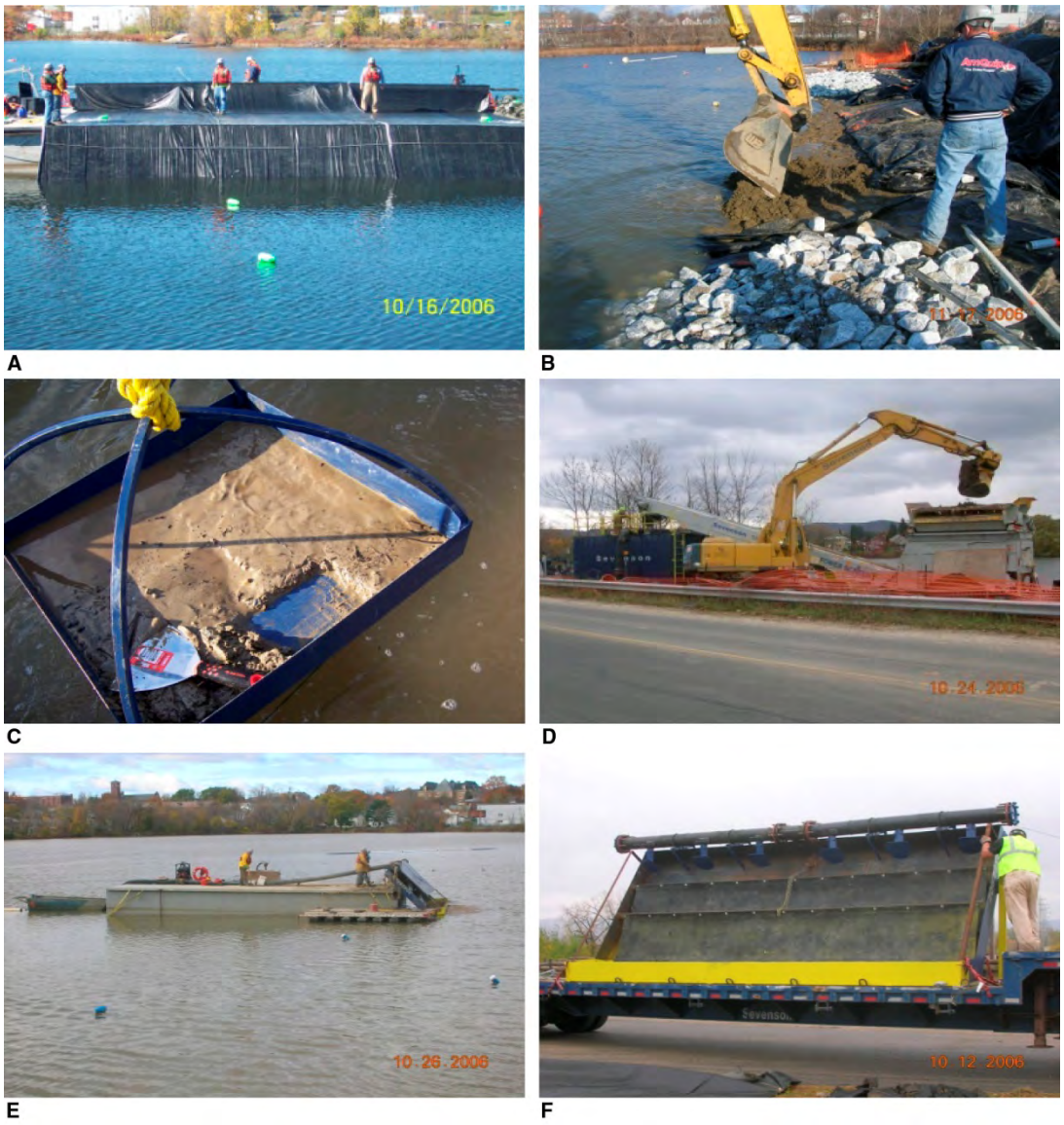


Geotextile and Hydraulic Placement in Silver Lake Capping Pilot Study, Pittsfield, MA (larger scale version of this equipment was also used at Onondaga Lake, NY.).

(Photos courtesy of EPA Region 1.)

A B C

Cap Placement at St. Louis River Interlake Duluth Tar Site, Duluth, MN

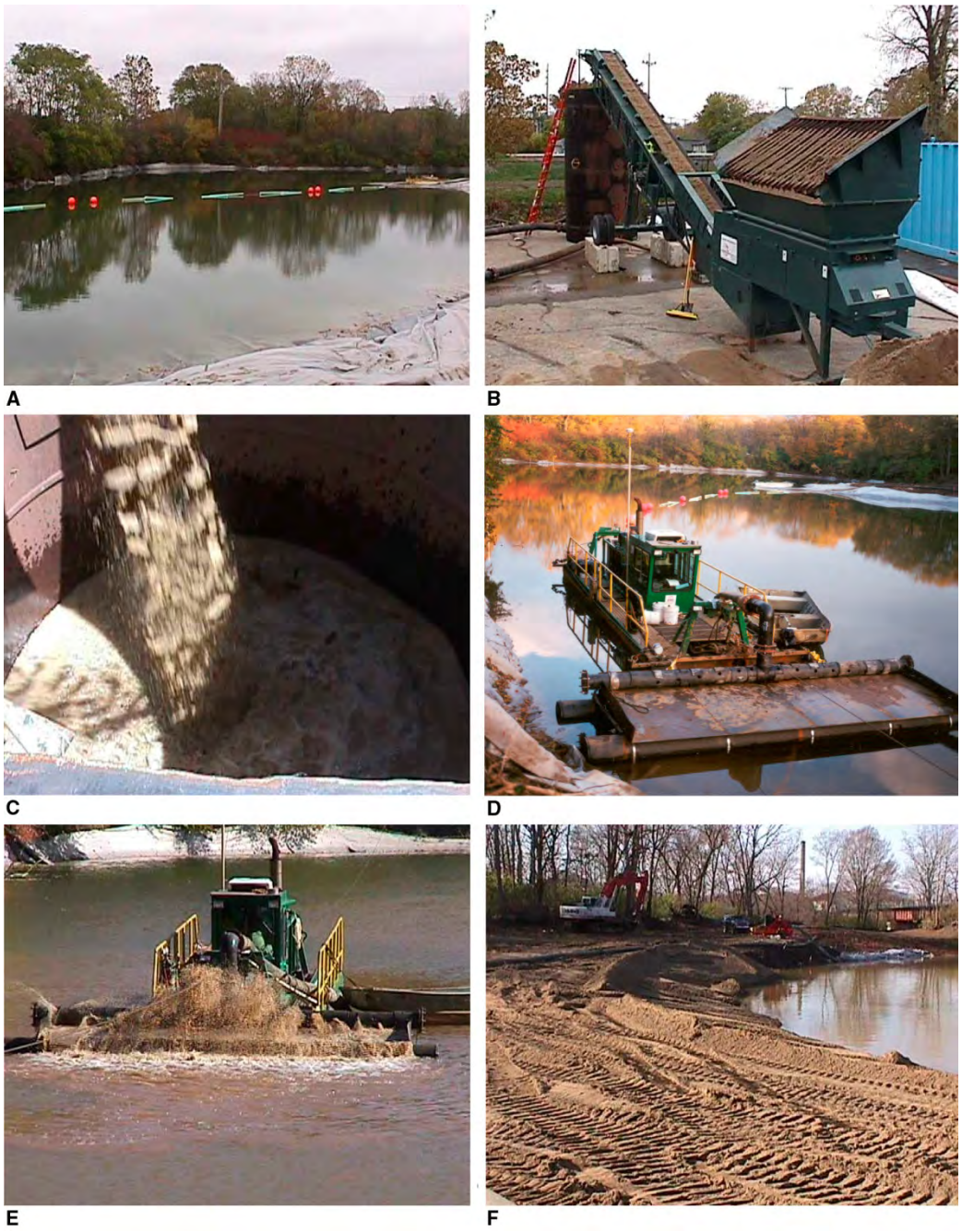
(Photos from Bell and Tracy 2007; Hedblom, Patch, and Costello 2007.)

A

B

Mechanical Placement at Ward Cove, Ketchikan, AK

(Photos and description courtesy of Greg Hartman, Dalton, Olmsted & Fuglevand, Inc.)



Geotextile and Hydraulic Cap Placement at Mock's Pond, Muncie, IN

(Photos from Thompson *et al.* 2004a.)

Sand and Gravel Spreader Used for Fox River Operable Unit 1, Menasha, WI

(Photos courtesy of Mike Palermo Consulting, Inc.)

Appendix D

Comments on the U.S. Environmental Protection Agency Gowanus Canal Proposed Remedial Action Plan. Prepared for National Grid by Baird Inc. April 2013.

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Baird

Hydrodynamic, Sediment and Contaminant Transport Evaluation of the Gowanus Canal Proposed Remedial Action Plan

oceans
engineering
lakes
design
rivers
science
watersheds
construction

I. Introduction

Hydrodynamic characteristics, sediment and contaminant transport, re-suspension, and deposition in the Gowanus Canal have not been assessed in sufficient detail in the United States Environmental Protection Agency (EPA) Proposed Remedial Action Plan (PRAP). Consequently, there are several shortcomings of the proposed remedy with respect to long-term sustainability and ecological functionality of the Canal, not to mention basic feasibility of the EPA's proposed plans and actions.

EPA's discussion of sediment and contaminant transport and deposition through the Canal is anecdotal and not quantified. This is not surprising because the patterns of sediment and contaminant movement in the Canal are far more complex than anticipated by EPA and require the use of a numerical model to appreciate the full impacts of all of the processes involved. To that end, flow patterns, sediment and contaminant transport, and water quality issues in the Canal have been evaluated by Baird.

The performance of the EPA proposed remedy was examined with an eye toward four key areas:

- Surface water and sediment contributions to the Canal under existing conditions and under the EPA proposed remedy;
- Performance of the EPA proposed remedy;
- Feasibility of construction; and
- Transport and fate of contaminants of potential concern (COPCs).

The model results presented below demonstrate the complex interaction between factors like the flushing tunnel, vessels and barges, combined sewer outfall (CSO) flows, and tidal-driven currents, which together control flow patterns in the Canal. These in turn affect scour, and transport and deposition of sediments in the Canal.

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II. CSO Contributions

Particle tracking and sediment transport model analysis to assess the potential fate of sediments from CSOs suggests that the particles found in the sediment mounds come from the outfall in the immediate vicinity of the mound. A two-week simulation from 23 August to 6 September 2011 tracked particles from CSOs RH-034, OH-007, and RH-031. The particles tracked were clays, medium silt and sand. This time period was chosen as it represents an extreme condition (it includes the Hurricane Irene surge and rainfall), giving an indication of the farthest distance that sediments may travel when the flushing tunnel is inactive. The model results (Figure 1) show that even under extreme conditions, sands and silts settle in the vicinity of the mounds, with clays being dispersed around the mounds. Under less extreme conditions, sediments are deposited even closer to the CSO outfalls.

Although the PRAP correctly recognizes that discharge from CSO RH-034 is the dominant source of sedimentation in the upper Canal when the flushing tunnel is inactive, the PRAP underestimates the full extent of the problem. So far, long-term sediment discharge from the CSOs has been predicted based only on flows from the New York City InfoWorks model. This model, however, is uncalibrated and unvalidated for sediment discharge from the CSOs. As a result, the PRAP does not account for the actual sediment discharge from the CSOs, which must be greater than is presently estimated. Indeed, although section 2/p. 2 of the Feasibility Study (FS) Addendum notes that CSO loading is estimated by DEP to be 259,000 pounds per year, a mass balance for the upper Canal suggests that this is five to ten times **less** than the amount of sediment that would generate the one to two inches per year of sedimentation noted in the PRAP (column 2, p. 10).

Given the likely underestimation of the amount and type of sediment discharged to the Canal from the CSOs,[1] the CSO storage tanks will need to be much larger to achieve the EPA desired reductions in solids. Absent this, the bed morphology of the restored Canal will need to be optimized to allow for greater throughput of sediment to New York Harbor. Lastly, percentage reductions in target flows for sediment from any remaining outfalls in the remedial design must be replaced by absolute targets so that these volumes can be accounted for in the remedial design.

III. Sediment Transport Analysis Summary

Monitoring of CSO sediment loads is required prior to selection of a final remedial alternative, and the Record of Decision (ROD) must be flexible enough to adapt any remedial design accordingly. Given that data and model predictions of flow and sediment load inputs from the CSOs and other outfalls is limited, longer-term inflows

[1]Given that parts of the Canal are accumulating at rates greater than two inches per year, the underestimation of the CSO sediment loading is in all likelihood even more than a factor of five to ten.

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were derived from a basic watershed hydrologic model. With this in mind, the Delftl3D water quality, sediment and contaminant transport model was set up to evaluate the transport and fate of sediments under different events and Canal configurations. In addition to using the model to examine event-based sediment and contaminant transport, the hydrodynamic and water quality model results were applied along with particle tracking to determine likely pathways of sediments over longer time periods.

When sediments are represented in the Delftl3D morphological model, we find that they enter the Canal from CSO RH-034 and are initially transported by the momentum of the CSO flow. As coarse sediments settle out in the vicinity of the CSO outfall, the finer sediments move downstream by tidal currents (and diffusion). With the flushing tunnel inactive, the finer particles remain within the upper area of the Canal where they mostly settled out within two tidal cycles. A sediment budget for the CSO sediments introduced to the Canal from RH-034 with the flushing tunnel inactive (Figure 2) shows that most of the sediments settle to the bed of the Canal upstream from 3rd Street, and all of the sand settles out above Carroll Street, while the clays and silts are transported further downstream. The sediment budget highlights the ability of the model to reproduce the general patterns of sediment movement in the Canal under existing conditions, which form a baseline against which the performance of a remedial design (or series of designs) can be evaluated.

The PRAP asserts correctly that CSOs dominate sedimentation in the Canal, and that this sedimentation is most apparent in RTA 1 and the "surface" layer (the top two feet) of the soft sediment. The basis for this assertion are the five bullets ("multiple lines of evidence") in column two of the table on page 11 of the PRAP and column one of the table on page 12 of the PRAP, which are repeated below:

- CSO solids have high TOC content. The TOC content of the surface sediment is about 6 percent. Based upon the results of the RI and EPA (1998), the TOC levels in Upper New York Bay sediments are, on average, about 3 percent. Accordingly, if suspended sediments in tidal inflow or Flushing Tunnel flows from Upper New York Bay were contributing the majority of the deposited mass, the TOC of the surface sediment would be closer to 3 percent.
- The concentrations of PAHs, copper and lead in the surface sediment and in the CSO solids are similar. The concentrations of these chemicals are much lower in the reference sediments in the harbor; therefore, deposition of suspended sediments in harbor water (or from the Flushing Tunnel which brings in harbor water) could not be the predominant source of high concentration of PAHs, copper and lead in the Canal surface sediments. Aluminum and iron are not good indicators of CSO solids since they are "crustal" elements, i.e., they are very common in soils and sediments and are not COCs at this site.

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- Sewage indicators, such as fecal coliform (GEI, 2011) and steroids (Kruge et al., 2007), are found consistently in the surface sediment in the Canal. The highest concentrations are located in the upper portion of the Canal where most of the CSOs are located.
- EPA's bathymetric study shows that most of the accumulation of sediment coincides with the Canal location (upper reach) where most of the CSOs are located and the highest CSO volumetric discharges take place. It has been reported and visually noted that CSOs discharge heavier mass solids. These heavier solids are typically expected to settle to the bottom of the Canal within a short distance from the point of discharge unless high horizontal velocities disperse the solids downstream.
- Overall, the surface sediments in the upper Canal have higher sand content and lower silt and clay content than the Harbor reference locations. The sediments in the lower Canal, closer to the Harbor, have similar silt and clay content to the reference stations. This indicates that the upper Canal surface sediment is more influenced by the deposition of CSO solids than the area near the mouth of the Canal. This is consistent with NYCDEP's conclusion that CSOs predominately contribute heavy grain sediments, while fine grain sediments are a mixture of CSO discharges and Flushing Tunnel and harbor tidal contributions.

(EPA, 2012)

While these bullets certainly indicate that the CSOs are the primary / dominant source of sediment to the Canal, the bullets by no means indicate that the role of the CSOs stops there. There is no evidence that discharges from the CSOs are limited to the surface layer and upper part of the Canal. We contend that the limits of CSO influence to surface sediments and the upper reach of the Canal are not supported by the sedimentary evidence. The CSO influence is likely to be dominant in all areas of soft sediment accumulation, and not just in the top 2 feet (it is highly unlikely that any other sediment source has been dominant in the past). In areas of propeller scour and remobilization of bed materials (particularly in RTA 2), it is also likely that CSO sediments have become mixed with native materials due to the regular turbation of bed materials. A more thorough analysis of this factor needs to be included in the PRAP design. We recommend that the ROD clarify this:

First, bullet number 1 suggests there is no difference between total organic carbon (TOC) in sediments found in the surface and sediments found lower in the bed. This does not indicate that discharges from the CSOs are limited to the surface layer and upper part of the Canal.

Second, bullet number 3 states that sewage indicators are highest in the upper part of the Canal. Although this is the case, it does not prove that discharges from the CSOs are limited to the surface layer and upper part of the Canal. NYCDEP (2008; Figure 4-18) states soft sediments are found throughout the Canal, suggesting that soft

sediments will accumulate wherever CSO sediment inflows occur, and not just in the upper Canal.

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Third, bullet number 4 suggests that the location of recent accumulation can be determined by a bathymetric survey. Such survey is by no means representative of long-term depositional patterns throughout the Canal, and regular, repeated bathymetric surveys are required to monitor the depositional characteristics of the Canal. In addition, the notion that CSO sediments are coarser in general is only true in the sense that they feature a sand fraction. They also feature high silt and clay fractions. Consequently the idea that CSO sediments are heavier and settle closer to their discharge point is misleading.

Fourth and last, bullet number 5 identifies that surface sediments in the upper Canal have higher sand content. This suggests that a signature of the CSO solids is sand, which may imply incorrectly that silts and clays are not derived from CSOs. Rather, it is simply unclear.

IV. The Proposed Remedy Will Not Meet Objectives

Model runs of sediment and contaminant transport show that the proposed remedial design is incompatible with the habitat and water quality goals of the project because particle tracking and sediment transport simulations confirm that trapping of sediments will increase, especially in RTA 2. Figure 3 shows a comparison of sediment deposition rates between existing conditions and the EPA remedial design, using the November 2010-November 2011 boundary conditions. Sediment deposition rates increase by up to 300 % in RTA 2, showing that any sediment still entering the Canal will be trapped in the deeper channel in RTA 2.

Background suspended sediments present in Buttermilk Channel will be introduced to the Canal through the flushing tunnel (FT) upon its reactivation. Figure 4 shows when the flushing tunnel is active, with the existing Canal bed configuration, sediments from the tunnel are deposited primarily in the central, deeper section of the Canal (RTA 2). This is so because flow slows down due to the increase in channel depth. Dredging in RTA 2 to an even greater depth, with a target evelation of -16 feet further reduces the ability of the flushing tunnel to move sediments and contaminants through the Canal to the Harbor, as the flow speed in RTA2 decreases due to the proposed increase in depth (Figure 3).

Even with the Flushing Tunnel flow, the USEPA Feasibility Study alternative reduces the ability of the Canal to transport sediment in the section between 3rd Street and the Expressway. In contrast to Existing Conditions with the FT inactive (Figure 2), where most of the sediment is trapped in the upper reach of the Canal, under the Remedial Design conditions the major area of sediment trapping is now the deeper section between 3rd Street and 9th Street. This demonstrates the general incompatibility

between the effectiveness of the Flushing Tunnel (requiring a relatively uniform bed elevation throughout the Canal), and the deep dredge to accommodate commercial vessel navigation.

The model study has identified other complex interactions that will occur in the Canal and that also need to be considered in order to develop a design that meets the water quality and ecological restoration objectives in a sustainable manner:

- **Reactivation of the flushing tunnel will have significant adverse effects.** The sand "benthic layer" in RTA 1 will require ongoing maintenance as flow from the flushing tunnel pushes the benthic layer downstream. This points to the issue that design of RTA1 will be more complex and challenging than is presented in the PRAP, and that flexibility to alter the design to be resilient to the driving forces in the Canal is imperative.

- **Varying depths in the Canal must be considered.** Figure 5 shows when the flushing tunnel is active, sediments from the flushing tunnel are deposited primarily in the central, deeper section of the Canal (RTA 2). This is so because flow slows down (and it is exclusive of the influence of commercial navigation, which will cause sediments to be regularly resuspended and deposited). Deep dredging in RTA 2, however, will reduce the ability of the flushing tunnel to move sediments and contaminants through the Canal to the Harbor. Similarly, the -16 feet target elevation for RTA 2 is not realistic, given ongoing commercial navigation in this section of the Canal. Propeller scour will require an armor layer consisting of large cobbles to boulders to prevent damage to the cap. Sediments deposited above the armor layer would be subject to regular remobilization and redepostion under the influence of vessel traffic. Lastly, the transition from "shallow" (-9 feet) in RTA 1 to "deep" (-16 feet) in RTA 2 leads to deposition in RTA 2 of CSO sediments and contaminants, sediments from the flushing tunnel, and sediments remobilized from the sand benthic layer in RTA 1. These sediments will be subject to remobilization by vessel activity. If this section of the Canal is made deeper to accommodate commercial vessel navigation, conditions may be significantly worse. Given these scenarios, all commercial navigation should be stopped.

- Even at a Canal depth of 30 feet, which would be necessary for a gravel armor layer to survive the presence of commercial vessel traffic, the sand benthic layer would still be subject to re-suspension by propeller wash. Once re-suspended, there would be a net downstream movement of this sand due to the flow from the flushing tunnel.

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- At a proposed elevation of -16 feet, dissolved oxygen levels in the middle reach (RTA 2) of the Canal may border on hypoxic conditions at times of high CSO flow inputs, even with the flushing tunnel active. If this section of the Canal is made deeper to accommodate commercial vessel navigation, conditions may be significantly worse following major CSO flow events, as the flushing tunnel flow becomes less effective at flushing the Canal in deeper scenarios. Sediment transport simulations confirm that the Remedial Design configuration will increase trapping of sediments in the Canal, especially in RTA2. Organic matter and organic substances adsorbed to suspended sediment may also settle in the Canal, which may lead to development of a layer of anoxic sediment in RTA2. Deposition of this organic material could increase the sediment oxygen demand as bacteria and other organisms feed on it, starving the Canal of oxygen. This process would considerably reduce the effectiveness of any remediation measures for the Canal.

V. Evaluation of Water Quality Performance of EPA proposed Remedial Design: Dissolved Oxygen

Delft3D-WAQ is a three dimensional water quality model which solves advection-diffusion-reaction equations for various substances on a predefined computational grid.[2] It is not a hydrodynamic model. It was coupled with the Delftl3D hydrodynamic model to evaluate the impacts of the reactivated flushing tunnel, CSOs, vessel traffic, tidal flushing, hydrodynamics and sediment transport, re-suspension, and sediment-related contaminant transport on the water quality in the Canal under existing and remedial design conditions.[3] None of these issues have been assessed in the FS Report, the FS Addendum or the PRAP. Consequently, the effects of these

[2]Baird simulated the influence of freshwater inputs on water quality and sediment transport processes in the Canal through the inclusion of CSO flows in the model. The water quality model includes tidal flows, CSO flows, flushing tunnel flow (when applicable), temperature and salinity (heat flux model), dissolved oxygen (a function of: biochemical oxygen demand, sediment oxygen demand, and chemical oxygen demand; nitrification and denitrification; photosynthesis and respiration), sedimentation and resuspension, re-aeration of oxygen.

[3]Prior to water quality modeling, the hydrodynamics model was updated to include temperature and salinity processes. The ocean heat flux model, which represents back radiation and heat losses due to evaporation and convection using air temperature, cloud cover, and relative humidity, was used. The model boundary was forced with water level (tide/surge), water temperature, and salinity at the Harbor boundary. Wind measurements, air temperature, relative humidity, and cloud cover were applied over the full model domain.

processes on Canal water quality have not been fully considered. This is an essential step towards evaluating the existing and historic behavior of contaminants in the Canal, and in determining the likely effectiveness of any remedial activities.

A long-term simulation of dissolved oxygen (DO) levels in the Canal was completed for the time period from 1 November 2010 to 31 October 2011. CSO flows from the watershed hydrologic and sediment supply model were included in the WQ model. Observed and predicted hypoxia and anoxia from the long-term validation runs are shown in Figures 6 and 7. The results show that predicted DO levels agree well with observed values throughout the year, and also spatially throughout the model domain. Throughout the model year, the Canal was repeatedly subjected to hypoxic and anoxic conditions as a result of CSO flows during storm events and the limited flushing capability of the Canal without the flushing tunnel. The DO model results also suggest there may be periods of hypoxia in RTA 2, even when the flushing tunnel is active (Figure 8).

While the flushing tunnel flow is generally effective in improving DO conditions in the Canal, it's effectiveness is reduced in the deep dredge area in RTA 2. The reduced flushing and increased sedimentation in RTA 2 could lead to development of a layer of anoxic sediment. Further, deposition of organic material could increase the sediment oxygen demand as bacteria and other organisms feed on it, starving the Canal of oxygen. Decay of this material also uses up oxygen and generates methane gas. These processes could reduce the effectiveness of any remediation measures for the Canal in considerable fashion.

The results of our initial DO modeling also suggest that water quality goals may not be met with a deep dredge approach. Sediment deposited in the deeper middle section of the Canal is likely to impair water quality, especially when remobilized by vessels and barges. A thorough water quality assessment due to the possibility of developing hypoxic or anoxic conditions in the lower part of the water column in deeper areas is necessary prior to selection of a remedial alternative.

The bottom line of this modeling is that regardless of how much the water quality of CSO discharges is improved, there will likely always be fine organic sediments delivered to the Canal (from storm water, direct surface runoff, flushing tunnel flow), and the ROD should recognized that due to these on-going discharges from the CSO system, the post-remedy ecological diversity and populations likely will not re-establish to the same degree as one may expect devoid of the on-going CSO releases.

We contend that there is an opportunity during the remedial design of the Canal to adjust the Canal bed configuration and flushing tunnel flow so that there is a 'balance' or equilibrium in sediment transport over the long term. However, in the proposed design, the flushing tunnel flow that would prevent sedimentation in the deeper downstream areas may be too high in the shallower upstream area. Accordingly, detailed predictive model transport runs incorporating validated CSO

flows and sediment and contaminant inputs need to be completed prior to selecting a remedy. In addition, the potential to use the flushing tunnel flow in an adaptive capacity to maximize the water quality in the Canal (such as by increasing flushing flow after a CSO event) should be recognized as a possible way to provide active management of water quality and sediment transport in the proposed remediation scheme.

VI. Evaluation of Water Quality Performance of EPA proposed Remedial Design: Contaminants of Potential Concern

While the PRAP includes provisions for improved source control through the implementation of CSO flow retention tanks, it does not consider the transport and fate of contaminants that may still enter the Canal from the CSOs under the proposed remedial alternative. Baird developed a three-dimensional numerical contaminant transport model for Gowanus Canal using the Delft3D model suite. The Delft3D-WAQ model allows for the tracking of contaminants, their retention time and deposition in the Canal under existing and remedial design configurations. The following four contaminants of potential concern were evaluated:

- Polycyclic Aromatic Hydrocarbons (PAHs)
- Polychlorinated Biphenyls (PCBs)
- Copper (Cu)
- Lead (Pb)

The concentrations of the COPCs entering the Canal through the CSOs were estimated from results of the CSO flow event sampling undertaken during two wet weather events on 18th and 28th September 2012. During the event on September 18th 2012, samples were collected at OH-007, and on September 28th 2012, samples were collected at OH-007, RH-031, RH-034 and RH-035. The average values of these samples were used to define the COPC concentrations from the CSOs for inclusion in the model. Further details on the setup of the COPC model will be made available in the water quality modeling report for this study (in preparation).

The results of the COPC model runs show broadly similar patterns to those of the sediment transport runs. Figures 9 to 12 show the differences in deposition rates between existing conditions and the EPA remedial alternative bed configuration for copper, lead, PAHs (benzo[a]pyrene) and PCB-153. The figures compare the existing conditions with the remedial alternative, assuming the same CSO and tidal flows, based on the 2010-2011 time period. The remedial alternative includes the flushing tunnel flow. The figures show that heavy metals entering the Canal through the CSOs tend to settle in the dredged portion of the Canal, particularly in RTA 2, as this is the main receiving area for material from RH-034 and OH-007. This highlights the

incompatibility of deepening the Canal to accommodate commercial navigation, while trying to reduce deposition of sediment and contaminants in the Canal to reach an ecologically-sustainable outcome.

Further model scenario results for varying depth configurations show that if RTA 2 was to become even deeper to accommodate vessel navigation, more accumulation occurs. This is simply because the deeper water decreases the velocity in the Canal, which allows more sediment and contaminants to drop out of suspension and accumulate in these areas. Sediment and contaminants also tend to accumulate in the quiescent waters of the turning basins.

In order to assess and optimize the remedial design, the accumulation rates for the COPCs should be evaluated in detail to determine whether the ecological goals of the remediation can be met, given that the deeper water in RTA 2 leads to reduced flushing tunnel effectiveness and deposition of contaminants on the benthic layer in this reach. While maintenance dredging will be needed to maintain the required depths in the deep section of the remedial design, it may also be necessary to remove contaminated sediments caused by deposition where depths are necessary to accommodate navigation. This would appear to be contrary to the EPA goals of sustainable benthic habitat in the restored Canal.

VII. Construction

In order to prevent bed sediments from being disturbed during construction, which can lead to remobilization of the contaminants therein, the United States Environmental Protection Agency (EPA) has proposed that dredging be conducted within sheet pile cells (EPA Proposed Remedial Action Plan (PRAP), Table 9; FS Addendum, Table 1), that would be blocked off from the surrounding water body. The dredge cells will span half of the width of the Canal at any given time. This approach, simply cannot be employed while the flushing tunnel is operating. Accordingly, the flushing tunnel will need to be shut down for the entire time that the dredge cells are in the Canal.

Baird simulated hydrodynamic flow patterns and sediment transport potential in the vicinity of a dredge cell using the Delftl3D model.[4] Model results show an increased rate of erosion for the portion of the Canal next to the dredge cell, as a result of reduced cross-sectional area. When the discharge that normally passes through the entire width of the Canal, is forced through an area half as large, flow speeds double and scour of sediment increases accordingly. This presents a problem in terms of implementation: the existing contaminated sediments alongside the dredge cell (not contained within the cell) will be subject to scour and remobilization. In this way, the

[4]Three bed elevation configurations were considered for RTA 1, each representing a range of different dredging scenarios: -7, -12, and -17 feet.

dredge cell system proposed by the EPA, rather than containing contamination, will actually facilitate its redistribution throughout the Canal. It may also damage portions of the newly constructed cap – if one side of the Canal cap is constructed, and the dredge cells are in place on the opposite side of the newly-built cap, damage could result from the increase in velocity and propeller scour caused by the presence of the dredge cell. We therefore agree with Dr. Palermo's assertion that the EPA's dredge cell approach would increase erosion rates in uncontained areas (Palermo, 2013).

Next, Baird looked at a "worst-case" scenario by adding a moored barge alongside the dredge cell. Conditions worsened as the presence of the barge further constricted the area and increased flow velocities five-fold. This in turn increased scour potential of contaminated materials in the uncontained section of the Canal. Similarly, a vessel operating (as opposed to being moored) alongside the dredge cell also increases bed scour. Lastly, the effects of propeller scour increased (Schokking, 2002), to the point where the depth of disturbance may be even higher than the estimated values provided in our Vessel Impacts Analysis (see section VII).

Given the findings outlined above and in the Baird Vessel Impacts Analysis, the work sequence proposed by EPA is unlikely to be practical. If tugs are used to move barges to and from the dredge cell locations, it is likely that previously-remediated downstream sections will be damaged by grounding and propeller scour.

Based on this, we recommend that the ROD require that the flushing tunnel be shut down while (or if) dredge cells are employed; that the related negative impacts to water quality must be accounted for; and that all navigation alongside the dredge cells in RTAs 1 and 2 be stopped for the full period of construction.

VII. Vessel Impacts Analysis

In the PRAP, a navigation depth of -16 feet (NAVD88) was assumed in RTA 2 based on existing commercial navigational needs. Baird tested this with a vessel impact analysis.[5] Modeling revealed that the PRAP does not account for the full range of vessel impacts, such as vessel grounding and propeller scour, which cause remobilization and redistribution of bed sediments. This has significant implications

[5]The analysis in Baird's 2012 Vessel Impact Study included: quantification of commercial vessel traffic using Automated Information System vessel tracking data; examination of Acoustic Doppler Current Profiler data collected in the Canal to determine the impacts of vessels underway on flow in the Canal; analysis of multibeam bathymetric data for evidence of propeller scour and vessel grounding; analytical propeller wash calculations to determine the potential for bed sediment mobilization under existing and remedial design conditions; and three-dimensional numerical modeling, including flow around moored barges and prediction of the fate of sediments mobilized by propeller scour of the Canal bed by vessels underway.

for depth and cap / armor layer designs, namely with the continued presence of commercial navigation in RTA 2, the depths prescribed in the PRAP are not practical. In order for a remedy to continue in place and have positive effects, it must take into account the impacts identified through this study, incorporate them into the ROD, and account for them during the remedial design. The findings that must be considered are as follows:

- Contrary to the EPA's assumption, vessels do not only move at high tide;
- Several instances of propeller wash close to the Canal bed and of vessel groundings (vessel contact with the Canal bed) have been identified and they both disturb and redistribute bed sediments. In fact, vessel traffic cannot only mobilize and redistribute sediments (and thus contaminants), but propeller wash can mobilize sediments as large as cobbles and boulders – materials much larger than those observed in the Canal bed. Given this fact, it can be concluded that bed sediments are regularly mobilized into the water column by vessel activity;
- Flow speeds in the Canal increased by at least 600 to 800 percent as a result of vessel passage and propeller wash;
- Scour of the Canal bed is induced by propeller wash, causing resuspension and redistribution of bed sediments and contaminants;
- A significantly deeper dredge depth will be required to accommodate commercial vessel traffic in RTA 2;
- The cap armor layer material size for the proposed elevation of the bed in RTA 2 is significantly underestimated in the PRAP, and as a result, for example, a single trip by a commercial vessel may be sufficient to irrevocably damage the armor layer and underlying cap;
- A sand benthic layer will be unsustainable under the combined effects of propeller wash and flushing tunnel flow at depths as deep as 30 feet. However, a deeper dredge depth will compromise the ability of the flushing tunnel to prevent water quality issues in the Canal.

As noted above, the sand benthic layer will be disturbed. Published methods were used to determine if a benthic sand layer could be stable given the presence of tug activity in the Canal. Based on the methods provided by Hamill et al. (1999) and Ryan and Hamill (2012), the depth of sand disturbance will be significant. In the case of the -16 foot target elevation in RTA 2, disturbance to a depth of more than five feet in the sand benthic layer is possible assuming a fixed tug with full power. At the 30 foot depth, the predicted disturbance of the sand benthic layer is approximately two to six inches. A confined flow case (such as against a quay wall) will produce higher

bed velocities (Schokking, 2002), and the depth of disturbance may be higher than the estimated values provided.

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In some sections of the Canal under existing conditions, the bed materials are similar to a sandy benthic layer. Accordingly, the potential for tug-induced disturbance expected in the benthic sand layer was checked against observations made in the Canal. Bathymetry surveys in 2010 and 2011 were completed. During the period between surveys, AIS data suggests that tug / barge activity in towards the Dorann dock (but never beyond or from the opposite direction) disturbed the bed (Baird, 2012). In this area of tug activity and maneuvering, erosion / scour on the order of four to seven feet is observed in the bathymetric data, supporting the view that disturbance of the Canal bed can occur to a significant depth, and that a sand benthic layer will be subject to remobilization and redeposition on a regular basis unless commercial navigation is removed from RTA 2.

The effects of mobilizing sands and silts into the water column in the Canal were evaluated using the numerical flow and sediment transport model (Baird, 2012). Fine sediments and contaminants mobilized through propeller action can migrate away from the point of scour due to tidal and / or flushing tunnel activity. Regular tug activity in the Canal causes fine sediments in the bed to regularly move around and mix throughout the area. The movement of sands and gravels is likely less dramatic within a single event, however repeated erosion and deposition of sandy materials could result in gradual offshore migration through the study area. This also indicates the potential for fine sediments to be "winnowed" out of the bed – that is fine sediments are mobilized while leaving behind the coarse sediments. Since tug operators mostly travel in the Canal during higher tides, there is potential for a net asymmetry in the movement of fine bed sediments as they remain in suspension over the ebb tide. This effect is magnified during operation of the flushing tunnel since flow in the Canal becomes unidirectional towards the outlet at all states of the tide. The significance of this in terms of ongoing maintenance and nourishment of a depleting benthic layer needs to be considered as part of the analysis of the potential impacts of the remedial design.

Given the foregoing issues, the ecological and water quality objectives of the Canal remediation effort are incompatible with ongoing commercial navigation in RTA 2, the ROD should call for an end to commercial navigation in RTA 2. This is especially so in view of the facts that vessel traffic analysis identified a total of only five active docks limited to the southern portion of the Canal between 3rd Street and the Gowanus Expressway, on average there is only a single commercial vessel trip per day, and the typical trip is approximately only a single hour in duration.

VIII. Conclusions

RTA 2 is unlikely to remain stable with ongoing commercial navigation, even at the EPA recommended bed elevation of -16 feet. A deeper bed configuration is similarly

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ineffective because it will not only increase sediment and contaminant accumulation, but it will also lessen the ability of the flushing tunnel to address water quality issues in this section of the Canal. Given that the environmental goals of the proposed remedy are not achievable with commercial navigation in RTA 2, removing commercial navigation in RTA 2 must be evaluated. This should be done with a numerical flow and sediment transport model prior to development of the final remedy.

In the event that the prudent strategy of eliminating commercial vessel traffic is not pursued as part of remediation of the Canal, there must be flexibility within the PRAP to be able to evaluate bed elevations and the configuration of any proposed cap and armor layer in light of detailed vessel impacts.

The results demonstrate that if RTA 2 is dredged to accommodate navigation by commercial vessels, RTA 2 will suffer ongoing accumulation of sediment and contaminants. This is so even if the CSOs are controlled. In order to meet the primary goal of the restoration of benthic macroinvertebrate communities, a solution that minimizes sedimentation, erosion, and maintenance dredging is required.

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Sincerely,

W.F. Baird & Associates Coastal Engineers, Ltd.
Dalston Alex Brunton, Ph.D.

Baird

Figure 1. Transport of outfall sediments under surge conditions. Note this represents the more extreme limits of the distance particles may travel from the outfalls before being deposited on the bed. Deposited particles are color coded by size.

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Figure 2. Fate of sediments introduced from CSO RH-034 under existing conditions, flushing tunnel inactive

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Figure 3. Increase in silt deposition rates in RTA 2 resulting from dredging to -16 feet

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Figure 4. Fate of suspended sediments introduced into the Canal via the flushing tunnel; Existing Conditions Bathymetry

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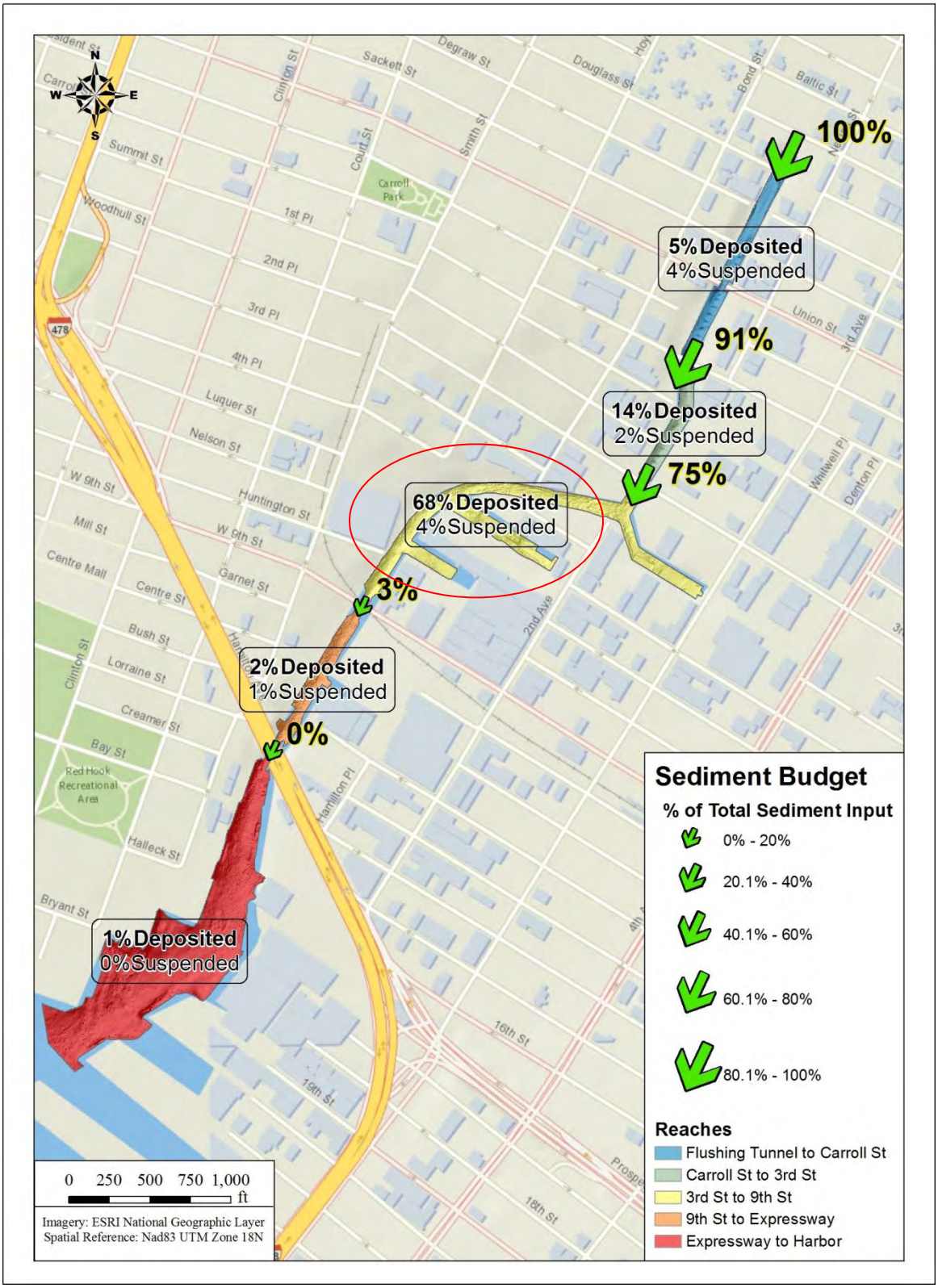

Figure 5. Sediment budget showing fate of flushing tunnel sediments under remedial alternative conditions. Zone of major deposition in RTA2 highlighted in red

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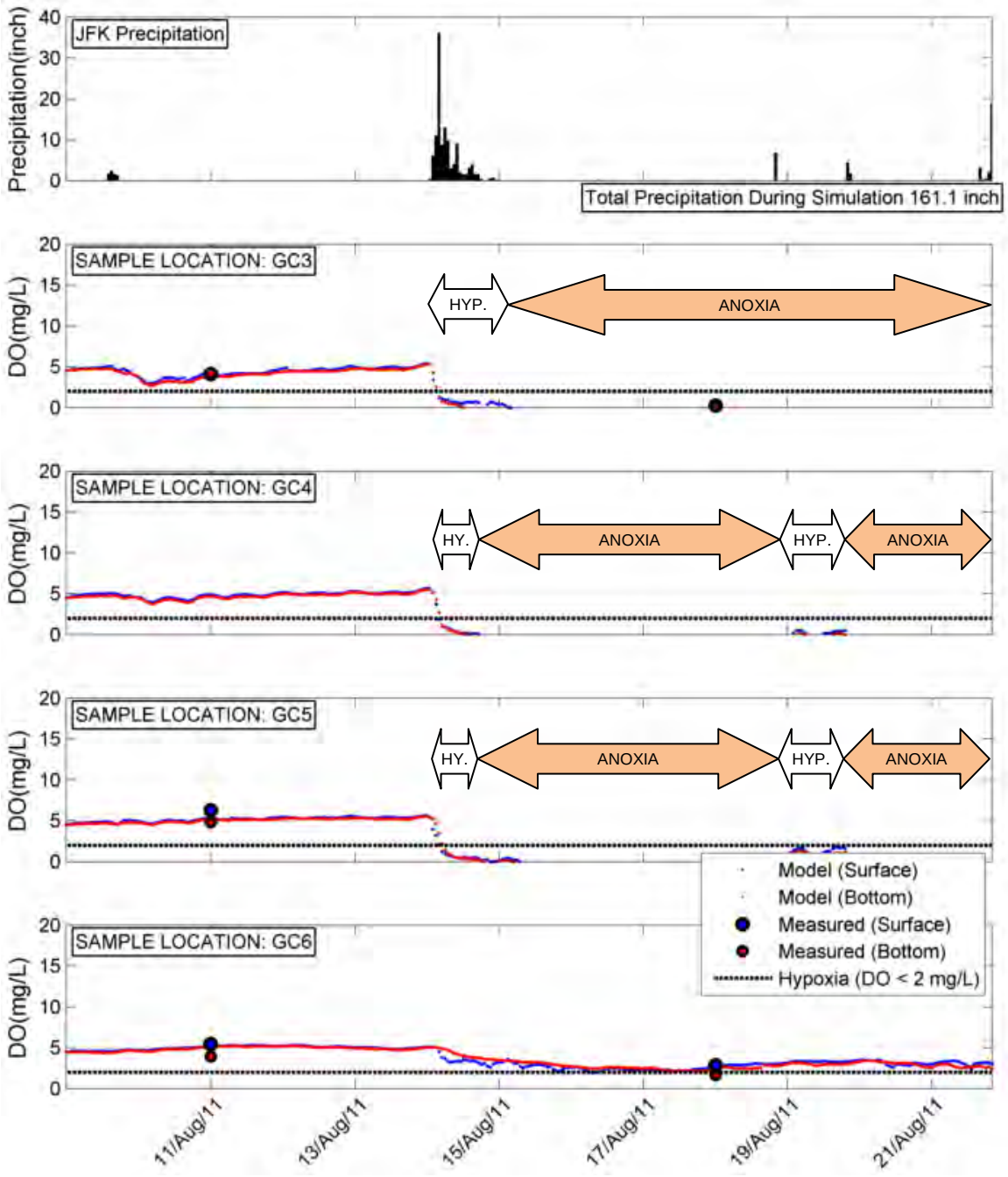

Figure 6. DO model validation showing measured and modeled anoxia and hypoxia in the Canal following a rainfall and CSO flow event on 14th-15th August, 2011. Note that modeled results do not include effects of oxygenation pipe.

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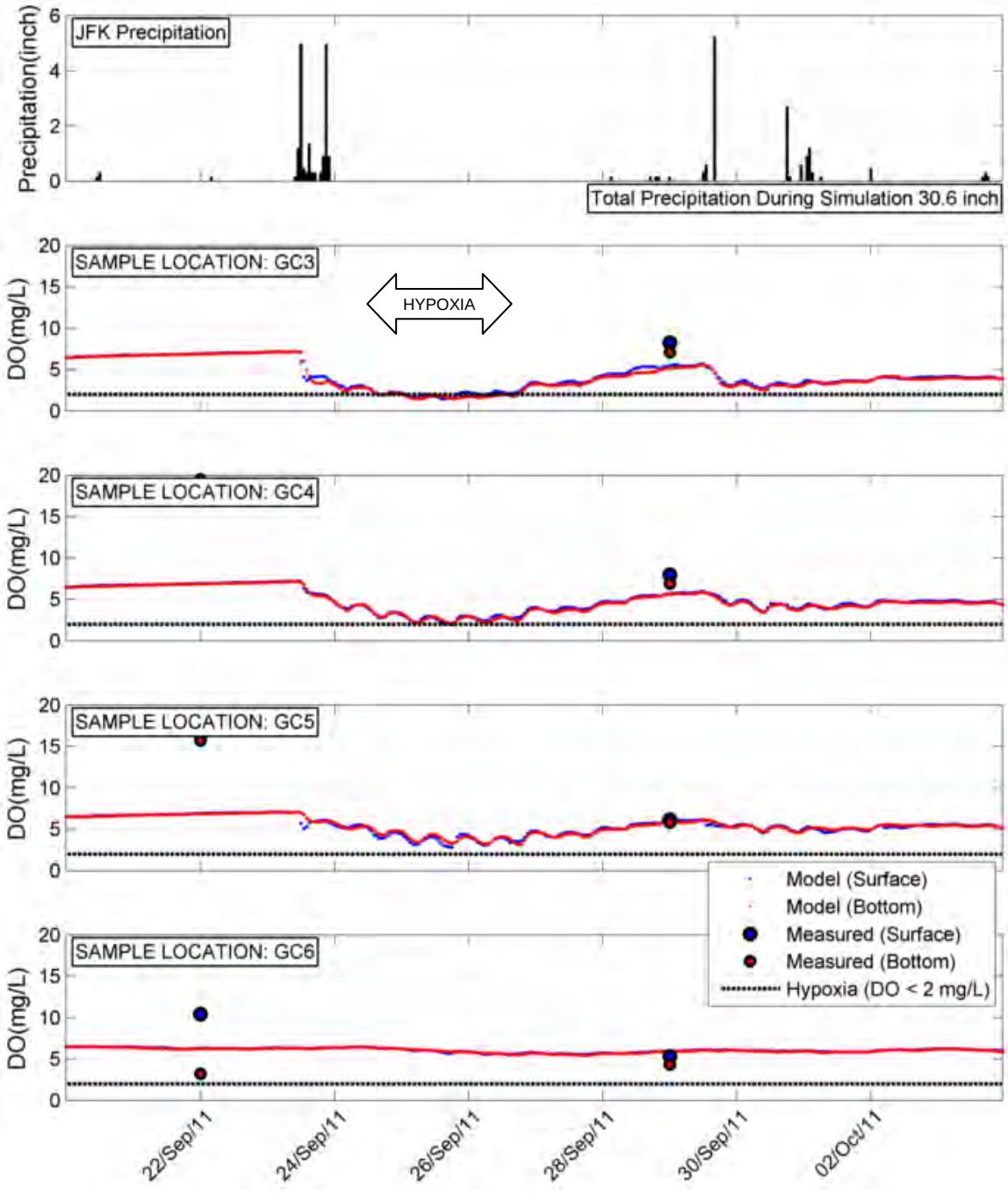

Figure 7. DO model validation showing measured and modeled hypoxia in the Canal following a rainfall and CSO flow events on 25th September, 2011 and 29th September, 2011. Note that modeled results do not include effects of oxygenation pipe.

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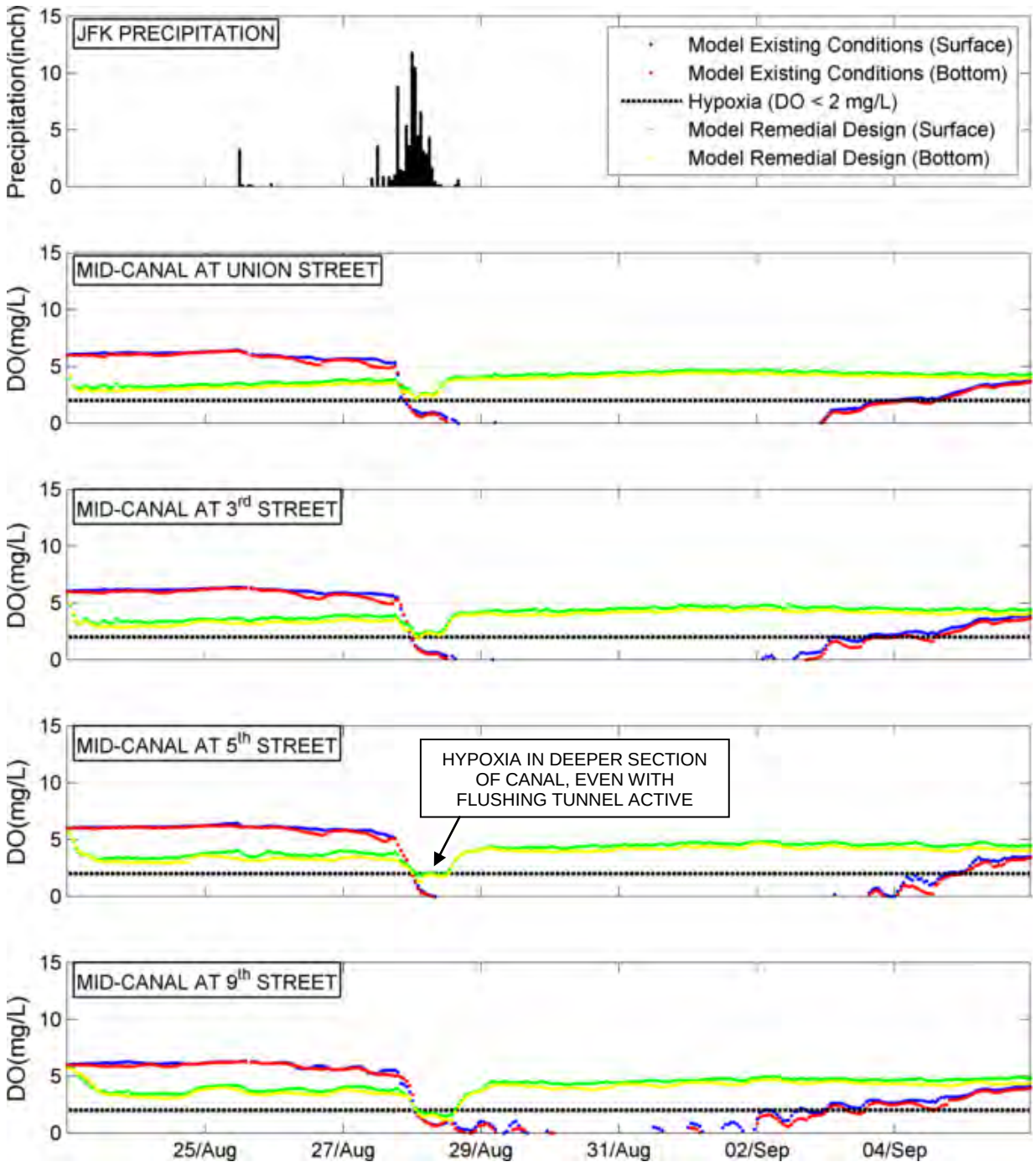

Figure 8. Comparison of modeled Remedial Design conditions with Existing Conditions for the Hurricane Irene event

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Figure 9. Change in copper deposition rates resulting from dredging to -16 feet for a wet weather flow event

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Figure 10. Change in lead deposition rates resulting from dredging to -16 feet for a wet weather flow event

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Figure 11. Change in benzo[a]pyrene deposition rates resulting from dredging to -16 feet for a wet weather flow event

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Figure 12. Change in PCB-153 deposition rates resulting from dredging to -16 feet for a wet weather flow event

Appendix E

Comments on Upland Source Control and the Potential for Canal Recontamination, prepared for National Grid, by Exponent, Inc.

Exponent®

Comments on Upland Source Control and the Potential for Canal Recontamination

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1 Comments on Upland Source Control and the Potential for Canal Recontamination

In its comments regarding the Gowanus Canal (the Canal), the Contaminated Sediment Technical Advisory Group (CSTAG) made clear that control of upland sources of contamination (such as combined sewer overflows [CSOs]) should be made a priority before any remedy is implemented (CSTAG 2012). CSTAG added that a final Record of Decision (ROD) should be issued "after the CSOs, ground-water, permitted and unpermitted discharges have been further controlled and their impacts on reducing risks are better understood" (CSTAG 2012). Otherwise, "there would be significant recontamination of the surface sediment after any sediment remedy" because "it may be many years if not decades before contaminant releases are reduced." (CSTAG 2012).

The United States Environmental Protection Agency (EPA) Region 2 (the Region) responded that a detailed working schedule had been developed "for the control of major contaminant sources and the entity responsible for each activity." The Region added that although it "has not yet achieved a consensus with the [New York City Department of Environmental Protection] [DEP] on the various issues relating to the CSOs," the Region believes that CSO controls will be constructed in a "time frame not inconsistent with the remaining remedial work." (EPA 2012).

However, the Region's plan to reduce CSO discharges to the Canal, while a good first step, will not eliminate ongoing and future contamination from reaching the Canal. This is because CSOs, even at lower flow rates, will continue to discharge contaminants from historical and ongoing accidental spills of hazardous wastes that occur frequently around the Canal. Indeed, the recent chemical data obtained in 2012 from sediment mounds located near CSO outfalls confirmed that hazardous wastes are continuing to be conveyed to the Canal.

Storm water outfalls and other permitted and unpermitted outfalls also need to be addressed prior to any remedy implementation because they convey significant amounts of contamination to the Canal. For example, in Canal turning basins, accidental releases of waste oils from properties abutting the Canal have resulted in sheens on Canal surface water (e.g., NYDEC spill number 0800421, further discussed below). These impacts to the Canal were likely conveyed through permitted and non-permitted outfalls. Accidental releases of wastes will continue to occur in the future as they are part and parcel of industrial operations around the Canal. Although the Region's investigations of unpermitted pipes identified only "minor releases from a handful" of pipes, those "snapshot" investigations are not representative because they were not conducted concurrent with releases of contaminants from upland sources. Indeed, the actual data from the Canal sediments suggests continuing CSO and other outfall inputs of contaminants.

Consistent with the CSTAG recommendations, we recommend that controlling all contamination sources around the Canal should be made a priority in the ROD. Otherwise, any dredging will be a wasteful use of resources and the Canal sediment will be recontaminated. As discussed below, such recontamination has occurred at many sites throughout the country where source control was either neglected or was conducted during remedy implementation. The

Proposed Remedial Action Plan (PRAP) does not provide a clear plan to address upland sources. Our comments on the PRAP with regard to controlling upland sources are presented below.

1.1 Comment 1: The recent (2012) CSO sediment mound data show that CSOs are conveying contamination from upland areas to the Canal. The proposed plan to reduce CSO flow rates will not eliminate Canal recontamination.

The 2012 core samples from sediment mounds along the Canal bottom confirm that CSOs continue to discharge contamination from historical and current upland sources. Direct discharges via seeps from upland sources also account for some of the contamination in the mounds. It is not clear how flow reductions will eliminate CSOs from conveying contaminants to the Canal.

GEI 2012 sampling event

Bathymetric surveys conducted between 2003 and 2010 showed that sediment was accumulating below and in the vicinity of CSO outfalls. Some of these CSO sediment mounds were up to five feet thick (bathymetric survey results were presented in the 2011 Remedial Investigation Report; EPA 2011). In 2012, GEI Consultants, Inc. collected four feet sediment cores from these sediment mounds. See Figure 1 for sediment core locations. The sediment cores, which were sliced every six inches, were analyzed for VOCs, SVOCs, TPH, metals, PCBs, PPCPs and pathogens[1], pesticides, and herbicides. Analytical results are presented in Appendix I. Below is an evaluation of these results.

Analytical results for sediment samples from mounds near CSO RH-031/OH-602 (see Figure 1)

Total polycyclic aromatic hydrocarbons (tPAH) concentrations in this sediment mound were as high as 3,581 mg/kg (as the sum of the 16 priority pollutant compounds– $tPAH_{16}$). With the exception of just one sample containing PAHs that originated from a tar-like source, PAHs in the sediment mound originated from petroleum sources, such as waste oils. Figure 2 presents example PAH and gas chromatogram profiles for a sediment sample that is consistent with waste oils. The figure also presents similar information for the one sediment sample with a PAH profile with a dominant pyrogenic (e.g., tar) signature. Figure 3 presents the ratio $tPAHs_{44}/TPH$[2] for all the sediment samples. This shows that the PAHs in the sediment mound at RH-031/OH-602 originated predominantly from petroleum sources, consistent with waste oils.

The presence of tar in the CSO mound is consistent with the use of tar at the former Honeywell tar felt plant. The Honeywell plant had coal tar and petroleum in its soil, with PAHs up to 473,000 mg/kg (Fleming 2005). The presence of waste oils in the mound appears to be

[1] Volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), total petroleum hydrocarbons (TPH), metals, polychlorinated biphenyls (PCBs), pharmaceuticals, and personal care products (PPCPs).

[2] $tPAH_{44}$ is the sum of 44 parent and alkylated PAH compounds. TPH is total petroleum hydrocarbons in the sediment sample.

consistent with contamination at the Witco Site, where PCBs and light non-aqueous phase liquid (LNAPL) were found in groundwater (WSP 2009). Indeed, PCBs were found in the sediment mound at concentrations up to 92 mg/kg; a concentration higher than any previously reported value in the Canal. It is clear that the CSO continues to convey contamination from historical upland sources to the Canal, including the last 10 years. Other example compounds in the CSO mound at high concentrations included DDT up to 1 mg/kg, lead up to 2,900 mg/kg, copper up to 1,200 mg/kg, the CSO marker *Clostridium perifringens* up to 410,000 cfu/mg, among other compounds exceeding their respective screening values (see Appendix I for details).

During the remedial investigation, a sediment sample was collected from RH-031 (EPA 2011). During dry weather, total PAH_{16} concentration in the CSO solids was 18 mg/kg and PCBs were not detected. These CSO sampling results are not representative of the contamination that has been discharging from RH-031, as the results are inconsistent with the CSO mound data. We believe that the CSO sediment mound data more accurately reflect the cumulative and time-integrated contamination that is being episodically discharged to the Canal.

The 2008 NYCDEP waterbody/watershed facility plan (NYCDEP 2008) for RH-031 is to reduce its flow rate by upgrading the Gowanus pump station. It is not clear how a 70% reduction in the flow from RH-031 will stop the conveyance of historical tars, waste oils, and PCBs to the Canal (in addition to future upland spills). As noted above, the CSO discharge concentration and volumes have not been adequately characterized. Furthermore, it has not been demonstrated and may be unlikely that a reduction in flow will reduce the concentration of contaminants in the discharge. The 2012 sediment mound core data showed that contamination discharged by CSOs to the Canal is variable in nature (e.g., core SED-522: tar impacts in a layer from 2.5-3 feet, with waste oils above and below the tar layer; see Figures 2 and 3). It is not clear if this variability is a function of CSO flow rates or other factors; such as direct discharges. This situation warrants additional investigation to understand how contaminants are being conveyed to the Canal through CSOs. Clearly, controlling the historical upland sources and future activities along the Canal before any remedy implementation should be made a priority in the ROD.

Results for CSO RH-035/OH-007 sediment samples (see Figure 1)

Total PAH concentrations in these sediment mound samples ($tPAH_{16}$) ranged from 16 to 647 mg/kg and originated predominantly from petroleum sources, consistent with mid- to heavy-range fuel oils, transmission oils, and other waste oils. The gas chromatograms in Figure 4 show clear evidence of petroleum and petroleum-related PAH in sediment samples from the mound. Figure 5 shows that the mound samples have ratios of $tPAH_{44}$/TPH that resemble petroleum sources.

Most likely, these petroleum and waste oil impacts resulted from frequent and recent upland spills. For example, near RH-035, recent spills that impacted the Canal include fuel oil spills (New York State Department of Environmental Conservation (DEC) spill number 9301903 (1993)), and diesel spills into sewers (DEC spill number 9401648 (1994)). This is in addition to several hundred thousand gallons of sewage that were discharged in 1997 to the Canal at the OH-007 location (e.g., DEC spill numbers 9710741 and 9706778, 263,000 and 12,750 gallons of sewage discharge, respectively).

In addition to PAHs, other compounds in the CSO mounds include PCBs up to 23 mg/kg, DDT up to 0.5 mg/kg, lead up to 1,400 mg/kg, and copper up to 3,200 mg/kg among other compounds.

The Region's plan for OH-007 is to construct a 3-4 million gallon in-line storage tanks to reduce the discharge, with no further information available. The tanks are anticipated to capture approximately two times the amount of first flush during wet weather events. However, the Region has not provided any evidence that the proposed in-line tanks will result in the 74% reduction of solids, which was noted in the Feasibility Study as required to meet the preliminary remediation goal (PRG) for PAH, PCBs, copper, and lead (CH2MHill 2012). (See additional comments on the Region's plan for OH-007 in Appendix G by Woodard and Curran).

For RH-035, the 2008 NYCDEP waterbody/watershed facility plan (NYCDEP 2008) is to reduce the flow rate by upgrading the Gowanus pump station. Conveyance of contaminants, however, will continue to occur even at the lower flows, unless protective measures are taken to control the flow from Bond Street to the catch basins or to redirect the flow from the outfall. Any of these alternatives will be time consuming. As it stands, the PRAP does not have a clear plan to control Canal recontamination in the RH-035/OH-007 area.

Results for sediment mounds at the northern reach of the Canal (see Figure 1)

Total PAH concentrations in these sediment mounds ($tPAH_{16}$) ranged from 5 to 1,508 mg/kg and originated from a mix of petrogenic and pyrogenic sources. Figure 6 presents exemplar sediment samples from the mounds with petrogenic and pyrogenic PAH/Gas chromatogram signatures. Figure 7 shows that the mound samples have ratios of $tPAH_{44}$/TPH that resemble a mix of sources. This mix is indicative of multiple ongoing upland sources along the Canal. Other contaminants included PCBs up to 3.5 mg/kg, DDT up to 0.099 mg/kg, and metals (lead up to 1,300 mg/kg, copper up to 740 mg/kg) among other contaminants.

The Region's plan to control the discharge from RH-034 is to install a 6-8 million gallon in-line storage tank for a 58% reduction of solids to meet the PRG for PAH, PCBs, copper, and lead. Again, the Region has not provided any evidence that the proposed in-line tanks would result in a 58% reduction of solids (See additional comments on the Region's plan for RH-034 in Appendix G by Woodard and Curran).

In summary, the 2012 sediment mound data confirmed that CSOs are conveying contaminants at concentrations much higher than characterized during the Remedial Investigation. The Region has failed to demonstrate that its plans to control CSOs and stop contaminants from reaching the Canal will be successful. This is a critical shortcoming. The proposed remedy for the Gowanus Canal is extensive and will be an engineering challenge. There must be assurance that this proposed massive cleanup will not be immediately reversed because of lack of CSO control measures.

1.2 Comment 2: Hazardous wastes from accidental spills are conveyed to the Canal through stormwater and non-permitted outfalls. These spills and transport routes must be recognized and addressed prior to any remedy selection.

Accidental releases of contaminants occur frequently around the Canal and impact the Canal through sewers, permitted discharge points, and non-permitted discharge points. DEC has extensive documentation of such contaminant releases to the Canal. Some examples are presented in Table 1 (which is by no means exhaustive and which does not cover all segments of the Canal) and Figure 8.

Among the accidental spills were releases of diesel fuels and waste oils that led to visible sheens on Canal surface water. Petroleum products, oils containing PCBs, and dielectric fluids were also found in manholes around the Canal at numerous locations. On some occasions, retaining walls collapsed into the Canal (e.g., location 204 in Table 1). Many other spills were reported in the DEC files to be of unknown sources, some of which were reported to be an "ongoing problem" of directly impacting the Canal (e.g., location 293 in Table 1). This is in addition to the hundreds of thousands of gallons of raw sewage that impacted the Canal over the past 20 years from pump and gate failures, as documented by the DEC.

This documentation of releases is important because it illustrates the nature of industrial operations around the Canal -- leaking underground storage tanks (USTs), truck and bus yards, salvage yards, and manholes with PCB filled transformers, among other sources. Clearly, controlling these hundreds of sources prior to any remedy selection must be made a priority in the ROD.

1.3 Comment 3: The effectiveness of upland source control measures must be demonstrated as effective prior to any remedy implementation.

In the past few years, many sediment remediation sites that included both dredging and capping have been recontaminated after implementation of remedial measures. Examples of these sites are included in Table 2. This fact underscores the importance of demonstrating that sources have been controlled prior to embarking on dredging or other sediment management activities.

In its *Contaminated Sediment Management Strategy* (EPA 1998), the EPA stated that "before initiating any remediation, active or natural, it is important that point and nonpoint sources of contamination be identified and controlled." EPA site managers were advised to adopt a phased approach towards site remediation where the effectiveness of source control is in doubt (EPA 2005). Such instruction holds true for the Gowanus Canal. The Region must "phase" its next steps by identifying and controlling all sources of contamination first including discharges from adjacent upland sites, and discharges from the combined sewer system. Only after this is done may the Region move on to the second phase of designing the remedy.

As highlighted in Table 2, sources of recontamination include point sources (e.g., public sources like CSOs, storm sewer outfalls, and industrial discharges), and non-point sources (groundwater advection spills, runoff, adjacent upland contamination). As the data in Table 2 show, these sites became recontaminated relatively quickly after the completion of remedial actions.

Relevant to the setting of the canal, sources of recontamination included both storm sewer discharges (e.g., Thea Foss Waterway in Tacoma, Washington) and discharges from contaminated upland sites into existing storm sewer systems that subsequently impacted sediments around outfalls (St. Clair Shores, MI). Additional documentation on the extent of this problem and the costs associated with addressing recontamination is presented in the recently published Sediment Remedy Effectiveness and Recontamination: Selected Case Studies (ASTSWMO 2013). Notably, this document about recontamination was prepared with assistance from the EPA.

Based on experience from other sites around the country, source control at the Gowanus Canal must be in place and demonstrated to be effective prior to remedy selection. This is consistent with EPA's sediment strategy, policies, guidance, and prior experience.

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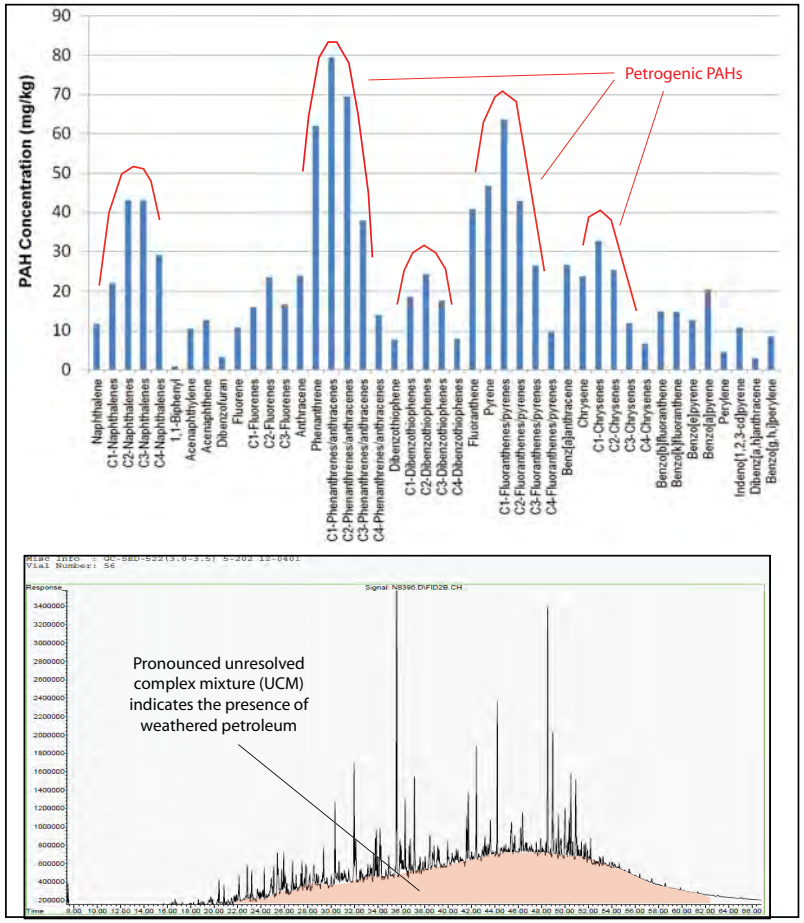
Figures

Figure 1. CSO Sediment Core Locations
(Collected August 2012 by GEI)

PAH profile consistent with petrogenic (e.g., waste oil) source.

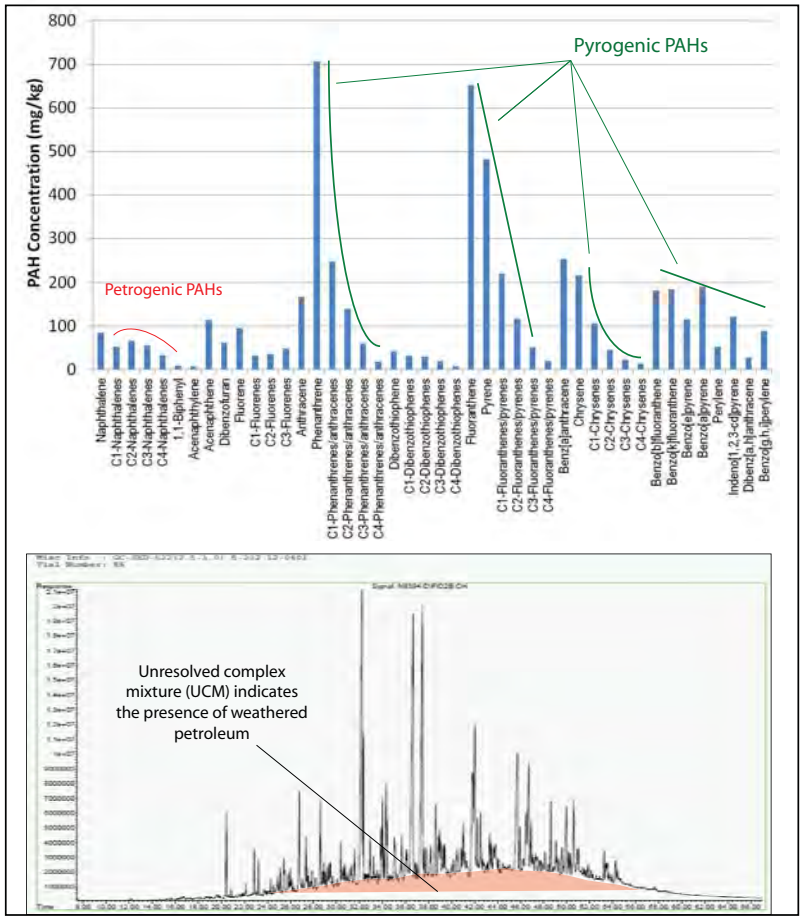
GC Chromatogram indicates petroleum source such as waste oil.

SED-522 (3-3.5 ft); tPAHs16 = 3,580 mg/kg



Consistent with Petrogenic Sources

SED-522 (2.5-3 ft); tPAHs16 = 3,580 mg/kg



Consistent with Pyrogenic Sources

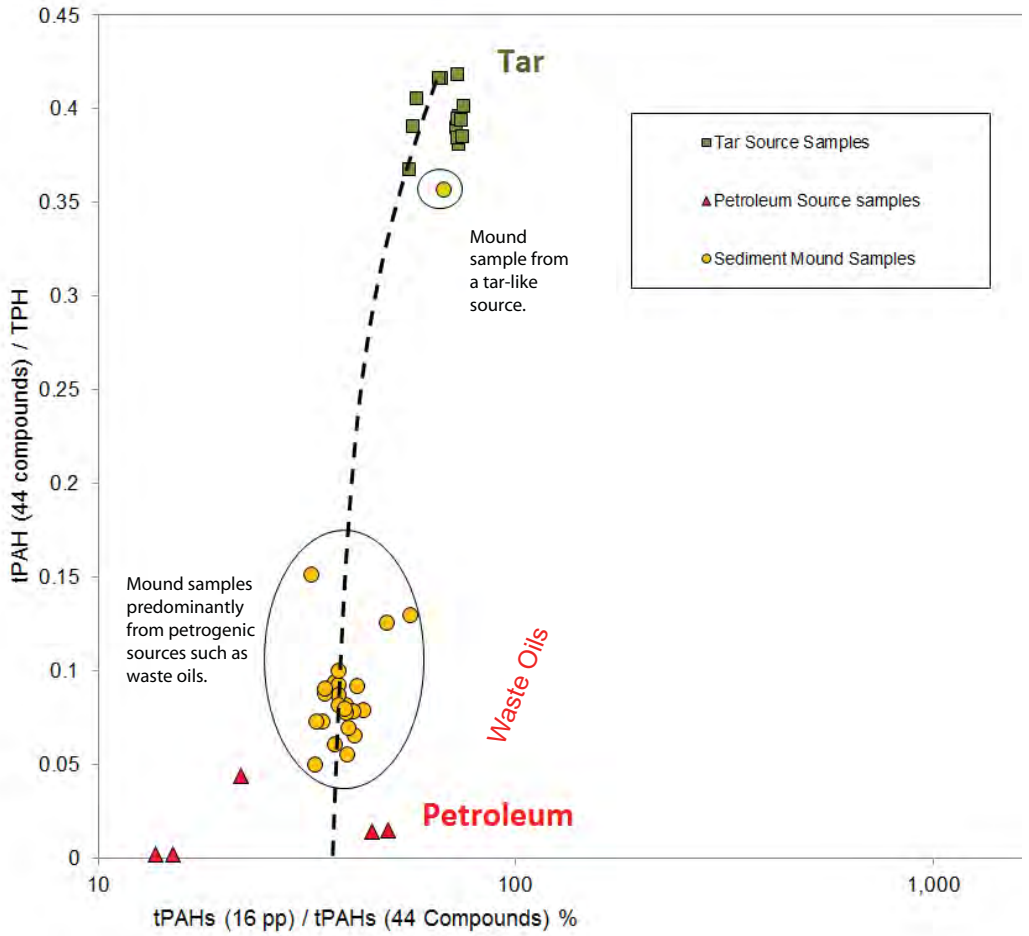
PAH profile consistent with pyro-genic (e.g., coal tar) source.

GC Chromato-gram indicates a minor petro-leum input to sample SED-522 (2.5 - 3 ft)

Figure 2. Example PAH and gas chromatogram profiles for samples from the RH-031/OH-602 sediment mound.

Exponent

Sediment mound sample locations. (tPAH/TPH analysis results are presented on the adjacent graph)

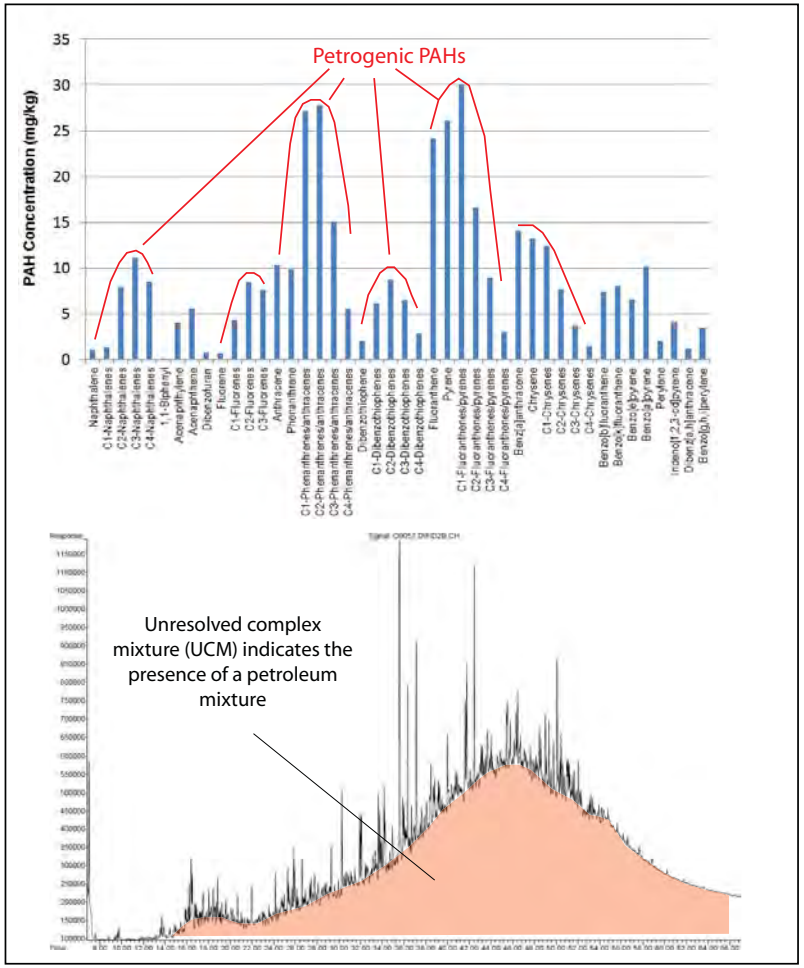


tPAH 44 is the sum of 44 parent and alkylated compounds, tPAH 11 is the sum of the 16 priority pollutant compounds. TPH is total petroleum hydrocarbons in the sediment sample

Figure 3. PAHs in the RH-031/OH-602 sediment mound originated predominantly from petroleum sources, consistent with waste oils, with PAHs in one sample originating from a tar-like source.

Exponent

SED-519 (1 - 1.5 ft); tPAHs16 = 3,580 mg/kg



SED-512 (3.5 - 4 ft); tPAHs16 = 117 mg/kg

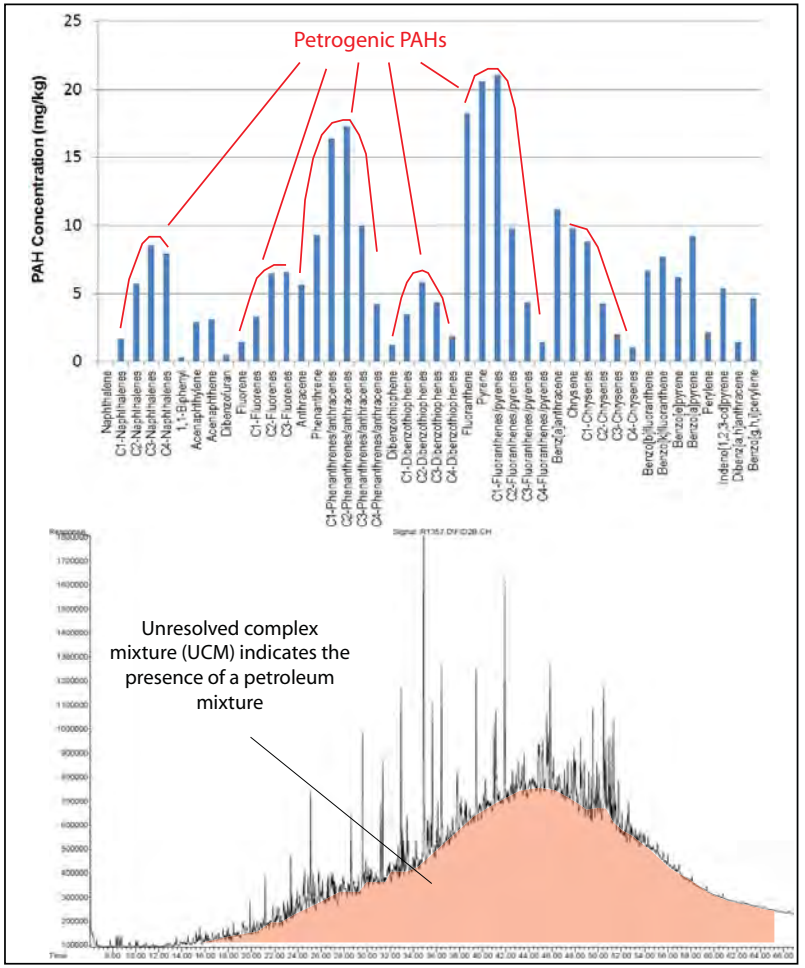
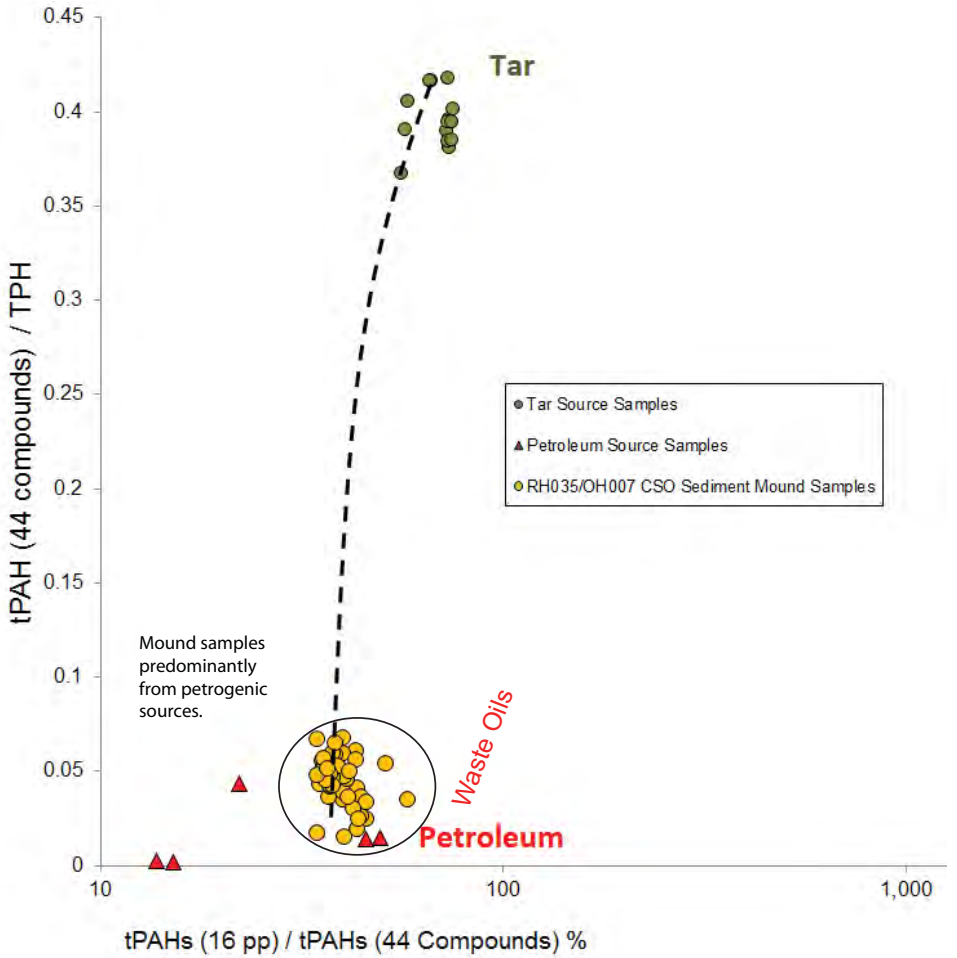


Figure 4. Example PAH and gas chromatogram profiles for samples from the RH-035/OH-007 sediment mound showing a mix of petroleum hydrocarbons in the samples, consistent with mid- to heavy-range fuel oils, transmission oils, and other waste oils

Exponent

Sediment mound sample locations.
(tPAH/TPH analysis results are presented on the adjacent graph)



tPAH 44 is the sum of 44 parent and alkylated compounds, tPAH 16 is the sum of the 16 priority pollutant compounds. TPH is total petroleum hydrocarbons in the sediment sample

Figure 5. PAHs in the RH-035/OH-007 sediment mound originated predominantly from petroleum sources.

Exponent

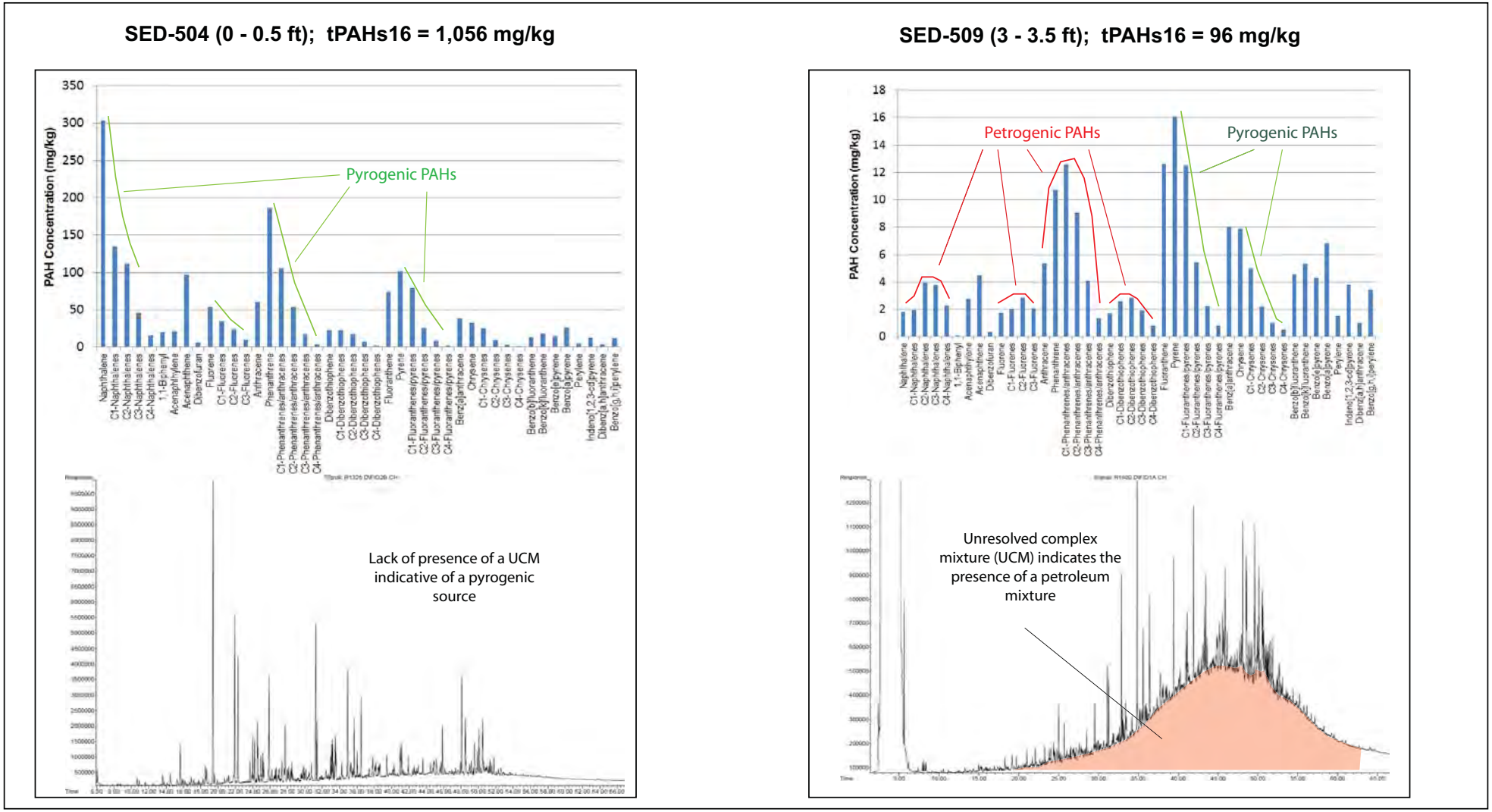
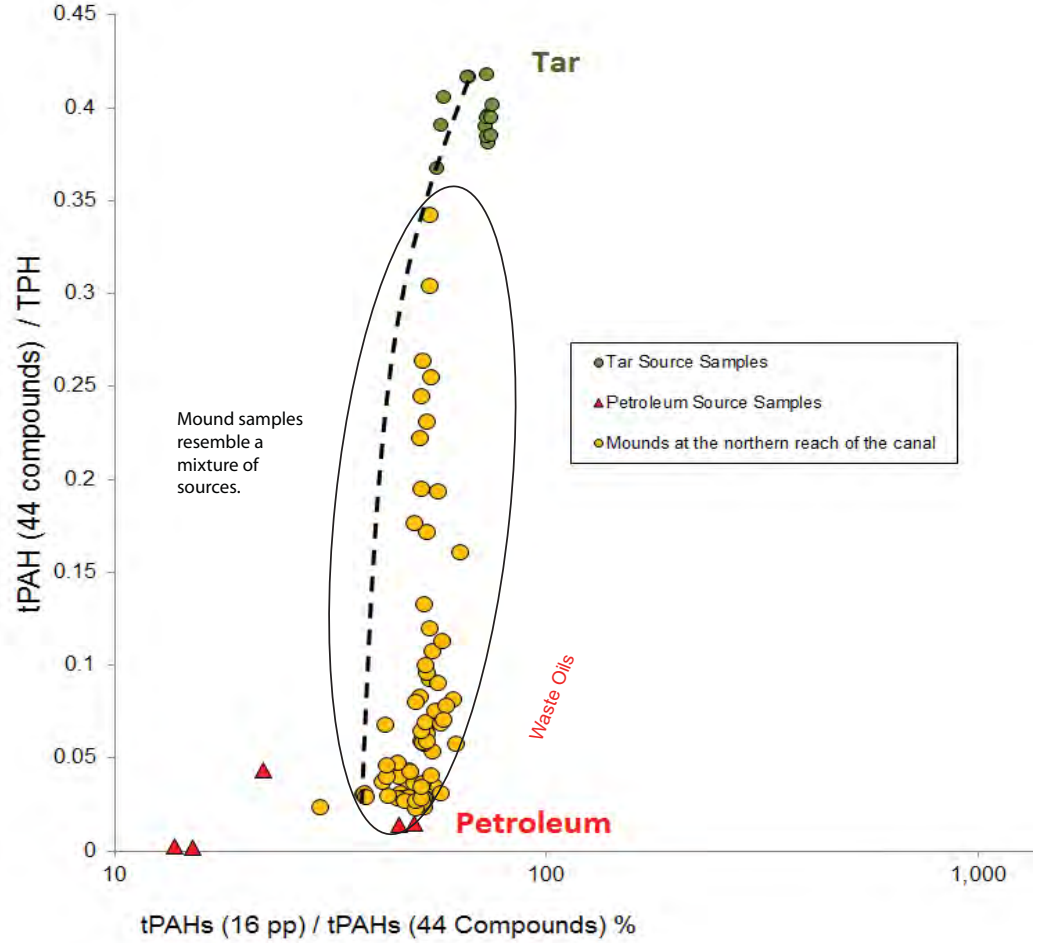


Figure 6. Example PAH/gas chromatogram profiles with petrogenic and pyrogenic signatures (samples from the sediment mounds at the northern reach of the Canal).

Exponent

Sediment mound sample locations. (tPAH/TPH analysis results are presented on the adjacent graph)



tPAH 44 is the sum of 44 parent and alkylated compounds, tPAH 16 is the sum of the 16 priority pollutant compounds. TPH is total petroleum hydrocarbons in the sediment sample

Figure 7. PAHs in the sediment mounds at the northern reach of the Canal originated from a mix of petrogenic and pyrogenic sources indicative of multiple ongoing upland sources along the Canal.

Exponent

Figure 8. Example spill locations in upland areas around the Canal.

Tables

Table 1. Example Spills in the Vicinity of Gowanus Canal

Map Identification Number	Spill Date	NYDEC Spill Number	Spill Description	Comments	Page in Document
171	7/15/1992	9204442	200 gallons diesel spill directly next to the Gowanus Canal.		286
172	5/10/1993	9301903	250 gallons of #4 fuel oil spill, impacting the sewers.		287
164	4/10/2008	0800421	Petroleum spill, releasing petroleum products in sewers and the Gowanus Canal	From DEC investigator remarks: MCIZ CORP site is used for bus maintenance and parking. One Bus was in accident with two cars on the lot releasing sewage, waste oil, and motor oil. Sewers were affected. Remarks discussed continual problem of discharge to the Gowanus Canal.	275
336	9/7/1997	9706778	12,750 gallons of raw sewage discharged to Gowanus Canal	Nonchlorinated sewage discharge due to pump failure. Entered the Canal around 2nd Ave and 5th Street.	460
337	2/20/2007	0612588	100 gallons of diesel in a truck yard. Spill went into sewer.	Six drums of contaminated snow were hauled off the Williams Construction Site.	461
167	9/18/2004	0406715	Unknown amount of raw sewage discharged into the Gowanus Canal	Ongoing due to rain	282
168	7/10/2004	0403825	Wastewater release impacted groundwater	Caller remarks: "Fire in area. Fire hydrant water and wastewater flowing into Gowanus Canal".	283
169	3/31/200	031433	Unknown petroleum containing PCBs on 500	DEC investigator remarks: "there is smoke in MH-5389 due to burning wires, 1-sample	284

Table 1. (cont.)

Map Identification Number	Spill Date	NYDEC Spill Number	Spill Description	Comments	Page in Document
	4	3	gallons of water and mud in manhole (MH-5389).	taken envir tag #33745 placed". Lab results received 3/31/04 Lab ID: 04-02439 results: 135 ppm PCBs…Tanker drained 31 hundred gallons of liquid from structure"	
170	10/8/2000	0008008	Unknown oil on 1,000 gallons of water in manhole with transformer that historically contained PCBs.	Liquids and solids removed from manhole.	286
335	12/19/1997	9710741	263,000 gallons of raw sewage discharged into Gowanus Canal.	Caller Remarks: "Malfunction of tide gate. DDC Emergency sewer lining malfunction"	459
334	5/4/1994	9401648	125 gallons of diesel spilled into sewer.	DEC Investigator remarks: "ON SCENE: SADDLE TANK RUPTURE, OIL RAN DOWN STREET INTOGOWANUS CANAL, KTL IS SPILLER, FDNY RECOVERED 1-DRUM FROM TANK, LIGHT SHEEN IN CANAL"	458
114	6/3/1986	8601502	Unknown petroleum product released in Gowanus Canal	Caller Remarks: "OIL SHEEN ABOVE SHORE LINE & SHEEN IN WATER"	203
115	1/25/2010	0911434	200 gallons of dielectric fluid spilled in manhole.	DEC Investigator Remarks: "Spill contained and cleaned up by Con Edison"	204
333	9/8/1997	9706833	100 gallons of waste oil impacted sewers	DEC Investigator Remarks: "THREE CATCH BASINS STARTING AT 3RD STREET WERE OPENED AND CLEANED BY FLUSH AT THE REQUEST OF DEP".	457
176	5/30/200	050241	Unknown petroleum release	Caller Remarks: "unknown substance on	292

Table 1. (cont.)

Map Identification Number	Spill Date	NYDEC Spill Number	Spill Description	Comments	Page in Document
	5	6	affecting surface water	body of water of union st west side of Canal"	
177	7/1/2009	0914289	Unknown petroleum release in the vicinity of the Canal		293
179	11/4/2004	0408640	1/2 Pint of oil on 400 gallons of water.	DEC investigation remarks: "Approximately 600 gallons of liquid was removed by tanker"	295
78, 185	9/25/2001 9/12/2001	0106619 0106920	Unknown amount of #2 fuel oil leaked into the environment	Cause of spill was reported as "Tank Test Failure". DEC Investigator remarks included: "Consolidating open spills on property. Spill closed and cross referenced to spill #0106920. Additional remarks included: "DR. YOUSSEFNIA STATED THAT THERE IS A 275 OR 550 UST AT SAID SPILL LOCATION THAT FAILED ATANK TEST. THE UST LEAKED FUEL OIL OVER AN UNKNOWN PEROID OF TIME."	159, 301
184	9/20/2000	0007226	Unknown oil bubbling to surface of Canal		300

Table 1. (cont.)

Map Identification Number	Spill Date	NYDEC Spill Number	Spill Description	Comments	Page in Document
201	12/11/2001	0109040	Oil leaks from trucks impacting sewer during rain events	DEC remarks: "in alleyway between 6th and 7th Street on 2nd Ave there are 3 sets of double parked unused oil delivery trucks in front of GEMTEC owned by T&S Trucking (718)499-2900. The rear of the two rear trucks were underlain by used speedy dry which was leaking sheen into the nearby sewer during rain events. The sewer appears to be connected to the Gowanus Canal on 7ths Street east of 2nd Ave. A large 300' x 100' sheen was present on the Canal. T&S responded by sweeping used speedy dry and spreading new speedy dry. Coast Guard 718-354-4121 was notified regarding sheen on12/14/2001. DEP (Andrew Kelley 718-595-6700) was notified on 12/14/2001 regarding illegal sewer discharge. Spill will be referred to Environmental Conservation Officers to see if trucks can be stored in alley and to determine if the alley is a public street. Spill closed 12/17/2001"	323
204	11/13/2000	0030027	Unknown petroleum spill impacting the Gowanus Canal.	Spill Caller remarks: NOTICED SHEEN ON GOWANUS CANAL POSSIBLY COMING FROM SPILL LOCATION. WALL COLLAPSE INTO GOWANUS CANAL. POSSIBLE FORMERPBS FACILITY.	326

Table 1. (cont.)

Map Identification Number	Spill Date	NYDEC Spill Number	Spill Description	Comments	Page in Document
205	2/17/2005	0412308	One gallon of unknown oil on 100 gallons of water in a sump near the Canal.	DEC Investigator remarks: FOUND ONE GALLON OF UNKNOWN OIL ON 100 GALLONS OF WATER IN MH5436...CAN NOT VERIFY IF THERE IS ANY OTHER OIL FILLED EQUIPMENT IN HOLE. ENV STOP TAG# 11976 WAS PLACED.ALSO CAN NOT VERIFY IF THERE IS ANY SEWER CONNECTIONS OR SUMPS.	327
72	5/31/1995	9502574	Four abandoned barrels, possibly containing hazardous material	Cause of spill was reported as "Tank Failure"	153
269	11/24/1997	9709837	20 gallons diesel spill.	Caller Remarks: Spill from a truck saddle tank.	395
293	8/18/1999	9905930	Unknown oil spill impacting Gowanus Canal	Caller stated that this is an ongoing problem. No DEC remarks for this spill.	420
294	7/21/1999	9904739	Unknown oil spill impacting Gowanus Canal	Caller stated that sheen was covering most of the Canal.	420
297	7/30/2007	0704871	Milky substance bubbling up into Gowanus Canal water	DEC Investigator Remarks: Unknown material dissipated.	423
122	7/10/2000	0004300	1 gallon of unknown petroleum	"1qt unknown oil on floor of manhole. 3" inactive drain exists in manhole... Adjacent sewer checked and found 4" pipe in the direction of manhole. There is product dripping onto floor. No free flowing water involved. 2gal product removed from	211

Table 1. (cont.)

Map Identification Number	Spill Date	NYDEC Spill Number	Spill Description	Comments	Page in Document
				structure."	
137	2/14/2000	9912931	2 gallons of hydraulic oil to sewer	"Caller Remarks: rain did cause some to go into sewer…"	243
141	5/14/1998	9801934	4 gallons of unknown material spilled to sewer	"Product similar to dielectric fluid (< 1ppm PCB); vendor's dumpster overflowed the liquid…" Additional remarks included: "GAL OF UNKNOWN OIL ON PAVEMENT. AREA IS NOT CONTAINED, & SEWERS ARE AFFECTED."	247
149	2/8/1996	9514237	2 gallons of diesel discharged into sewer	"Caller Remarks: crew found a trail of diesel that leads to a storm drain." Additional remarks include: "2 gallons spilled by pumps, slight sheen through cable yard to drain... Unsure when it occurred... Later determined none in drain."	256
214	6/25/2002	0203199	3 gallons of unknown petroleum spilled on soil.	DEC Investigator Remarks: "FOUND APPROX 3-GALLONS OF UNKNOWN OIL ON 500 GALLONS OF WATER IN MH-55750. IT APPEARS TO BE CONTAINED AT THIS TIME NO SEWERS OR WATERWAYS EFFECTED."	337

Table 1. (cont.)

Map Identification Number	Spill Date	NYDEC Spill Number	Spill Description	Comments	Page in Document
229	7/10/2004	0403837	200 gallons of gasoline discharged to sewer.	DEC Investigator Remarks: "Spill was called in by Fire Department Owner was not aware of an open spill violation at this site. The site had a waste oil tank when the factory was hit by fire... the spill was washed away when FD injected water to put down fire."	353
250	6/30/1999	9903695	3 gallons of unknown petroleum spilled in a manhole	DEC Investigator Remarks: "discovered approx. 2800 gallons of water and 3 gallons of oil in MH 65436." Apparently, spill was contained in the manhole, and did not impact sewers or waterways.	375
251	3/3/1999	9814432	5 gallons of unknown petroleum in a manhole.	Caller Remarks: "5 GALLONS OF UNK OIL ON TOP OF 7000 GALLONS OF WATER - CONTAINE DIN MANHOLE."	377
253	5/23/2005	0502141	4 gallons of unknown petroleum in a manhole.	DEC Investigator Remarks: "WHILE ON LOCATION TO INSPECT M65434 FOR AN ABATENENT JOB... FOUND: APPROX. 4 GALS OF UNKNOWN OIL ON APPROX. 75 GAL'S OF WATER. NO SEWERS OR WATERWAYS APPEAR TO BE AFFECTED."	379
255	1/1/1996	9515448	Unknown petroleum	Caller Remarks: "caller complained to sewer dept because she was getting a fuel smell from sewer... possibly underground spill from a nearby gas station and oil company"	381

Table 1. (cont.)

Map Identification Number	Spill Date	NYDEC Spill Number	Spill Description	Comments	Page in Document
286	3/5/2003	0211997	5 gallons of unknown petroleum in a manhole.	Caller Remarks: "UNKNOWN FOUND FLOATING ON WATER IN THE ABOVE MANHOLE." DEC Investigator Remarks: "5 gallons of oil on top of approximately 2500 gallons of water in Manhole 70465, Feeder 41/42. The spill is contained in the manhole."	410
306	11/11/1994	9410709	Unknown petroleum in sewer.	Caller Remarks: "OIL SMELL COMING FROM SEWERAGE VENT."	431

Toxics Targeting, Inc. 2011. Phase I Environmental Database Report, Carroll Street, Brooklyn, NY 11215. March 15.

Table 2. Sediment sites with reported recontamination

Site	Response Measure(s)	Recontamination Information	References
Anacostia River, DC	2004 Cap	2006 Urban sources, upstream sources	USEPA 2006
Bloomington, IN (3 creeks)	1987 Sediment Removal	1992 All sources unclear – point source discharge included	ATSDR 1992
Bremerton Naval Complex, WA	2000 Dredge	2000 Losses from CAD placement	SPI 2002, DNO 2002
Convair Lagoon, CA	1998 Cap	2002 Public storm drain discharges	Zeng 2002, Carlisle 2002
Denny Way Site, WA	1990 Cap	1993 CSO point source discharges	Palermo 2002, NRC 2001, Romberg 2005, WDNR 2002
Duwamish Norfolk CSO, WA	1999 Dredge-Cap	2001 CSO point source discharges; unremediated adjacent contaminated sediment	WDE 2003, USEPA 2003
Duwamish River Diagonal, WA	2004 Dredge	2005 Sewage system discharges	SPI 2005
Eagle Harbor Site, WA	1994 Cap	1999 “Surface sources”, “offsite sources”	USEPA 1999, Palermo 2002
Ford Outfall/River Raisin, MI	1997 Dredge	2001 Unremediated upstream sediments and/or upland sources; sediments sloughed from adjacent navigational channel	Cieniewski 2003, Bergeron 2000, Cleland 2000, Cleland 2001, Weston 2004
Housatonic River, MA	2002 Dredge-Cap	2005 Upstream sediments, CSO and SSO point source discharges	Boston Globe 2005
Lauritzen Canal, CA	1996 Dredge-Cap	1998 Undetected point source(s); incomplete remediation near margins of site	USEPA 2001, Weston 2002, USEPA 2004a
Long Beach North Energy Island	2001 Cap	2004 “Deposition from the surrounding harbor”	USACE 2005

Table 2. (cont.)

Site	Response Measure(s)	Recontamination Information	References
Borrow Pit (NEIBP), CA			
Pier 51 Ferry Terminal, WA	1989 Cap	1990 PAHs due to pile pulling; metals from “new sediment deposition”	HSRC
Pier 53-55, WA	1992 Cap	2002 Prop wash resuspension near edges; PAHs due to pile removal	Romberg 2005
Pier 64-65, WA	1994 Cap	2002 Piling repair work released creosote	Romberg 2005
St. Clair Shores, MI	2002 Dredge	2003 Recontamination from PCBs in the sewer pipes	TMD 2006
Thea Foss Waterway, WA	2002 Dredge-Cap	2006 City storm drain discharges	TNT 2006a, TNT 2006b

Appendix F

Dr. Marc Wilkenfeld CV and Human Health Risk Assessment, prepared for National Grid by GEI Consultants Inc.

Marc Wilkenfeld MD
453 FDR Drive C2002
NY, NY 10002
917-318-4557
Marcwilkenfeld@cs.com

EDUCATION

MT. SINAI SCHOOL OF MEDICINE, New York, NY
M.P.H. Equivalent, 6/89

UNIVERSITY OF VERMONT COLLEGE OF MEDICINE, Burlington, VT
M.D. 5/85

McGill UNIVERSITY, Montreal, Canada
B.S. 6/81, Physiology

PROFESSIONAL TRAINING

7/87 – 6/89 Mt. Sinai Medical Center**,** New York, NY
Resident in Occupational/Environmental Medicine

Screened and treated cases of occupational illness including exposure to asbestos, heavy metals, solvents, and other hazardous substances. Examined patients, read X-rays for evidence of change secondary to exposure and educated patients on hazardous exposure. Developed medical programs for workers and their families. Served on advisory committee to major occupational medicine screening program. Carried out research activities. Taught medical students. Also provided urgent and primary care to Mt. Sinai Hospital employees both years.

7/85 – 6/86 Roosevelt Hospital, New York, NY
Intern – Department of Internal Medicine

CERTIFICATIONS Board Certified in Occupational Medicine, 2011
ACLS Certification, 2011
Certified by NIOSH as an "A" Reader, 1990

LICENSURE New York, Florida, New Jersey and Missouri (Active)

Environmental Disaster Management:

2004 – 2005	Member/Expert Technical Panel for evaluation of 9/11-related health and environmental effects formed by Senators Hillary Clinton and Joseph Lieberman in conjunction with White Council on Environmental Quality
2003 – 2009	Medical Consultant for deconstruction of 130 Liberty Street
2002 – 2008	Member/Medical Working Group, Mt Sinai Medical Center World Trade Center (WTC) Worker and Volunteer Screening Program. Assisted in development of protocols for screening individuals with exposure at the WTC site.
2001 – 2008	Evaluated environmental data from the WTC site. Presented to community boards and tenant groups about the potential health effects 9/11. Assisted in implementation/interpretation of independent testing in Lower Manhattan. Developed and moderated major health effects forum in September 2002.

Clinical/Health Management:

2010-Present	Chief, Division of Occupational Medicine Winthrop University Hospital, Mineola NY
2007-2010	Physician Specialist-WTC Environmental Health Center-Gouverneur Health Care Services
9/2005-10/2007	Medical Director-Arbor We Care Brooklyn New York-Supervised Primary Care specialists and specialist performing fitness for duty Evaluations
5/1997 – 2010	Consultant in Occupational Medicine - Columbia University Health Science Division, New York, NY
9/1993 – Present	Founding Partner, Medlantic LLC, New York, NY Consulting firm specializing in occupational and environmental medical issues.
10/1991 – 10/1997	Staff Physician (PT), Bristol Myers Squibb Employee Health,
10/1991 – 4/1997	Medical Director (PT**),** Barnert Occupational Health Center,

11/1986 – 5/1987 Primary Care Physician, Executive Health Examiners, New York, NY. Provided walk-in medical care, pre-employment physicals, and periodic examinations to employees of contracted companies

ACADEMIC AND HOSPITAL APPOINTMENTS

10/2010-Present Winthrop University Hospital, Mineola NY
Chief, Division of Occupational Medicine

12/2007 – Present: New York University Medical Center, New York, NY
Clinical Assistant Professor in Medicine

9/2007 – Present: Gouverneur Health Care Services, New York, NY
Attending Physician

5/1997 – Present: Columbia University Medical Center, New York, NY
Assistant Professor in Clinical Medicine and Environmental Sciences

NEW YORK PRESBYTERIAN HOSPITAL, New York, NY
Assistant's Attending

10/1989-Present BETH ISRAEL HOSPITAL, New York, NY
Attending Physician, Staff Member

10/1989-9/2005 BARNERT HOSPITAL, Patterson, NJ
Consulting Physician, Staff Member

PROFESSIONAL AND ACADEMIC PANELS

- Member –NY State Task on Toll Plaza Air Quality 2009-Present
- Past President – New York Occupational Medicine Association, 1997
- Co-Chair Environmental Health Section ,ACOEM 2010-2011
- Medical Advisory Committee NYS Workers Compensation Board 2011
- Member (Representative of Assembly Speaker Silver) – NY Health Sciences Research Board, 2004 – Present

PRESENTATIONS

Multiple presentations since 1988 to:

- White Lung Association of New Jersey
- Asbestos Environmental Institute of New York

- Environmental/Occupational Safety at Health Institute of New Jersey
- National Safety Council
- American Society of Safety Engineers
- American Industrial Hygiene Association

Occupational Liver Disease – Presented to the American Liver Foundation, January 1998

Diagnosis and Management of Tight Building Syndrome, Indoor Air, Toronto, Canada, 1990

Environmental Medicine in Primary Care – Presented to the American Cancer Society, 1990

Health Promotion in the Workplace – Presented at the American Society of Safety Engineers, Washington, D.C. 1990

Indoor Air Pollution – Presented at the Annual Meeting of the Medical Society of the State of New York, 1989

Cholesterol Determination by a Corporate Medical Department – Presented to the AOHC in Boston, May 1989. Awarded resident research award by American College of Occupational Medicine.

Wilkenfeld M The WTC Disaster and Community Rebuilding -SOTAC 2007

PUBLICATIONS

Wilkenfeld, M. Occupational Medicine and 9/11. JOEM 53:9,956-57,2011

Wilkenfeld, M. and Shafer, N. "Blood Transfusion Reactions," *Legal Medicine*, 1989

Wilkenfeld, M. and Shafer, N. "Gunshot Wounds," *Legal Medicine*, 1990

Wilkenfeld, M. "Diagnosis Management of Tight Building Syndrome." *Proceedings of Indoor Air 90*, Toronto, June 1990.

Wilkenfeld, M. "Simple Asphyxiants." Occupational and Environmental Medicine. Edited by W. Rom, pp. 535-539. Little Brown and Co., 2007.

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Wilkenfeld, M., Crowley, K.A., Dawudo, O. "Occupational Eye Injury Due to Phototoxity." Journal of Occupational Environmental Medicine, 44 (6), pp. 488-9, 2004.

Manuscript in In Preparation

Wilkenfeld, M., Crane, M., Leary, L., Lowe, W. “Risk Assessment and Communication with Populations Near Former Manufactured Gas Plant Sites in New York City.”

Appendix G

Gowanus Canal: Response to NYDEC Approach for Stormwater Control, prepared for National Grid by Woodard & Curran, Inc.

GOWANUS CANAL: RESPONSE TO NYDEC APPROACH FOR STORMWATER CONTROL

Woodard & Curran Inc.
April 23, 2013

The United States Environmental Protection Agency (EPA) Proposed Remedial Action Plan (PRAP) for the Gowanus Canal proposes that two large capacity storm water storage tanks be installed to accept overflow from combined sewer outfalls (CSOs) RH-034 and OH-007 during high-flow storm conditions. The tank for CSO RH-034 is to be six to eight million gallons and the tank for CSO OH-007 is to be three to four million gallons in size. As indicated in note 14 (page 19) of the PRAP, storm water flow that exceeds the capacity of the sewer system would be diverted to and stored in these tanks until storm conditions subside. At that point the storm water flow would be directed to the wastewater treatment plant.

The size of the two tanks is based in part on data presented in Stein et al (2006), which indicates that the "first flush" of storm water comprises approximately 20% of the total discharge volume and contains between 30% and 60% of the total PAH load of the total storm discharge. According to the PRAP, "capturing approximately twice the amount of the 'first flush' of the design storm water event from CSO outfalls...would ensure that the protectiveness of the remedy is maintained." This statement suggests that the tanks will be designed to accommodate in excess of 40% of the design storm discharge (assuming a portion continues to be conveyed to treatment through the CSOs).

Although the approach set forth in the PRAP will capture a large portion of the sediment and pollutant mass, the scientific literature suggests that the potential still exists for the continued discharge of PAHs and metals to the Canal during storm events that produce a flow volume in excess of the capacity of both the tanks and the sewer system. This is due to the different flow behaviors of various particles sizes in storm water runoff, and the well-documented association of PAHs with the finer fraction of storm water particles. As summarized below, the first flush tends to include a larger proportion of coarse particulate matter. Since PAH concentrations tend to be higher on finer particulates, PAHs in the CSO flow may continue to be discharged to the Canal later in a storm event, after the CSO tanks are full.

I. Summary of Issue

Contaminants in storm water exist both in dissolved form and bound to particles. Contaminants bound to particles are of primary interest because of their ability to be deposited in the sediment of receiving waters such as the Gowanus Canal. The mass-based "first flush" phenomenon of storm water discharges occurs when the early stages of a storm contain a disproportionately large amount of the total particulate mass. Because PAHs are typically associated with particulates, the mass of PAHs is related to the size and number of particulates. However, PAHs have been shown to be distributed unevenly across size classes. Because of the presence of total organic carbon (TOC) in silt and other fine material, PAH concentrations tend to be higher on fine particulate matter than on coarse particulates. In a typical mass-based first flush of storm water, a

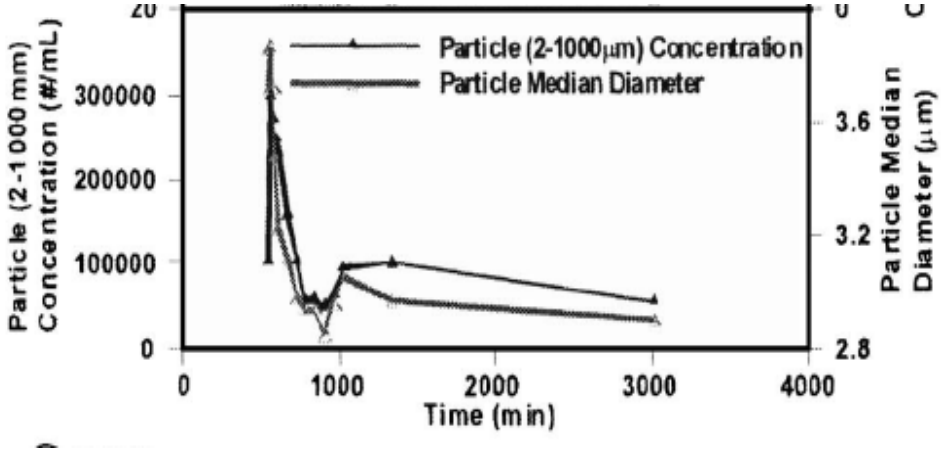
large proportion of the particulate material consists of coarse material transported by the high energy of the larger flows produced by intense rainfall. Transport of the coarse fraction is flow-dependent and so tends to decrease rapidly as the flows in the storm decrease. In contrast, the fraction of fine material remains elevated throughout the entire duration of a storm. Thus, PAHs bound to fine particulates may continue to be discharged to the Canal during late stages of storm events, when runoff volume exceeds conveyance capacity and the proposed storage tanks are full.

II. Scientific Literature

Review of the scientific literature on storm water composition and management supports the foregoing view. The key studies and sources are described below.

(a) Discharge of Fine Particulates. The differing discharge patterns of coarse and fine particulates in storm water has been documented by several researchers (Furumai et al. (2004), Crista and Sansalone (2003), Hergen et al. (2003), Li et al. (2005)). The sustained nature of fine particulate discharge is illustrated in the following figure from Li et al (2005), who studied roadway runoff patterns from two heavily traveled urban highways in Los Angeles. In this study, the highest concentration of particles of all sizes combined occurred within the first hour of the storm and declined rapidly. However, the discharge of very fine particles continued for the duration of the storm, with a steady decline in the median size of particles.

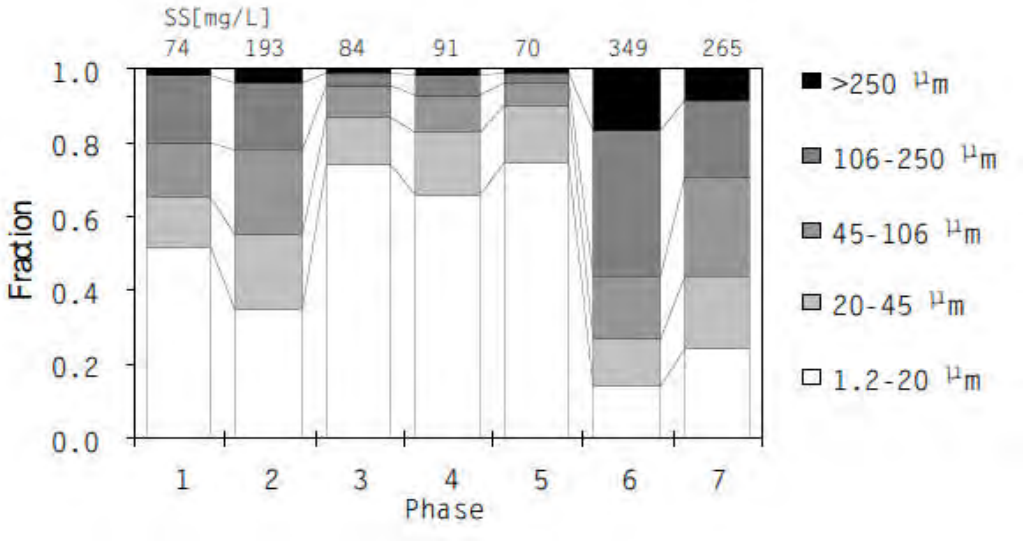
Figure 1. Relationship of Particle Size and Storm Duration (from Li et al. (2005))



Source: Li et al. (2005).

The predominance of coarse particulates is associated with high intensity flows, which may occur at multiple times during a storm event. The effect of later flow peaks is illustrated by data from Furumai et al. (2004), which describes storm water runoff from a highway system in Switzerland. In this event, a small spike in precipitation occurred in the early part of the storm (Phase 2), but heavy precipitation arrived at the end of the storm (Phase 6). The effect of these flow increases on storm water particle size and suspended solids concentrations is shown in Figure 2.

Figure 2. Changes in Particle Size and Suspended Solids with Increased Flow (Phases 1 and 6) (Furumai et al. (2004))



As the data from this study shows, particles less than 45 µm in diameter comprised over half of the particulate fraction, except following the intense precipitation at the end of the storm. The discharge of fine particulates occurs in all flow stages, but dominates during low flow conditions and tends to decline in later stages of the storm, as the surface is essentially washed free of movable particulates (Mitsova et al. (2011), Li et al. (2005), Furumai et al. (2004), Cristina and Sansalone (2003).

Throughout a typical storm, fine particulates comprise a small to moderate percentage of the total mass of storm water discharge, but dominate the composition numerically. Yun et al. (2010) found that particles less than five µm in diameter accounted for more than 80% of the number fraction while their mass was about 12%. Particles with a diameter of 50 µm or less comprised over 99% of the number fraction, and 59% of the mass throughout the storm event. Herngren et al.(2012) found up to 85% of the total particle volume was in the 0.45 – 75 µm size fraction, and Li et al (2005) found that while 97% of the particles were less than 30 µm, particles smaller than 50 µm accounted for 30% - 60% of the total mass.

While the concentration of all particulates decreases significantly after periods of intense precipitation, these values indicate the importance of the fine particulate fraction in the transport and distribution of storm water contaminants during all stages of a storm. Fine suspended particulates from storm water have been found to contribute to lethal and sub-lethal toxicity due to their ability to stay suspended in the water column. Suspended fine particles with size ranges less than 25 µm are easily trapped by gill tissue and once trapped, interfere with gill function of fish (Liu and Sansalone 2007).

(b) Association of PAHs with Fine Particulates. Numerous studies have documented the association of PAHs with the fine particulate fraction of storm water

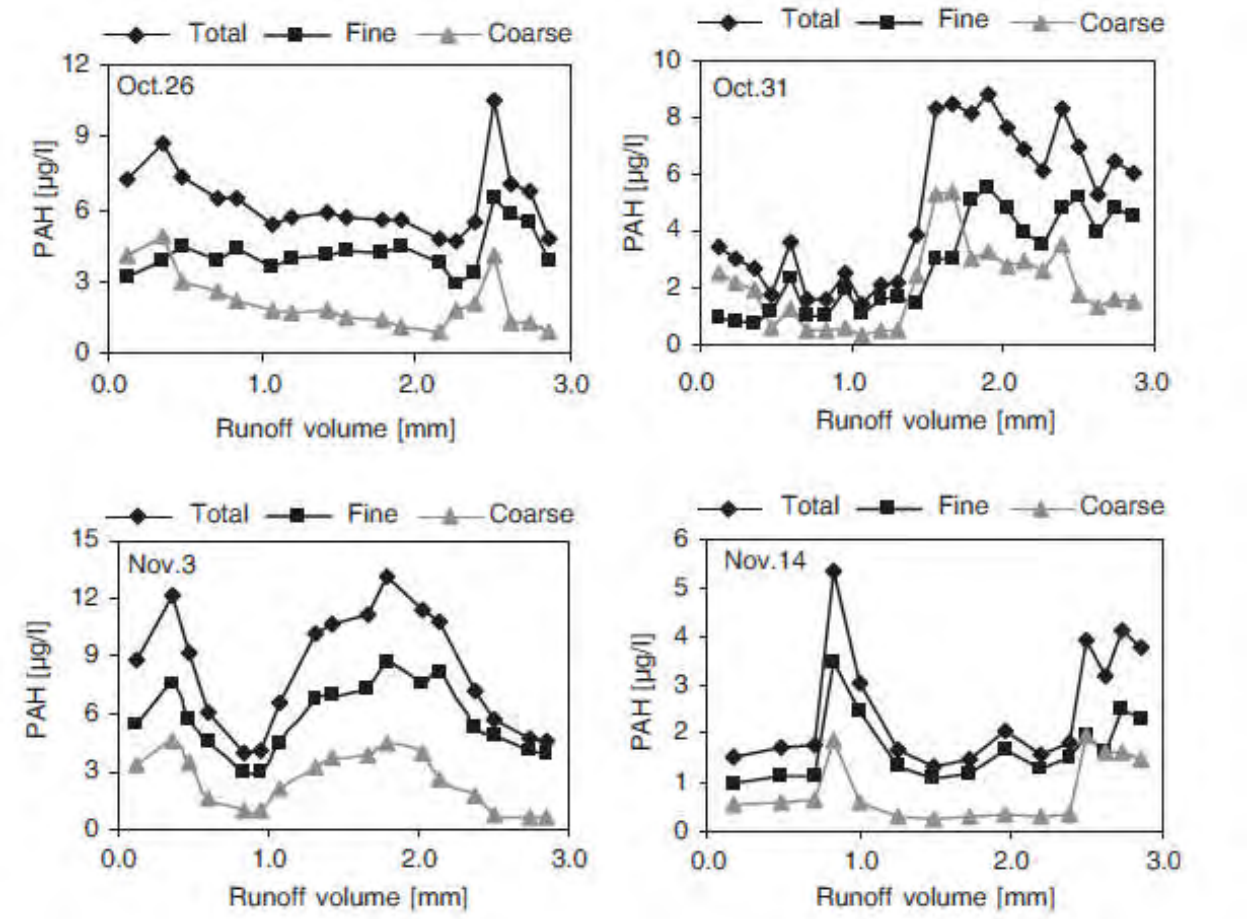
runoff, an association attributed largely to the higher surface area and TOC content of fine particulates. Results from Lee et al. (2005) illustrate this association with data from a study of urban street particulates, which form the fine fraction of surface runoff. As shown in Table 1, below, both TOC and PAH increase with decreasing particle size.

Table 1. Association of PAHs with TOC and Particle Size in Street Sweepings in Japan (Lee et al. 2005)

Size Fraction:	<20 um	20-53 um	53-106 um	106-250 um	250-500 um	500-1000 um	1000-2000 um
Wt (%)	0.5	2.6	5.1	13.9	24.1	29.2	24.6
TOC mg/kg	0.81	0.32	0.17	0.11	0.08	0.06	0.04
TPAH (24 PAHs) mg/kg	4.740	4.017	4.268	3.883	1.790	0.922	0.493

Likewise, Herngren et al (2012) found that runoff particles in the 0.45 µm – 75 µm size range exhibited the highest PAH concentrations in runoff from industrial, commercial, and parking lot areas, and also contributed the highest volume of particles (up to 85%). Aryal et al. (2005) studied the relationship of particulate size and PAH composition in runoff collected in the first three mm of precipitation (the first flush period) and found concentrations higher in the smaller fraction (< 45 µm) during all storm events studied, as illustrated in Figure 3.

Figure 3. Size-fractionated PAH Concentrations in Initial 3 mm of Storm Runoff (Aryala et al (2005))



Because of the association of PAHs with fine particulates, the continuing discharge of fine particulates during the later phases of large or long storms remains a concern. PAHs in the particulate fraction of storm water runoff can lead to elevated concentrations in receiving streams (Bathiet al (2012), Mahler and Metre (2003)).

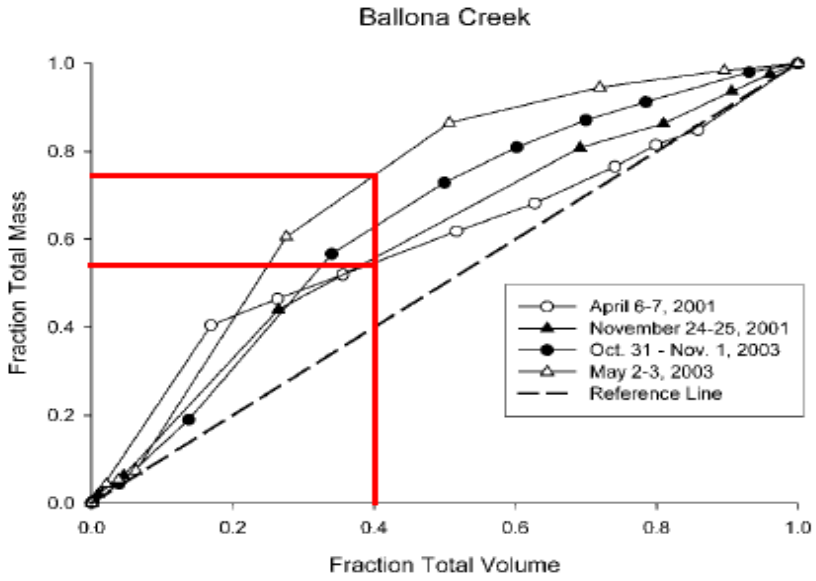
III. Potential for effects on the Gowanus Canal

Although the proposed storage tanks will capture the early discharge from CSOs RH-034 and OH-007, further evaluation is needed to determine if the volume of the tanks will be sufficient to capture enough of the particulate mass throughout the storm to prevent recontamination of the Canal. In particular, the dependence on an early-stage mass first-flush event to deliver most of the contaminant load to the storage tank merits further examination. Stormwater discharge patterns vary widely, and are influenced by watershed and conveyance characteristics, storm hydrography, type of impervious surfaces, number of preceding dry days, and other characteristics (Hergren et al. (2012), Mitsova (2011), Stein et al. (2006)).

Many studies are conducted in arid environments such as Los Angeles, where the long dry period combined with intense rainfall typically produce distinct mass-based first-flush effects. See for example, Stein et al. (2006). Data from other areas suggest that the first flush effect is less pronounced in areas that receive rainfall frequently, or in cases where fewer dry days precede storm events (Mitsova (2011), Zhang et al (2008)). The first flush effect itself has been shown to vary in both flow and concentration (Sansalone and Cristina (2004)).

Even in events where a first flush is evident, a large proportion of the particulate mass may still discharge late in the storm. Figure 4, below, shows the cumulative mass versus volume data from Stein et al. (2006), which illustrates the increase in PAH mass in this urban watershed in the early stages of the storm. Additional lines (red) have been added to Figure 4 to reflect the 40% cumulative volume value (twice the "first flush" volume of 20%) used in the sizing of the storage tanks at CSOs RH-034 and OH-007. On this data set, a 40% capture rate would contain approximately 55% to 75% of the storm water volume (depending on the storm event), but would still allow between 25% and 45% of the volume to bypass the system. The particulates in this portion are expected to be largely fine particulates, with relatively elevated PAH concentrations. This fraction would either remain in the conveyance, if flow is low enough, or be discharged to the Canal.

Figure 4. Fraction of PAH Mass Associated with 40% of Cumulative Flow (Stein et al. 2006)

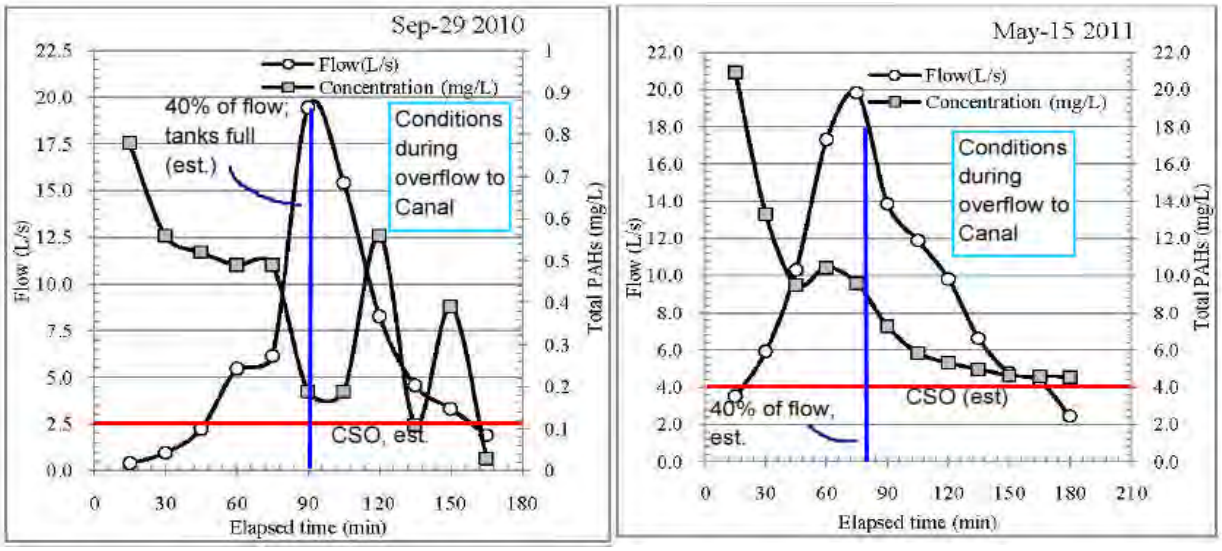


The portion of a storm event that may be released by the system in overflow conditions is better visualized with a so-called "pollutograph," which illustrates changes in volume and runoff concentration throughout the duration of a storm. Such visuals do not clearly reveal the first flush phenomena, but do illustrate runoff composition at different

points in a storm. Typically concentrations are low during peaks flows, as a result of dilution.

Figure 5 shows pollutographs from two storms in a highly urbanized area near Biscayne Bay, Florida (Mitsova et al (2011)). These depict changes in road runoff PAH concentration and flow as a function of time for storms two to three hours in length. To illustrate conceptually how the proposed tank system might affect discharges, we have overlaid lines that represent the boundary conditions that would affect the potential for overflow to the Canal: namely, the flow capacity of the sewer system (in L/s) and the capacity of the tanks, estimated at 40% of total storm flow volume. Since the total flow volume is the area under the flow curve, 40% of flow occurs somewhere near peak intensity. In these figures, storm water that would be contained by the tanks is represented by the area on the left of the vertical blue line (which represents tank capacity), while the storm water potentially discharging to the Canal is represented by the area to the right of the blue line and above the red line (which represents CSO capacity).

Figure 5. Estimated Gowanus BMP Boundary Conditions on Urban Stormwater Flow Data (data from Mitsova 2011)



As illustrated, potential overflow to the Canal could occur during conditions when both flow rate and PAH concentrations are declining, but still variable and high. Variability is shown by the figure on the left, for September 2010, which reflects pulses in rainfall intensity that occurred late in the storm and mobilized additional particles. The figure on the right shows conditions under more steadily declining precipitation intensity (Mitsova et al (2011)). Both cases illustrate the potential for continuing PAH discharges even after a significant volume of storm water has been contained.

As noted previously, the size and presence of a first-flush phenomenon is dependent on an array of site and storm specific factors. The selection of best management practices (BMPs) to capture first flush storm water flow is often based on precipitation guidelines applied to the unit watershed area. However, a study of four such state and literature

guidelines used to size hypothetical BMPs for using runoff data from an interstate highway in Cincinnati found that BMPs designed according to the guidelines (which ranged one-half to one inch of rainfall per specific area) experienced bypass in from one to four of eight storm events studied. For this dataset, the total mass of sediment bypassing the BMPs ranged from 0.02 to 0.59 kg per storm for a 300 m^2 (57 x 57 ft) study area (Sansalone and Cristina (2004)). While these data do not necessarily reflect the conditions in the watershed surrounding the Gowanus Canal, they do indicate the magnitude of particle bypass that can occur when units are designed based on first flush characteristics.

IV. Conclusion

Numerous studies indicate that PAHs on fine particulates are present in storm water throughout the entire storm event. Review of proposed BMPs for Gowanus storm water suggests that the potential exists for PAHs to be discharged to the Canal during periods of high and extended flow, when the capacity of both the sewer system and the storage tanks are exceeded. We suggest that the combined capacity of the storage tanks and the sewer conveyance be examined further, using hydraulic modeling and historical precipitation data as appropriate, to obtain additional information about the potential frequency and volume of storm water that may be discharged from the system. Without this analysis, the actual effectiveness of the proposed CSO remedy cannot be evaluated.

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Appendix H

In Situ Solidification Treatability Study Status Report, prepared for National Grid by GEI Consultants Inc.

GEI Consultants

Geotechnical
Environmental and
Water Resources
Engineering

In Situ Solidification Treatability Study
Status Report

Gowanus Canal Superfund Site

Brooklyn, New York
USEPA ID#: NYN000206222

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Acronyms and Abbreviations

ASTM	American Society for Testing and Materials
BTEX	Benzene, toluene, ethylbenzene, and xylene
COI	Constituents of interest
EPA	United States Environmental Protection Agency
FS	Feasibility study
GEI	GEI Consultants, Inc.
GGBS	Ground granulated blast furnace slag cement
ISS	In situ solidification
ISSTWP	In situ Solidification Treatability Study Work Plan
MGP	Manufactured gas plant
NAPLs	Non-aqueous phase liquids
OSI	Ocean Surveys, Inc.
PAHs	Polycyclic aromatic hydrocarbons
PID	Photoionization detector
RTA	Remediation Target Area
SVOCs	Semi-volatile organic compounds
TBN	Turning basin
UCS	Unconfined compressive strength
VOCs	Volatile organic compounds

MEASUREMENTS

^{o}C	degrees Celsius
cm/sec	centimeters per second
K	conductivity
psi	pounds per square inch

1. Introduction

The Gowanus Canal (the Canal or the Site) sediments contain or have been impacted by non-aqueous phase liquids (NAPLs) that are a complex hydrocarbon mixture including polycyclic aromatic hydrocarbons (PAHs). The NAPL contains petrogenic and pyrogenic hydrocarbons, as well as other types of chemicals. The oil refineries, petrochemical plants, manufactured gas plant (MGP) facilities, fertilizer and glue factories, coal yards, and other industrial and urban discharges along the Canal are all potential sources of NAPL. These industrial land uses and discharges have likely contributed petroleum, heavy metals, pesticides, herbicides, polychlorinated biphenyls and/or other chemicals to the sediments. Many of these compounds are the same as or difficult to distinguish from compounds also associated with former MGP operations.

In support of the development of a remedial design focused on an effective, sustainable remedy, with overall containment for all sources of contaminants present in the Canal, a number of investigative efforts are planned under the general categories as follows:

- Cap stability and components
- In situ solidification
- Upland and underlying sediments loading (hydraulic and chemical)
- Hydrodynamic modeling

On behalf of National Grid, GEI Consultants, Inc. (GEI) has prepared this *In Situ Solidification Treatability Study Status Report*. This document provides interim data from preliminary solidification testing and two rounds of optimization testing and provides preliminary conclusions based on those data. This is an interim report pending the final results and analysis of leachability testing.

2. Purpose and Objectives

In situ solidification (ISS) was selected as a potential treatment technology to address NAPL in sediments in the Canal. As stated in the ISS Treatability Study Work Plan (ISSTWP), the remedial objectives of ISS are to:

- Prevent direct human or ecological contact with NAPL-contaminated sediments
- Prevent the migration of NAPL into the Canal after the remedial action is completed
- Prevent NAPL from acting as a continuing source of contaminants to groundwater discharging to the Canal

The purpose of the treatability study is to determine the effectiveness of ISS as a treatment technology for the Canal sediments. The primary objective of the treatability study is to determine whether solidification of the Canal "native sediment" is possible and cost-effective using typical ISS reagents. If this primary objective is achieved, then the secondary objectives are to:

- Determine whether the Canal "soft sediment" can also be solidified
- Optimize the reagent content of ISS grout mixes for native and soft sediments
- Evaluate the performance of beneficial admixtures such as anti-washout additives
- Measure the leaching behavior of successfully solidified sediments
- Investigate whether native sediment mixed with soft sediment can be solidified

Although the Feasibility Study (FS) does not propose ISS in the soft sediment for any Remediation Target Area (RTA), or in the native sediment at RTA 3, GEI included soft sediments from each RTA where they are present as well as native sediment from RTA 3 in the ISSTWP. GEI chose to include these sediments in order to provide as much information as possible and allow for flexibility in considering ISS wherever it might be effective in the Canal sediment.

3. Materials and Methods

The treatability study was divided into four phases:

1. Collection and characterization of sediment samples
2. Preliminary solidification testing
3. First-round optimization testing
4. Second-round optimization testing

This document is an interim status report on the ISS treatability testing. Phases 1 through 4 have been completed and are addressed in this document, although leachability samples associated with phases 2 and 4 are still being collected and analyzed. The results of all ISS treatability testing will be included in a final report.

3.1 Phase 1: Collection and Characterization of Sediment Samples

GEI performed sediment sampling at a total of five locations within the three RTAs and one Turning Basin (TBN). These locations are shown in Figure 1. The naming convention selected by GEI to distinguish soft and native sediment samples places either an "S" or an "N" at the end of the sample name. Therefore, RTA-1N is the native sediment sample at that location, and RTA-1S is the soft sediment sample. The only exception to this nomenclature is the sample named RTA3, which is a native sediment sample (no soft sediment sample was collected at RTA3).

- RTA 1 – Upper Canal, from head of Canal to 3rd Street. In this area, NAPL is present in native sediment, with some evidence of NAPL in soft sediment. One sampling location was selected, north of the Union Street Bridge. Soft sediment and native sediment samples were collected at this location. These samples are identified as RTA-1S (soft) and RTA-1N (native).
- RTA 2 – Middle Canal, between 3rd and Creamer Streets. In this area, NAPL is present in both native and soft sediments. Two sampling locations (A and B) were selected. Soft sediment and native sediment samples were collected at each location. Samples from the first location, north of the Ninth Street Bridge, are identified as RTA-2AS (soft) and RTA-2AN (native). Samples from the second location, south of the Ninth Street Bridge, are identified as RTA-2BS (soft) and RTA-2BN (native).

- TBN 1 – The Fourth Street Turning Basin. In this area, NAPL is present in both native and soft sediments. One sampling location was selected. Soft sediment and native sediment samples were collected at this location. These samples are identified as TBN-1S (soft) and TBN-1N (native).
- RTA 3 – Lower Canal, Sigourney Street to Redhook Channel. In this area, NAPL impacts in soft sediment are infrequent, and some NAPL is present in native sediment. One sampling location was selected, south of the Gowanus Expressway. Only a native sediment sample was collected at this location. This sample is identified as RTA-3.

3.1.1 Sample Collection and Screening

Sample collection was performed in accordance with the GEI Quality Assurance Project Plan. GEI oversaw the collection of sediment samples by Ocean Surveys, Inc. (OSI), of Old Saybrook, Connecticut, from August 16 to 20, 2012. OSI advanced vibratory sediment cores using a pneumatic hammer with a 20-foot long, 3.625-inch diameter hard polycarbonate liner within a steel casing. The cores were collected from an aluminum research vessel (boat). Liners were extracted and cut into approximately 5-foot sections on the research vessel and then brought to land for processing. The cores were evaluated by a GEI geologist to determine soil type and log visual contamination.

The GEI geologist continuously logged the cores in a manner consistent with previous investigations at the site. The core logs are presented in Appendix A. OSI collected multiple cores at each sampling location to generate sufficient sample volume (approximately 5 gallons). All cores were collected within a 7 foot radius of the sample locations shown in Figure 1. Core recoveries were generally very good, averaging greater than 90 percent recovery for cores retained for processing. Cores with poor recoveries or those that refused before reaching target depths were not retained for processing.

The GEI geologist estimated the interface of the accumulated (or “soft”) and native sediments in the field: soft sediment samples were collected from the interface to 5 feet above the interface and native sediment samples were collected from the interface to 5 feet below the interface. Field observations indicate that the soft sediments generally become less soft and more dense with increasing depth. The top of the soft sediment column near the sediment-water interface (what might be called the “softest” sediments) was excluded from the composite samples.

GEI personnel screened the sediment for volatile organic compounds (VOCs) using a photoionization detector (PID) and collected grab samples for laboratory analysis of VOCs and semi-volatile organic compounds (SVOCs) from the interval of the core with the highest PID readings. The rest of the cores were composited into either native or soft sediment

samples and placed in sealed 5-gallon plastic buckets and stored on ice. Geo-Con picked up the treatability sample buckets and the VOC/SVOC samples at the Site on August 20, 2012, and transported them to the Geo-Con treatability laboratory in Pittsburgh, Pennsylvania.

3.1.2 Sample Analysis and Characterization

Immediately upon receipt, Geo-Con shipped the VOC/SVOC samples collected by GEI in the field to Pace Analytical Laboratories in Greensburgh, Pennsylvania, for analysis of VOCs including benzene, toluene, ethylbenzene, and xylene (BTEX) by United States Environmental Protection Agency (EPA) Method 8260 and SVOCs including PAHs by EPA Method 8270. These analyses were intended to measure the baseline concentration of volatile and semi-volatile constituents of interest (COI) in the sediment samples prior to solidification testing, for comparison to leach test results.

After the first round of leach testing was completed in March 2013, GEI decided to submit the composited sediment samples for analysis of VOCs and SVOCs. The composited samples had been held in refrigerated storage at the Geo-Con treatability laboratory since they were received from GEI in August 2012. Whereas the baseline VOC/SVOC samples submitted in August 2012 were collected as grab samples from the sediment core interval with the highest PID readings, the ISS treatability work was performed on the composited sediment core samples. This second set of laboratory analyses was performed because GEI suspected that the grab samples from August 2012 might not accurately reflect the COI concentrations in the composited sediment samples.

The results of each of these analyses are summarized in Table 1, with the grab and composite sample results presented side-by-side for comparison. The laboratory data reports will be included in the ISS treatability study final report.

Geo-Con maintained the treatability samples in refrigerated storage at a temperature of 4 degrees Celsius (^{o}C) in the laboratory facilities of Geotechnics, Inc., located in East Pittsburgh, Pennsylvania. Geo-Con used stainless steel tools to homogenize each sediment sample and to remove particles larger than 0.5 inches in diameter. This work was performed in a refrigerated space to minimize volatilization of organic compounds. Geo-Con submitted aliquots of the homogenized, untreated samples to Geotechnics for analysis of the following parameters:

- Moisture Content by American Society for Testing and Materials (ASTM) D 2216
- Unit Weight by ASTM D 7263
- Grain Size Distribution (with hydrometer) by ASTM D 422
- Loss-on-ignition by ASTM D 2974

The results of these analyses are summarized in Table 2. The laboratory data reports will be included in the ISS treatability study final report.

3.2 Phase 2: Preliminary Solidification Testing

3.2.1 Treatability Sample Preparation

GEI selected three percentages of Portland cement addition for preliminary solidification testing: 10, 15, and 20 percent. GEI also decided to test each of these mix designs with and without a 1 percent bentonite addition, yielding a total of six different mix designs. Percent reagent addition is measured as weight of dry reagent per weight of wet sediment.

Geo-Con performed treatability testing using these six mix designs on each of the nine sediment samples collected from the Canal, yielding a total of 54 treatability samples for preliminary solidification testing. Treatability samples were prepared between September 13 and 16, 2012.

Geo-Con prepared each treatability sample by mixing the solidification reagents (Portland cement and bentonite) with tap water to create a cement grout. The ratio of water mass to reagent mass in the grout mixes was approximately 1:1. Then Geo-Con mixed the grout into weighed aliquots of the sediment samples until the target percentage of reagent to sample was achieved. Bulking was measured by comparing the volume of the sample prior to grout addition to the volume of the sample after grout addition. Geo-Con mechanically mixed the sediment and grout until it was homogeneous, placed the mixture into 2-inch diameter by 4-inch tall cylindrical plastic molds (except for permeability molds, which were 3-inch diameter by 3-inch tall), tamped and rodded the molds to remove air voids, covered the cylinders with plastic caps and cured the cylinders at room temperature in a sealed curing box with a shallow water bath to maintain 100 percent relative humidity levels.

3.2.2 Physical Performance Criteria Evaluation

Geotechnics performed pocket penetrometer testing at 1, 3, and 7 days of curing to estimate the rate of strength development for the treatability samples. Shrinkage of the samples was estimated by measuring the depth of “bleed water” present on top of the cylinders. One cylinder from each treatability sample set was immersed in water after 7 days of curing to test for the presence of sheen or disintegration of the sample.

Geotechnics tested the unconfined compressive strength (UCS) of the treatability samples at 7 days and 28 days using the ASTM method D 1633. Cylinders subjected to UCS testing (a destructive test in which the cylinder is broken, typically into several pieces) were examined for the presence of free NAPL.

Geotechnics tested the hydraulic conductivity (K) of the treatability samples at 28 days using the test method ASTM D 5084 (flexible wall permeameter, constant head).

Physical performance data for preliminary solidification testing are summarized in Table 3.

3.2.3 Leachability Evaluation

GEI identified five treatability mixes to be further evaluated for leaching behavior: mixes 2, 18, 19, 37, and 49 (see Table 3). They include four native sediment samples and one soft sediment sample, and span the range of reagent additions from 10 to 20 percent Portland cement and zero to 1 percent bentonite. GEI chose to use the leach test method EPA 1315, for which the cylinders are submerged for nine time intervals (for varying durations per the method) over 63 days with testing of leachate at the conclusion of each interval. EPA 1315 is the leach method proposed by the EPA for proposed ISS treatability work described by CH2M HILL in the draft *Technical Plan for Pre-design Bench Scale Testing of In-situ Stabilization of Native Sediments,* dated October 2012.

3.3 Phase 3: First-Round Optimization Testing

After reviewing the preliminary results from Phase 2, and in consultation with National Grid, GEI directed Geo-Con to perform additional treatability testing. This additional testing started the process of optimizing reagent doses and types, and improving the solidification performance of the soft sediments.

GEI's strategy for optimization testing of native sediment samples was to decrease the total reagent addition below 10 percent, and to substitute ground granulated blast furnace slag (GGBS) cement for Portland cement at a ratio of 60:40. First-round optimization testing was performed on native sediment samples from each of the five sampling locations in Canal, with a total reagent addition rate of 7 percent, composed of 4.2% GGBS cement and 2.8 percent Portland cement.

GEI's strategy for optimization testing of soft sediment samples was to maintain a 20 percent reagent rate but to substitute GGBS cement for Portland cement at a ratio of 60:40. First-round optimization testing was performed on soft sediments from two sampling locations (RTA-2AS and TBN-1S), with a total reagent addition rate of 20 percent, composed of 12% GGBS cement and 8 percent Portland cement.

Bentonite was not included in the first-round optimization mix designs for either native or soft sediments.

GEI decided to evaluate the addition of a liquid cellulose-based anti-washout admixture (RHEOMAC® UW 450) in anticipation of the need to control turbidity in the water column during pilot and full-scale implementation of ISS in the Canal. Each of the first-round optimization treatability samples was performed with and without the anti-washout additive (added at 1.5% by weight of reagent).

Geo-Con prepared the first-round optimization treatability samples between November 19 and 21, 2012. The samples were prepared and handled according to the methods described above in Section 3.2.1 for preliminary solidification samples. The water to reagent mass ratio for the cement grout was increased to 1.4:1 for this set of treatability samples. GEI chose to eliminate pocket penetrometer testing at one, three, and seven days for these samples, as well as seven-day UCS testing in order to minimize the amount of sediment sample used and to preserve sample volume for future optimization testing. Geotechnics performed 28-day UCS testing and hydraulic conductivity testing on the cured samples.

The physical performance data for all Phase 2 and 3 treatability samples are summarized in Table 3.

Geo-Con submitted a sample of GGBS cement for metals analysis; those data will be included in the ISS treatability study final report.

3.4 Phase 4: Second-Round Optimization Testing

After reviewing the results from Phase 3, and in consultation with National Grid, GEI directed Geo-Con to perform a second round of optimization testing, aimed at investigating the effectiveness of solidification when soft sediment and native sediment are mixed.

Phases 1 through 3 of ISS treatability testing kept native and soft sediments separated, and treated them with different cement grout mixes. This strategy makes sense if the pilot- or full-scale ISS implementations are restricted to either of these two scenarios:

1. Only native sediment is allowed to be solidified, in which case soft sediment would have to be removed prior to solidification, or
2. Soft and native sediments are solidified separately, with deliberate efforts not to mix them during the solidification process.

A third option would be to encourage, rather than to minimize, mixing of the native and soft sediment layers. Mixing is facilitated by the vertical auger installation method typical of ISS implementations, which results in a homogeneous mixture of cement grout, sediment and impacts throughout the column.

GEI hypothesized that mixing the native sediment with the soft sediment would improve the strength and permeability performance of the soft sediments. The total reagent addition rate might be higher than what is required for solidification of native sediments alone, but ISS of soft sediment in this manner would likely be more cost effective than dredging, handling, transportation, and disposal.

GEI's strategy for mixed sediment optimization testing was to mix soft and native sediment samples in a volumetric ratio of 1:1 (50 percent soft, 50 percent native). This represents a scenario in which equal depths of native and soft sediments are solidified together (e.g. 5-feet of soft sediment and 5-feet of native sediment). Mixed samples were solidified with total reagent addition rates of 9, 12, and 15 percent. In cases where sufficient sample volume was available, some other variations were also tested:

- Three sample locations tested mixes of 2:1 soft-to-native sediment (67 percent soft, 33 percent native)
- One sample location tested a mix of 90 percent soft and 10 percent native sediment (this mix was solidified with 17 percent total reagent)
- Two sample locations tested mixes of 1:1 soft-to-native sediment with a reagent ratio of 60 percent Portland cement to 40 percent GGBS (versus the typical mix of 40 percent Portland to 60 percent GGBS)

Bentonite was not included in the second-round optimization mix designs. Anti-washout admixture (RHEOMAC® UW 450) was added to each of the second-round optimization treatability samples at 1.0% by weight of reagent.

Geo-Con prepared the second-round optimization treatability samples between February 9 and 11, 2013. The samples were prepared and handled according to the methods described above in Section 3.2.1 for preliminary solidification samples. The water to reagent mass ratio for the cement grout was decreased to 0.8:1 for this set of treatability samples. GEI chose to eliminate seven-day UCS testing due to the dwindling supply of sediment sample remaining for some sample locations. Geotechnics performed 28-day UCS testing and hydraulic conductivity testing on the cured samples.

The mix design and physical performance data for the second-round treatability samples are summarized in Table 4.

GEI will select a subset of second-round optimization testing samples to be further evaluated for leaching behavior. These samples will be evaluated as described above in Section 3.2.3, and the results of leaching analysis will be included in the final ISS treatability study report.

4. Results and Discussion

4.1 Phase 1: Collection and Characterization of Sediment Samples

Physical characterization of the sediment samples is important to ensure that the materials evaluated in the treatability testing are similar to those expected at the site. Chemical characterization is important because it provides a baseline for leach testing to evaluate the effectiveness of the solidification treatment. These physical and chemical evaluations also give an indication of how variations in sediment composition and NAPL may affect ISS performance.

Table 1 summarizes the results of chemical analysis of the untreated samples for BTEX and PAHs. The results from grab samples collected immediately after the cores were recovered in the field are presented side-by-side with the results of composite samples submitted in March 2013. PAHs and VOCs were generally detected in all of the samples; the measured concentrations vary widely among locations and do not show a consistent trend between sediment types.

Table 2 summarizes the physical characterization results of the untreated sediment samples. The soft sediments generally have a higher water content (from 49.2 to 149.1 percent, expressed as mass of water divided by mass of solids) than the native sediments (17.0 to 57.3 percent). In every case, the soft sediments have a lower density (77.5 to 98.5 pounds per cubic foot) than the native sediments (102.9 to 119.7 pounds per cubic foot). The higher water content and lower densities of the soft sediments are their most distinguishing physical characteristics versus the native sediments.

Particle size distribution data show substantial variations in the composition of both soft sediments and native sediments. Although the solids fraction for all but one of the samples is composed primarily of sand, the sand fraction in native sediments varies from 38 to 91 percent, and the sand fraction in soft sediments varies from 64 to 77 percent. Three of the four soft sediment samples have a fines (clay and silt) fraction of more than 20 percent, but none are above 30 percent. By comparison, three of the five native sediment samples have a fines fraction of less than 10 percent, but the other two native sediment samples are 35 and 62 percent fines, respectively.

Loss-on-ignition data further illustrate the difference between soft and native sediments: soft sediments have an organic fraction (dry weight basis) that ranges from 13.6 to 28.1 percent, versus just 1.0 to 6.0 percent for native sediments.

In general, the heterogeneity of both the soft and native sediments suggests that optimal ISS mix designs may vary with material composition between sediment layers and in different RTAs. Additional sediment sampling and ISS treatability testing will be required prior to full-scale implementation of ISS, in order to optimize the mix design to the varying sediment characteristics along the length of the Canal.

4.2 Phase 2: Preliminary Solidification Testing

Six mix designs were evaluated in the preliminary solidification testing on five native sediment samples and four soft sediment samples, for a total of 54 mixes. Native and soft sediment sample mixes are evaluated separately below. The physical performance data for Phase 2 treatability samples are summarized in Table 3.

4.2.1 Native Sediment Mixes

All of the treatability mixes performed with native sediment samples developed strength quickly. The average UCS value for 28-day tests on native sediment mixes was 231 pounds per square inch (psi).

Native sediment mixes with the lowest level of reagent addition (10 percent Portland cement) had 28-day UCS values that ranged from 61.9 to 236.8 psi (without bentonite) and 115.4 to 231.3 psi (with 1 percent bentonite). No free NAPL was noted in any of the native sediment mixes during UCS testing.

All of the native sediment mixes had hydraulic permeability values of less than $1x10^{-6}$ centimeters per second (cm/sec). The average K value for native soil mixes was $3.23x10^{-7}$ cm/sec.

4.2.2 Soft Sediment Mixes

Soft sediment mixes with the highest level of reagent addition (20 percent Portland cement) had 28-day UCS values that ranged from 17.4 to 39.8 psi (without bentonite) and 8.3 to 52.6 psi (with 1 percent bentonite). No free NAPL was noted in any of the soft sediment mixes during UCS testing.

The average hydraulic conductivity for soft sediment mixes was $3.23x10^{-6}$ cm/sec, with most of the mixes falling into the range of $1x10^{-5}$ to $1x10^{-6}$ cm/sec. The best-performing mix was the same one that achieved the highest UCS value of 52.6 psi: RTA-2AS, at 20 percent reagent and 1 percent bentonite. RTA-2AS also had the highest sand fraction and lowest fines fraction among the soft sediment samples, and a relatively low water content of 74.8 percent.

4.2.3 Leachability Results

As described in Section 3.2.3, GEI selected five mixes (four native sediment samples and one soft sediment sample) to be evaluated for leaching behavior. GEI is still analyzing the leach test results, so they are not yet available for inclusion in this interim report. Those data will be included and discussed in the ISS treatability study final report.

4.3 Phase 3: First-Round Optimization Testing

One mix design (7 percent reagent: 4.2 percent GGBS cement, 2.8 percent Portland cement) was evaluated for five native sediment samples, with and without anti-washout additive, for a total of 10 native sediment mixes. A different mix design (20 percent reagent: 12 percent GGBS cement, 8 percent Portland cement) was evaluated for two soft sediment samples, with and without anti-washout additive, for a total of 4 soft sediment mixes. Native and soft sediment mix results are discussed separately below. The performance criteria for UCS and hydraulic conductivity are as described above in Section 3.2.2. The physical performance data for Phase 3 treatability samples are summarized in Table 3.

4.3.1 Native Sediment Mixes

All of the treatability mixes performed with native sediment had 28-day UCS values of greater than 100 psi, and four of the ten mixes had strengths of greater than 200 psi. The average UCS value for 28-day tests on native sediment mixes was 181 psi. By comparison, the average UCS value for 28-day tests on the ten native sediment mixes from Phase 2 with 10 percent Portland cement, (with or without 1 percent bentonite) was 146 psi. This suggests that the substitution of GGBS cement for some of the Portland cement had the expected result of generating strength gains even though the total reagent addition was decreased from 10 percent in Phase 2 to 7 percent in Phase 3. No free NAPL was noted in any of the native sediment mixes during UCS testing.

The average K value for native sediment mixes was 8.8×10^{-8} cm/sec. This is an improvement versus the average hydraulic conductivity values for native sediment mixes in Phase 2.

4.3.2 Soft Sediment Mixes

Soft sediment mixes in the first round of optimization testing (using 60 percent GGBS and 40 percent Portland cement, at a total reagent addition rate of 20 percent) performed better than in preliminary solidification testing (Phase 2). The average UCS value for 28-day tests on soft sediment mixes during the first round of optimization testing was 104 psi. By comparison, the average UCS value for 28-day tests on these same two soft sediment samples in Phase 2 treated with 20 percent Portland cement (with or without 1 percent

bentonite) was 44.8 psi. This suggests that substitution of GGBS cement for some of the Portland cement resulted in strength gains for soft sediment mixes, just like it did for the native sediment mixes. No free NAPL was noted in any of the soft sediment mixes during UCS testing.

The average K value for soft sediment mixes during first-round optimization testing was $2.6x10^{-7}$ cm/sec. By comparison, the average hydraulic conductivity value of these same two soft sediment samples in Phase 2 treated with 20 percent Portland cement (with or without 1 percent bentonite) was $2.3x10^{-6}$ cm/sec. As with the native sediment mixes in Phase 3, hydraulic conductivity performance for the soft sediment mixes improved with the substitution of GGBS cement for some of the Portland cement.

4.3.3 Anti-washout additive performance

Geo-Con qualitatively evaluated the performance of the anti-washout additive by placing aliquots of the uncured mixes with and without the additive into 5-gallon buckets of tap water and observing the relative increases in turbidity. Mixes with the anti-washout additive had clearly observable better turbidity performance versus the mixes without the additive. The anti-washout additive did not have a discernible effect on either the strength or permeability results of the mixes. All future optimization mixes will likely incorporate the anti-washout additive, since it is anticipated to be necessary for pilot- and full-scale implementation of ISS in the Canal.

4.3.4 Leachability Results

GEI does not plan to perform leachability testing for any of the Phase 3 mixes.

4.4 Phase 4: Second-Round Optimization Testing

The primary objective of second-round optimization testing was to evaluate whether mixing the soft and native sediments had any effect on their solidification behavior. Each of the sample locations where both soft and native sediments were collected in August 2012 were included in the Phase 4 work (RTA-1, RTA-2A, RTA-2B, and TBN-1). As described above in Section 3.4, the variables evaluated during this phase of testing were:

1. Ratio of soft sediment to native sediment
2. Total reagent addition rates
3. Ratio of Portland cement to GGBS

The mix designs and physical performance data for second-round optimization testing are summarized in Table 4.

4.4.1 Soft and Native Sediment Mixes

With respect to sediment mix ratios, 14 of the 18 mixes were tested at a 1:1 ratio of soft sediment to native sediment (by volume). Three of four locations had one mix tested at 2:1 soft-to-native, and one location had a mix tested at 9:1 soft-to-native. As described in Section 3.4, GEI hypothesized that mixing the native sediment with the soft sediment would improve the strength and permeability performance of the soft sediments. The purpose of the four mixes at higher ratios of soft to native material was to investigate how much benefit might result from the incorporation of a relatively small amount of native material in a predominantly soft sediment mix.

The 1:1 soft-to-native sediment mixes were tested at total reagent addition rates of 9, 12, and 15 percent. The reagent blend used in these mixes was 40 percent Portland cement and 60 percent GGBS. Due to dwindling sample volumes from prior testing, sample location RTA-2A was only tested at 12 and 15 percent reagent addition rates. The three 1:1 mixes tested at 9 percent total reagent addition had 28-day UCS values of 7.3, 14.2, and 97 psi (average of 39.5 psi). The four 1:1 mixes tested at 12 percent total reagent addition had 28-day UCS values of 25.8, 107.7, and 73.3 psi (average of 68.9 psi). The four 1:1 mixes tested at 15 percent total reagent addition had 28-day UCS values of 77.4, 141, 108.2, and 157.6 psi (average of 121 psi).

The 2:1 soft-to-native sediment mixes were tested at a total reagent addition rate of 15 percent. The reagent blend used in these mixes was 40 percent Portland cement and 60 percent GGBS. Due to dwindling sample volumes from prior testing, sample location RTA-2A was not tested at a 2:1 mix ratio. The three 2:1 mixes tested at 15 percent total reagent addition had 28-day UCS values of 22.0, 176, and 75.9 psi (average of 91.3 psi). This is a lower average strength than the 1:1 mixes at 15% total reagent addition for these same three sample locations (114.4 psi).

The 9:1 soft-to-native sediment mix was tested at a total reagent addition rate of 17 percent. The reagent blend used in this mix was 40 percent Portland cement and 60 percent GGBS. RTA-1 was the only sample location tested at a 9:1 ratio. The 28-day UCS value for this test was 24.5 psi. This result is comparable to what was observed for this sample location in the 2:1 mix at 15 percent reagent addition (22.0 psi) but lower than the 1:1 mix at 15 percent reagent addition (77.4 psi).

The Portland cement to GGBS ratio was flipped for two sample locations tested at 1:1 soft-to-native sediment and 12 percent total reagent addition. The reagent blend used in these mixes was 60 percent Portland cement and 40 percent GGBS. At RTA-1, the mix with more

Portland cement had a greater 28-day UCS value (43.6 versus 25.8 psi) but at TBN-1, the opposite was true (28.7 versus 73.3 psi).
GEI identified eleven mixes for measurement of permeability, based on good performance with respect to UCS testing. The measured K values ranged from $4.1x10^{-6}$ cm/sec to $6.6x10^{-8}$ cm/sec, with an average value of $7.6x10^{-7}$ cm/sec.

4.4.2 Leachability Results

GEI will perform leachability testing on several of the Phase 4 mixes. These data will be included in the ISS treatability study final report.

5. Preliminary Conclusions

1. Solidification of native sediment is possible with typical ISS reagents at cost-effective reagent addition rates. Substantial performance gains for strength and hydraulic permeability were achieved using a mixture of GGBS cement and Portland cement at a 7 percent total reagent addition rate.

2. Solidification of soft sediment is possible with typical ISS reagents. Solidification of soft sediments requires more total reagent addition to achieve strength and permeability gains compared to native sediments.

3. ISS of a mixture of native and soft sediments can result in cost reduction and performance gains as compared to separate treatment. At a constant reagent addition rate, strength and permeability gains increase as the ratio of native to soft sediment is increased (this effect is most pronounced for strength results). The amount of reagent necessary for ISS decreases as the ratio of native to soft sediment increases. These results are likely due to the properties of the native sediments such as lower water content (greater solids fraction) and lower organic content compared to the soft sediments.

4. Based on GEI's past experience, strength and permeability gains correlate well to reduced leachability. We expect that ISS in native, soft, and mixtures of native and soft sediments will physically immobilize contaminants and reduce the risk of contaminant availability in sediment. Leach testing and analysis is ongoing.

5. Based on test results for native sediments, soft sediments, and mixtures of native and soft sediments, GEI expects that ISS can achieve strength gains sufficient to support an engineered cap. Cap design and geotechnical evaluation will be required to confirm this assumption.

6. A mixture of GGBS cement and Portland cement yields strength and permeability performance gains in solidified native and soft sediments equal to or greater than Portland cement alone, which may allow for a more cost effective ISS design mix.

7. The use of bentonite is not necessary for strength and permeability gains in Gowanus Canal sediments.

8. The use of an anti-washout additive is likely to substantially improve the turbidity performance of ISS mixes, pilot- and full-scale ISS implementation in a marine environment.

Tables

Table 1
Untreated Sediment BTEX and PAH Concentrations
In Situ Solidification Treatability Study Status Report
Gowanus Canal
Brooklyn, New York

	Sample Location:		RTA-1				RTA-2								TBN				RTA-3	
	Sample Name:		RTA1S		RTA1N		RTA2AS		RTA2AN		RTA2BS		RTA2BN		TBN1S		TBN1N		RTA3	
	Sample Depth (ft):		9.5 - 10		13 - 13.5		1.5 - 2		4.5 - 5		1.5 - 2		7 - 7.5		6.8 - 7		8 - 8.2		1 - 1.5	
	Sample Date:		8/16/12	3/9/13	8/16/12	3/9/13	8/17/12	3/9/13	8/17/12	3/9/13	8/20/12	3/9/13	8/20/12	3/9/13	8/20/12	3/9/13	8/20/12	3/9/13	8/20/12	3/9/13
	Sample Type:		Grab	Composite	Grab	Composite	Grab	Composite	Grab	Composite	Grab	Composite	Grab	Composite	Grab	Composite	Grab	Composite	Grab	Composite
Analyte	**Method**	**Unit**																		
Total BTEX	EPA 8260	µg/kg																		
Benzene			18,000	550	367	479	138,000	66,000	227,000	665	37,400	1,890	12,000	279 U	72	906 U	16	206 U	20,400	254 U
Ethylbenzene			1,120	1,380	211,000	9,400	222,000	229,000	576,000	6,450	207,000	390 U	173,000	279 U	3,590	906 U	33	206 U	18,600	254 U
Toluene			15 U	35,400	595	331	263,000	343,000	550,000	8,720	5,140 U	22,400	2,510 U	6,030	212	906 U	23	206 U	9	332
Xylenes (Total)			240	17,500	129,000	2,200	235,000	429,000	598,000	43,600	230,000	42,300	90,000	10,400	1,740	2,720 U	53	618 U	751	1,080
Total BTEX			**19,360**	**54,800**	**341,000**	**12,000**	**858,000**	**1,070,000**	**1,951,000**	**59,400**	**474,000**	**66,600**	**275,000**	**16,500**	**5,614**	**5,440 U**	**126**	**1,240 U**	**39,800**	**1,520 U**
Polycyclic Aromatic Hydrocarbons (PAHs)	EPA 8270	µg/kg																		
Acenaphthene			98,000	1,170,000	434,000	93,700	3,930,000	2,420,000	1,010,000	391,000	1,170,000	410,000	478,000	134,000	192,000	13,500	5,300	5,970	141,000	54,400
Acenaphthylene			4,820	61,200	44,000	6,250	590,000	573,000 U	291,000	209,000 U	106,000	28,400	39,200	9,570	24,700	7,840 U	570	822	10,300	3,910 U
Anthracene			22,900	482,000	196,000	31,500	1,930,000	1,840,000	686,000	280,000	575,000	206,000	241,000	58,800	137,000	23,600	3,730	5,150	72,900	26,500
Benzo(a)anthracene			13,800	202,000	96,500	18,400	781,000	577,000	211,000	209,000 U	251,000	95,100	118,000	34,600	74,600	20,000	1,690	3,470	37,400	12,700
Benzo(a)pyrene			13,500	160,000	83,700	14,400	559,000	573,000 U	71,200	61,200	212,000	76,900	99,300	26,600	60,800	15,300	684	2,550	13,200	10,500
Benzo(b)fluoranthene			12,500	118,000	55,700	10,500	376,000	573,000 U	109,000	46,300	142,000	60,500	66,100	19,700	47,200	11,200	1,080	1,810	22,500	8,590
Benzo(g,h,i)perylene			3,950	69,900	9,780	5,420	52,500	40,000	20,000	16,800	23,300	22,100	9,630	9,130	14,300	7,840 U	282	732	2,750	3,910 U
Benzo(k)fluoranthene			5,310	40,700	31,200	5,220	139,000	573,000 U	57,000	16,800	81,100	22,900	34,700	8,480	24,700	7,840 U	383	957	11,200	3,910 U
Chrysene			14,800	194,000	92,100	17,400	862,000	635,000	363,000	209,000 U	309,000	94,000	110,000	32,300	74,300	22,300	1,600	3,520	44,900	13,500
Dibenz(a,h)anthracene			956	11,800 U	3,070	3,850 U	22,200	5,730 U	7,280	8,000	8,020	5,380 U	3,320	4,000 U	3,850	7,840 U	85	403 U	980	3,910 U
Fluoranthene			27,900	500,000	203,000	37,700	1,320,000	891,000	396,000	209,000 U	481,000	191,000	222,000	58,200	139,000	32,200	3,250	5,600	75,500	25,700
Fluorene			35,300	496,000	219,000	36,000	2,480,000	1,410,000	704,000	244,000	634,000	188,000	230,000	54,300	97,200	10,900	3,510	3,390	78,700	22,300
Indeno(1,2,3-cd)pyrene			4,670	56,900	13,100	4,520	77,600	41,900	25,500	16,500	22,600	19,900	13,600	7,950	17,300	7,840 U	345	608	3,270	3,910 U
2-Methylnaphthalene			NR	1,650,000	NR	113,000	NR	5,490,000	NR	4,190 U	NR	608,000	NR	179,000	NR	15,000	NR	767	NR	28,800
Naphthalene			56,000	2,140,000	1,520,000	49,300	15,300,000	10,200,000	4,250,000	1,420,000	4,400,000	803,000	1,200,000	245,000	398,000	13,400	8,750	403 U	332,000	12,600
Phenanthrene			78,100	1,670,000	642,000	148,000	5,150,000	3,420,000	1,530,000	627,000	1,670,000	607,000	726,000	210,000	397,000	53,500	11,000	15,300	239,000	96,400
Pyrene			38,700	798,000	324,000	53,200	2,210,000	1,480,000	684,000	263,000	832,000	280,000	356,000	97,100	243,000	43,400	5,100	7,970	115,000	31,000
Total PAHs			**431,206**	**9,808,700**	**3,967,150**	**644,510**	**35,779,300**	**28,444,900**	**10,414,980**	**3,390,600**	**10,917,020**	**3,712,800**	**3,946,850**	**1,184,730**	**1,944,950**	**274,300**	**47,359**	**58,616**	**1,200,600**	**342,990**
Others																				
Percent Moisture	D2974-87	%	54.0	44.8	13.9	13.8	47.5	43.0	20.4	20.9	46.8	38.4	10.7	17.1	55.2	57.7	19.1	18.6	18.7	16.2

Notes:
Data provided by Pace Analytical Services on September 7, 2012.
"U" = The analyte was not detected at a concentration above the specified laboratory reporting limit.
µg/kg = micrograms per kilogram.
BTEX = benzene, toluene, ethylbenzene, xylene.
NR = not reported
The composite sample date represents the date that the sample aliquot was collected from sediment held in refrigerated storage at Geo-Con. The composite sample is sediment that was originally collected in the field in August 2012.
Due to lack of sufficient sample volume, composite sample RTA2AS is ISS Mix 13 and 16, and composite sample TBN1S is Mix 43 and 46. This represents a COI dilution (due to solidification reagent addition) of approximately 20 percent.
Therefore, the composite sample COI concentrations for RTA2AS and TBN1S shown on this table should be multiplied by a factor of 1.25 to estimate the concentrations of COI in the untreated sediment.

Table 2
Untreated Sediment Physical Parameters
In Situ Solidification Treatability Study Status Report
Gowanus Canal
Brooklyn, New York

		Sample Location:	**RTA-1**		**RTA-2**				**TBN**		**RTA-3**
		Sample Name:	**RTA1S**	**RTA1N**	**RTA2AS**	**RTA2AN**	**RTA2BS**	**RTA2BN**	**TBN1S**	**TBN1N**	**RTA3**
		Sample Depth Interval (ft):	**6 - 11**	**11.1 - 16.1**	**0 - 4**	**4 - 9**	**1 - 5**	**5 - 10**	**2 - 7**	**7 - 12**	**0 - 5**
		Sample Collection Date:	**8/16/12**	**8/16/12**	**8/17/2012**	**8/17/2012**	**8/20/2012**	**8/20/2012**	**8/20/2012**	**8/20/2012**	**8/20/2012**
Testing Parameter	**Method**	**Unit**									
Particle Size Distribution	ASTM D 422-63/AASHTO T88-00										
Gravel		%	9.27	0.26	11.95	4.89	1.50	0.17	2.05	3.12	3.11
Sand		%	64.26	37.81	80.47	87.98	73.64	90.27	77.01	91.18	61.37
Fines (Silt & Clay)		%	26.48	61.93	7.58	7.13	24.86	9.56	20.94	5.70	35.52
Other Tests											
Water Content	ASTM D 2216-05	%	126.6	17.0	74.8	19.8	49.2	57.3	149.1	23.1	18.7
Percent Solids	ASTM D 2216-05	%	44.1	85.5	57.2	83.5	67.0	63.6	40.1	81.2	84.2
Unit Weight	ASTM D 558	pcf	98.5	119.7	79.1	102.9	90.8	116.7	77.5	119.2	117.5
Loss-on-ignition	ASTM D 2974	%	19.3	1.0	28.1	6.0	13.6	4.1	23.8	1.3	3.8

NOTES:
ft = feet.
pcf = pounds per cubic feet.
Sample depth interval is feet below the interface of sediment and surface water.
Particle size distribution data are expressed as percent of total solids in the sample in each classification (gravel, sand, or fines).
Water content is expressed as weight of water in the sample divided by the weight of dry solids in the sample.
Percent solids is calculated as (10,000 / (100 + water content)) where water content is expressed in percent.
Loss on ignition is the weight of sample lost upon combustion in a 440 degree Celsius furnace, compared to the weight of the dry sample prior to combustion.

Table 3
Phase 2 and 3 Mix Designs and Performance Data
In Situ Solidification Treatability Study Status Report
Gowanus Canal
Brooklyn, New York

SEDIMENT SAMPLE		REAGENTS					SEDIMENT	SEDIMENT	MIX			MIX	POCKET PENETROMETER			PERMEABILITY	UCS	
		PC	BENT	GGBS	Anti-Washout	Water: Reagent	DENSITY	MOISTURE	DENSITY	SHRINK	BULKING	DATE	1-DAY	3-DAY	7-DAY	28-DAY	7-DAY	28-DAY
	MIX ID	(%)	(%)	(%)	(% of PC+GGBS)		(pcf)	(%)	(pcf)	(%)	(%)		(tsf)	(tsf)	(tsf)	(cm/sec)	(psi)	(psi)
RTA-1N	1	10.0	0.0	0.0	0.0	1.2	119.7	17.0	119.6	2.5	15.6	13-Sep	>4.5	>4.5	>4.5	1.00E-06	139.4	236.8
	2	15.0	0.0	0.0	0.0	1.0			117.8	2.5	27.0	13-Sep	>4.5	>4.5	>4.5	4.90E-07	143.4	395.6
	3	20.0	0.0	0.0	0.0	1.0			115.4	2.5	39.8	13-Sep	>4.5	>4.5	>4.5	4.20E-07	126.8	422.0
	4	10.0	1.0	0.0	0.0	1.0			118.9	1.2	18.2	13-Sep	>4.5	>4.5	>4.5	9.40E-07	120.9	231.3
	5	15.0	1.0	0.0	0.0	1.0			117.8	1.2	29.0	13-Sep	>4.5	>4.5	>4.5	4.90E-07	239.4	365.6
	6	20.0	1.0	0.0	0.0	1.0			114.0	1.2	43.5	13-Sep	>4.5	>4.5	>4.5	4.50E-07	200.0	442.2
	55	2.8	0.0	4.2	0.0	1.4			123.4	0.0	13.3	19-Nov	NM	NM	NM	1.30E-07	NM	288.0
	62	2.8	0.0	4.2	1.5	1.4			122.8	0.0	13.8	19-Nov	NM	NM	NM	1.50E-07	NM	168.3
RTA-1S	7	10.0	0.0	0.0	0.0	1.0	98.5	126.6	80.5	0.0	46.9	13-Sep	0.1	0.4	0.5	4.80E-06	5.8	6.5
	8	15.0	0.0	0.0	0.0	1.0			79.2	0.0	61.7	13-Sep	0.1	0.7	1.6	7.40E-06	7.4	8.5
	9	20.0	0.0	0.0	0.0	1.0			81.6	0.0	69.0	13-Sep	0.1	0.8	1.3	1.50E-05	16.4	17.4
	10	10.0	1.0	0.0	0.0	1.0			79.9	0.0	50.4	13-Sep	0.3	0.4	0.8	2.20E-06	5.2	6.5
	11	15.0	1.0	0.0	0.0	1.0			81.1	0.0	60.4	13-Sep	0.4	0.8	1.5	5.40E-06	8.6	11.1
	12	20.0	1.0	0.0	0.0	1.0			80.9	0.0	72.9	13-Sep	0.1	0.9	2.0	5.60E-06	6.5	8.3
RTA-2AS	13	10.0	0.0	0.0	0.0	1.0	79.1	74.8	81.0	0.0	17.2	14-Sep	0.0	1.2	1.4	1.90E-06	10.6	16.2
	14	15.0	0.0	0.0	0.0	1.0			80.3	0.0	28.1	14-Sep	0.2	4.0	2.3	2.40E-06	15.3	19.9
	15	20.0	0.0	0.0	0.0	1.0			82.4	0.0	34.4	14-Sep	0.7	4.5	4.5	2.30E-06	23.5	39.8
	16	10.0	1.0	0.0	0.0	1.0			81.2	0.0	18.9	14-Sep	0.4	1.3	1.3	2.10E-06	10.6	15.3
	17	15.0	1.0	0.0	0.0	1.0			80.4	0.0	29.9	14-Sep	0.0	1.5	1.5	1.40E-06	12.4	18.1
	18	20.0	1.0	0.0	0.0	1.0			82.4	0.0	36.4	14-Sep	0.9	4.5	4.5	9.00E-07	13.1	52.6
	56	8.0	0.0	12.0	0.0	1.0			90.1	0.0	22.9	19-Nov	NM	NM	NM	3.50E-08	NM	180.3
	63	8.0	0.0	12.0	1.5	1.0			90.9	0.0	21.8	19-Nov	NM	NM	NM	3.80E-08	NM	138.9
RTA-2AN	19	10.0	0.0	0.0	0.0	1.0	102.9	19.8	101.7	0.0	21.4	15-Sep	3.5	>4.5	>4.5	2.10E-07	49.5	61.9
	20	15.0	0.0	0.0	0.0	1.0			106.1	0.0	26.0	15-Sep	4.5	>4.5	>4.5	7.40E-07	112.6	163.2
	21	20.0	0.0	0.0	0.0	1.0			109.2	0.0	31.9	15-Sep	>4.5	>4.5	>4.5	7.30E-07	210.3	255.5
	22	10.0	1.0	0.0	0.0	1.0			104.8	0.0	19.4	15-Sep	>4.5	>4.5	>4.5	1.20E-07	59.3	124.6
	23	15.0	1.0	0.0	0.0	1.0			100.6	0.0	35.0	15-Sep	>4.5	>4.5	>4.5	1.60E-07	77.5	163.6
	24	20.0	1.0	0.0	0.0	1.0			104.3	0.0	30.9	15-Sep	>4.5	>4.5	>4.5	6.80E-08	99.1	191.2
	57	2.8	0.0	4.2	0.0	1.4			111.6	0.0	7.7	19-Nov	NM	NM	NM	1.00E-08	NM	109.6
	64	2.8	0.0	4.2	1.5	1.4			107.7	0.0	11.6	19-Nov	NM	NM	NM	6.60E-08	NM	129.5
RTA-2BN	25	10.0	0.0	0.0	0.0	1.0	116.7	57.3	115.4	5.0	21.3	15-Sep	>4.5	>4.5	>4.5	2.40E-07	102.0	145.4
	26	15.0	0.0	0.0	0.0	1.0			116.5	5.0	30.2	15-Sep	>4.5	>4.5	>4.5	2.70E-07	133.5	366.7
	27	20.0	0.0	0.0	0.0	1.0			115.1	5.0	41.9	15-Sep	>4.5	>4.5	>4.5	1.00E-07	197.3	382.4
	28	10.0	1.0	0.0	0.0	1.0			117.1	2.5	21.6	15-Sep	>4.5	>4.5	>4.5	2.70E-07	78.3	172.5
	29	15.0	1.0	0.0	0.0	1.0			117.1	2.5	31.5	15-Sep	>4.5	>4.5	>4.5	3.40E-07	131.9	223.8
	30	20.0	1.0	0.0	0.0	1.0			101.3	2.5	63.6	15-Sep	>4.5	>4.5	>4.5	1.10E-07	95.0	111.2
	58	2.8	0.0	4.2	0.0	1.4			117.5	0.0	16.0	19-Nov	NM	NM	NM	1.40E-07	NM	142.5
	65	2.8	0.0	4.2	1.5	1.4			114.7	0.0	18.9	19-Nov	NM	NM	NM	1.10E-07	NM	134.3
RTA-2BS	31	10.0	0.0	0.0	0.0	1.0	90.8	49.2	87.5	0.0	24.6	15-Sep	0.3	0.8	0.8	1.20E-06	6.7	8.3
	32	15.0	0.0	0.0	0.0	1.0			85.2	0.0	38.6	15-Sep	0.1	0.3	1.3	1.60E-06	5.5	6.7
	33	20.0	0.0	0.0	0.0	1.0			85.7	0.0	48.4	15-Sep	0.8	1.9	2.3	3.40E-06	22.6	25.4
	34	10.0	1.0	0.0	0.0	1.0			85.9	0.0	29.0	15-Sep	1.1	1.3	2.3	1.40E-06	14.9	17.4
	35	15.0	1.0	0.0	0.0	1.0			85.8	0.0	37.7	15-Sep	0.3	1.6	2.3	7.40E-07	12.1	19.3
	36	20.0	1.0	0.0	0.0	1.0			84.6	0.0	52.5	15-Sep	0.9	1.9	3.0	1.70E-06	13.0	32.7
TBN-1N	37	10.0	0.0	0.0	0.0	1.0	119.2	23.1	109.0	0.0	32.0	15-Sep	>4.5	>4.5	>4.5	5.00E-08	78.4	138.6
	38	15.0	0.0	0.0	0.0	1.0			109.5	0.0	42.4	15-Sep	>4.5	>4.5	>4.5	9.20E-08	128.0	237.7
	39	20.0	0.0	0.0	0.0	1.0			106.2	0.0	58.1	15-Sep	>4.5	>4.5	>4.5	6.10E-08	80.8	326.9
	40	10.0	1.0	0.0	0.0	1.0			107.1	0.0	36.6	15-Sep	>4.5	>4.5	>4.5	5.60E-08	145.6	115.4
	41	15.0	1.0	0.0	0.0	1.0			111.0	0.0	42.6	15-Sep	>4.5	>4.5	>4.5	3.00E-08	105.2	262.5
	42	20.0	1.0	0.0	0.0	1.0			108.7	0.0	56.7	15-Sep	>4.5	>4.5	>4.5	2.10E-08	148.0	244.2
	59	2.8	0.0	4.2	0.0	1.4			119.6	0.0	16.4	19-Nov	NM	NM	NM	1.20E-08	NM	237.7
	66	2.8	0.0	4.2	1.5	1.4			119.5	0.0	16.5	20-Nov	NM	NM	NM	5.40E-08	NM	152.0
TBN-1S	43	10.0	0.0	0.0	0.0	1.0	77.5	149.1	75.4	0.0	23.3	16-Sep	0.0	0.0	0.3	4.10E-06	5.2	5.4
	44	15.0	0.0	0.0	0.0	1.0			77.2	0.0	30.5	16-Sep	0.9	1.3	2.3	1.60E-06	16.8	27.6
	45	20.0	0.0	0.0	0.0	1.0			79.0	0.0	37.3	16-Sep	1.5	2.0	2.8	5.30E-06	25.2	38.0
	46	10.0	1.0	0.0	0.0	1.0			78.2	0.0	20.9	16-Sep	0.8	1.0	1.5	3.40E-06	13.8	24.1
	47	15.0	1.0	0.0	0.0	1.0			78.3	0.0	30.7	16-Sep	0.8	1.0	1.8	1.00E-06	16.9	25.8
	48	20.0	1.0	0.0	0.0	1.0			78.7	0.0	39.8	16-Sep	1.8	2.5	3.8	6.80E-07	29.0	48.9
	60	8.0	0.0	12.0	0.0	1.0			83.7	0.0	29.7	20-Nov	NM	NM	NM	7.90E-07	NM	55.8
	67	8.0	0.0	12.0	1.5	1.0			84.3	0.0	28.7	20-Nov	NM	NM	NM	2.00E-07	NM	42.5
RTA-3	49	10.0	0.0	0.0	0.0	1.0	117.5	18.7	110.2	0.5	20.0	15-Sep	4.4	>4.5	>4.5	5.70E-07	72.9	104.8
	50	15.0	0.0	0.0	0.0	1.0			105.5	0.0	35.8	15-Sep	4.5	>4.5	>4.5	8.00E-07	83.7	142.8
	51	20.0	0.0	0.0	0.0	1.0			106.9	0.0	44.3	15-Sep	>4.5	>4.5	>4.5	3.40E-07	181.8	313.8
	52	10.0	1.0	0.0	0.0	1.0			113.5	5.0	18.5	15-Sep	>4.5	>4.5	>4.5	3.40E-07	76.3	126.8
	53	15.0	1.0	0.0	0.0	1.0			110.5	0.0	31.6	15-Sep	>4.5	>4.5	>4.5	1.80E-07	102.6	164.2
	54	20.0	1.0	0.0	0.0	1.0			110.2	0.0	42.0	15-Sep	>4.5	>4.5	>4.5	5.70E-07	115.4	293.6
	61	2.8	0.0	4.2	0.0	1.4			116.0	0.0	18.3	21-Nov	NM	NM	NM	9.30E-08	NM	206.8
	68	2.8	0.0	4.2	1.5	1.4			116.9	0.0	17.4	21-Nov	NM	NM	NM	1.20E-07	NM	244.2

NOTES:
PC = Portland cement
BENT = bentonite
GGBS = ground granulated blast furnace slag cement
UCS = unconfined compressive strength
pcf = pounds per cubic feet.
tsf = tons per square foot
cm/sec = centimeters per second
psi = pounds per square inch
NM = not measured

Table 4
Phase 4 Mix Designs and Performance Data
In Situ Solidification Treatability Study Status Report
Gowanus Canal
Brooklyn, New York

Mix ID	Sediment sample mix ratio (by volume)								Pozzolans			Bentonite	Anti-washout additive	Water: Reagent	Pocket Penetrometer			UCS	Permeability
															1-day	3-day	7-day	28-day	28-day
	RTA-1S	RTA-1N	RTA-2AS	RTA-2AN	RTA-2BS	RTA-2BN	TBN-1S	TBN-1N	PC	GGBS	Total		(% of PC+GGBS)		(tsf)	(tsf)	(tsf)	(psi)	(cm/sec)
69	50%	50%							3.6%	5.4%	9%	0%	1.0%	0.8	0.4	1.1	1.2	14.2	NM
70	50%	50%							4.8%	7.2%	12%	0%	1.0%	0.8	0.6	1.0	1.2	25.8	1.20E-06
71	50%	50%							7.2%	4.8%	12%	0%	1.0%	0.8	1.2	2.0	2.2	43.6	NM
72	50%	50%							6.0%	9.0%	15%	0%	1.0%	0.8	1.6	1.5	2.5	77.4	4.10E-06
73	67%	33%							6.0%	9.0%	15%	0%	1.0%	0.8	0.3	0.7	1.4	22.0	NM
74	90%	10%							6.8%	10.2%	17%	0%	1.0%	0.8	0.7	1.8	3.5	24.5	NM
75			50%	50%					4.8%	7.2%	12%	0%	1.0%	0.8	1.3	2.5	4.5	107.7	6.80E-07
76			50%	50%					6.0%	9.0%	15%	0%	1.0%	0.8	0.9	3.2	4.5	141.0	1.60E-07
77			48%	52%					6.0%	9.0%	15%	0%	1.0%	0.8	1.4	3.6	4.8	121.5	NM
78					50%	50%			3.6%	5.4%	9%	0%	1.0%	0.8	1.8	2.8	4.8	97.0	1.50E-07
79					50%	50%			4.8%	7.2%	12%	0%	1.0%	0.8	1.5	2.5	4.0	82.9	4.20E-07
80					50%	50%			6.0%	9.0%	15%	0%	1.0%	0.8	1.9	2.7	4.5	108.2	2.80E-07
81					67%	33%			6.0%	9.0%	15%	0%	1.0%	0.8	1.4	3.8	4.5	176.2	1.90E-07
82							50%	50%	3.6%	5.4%	9%	0%	1.0%	1.1	0.0	0.2	0.5	7.3	NM
83							50%	50%	4.8%	7.2%	12%	0%	1.0%	1.0	0.1	0.8	1.5	73.3	5.60E-07
84							50%	50%	7.2%	4.8%	12%	0%	1.0%	1.0	0.8	2.0	2.3	28.7	NM
85							50%	50%	6.0%	9.0%	15%	0%	1.0%	1.0	1.2	3.0	4.5	157.6	6.60E-08
86							67%	33%	6.0%	9.0%	15%	0%	1.0%	1.0	0.2	1.3	3.5	75.9	5.40E-07

NOTES:
PC = Portland cement
GGBS = ground granulated blast furnace slag cement
UCS = unconfined compressive strength
tsf = tons per square foot
psi = pounds per square inch
cm/sec = centimeters per second
NM = not measured
Mixes 82 through 86 required additional water to mix due to sediment cohesiveness, which increased the water : reagent ratio

Figure

NOTES:

1. MULTIPLE SEDIMENT CORES WERE COLLECTED FROM EACH SAMPLE LOCATION TO FUFILL VOLUME REQUIREMENTS. CORES WERE COLLECTED WITHIN A 7' RADIUS OF LOCATIONS SHOWN.

SOURCES:

1. AERIAL PHOTOGRAPH BING MAPS © 2010 MICROSOFT CORP. AND ITS SUPPLIERS ACCESSED VIA ARCGIS ONLINE: (http://www.arcgis.com)

LEGEND

- RTA-1 — SEDIMENT CORE
- RH-034 — CSO OUTFALLS

0 200 400 800

SCALE, FEET

IN SITU SOLIDIFICATION TREATABILITY STUDY STATUS REPORT
GOWANUS CANAL
BROOKLYN, NEW YORK

nationalgrid

GEI Consultants

ISS SEDIMENT SAMPLE LOCATIONS

Project 093010-6-1601 | April 2013 | Figure 1

J:\Projects\National_Grid\Gowanus\Remedial Design\ISS_Core_Locations.mxd

Appendix A

Sediment Sample Core Logs

GEI Consultants, Inc.
455 Winding Brook Road
Glastonbury, CT 06033
(860) 368-5300

CLIENT: National Grid
PROJECT: Gowanus ISS
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 093010-6-1606

BORING LOG
PAGE 1 of 1
RTA-1

LOCATION: Gowanus Canal
NORTHING (FT): 673411 **EASTING (FT):** 634313
TOTAL DEPTH (FT): 18.0
DRILLED BY: Ocean Surveys, Inc. / J. DeLorenzo
DATUM VERT. / HORZ.: NAVD 88 / NAD 83
LOGGED BY: A. Malsbary
DATE START / END: 8/16/2012 - 8/16/2012
DRILLING DETAILS:
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	STRATA	VISUAL IMPACTS	ODOR	SOIL / BEDROCK DESCRIPTION
	0						(0'- 0.5') ORGANIC SOIL (OL); ~90% fines, ~10% sand, fine; saturated, black, very loose, leaves, organic hair-like fibers.
						OLO	(0.5'- 2.7') ORGANIC SOIL (OL); ~95% fines, ~5% sand, fine; strong organic-like odor, black, soft.
							(2.7'- 11.1') SANDY ORGANIC SOIL (OL); ~75% fines, ~25% sand, fine to medium; strong naphthalene-like odor, wet, black, many leaves, peat-like material, organic and hair-like fibers, plastic fragments, slight sheen.
	5					NLO	
	10					NLO	(11.1'- 14.25') WIDELY GRADED SAND WITH SILT (SW-SM); ~90% fines, ~10% sand, fine to coarse; strong naphthalene-like odor, wet, brown, tar coated.
	15					NLO	(14.25'- 14.75') NARROWLY GRADED SAND WITH SILT (SP-SM); ~90% fines, ~10% sand, fine to medium; wet, gray. (14.75'- 17') WIDELY GRADED SAND WITH SILT (SW-SM); ~90% fines, ~10% sand, fine to coarse; strong naphthalene-like odor, wet, brown, tar coated.
						NLO	(17'- 18') strong naphthalene-like odor, tar staining, same material as above.
							End of Boring at 18 feet.

NOTES:

PEN = PENETRATION LENGTH OF SAMPLER OR CORE BARREL
REC = RECOVERY LENGTH OF SAMPLE
PID = PHOTOIONIZATION DETECTOR READING (PPM)
JHS = JAR HEADSPACE PID READING (PPM)

NA = NOT APPLICABLE
NM = NOT MEASURED
Q_P = POCKET PENETROMETER
S_V = TORVANE PEAK

ppm = PARTS PER MILLION
IN. = INCHES
FT. = FEET

NLO = NAPHTHALENE LIKE ODOR
PLO = PETROLEUM LIKE ODOR
TLO = TAR LIKE ODOR
CLO = CHEMICAL LIKE ODOR
ALO = ASPHALT LIKE ODOR

CrLO= CREOSOTE LIKE ODOR
OLO = ORGANIC LIKE ODOR
SLO = SULFUR LIKE ODOR
MLO = MUSTY LIKE ODOR

ENVIRONMENTAL BORING LOG GOWANUS ISS SEDIMENT CORES.GPJ FULTON DATA TEMPLATE.GDT 4/4/13

GEI Consultants, Inc.
455 Winding Brook Road
Glastonbury, CT 06033
(860) 368-5300

CLIENT: National Grid
PROJECT: Gowanus ISS
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 093010-6-1606

BORING LOG
PAGE 1 of 1
RTA-2A

LOCATION: Gowanus Canal
NORTHING (FT): 671388 **EASTING (FT):** 632123
TOTAL DEPTH (FT): 10.9
DRILLED BY: Ocean Surveys, Inc. / J. DeLorenzo
DATUM VERT. / HORZ.: NAVD 88 / NAD 83
LOGGED BY: A. Malsbary
DATE START / END: 8/17/2012 - 8/17/2012
DRILLING DETAILS:
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	STRATA	VISUAL IMPACTS	ODOR	SOIL / BEDROCK DESCRIPTION
	0					NLO	(0'- 4') ORGANIC SOIL (OL); ~90% fines, ~10% sand, fine; strong naphthalene-like odor, wet, brown, leaves, organics and twigs, tar saturated.
	5					NLO	(4'- 6.5') WIDELY GRADED SAND WITH SILT (SW-SM); ~90% sand, fine to coarse, ~10% fines; strong naphthalene-like odor, wet, dark brown, tar saturated.
						NLO	(6.5'- 7') SILTY SAND (SM); ~65% sand, fine to medium, ~35% fines; strong naphthalene-like odor, moist, brown, tar stained.
	10					NLO	(7'- 10.9') NARROWLY GRADED SAND WITH SILT (SP-SM); ~90% sand, medium to coarse, ~10% fines; strong naphthalene-like odor, moist, brown, layers of silty sand, tar coated.
							End of Boring at 10.9 feet.

NOTES:

PEN = PENETRATION LENGTH OF SAMPLER OR CORE BARREL
REC = RECOVERY LENGTH OF SAMPLE
PID = PHOTOIONIZATION DETECTOR READING (PPM)
JHS = JAR HEADSPACE PID READING (PPM)

NA = NOT APPLICABLE
NM = NOT MEASURED
Q_P = POCKET PENETROMETER
S_V = TORVANE PEAK

ppm = PARTS PER MILLION
IN. = INCHES
FT. = FEET

NLO = NAPHTHALENE LIKE ODOR
PLO = PETROLEUM LIKE ODOR
TLO = TAR LIKE ODOR
CLO = CHEMICAL LIKE ODOR
ALO = ASPHALT LIKE ODOR

CrLO= CREOSOTE LIKE ODOR
OLO = ORGANIC LIKE ODOR
SLO = SULFUR LIKE ODOR
MLO = MUSTY LIKE ODOR

ENVIRONMENTAL BORING LOG GOWANUS ISS SEDIMENT CORES.GPJ FULTON DATA TEMPLATE.GDT 4/4/13

GEI Consultants, Inc.
455 Winding Brook Road
Glastonbury, CT 06033
(860) 368-5300

CLIENT: National Grid
PROJECT: Gowanus ISS
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 093010-6-1606

BORING LOG
PAGE 1 of 1
RTA-2B

LOCATION: Gowanus Canal
NORTHING (FT): 670542 **EASTING (FT):** 631580
TOTAL DEPTH (FT): 15.2
DRILLED BY: Ocean Surveys, Inc. / J. DeLorenzo
DATUM VERT. / HORZ.: NAVD 88 / NAD 83
LOGGED BY: A. Malsbary
DATE START / END: 8/20/2012 - 8/20/2012
DRILLING DETAILS:
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	STRATA	VISUAL IMPACTS	ODOR	SOIL / BEDROCK DESCRIPTION
	0					NLO	(0'- 2.5') SILTY SAND WITH GRAVEL (SM); ~50% sand, fine to coarse, ~30% fines, ~20% gravel, fine to coarse; moderate naphthalene-like odor, saturated, black, very soft, plastic, leaves, organics, hair-like fibers, wood fragments, large brick fragment at 2.5'.
						NLO	(2.5'- 5') ORGANIC SOIL (OL); ~95% fines, ~5% sand, fine; strong naphthalene-like odor, wet, black, leaves, wood, organics, hair-like fibers, plastic.
	5					NLO	(5'- 6.8') SANDY SILT (ML); ~80% sand, fine, ~20% fines; strong naphthalene-like odor, moist, gray, tar stained.
						NLO	(6.8'- 10') WIDELY GRADED SAND (SW); ~95% sand, fine to coarse, ~5% fines; strong naphthalene-like odor, moist, gray, brown, dark gray, heavy tar staining, sheen, areas of moderate tar coating.
	10					NLO	(10'- 12.5') NARROWLY GRADED SAND WITH SILT (SP-SM); ~90% sand, fine, ~10% fines; strong naphthalene-like odor, moist, gray with brown layers, tar coated.
						NLO	(12.5'- 14.5') strong naphthalene-like odor, same material as above.
	15					NLO	(14.5'- 15.2') strong naphthalene-like odor, tar coated, same material as above.
							End of Boring at 15.2 feet.

NOTES:

PEN = PENETRATION LENGTH OF SAMPLER OR CORE BARREL
REC = RECOVERY LENGTH OF SAMPLE
PID = PHOTOIONIZATION DETECTOR READING (PPM)
JHS = JAR HEADSPACE PID READING (PPM)

NA = NOT APPLICABLE
NM = NOT MEASURED
Q_P = POCKET PENETROMETER
S_V = TORVANE PEAK

ppm = PARTS PER MILLION
IN. = INCHES
FT. = FEET

NLO = NAPHTHALENE LIKE ODOR
PLO = PETROLEUM LIKE ODOR
TLO = TAR LIKE ODOR
CLO = CHEMICAL LIKE ODOR
ALO = ASPHALT LIKE ODOR

CrLO= CREOSOTE LIKE ODOR
OLO = ORGANIC LIKE ODOR
SLO = SULFUR LIKE ODOR
MLO = MUSTY LIKE ODOR

ENVIRONMENTAL BORING LOG GOWANUS ISS SEDIMENT CORES.GPJ FULTON DATA TEMPLATE.GDT 4/4/13

GEI Consultants, Inc.
455 Winding Brook Road
Glastonbury, CT 06033
(860) 368-5300

CLIENT: National Grid
PROJECT: Gowanus ISS
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 093010-6-1606

BORING LOG
PAGE 1 of 1
RTA-3

LOCATION: Gowanus Canal
NORTHING (FT): 669463 **EASTING (FT):** 631032
TOTAL DEPTH (FT): 10.0
DRILLED BY: Ocean Surveys, Inc. / J. DeLorenzo
DATUM VERT. / HORZ.: NAVD 88 / NAD 83
LOGGED BY: A. Malsbary
DATE START / END: 8/20/2012 - 8/20/2012
DRILLING DETAILS:
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	STRATA	VISUAL IMPACTS	ODOR	SOIL / BEDROCK DESCRIPTION
	0					NLO	(0'- 0.3') WELL GRADED GRAVEL WITH SILT AND SAND (GW-GM); ~65% gravel, fine to coarse, ~25% sand, fine to coarse, ~10% fines; slight naphthalene-like odor, wet, black, sheen.
						NLO	(0.3'- 1') SANDY SILT (ML); ~70% fines, ~30% sand, fine to medium; strong naphthalene-like odor, wet, black, slight sewage-like odor, wet, black, soft, leaves, twigs, organics, wood at 1'.
						NLO	(1'- 3.5') SILTY SAND (SM); ~85% sand, fine to medium, ~15% fines; strong naphthalene-like odor, wet, brown, sheen, tar coated.
						NLO	(3.5'- 3.8') SILTY SAND (SM); ~85% sand, fine, ~15% fines; moderate naphthalene-like odor, moist, brown to black.
	5					NLO	(3.8'- 5') WIDELY GRADED SAND (SW); ~95% sand, fine to coarse, ~5% fines; strong naphthalene-like odor, moist, blackish dark gray.
							(5'- 6') strong naphthalene-like odor, tar coated.
						CLO	(6'- 6.4') NARROWLY GRADED SAND WITH SILT (SP-SM); ~90% sand, fine, ~10% fines; moist, black, spots of sheen.
							(6.4'- 8') WIDELY GRADED SAND (SW); ~95% sand, fine, ~5% fines; slight chemical-like odor, wet, black, sweet chemical-like odor.
							(8'- 10') fine to coarse; brown, same material as above, no impacts observed.
	10						End of Boring at 10 feet.

NOTES:

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Q_P = POCKET PENETROMETER
S_V = TORVANE PEAK

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NLO = NAPHTHALENE LIKE ODOR
PLO = PETROLEUM LIKE ODOR
TLO = TAR LIKE ODOR
CLO = CHEMICAL LIKE ODOR
ALO = ASPHALT LIKE ODOR

CrLO= CREOSOTE LIKE ODOR
OLO = ORGANIC LIKE ODOR
SLO = SULFUR LIKE ODOR
MLO = MUSTY LIKE ODOR

GEI Consultants, Inc.
455 Winding Brook Road
Glastonbury, CT 06033
(860) 368-5300

CLIENT: National Grid
PROJECT: Gowanus ISS
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 093010-6-1606

BORING LOG
PAGE 1 of 1
TBN-1A

LOCATION: Gowanus Canal
NORTHING (FT): 671087 **EASTING (FT):** 633648
TOTAL DEPTH (FT): 15.0
DRILLED BY: Ocean Surveys, Inc. / J. DeLorenzo
DATUM VERT. / HORZ.: NAVD 88 / NAD 83
LOGGED BY: A. Malsbary
DATE START / END: 8/17/2012 - 8/17/2012
DRILLING DETAILS:
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	STRATA	VISUAL IMPACTS	ODOR	SOIL / BEDROCK DESCRIPTION
	0					PLO	(0'- 4') ORGANIC SOIL (OL); ~90% fines, ~10% sand, fine; slight petroleum-like odor, moderate organic-like odor, wet, black, soft, trace leaves, twigs and organic fragments.
	5					NLO	(4'- 7') moderate naphthalene-like odor, light tar staining 6.5-7.0', same material as above.
						NLO	(7'- 7.3') SANDY SILT (ML); ~60% fines, ~40% sand, fine; strong naphthalene-like odor, moist, gray, 3.0" brick fragment, tar staining, sheen and blebs.
						NLO	(7.3'- 8.7') NARROWLY GRADED SAND (SP); ~95% sand, fine to medium, ~5% fines; strong naphthalene-like odor, wet, brown to dark gray, moderate tar staining and sheen, spots of light tar coating.
	10						(8.7'- 9.5') SILT (ML); ~90% fines, ~10% sand, fine; moist, olive gray, spots of sheen, layers of sand, tar blebs in sandy layers.
							(9.5'- 10.8') NARROWLY GRADED SAND WITH SILT (SP-SM); ~90% sand, fine to medium, ~10% fines; moist, brownish gray.
							(10.8'- 14') SILT (ML); ~90% fines, ~10% sand, fine; moist, light gray, brown laminations from 13-14'.
	15						(14'- 15') SILTY SAND (SM); ~60% sand, fine, ~40% fines; moist, light gray.
							End of Boring at 15 feet.

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Q_P = POCKET PENETROMETER
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CLO = CHEMICAL LIKE ODOR
ALO = ASPHALT LIKE ODOR

CrLO= CREOSOTE LIKE ODOR
OLO = ORGANIC LIKE ODOR
SLO = SULFUR LIKE ODOR
MLO = MUSTY LIKE ODOR

ENVIRONMENTAL BORING LOG GOWANUS ISS SEDIMENT CORES.GPJ FULTON DATA TEMPLATE.GDT 4/4/13

GEI Consultants, Inc.
455 Winding Brook Road
Glastonbury, CT 06033
(860) 368-5300

CLIENT: National Grid
PROJECT: Gowanus ISS
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 093010-6-1606

BORING LOG
PAGE 1 of 1
TBN-1B

LOCATION: Gowanus Canal
NORTHING (FT): 671087 **EASTING (FT):** 633648
TOTAL DEPTH (FT): 13.1
DRILLED BY: Ocean Surveys, Inc. / J. DeLorenzo
DATUM VERT. / HORZ.: NAVD 88 / NAD 83
LOGGED BY: A. Malsbary
DATE START / END: 8/17/2012 - 8/17/2012
DRILLING DETAILS:
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	STRATA	VISUAL IMPACTS	ODOR	SOIL / BEDROCK DESCRIPTION
	0					PLO	(0'- 4') ORGANIC SOIL (OL); ~90% sand, fine, ~10% fines; slight petroleum-like odor, slight organic-like odor, saturated, black, very soft.
	5					NLO	(4'- 7') ORGANIC SOIL (OL); ~90% sand, fine, ~10% fines; slight naphthalene-like odor, wet, black, soft, organics, leaves and twigs, plastic fragments, large brick fragment at 7'.
						NLO	(7'- 9.5') SILTY SAND (SM); ~65% sand, fine to coarse, ~35% fines; moderate naphthalene-like odor, wet, dark gray and brown, alternating layers of sand and silt, tar stained with pockets of coating, heavy sheen.
	10					NLO	(9.5'- 13.1') ELASTIC SILT (MH); ~90% fines, ~10% sand, fine; moderate naphthalene-like odor, moist, light gray, seams and pockets of fine sand, tar blebs, sheen.
							End of Boring at 13.1 feet.

NOTES:

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REC = RECOVERY LENGTH OF SAMPLE
PID = PHOTOIONIZATION DETECTOR READING (PPM)
JHS = JAR HEADSPACE PID READING (PPM)

NA = NOT APPLICABLE
NM = NOT MEASURED
Q_P = POCKET PENETROMETER
S_V = TORVANE PEAK

ppm = PARTS PER MILLION
IN. = INCHES
FT. = FEET

NLO = NAPHTHALENE LIKE ODOR
PLO = PETROLEUM LIKE ODOR
TLO = TAR LIKE ODOR
CLO = CHEMICAL LIKE ODOR
ALO = ASPHALT LIKE ODOR

CrLO= CREOSOTE LIKE ODOR
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Appendix B

Laboratory Data – (To be issued in Final Report)

Appendix C

Laboratory SOP – (To be issued in Final Report)

Appendix I

CSO Investigation – Sediment Cores and Analytical Results, prepared for National Grid by GEI Consultants Inc.

GEI Consultants

Geotechnical
Environmental
Water Resources
Ecological

Data Report

CSO Investigation – Sediment Cores and Analytical Results

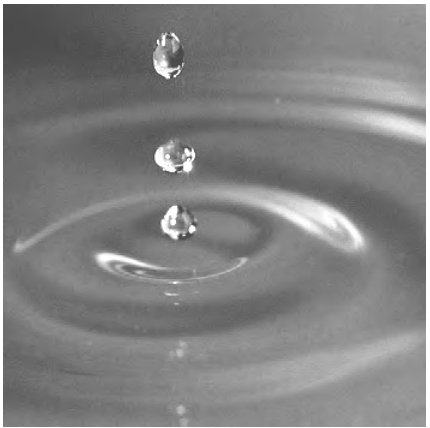
Gowanus Canal
Brooklyn, New York

Submitted to:
National Grid
287 Maspeth Avenue
Brooklyn, New York 11211

Submitted by:
GEI Consultants, Inc. P.C.
Glastonbury, CT 06033

April 2013
093010-6-1608

Melissa Felter
Project Manager



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2.0 Sampling Methods 2

3.0 Analytical Regime 3

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1 - CSO Sediment and Sediment-fraction Target Analytes
2 - Summary of Sediment Analytical Results
3 - Summary of Analytical Fractionated Results

Figure

1 - Sediment Sample Locations

Appendix

A - Sediment Core Logs

1.0 Introduction

This Data Report contains validated analytical results from sediment core samples collected in the vicinity of combined sewer overflow (CSO) discharge locations in the Gowanus Canal, located in Brooklyn, New York. This report will be expanded with additional results from these sediment cores when they are available.

The CSO Investigation Work Plan, which describes sediment core collection, was developed by Woodard and Curran and is dated June 5, 2012. It was approved by the United States Environmental Protection Agency (USEPA) on July 6, 2012.

2.0 Sampling Methods

Sediment cores (GC-SED-501 through CG-SED-523) were collected at twenty-three locations in the Gowanus Canal, as shown in Figure 1. The sampling event took place between August 2 and August 15, 2012.

The cores were advanced within sediment to a depth of four feet using vibracore methods. Multiple cores were collected at each sample location to provide the required sample volume. The cores for each sample location were collected within six lateral feet of the designated coordinates.

Sediment cores were transferred to the landside for processing. The cores were logged and analytically sampled based on sample recovery. If a core had been advanced four feet but generated only three feet of intact material, the sample was logged as 3.0 feet (as opposed to interpolation that "stretches" the material over 4.0 feet). A Petite ponar sampler was occasionally used to augment sample volume for the uppermost (surficial) 6-inch core sections.

Each core was divided into 6-inch sections, starting at the top of the core, with each section designated as a separate sample for analysis. All sections were screened with a photoionization detector (PID) to assist in selecting sediment analytical samples most likely to have the highest volatile organic compound (VOC) concentrations. For each 6-inch interval, a sample for VOC analysis was collected from the core with the highest PID reading. The remaining samples were collected from a composite of each 6-inch sample interval from each of the cores. Each core was also digitally photographed. The core logs are provided in Appendix A. A table summarizing the PID readings for each sample core is also provided in Appendix A.

Ocean Surveys, Inc. provided the sampling boat, vibracoring services, and GPS location mapping. Where multiple cores were required at one location, the sample location coordinates were averaged to generate single locations as presented in Figure 1.

3.0 Analytical Regime

Table 1 summarizes the complete list of analytical parameters applied to each sediment sample. The analytical results are presented in Tables 2 and 3.

Tables

Table 1
CSO Sediment and Sediment-fraction Target Analytes
Phase I Sediment Cores
Gowanus Canal
Brooklyn, New York

Conventional Parameters	EDC/PPCP
Particle Size	Bisphenol A
TOC	Nonylphenol
Organics	Nonylphenol Diethoxylate
	Nonylphenol Monoethoxylate
VOCs	4-tert-Octylphenol
SVOCs	Acetominophen
TPH (whole sample)	alpha-Estradiol
PAH Fingerprint Analysis (whole sample)	Androstenedione
TPH (by grain size)	Atrazine
PAH Fingerprint Analysis (by grain size)	Bisphenol A
Pesticides/Herbicides	Caffeine
Total PCBs	Carbamazepine
Pathogens	Diazepam
	Diclofenac
Clostridium perfringens	Diethylstilbestrol
Coliphages	Phenytoin
Enterococcus	Estradiol
Fecal coliforms	Estriol
E. coli	Estrone
Enteroviruses	Ethinyl
Giardia	Estradiol
Cryptosporidium	Fluoxetine
Metals	Gemfibrozil
	Hydrocodone
Aluminum (Al)	Ibuprofen
Antimony (Sb)	Iopromide
Arsenic (As)	Meprobamate
Barium (Ba)	Methadone
Beryllium (Be)	Naproxen
Calcium (Ca)	DEET
Cadmium (Cd)	Oxybenzone
Chromium (Cr)	Pentoxifylline
Cobalt (Co)	Progesterone
Copper (Cu)	Salicylic Acid
Iron (Fe)	Sulfamethoxazole
Lead (Pb)	Testosterone
Magnesium (Mg)	Triclosan
Manganese (Mn)	Trimethoprim
Mercury (Hg)	
Nickel (Ni)	
Potassium (K)	
Selenium (Se)	
Silver (Ag)	
Sodium (Na)	
Thallium (Tl)	
Vanadium (V)	
Zinc (Zn)	

TOC = Total Organic Carbon
VOCs = Volatile Organic Compounds
SVOCs = Semi-volatile Organic Compounds
TPH = Total Petroleum Hydrocarbons
PAH = Polycyclic Aromatic Hydrocarbons
PCB = Polychlorinated Biphenyls
EDC = endocrine disrupting compounds
PPCP = pharmaceutical and personal care products

Table 2
Summary of Sediment Analytical Results
Phase I Sediment Cores
Gowanus Canal
Brooklyn, New York

Sample Name:	GC-SED-501	GC-SED-501	GC-SED-501	GC-SED-501	GC-SED-501	GC-SED-501	GC-SED-501	GC-SED-502	GC-SED-502	GC-SED-502	GC-SED-502
Sample Depth (feet):	(0.0-0.5)	(0.5-1.0)	(1.0-1.5)	(1.5-2.0)	(2.0-2.5)	(2.5-3.0)	(3.0-3.5)	(0.0-0.5)	(0.5-1.0)	(1.0-1.5)	(1.5-2.0)
Sample Date:	8/6/2012	8/6/2012	8/6/2012	8/6/2012	8/6/2012	8/6/2012	8/6/2012	8/6/2012	8/6/2012	8/6/2012	8/6/2012
BTEX (mg/kg)											
Benzene	0.0076 U	**0.0014 J**	0.007 U	**0.0027 J**	**0.012**	**0.023**	**0.18 J**	0.015 UJ	**0.0019 J**	**0.0015 J**	**0.004 J**
Toluene	**0.013**	**0.033**	**0.0056 J**	**0.0029 J**	**0.004 J**	**0.0036 J**	0.42 U	**0.028 J**	**0.0021 J**	0.0082 U	**0.0035 J**
Ethylbenzene	**0.0021 J**	**0.0015 J**	0.007 U	**0.006 J**	**0.018**	**0.025**	**0.089 J**	**0.0064 J**	0.0084 U	**0.1 J**	**0.047**
m,p-Xylene	0.015 U	0.013 U	0.014 U	0.015 U	**0.0049 J**	**0.0089 J**	**0.15 J**	**0.0051 J**	0.017 U	**0.014 J**	**0.014 J**
o-Xylene	**0.0021 J**	0.0067 U	0.007 U	0.0075 U	**0.0076 J**	**0.014**	**0.22 J**	**0.0027 J**	0.0084 U	**0.026**	**0.041**
Total Xylene	0.023 U	0.02 U	0.021 U	0.022 U	**0.013 J**	**0.023 J**	**0.37 J**	**0.0078 J**	0.025 U	**0.04**	**0.055**
Total BTEX	**0.0172**	**0.0359**	**0.0056**	**0.0116**	**0.047**	**0.0746**	**0.639**	**0.0422**	**0.004**	**0.1415**	**0.1095**
Other VOCs (mg/kg)											
Acetone	0.031 U	0.027 UJ	0.028 UJ	0.03 UJ	0.033 UJ	0.034 UJ	R	0.058 UJ	0.034 U	0.033 U	0.034 U
Bromochloromethane	0.0076 U	0.0067 U	0.007 U	0.0075 U	0.0082 U	0.0084 U	0.42 U	0.015 UJ	0.0084 U	0.0082 U	0.0084 U
Bromodichloromethane	0.0076 U	0.0067 U	0.007 U	0.0075 U	0.0082 U	0.0084 U	0.42 U	0.015 UJ	0.0084 U	0.0082 U	0.0084 U
Bromoform	0.0076 U	0.0067 U	0.007 U	0.0075 U	0.0082 U	0.0084 U	0.42 U	0.015 UJ	0.0084 U	0.0082 U	0.0084 U
Bromomethane	0.0076 U	0.0067 U	0.007 U	0.0075 U	0.0082 U	0.0084 U	0.42 UJ	0.015 UJ	0.0084 U	0.0082 U	0.0084 U
2-Butanone (Methyl ethyl ketone)	0.0076 U	0.0067 U	0.007 U	**0.0045 J**	**0.0064 J**	**0.0093**	R	0.015 UJ	0.0084 U	0.0082 U	0.0084 U
Carbon disulfide	**0.0032 J**	**0.0017 J**	**0.0027 J**	**0.002 J**	**0.0017 J**	**0.003 J**	0.42 U	**0.0034 J**	0.0084 U	**0.0022 J**	**0.0032 J**
Carbon tetrachloride	0.0076 U	0.0067 U	0.007 U	0.0075 U	0.0082 U	0.0084 U	0.42 U	0.015 UJ	0.0084 U	0.0082 U	0.0084 U
Chlorobenzene	**0.03**	**0.1**	**0.041**	**0.18**	**0.29**	**0.3**	**12**	0.015 UJ	**0.014**	**0.022 J**	**0.059**
Chloroethane	0.0076 U	0.0067 U	0.007 U	0.0075 U	0.0082 U	0.0084 U	0.42 UJ	0.015 UJ	0.0084 U	0.0082 U	0.0084 U
Chloroform	0.0076 U	0.0067 U	0.007 U	0.0075 U	0.0082 U	0.0084 U	0.42 U	0.015 UJ	0.0084 U	0.0082 U	0.0084 U
Chloromethane	0.0076 U	0.0067 U	0.007 U	0.0075 U	0.0082 U	0.0084 U	0.42 U	0.015 UJ	0.0084 U	0.0082 U	0.0084 U
Cyclohexane	0.0076 U	0.0067 U	0.007 U	0.0075 U	0.0082 U	0.0084 U	0.42 U	0.015 UJ	0.0084 U	0.0082 U	0.0084 U
1,2-Dibromo-3-chloropropane	0.0076 UJ	0.0067 U	0.007 U	0.0075 U	0.0082 U	0.0084 U	R	0.015 UJ	0.0084 UJ	0.0082 UJ	0.0084 UJ
Dibromochloromethane	0.0076 U	0.0067 U	0.007 U	0.0075 U	0.0082 U	0.0084 U	0.42 U	0.015 UJ	0.0084 U	0.0082 U	0.0084 U
1,2-Dibromoethane	0.0076 U	0.0067 U	0.007 U	0.0075 U	0.0082 U	0.0084 U	0.42 U	0.015 UJ	0.0084 U	0.0082 U	0.0084 U
1,2-Dichlorobenzene	0.0076 U	0.0067 U	0.007 U	0.0075 U	0.0082 U	0.0084 U	**0.27 J**	0.015 UJ	0.0084 U	0.0082 U	0.0084 U
1,3-Dichlorobenzene	0.0076 U	0.0067 U	0.007 U	0.0075 U	0.0082 U	0.0084 U	0.42 U	0.015 UJ	0.0084 U	0.0082 U	0.0084 U
1,4-Dichlorobenzene	**0.016**	**0.032**	**0.0081**	0.0075 U	**0.013**	**0.0073 J**	0.42 U	**0.0045 J**	**0.0073 J**	**0.069**	**0.023**
Dichlorodifluoromethane	0.0076 U	0.0067 U	0.007 U	0.0075 U	0.0082 U	0.0084 U	0.42 U	0.015 UJ	0.0084 U	0.0082 U	0.0084 U
1,1-Dichloroethane	0.0076 U	0.0067 U	0.007 U	0.0075 U	0.0082 U	0.0084 U	0.42 U	0.015 UJ	0.0084 U	0.0082 U	0.0084 U
1,2-Dichloroethane	0.0076 U	0.0067 UJ	0.007 UJ	0.0075 UJ	0.0082 UJ	0.0084 UJ	0.42 UJ	0.015 UJ	0.0084 U	0.0082 U	0.0084 U
cis-1,2-Dichloroethene	0.0076 U	0.0067 U	0.007 U	0.0075 U	0.0082 U	0.0084 U	0.42 U	0.015 UJ	0.0084 U	0.0082 U	0.0084 U
trans-1,2-Dichloroethene	0.0076 U	0.0067 U	0.007 U	0.0075 U	0.0082 U	0.0084 U	0.42 U	0.015 UJ	0.0084 U	0.0082 U	0.0084 U
1,1-Dichloroethene	0.0076 U	0.0067 U	0.007 U	0.0075 U	0.0082 U	0.0084 U	0.42 U	0.015 UJ	0.0084 U	0.0082 U	0.0084 U
1,2-Dichloropropane	0.0076 U	0.0067 U	0.007 U	0.0075 U	0.0082 U	0.0084 U	0.42 U	0.015 UJ	0.0084 U	0.0082 U	0.0084 U
cis-1,3-Dichloropropene	0.0076 U	0.0067 U	0.007 U	0.0075 U	0.0082 U	0.0084 U	0.42 U	0.015 UJ	0.0084 U	0.0082 U	0.0084 U
trans-1,3-Dichloropropene	0.0076 U	0.0067 U	0.007 U	0.0075 U	0.0082 U	0.0084 U	0.42 U	0.015 UJ	0.0084 U	0.0082 U	0.0084 U
1,4-Dioxane	R	R	R	R	R	R	R	R	R	R	R
2-Hexanone	0.0076 U	0.0067 U	0.007 U	0.0075 U	0.0082 U	0.0084 U	0.42 U	0.015 UJ	0.0084 U	0.0082 U	0.0084 U
Isopropyl benzene	**0.0019 J**	0.0067 U	0.007 U	**0.001 J**	**0.0026 J**	**0.0032 J**	**0.075 J**	0.015 UJ	**0.002 J**	**0.037**	**0.018**
Methyl acetate	0.0076 U	0.0067 U	0.007 U	0.0075 U	0.0082 U	0.0084 U	**1.5 J**	0.015 UJ	0.0084 U	0.0082 U	0.0084 U
Methyl tert-butyl ether (MTBE)	0.0076 U	0.0067 U	0.007 U	0.0075 U	0.0082 U	0.0084 U	0.42 U	0.015 UJ	0.0084 U	0.0082 U	0.0084 U
4-Methyl-2-pentanone	0.0076 U	0.0067 U	0.007 U	0.0075 U	0.0082 U	0.0084 U	0.42 U	0.015 UJ	0.0084 U	0.0082 U	0.0084 U
Methylcyclohexane	0.0076 U	0.0067 U	0.007 U	0.0075 U	0.0082 U	**0.0012 J**	0.42 U	0.015 UJ	0.0084 U	0.0082 U	0.0084 U
Methylene chloride	0.0076 U	0.0067 U	0.007 U	0.0075 U	0.0082 U	0.0084 U	0.42 U	0.015 UJ	0.0084 U	0.0082 U	0.0084 U
Styrene	0.0076 U	0.0067 U	0.007 U	0.0075 U	0.0082 U	0.0084 U	0.42 U	0.015 UJ	0.0084 U	0.0082 U	0.0084 U
1,1,2,2-Tetrachloroethane	0.0076 U	0.0067 U	0.007 U	0.0075 U	0.0082 U	0.0084 U	0.42 U	0.015 UJ	0.0084 U	0.0082 U	0.0084 U
Tetrachloroethene	0.0076 U	0.0067 U	0.007 U	0.0075 U	0.0082 U	0.0084 U	0.42 U	0.015 UJ	0.0084 U	0.0082 U	0.0084 U

Table 2
Summary of Sediment Analytical Results
Phase I Sediment Cores
Gowanus Canal
Brooklyn, New York

Sample Name:	GC-SED-501	GC-SED-501	GC-SED-501	GC-SED-501	GC-SED-501	GC-SED-501	GC-SED-501	GC-SED-502	GC-SED-502	GC-SED-502	GC-SED-502
Sample Depth (feet):	(0.0-0.5)	(0.5-1.0)	(1.0-1.5)	(1.5-2.0)	(2.0-2.5)	(2.5-3.0)	(3.0-3.5)	(0.0-0.5)	(0.5-1.0)	(1.0-1.5)	(1.5-2.0)
Sample Date:	8/6/2012	8/6/2012	8/6/2012	8/6/2012	8/6/2012	8/6/2012	8/6/2012	8/6/2012	8/6/2012	8/6/2012	8/6/2012
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	0.0076 U	0.0067 U	0.007 U	0.0075 U	0.0082 U	0.0084 U	0.42 U	0.015 UJ	0.0084 U	0.0082 U	0.0084 U
1,2,3-Trichlorobenzene	0.0076 U	0.0067 U	0.007 U	0.0075 U	0.0082 U	0.0084 U	0.42 UJ	0.015 UJ	0.0084 U	0.0082 U	0.0084 U
1,2,4-Trichlorobenzene	0.0076 U	0.0067 U	0.007 U	0.0075 U	0.0082 U	0.0084 U	0.42 U	0.015 UJ	0.0084 U	0.0082 U	0.0084 U
1,1,1-Trichloroethane	0.0076 U	0.0067 U	0.007 U	0.0075 U	0.0082 U	0.0084 U	0.42 U	0.015 UJ	0.0084 U	0.0082 U	0.0084 U
1,1,2-Trichloroethane	0.0076 U	0.0067 U	0.007 U	0.0075 U	0.0082 U	0.0084 U	0.42 U	0.015 UJ	0.0084 U	0.0082 U	0.0084 U
Trichloroethene	0.0076 U	0.0067 U	0.007 U	0.0075 U	0.0082 U	0.0084 U	0.42 U	0.015 UJ	0.0084 U	0.0082 U	0.0084 U
Trichlorofluoromethane	0.0076 U	0.0067 U	0.007 U	0.0075 U	0.0082 U	0.0084 U	0.42 UJ	0.015 UJ	0.0084 U	0.0082 U	0.0084 U
Vinyl chloride	0.0076 U	0.0067 U	0.007 U	0.0075 U	0.0082 U	0.0084 U	0.42 U	0.015 UJ	0.0084 U	0.0082 U	0.0084 U
PAHs (mg/kg)											
Acenaphthene	**1.7**	**1.9**	**2.3**	**4.9**	**8.8**	**6**	**2.8**	**5.2 J**	**2.4**	**34 J**	**22**
Acenaphthylene	**1.3**	**0.74**	**0.73**	**1.6**	**2**	**1.1**	**1.8**	**5.1 J**	**1.9**	**13**	**6**
Anthracene	**1.4**	**1.6**	**2.1**	**4.3**	**6.2**	**5.5**	**2.6**	**5.7 J**	**2.2**	**27**	**13**
Benz[a]anthracene	**1.8**	**2.1**	**2.6**	**5**	**6.3**	**8**	**3.6**	**8.5 J**	**2.7**	**18**	**10**
Benzo[a]pyrene	**1.4**	**1.7**	**2.3**	**4.1**	**5.3**	**6.6**	**3.5**	**6.6 J**	**2.3**	**14 J**	**8.2**
Benzo[b]fluoranthene	**1.2**	**1.6**	**2.2 J**	**3.6 J**	**3.4 J**	**6.9 J**	**3.5 J**	**4.2 J**	**1.4**	**8.8 J**	**6.1**
Benzo[g,h,i]perylene	**0.65**	**0.85**	**0.72**	**1.2**	**1.5**	**2**	**1.2**	**3.3 J**	**1.2**	**5.5**	**3.5**
Benzo[k]fluoranthene	**0.4 J**	**0.72**	**1.2**	**1.7**	**3.9**	**3.7**	**1.2**	**3.6 J**	**1**	**3.9 J**	**2.7**
Chrysene	**1.6**	**2.1**	**2.9**	**5.2**	**7.1**	**8.4**	**4**	**8.4 J**	**2.8**	**16 J**	**9.6**
Dibenz[a,h]anthracene	**0.26 J**	**0.31 J**	**0.2 J**	**0.37 J**	**0.38 J**	**0.53 J**	**0.26 J**	**1.4 J**	**0.4 J**	**2**	**1.2**
Fluoranthene	**4.1**	**5.4**	**7.6**	**13**	**16**	**21**	**9.3**	**18 J**	**6.6**	**38**	**25**
Fluorene	**0.91**	**0.45**	**1.1**	**3**	**6.8**	**4.7**	**2.4**	**4.2 J**	**0.52 J**	**20 J**	**14**
Indeno[1,2,3-cd]pyrene	**0.64**	**0.9**	**0.78**	**1.2**	**1.5**	**2.1**	**1.1**	**3.6 J**	**1.1**	**5.3**	**3.7**
2-Methylnaphthalene	**0.51**	**0.32 J**	**1.4**	**2.9**	**12**	**8.3**	**6.1**	**4.1 J**	**0.25 J**	**11**	**7.2**
Naphthalene	**0.88**	**0.61**	**2.5**	**4.4**	**12**	**9.5**	**6.2**	**4 J**	**0.85**	**30 J**	**44**
Phenanthrene	**3.6**	**3.9**	**6.6**	**16**	**24**	**23**	**10**	**19 J**	**3.3**	**68**	**45**
Pyrene	**3.1**	**3.7**	**5.2**	**10**	**13**	**15**	**6.4**	**16 J**	**5.2**	**35 J**	**20**
Total PAHs	**25.45**	**28.9**	**42.43**	**82.47**	**130.2**	**132.3**	**65.96**	**120.9**	**36.12**	**349.5**	**241.2**
Alkylated PAHs (mg/kg)											
Acenaphthene	**1.85617**	**4.02865**	**1.94232**	**2.87283**	**11.66385**	**6.12919**	**6.0649**	**5.88954 J**	**4.61229**	**112.10715 J**	**62.20188 J**
Acenaphthylene	**0.38909**	**1.18853**	**0.68832**	**0.44362**	**1.7637**	**0.86168**	**0.74133**	**3.03209 J**	**1.13542**	**22.86407 J**	**12.31243 J**
Anthracene	**2.65806**	**4.50541**	**2.0271**	**2.21952**	**11.27423**	**5.16408**	**7.52786**	**6.69835 J**	**5.24953**	**93.37874 J**	**52.11728 J**
Benz[a]anthracene	**4.92138**	**4.27426**	**2.83742**	**2.03519**	**12.82621**	**5.45384**	**10.64236**	**10.47141 J**	**7.39222**	**70.79025 J**	**34.20546 J**
Benzo[a]pyrene	**3.79639**	**2.96511**	**2.39726**	**1.54056**	**9.5649**	**4.19765**	**8.7921**	**7.03115 J**	**6.2658**	**53.0411 J**	**24.48382 J**
Benzo[b]fluoranthene	**4.02522**	**2.41714**	**2.02834**	**1.33622**	**8.93027**	**4.10821**	**8.97939**	**5.52683 J**	**5.05397**	**35.24915 J**	**14.82871 J**
Benzo[e]pyrene	**2.56833**	**1.96655**	**1.62995**	**1.07217**	**6.41945**	**3.1528**	**6.22553**	**4.76986 J**	**3.52511**	**30.46558 J**	**13.58612 J**
Benzo[g,h,i]perylene	**1.73549**	**1.28344**	**1.3954**	**0.90311**	**5.34317**	**2.69338**	**5.52564**	**3.77884 J**	**2.91961**	**23.23146 J**	**9.23782 J**
Benzo[k]fluoranthene	**3.62502**	**2.48455**	**2.04825**	**1.42667**	**8.82544**	**4.03896**	**8.50777**	**5.91954 J**	**4.78658**	**35.88649 J**	**16.35497 J**
1,1-Biphenyl	**0.10159**	**0.20572**	**0.06433**	**0.07483**	**0.36645**	**0.2887**	**0.32478**	**0.87306 J**	**0.24054**	**16.02441 J**	**8.47204 J**
Chrysene	**4.16348**	**3.86977**	**2.82132**	**2.01279**	**11.93613**	**5.69066**	**10.14197**	**10.76022 J**	**6.89564**	**63.16463 J**	**30.39867 J**
C1-Chrysenes	**2.1026**	**2.86953**	**2.23753**	**1.41473**	**7.27268**	**3.79575**	**5.33441**	**6.49267 J**	**3.55813**	**41.34857 J**	**22.71468 J**
C2-Chrysenes	**0.94073**	**1.73837**	**1.38417**	**0.88755**	**4.23018**	**2.79303**	**3.46249**	**2.94332 J**	**1.60462**	**17.84247**	**10.79615**
C3-Chrysenes	**0.51404**	**1.03067**	**0.77845**	**0.59987**	**2.51801**	**1.97019**	**2.44204**	**1.16086 J**	**0.66595**	**6.47497**	**4.30519**
C4-Chrysenes	**0.33056**	**0.74189**	**0.51004**	**0.4193**	**1.78873**	**1.36076**	**1.82129**	**0.65219 J**	**0.41201**	**3.42905**	**2.22031**
Dibenz[a,h]anthracene	**0.60055**	**0.35044**	**0.38944**	**0.21583**	**1.59788**	**0.67653**	**1.4442**	**1.10467 J**	**0.96354**	**7.34697 J**	**3.08215 J**
Dibenzofuran	**0.35253**	**0.52527**	**0.20888**	**0.31512**	**2.03086**	**1.13491**	**1.76531**	**0.56823 J**	**1.66185**	**9.11173 J**	**5.1775 J**
Dibenzothiophene	**0.47345**	**1.66485**	**0.49217**	**0.54647**	**4.18874**	**2.34762**	**2.67473**	**2.44551 J**	**1.24201**	**31.69723 J**	**17.623 J**
C1-Dibenzothiophenes	**0.98444**	**3.23004**	**1.64034**	**1.91944**	**6.22497**	**4.34687**	**4.36356**	**3.82353 J**	**1.55083**	**34.11752 J**	**19.9724 J**
C2-Dibenzothiophenes	**1.4894**	**3.99715**	**2.61426**	**2.97594**	**7.19677**	**5.5952**	**5.55536**	**3.8217 J**	**1.52762**	**26.33546 J**	**15.02954 J**

Table 2
Summary of Sediment Analytical Results
Phase I Sediment Cores
Gowanus Canal
Brooklyn, New York

Sample Name:	GC-SED-501	GC-SED-501	GC-SED-501	GC-SED-501	GC-SED-501	GC-SED-501	GC-SED-501	GC-SED-502	GC-SED-502	GC-SED-502	GC-SED-502
Sample Depth (feet):	(0.0-0.5)	(0.5-1.0)	(1.0-1.5)	(1.5-2.0)	(2.0-2.5)	(2.5-3.0)	(3.0-3.5)	(0.0-0.5)	(0.5-1.0)	(1.0-1.5)	(1.5-2.0)
Sample Date:	8/6/2012	8/6/2012	8/6/2012	8/6/2012	8/6/2012	8/6/2012	8/6/2012	8/6/2012	8/6/2012	8/6/2012	8/6/2012
C3-Dibenzothiophenes	**1.13024**	**3.09627**	**2.22902**	**2.51728**	**5.72811**	**4.487**	**4.52575**	**2.12968 J**	**0.90879**	**13.15692 J**	**7.67525 J**
C4-Dibenzothiophenes	**0.56577**	**1.55737**	**1.16428**	**1.30794**	**2.84836**	**2.45144**	**2.42339**	**0.92104 J**	**0.4269**	**4.8421**	**2.98401**
Fluoranthene	**9.93064**	**8.61299**	**6.11946**	**4.91258**	**33.20008**	**13.51677**	**29.13395**	**19.45564 J**	**15.41906**	**132.549 J**	**65.12546 J**
C1-Fluoranthenes/pyrenes	**4.57727**	**7.81487**	**4.4791**	**3.81723**	**18.41886**	**8.93379**	**11.52595**	**14.9477 J**	**8.53563**	**104.49463 J**	**60.86256 J**
C2-Fluoranthenes/pyrenes	**2.71053**	**3.72837**	**2.62899**	**2.05602**	**9.11501**	**5.25789**	**6.98064**	**6.17906 J**	**3.54631**	**38.80106 J**	**22.73148 J**
C3-Fluoranthenes/pyrenes	**1.25389**	**2.01899**	**1.51093**	**1.13648**	**4.94902**	**3.35199**	**4.14714**	**2.74783 J**	**1.55024**	**15.07251**	**9.99009**
C4-Fluoranthenes/pyrenes	**0.58268**	**1.00668**	**0.71262**	**0.57873**	**2.44351**	**1.92058**	**2.26385**	**1.0824 J**	**0.65601**	**5.35741**	**3.29741**
Fluorene	**0.76955**	**2.06466**	**0.27173**	**0.19726**	**8.29421**	**4.47071**	**4.9967**	**3.81875 J**	**2.6083**	**53.64877 J**	**31.6645 J**
C1-Fluorenes	**0.77768**	**2.67052**	**1.03749**	**1.84076**	**6.75901**	**4.72849**	**4.86684**	**3.84867 J**	**1.43021**	**39.14919 J**	**23.23273 J**
C2-Fluorenes	**1.88517**	**4.19578**	**2.67806**	**4.40391**	**8.77418**	**6.92776**	**7.37784**	**3.69559 J**	**1.60967**	**30.80321 J**	**18.39998 J**
C3-Fluorenes	**1.90487**	**3.44261**	**2.39884**	**3.89781**	**7.49769**	**6.17611**	**7.02151**	**2.61671 J**	**1.54849**	**15.1283 J**	**8.44518 J**
Indeno[1,2,3-cd]pyrene	**2.59194**	**1.61724**	**1.55519**	**0.99514**	**6.3532**	**2.9526**	**6.72156**	**4.29473 J**	**3.687**	**26.04012 J**	**10.73964 J**
Naphthalene	**0.51241**	**4.15894**	**0.5325**	**0.5117**	**14.88484**	**11.34169**	**10.4531**	**4.37779 J**	**1.39987**	**103.29745 J**	**60.37536 J**
C1-Naphthalenes	**0.49293**	**4.56434**	**0.46949**	**0.55141**	**15.8194**	**11.33145**	**9.96464**	**5.35821 J**	**1.47541**	**78.97967 J**	**44.79397 J**
C2-Naphthalenes	**1.42477**	**10.99539**	**2.9662**	**4.13918**	**22.86091**	**16.1949**	**16.88778**	**7.38994 J**	**3.05997**	**139.58187 J**	**78.94976 J**
C3-Naphthalenes	**3.41113**	**11.04941**	**5.63853**	**9.07942**	**19.55783**	**16.17419**	**17.4242**	**5.37579 J**	**2.73129**	**65.23952 J**	**37.28714 J**
C4-Naphthalenes	**2.657**	**6.82951**	**3.98703**	**6.81349**	**11.8793**	**9.54118**	**11.58416**	**2.7243 J**	**1.39723**	**24.59402 J**	**13.85154 J**
Perylene	**1.04128**	**0.62497**	**0.57194**	**0.38367**	**2.46091**	**1.14142**	**2.52498**	**1.55949 J**	**1.46143**	**10.95426 J**	**4.47641 J**
Phenanthrene	**6.38602**	**13.71392**	**3.77209**	**3.93117**	**48.72637**	**21.46911**	**33.94499**	**26.85355 J**	**14.80936**	**279.80026 J**	**157.8409 J**
C1-Phenanthrenes/anthracenes	**5.15993**	**13.47228**	**5.94488**	**7.31195**	**30.42817**	**18.78955**	**21.21285**	**20.25326 J**	**8.59881**	**174.22966 J**	**102.69735 J**
C2-Phenanthrenes/anthracenes	**4.74596**	**9.99536**	**6.18174**	**8.18391**	**20.57446**	**15.29542**	**16.45964**	**12.10227 J**	**5.35954**	**85.6967 J**	**49.79142 J**
C3-Phenanthrenes/anthracenes	**2.37905**	**5.40816**	**3.55044**	**4.66917**	**10.76563**	**8.70383**	**9.36939**	**4.69948 J**	**2.16597**	**30.304 J**	**17.68653 J**
C4-Phenanthrenes/anthracenes	**0.79364**	**2.33849**	**1.40689**	**1.69873**	**4.89143**	**4.46027**	**4.59805**	**1.29834 J**	**0.64013**	**7.67717**	**4.97167**
Pyrene	**8.18806**	**9.98554**	**6.24758**	**6.14077**	**31.83797**	**13.22786**	**24.29504**	**22.07449 J**	**13.31477**	**152.29443 J**	**79.21838 J**
TPH (mg/kg)											
Total Petroleum Hydrocarbons	**1921.45**	**5858.11**	**3179.74**	**4531.86**	**10781.98**	**9714.21**	**10831.45**	**4137.8 J**	**1943**	**6913.19**	**6641.65**
Other SVOCs (mg/kg)											
Acetophenone	2.5 U	2.2 U	2.3 U	2.5 U	2.7 U	2.8 U	2.8 U	4.8 UJ	2.8 U	2.7 U	2.7 U
Atrazine	2.5 U	2.2 U	2.3 U	2.5 U	2.7 U	2.8 U	2.8 U	4.8 UJ	2.8 U	2.7 U	2.7 U
Benzaldehyde	2.5 UJ	2.2 UJ	2.3 U	2.5 U	**0.95 J**	2.8 U	2.8 U	**1.5 J**	2.8 UJ	2.7 UJ	2.7 UJ
1,1-Biphenyl	2.5 UJ	2.2 UJ	**0.28 J**	2.5 U	**0.28 J**	2.8 U	2.8 U	**0.71 J**	2.8 UJ	**4 J**	**0.98 J**
Bis(chloroisopropyl)ether	0.51 U	0.44 U	0.46 U	0.5 U	0.54 U	0.56 U	0.56 U	0.97 UJ	0.56 U	0.54 U	0.56 U
Bis(2-chloroethyl)ether	0.51 U	0.44 U	0.46 U	0.5 U	0.54 U	0.56 U	0.56 U	0.97 UJ	0.56 U	0.54 U	0.56 U
Bis(2-chloroethoxy)methane	2.5 U	2.2 U	2.3 U	2.5 U	2.7 U	2.8 U	2.8 U	4.8 UJ	2.8 U	2.7 U	2.7 U
Bis(2-ethylhexyl)phthalate	**20**	**21**	**17**	**17**	**25**	**30**	**21**	**11 J**	**4.2 J**	**9.1 J**	**18**

Table 2
Summary of Sediment Analytical Results
Phase I Sediment Cores
Gowanus Canal
Brooklyn, New York

Sample Name:	GC-SED-501	GC-SED-501	GC-SED-501	GC-SED-501	GC-SED-501	GC-SED-501	GC-SED-501	GC-SED-502	GC-SED-502	GC-SED-502	GC-SED-502
Sample Depth (feet):	(0.0-0.5)	(0.5-1.0)	(1.0-1.5)	(1.5-2.0)	(2.0-2.5)	(2.5-3.0)	(3.0-3.5)	(0.0-0.5)	(0.5-1.0)	(1.0-1.5)	(1.5-2.0)
Sample Date:	8/6/2012	8/6/2012	8/6/2012	8/6/2012	8/6/2012	8/6/2012	8/6/2012	8/6/2012	8/6/2012	8/6/2012	8/6/2012
4-Bromophenyl phenyl ether	2.5 U	2.2 U	2.3 U	2.5 U	2.7 U	2.8 U	2.8 U	4.8 UJ	2.8 U	2.7 U	2.7 U
Butyl benzyl phthalate	2.5 U	2.2 U	**0.86 J**	**0.63 J**	**0.41 J**	2.8 U	2.8 U	**1 J**	2.8 U	**0.39 J**	**0.43 J**
Caprolactam	13 U	11 U	12 UJ	13 UJ	14 UJ	14 UJ	14 UJ	25 UJ	14 U	14 U	14 U
Carbazole	**0.15 J**	**0.26 J**	**0.72**	**0.63**	**1.1**	**2.1**	**0.58**	**0.65 J**	**0.26 J**	**0.96**	**1.3**
4-Chloro-3-methylphenol	2.5 U	2.2 U	2.3 U	2.5 U	2.7 U	2.8 U	2.8 U	4.8 UJ	2.8 U	2.7 U	2.7 U
4-Chloroaniline	**0.33 J**	**0.69 J**	**0.73 J**	**1.6 J**	**2.6 J**	**3.2**	**2.8**	4.8 UJ	**0.25 J**	2.7 U	**0.9 J**
Chlorophene	2.5 UJ	2.2 UJ	2.3 U	2.5 U	2.7 U	2.8 U	2.8 U	4.8 UJ	2.8 UJ	2.7 UJ	2.7 UJ
2-Chloronaphthalene	0.51 U	0.44 U	0.46 U	0.5 U	0.54 U	0.56 U	0.56 U	0.97 UJ	0.56 U	0.54 U	0.56 U
2-Chlorophenol	2.5 U	2.2 U	2.3 U	2.5 U	2.7 U	2.8 U	2.8 U	4.8 UJ	2.8 U	2.7 U	2.7 U
4-Chlorophenyl phenyl ether	2.5 U	2.2 U	2.3 U	2.5 U	2.7 U	2.8 U	2.8 U	4.8 UJ	2.8 U	2.7 U	2.7 U
Dibenzofuran	2.5 U	2.2 U	**0.51 J**	**0.77 J**	**1.3 J**	**1.5 J**	**0.59 J**	**0.62 J**	2.8 U	**2.7 J**	**2 J**
3,3-Dichlorobenzidine	2.5 U	2.2 U	2.3 U	2.5 U	2.7 U	2.8 U	2.8 U	4.8 UJ	2.8 U	2.7 U	2.7 U
2,4-Dichlorophenol	0.51 U	0.44 U	0.46 U	0.5 U	0.54 U	0.56 U	0.56 U	0.97 UJ	0.56 U	0.54 U	0.56 U
Diethyl phthalate	2.5 U	2.2 U	2.3 U	2.5 U	2.7 U	2.8 U	2.8 U	4.8 UJ	2.8 U	2.7 U	2.7 U
Dimethyl phthalate	2.5 U	2.2 U	2.3 U	2.5 U	2.7 U	2.8 U	2.8 U	4.8 UJ	2.8 U	2.7 U	2.7 U
2,4-Dimethylphenol	2.5 U	2.2 U	2.3 U	2.5 U	2.7 U	2.8 U	2.8 U	4.8 UJ	2.8 U	2.7 U	2.7 U
Di-n-butyl phthalate	2.5 U	2.2 U	**0.56 J**	2.5 U	2.7 U	**1.3 J**	2.8 U	4.8 UJ	2.8 U	2.7 U	2.7 U
4,6-Dinitro-2-methylphenol	13 U	11 U	12 UJ	13 UJ	14 UJ	14 UJ	14 UJ	25 UJ	**4.9 J**	14 U	14 U
2,4-Dinitrophenol	13 U	11 U	12 UJ	13 UJ	14 UJ	14 UJ	14 UJ	25 UJ	14 U	14 U	14 U
2,4-Dinitrotoluene	2.5 UJ	2.2 UJ	2.3 UJ	2.5 UJ	2.7 UJ	2.8 UJ	2.8 UJ	4.8 UJ	2.8 UJ	2.7 UJ	2.7 UJ
2,6-Dinitrotoluene	2.5 U	2.2 U	2.3 U	2.5 U	2.7 U	2.8 U	2.8 U	4.8 UJ	2.8 U	2.7 U	2.7 U
Di-n-octyl phthalate	2.5 U	2.2 U	**7.7**	**1.6 J**	**5.4**	**9**	**4.2**	**0.72 J**	2.8 U	**0.47 J**	**0.4 J**
Hexachlorobenzene	0.51 U	0.44 U	0.46 U	0.5 U	0.54 U	0.56 U	0.56 U	0.97 UJ	0.56 U	0.54 U	0.56 U
Hexachlorobutadiene	0.51 U	0.44 U	0.46 U	0.5 U	0.54 U	0.56 U	0.56 U	0.97 UJ	0.56 U	0.54 U	0.56 U
Hexachlorocyclopentadiene	2.5 U	2.2 U	2.3 U	2.5 U	2.7 U	2.8 U	2.8 U	4.8 UJ	2.8 U	2.7 U	2.7 U
Hexachloroethane	2.5 U	2.2 U	2.3 U	2.5 U	2.7 U	2.8 U	2.8 U	4.8 UJ	2.8 U	2.7 U	2.7 U
Isophorone	2.5 U	2.2 U	2.3 U	2.5 U	2.7 U	2.8 U	2.8 U	4.8 UJ	2.8 U	2.7 U	2.7 U
2-Methylphenol (o-Cresol)	2.5 U	2.2 U	2.3 U	2.5 U	2.7 U	2.8 U	2.8 U	4.8 UJ	2.8 U	2.7 U	2.7 U
3,4-Methylphenol (m,p-Cresol)	2.5 U	2.2 U	**0.24 J**	2.5 U	2.7 U	2.8 U	2.8 U	**0.55 J**	2.8 U	2.7 U	2.7 U
2-Nitroaniline	13 U	11 U	12 U	13 U	14 U	14 U	14 U	25 UJ	14 U	14 U	14 U
3-Nitroaniline	13 U	11 U	12 U	13 U	14 U	14 U	14 U	25 UJ	14 U	14 U	14 U
4-Nitroaniline	13 U	11 U	12 U	13 U	14 U	14 U	14 U	25 UJ	14 U	14 U	14 U
Nitrobenzene	5.1 U	4.4 U	4.6 U	5 U	5.4 U	5.6 U	5.6 U	9.7 UJ	5.6 U	5.4 U	5.6 U
2-Nitrophenol	2.5 U	2.2 U	2.3 U	2.5 U	2.7 U	2.8 U	2.8 U	4.8 UJ	2.8 U	2.7 U	2.7 U

Table 2
Summary of Sediment Analytical Results
Phase I Sediment Cores
Gowanus Canal
Brooklyn, New York

Sample Name:	GC-SED-501	GC-SED-501	GC-SED-501	GC-SED-501	GC-SED-501	GC-SED-501	GC-SED-501	GC-SED-502	GC-SED-502	GC-SED-502	GC-SED-502
Sample Depth (feet):	(0.0-0.5)	(0.5-1.0)	(1.0-1.5)	(1.5-2.0)	(2.0-2.5)	(2.5-3.0)	(3.0-3.5)	(0.0-0.5)	(0.5-1.0)	(1.0-1.5)	(1.5-2.0)
Sample Date:	8/6/2012	8/6/2012	8/6/2012	8/6/2012	8/6/2012	8/6/2012	8/6/2012	8/6/2012	8/6/2012	8/6/2012	8/6/2012
4-Nitrophenol	13 U	11 U	12 U	13 U	14 U	14 U	14 U	25 UJ	14 U	14 U	14 U
N-Nitrosodi-n-propylamine	0.51 U	0.44 U	0.46 U	0.5 U	0.54 U	0.56 U	0.56 U	0.97 UJ	0.56 U	0.54 U	0.56 U
N-Nitrosodiphenylamine	2.5 U	2.2 U	2.3 U	2.5 U	2.7 U	2.8 U	2.8 U	4.8 UJ	**0.51 J**	2.7 U	2.7 U
Pentachlorophenol	2.5 U	2.2 U	2.3 U	2.5 U	2.7 U	2.8 U	2.8 U	4.8 UJ	2.8 U	2.7 U	2.7 U
Phenol	0.51 U	0.44 U	0.46 U	0.5 U	0.54 U	0.56 U	0.56 U	0.97 UJ	0.56 U	0.54 U	0.56 U
1,2,4,5-Tetrachlorobenzene	2.5 U	2.2 U	2.3 U	2.5 U	2.7 U	2.8 U	2.8 U	4.8 UJ	2.8 U	2.7 U	2.7 U
2,3,4,6-Tetrachlorophenol	2.5 U	2.2 U	2.3 U	2.5 U	2.7 U	2.8 U	2.8 U	4.8 UJ	2.8 U	2.7 U	2.7 U
2,4,5-Trichlorophenol	2.5 U	2.2 U	2.3 U	2.5 U	2.7 U	2.8 U	2.8 U	4.8 UJ	2.8 U	2.7 U	2.7 U
2,4,6-Trichlorophenol	2.5 U	2.2 U	2.3 U	2.5 U	2.7 U	2.8 U	2.8 U	4.8 UJ	2.8 U	2.7 U	2.7 U
PCBs (mg/kg)											
Aroclor 1016	0.013 U	0.011 U	0.011 U	0.012 U	0.013 U	0.014 U	0.014 U	0.024 UJ	0.014 U	0.013 U	0.014 U
Aroclor 1221	0.013 U	0.011 U	0.011 U	0.012 U	0.013 U	0.014 U	0.014 U	0.024 UJ	0.014 U	0.013 U	0.014 U
Aroclor 1232	0.013 U	0.011 U	0.011 U	0.012 U	0.013 U	0.014 U	0.014 U	0.024 UJ	0.014 U	0.013 U	0.014 U
Aroclor 1242	**0.17 J**	**0.34 J**	**0.25 J**	**0.61 J**	**0.63 J**	**1.4 J**	**1.2 J**	**0.13 J**	**0.12 J**	**0.23 J**	**0.28 J**
Aroclor 1248	0.013 U	0.011 U	0.011 U	0.012 U	0.013 U	0.014 U	0.014 U	0.024 UJ	0.014 U	0.013 U	0.014 U
Aroclor 1254	0.013 U	0.011 U	0.011 U	0.012 U	0.013 U	0.014 U	0.014 U	0.024 UJ	0.014 U	0.013 U	0.014 U
Aroclor 1260	**0.35 J**	**0.28 J**	**0.17 J**	**0.39 J**	**0.5 J**	**0.68 J**	**0.68 J**	**0.09 J**	**0.11 J**	**0.14 J**	**0.25 J**
Aroclor 1262	0.013 U	0.011 U	0.011 U	0.012 U	0.013 U	0.014 U	0.014 U	0.024 UJ	0.014 U	0.013 U	0.014 U
Aroclor 1268	0.013 U	0.011 U	0.011 U	0.012 U	0.013 U	0.014 U	0.014 U	0.024 UJ	0.014 U	0.013 U	0.014 U
Total PCBs	**0.52 J**	**0.62 J**	**0.42 J**	**1 J**	**1.1 J**	**2.1 J**	**1.9 J**	**0.22 J**	**0.23 J**	**0.37 J**	**0.53 J**
Pesticides (mg/kg)											
Aldrin	0.013 U	**0.025 J**	0.012 U	0.013 UJ	0.014 UJ	0.014 UJ	0.014 UJ	0.025 UJ	0.014 U	**0.026 J**	**0.03 JN**
alpha-BHC	0.013 U	0.011 U	0.012 U	0.013 U	0.014 U	0.014 U	0.014 U	0.025 UJ	0.014 U	**0.025 JN**	0.014 U
beta-BHC	**0.016 JN**	**0.012 JN**	0.012 U	0.013 U	0.014 U	0.014 U	**0.0052 J**	0.025 UJ	0.014 U	**0.023 JN**	**0.06 JN**
gamma-BHC	0.013 U	0.011 U	0.012 U	0.013 U	0.014 U	0.014 U	0.014 U	0.025 UJ	0.014 U	**0.057 J**	0.014 U
delta-BHC	0.013 U	0.011 U	0.012 U	0.013 U	0.014 U	0.014 U	0.014 U	0.025 UJ	**0.015 JN**	**0.037 J**	**0.032 J**
alpha-chlordane	0.013 U	0.011 U	0.012 U	**0.036 J**	**0.033 J**	**0.05 J**	**0.05 J**	0.025 UJ	0.014 U	0.014 U	0.014 U
gamma-Chlordane	**0.12 J**	**0.066 J**	**0.014 JN**	**0.12**	**0.084**	**0.13**	**0.15**	**0.12 J**	**0.06 J**	**0.17 J**	**0.044 JN**
4,4-DDD	**0.044 J**	**0.079**	0.012 U	**0.09 J**	**0.079 J**	**0.11 J**	**0.13 J**	0.025 UJ	**0.02 JN**	**0.018 JN**	**0.072 J**
4,4'-DDE	0.013 U	**0.047**	0.012 U	**0.05 J**	**0.044 J**	**0.068 J**	**0.062 J**	0.025 UJ	0.014 U	0.014 U	0.014 U
4,4'-DDT	**0.025 J**	**0.046**	0.012 U	0.013 U	0.014 U	0.014 U	0.014 U	0.025 UJ	**0.035 J**	**0.039 JN**	**0.051 J**
Dieldrin	**0.027 J**	**0.031**	0.012 U	0.013 UJ	**0.013 J**	**0.012 J**	**0.014 JN**	0.025 UJ	0.014 U	0.014 U	0.014 U
Endosulfan I	0.013 U	0.011 U	0.012 U	0.013 UJ	0.014 UJ	0.014 UJ	0.014 UJ	0.025 UJ	0.014 U	**0.039 J**	0.014 U
Endosulfan II	0.013 U	0.011 U	0.012 U	0.013 UJ	0.014 UJ	0.014 UJ	0.014 UJ	0.025 UJ	**0.037**	0.014 U	0.014 U
Endosulfan sulfate	0.013 U	0.011 U	0.012 U	0.013 UJ	0.014 UJ	0.014 UJ	**0.0046 J**	0.025 UJ	0.014 U	**0.017 JN**	0.014 U
Endrin	0.013 U	0.011 U	0.012 U	**0.027 J**	0.014 UJ	**0.019 J**	**0.017 J**	0.025 UJ	**0.016**	0.014 U	0.014 U
Endrin aldehyde	0.013 U	0.011 U	0.012 U	**0.0048 J**	0.014 UJ	0.014 UJ	0.014 UJ	0.025 UJ	0.014 U	**0.035**	0.014 U
Endrin ketone	0.013 U	0.011 U	0.012 U	0.013 UJ	0.014 UJ	0.014 UJ	**0.02 J**	0.025 UJ	0.014 U	0.014 U	0.014 U
Heptachlor	**0.015 JN**	**0.024 J**	0.012 U	0.013 U	0.014 U	0.014 U	0.014 U	**0.034 JN**	**0.023 JN**	**0.055**	**0.049 J**
Heptachlor epoxide	0.013 U	**0.011 JN**	0.012 U	0.013 U	0.014 U	0.014 U	**0.017 J**	0.025 UJ	0.014 U	**0.038**	0.014 U
Methoxychlor	0.025 U	**0.045**	0.023 U	0.025 U	0.027 U	0.027 U	0.027 U	0.048 UJ	**0.061 J**	**0.047 JN**	**0.034 JN**
Toxaphene	0.51 U	0.44 U	0.46 U	0.5 U	0.55 U	0.55 U	0.55 U	0.97 UJ	0.56 U	0.53 U	0.55 U
Herbicides (mg/kg)											
2,4-D	0.12 U	0.11 U	0.11 U	0.12 U	0.13 U	0.14 U	0.14 U	0.23 UJ	0.13 U	0.13 U	0.13 U
2,4-DB	0.12 UJ	0.11 UJ	0.11 UJ	0.12 UJ	0.13 UJ	0.14 UJ	0.14 UJ	0.23 UJ	0.13 UJ	0.13 UJ	0.13 UJ
Dicamba	0.061 U	0.053 U	0.056 U	0.06 U	0.065 U	0.068 U	0.068 U	0.12 UJ	0.067 U	0.065 U	0.067 U
Dichloroprop	0.12 U	0.11 U	0.11 U	0.12 U	**0.14 JN**	**0.27 J**	**0.37**	**0.16 J**	0.13 U	0.13 U	**0.16 JN**
2,2-Dichloropropionic acid	0.14 U	0.12 U	0.13 U	0.13 U	0.15 U	0.15 U	0.15 U	0.26 UJ	0.15 U	0.15 U	0.15 U
Dinoseb	0.018 U	0.016 U	0.017 U	0.018 U	0.02 U	0.02 U	0.02 U	0.035 UJ	0.02 U	0.02 U	0.02 U

Table 2
Summary of Sediment Analytical Results
Phase I Sediment Cores
Gowanus Canal
Brooklyn, New York

Sample Name:	GC-SED-501	GC-SED-501	GC-SED-501	GC-SED-501	GC-SED-501	GC-SED-501	GC-SED-501	GC-SED-502	GC-SED-502	GC-SED-502	GC-SED-502
Sample Depth (feet):	(0.0-0.5)	(0.5-1.0)	(1.0-1.5)	(1.5-2.0)	(2.0-2.5)	(2.5-3.0)	(3.0-3.5)	(0.0-0.5)	(0.5-1.0)	(1.0-1.5)	(1.5-2.0)
Sample Date:	8/6/2012	8/6/2012	8/6/2012	8/6/2012	8/6/2012	8/6/2012	8/6/2012	8/6/2012	8/6/2012	8/6/2012	8/6/2012
MCPP	12 U	11 U	11 U	12 U	13 U	14 U	14 U	23 UJ	13 U	13 U	13 U
Methylchlorophenoxyacetic acid	12 U	11 U	11 U	12 U	**38 J**	**37 JN**	**36 J**	**15 J**	13 U	13 U	13 U
Pentachlorophenol	0.017 U	0.015 U	**0.0046 J**	0.016 U	0.018 U	0.019 U	0.019 U	0.032 UJ	0.019 U	0.018 U	**0.0068 J**
Silvex	0.031 U	0.027 U	0.028 U	0.03 U	0.033 U	0.034 U	**0.012 J**	0.058 UJ	0.034 U	0.033 U	0.034 U
2,4,5-Trichlorophenoxyacetic Acid	0.031 U	0.027 U	0.028 U	0.03 U	0.033 U	0.034 U	0.034 U	0.058 UJ	0.034 UJ	0.033 UJ	0.034 UJ
Metals (mg/kg)											
Aluminum	**3500**	**4500**	**6500**	**5300**	**6900**	**6400**	**5500**	**6900 J**	**6100**	**3900**	**5200**
Antimony	**32 J**	**0.94 J**	**2.6 J**	**3.7 J**	**13 J**	**3.3 J**	**3.1 J**	**3.2 J**	**0.49 J**	**1.1 J**	**1.4 J**
Arsenic	**3.3**	**2.9**	**3.2**	**3.1**	**4**	**4**	**4.2**	**4.7 J**	**3.6**	**2.6**	**3.5**
Barium	**70**	**120**	**170**	**250**	**390**	**520**	**310**	**75 J**	**74**	**110 J**	**180**
Beryllium	**0.22**	**0.35**	**0.39**	**0.43**	**0.57**	**0.42**	**0.4**	**0.39 J**	**0.33**	**0.27**	**0.32**
Cadmium	**0.076 J**	**2.2 J**	**1.8 J**	**3.3 J**	**3.7 J**	**4.9 J**	**3.9 J**	**1.7 J**	**0.89 J**	**1.3 J**	**2.5 J**
Calcium	**9200**	**9000**	**13000**	**8000**	**10000**	**10000**	**11000**	**14000 J**	**4600**	**8700**	**9200**
Chromium	**20 J**	**39 J**	**42 J**	**49 J**	**68 J**	**58 J**	**62 J**	**38 J**	**33 J**	**33 J**	**42 J**
Cobalt	**12 J**	**4.9 J**	**7 J**	**6 J**	**6.8 J**	**6.1 J**	**5.8 J**	**6.4 J**	**4.9 J**	**4.9 J**	**4.9 J**
Copper	**120**	**150**	**200**	**240**	**310**	**340**	**420**	**180 J**	**180**	**220**	**210**
Iron	**13000**	**17000**	**20000**	**17000**	**20000**	**18000**	**18000**	**20000 J**	**16000**	**15000**	**18000**
Lead	**490 J**	**790 J**	**460 J**	**830 J**	**1300 J**	**1200 J**	**1200 J**	**250 J**	**190 J**	**360 J**	**600 J**
Magnesium	**5200**	**4700**	**10000**	**4700**	**6000**	**5200**	**5200**	**7400 J**	**4200**	**4000**	**4600**
Manganese	**100 J**	**94 J**	**120 J**	**100 J**	**100 J**	**98 J**	**100 J**	**150 J**	**98 J**	**77 J**	**94 J**
Mercury	**0.9 J**	**0.76 J**	**0.98 J**	**1.6 J**	**1.5 J**	**6.6 J**	**5.9 J**	**0.68 J**	**0.82 J**	**3.5 J**	**2 J**
Nickel	**24 J**	**29 J**	**79 J**	**41 J**	**85 J**	**100 J**	**88 J**	**25 J**	**20 J**	**38 J**	**41 J**
Potassium	**810**	**940**	**940**	**1000**	**1200**	**1100**	**1000**	**1800 J**	**1400**	**830**	**1000**
Selenium	**1.7 J**	**1.6 J**	**1.7 J**	**2 J**	**2.5 J**	**2.5 J**	**2.5 J**	**2.5 J**	**2 J**	**1.7 J**	**2 J**
Silver	**1.1 J**	**2.5 J**	**3.5 J**	**12 J**	**8.2 J**	**13 J**	**8.5 J**	**3.4 J**	**4.5 J**	**6 J**	**6 J**
Sodium	**3300**	**2600**	**2800**	**3400**	**4500**	**4200**	**4100**	**11000 J**	**3900**	**3200**	**3100**
Thallium	0.076 UJ	0.066 UJ	0.069 UJ	0.075 UJ	**0.092 J**	**0.086 J**	0.085 UJ	0.14 UJ	**0.1 J**	0.081 UJ	0.083 UJ
Vanadium	**14**	**19**	**21**	**28**	**33**	**33**	**30**	**25 J**	**19**	**17**	**23**
Zinc	**350 J**	**570 J**	**640 J**	**570 J**	**770 J**	**930 J**	**810 J**	**560 J**	**320 J**	**600 J**	**580 J**
EDCs & PPCPs (Phenols) (mg/kg)											
Bisphenol A	0.57 UJ	0.62 UJ	0.54 UJ	0.68 UJ	0.63 UJ	0.65 UJ	**1 J**	0.89 UJ	0.69 UJ	0.73 UJ	0.61 UJ
Nonylphenol	**7.5 J**	**18 J**	**7.2 J**	**7.3 J**	**5.6 J**	**6.5 J**	**6.1 J**	**15 J**	**18 J**	**30 J**	**21 J**
Nonylphenol Diethoxylate	12 UJ	13 UJ	11 UJ	14 UJ	13 UJ	13 UJ	14 UJ	18 UJ	14 UJ	15 UJ	13 UJ
Nonylphenol Monoethoxylate	5.7 UJ	6.2 UJ	5.4 UJ	6.8 UJ	6.3 UJ	6.5 UJ	6.8 UJ	8.9 UJ	6.9 UJ	7.3 UJ	6.1 UJ
4-tert-Octylphenol	0.57 UJ	**0.77 J**	0.54 UJ	**0.85 J**	**0.86 J**	**1.3 J**	**1.3 J**	0.89 UJ	0.69 UJ	0.73 UJ	0.61 UJ
EDCs and PPCPs (mg/kg)											
Acetaminophen	0.037 U	0.038 U	0.037 U	0.037 U	0.038 U	0.038 U	0.037 U	0.038 U	0.037 U	0.036 U	0.037 U
alpha-Estradiol	0.037 UJ	0.038 UJ	0.037 UJ	0.037 UJ	0.038 UJ	0.038 UJ	0.037 UJ	0.038 UJ	0.037 UJ	0.036 UJ	0.037 UJ
Androstenedione	0.0074 UJ	0.0075 UJ	0.0074 UJ	0.0075 UJ	0.0076 UJ	0.0076 UJ	0.0074 UJ	0.0077 UJ	0.0074 UJ	0.0073 UJ	0.0075 UJ
Atrazine	**0.0026 J**	**0.0027 J**	0.0074 UJ	0.0075 UJ	0.0076 UJ	0.0076 UJ	0.0074 UJ	**0.0032 J**	0.0074 UJ	0.0073 UJ	0.0075 UJ
Bisphenol A	**0.059 J**	**0.08**	**0.38**	**0.37**	**0.19**	**0.32**	**0.33**	**0.18**	**0.067 J**	**0.15 J**	**0.26**
Carbamazepine	0.015 UJ	0.015 UJ	0.015 UJ	**0.0069 J**	**0.0053 J**	**0.0067 J**	0.015 UJ	0.015 UJ	0.015 UJ	**0.0098 J**	**0.0036 J**
DEET (N,N-Diethyl-3-Methyl Benzamide)	0.037 UJ	0.038 UJ	0.037 UJ	0.037 UJ	0.038 UJ	0.038 UJ	0.037 UJ	0.038 UJ	0.037 UJ	0.036 UJ	0.037 UJ
Diazepam	0.015 UJ	0.015 UJ	**0.0009 J**	**0.003 J**	**0.0034 J**	**0.0026 J**	**0.0023 J**	0.015 UJ	0.015 UJ	0.015 UJ	0.015 UJ
Diclofenac	0.015 UJ	0.015 UJ	0.015 UJ	0.015 UJ	0.015 UJ	R	R	R	0.015 UJ	R	0.015 UJ
Diethylstilbestrol	R	R	0.037 UJ	R	R	R	R	R	R	R	R
Estradiol	0.037 UJ	0.038 UJ	0.037 UJ	0.037 UJ	0.038 UJ	0.038 UJ	0.037 UJ	0.038 UJ	0.037 UJ	0.036 UJ	0.037 UJ
Estriol	0.037 U	0.038 U	0.037 U	0.037 U	0.038 U	0.038 U	0.037 U	0.038 U	0.037 U	0.036 U	0.037 U

Table 2
Summary of Sediment Analytical Results
Phase I Sediment Cores
Gowanus Canal
Brooklyn, New York

Sample Name:	GC-SED-501	GC-SED-501	GC-SED-501	GC-SED-501	GC-SED-501	GC-SED-501	GC-SED-501	GC-SED-502	GC-SED-502	GC-SED-502	GC-SED-502
Sample Depth (feet):	(0.0-0.5)	(0.5-1.0)	(1.0-1.5)	(1.5-2.0)	(2.0-2.5)	(2.5-3.0)	(3.0-3.5)	(0.0-0.5)	(0.5-1.0)	(1.0-1.5)	(1.5-2.0)
Sample Date:	8/6/2012	8/6/2012	8/6/2012	8/6/2012	8/6/2012	8/6/2012	8/6/2012	8/6/2012	8/6/2012	8/6/2012	8/6/2012
Estrone	0.037 UJ	**0.092 J**	**0.047 J**	**0.072 J**	**0.021 J**	0.038 UJ	0.037 UJ	0.038 UJ	**0.031 J**	**0.23 J**	**0.31 J**
Ethinyl Estradiol	0.037 U	0.038 U	0.037 U	0.037 U	0.038 U	0.038 U	0.037 U	0.038 U	0.037 U	0.036 U	0.037 U
Gemfibrozil	0.015 UJ	0.015 UJ	0.015 UJ	0.015 UJ	**0.0061 J**	**0.0074 J**	R	0.015 UJ	0.015 UJ	R	0.015 UJ
Ibuprofen	0.037 UJ	0.038 U	0.037 U	0.037 U	0.038 UJ	0.038 UJ	0.037 UJ	0.038 UJ	0.037 UJ	0.036 UJ	0.037 UJ
Meprobamate	0.0074 UJ	0.0075 UJ	0.0074 UJ	0.0075 UJ	0.0076 UJ	0.0076 UJ	0.0074 UJ	0.0077 UJ	0.0074 UJ	0.0073 UJ	0.0075 UJ
Naproxen	0.015 U	0.015 U	0.015 U	0.015 U	**0.0077 J**	0.015 U	0.015 U	0.015 U	0.015 U	0.015 U	0.015 U
Pentoxifylline	**0.0061 J**	**0.0029 J**	**0.0024 J**	**0.0017 J**	**0.0013 J**	0.015 U	0.015 U	0.015 U	0.015 U	**0.0031 J**	**0.0041 J**
Phenytoin (5,5-Diphenylhydantion/ Dilantin)	**0.0046 J**	**0.0071 J**	**0.0061 J**	**0.029 J**	**0.058**	**0.12**	**0.11**	**0.018 J**	**0.0046 J**	**0.0091 J**	**0.01 J**
Progesterone	0.015 UJ	0.015 U	0.015 U	0.015 U	0.015 UJ	0.015 UJ	**0.0033 J**	**0.0049 J**	**0.0023 J**	0.015 UJ	0.015 UJ
Sulfamethoxazole	0.015 U	0.015 U	0.015 U	0.015 U	**0.0018 J**	**0.0021 J**	0.015 U	**0.0025 J**	**0.00087 J**	**0.0019 J**	0.015 U
Testosterone	0.015 U	0.015 U	0.015 U	0.015 U	0.015 U	0.015 U	0.015 U	0.015 U	0.015 U	0.015 U	0.015 U
Trimethoprim	0.037 UJ	0.038 UJ	0.037 UJ	0.037 UJ	0.038 UJ	0.038 UJ	0.037 UJ	0.038 UJ	0.037 UJ	0.036 UJ	0.037 UJ
Pathogen											
C. perfringens (cfu/g)	**100000**	**330000**	**130000**	**230000**	**710000**	**310000**	**480000**	**55000**	**48000**	**77000**	**240000**
Coliphage, Male Specific (pfu/10g)	0 U	0 U	0 U	0 U	0 U	0 U	0 U	0 U	0 U	0 U	0 U
Coliphage, Somatic (pfu/10g)	**472 J**	**26 J**	**26 J**	0 UJ	**2 J**	**2 J**	**9 J**	**376 J**	**1 J**	**9 J**	0 UJ
Cryptosporidium (Oocysts/g)	0 U	0 U	0 U	0 U	0 U	0 U	0 U	0 UJ	0 U	0 UJ	0 U
E.Coli (mpn/g)	**57940**	**240**	**228.2**	**17.5**	**24.3**	**18.7**	**32.3**	**10430**	**167.9**	**105.3**	**228.2**
Enterococci (mpn/g)	**10170**	**166.5**	**91.4**	**28.6**	**25.3**	**79.5**	**129.9**	**3180**	**75.7**	**39.3**	**23.3**
Fecal Coliform (mpn/g)	**129970**	**686.7**	**290.9**	**7.4**	**50.4**	**28.2**	**95.8**	**24810**	**1913.6**	**920.8**	**196.1**
Giardia (Cysts/g)	0 U	0 U	0 U	0 U	0 U	0 U	0 U	0 U	0 U	0 U	0 U
Plaque forming virus (pfu/g)	0 U	0 U	0 U	0 U	0 U	0 U	0 U	0 U	0 U	0 U	0 U
Viruses (pos/neg)	neg	neg	neg	neg	neg	neg	neg	neg	neg	neg	neg
Other (%)											
Percent Solids	**30.54**	**68.9**	**73.69**	**66.19**	**60.48**	**64.13**	**58.99**	**31.27**	**58.91**	**56.2**	**56.03**
Total Solids	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Other (mg/kg)											
Total Organic Carbon	**34000**	**30000**	**23000**	**72000**	**71000**	**80000 J**	**88000**	**84000 J**	**39000**	**43000**	**73000**

Table 2
Summary of Sediment Analytical Results
Phase I Sediment Cores
Gowanus Canal
Brooklyn, New York

Sample Name:	Duplicate of GC-SED-502	GC-SED-502	GC-SED-502	GC-SED-502	GC-SED-502	GC-SED-503	GC-SED-503	GC-SED-503	GC-SED-503	GC-SED-503	GC-SED-503
Sample Depth (feet):	(1.5-2.0)	(2.0-2.5)	(2.5-3.0)	(3.0-3.5)	(3.5-4.0)	(0.0-0.5)	(0.5-1.0)	(1.0-1.5)	(1.5-2.0)	(2.0-2.5)	(2.5-3.0)
Sample Date:	8/6/2012	8/6/2012	8/6/2012	8/6/2012	8/6/2012	8/8/2012	8/8/2012	8/8/2012	8/8/2012	8/8/2012	8/8/2012
BTEX (mg/kg)											
Benzene	**0.0053 J**	**0.006 J**	**0.0082**	0.0067 U	0.0069 U	0.008 U	0.01 UJ	0.0065 U	**0.0039 J**	**0.0013 J**	**0.014 J**
Toluene	**0.0041 J**	**0.0015 J**	**0.0024 J**	0.0067 U	**0.0013 J**	**0.0018 J**	0.01 UJ	0.0065 U	0.01 UJ	**0.016**	0.011 UJ
Ethylbenzene	**0.028 J**	**0.0012 J**	0.0074 U	**0.0013 J**	0.0069 U	0.008 U	0.01 UJ	0.0065 U	0.01 UJ	**0.0039 J**	**0.0032 J**
m,p-Xylene	**0.0079 J**	**0.0035 J**	**0.0037 J**	0.013 U	**0.0023 J**	0.016 U	0.02 UJ	0.013 U	0.02 UJ	0.02 U	0.022 UJ
o-Xylene	**0.031**	**0.0096**	**0.013**	**0.0028 J**	**0.0059 J**	0.008 U	0.01 UJ	0.0065 U	0.01 UJ	**0.0015 J**	0.011 UJ
Total Xylene	**0.039**	**0.013 J**	**0.017 J**	0.02 U	**0.0082 J**	0.024 U	0.031 UJ	0.02 U	0.03 UJ	0.03 U	0.033 UJ
Total BTEX	**0.0764**	**0.0217**	**0.0276**	**0.0041**	**0.0095**	**0.0018**	0	0	**0.0039**	**0.0227**	**0.0172**
Other VOCs (mg/kg)											
Acetone	0.033 U	0.031 U	0.03 U	0.027 U	0.028 U	0.032 U	0.041 UJ	**0.0078 J**	0.041 UJ	**0.015 J**	**0.013 J**
Bromochloromethane	0.0083 U	0.0077 U	0.0074 U	0.0067 U	0.0069 U	0.008 U	0.01 UJ	0.0065 U	0.01 UJ	0.0099 U	0.011 UJ
Bromodichloromethane	0.0083 U	0.0077 U	0.0074 U	0.0067 U	0.0069 U	0.008 U	0.01 UJ	0.0065 U	0.01 UJ	0.0099 U	0.011 UJ
Bromoform	0.0083 U	0.0077 U	0.0074 U	0.0067 U	0.0069 U	0.008 U	0.01 UJ	0.0065 U	0.01 UJ	0.0099 U	0.011 UJ
Bromomethane	0.0083 U	0.0077 U	0.0074 U	0.0067 U	0.0069 U	0.008 U	0.01 UJ	0.0065 U	0.01 UJ	0.0099 U	0.011 UJ
2-Butanone (Methyl ethyl ketone)	0.0083 U	0.0077 U	0.0074 U	0.0067 U	0.0069 U	0.008 U	0.01 UJ	0.0065 U	0.01 UJ	0.0099 U	0.011 UJ
Carbon disulfide	**0.0061 J**	**0.0016 J**	**0.0016 J**	**0.0035 J**	**0.0027 J**	**0.00098 J**	0.01 UJ	**0.005 J**	0.01 UJ	**0.003 J**	0.011 UJ
Carbon tetrachloride	0.0083 U	0.0077 U	0.0074 U	0.0067 U	0.0069 U	0.008 U	0.01 UJ	0.0065 U	0.01 UJ	0.0099 U	0.011 UJ
Chlorobenzene	**0.079 J**	**0.067**	**0.062**	**0.022**	**0.03**	**0.0013 J**	**0.002 J**	**0.01**	**0.047 J**	**0.0093 J**	**0.11 J**
Chloroethane	0.0083 U	0.0077 U	0.0074 U	0.0067 U	0.0069 U	0.008 U	0.01 UJ	0.0065 U	0.01 UJ	0.0099 U	0.011 UJ
Chloroform	0.0083 U	0.0077 U	0.0074 U	0.0067 U	0.0069 U	0.008 U	0.01 UJ	0.0065 U	0.01 UJ	0.0099 U	0.011 UJ
Chloromethane	0.0083 U	0.0077 U	0.0074 U	0.0067 U	0.0069 U	0.008 U	0.01 UJ	0.0065 U	0.01 UJ	0.0099 U	0.011 UJ
Cyclohexane	0.0083 U	0.0077 U	0.0074 U	0.0067 U	0.0069 U	0.008 U	0.01 UJ	0.0065 U	0.01 UJ	0.0099 U	0.011 UJ
1,2-Dibromo-3-chloropropane	0.0083 UJ	0.0077 UJ	0.0074 UJ	0.0067 UJ	0.0069 UJ	0.008 U	0.01 UJ	0.0065 U	0.01 UJ	0.0099 U	0.011 UJ
Dibromochloromethane	0.0083 U	0.0077 U	0.0074 U	0.0067 U	0.0069 U	0.008 U	0.01 UJ	0.0065 U	0.01 UJ	0.0099 U	0.011 UJ
1,2-Dibromoethane	0.0083 U	0.0077 U	0.0074 U	0.0067 U	0.0069 U	0.008 U	0.01 UJ	0.0065 U	0.01 UJ	0.0099 U	0.011 UJ
1,2-Dichlorobenzene	0.0083 U	0.0077 U	0.0074 U	0.0067 U	0.0069 U	0.008 U	0.01 UJ	0.0065 U	0.01 UJ	0.0099 U	0.011 UJ
1,3-Dichlorobenzene	0.0083 U	0.0077 U	0.0074 U	0.0067 U	0.0069 U	0.008 U	0.01 UJ	0.0065 U	0.01 UJ	0.0099 U	0.011 UJ
1,4-Dichlorobenzene	**0.042**	**0.022**	**0.021**	**0.006 J**	**0.0097**	**0.0017 J**	**0.0017 J**	**0.0028 J**	**0.0023 J**	**0.012**	**0.0015 J**
Dichlorodifluoromethane	0.0083 U	0.0077 U	0.0074 U	0.0067 U	0.0069 U	0.008 U	0.01 UJ	0.0065 U	0.01 UJ	0.0099 U	0.011 UJ
1,1-Dichloroethane	0.0083 U	0.0077 U	0.0074 U	0.0067 U	0.0069 U	0.008 U	0.01 UJ	0.0065 U	0.01 UJ	0.0099 U	0.011 UJ
1,2-Dichloroethane	0.0083 U	0.0077 U	0.0074 U	0.0067 U	0.0069 U	0.008 U	0.01 UJ	0.0065 U	0.01 UJ	0.0099 U	0.011 UJ
cis-1,2-Dichloroethene	0.0083 U	0.0077 U	0.0074 U	0.0067 U	0.0069 U	0.008 U	0.01 UJ	0.0065 U	0.01 UJ	0.0099 U	0.011 UJ
trans-1,2-Dichloroethene	0.0083 U	0.0077 U	0.0074 U	0.0067 U	0.0069 U	0.008 U	0.01 UJ	0.0065 U	0.01 UJ	0.0099 U	0.011 UJ
1,1-Dichloroethene	0.0083 U	0.0077 U	0.0074 U	0.0067 U	0.0069 U	0.008 U	0.01 UJ	0.0065 U	0.01 UJ	0.0099 U	0.011 UJ
1,2-Dichloropropane	0.0083 U	0.0077 U	0.0074 U	0.0067 U	0.0069 U	0.008 U	0.01 UJ	0.0065 U	0.01 UJ	0.0099 U	0.011 UJ
cis-1,3-Dichloropropene	0.0083 U	0.0077 U	0.0074 U	0.0067 U	0.0069 U	0.008 U	0.01 UJ	0.0065 U	0.01 UJ	0.0099 U	0.011 UJ
trans-1,3-Dichloropropene	0.0083 U	0.0077 U	0.0074 U	0.0067 U	0.0069 U	0.008 U	0.01 UJ	0.0065 U	0.01 UJ	0.0099 U	0.011 UJ
1,4-Dioxane	R	R	R	R	R	R	R	R	R	R	R
2-Hexanone	0.0083 U	0.0077 U	0.0074 U	0.0067 U	0.0069 U	0.008 U	0.01 UJ	0.0065 U	0.01 UJ	0.0099 U	0.011 UJ
Isopropyl benzene	**0.023**	**0.0037 J**	**0.0038 J**	**0.0016 J**	**0.0012 J**	0.008 U	0.01 UJ	0.0065 U	0.01 UJ	**0.0014 J**	0.011 UJ
Methyl acetate	0.0083 U	0.0077 U	0.0074 U	0.0067 U	0.0069 U	0.008 U	0.01 UJ	0.0065 U	0.01 UJ	0.0099 U	0.011 UJ
Methyl tert-butyl ether (MTBE)	0.0083 U	0.0077 U	0.0074 U	0.0067 U	0.0069 U	0.008 U	0.01 UJ	0.0065 U	0.01 UJ	0.0099 U	0.011 UJ
4-Methyl-2-pentanone	0.0083 U	0.0077 U	0.0074 U	0.0067 U	0.0069 U	0.008 U	0.01 UJ	0.0065 U	0.01 UJ	0.0099 U	0.011 UJ
Methylcyclohexane	0.0083 U	0.0077 U	0.0074 U	0.0067 U	0.0069 U	0.008 U	0.01 UJ	0.0065 U	0.01 UJ	0.0099 U	0.011 UJ
Methylene chloride	0.0083 U	0.0077 U	0.0074 U	0.0067 U	0.0069 U	0.008 U	0.01 U	0.0065 U	0.01 UJ	0.0099 U	0.011 UJ
Styrene	0.0083 U	0.0077 U	0.0074 U	0.0067 U	0.0069 U	0.008 U	0.01 UJ	0.0065 U	0.01 UJ	0.0099 U	0.011 UJ
1,1,2,2-Tetrachloroethane	0.0083 U	0.0077 U	0.0074 U	0.0067 U	0.0069 U	0.008 U	0.01 UJ	0.0065 U	0.01 UJ	0.0099 U	0.011 UJ
Tetrachloroethene	0.0083 U	0.0077 U	0.0074 U	0.0067 U	0.0069 U	0.008 U	0.01 UJ	0.0065 U	0.01 UJ	0.0099 U	0.011 UJ

Table 2
Summary of Sediment Analytical Results
Phase I Sediment Cores
Gowanus Canal
Brooklyn, New York

Sample Name:	Duplicate of GC-SED-502	GC-SED-502	GC-SED-502	GC-SED-502	GC-SED-502	GC-SED-503	GC-SED-503	GC-SED-503	GC-SED-503	GC-SED-503	GC-SED-503
Sample Depth (feet):	(1.5-2.0)	(2.0-2.5)	(2.5-3.0)	(3.0-3.5)	(3.5-4.0)	(0.0-0.5)	(0.5-1.0)	(1.0-1.5)	(1.5-2.0)	(2.0-2.5)	(2.5-3.0)
Sample Date:	8/6/2012	8/6/2012	8/6/2012	8/6/2012	8/6/2012	8/8/2012	8/8/2012	8/8/2012	8/8/2012	8/8/2012	8/8/2012
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	0.0083 U	0.0077 U	0.0074 U	0.0067 U	0.0069 U	0.008 U	0.01 UJ	0.0065 U	0.01 UJ	0.0099 U	0.011 UJ
1,2,3-Trichlorobenzene	0.0083 U	0.0077 U	0.0074 U	0.0067 U	0.0069 U	0.008 U	0.01 UJ	0.0065 U	0.01 UJ	0.0099 U	0.011 UJ
1,2,4-Trichlorobenzene	0.0083 U	0.0077 U	0.0074 U	0.0067 U	0.0069 U	0.008 U	0.01 UJ	0.0065 U	0.01 UJ	0.0099 U	0.011 UJ
1,1,1-Trichloroethane	0.0083 U	0.0077 U	0.0074 U	0.0067 U	0.0069 U	0.008 U	0.01 UJ	0.0065 U	0.01 UJ	0.0099 U	0.011 UJ
1,1,2-Trichloroethane	0.0083 U	0.0077 U	0.0074 U	0.0067 U	0.0069 U	0.008 U	0.01 UJ	0.0065 U	0.01 UJ	0.0099 U	0.011 UJ
Trichloroethene	0.0083 U	0.0077 U	0.0074 U	0.0067 U	0.0069 U	0.008 U	0.01 UJ	0.0065 U	0.01 UJ	0.0099 U	0.011 UJ
Trichlorofluoromethane	0.0083 U	0.0077 U	0.0074 U	0.0067 U	0.0069 U	0.008 U	0.01 UJ	0.0065 U	0.01 UJ	0.0099 U	0.011 UJ
Vinyl chloride	0.0083 U	0.0077 U	0.0074 U	0.0067 U	0.0069 U	0.008 U	0.01 UJ	0.0065 U	0.01 UJ	0.0099 U	0.011 UJ
PAHs (mg/kg)											
Acenaphthene	**59 J**	**6.5**	**4**	**3.1**	**1.1**	**1.6**	**1.7 J**	**0.35 J**	**0.94 J**	**1.5**	**1.3 J**
Acenaphthylene	**15**	**2.3**	**1.5**	**0.56**	**0.44 J**	**0.98**	**1.3 J**	**0.22 J**	**0.68 J**	**0.95**	**1.5 J**
Anthracene	**42**	**5.2**	**3.5**	**2.1**	**1.1**	**2**	**1.4 J**	**0.21 J**	**0.84 J**	**2.1**	**1.6 J**
Benz[a]anthracene	**22**	**4.7**	**3.2**	**4.9**	**1.8**	**2.6**	**2.8 J**	**0.56**	**1.7 J**	**3.3**	**3 J**
Benzo[a]pyrene	**24 J**	**4**	**2.6**	**4.5**	**1.5**	**2.1**	**2.3 J**	**0.47**	**1.7 J**	**2.6**	**2.6 J**
Benzo[b]fluoranthene	**16 J**	**3.4**	**2.5**	**5.3**	**1.5**	**1.4**	**1.8 J**	**0.37 J**	**1.5 J**	**2.3**	**2.2 J**
Benzo[g,h,i]perylene	**5.8**	**1.9**	**1.2**	**2.3**	**0.81**	**1.3**	**1.4 J**	**0.29 J**	**1.3 J**	**1.8**	**1.8 J**
Benzo[k]fluoranthene	**9.2 J**	**1.5**	**0.66**	**1.8**	**0.73**	**1**	**0.85 J**	**0.22 J**	**0.67 J**	**0.85**	**0.91 J**
Chrysene	**32 J**	**5.1**	**3.2**	**5.7**	**1.9**	**2.6**	**2.8 J**	**0.57**	**2 J**	**2.9**	**3.2 J**
Dibenz[a,h]anthracene	**1.8 J**	**0.81**	**0.54**	**0.67**	**0.23 J**	**1.9**	**2.4 J**	0.44 U	**2.5 J**	**2.4 J**	**2.7 J**
Fluoranthene	**58**	**13**	**8.6**	**16**	**5**	**5**	**4.7 J**	**1.1**	**3.9 J**	**6.3**	**5.1 J**
Fluorene	**40 J**	**4.4**	**2.7**	**2.2**	**1**	**0.99**	**1 J**	0.44 U	**1.1 J**	**1.6**	**1.5 J**
Indeno[1,2,3-cd]pyrene	**6.3**	**2.1**	**1.3**	**2.6**	**0.79**	**2.2**	**2.6 J**	**1.3**	**2.6 J**	**3**	**3 J**
2-Methylnaphthalene	**15**	**2.4**	**1.4**	**1**	**0.65**	**0.12 J**	**0.16 J**	0.44 U	**0.37 J**	**1.2**	**1 J**
Naphthalene	**60 J**	**6.4**	**3.2**	**2.6**	**1.4**	**0.24 J**	**0.25 J**	0.44 U	**0.46 J**	**1.4**	**2.5 J**
Phenanthrene	**100**	**19**	**12**	**15**	**5.1**	**3.2**	**2.3 J**	**0.43 J**	**2.5 J**	**7.1**	**5.2 J**
Pyrene	**62 J**	**10**	**6.6**	**9.2**	**3.2**	**4.8**	**4.6 J**	**1.4**	**3.3 J**	**5.1**	**4.6 J**
Total PAHs	**568.1**	**92.71**	**58.7**	**79.53**	**28.25**	**34.03**	**34.36**	**7.49**	**28.06**	**46.4**	**43.71**
Alkylated PAHs (mg/kg)											
Acenaphthene	**40.90814**	**15.31425**	**4.0541**	**1.50624**	**0.91626**	**1.92277**	**1.47932**	**0.43008**	**1.24**	**3.16376 J**	**3.06862 J**
Acenaphthylene	**8.03039**	**3.01322**	**0.6545**	**0.20711**	**0.15717**	**0.64575**	**0.60136**	**0.1596**	**0.62184**	**1.10526 J**	**1.96059 J**
Anthracene	**27.31732**	**14.1142**	**3.5463**	**1.33306**	**1.16382**	**2.48897**	**1.2252**	**0.21221**	**1.79686**	**6.66597 J**	**5.53219 J**
Benz[a]anthracene	**19.54596**	**10.27788**	**3.55268**	**2.1127**	**1.73469**	**2.78537**	**1.80523**	**0.55407**	**2.40637**	**10.21659 J**	**7.36673 J**
Benzo[a]pyrene	**15.64793**	**7.23856**	**2.80074**	**1.70655**	**1.33538**	**1.99341**	**1.26244**	**0.38656**	**1.87437**	**7.82861 J**	**5.58342 J**
Benzo[b]fluoranthene	**10.54001**	**5.96696**	**2.77574**	**1.93671**	**1.43131**	**1.47481**	**0.7729**	**0.28145**	**1.3288**	**6.56524 J**	**4.1759 J**
Benzo[e]pyrene	**9.52545**	**4.76368**	**2.04095**	**1.28634**	**0.9904**	**1.288**	**0.77729**	**0.25767**	**1.15923**	**4.72955 J**	**3.44088 J**
Benzo[g,h,i]perylene	**7.16646**	**3.53439**	**1.53839**	**0.94214**	**0.70075**	**0.85593**	**0.53048**	**0.16016**	**0.79225**	**3.4199 J**	**2.36151 J**
Benzo[k]fluoranthene	**11.81328**	**5.99757**	**2.78558**	**1.76901**	**1.37483**	**1.58145**	**0.96993**	**0.33669**	**1.51565**	**6.85799 J**	**4.41171 J**
1,1-Biphenyl	**1.78773**	**0.58575**	**0.13247**	**0.06632**	**0.04875**	**0.08812**	**0.03673**	**0.00763**	**0.14713**	**0.41631 J**	**0.29555 J**
Chrysene	**18.33371**	**9.79607**	**3.66893**	**2.16357**	**1.69591**	**2.54904**	**1.64893**	**0.51285**	**2.08041**	**8.42791 J**	**6.3315 J**
C1-Chrysenes	**15.23307**	**6.91962**	**2.04797**	**1.01453**	**0.87842**	**1.66638**	**1.07102**	**0.30451**	**1.2381**	**3.45787 J**	**3.51854 J**
C2-Chrysenes	**7.12803**	**3.58738**	**1.09669**	**0.56524**	**0.4814**	**0.67844**	**0.40742**	**0.13422**	**0.51375**	**1.31397 J**	**1.54062 J**
C3-Chrysenes	**2.87096**	**2.02341**	**0.62542**	**0.38152**	**0.29958**	**0.34619**	**0.20326**	**0.08585**	**0.32949**	**0.73546 J**	**0.94101 J**
C4-Chrysenes	**1.75463**	**1.34527**	**0.40963**	**0.28763**	**0.22577**	**0.1904**	**0.11579**	**0.05376**	**0.2374**	**0.46288 J**	**0.64505 J**
Dibenz[a,h]anthracene	**2.18234**	**1.00941**	**0.42494**	**0.27979**	**0.20632**	**0.26839**	**0.15399**	**0.04652**	**0.24579**	**1.14552 J**	**0.73996 J**
Dibenzofuran	**3.56678**	**1.84095**	**0.6729**	**0.35978**	**0.25518**	**0.32598**	**0.07714**	**0.02035**	**0.18624**	**0.71337 J**	**0.59042 J**
Dibenzothiophene	**10.06408**	**5.31462**	**1.49575**	**0.57756**	**0.44227**	**0.88111**	**0.31943**	**0.04338**	**0.49456**	**1.53078 J**	**1.46076 J**
C1-Dibenzothiophenes	**12.49471**	**8.53788**	**2.27134**	**0.93046**	**0.70086**	**1.17911**	**0.6457**	**0.13723**	**0.74008**	**1.80629 J**	**2.05629 J**
C2-Dibenzothiophenes	**11.75807**	**9.51117**	**2.65083**	**1.21168**	**0.94758**	**0.91412**	**0.60856**	**0.16158**	**0.75599**	**1.58909 J**	**2.19577 J**

Table 2
Summary of Sediment Analytical Results
Phase I Sediment Cores
Gowanus Canal
Brooklyn, New York

Sample Name:	Duplicate of GC-SED-502	GC-SED-502	GC-SED-502	GC-SED-502	GC-SED-502	GC-SED-503	GC-SED-503	GC-SED-503	GC-SED-503	GC-SED-503	GC-SED-503
Sample Depth (feet):	(1.5-2.0)	(2.0-2.5)	(2.5-3.0)	(3.0-3.5)	(3.5-4.0)	(0.0-0.5)	(0.5-1.0)	(1.0-1.5)	(1.5-2.0)	(2.0-2.5)	(2.5-3.0)
Sample Date:	8/6/2012	8/6/2012	8/6/2012	8/6/2012	8/6/2012	8/8/2012	8/8/2012	8/8/2012	8/8/2012	8/8/2012	8/8/2012
C3-Dibenzothiophenes	**7.59903**	**6.80601**	**1.98821**	**0.9872**	**0.82164**	**0.46248**	**0.33868**	**0.11467**	**0.54812**	**0.94823 J**	**1.5663 J**
C4-Dibenzothiophenes	**3.36222**	**3.35171**	**0.99811**	**0.53708**	**0.49596**	**0.17676**	**0.13686**	**0.0563**	**0.28094**	**0.4288 J**	**0.66723 J**
Fluoranthene	**41.2477**	**27.57069**	**10.89057**	**6.24006**	**4.87741**	**5.29799**	**2.53301**	**0.79827**	**4.38114**	**17.8615 J**	**13.95893 J**
C1-Fluoranthenes/pyrenes	**38.5803**	**20.29657**	**5.28548**	**2.29636**	**2.05171**	**3.65331**	**2.42974**	**0.6449**	**3.15839**	**9.10773 J**	**9.53479 J**
C2-Fluoranthenes/pyrenes	**16.42321**	**8.31037**	**2.86188**	**1.54307**	**1.13343**	**1.3658**	**0.90271**	**0.28027**	**1.41702**	**4.44991 J**	**4.01659 J**
C3-Fluoranthenes/pyrenes	**7.54669**	**4.32818**	**1.32746**	**0.74524**	**0.61823**	**0.52108**	**0.35186**	**0.11561**	**0.61491**	**1.65148 J**	**1.76449 J**
C4-Fluoranthenes/pyrenes	**2.58653**	**1.88602**	**0.67261**	**0.38836**	**0.32284**	**0.2029**	**0.12061**	**0.04949**	**0.26113**	**0.73079 J**	**0.89171 J**
Fluorene	**21.08476**	**9.19105**	**2.39042**	**0.98231**	**0.7604**	**0.75453**	**0.18493**	**0.03308**	**0.83552**	**2.61018 J**	**2.51109 J**
C1-Fluorenes	**13.91523**	**9.79062**	**2.4966**	**1.0827**	**0.78043**	**1.15997**	**0.58035**	**0.11351**	**0.66621**	**1.54403 J**	**1.86787 J**
C2-Fluorenes	**13.65551**	**12.68613**	**3.57521**	**1.82055**	**1.28913**	**1.08932**	**0.67736**	**0.16594**	**0.77024**	**1.62357 J**	**2.22504 J**
C3-Fluorenes	**9.09373**	**9.42481**	**3.32814**	**1.7311**	**1.25751**	**0.62569**	**0.39084**	**0.13028**	**0.61438**	**1.38851 J**	**1.86532 J**
Indeno[1,2,3-cd]pyrene	**8.06445**	**4.10764**	**1.90614**	**1.24655**	**0.90967**	**1.02191**	**0.58489**	**0.19038**	**1.08959**	**5.36388 J**	**3.23904 J**
Naphthalene	**95.17476**	**13.8123**	**2.76504**	**1.16046**	**1.21379**	**0.45168**	**0.20622**	**0.03028**	**0.72634**	**2.44877 J**	**4.92594 J**
C1-Naphthalenes	**30.193**	**13.05706**	**3.12459**	**1.28033**	**1.07784**	**0.38792**	**0.14708**	**0.02362**	**0.85433**	**2.69519 J**	**2.79615 J**
C2-Naphthalenes	**48.48025**	**28.60889**	**8.01802**	**4.1345**	**2.80521**	**1.59197**	**0.79032**	**0.09829**	**1.56149**	**3.3423 J**	**3.84579 J**
C3-Naphthalenes	**26.8283**	**26.35282**	**7.85454**	**4.30854**	**2.8849**	**1.75285**	**0.96725**	**0.20822**	**1.26031**	**2.35179 J**	**3.05789 J**
C4-Naphthalenes	**13.68174**	**16.36418**	**4.97875**	**2.78334**	**1.91536**	**0.70669**	**0.45765**	**0.12651**	**0.64114**	**1.09467 J**	**1.71155 J**
Perylene	**3.02171**	**1.64487**	**0.7161**	**0.47848**	**0.38747**	**0.46669**	**0.29253**	**0.09113**	**0.46056**	**2.2228 J**	**1.40102 J**
Phenanthrene	**95.10879**	**53.18007**	**15.88612**	**7.03255**	**5.60227**	**4.2584**	**0.97492**	**0.22838**	**4.94883**	**17.97061 J**	**15.62596 J**
C1-Phenanthrenes/anthracenes	**64.71353**	**42.02635**	**10.89537**	**4.58027**	**3.64043**	**6.07257**	**2.78728**	**0.56506**	**4.16163**	**11.83097 J**	**11.84661 J**
C2-Phenanthrenes/anthracenes	**37.85825**	**28.6108**	**7.76498**	**3.65513**	**2.96526**	**3.20367**	**1.95559**	**0.51553**	**2.49936**	**5.90429 J**	**7.17106 J**
C3-Phenanthrenes/anthracenes	**16.42864**	**12.5431**	**3.71586**	**1.97148**	**1.64214**	**1.12153**	**0.74213**	**0.24049**	**1.39283**	**2.80873 J**	**3.74799 J**
C4-Phenanthrenes/anthracenes	**5.43119**	**4.19583**	**1.38354**	**0.91798**	**0.80796**	**0.30298**	**0.23035**	**0.07974**	**1.20006**	**2.03344 J**	**2.24414 J**
Pyrene	**47.73061**	**31.81829**	**10.35657**	**5.18905**	**3.4449**	**5.86838**	**3.14971**	**0.89023**	**4.65665**	**15.71446 J**	**13.75807 J**
TPH (mg/kg)											
Total Petroleum Hydrocarbons	**6829.82**	**7495.54**	**3896.88**	**2492.66**	**2113.14**	**1117.24**	**994.84**	**430.65**	**2156.28**	**3291.56 J**	**5000.1 J**
Other SVOCs (mg/kg)											
Acetophenone	2.7 U	2.5 U	2.4 U	2.2 U	2.2 U	2.6 U	3.4 UJ	2.2 U	3.3 UJ	3.3 U	3.6 UJ
Atrazine	2.7 U	2.5 U	2.4 U	2.2 U	2.2 U	2.6 UJ	3.4 UJ	2.2 UJ	3.3 UJ	3.3 UJ	3.6 UJ
Benzaldehyde	2.7 U	2.5 UJ	2.4 UJ	2.2 UJ	2.2 UJ	2.6 U	3.4 UJ	2.2 U	3.3 UJ	3.3 U	3.6 UJ
1,1-Biphenyl	**6.2 J**	**0.26 J**	2.4 UJ	**0.23 J**	2.2 UJ	2.6 U	3.4 UJ	2.2 U	3.3 UJ	3.3 U	3.6 UJ
Bis(chloroisopropyl)ether	0.55 U	0.52 U	0.49 U	0.45 U	0.46 U	0.53 U	0.68 UJ	0.44 U	0.67 UJ	0.66 U	0.73 UJ
Bis(2-chloroethyl)ether	0.55 U	0.52 U	0.49 U	0.45 U	0.46 U	0.53 U	0.68 UJ	0.44 U	0.67 UJ	0.66 U	0.73 UJ
Bis(2-chloroethoxy)methane	2.7 U	2.5 U	2.4 U	2.2 U	2.2 U	2.6 U	3.4 UJ	2.2 U	3.3 UJ	3.3 U	3.6 UJ
Bis(2-ethylhexyl)phthalate	**260 J**	**24**	**27**	**7**	**7.1**	**3.9 J**	**4.6 J**	**1.2 J**	**7.2 J**	**7.1**	**6.3 J**

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Gowanus Canal
Brooklyn, New York

Sample Name:	Duplicate of GC-SED-502	GC-SED-502	GC-SED-502	GC-SED-502	GC-SED-502	GC-SED-503	GC-SED-503	GC-SED-503	GC-SED-503	GC-SED-503	GC-SED-503
Sample Depth (feet):	(1.5-2.0)	(2.0-2.5)	(2.5-3.0)	(3.0-3.5)	(3.5-4.0)	(0.0-0.5)	(0.5-1.0)	(1.0-1.5)	(1.5-2.0)	(2.0-2.5)	(2.5-3.0)
Sample Date:	8/6/2012	8/6/2012	8/6/2012	8/6/2012	8/6/2012	8/8/2012	8/8/2012	8/8/2012	8/8/2012	8/8/2012	8/8/2012
4-Bromophenyl phenyl ether	2.7 U	2.5 U	2.4 U	2.2 U	2.2 U	2.6 U	3.4 UJ	2.2 U	3.3 UJ	3.3 U	3.6 UJ
Butyl benzyl phthalate	2.7 U	**1.2 J**	**0.41 J**	2.2 U	2.2 U	2.6 U	3.4 UJ	2.2 U	3.3 UJ	3.3 U	**2 J**
Caprolactam	14 UJ	13 U	12 U	11 U	12 U	13 U	17 UJ	11 U	17 UJ	17 U	18 UJ
Carbazole	**2**	**0.72**	**0.38 J**	**1.6**	**0.53**	**0.2 J**	**0.25 J**	0.44 U	**0.38 J**	**0.6 J**	**0.37 J**
4-Chloro-3-methylphenol	2.7 U	2.5 U	2.4 U	2.2 U	2.2 U	2.6 U	3.4 UJ	2.2 U	3.3 UJ	3.3 U	3.6 UJ
4-Chloroaniline	2.7 U	**2.2 J**	**1.8 J**	**1 J**	**0.9 J**	2.6 U	3.4 UJ	2.2 U	3.3 UJ	3.3 U	3.6 UJ
Chlorophene	2.7 U	2.5 UJ	2.4 UJ	2.2 UJ	2.2 UJ	2.6 U	3.4 UJ	2.2 U	3.3 UJ	3.3 U	3.6 UJ
2-Chloronaphthalene	0.55 U	0.52 U	0.49 U	0.45 U	0.46 U	0.53 U	0.68 UJ	0.44 U	0.67 UJ	0.66 U	0.73 UJ
2-Chlorophenol	2.7 U	2.5 U	2.4 U	2.2 U	2.2 U	2.6 U	3.4 UJ	2.2 U	3.3 UJ	3.3 U	3.6 UJ
4-Chlorophenyl phenyl ether	2.7 U	2.5 U	2.4 U	2.2 U	2.2 U	2.6 U	3.4 UJ	2.2 U	3.3 UJ	3.3 U	3.6 UJ
Dibenzofuran	**5.5 J**	2.5 U	2.4 U	**1.4 J**	**0.4 J**	2.6 U	3.4 UJ	2.2 U	3.3 UJ	**0.35 J**	3.6 UJ
3,3-Dichlorobenzidine	2.7 U	2.5 U	2.4 U	2.2 U	2.2 U	2.6 U	3.4 UJ	2.2 U	3.3 UJ	3.3 U	3.6 UJ
2,4-Dichlorophenol	0.55 U	0.52 U	0.49 U	0.45 U	0.46 U	0.53 U	0.68 UJ	0.44 U	0.67 UJ	0.66 U	0.73 UJ
Diethyl phthalate	2.7 U	2.5 U	2.4 U	2.2 U	2.2 U	2.6 U	3.4 UJ	2.2 U	3.3 UJ	3.3 U	3.6 UJ
Dimethyl phthalate	2.7 U	2.5 U	2.4 U	2.2 U	2.2 U	2.6 U	3.4 UJ	2.2 U	3.3 UJ	3.3 U	3.6 UJ
2,4-Dimethylphenol	2.7 U	2.5 U	2.4 U	2.2 U	2.2 U	2.6 U	3.4 UJ	2.2 U	3.3 UJ	3.3 U	3.6 UJ
Di-n-butyl phthalate	2.7 U	2.5 U	2.4 U	2.2 U	2.2 U	2.6 U	3.4 UJ	2.2 U	3.3 UJ	3.3 U	3.6 UJ
4,6-Dinitro-2-methylphenol	14 UJ	13 U	12 U	11 U	12 U	13 U	17 UJ	11 U	17 UJ	17 U	18 UJ
2,4-Dinitrophenol	14 UJ	13 U	12 U	11 U	12 U	13 U	17 UJ	11 U	17 UJ	17 U	18 UJ
2,4-Dinitrotoluene	2.7 U	2.5 UJ	2.4 UJ	2.2 UJ	2.2 UJ	2.6 U	3.4 UJ	2.2 U	3.3 UJ	3.3 U	3.6 UJ
2,6-Dinitrotoluene	2.7 U	2.5 U	2.4 U	2.2 U	2.2 U	2.6 U	3.4 UJ	2.2 U	3.3 UJ	3.3 U	3.6 UJ
Di-n-octyl phthalate	**0.76 J**	**0.37 J**	**0.4 J**	2.2 U	**0.46 J**	2.6 U	3.4 UJ	2.2 U	**0.52 J**	**3.6**	3.6 UJ
Hexachlorobenzene	0.55 U	0.52 U	0.49 U	0.45 U	0.46 U	0.53 U	0.68 UJ	0.44 U	0.67 UJ	0.66 U	0.73 UJ
Hexachlorobutadiene	0.55 U	0.52 U	0.49 U	0.45 U	0.46 U	0.53 U	0.68 UJ	0.44 U	0.67 UJ	0.66 U	0.73 UJ
Hexachlorocyclopentadiene	2.7 U	2.5 U	2.4 U	2.2 U	2.2 U	2.6 UJ	3.4 UJ	2.2 UJ	3.3 UJ	3.3 U	3.6 UJ
Hexachloroethane	2.7 U	2.5 U	2.4 U	2.2 U	2.2 U	2.6 U	3.4 UJ	2.2 U	3.3 UJ	3.3 U	3.6 UJ
Isophorone	2.7 U	2.5 U	2.4 U	2.2 U	2.2 U	2.6 U	3.4 UJ	2.2 U	3.3 UJ	3.3 U	3.6 UJ
2-Methylphenol (o-Cresol)	2.7 U	2.5 U	2.4 U	2.2 U	2.2 U	2.6 U	3.4 UJ	2.2 U	3.3 UJ	3.3 U	3.6 UJ
3,4-Methylphenol (m,p-Cresol)	2.7 U	2.5 U	2.4 U	2.2 U	2.2 U	2.6 U	3.4 UJ	2.2 U	3.3 UJ	3.3 U	3.6 UJ
2-Nitroaniline	14 U	13 U	12 U	11 U	12 U	13 U	17 UJ	11 U	17 UJ	17 U	18 UJ
3-Nitroaniline	14 U	13 U	12 U	11 U	12 U	13 U	17 UJ	11 U	17 UJ	17 U	18 UJ
4-Nitroaniline	14 U	13 U	12 U	11 U	12 U	13 U	17 UJ	11 U	17 UJ	17 U	18 UJ
Nitrobenzene	5.5 U	5.2 U	4.9 U	4.5 U	4.6 U	5.3 U	6.8 UJ	4.4 U	6.7 UJ	6.6 U	7.3 UJ
2-Nitrophenol	2.7 U	2.5 U	2.4 U	2.2 U	2.2 U	2.6 U	3.4 UJ	2.2 U	3.3 UJ	3.3 U	3.6 UJ

Table 2
Summary of Sediment Analytical Results
Phase I Sediment Cores
Gowanus Canal
Brooklyn, New York

Sample Name:	Duplicate of GC-SED-502	GC-SED-502	GC-SED-502	GC-SED-502	GC-SED-502	GC-SED-503	GC-SED-503	GC-SED-503	GC-SED-503	GC-SED-503	GC-SED-503
Sample Depth (feet):	(1.5-2.0)	(2.0-2.5)	(2.5-3.0)	(3.0-3.5)	(3.5-4.0)	(0.0-0.5)	(0.5-1.0)	(1.0-1.5)	(1.5-2.0)	(2.0-2.5)	(2.5-3.0)
Sample Date:	8/6/2012	8/6/2012	8/6/2012	8/6/2012	8/6/2012	8/8/2012	8/8/2012	8/8/2012	8/8/2012	8/8/2012	8/8/2012
4-Nitrophenol	14 U	13 U	12 U	11 U	12 U	13 U	17 UJ	11 U	17 UJ	17 U	18 UJ
N-Nitrosodi-n-propylamine	0.55 U	0.52 U	0.49 U	0.45 U	0.46 U	0.53 U	0.68 UJ	0.44 U	0.67 UJ	0.66 U	0.73 UJ
N-Nitrosodiphenylamine	2.7 U	2.5 U	2.4 U	2.2 U	2.2 U	2.6 U	3.4 UJ	2.2 U	3.3 UJ	3.3 U	3.6 UJ
Pentachlorophenol	2.7 U	2.5 U	2.4 U	2.2 U	2.2 U	2.6 U	3.4 UJ	2.2 U	3.3 UJ	3.3 U	3.6 UJ
Phenol	0.55 U	0.52 U	0.49 U	0.45 U	0.46 U	0.53 U	0.68 UJ	0.44 U	0.67 UJ	0.66 U	0.73 UJ
1,2,4,5-Tetrachlorobenzene	2.7 U	2.5 U	2.4 U	2.2 U	2.2 U	2.6 U	3.4 UJ	2.2 U	3.3 UJ	3.3 U	3.6 UJ
2,3,4,6-Tetrachlorophenol	2.7 U	2.5 U	2.4 U	2.2 U	2.2 U	2.6 U	3.4 UJ	2.2 U	3.3 UJ	3.3 U	3.6 UJ
2,4,5-Trichlorophenol	2.7 U	2.5 U	2.4 U	2.2 U	2.2 U	2.6 U	3.4 UJ	2.2 U	3.3 UJ	3.3 U	3.6 UJ
2,4,6-Trichlorophenol	2.7 U	2.5 U	2.4 U	2.2 U	2.2 U	2.6 U	3.4 UJ	2.2 U	3.3 UJ	3.3 U	3.6 UJ
PCBs (mg/kg)											
Aroclor 1016	0.014 U	0.013 U	0.012 U	0.011 U	0.011 U	0.013 U	0.017 UJ	0.011 U	0.083 UJ	0.082 U	0.09 UJ
Aroclor 1221	0.014 U	0.013 U	0.012 U	0.011 U	0.011 U	0.013 U	0.017 UJ	0.011 U	0.083 UJ	0.082 U	0.09 UJ
Aroclor 1232	0.014 U	0.013 U	0.012 U	0.011 U	0.011 U	0.013 U	0.017 UJ	0.011 U	0.083 UJ	0.082 U	0.09 UJ
Aroclor 1242	**0.27 J**	**0.53 J**	**0.3 J**	0.011 U	**0.27 J**	**0.034 J**	**0.042 J**	0.011 U	0.083 UJ	0.082 U	**0.17 J**
Aroclor 1248	0.014 U	0.013 U	0.012 U	0.011 U	0.011 U	0.013 U	0.017 UJ	0.011 U	0.083 UJ	0.082 U	0.09 UJ
Aroclor 1254	0.014 U	0.013 U	0.012 U	0.011 U	0.011 U	**0.06 J**	**0.076 J**	**0.02**	0.083 UJ	**0.3**	**0.17 J**
Aroclor 1260	**0.2 J**	**0.44 J**	**0.27 J**	0.011 U	**0.19 J**	0.013 U	0.017 UJ	0.011 U	0.083 UJ	0.082 U	0.09 UJ
Aroclor 1262	0.014 U	0.013 U	0.012 U	0.011 U	0.011 U	0.013 U	0.017 UJ	0.011 U	0.083 UJ	0.082 U	0.09 UJ
Aroclor 1268	0.014 U	0.013 U	0.012 U	0.011 U	0.011 U	**0.0054 J**	0.017 UJ	0.011 U	0.083 UJ	0.082 U	0.09 UJ
Total PCBs	**0.47 J**	**0.97 J**	**0.57 J**	0.011 U	**0.46 J**	**0.099 J**	**0.12 J**	**0.02**	0.083 UJ	**0.3**	**0.34 J**
Pesticides (mg/kg)											
Aldrin	**0.037 J**	**0.026 J**	**0.018 J**	0.011 U	0.011 U	0.013 UJ	0.017 UJ	0.011 UJ	0.017 UJ	0.017 UJ	0.018 UJ
alpha-BHC	**0.043 J**	0.013 U	0.012 U	0.011 U	0.011 U	0.013 U	0.017 UJ	0.011 U	0.017 UJ	0.017 U	0.018 UJ
beta-BHC	**0.066 JN**	**0.038 JN**	**0.027 JN**	**0.015 JN**	0.011 U	0.013 U	0.017 UJ	0.011 U	0.017 UJ	0.017 U	0.018 UJ
gamma-BHC	0.014 UJ	0.013 U	0.012 U	0.011 U	0.011 U	0.013 U	0.017 UJ	0.011 U	0.017 UJ	0.017 U	0.018 UJ
delta-BHC	**0.046 J**	**0.023 J**	**0.015 JN**	0.011 U	0.011 U	0.013 U	0.017 UJ	0.011 U	0.017 UJ	0.017 U	0.018 UJ
alpha-chlordane	0.014 U	**0.017 JN**	0.012 U	**0.029 JN**	**0.02 JN**	**0.0033 J**	**0.0041 J**	0.011 U	**0.006 J**	**0.0067 J**	0.018 UJ
gamma-Chlordane	**0.037 JN**	**0.11 J**	**0.11 J**	**0.1**	**0.074 J**	0.013 U	**0.015 J**	0.011 U	**0.0099 J**	0.017 U	**0.0083 J**
4,4-DDD	**0.047 J**	**0.047**	**0.088**	**0.062**	**0.041**	0.013 UJ	**0.0067 J**	0.011 UJ	**0.0062 J**	**0.015 J**	**0.0045 J**
4,4'-DDE	0.014 U	0.013 U	**0.03 J**	**0.048 J**	**0.046**	**0.0049 J**	**0.009 J**	**0.0029 J**	**0.021 J**	**0.017**	**0.012 J**
4,4'-DDT	**0.04**	**0.045 J**	**0.021 JN**	**0.053 J**	**0.043**	0.013 U	0.017 UJ	0.011 U	0.017 UJ	0.017 U	**0.0056 J**
Dieldrin	0.014 U	**0.027 J**	**0.019 JN**	**0.022 J**	**0.026**	0.013 U	0.017 UJ	0.011 U	0.017 UJ	0.017 U	0.018 UJ
Endosulfan I	0.014 U	0.013 U	0.012 U	0.011 U	0.011 U	0.013 UJ	0.017 UJ	0.011 UJ	0.017 UJ	0.017 UJ	0.018 UJ
Endosulfan II	0.014 U	0.013 U	0.012 U	0.011 U	0.011 U	0.013 U	0.017 UJ	0.011 U	0.017 UJ	0.017 U	0.018 UJ
Endosulfan sulfate	0.014 U	0.013 U	0.012 U	0.011 U	0.011 U	0.013 U	0.017 UJ	0.011 U	0.017 UJ	0.017 U	0.018 UJ
Endrin	0.014 U	0.013 U	0.012 U	0.011 U	0.011 U	0.013 U	0.017 UJ	0.011 U	0.017 UJ	0.017 U	0.018 UJ
Endrin aldehyde	0.014 U	0.013 U	0.012 U	0.011 U	0.011 U	0.013 U	0.017 UJ	0.011 U	0.017 UJ	0.017 U	0.018 UJ
Endrin ketone	0.014 U	0.013 U	0.012 U	0.011 U	0.011 U	0.013 U	0.017 UJ	0.011 U	0.017 UJ	**0.0052 J**	0.018 UJ
Heptachlor	**0.06 J**	**0.039 J**	**0.054 J**	0.011 U	0.011 U	0.013 UJ	0.017 UJ	0.011 UJ	0.017 UJ	0.017 UJ	0.018 UJ
Heptachlor epoxide	**0.02 JN**	**0.017 JN**	**0.012 JN**	**0.012 JN**	0.011 U	0.013 UJ	0.017 UJ	0.011 UJ	0.017 UJ	0.017 UJ	0.018 UJ
Methoxychlor	0.027 U	**0.049 J**	0.024 U	0.022 U	**0.021 J**	0.026 U	0.034 UJ	0.021 U	0.033 UJ	0.033 U	0.036 UJ
Toxaphene	0.54 U	0.51 U	0.49 U	0.45 U	0.45 U	0.53 U	0.68 UJ	0.43 U	0.67 UJ	0.66 U	0.73 UJ
Herbicides (mg/kg)											
2,4-D	0.13 U	0.12 U	0.12 U	0.11 U	0.11 U	0.13 U	0.16 UJ	0.1 U	0.16 UJ	0.16 U	0.17 UJ
2,4-DB	0.13 UJ	0.12 UJ	0.12 UJ	0.11 UJ	0.11 UJ	0.13 UJ	0.16 UJ	0.1 UJ	0.16 UJ	0.16 UJ	0.17 UJ
Dicamba	0.066 U	0.062 U	0.059 U	0.054 U	0.055 U	0.064 U	0.082 UJ	0.052 U	0.081 UJ	0.079 U	0.087 UJ
Dichloroprop	0.13 U	**0.14 JN**	**0.36 JN**	0.11 U	**0.15 JN**	0.13 U	0.16 UJ	0.1 U	0.16 UJ	0.16 U	**0.11 J**
2,2-Dichloropropionic acid	0.15 U	0.14 U	0.13 U	0.12 U	0.12 U	0.14 U	0.18 UJ	0.12 U	0.18 UJ	0.18 U	0.2 UJ
Dinoseb	0.02 U	0.019 U	0.018 U	0.016 U	0.017 U	0.019 U	0.025 UJ	0.016 U	0.024 UJ	0.024 U	0.026 UJ

Table 2
Summary of Sediment Analytical Results
Phase I Sediment Cores
Gowanus Canal
Brooklyn, New York

Sample Name:	Duplicate of GC-SED-502	GC-SED-502	GC-SED-502	GC-SED-502	GC-SED-502	GC-SED-503	GC-SED-503	GC-SED-503	GC-SED-503	GC-SED-503	GC-SED-503
Sample Depth (feet):	(1.5-2.0)	(2.0-2.5)	(2.5-3.0)	(3.0-3.5)	(3.5-4.0)	(0.0-0.5)	(0.5-1.0)	(1.0-1.5)	(1.5-2.0)	(2.0-2.5)	(2.5-3.0)
Sample Date:	8/6/2012	8/6/2012	8/6/2012	8/6/2012	8/6/2012	8/8/2012	8/8/2012	8/8/2012	8/8/2012	8/8/2012	8/8/2012
MCPP	13 U	12 U	12 U	11 U	11 U	13 U	16 UJ	10 U	16 UJ	16 U	17 UJ
Methylchlorophenoxyacetic acid	**6 J**	**14 J**	**28 J**	11 U	11 U	13 U	16 UJ	10 U	16 UJ	**20 J**	17 UJ
Pentachlorophenol	**0.0033 J**	**0.006 J**	0.016 U	0.015 U	0.015 U	0.017 U	0.022 UJ	0.014 U	0.022 UJ	0.022 U	0.024 UJ
Silvex	0.033 U	0.031 U	0.03 U	0.027 U	0.028 U	0.032 U	0.041 UJ	0.026 U	0.041 UJ	0.04 U	0.044 UJ
2,4,5-Trichlorophenoxyacetic Acid	0.033 U	0.031 UJ	0.03 UJ	0.027 UJ	0.028 U	0.032 U	0.041 UJ	0.026 U	0.041 UJ	0.04 U	0.044 UJ
Metals (mg/kg)											
Aluminum	**4200**	**4300**	**4300**	**3700**	**5000**	**5100**	**9200 J**	**3500**	**9100 J**	**7100**	**7700 J**
Antimony	**0.9 J**	**1 J**	**1.2 J**	**1.7 J**	**2.8 J**	**1 J**	**0.64 J**	**0.69 J**	**0.89 J**	**0.88 J**	**0.71 J**
Arsenic	**3.3**	**3.8**	**3.2**	**2.1**	**2.5**	**2.9 J**	**4.2 J**	**1.9 J**	**5.6 J**	**4 J**	**5.6 J**
Barium	**310 J**	**160**	**210**	**99**	**280**	**49**	**65 J**	**35**	**210 J**	**94**	**72 J**
Beryllium	**0.26**	**0.24**	**0.28**	**0.24**	**0.34**	**0.28**	**0.49 J**	**0.22**	**0.82 J**	**0.48**	**0.44 J**
Cadmium	**1.3 J**	**2.1 J**	**2.2 J**	**1.4 J**	**1.6 J**	**0.52 J**	**0.63 J**	**0.33 J**	**1.3 J**	**0.83 J**	**1.1 J**
Calcium	**8400**	**12000**	**9800**	**7200**	**8200**	**8000 J**	**10000 J**	**4200 J**	**11000 J**	**7800 J**	**6800 J**
Chromium	**530 J**	**87 J**	**58 J**	**63 J**	**68 J**	**23 J**	**34 J**	**11 J**	**49 J**	**40 J**	**79 J**
Cobalt	**8.9 J**	**5.8 J**	**4.1 J**	**4.8 J**	**4.3 J**	**4.3**	**6.6 J**	**2.8**	**8.7 J**	**6**	**7.4 J**
Copper	**180**	**200**	**210**	**160**	**160**	**96 J**	**100 J**	**72 J**	**150 J**	**100 J**	**110 J**
Iron	**16000**	**18000**	**14000**	**13000**	**13000**	**13000**	**21000 J**	**7900**	**23000 J**	**18000**	**19000 J**
Lead	**330 J**	**460 J**	**590 J**	**540 J**	**510 J**	**300 J**	**180 J**	**270 J**	**320 J**	**210 J**	**170 J**
Magnesium	**4000**	**4000**	**3800**	**3100**	**3800**	**4800 J**	**6200 J**	**2600 J**	**7100 J**	**4700 J**	**5000 J**
Manganese	**100 J**	**100 J**	**80 J**	**68 J**	**77 J**	**110 J**	**210 J**	**63 J**	**180 J**	**150 J**	**170 J**
Mercury	**1.1 J**	**7.1 J**	**3.2 J**	**1.4 J**	**1.7 J**	**5.1 J**	**2.2 J**	**1.1 J**	**0.59 J**	**1.8 J**	**5 J**
Nickel	**93 J**	**31 J**	**32 J**	**26 J**	**31 J**	**16 J**	**22 J**	**26 J**	**28 J**	**21 J**	**24 J**
Potassium	**910**	**770**	**740**	**640**	**780**	**1200 J**	**2000 J**	**630 J**	**2100 J**	**1700 J**	**1800 J**
Selenium	**1.9 J**	**1.9 J**	**1.9 J**	**1.3 J**	**1.4 J**	**0.71 J**	**1.1 J**	**0.41 J**	**1.4 J**	**0.86 J**	**1.1 J**
Silver	**15 J**	**4.2 J**	**180 J**	**4.5 J**	**4.6 J**	**0.99 J**	**3.7 J**	**1.6 J**	**3.5 J**	**3 J**	**3 J**
Sodium	**3200**	**2100**	**1400**	**880**	**1300**	**3800**	**5400 J**	**1300**	**5100 J**	**5100**	**4900 J**
Thallium	0.082 UJ	0.077 UJ	0.073 UJ	0.067 UJ	0.067 UJ	**0.078 J**	0.1 UJ	0.065 UJ	0.1 UJ	0.099 UJ	0.11 UJ
Vanadium	**12**	**19**	**18**	**14**	**15**	**17**	**25 J**	**9.7**	**31 J**	**22**	**23 J**
Zinc	**620 J**	**570 J**	**530 J**	**430 J**	**550 J**	**240 J**	**310 J**	**150 J**	**640 J**	**270 J**	**350 J**
EDCs & PPCPs (Phenols) (mg/kg)											
Bisphenol A	0.68 UJ	0.57 UJ	0.58 UJ	0.49 UJ	0.52 UJ	0.59 U	0.63 U	0.49 U	0.63 U	0.85 UJ	**3.8 J**
Nonylphenol	**38 J**	**22 J**	**18 J**	**17 J**	**6.7 J**	**6.4**	**9.2**	**5.1**	**26**	**25 J**	**40 J**
Nonylphenol Diethoxylate	14 UJ	12 UJ	12 UJ	9.8 UJ	11 UJ	12 U	13 U	9.7 U	13 U	17 UJ	19 UJ
Nonylphenol Monoethoxylate	6.8 UJ	5.7 UJ	5.8 UJ	4.9 UJ	5.2 UJ	5.9 U	6.3 U	4.9 U	6.3 U	8.5 UJ	9.3 UJ
4-tert-Octylphenol	0.68 UJ	**0.98 J**	**0.94 J**	**0.91 J**	0.52 UJ	0.59 U	0.63 U	0.49 U	0.63 U	0.85 UJ	0.93 UJ
EDCs and PPCPs (mg/kg)											
Acetaminophen	**0.0098 J**	0.039 U	**0.0073 J**	0.037 U	0.04 U	0.038 U	0.038 U	0.037 U	0.037 U	0.037 U	0.038 U
alpha-Estradiol	0.039 UJ	0.039 UJ	0.039 UJ	0.037 UJ	0.04 UJ	0.038 UJ	0.038 UJ	0.037 UJ	0.037 UJ	0.037 UJ	0.038 UJ
Androstenedione	0.0077 UJ	0.0078 UJ	0.0078 UJ	0.0074 UJ	0.0079 UJ	0.0077 UJ	0.0077 UJ	0.0074 UJ	0.0074 UJ	0.0073 UJ	0.0075 UJ
Atrazine	0.0077 UJ	**0.0031 J**	0.0078 UJ	**0.003 J**	**0.0027 J**	0.0077 UJ	**0.0027 J**	0.0074 UJ	0.0074 UJ	**0.0035 J**	**0.0037 J**
Bisphenol A	**0.34 J**	**0.13**	**0.1**	**0.057 J**	**0.093**	**0.19**	**0.055 J**	**0.028 J**	**0.089**	**0.37 J**	**0.16**
Carbamazepine	0.015 UJ	**0.0035 J**	**0.0038 J**	0.015 UJ	0.016 UJ	0.015 UJ	0.015 UJ	0.015 UJ	0.015 UJ	**0.0075 J**	**0.0099 J**
DEET (N,N-Diethyl-3-Methyl Benzamide)	0.039 UJ	0.039 UJ	0.039 UJ	0.037 UJ	0.04 UJ	0.038 UJ	0.038 UJ	0.037 UJ	0.037 UJ	0.037 UJ	0.038 UJ
Diazepam	0.015 UJ	0.016 UJ	0.016 UJ	0.015 UJ	0.016 UJ	0.015 UJ	0.015 UJ	0.015 UJ	0.015 UJ	0.015 UJ	0.015 UJ
Diclofenac	R	0.016 UJ	0.016 UJ	0.015 UJ	0.016 UJ	0.015 UJ	0.015 UJ	0.015 UJ	0.015 UJ	R	R
Diethylstilbestrol	R	R	R	R	R	R	R	0.037 UJ	R	0.037 U	R
Estradiol	0.039 UJ	0.039 UJ	0.039 UJ	0.037 UJ	0.04 UJ	0.038 UJ	0.038 UJ	0.037 UJ	0.037 UJ	0.037 UJ	0.038 UJ
Estriol	0.039 U	0.039 U	0.039 U	0.037 U	0.04 U	0.038 U	0.038 U	0.037 U	0.037 U	0.037 U	0.038 U

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Gowanus Canal
Brooklyn, New York

Sample Name:	Duplicate of GC-SED-502	GC-SED-502	GC-SED-502	GC-SED-502	GC-SED-502	GC-SED-503	GC-SED-503	GC-SED-503	GC-SED-503	GC-SED-503	GC-SED-503
Sample Depth (feet):	(1.5-2.0)	(2.0-2.5)	(2.5-3.0)	(3.0-3.5)	(3.5-4.0)	(0.0-0.5)	(0.5-1.0)	(1.0-1.5)	(1.5-2.0)	(2.0-2.5)	(2.5-3.0)
Sample Date:	8/6/2012	8/6/2012	8/6/2012	8/6/2012	8/6/2012	8/8/2012	8/8/2012	8/8/2012	8/8/2012	8/8/2012	8/8/2012
Estrone	**0.29 J**	**0.12 J**	**0.051 J**	**0.024 J**	0.04 UJ	0.038 UJ	0.038 UJ	0.037 UJ	0.037 UJ	0.037 UJ	0.038 UJ
Ethinyl Estradiol	0.039 U	0.039 U	0.039 U	0.037 U	0.04 U	0.038 U	0.038 U	0.037 U	0.037 U	0.037 UJ	0.038 U
Gemfibrozil	R	0.016 UJ	0.016 UJ	0.015 UJ	0.016 UJ	0.015 UJ	0.015 UJ	0.015 U	0.015 UJ	R	R
Ibuprofen	0.039 UJ	0.039 U	0.039 U	0.037 U	0.04 U	0.038 UJ	0.038 U	0.037 U	0.037 UJ	0.037 UJ	0.038 UJ
Meprobamate	0.0077 UJ	0.0078 UJ	0.0078 UJ	0.0074 UJ	0.0079 UJ	0.0077 UJ	0.0077 UJ	0.0074 UJ	0.0074 UJ	0.0073 UJ	0.0075 UJ
Naproxen	0.015 U	0.016 U	0.016 U	0.015 U	0.016 U	0.015 U	0.015 U	0.015 U	0.015 U	0.015 UJ	0.015 UJ
Pentoxifylline	**0.0041 J**	**0.0028 J**	**0.0028 J**	**0.029**	**0.0013 J**	0.015 U	**0.0012 J**	0.015 U	**0.0034 J**	**0.0017 J**	**0.0029 J**
Phenytoin (5,5-Diphenylhydantion/ Dilantin)	**0.016 J**	**0.0077 J**	**0.0074 J**	**0.0056 J**	**0.0047 J**	**0.0026 J**	**0.0022 J**	0.037 U	**0.007 J**	**0.035 J**	**0.038 J**
Progesterone	0.015 UJ	0.016 U	0.016 U	0.015 U	0.016 U	0.015 UJ	**0.0023 J**	0.015 U	0.015 UJ	0.015 UJ	**0.0063 J**
Sulfamethoxazole	0.015 U	0.016 U	0.016 U	0.015 U	0.016 U	0.015 U	**0.0015 J**	0.015 U	0.015 U	0.015 U	0.015 U
Testosterone	0.015 U	0.016 U	0.016 U	0.015 U	0.016 U	0.015 U	0.015 U	0.015 U	0.015 U	0.015 U	0.015 U
Trimethoprim	0.039 UJ	0.039 UJ	0.039 UJ	0.037 UJ	0.04 UJ	0.038 UJ	0.038 UJ	0.037 UJ	0.037 UJ	0.037 UJ	0.038 UJ
Pathogen											
C. perfringens (cfu/g)	NA	**230000**	**150000**	**160000**	**190000**	**14000**	**13000**	**3800**	**29000**	**150000**	**180000**
Coliphage, Male Specific (pfu/10g)	NA	0 U	0 U	0 U	0 U	0 U	0 U	0 U	0 U	0 U	0 U
Coliphage, Somatic (pfu/10g)	NA	**3 J**	0 UJ	**1 J**	0 UJ	**3 J**	0 UJ	0 UJ	0 UJ	0 UJ	0 UJ
Cryptosporidium (Oocysts/g)	NA	0 U	0 U	0 U	0 UJ	0 U	0 U	0 U	0 U	0 U	0 UJ
E.Coli (mpn/g)	NA	**135.4**	**59.6**	**8.3**	**3.1**	**325.5**	**18.5**	**9.8**	0 U	**2**	**5.2**
Enterococci (mpn/g)	NA	**50.4**	**55.4**	**121.4**	**114.6**	**75.7**	**66.9**	**48.1**	**37.9**	**46.8**	**56**
Fecal Coliform (mpn/g)	NA	**166.4**	**125.9**	**24.6**	**3**	**261.3**	**19.9**	**25.3**	**2420 J**	**118**	**238**
Giardia (Cysts/g)	NA	0 U	0 U	0 U	0 UJ	0 U	0 UJ	0 U	0 U	0 U	0 U
Plaque forming virus (pfu/g)	NA	0 U	0 U	0 U	0 U	0 U	0 U	0 U	0 U	0 U	0 U
Viruses (pos/neg)	NA	neg	neg	neg	neg	neg	neg	neg	neg	neg	neg
Other (%)											
Percent Solids	NA	**68.32**	**65.81**	**81.29**	**81.46**	NA	NA	NA	NA	NA	NA
Total Solids	NA	NA	NA	NA	NA	**66.75**	**65.4**	**80.35**	**61.79**	**48.7**	**44.65**
Other (mg/kg)											
Total Organic Carbon	**40000**	**51000**	**27000**	**15000**	**12000**	**34000**	**27000 J**	**8400**	**29000 J**	**83000**	**62000 J**

Table 2
Summary of Sediment Analytical Results
Phase I Sediment Cores
Gowanus Canal
Brooklyn, New York

Sample Name:	GC-SED-503	GC-SED-503	GC-SED-504	GC-SED-504	GC-SED-504	GC-SED-504	GC-SED-504	GC-SED-504	GC-SED-504	Duplicate of GC-SED-504	GC-SED-504
Sample Depth (feet):	(3.0-3.5)	(3.5-4.0)	(0.0-0.5)	(0.5-1.0)	(1.0-1.5)	(1.5-2.0)	(2.0-2.5)	(2.5-3.0)	(3.0-3.5)	(3.0-3.5)	(3.5-4.0)
Sample Date:	8/8/2012	8/8/2012	8/8/2012	8/8/2012	8/8/2012	8/8/2012	8/8/2012	8/8/2012	8/8/2012	8/8/2012	8/8/2012
BTEX (mg/kg)											
Benzene	**0.023 J**	0.4 U	**0.15 J**	**2.6 J**	**4.2 J**	**1.8 J**	**1.8 J**	**2.8 J**	**4.2 J**	**4.1 J**	**2.4 J**
Toluene	**0.0021 J**	0.4 U	**0.22 J**	**0.21 J**	**0.14 J**	0.51 UJ	0.62 UJ	0.75 UJ	0.63 UJ	0.64 UJ	0.62 UJ
Ethylbenzene	**0.0038 J**	0.4 U	**0.48 J**	**1.9 J**	**2.5 J**	**0.12 J**	0.62 UJ	0.75 UJ	0.63 UJ	0.64 UJ	0.62 UJ
m,p-Xylene	**0.0037 J**	0.8 U	**0.32 J**	**0.89 J**	**1.1 J**	1 UJ	1.2 UJ	1.5 UJ	**0.22 J**	1.3 UJ	1.2 UJ
o-Xylene	**0.0024 J**	0.4 U	**0.24 J**	**0.91 J**	**0.91 J**	0.51 UJ	0.62 UJ	0.75 UJ	0.63 UJ	0.64 UJ	0.62 UJ
Total Xylene	**0.0061 J**	1.2 U	**0.56 J**	**1.8 J**	**2 J**	1.5 UJ	1.8 UJ	2.2 UJ	1.9 UJ	1.9 UJ	1.9 UJ
Total BTEX	**0.035**	0	**1.41**	**6.51**	**8.84**	**1.92**	**1.8**	**2.8**	**4.42**	**4.1**	**2.4**
Other VOCs (mg/kg)											
Acetone	**0.13 J**	**0.8 J**	R	R	R	R	R	R	R	R	R
Bromochloromethane	0.013 UJ	0.4 U	0.72 UJ	0.64 UJ	0.66 UJ	0.51 UJ	0.62 UJ	0.75 UJ	0.63 UJ	0.64 UJ	0.62 UJ
Bromodichloromethane	0.013 UJ	0.4 U	0.72 UJ	0.64 UJ	0.66 UJ	0.51 UJ	0.62 UJ	0.75 UJ	0.63 UJ	0.64 UJ	0.62 UJ
Bromoform	0.013 UJ	0.4 U	0.72 UJ	0.64 UJ	0.66 UJ	0.51 UJ	0.62 UJ	0.75 UJ	0.63 UJ	0.64 UJ	0.62 UJ
Bromomethane	0.013 UJ	0.4 UJ	0.72 UJ	0.64 UJ	0.66 UJ	0.51 UJ	0.62 UJ	0.75 UJ	0.63 UJ	0.64 UJ	0.62 UJ
2-Butanone (Methyl ethyl ketone)	**0.047 J**	R	R	R	R	R	R	R	R	R	R
Carbon disulfide	0.013 UJ	0.4 U	0.72 UJ	**0.43 J**	0.66 UJ	0.51 UJ	0.62 UJ	0.75 UJ	0.63 UJ	0.64 UJ	0.62 UJ
Carbon tetrachloride	0.013 UJ	0.4 U	0.72 UJ	0.64 UJ	0.66 UJ	0.51 UJ	0.62 UJ	0.75 UJ	0.63 UJ	0.64 UJ	0.62 UJ
Chlorobenzene	**0.16 J**	**0.046 J**	0.72 UJ	0.64 UJ	0.66 UJ	0.51 UJ	0.62 UJ	0.75 UJ	0.63 UJ	0.64 UJ	0.62 UJ
Chloroethane	0.013 UJ	0.4 UJ	0.72 UJ	0.64 UJ	0.66 UJ	0.51 UJ	0.62 UJ	0.75 UJ	0.63 UJ	0.64 UJ	0.62 UJ
Chloroform	0.013 UJ	0.4 U	0.72 UJ	0.64 UJ	0.66 UJ	0.51 UJ	0.62 UJ	0.75 UJ	0.63 UJ	0.64 UJ	0.62 UJ
Chloromethane	0.013 UJ	0.4 U	0.72 UJ	0.64 UJ	0.66 UJ	0.51 UJ	0.62 UJ	0.75 UJ	0.63 UJ	0.64 UJ	0.62 UJ
Cyclohexane	0.013 UJ	0.4 U	0.72 UJ	0.64 UJ	0.66 UJ	0.51 UJ	0.62 UJ	0.75 UJ	0.63 UJ	0.64 UJ	0.62 UJ
1,2-Dibromo-3-chloropropane	0.013 UJ	R	R	R	R	R	R	R	R	R	R
Dibromochloromethane	0.013 UJ	0.4 U	0.72 UJ	0.64 UJ	0.66 UJ	0.51 UJ	0.62 UJ	0.75 UJ	0.63 UJ	0.64 UJ	0.62 UJ
1,2-Dibromoethane	0.013 UJ	0.4 U	0.72 UJ	0.64 UJ	0.66 UJ	0.51 UJ	0.62 UJ	0.75 UJ	0.63 UJ	0.64 UJ	0.62 UJ
1,2-Dichlorobenzene	0.013 UJ	0.4 U	0.72 UJ	0.64 UJ	0.66 UJ	0.51 UJ	0.62 UJ	0.75 UJ	0.63 UJ	0.64 UJ	0.62 UJ
1,3-Dichlorobenzene	0.013 UJ	0.4 U	0.72 UJ	0.64 UJ	0.66 UJ	0.51 UJ	0.62 UJ	0.75 UJ	0.63 UJ	0.64 UJ	0.62 UJ
1,4-Dichlorobenzene	**0.0021 J**	0.4 U	0.72 UJ	0.64 UJ	0.66 UJ	0.51 UJ	0.62 UJ	0.75 UJ	0.63 UJ	0.64 UJ	0.62 UJ
Dichlorodifluoromethane	0.013 UJ	0.4 U	0.72 UJ	0.64 UJ	0.66 UJ	0.51 UJ	0.62 UJ	0.75 UJ	0.63 UJ	0.64 UJ	0.62 UJ
1,1-Dichloroethane	0.013 UJ	0.4 U	0.72 UJ	0.64 UJ	0.66 UJ	0.51 UJ	0.62 UJ	0.75 UJ	0.63 UJ	0.64 UJ	0.62 UJ
1,2-Dichloroethane	0.013 UJ	0.4 U	0.72 UJ	0.64 UJ	0.66 UJ	0.51 UJ	0.62 UJ	0.75 UJ	0.63 UJ	0.64 UJ	0.62 UJ
cis-1,2-Dichloroethene	0.013 UJ	0.4 U	0.72 UJ	0.64 UJ	0.66 UJ	0.51 UJ	0.62 UJ	0.75 UJ	0.63 UJ	0.64 UJ	0.62 UJ
trans-1,2-Dichloroethene	0.013 UJ	0.4 U	0.72 UJ	0.64 UJ	0.66 UJ	0.51 UJ	0.62 UJ	0.75 UJ	0.63 UJ	0.64 UJ	0.62 UJ
1,1-Dichloroethene	0.013 UJ	0.4 U	0.72 UJ	0.64 UJ	0.66 UJ	0.51 UJ	0.62 UJ	0.75 UJ	0.63 UJ	0.64 UJ	0.62 UJ
1,2-Dichloropropane	0.013 UJ	0.4 U	0.72 UJ	0.64 UJ	0.66 UJ	0.51 UJ	0.62 UJ	0.75 UJ	0.63 UJ	0.64 UJ	0.62 UJ
cis-1,3-Dichloropropene	0.013 UJ	0.4 U	0.72 UJ	0.64 UJ	0.66 UJ	0.51 UJ	0.62 UJ	0.75 UJ	0.63 UJ	0.64 UJ	0.62 UJ
trans-1,3-Dichloropropene	0.013 UJ	0.4 U	0.72 UJ	0.64 UJ	0.66 UJ	0.51 UJ	0.62 UJ	0.75 UJ	0.63 UJ	0.64 UJ	0.62 UJ
1,4-Dioxane	R	R	R	R	R	R	R	R	R	R	R
2-Hexanone	0.013 UJ	0.4 UJ	0.72 UJ	0.64 UJ	0.66 UJ	0.51 UJ	0.62 UJ	0.75 UJ	0.63 UJ	0.64 UJ	0.62 UJ
Isopropyl benzene	0.013 UJ	0.4 U	0.72 UJ	**0.22 J**	**0.34 J**	0.51 UJ	0.62 UJ	**0.093 J**	**0.13 J**	**0.078 J**	0.62 UJ
Methyl acetate	0.013 UJ	R	**0.89 J**	R	R	R	R	R	R	R	R
Methyl tert-butyl ether (MTBE)	0.013 UJ	0.4 U	0.72 UJ	0.64 UJ	0.66 UJ	0.51 UJ	0.62 UJ	0.75 UJ	0.63 UJ	0.64 UJ	0.62 UJ
4-Methyl-2-pentanone	0.013 UJ	0.4 U	0.72 UJ	0.64 UJ	0.66 UJ	0.51 UJ	0.62 UJ	0.75 UJ	0.63 UJ	0.64 UJ	0.62 UJ
Methylcyclohexane	0.013 UJ	0.4 U	0.72 UJ	0.64 UJ	0.66 UJ	0.51 UJ	0.62 UJ	0.75 UJ	0.63 UJ	0.64 UJ	0.62 UJ
Methylene chloride	0.013 UJ	0.4 U	0.72 UJ	0.64 U	0.66 UJ	0.51 UJ	0.62 UJ	0.75 UJ	0.63 UJ	0.64 UJ	0.62 UJ
Styrene	0.013 UJ	0.4 U	0.72 UJ	0.64 UJ	0.66 UJ	0.51 UJ	0.62 UJ	0.75 UJ	0.63 UJ	0.64 UJ	0.62 UJ
1,1,2,2-Tetrachloroethane	0.013 UJ	0.4 U	0.72 UJ	0.64 UJ	0.66 UJ	0.51 UJ	0.62 UJ	0.75 UJ	0.63 UJ	0.64 UJ	0.62 UJ
Tetrachloroethene	0.013 UJ	**0.073 J**	0.72 UJ	**0.27 J**	**0.24 J**	**0.19 J**	**0.21 J**	**0.22 J**	**0.17 J**	**0.16 J**	**0.18 J**

Table 2
Summary of Sediment Analytical Results
Phase I Sediment Cores
Gowanus Canal
Brooklyn, New York

Sample Name:	GC-SED-503	GC-SED-503	GC-SED-504	GC-SED-504	GC-SED-504	GC-SED-504	GC-SED-504	GC-SED-504	GC-SED-504	Duplicate of GC-SED-504	GC-SED-504
Sample Depth (feet):	(3.0-3.5)	(3.5-4.0)	(0.0-0.5)	(0.5-1.0)	(1.0-1.5)	(1.5-2.0)	(2.0-2.5)	(2.5-3.0)	(3.0-3.5)	(3.0-3.5)	(3.5-4.0)
Sample Date:	8/8/2012	8/8/2012	8/8/2012	8/8/2012	8/8/2012	8/8/2012	8/8/2012	8/8/2012	8/8/2012	8/8/2012	8/8/2012
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	0.013 UJ	0.4 U	0.72 UJ	0.64 UJ	0.66 UJ	0.51 UJ	0.62 UJ	0.75 UJ	0.63 UJ	0.64 UJ	0.62 UJ
1,2,3-Trichlorobenzene	0.013 UJ	0.4 UJ	0.72 UJ	0.64 UJ	0.66 UJ	0.51 UJ	0.62 UJ	0.75 UJ	0.63 UJ	0.64 UJ	0.62 UJ
1,2,4-Trichlorobenzene	0.013 UJ	0.4 U	0.72 UJ	**0.28 J**	**0.15 J**	0.51 UJ	0.62 UJ	0.75 UJ	0.63 UJ	0.64 UJ	0.62 UJ
1,1,1-Trichloroethane	0.013 UJ	0.4 U	0.72 UJ	0.64 UJ	0.66 UJ	0.51 UJ	0.62 UJ	0.75 UJ	0.63 UJ	0.64 UJ	0.62 UJ
1,1,2-Trichloroethane	0.013 UJ	0.4 U	0.72 UJ	0.64 UJ	0.66 UJ	0.51 UJ	0.62 UJ	0.75 UJ	0.63 UJ	0.64 UJ	0.62 UJ
Trichloroethene	0.013 UJ	0.4 U	0.72 UJ	0.64 UJ	0.66 UJ	0.51 UJ	0.62 UJ	0.75 UJ	0.63 UJ	0.64 UJ	0.62 UJ
Trichlorofluoromethane	0.013 UJ	0.4 U	0.72 UJ	0.64 UJ	0.66 UJ	0.51 UJ	0.62 UJ	0.75 UJ	0.63 UJ	0.64 UJ	0.62 UJ
Vinyl chloride	0.013 UJ	0.4 U	0.72 UJ	0.64 UJ	0.66 UJ	0.51 UJ	0.62 UJ	0.75 UJ	0.63 UJ	0.64 UJ	0.62 UJ
PAHs (mg/kg)											
Acenaphthene	**9.7 J**	**0.49**	**93 J**	**25 J**	**24 J**	**18 J**	**18 J**	**55 J**	**38 J**	**15 J**	**110 J**
Acenaphthylene	**5.1 J**	**0.54**	**30 J**	**6.9 J**	**6.9 J**	**5.2 J**	**6.1 J**	**13 J**	**10 J**	**6 J**	**28 J**
Anthracene	**8.5 J**	**0.86**	**59 J**	**17 J**	**13 J**	**12 J**	**13 J**	**34 J**	**22 J**	**9.4 J**	**72 J**
Benz[a]anthracene	**8.8 J**	**1.1**	**42 J**	**13 J**	**9.5 J**	**8.8 J**	**8.4 J**	**22 J**	**15 J**	**7.7 J**	**45 J**
Benzo[a]pyrene	**6.7 J**	**0.98**	**33 J**	**9.9 J**	**7.9 J**	**7 J**	**6.9 J**	**18 J**	**12 J**	**6.3 J**	**38 J**
Benzo[b]fluoranthene	**4.2 J**	**0.73**	**19 J**	**5.9 J**	**4.3 J**	**3.6 J**	**3.5 J**	**9.8 J**	**6.2 J**	**3 J**	**20 J**
Benzo[g,h,i]perylene	**3.8 J**	**0.55**	**16 J**	**5.5 J**	**3.9 J**	**3.6 J**	**3.4 J**	**8.5 J**	**5.6 J**	**3.2 J**	**17 J**
Benzo[k]fluoranthene	**2.5 J**	**0.34**	**11 J**	**3 J**	**2.1 J**	**2.3 J**	**2.2 J**	**4.1 J**	**3 J**	**2.1 J**	**10 J**
Chrysene	**8.1 J**	**1.2**	**41 J**	**12 J**	**8.4 J**	**8.1 J**	**7.7 J**	**19 J**	**13 J**	**6.2 J**	**42 J**
Dibenz[a,h]anthracene	**3.4 J**	**0.44 J**	**7.1 J**	**3.7 J**	**3.5 J**	**2.9 J**	**3.3 J**	**4.6 J**	**3.9 J**	**3.3 J**	**6.1 J**
Fluoranthene	**16 J**	**1.7**	**81 J**	**24 J**	**16 J**	**15 J**	**13 J**	**40 J**	**24 J**	**12 J**	**82 J**
Fluorene	**6.4 J**	**0.43**	**66 J**	**11 J**	**13 J**	**9.2 J**	**9.1 J**	**27 J**	**21 J**	**7.8 J**	**84 J**
Indeno[1,2,3-cd]pyrene	**4.6 J**	**0.65**	**14 J**	**5.5 J**	**4.7 J**	**4 J**	**4.2 J**	**7.8 J**	**5.6 J**	**4.1 J**	**13 J**
2-Methylnaphthalene	**10 J**	**0.49**	**150 J**	**23 J**	**29 J**	**16 J**	**24 J**	**69 J**	**65 J**	**12 J**	**160 J**
Naphthalene	**12 J**	**0.46**	**270 J**	**55 J**	**56 J**	**31 J**	**22 J**	**79 J**	**57 J**	**21 J**	**280 J**
Phenanthrene	**28 J**	**1.8**	**180 J**	**54 J**	**45 J**	**40 J**	**35 J**	**110 J**	**71 J**	**31 J**	**270 J**
Pyrene	**15 J**	**1.4**	**120 J**	**26 J**	**17 J**	**17 J**	**14 J**	**50 J**	**30 J**	**12 J**	**140 J**
Total PAHs	**152.8**	**14.16**	**1232**	**300.4**	**264.2**	**203.7**	**193.8**	**570.8**	**402.3**	**162.1**	**1417**
Alkylated PAHs (mg/kg)											
Acenaphthene	**9.28855 J**	**2.98688 J**	**96.74595 J**	**30.21333 J**	**52.60722 J**	**44.27154 J**	**45.1286 J**	**52.31355**	**70.53677 J**	**50.97783 J**	**155.29272 J**
Acenaphthylene	**3.86775 J**	**2.60589 J**	**21.34008 J**	**5.83574 J**	**9.47727 J**	**7.68813 J**	**8.00653 J**	**7.78865**	**11.24819 J**	**8.77942 J**	**22.76258 J**
Anthracene	**11.95343 J**	**5.0502 J**	**60.35775 J**	**20.43891 J**	**37.89332 J**	**28.05253 J**	**31.7671 J**	**33.8865**	**46.08211 J**	**33.84428 J**	**88.49648 J**
Benz[a]anthracene	**12.81396 J**	**6.67244 J**	**38.91442 J**	**14.52542 J**	**24.57002 J**	**19.47224 J**	**20.34088 J**	**21.05108**	**29.07157 J**	**26.45504 J**	**58.57178 J**
Benzo[a]pyrene	**9.7834 J**	**5.56951 J**	**26.68162 J**	**10.44127 J**	**17.58643 J**	**14.27588 J**	**14.45691 J**	**14.91583**	**20.71534 J**	**19.71748 J**	**41.53386 J**
Benzo[b]fluoranthene	**6.60614 J**	**3.87232 J**	**13.03984 J**	**5.59659 J**	**8.30864 J**	**7.0831 J**	**7.12445 J**	**7.03939**	**9.98064 J**	**10.58944 J**	**20.37868 J**
Benzo[e]pyrene	**5.56482 J**	**3.45794 J**	**14.55373 J**	**5.92129 J**	**9.35225 J**	**7.90898 J**	**7.86916 J**	**7.67264**	**11.06882 J**	**10.74459 J**	**22.78171 J**
Benzo[g,h,i]perylene	**3.57572 J**	**2.68944 J**	**11.96301 J**	**4.78525 J**	**7.56213 J**	**6.45366 J**	**6.36223 J**	**6.03162**	**8.77744 J**	**8.4109 J**	**17.73146 J**
Benzo[k]fluoranthene	**7.30255 J**	**4.16841 J**	**17.72075 J**	**7.08661 J**	**11.43942 J**	**9.75636 J**	**9.50568 J**	**9.10024**	**13.42158 J**	**13.70317 J**	**27.26853 J**
1,1-Biphenyl	**0.65279 J**	**0.52486 J**	**20.56725 J**	**3.3761 J**	**4.72091 J**	**1.70602 J**	**3.51206 J**	**4.24799**	**6.55286 J**	**2.71912 J**	**25.40485 J**
Chrysene	**10.78926 J**	**6.21768 J**	**33.42822 J**	**12.39077 J**	**20.72335 J**	**16.4915 J**	**17.34006 J**	**17.82014**	**24.47317 J**	**23.07348 J**	**49.38055 J**
C1-Chrysenes	**6.54822 J**	**4.96227 J**	**25.18366 J**	**10.09353 J**	**16.36787 J**	**13.39966 J**	**13.86643 J**	**13.73908**	**19.9482 J**	**17.02364 J**	**40.67914 J**
C2-Chrysenes	**2.6796 J**	**2.32686 J**	**9.53258 J**	**3.64198 J**	**5.9795 J**	**5.02607 J**	**4.90215 J**	**4.98631**	**7.09313 J**	**6.24133 J**	**14.79638 J**
C3-Chrysenes	**1.19558 J**	**0.89517 J**	**2.9763 J**	**1.03834 J**	**1.65181 J**	**1.5424 J**	**1.40686 J**	**1.38662**	**1.99107 J**	**1.75456 J**	**4.13328 J**
C4-Chrysenes	**0.68206 J**	**0.57232 J**	**1.31454 J**	**0.50912 J**	**0.77267 J**	**0.77193 J**	**0.69055 J**	**0.6657**	**0.96771 J**	**0.88988 J**	**1.9669 J**
Dibenz[a,h]anthracene	**1.2103 J**	**0.69534 J**	**3.52008 J**	**1.42682 J**	**2.32102 J**	**1.94669 J**	**1.91936 J**	**1.88583**	**2.73141 J**	**2.74663 J**	**5.66952 J**
Dibenzofuran	**1.58508 J**	**0.48895 J**	**6.45546 J**	**2.01506 J**	**3.46647 J**	**2.92771 J**	**3.0026 J**	**3.25398**	**4.59148 J**	**3.57845 J**	**10.00347 J**
Dibenzothiophene	**3.53536 J**	**1.39957 J**	**22.6742 J**	**7.16729 J**	**12.34812 J**	**9.59114 J**	**10.65935 J**	**12.59894**	**16.95422 J**	**11.44411 J**	**32.896 J**
C1-Dibenzothiophenes	**4.52548 J**	**2.41719 J**	**22.71598 J**	**7.98351 J**	**14.34595 J**	**10.83297 J**	**12.12887 J**	**12.31657**	**17.36187 J**	**13.02495 J**	**36.66959 J**
C2-Dibenzothiophenes	**4.3166 J**	**2.71372 J**	**17.06919 J**	**6.25561 J**	**10.69803 J**	**8.3696 J**	**9.26352 J**	**9.21943**	**13.0925 J**	**10.23836 J**	**27.20175 J**

Table 2
Summary of Sediment Analytical Results
Phase I Sediment Cores
Gowanus Canal
Brooklyn, New York

Sample Name:	GC-SED-503	GC-SED-503	GC-SED-504	GC-SED-504	GC-SED-504	GC-SED-504	GC-SED-504	GC-SED-504	GC-SED-504	Duplicate of GC-SED-504	GC-SED-504
Sample Depth (feet):	(3.0-3.5)	(3.5-4.0)	(0.0-0.5)	(0.5-1.0)	(1.0-1.5)	(1.5-2.0)	(2.0-2.5)	(2.5-3.0)	(3.0-3.5)	(3.0-3.5)	(3.5-4.0)
Sample Date:	8/8/2012	8/8/2012	8/8/2012	8/8/2012	8/8/2012	8/8/2012	8/8/2012	8/8/2012	8/8/2012	8/8/2012	8/8/2012
C3-Dibenzothiophenes	**2.7477 J**	**1.8612 J**	**7.13087 J**	**2.68422 J**	**4.44191 J**	**3.66971 J**	**3.86725 J**	**3.76872**	**5.35585 J**	**4.33474 J**	**10.94939 J**
C4-Dibenzothiophenes	**1.03682 J**	**0.84443 J**	**2.10244 J**	**0.80514 J**	**1.30213 J**	**1.14734 J**	**1.14549 J**	**1.08985**	**1.53015 J**	**1.25703 J**	**3.16743 J**
Fluoranthene	**19.69938 J**	**10.95475 J**	**74.39345 J**	**25.48087 J**	**44.60445 J**	**33.3104 J**	**37.49374 J**	**38.74441**	**51.58673 J**	**47.21319 J**	**96.65232 J**
C1-Fluoranthenes/pyrenes	**17.4159 J**	**12.21114 J**	**79.63723 J**	**31.68355 J**	**52.23609 J**	**41.77853 J**	**45.47942 J**	**44.9815**	**64.15736 J**	**52.50124 J**	**137.92222 J**
C2-Fluoranthenes/pyrenes	**7.03935 J**	**4.93716 J**	**26.31652 J**	**10.65985 J**	**17.51592 J**	**14.45012 J**	**14.88608 J**	**14.81748**	**21.37575 J**	**19.4965 J**	**45.89112 J**
C3-Fluoranthenes/pyrenes	**2.71389 J**	**2.01936 J**	**8.66448 J**	**3.52884 J**	**6.09125 J**	**5.12615 J**	**4.78891 J**	**4.75724**	**7.49484 J**	**6.0719 J**	**14.21538 J**
C4-Fluoranthenes/pyrenes	**0.94626 J**	**0.80937 J**	**2.07964 J**	**0.79232 J**	**1.29786 J**	**1.13836 J**	**1.1449 J**	**1.06502**	**1.52523 J**	**1.46967 J**	**3.11202 J**
Fluorene	**6.49514 J**	**2.3677 J**	**54.0096 J**	**15.69425 J**	**30.51205 J**	**24.66149 J**	**25.07595 J**	**26.66837**	**40.29961 J**	**28.19022 J**	**87.29354 J**
C1-Fluorenes	**4.35736 J**	**2.23228 J**	**34.39556 J**	**11.43622 J**	**20.29662 J**	**15.27322 J**	**17.11614 J**	**17.61324**	**24.85644 J**	**18.24237 J**	**55.17125 J**
C2-Fluorenes	**4.57893 J**	**2.51626 J**	**23.25528 J**	**7.93145 J**	**14.38866 J**	**10.55935 J**	**12.46895 J**	**12.38553**	**17.33013 J**	**13.27476 J**	**37.80361 J**
C3-Fluorenes	**3.17284 J**	**2.07019 J**	**10.05284 J**	**3.67004 J**	**6.00149 J**	**4.87627 J**	**5.48236 J**	**5.08433**	**7.49845 J**	**6.64522 J**	**16.03268 J**
Indeno[1,2,3-cd]pyrene	**5.15244 J**	**2.82663 J**	**12.67174 J**	**5.13581 J**	**8.15554 J**	**6.92875 J**	**6.86318 J**	**6.53366**	**9.41574 J**	**9.67727 J**	**19.33019 J**
Naphthalene	**7.87927 J**	**2.50255 J**	**303.12088 J**	**65.08367 J**	**87.22447 J**	**39.31358 J**	**55.63788 J**	**63.52862**	**73.51834 J**	**45.63437 J**	**333.55495 J**
C1-Naphthalenes	**9.59785 J**	**3.43522 J**	**134.61848 J**	**35.73254 J**	**55.92432 J**	**58.15481 J**	**53.28279 J**	**59.05583**	**88.92743 J**	**59.99162 J**	**191.74676 J**
C2-Naphthalenes	**10.93473 J**	**5.05756 J**	**111.756 J**	**34.48978 J**	**60.00838 J**	**50.37194 J**	**52.03416 J**	**55.48547**	**79.6107 J**	**55.79941 J**	**176.11513 J**
C3-Naphthalenes	**7.53978 J**	**4.20596 J**	**45.82015 J**	**15.9828 J**	**28.49134 J**	**22.63758 J**	**24.73573 J**	**26.11542**	**36.7007 J**	**26.1396 J**	**79.18741 J**
C4-Naphthalenes	**3.72561 J**	**2.41837 J**	**16.04826 J**	**5.51041 J**	**10.03742 J**	**7.87793 J**	**8.80331 J**	**8.79955**	**12.35877 J**	**9.05042 J**	**26.05108 J**
Perylene	**2.08053 J**	**1.32706 J**	**4.9219 J**	**2.17558 J**	**3.46356 J**	**2.99567 J**	**2.95555 J**	**2.86203**	**4.06767 J**	**4.08096 J**	**8.07801 J**
Phenanthrene	**32.5406 J**	**14.53055 J**	**186.05468 J**	**59.65319 J**	**109.39823 J**	**83.35153 J**	**92.41773 J**	**135.03988**	**168.93138 J**	**101.52192 J**	**349.22599 J**
C1-Phenanthrenes/anthracenes	**25.17073 J**	**13.1751 J**	**105.85219 J**	**39.3965 J**	**68.40462 J**	**53.16561 J**	**59.01637 J**	**57.90599**	**82.1204 J**	**63.5428 J**	**167.87571 J**
C2-Phenanthrenes/anthracenes	**13.85882 J**	**9.17005 J**	**53.7568 J**	**20.10049 J**	**34.34148 J**	**27.4025 J**	**30.00137 J**	**29.7653**	**42.48545 J**	**33.63545 J**	**87.37971 J**
C3-Phenanthrenes/anthracenes	**6.01268 J**	**4.19968 J**	**17.0595 J**	**6.3303 J**	**10.5993 J**	**8.95358 J**	**9.51013 J**	**9.36585**	**13.01269 J**	**10.71762 J**	**27.01521 J**
C4-Phenanthrenes/anthracenes	**2.73791 J**	**1.86119 J**	**4.0069 J**	**1.48324 J**	**2.47843 J**	**2.38045 J**	**2.33072 J**	**2.12311**	**3.0454 J**	**2.4626 J**	**6.21877 J**
Pyrene	**21.2485 J**	**13.81176 J**	**102.05429 J**	**35.26452 J**	**62.57289 J**	**46.21615 J**	**52.34334 J**	**54.72831**	**72.73661 J**	**60.83393 J**	**134.39902 J**
TPH (mg/kg)											
Total Petroleum Hydrocarbons	**5657.28 J**	**4208.71 J**	**9733.39 J**	**3505.69 J**	**4383.5 J**	**4435.18 J**	**3816.58 J**	**3620.67**	**4811.29 J**	**3914.83 J**	**9256.02 J**
Other SVOCs (mg/kg)											
Acetophenone	**0.4 J**	**0.049 J**	4.7 UJ	4.2 UJ	4.3 UJ	3.4 UJ	4 UJ	4.9 UJ	**0.46 J**	4.2 UJ	4.1 UJ
Atrazine	4.1 UJ	0.53 UJ	4.7 UJ	4.2 UJ	4.3 UJ	3.4 UJ	4 UJ	4.9 UJ	4.1 UJ	4.2 UJ	4.1 UJ
Benzaldehyde	4.1 UJ	0.53 U	4.7 UJ	4.2 UJ	4.3 UJ	3.4 UJ	4 UJ	4.9 UJ	4.1 UJ	4.2 UJ	4.1 UJ
1,1-Biphenyl	**0.42 J**	**0.077 J**	**21 J**	**2.7 J**	**1.4 J**	**1.1 J**	**1.2 J**	**5.8 J**	**3.6 J**	**0.84 J**	**22 J**
Bis(chloroisopropyl)ether	0.84 UJ	0.11 U	0.96 UJ	0.86 UJ	0.87 UJ	0.69 UJ	0.82 UJ	0.99 UJ	0.84 UJ	0.85 UJ	0.82 UJ
Bis(2-chloroethyl)ether	0.84 UJ	0.11 U	0.96 UJ	0.86 UJ	0.87 UJ	0.69 UJ	0.82 UJ	0.99 UJ	0.84 UJ	0.85 UJ	0.82 UJ
Bis(2-chloroethoxy)methane	4.1 UJ	0.53 U	4.7 UJ	4.2 UJ	4.3 UJ	3.4 UJ	4 UJ	4.9 UJ	4.1 UJ	4.2 UJ	4.1 UJ
Bis(2-ethylhexyl)phthalate	**17 J**	**2.1**	**24 J**	**7 J**	**3.6 J**	**3.7 J**	**1.4 J**	**4.2 J**	**2.2 J**	**1.5 J**	**5.3 J**

Table 2
Summary of Sediment Analytical Results
Phase I Sediment Cores
Gowanus Canal
Brooklyn, New York

Sample Name:	GC-SED-503	GC-SED-503	GC-SED-504	GC-SED-504	GC-SED-504	GC-SED-504	GC-SED-504	GC-SED-504	GC-SED-504	Duplicate of GC-SED-504	GC-SED-504
Sample Depth (feet):	(3.0-3.5)	(3.5-4.0)	(0.0-0.5)	(0.5-1.0)	(1.0-1.5)	(1.5-2.0)	(2.0-2.5)	(2.5-3.0)	(3.0-3.5)	(3.0-3.5)	(3.5-4.0)
Sample Date:	8/8/2012	8/8/2012	8/8/2012	8/8/2012	8/8/2012	8/8/2012	8/8/2012	8/8/2012	8/8/2012	8/8/2012	8/8/2012
4-Bromophenyl phenyl ether	4.1 UJ	0.53 U	4.7 UJ	4.2 UJ	4.3 UJ	3.4 UJ	4 UJ	4.9 UJ	4.1 UJ	4.2 UJ	4.1 UJ
Butyl benzyl phthalate	4.1 UJ	**0.077 J**	4.7 UJ	4.2 UJ	4.3 UJ	3.4 UJ	4 UJ	4.9 UJ	4.1 UJ	4.2 UJ	4.1 UJ
Caprolactam	21 UJ	2.7 U	24 UJ	22 UJ	22 UJ	17 UJ	21 UJ	25 UJ	21 UJ	22 UJ	21 UJ
Carbazole	**0.57 J**	**0.1 J**	**3 J**	**0.79 J**	**0.6 J**	**0.44 J**	**0.39 J**	**1 J**	**0.68 J**	**0.35 J**	**1.7 J**
4-Chloro-3-methylphenol	4.1 UJ	0.53 U	4.7 UJ	4.2 UJ	4.3 UJ	3.4 UJ	4 UJ	4.9 UJ	4.1 UJ	4.2 UJ	4.1 UJ
4-Chloroaniline	**0.46 J**	**0.07 J**	4.7 UJ	4.2 UJ	4.3 UJ	3.4 UJ	4 UJ	4.9 UJ	4.1 UJ	4.2 UJ	4.1 UJ
Chlorophene	4.1 UJ	0.53 U	4.7 UJ	4.2 UJ	4.3 UJ	3.4 UJ	4 UJ	4.9 UJ	4.1 UJ	4.2 UJ	4.1 UJ
2-Chloronaphthalene	0.84 UJ	0.11 U	0.96 UJ	0.86 UJ	0.87 UJ	0.69 UJ	0.82 UJ	0.99 UJ	0.84 UJ	0.85 UJ	0.82 UJ
2-Chlorophenol	4.1 UJ	0.53 U	4.7 UJ	4.2 UJ	4.3 UJ	3.4 UJ	4 UJ	4.9 UJ	4.1 UJ	4.2 UJ	4.1 UJ
4-Chlorophenyl phenyl ether	4.1 UJ	0.53 U	4.7 UJ	4.2 UJ	4.3 UJ	3.4 UJ	4 UJ	4.9 UJ	4.1 UJ	4.2 UJ	4.1 UJ
Dibenzofuran	**0.89 J**	**0.088 J**	**6.8 J**	**1.8 J**	**1.8 J**	**1.3 J**	**1.2 J**	**3.7 J**	**2.5 J**	**1 J**	**8.3 J**
3,3-Dichlorobenzidine	4.1 UJ	0.53 U	4.7 UJ	4.2 UJ	4.3 UJ	3.4 UJ	4 UJ	4.9 UJ	4.1 UJ	4.2 UJ	4.1 UJ
2,4-Dichlorophenol	0.84 UJ	0.11 U	0.96 UJ	0.86 UJ	0.87 UJ	0.69 UJ	0.82 UJ	0.99 UJ	0.84 UJ	0.85 UJ	0.82 UJ
Diethyl phthalate	4.1 UJ	**0.06 J**	4.7 UJ	4.2 UJ	4.3 UJ	3.4 UJ	4 UJ	4.9 UJ	4.1 UJ	4.2 UJ	4.1 UJ
Dimethyl phthalate	4.1 UJ	0.53 U	**1.6 J**	4.2 UJ	4.3 UJ	3.4 UJ	4 UJ	4.9 UJ	4.1 UJ	4.2 UJ	4.1 UJ
2,4-Dimethylphenol	4.1 UJ	0.53 U	4.7 UJ	4.2 UJ	4.3 UJ	3.4 UJ	4 UJ	4.9 UJ	4.1 UJ	4.2 UJ	4.1 UJ
Di-n-butyl phthalate	4.1 UJ	0.53 U	**0.78 J**	4.2 UJ	4.3 UJ	**1.6 J**	4 UJ	4.9 UJ	4.1 UJ	4.2 UJ	4.1 UJ
4,6-Dinitro-2-methylphenol	21 UJ	2.7 U	24 UJ	22 UJ	22 UJ	17 UJ	21 UJ	25 UJ	21 UJ	22 UJ	21 UJ
2,4-Dinitrophenol	21 UJ	2.7 U	24 UJ	22 UJ	22 UJ	17 UJ	21 UJ	25 UJ	21 UJ	22 UJ	21 UJ
2,4-Dinitrotoluene	4.1 UJ	0.53 U	4.7 UJ	4.2 UJ	4.3 UJ	3.4 UJ	4 UJ	4.9 UJ	4.1 UJ	4.2 UJ	4.1 UJ
2,6-Dinitrotoluene	4.1 UJ	0.53 U	4.7 UJ	4.2 UJ	4.3 UJ	3.4 UJ	4 UJ	4.9 UJ	4.1 UJ	4.2 UJ	4.1 UJ
Di-n-octyl phthalate	**0.74 J**	**0.057 J**	**0.79 J**	4.2 UJ	4.3 UJ	3.4 UJ	4 UJ	4.9 UJ	4.1 UJ	4.2 UJ	4.1 UJ
Hexachlorobenzene	0.84 UJ	0.11 U	0.96 UJ	0.86 UJ	0.87 UJ	0.69 UJ	0.82 UJ	0.99 UJ	0.84 UJ	0.85 UJ	0.82 UJ
Hexachlorobutadiene	0.84 UJ	0.11 U	0.96 UJ	0.86 UJ	0.87 UJ	0.69 UJ	0.82 UJ	0.99 UJ	0.84 UJ	0.85 UJ	0.82 UJ
Hexachlorocyclopentadiene	4.1 UJ	0.53 U	4.7 UJ	4.2 UJ	4.3 UJ	3.4 UJ	4 UJ	4.9 UJ	4.1 UJ	4.2 UJ	4.1 UJ
Hexachloroethane	4.1 UJ	0.53 U	4.7 UJ	4.2 UJ	4.3 UJ	3.4 UJ	4 UJ	4.9 UJ	4.1 UJ	4.2 UJ	4.1 UJ
Isophorone	4.1 UJ	0.53 U	4.7 UJ	4.2 UJ	4.3 UJ	3.4 UJ	4 UJ	4.9 UJ	4.1 UJ	4.2 UJ	4.1 UJ
2-Methylphenol (o-Cresol)	4.1 UJ	0.53 U	4.7 UJ	4.2 UJ	4.3 UJ	3.4 UJ	4 UJ	4.9 UJ	4.1 UJ	4.2 UJ	4.1 UJ
3,4-Methylphenol (m,p-Cresol)	4.1 UJ	**0.079 J**	4.7 UJ	4.2 UJ	4.3 UJ	3.4 UJ	4 UJ	4.9 UJ	4.1 UJ	4.2 UJ	4.1 UJ
2-Nitroaniline	21 UJ	2.7 U	24 UJ	22 UJ	22 UJ	17 UJ	21 UJ	25 UJ	21 UJ	22 UJ	21 UJ
3-Nitroaniline	21 UJ	2.7 U	24 UJ	22 UJ	22 UJ	17 UJ	21 UJ	25 UJ	21 UJ	22 UJ	21 UJ
4-Nitroaniline	21 UJ	2.7 U	24 UJ	22 UJ	22 UJ	17 UJ	21 UJ	25 UJ	21 UJ	22 UJ	21 UJ
Nitrobenzene	8.4 UJ	1.1 U	9.6 UJ	8.6 UJ	8.7 UJ	6.9 UJ	8.2 UJ	9.9 UJ	8.4 UJ	8.5 UJ	8.2 UJ
2-Nitrophenol	4.1 UJ	0.53 U	4.7 UJ	4.2 UJ	4.3 UJ	3.4 UJ	4 UJ	4.9 UJ	4.1 UJ	4.2 UJ	4.1 UJ

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Phase I Sediment Cores
Gowanus Canal
Brooklyn, New York

Sample Name:	GC-SED-503	GC-SED-503	GC-SED-504	GC-SED-504	GC-SED-504	GC-SED-504	GC-SED-504	GC-SED-504	GC-SED-504	Duplicate of GC-SED-504	GC-SED-504
Sample Depth (feet):	(3.0-3.5)	(3.5-4.0)	(0.0-0.5)	(0.5-1.0)	(1.0-1.5)	(1.5-2.0)	(2.0-2.5)	(2.5-3.0)	(3.0-3.5)	(3.0-3.5)	(3.5-4.0)
Sample Date:	8/8/2012	8/8/2012	8/8/2012	8/8/2012	8/8/2012	8/8/2012	8/8/2012	8/8/2012	8/8/2012	8/8/2012	8/8/2012
4-Nitrophenol	21 UJ	2.7 U	24 UJ	22 UJ	22 UJ	17 UJ	21 UJ	25 UJ	21 UJ	22 UJ	21 UJ
N-Nitrosodi-n-propylamine	0.84 UJ	0.11 U	0.96 UJ	0.86 UJ	0.87 UJ	0.69 UJ	0.82 UJ	0.99 UJ	0.84 UJ	0.85 UJ	0.82 UJ
N-Nitrosodiphenylamine	4.1 UJ	0.53 U	4.7 UJ	4.2 UJ	4.3 UJ	3.4 UJ	4 UJ	4.9 UJ	4.1 UJ	4.2 UJ	4.1 UJ
Pentachlorophenol	4.1 UJ	0.53 U	4.7 UJ	4.2 UJ	4.3 UJ	3.4 UJ	4 UJ	4.9 UJ	4.1 UJ	4.2 UJ	4.1 UJ
Phenol	0.84 UJ	0.11 U	0.96 UJ	0.86 UJ	0.87 UJ	0.69 UJ	0.82 UJ	0.99 UJ	0.84 UJ	0.85 UJ	0.82 UJ
1,2,4,5-Tetrachlorobenzene	4.1 UJ	0.53 U	4.7 UJ	4.2 UJ	4.3 UJ	3.4 UJ	4 UJ	4.9 UJ	4.1 UJ	4.2 UJ	4.1 UJ
2,3,4,6-Tetrachlorophenol	4.1 UJ	0.53 U	4.7 UJ	4.2 UJ	4.3 UJ	3.4 UJ	4 UJ	4.9 UJ	4.1 UJ	4.2 UJ	4.1 UJ
2,4,5-Trichlorophenol	4.1 UJ	0.53 U	4.7 UJ	4.2 UJ	4.3 UJ	3.4 UJ	4 UJ	4.9 UJ	4.1 UJ	4.2 UJ	4.1 UJ
2,4,6-Trichlorophenol	4.1 UJ	0.53 U	4.7 UJ	4.2 UJ	4.3 UJ	3.4 UJ	4 UJ	4.9 UJ	4.1 UJ	4.2 UJ	4.1 UJ
PCBs (mg/kg)											
Aroclor 1016	0.1 UJ	0.067 U	0.024 UJ	0.021 UJ	0.022 UJ	0.017 UJ	0.02 UJ	0.025 UJ	0.021 UJ	0.021 UJ	0.021 UJ
Aroclor 1221	0.1 UJ	0.067 U	0.024 UJ	0.021 UJ	0.022 UJ	0.017 UJ	0.02 UJ	0.025 UJ	0.021 UJ	0.021 UJ	0.021 UJ
Aroclor 1232	0.1 UJ	0.067 U	0.024 UJ	0.021 UJ	0.022 UJ	0.017 UJ	0.02 UJ	0.025 UJ	0.021 UJ	0.021 UJ	0.021 UJ
Aroclor 1242	0.1 UJ	**0.11 J**	**0.16 J**	**0.073 J**	**0.11 J**	**0.11 J**	**0.12 J**	**0.16 J**	**0.13 J**	**0.11 J**	**0.27 J**
Aroclor 1248	0.1 UJ	0.067 U	0.024 UJ	0.021 UJ	0.022 UJ	0.017 UJ	0.02 UJ	0.025 UJ	0.021 UJ	0.021 UJ	0.021 UJ
Aroclor 1254	**0.37 J**	**0.17 J**	0.024 UJ	0.021 UJ	0.022 UJ	0.017 UJ	0.02 UJ	0.025 UJ	0.021 UJ	0.021 UJ	0.021 UJ
Aroclor 1260	0.1 UJ	0.067 U	**0.18 J**	**0.068 J**	**0.092 J**	**0.15 J**	**0.62 J**	**0.12 J**	**0.11 J**	**0.071 J**	**0.16 J**
Aroclor 1262	0.1 UJ	0.067 U	0.024 UJ	0.021 UJ	0.022 UJ	0.017 UJ	0.02 UJ	0.025 UJ	0.021 UJ	0.021 UJ	0.021 UJ
Aroclor 1268	0.1 UJ	0.067 U	0.024 UJ	0.021 UJ	0.022 UJ	0.017 UJ	0.02 UJ	0.025 UJ	0.021 UJ	0.021 UJ	0.021 UJ
Total PCBs	**0.37 J**	**0.28 J**	**0.34 J**	**0.14 J**	**0.2 J**	**0.26 J**	**0.74 J**	**0.28 J**	**0.24 J**	**0.18 J**	**0.43 J**
Pesticides (mg/kg)											
Aldrin	0.021 UJ	0.013 UJ	0.024 UJ	0.022 UJ	0.022 UJ	0.017 UJ	0.021 UJ	0.025 UJ	0.021 UJ	0.022 UJ	0.021 UJ
alpha-BHC	0.021 UJ	0.013 U	0.024 UJ	0.022 UJ	0.022 UJ	0.017 UJ	0.021 UJ	0.025 UJ	0.021 UJ	0.022 UJ	0.021 UJ
beta-BHC	0.021 UJ	0.013 U	**0.025 JN**	0.022 UJ	0.022 UJ	0.017 UJ	0.021 UJ	0.025 UJ	0.021 UJ	0.022 UJ	0.021 UJ
gamma-BHC	0.021 UJ	0.013 U	0.024 UJ	0.022 UJ	0.022 UJ	0.017 UJ	0.021 UJ	0.025 UJ	0.021 UJ	0.022 UJ	0.021 UJ
delta-BHC	0.021 UJ	0.013 U	0.024 UJ	0.022 UJ	0.022 UJ	0.017 UJ	0.021 UJ	0.025 UJ	0.021 UJ	0.022 UJ	0.021 UJ
alpha-chlordane	**0.015 J**	0.013 U	0.024 UJ	0.022 UJ	0.022 UJ	0.017 UJ	0.021 UJ	0.025 UJ	0.021 UJ	0.022 UJ	0.021 UJ
gamma-Chlordane	0.021 UJ	**0.0044 J**	0.024 UJ	0.022 UJ	**0.0095 J**	0.017 UJ	0.021 UJ	0.025 UJ	**0.0056 J**	0.022 UJ	0.021 UJ
4,4-DDD	**0.018 J**	0.013 UJ	**0.016 J**	**0.0053 J**	**0.0037 J**	**0.0059 J**	0.021 UJ	**0.0061 J**	**0.0043 J**	**0.0046 J**	**0.017 J**
4,4'-DDE	**0.023 J**	**0.0051 J**	0.024 UJ	0.022 UJ	0.022 UJ	0.017 UJ	0.021 UJ	0.025 UJ	0.021 UJ	0.022 UJ	**0.0073 J**
4,4'-DDT	0.021 UJ	**0.0047 J**	0.024 UJ	**0.0041 J**	0.022 UJ	0.017 UJ	0.021 UJ	0.025 UJ	0.021 UJ	0.022 UJ	0.021 UJ
Dieldrin	0.021 UJ	0.013 U	0.024 UJ	0.022 UJ	0.022 UJ	0.017 UJ	0.021 UJ	0.025 UJ	0.021 UJ	0.022 UJ	0.021 UJ
Endosulfan I	0.021 UJ	0.013 UJ	0.024 UJ	0.022 UJ	0.022 UJ	0.017 UJ	0.021 UJ	0.025 UJ	0.021 UJ	0.022 UJ	0.021 UJ
Endosulfan II	0.021 UJ	0.013 U	0.024 UJ	0.022 UJ	0.022 UJ	0.017 UJ	0.021 UJ	0.025 UJ	0.021 UJ	0.022 UJ	0.021 UJ
Endosulfan sulfate	**0.005 J**	0.013 U	**0.0045 J**	0.022 UJ	0.022 UJ	0.017 UJ	0.021 UJ	0.025 UJ	**0.0042 J**	0.022 UJ	**0.011 J**
Endrin	0.021 UJ	0.013 U	0.024 UJ	0.022 UJ	**0.0057 J**	0.017 UJ	0.021 UJ	**0.0057 J**	0.021 UJ	0.022 UJ	0.021 UJ
Endrin aldehyde	0.021 UJ	0.013 U	**0.0093 J**	0.022 UJ	0.022 UJ	0.017 UJ	0.021 UJ	0.025 UJ	0.021 UJ	0.022 UJ	0.021 UJ
Endrin ketone	0.021 UJ	**0.0024 J**	0.024 UJ	0.022 UJ	0.022 UJ	0.017 UJ	0.021 UJ	0.025 UJ	0.021 UJ	0.022 UJ	**0.012 J**
Heptachlor	0.021 UJ	0.013 UJ	0.024 UJ	0.022 UJ	0.022 UJ	0.017 UJ	0.021 UJ	0.025 UJ	0.021 UJ	0.022 UJ	0.021 UJ
Heptachlor epoxide	0.021 UJ	0.013 UJ	**0.0053 J**	0.022 UJ	0.022 UJ	**0.0036 J**	0.021 UJ	0.025 UJ	0.021 UJ	0.022 UJ	**0.0059 J**
Methoxychlor	0.041 UJ	0.026 U	0.047 UJ	0.042 UJ	0.043 UJ	0.034 UJ	0.041 UJ	0.049 UJ	0.041 UJ	**0.006 J**	0.04 UJ
Toxaphene	0.84 UJ	0.53 U	0.95 UJ	0.86 UJ	0.87 UJ	0.69 UJ	0.82 UJ	0.99 UJ	0.83 UJ	0.85 UJ	0.82 UJ
Herbicides (mg/kg)											
2,4-D	0.2 UJ	0.13 U	0.23 UJ	0.21 UJ	0.21 UJ	0.16 UJ	0.2 UJ	0.24 UJ	0.2 UJ	0.2 UJ	0.2 UJ
2,4-DB	0.2 UJ	0.13 UJ	**0.12 J**	0.21 UJ	**0.14 J**	**0.44 J**	0.2 UJ	0.24 UJ	0.2 UJ	0.2 UJ	0.2 UJ
Dicamba	0.1 UJ	0.064 U	0.12 UJ	0.1 UJ	0.1 UJ	0.082 UJ	0.098 UJ	0.12 UJ	0.1 UJ	0.1 UJ	0.099 UJ
Dichloroprop	0.2 UJ	0.13 U	0.23 UJ	0.21 UJ	0.21 UJ	**0.15 J**	0.2 UJ	0.24 UJ	0.2 UJ	**0.041 J**	**0.043 J**
2,2-Dichloropropionic acid	0.23 UJ	0.14 U	0.26 UJ	0.23 UJ	0.24 UJ	0.19 UJ	0.22 UJ	0.27 UJ	0.23 UJ	0.23 UJ	0.22 UJ
Dinoseb	0.03 UJ	0.019 U	0.035 UJ	0.031 UJ	0.031 UJ	0.025 UJ	0.03 UJ	0.036 UJ	0.03 UJ	0.031 UJ	0.03 UJ

Table 2
Summary of Sediment Analytical Results
Phase I Sediment Cores
Gowanus Canal
Brooklyn, New York

Sample Name:	GC-SED-503	GC-SED-503	GC-SED-504	GC-SED-504	GC-SED-504	GC-SED-504	GC-SED-504	GC-SED-504	GC-SED-504	Duplicate of GC-SED-504	GC-SED-504
Sample Depth (feet):	(3.0-3.5)	(3.5-4.0)	(0.0-0.5)	(0.5-1.0)	(1.0-1.5)	(1.5-2.0)	(2.0-2.5)	(2.5-3.0)	(3.0-3.5)	(3.0-3.5)	(3.5-4.0)
Sample Date:	8/8/2012	8/8/2012	8/8/2012	8/8/2012	8/8/2012	8/8/2012	8/8/2012	8/8/2012	8/8/2012	8/8/2012	8/8/2012
MCPP	20 UJ	13 U	23 UJ	21 UJ	21 UJ	16 UJ	20 UJ	24 UJ	20 UJ	20 UJ	20 UJ
Methylchlorophenoxyacetic acid	**39 J**	**9.5 J**	23 UJ	21 UJ	21 UJ	**22 J**	20 UJ	24 UJ	20 UJ	20 UJ	20 UJ
Pentachlorophenol	0.028 UJ	0.018 U	0.032 UJ	0.028 UJ	0.029 UJ	0.023 UJ	0.027 UJ	0.033 UJ	0.028 UJ	0.028 UJ	0.027 UJ
Silvex	0.05 UJ	0.032 U	0.058 UJ	0.051 UJ	0.052 UJ	0.041 UJ	0.049 UJ	0.06 UJ	0.05 UJ	0.051 UJ	0.05 UJ
2,4,5-Trichlorophenoxyacetic Acid	0.05 UJ	0.032 U	0.058 UJ	0.051 UJ	0.052 UJ	**0.027 J**	0.049 UJ	0.06 UJ	0.05 UJ	0.051 UJ	0.05 UJ
Metals (mg/kg)											
Aluminum	**12000 J**	**9000**	**8100 J**	**9600 J**	**14000 J**	**11000 J**	**15000 J**	**18000 J**	**12000 J**	**14000 J**	**9600 J**
Antimony	**1.5 J**	**0.45 J**	**3 J**	**1.4 J**	**0.79 J**	**0.39 J**	**0.43 J**	**0.57 J**	**0.47 J**	**0.41 J**	**0.59 J**
Arsenic	**8.8 J**	**7 J**	**4.8 J**	**6.2 J**	**9.7 J**	**6.8 J**	**8.5 J**	**11 J**	**8.2 J**	**8.4 J**	**6.7 J**
Barium	**190 J**	**58**	**90 J**	**140 J**	**69 J**	**57 J**	**58 J**	**78 J**	**50 J**	**53 J**	**53 J**
Beryllium	**0.65 J**	**0.52**	**0.39 J**	**0.51 J**	**0.73 J**	**0.53 J**	**0.75 J**	**0.93 J**	**0.57 J**	**0.73 J**	**0.48 J**
Cadmium	**2.5 J**	**1 J**	**1.2 J**	**0.74 J**	**0.8 J**	**0.63 J**	**0.55 J**	**0.94 J**	**0.51 J**	**0.54 J**	**0.7 J**
Calcium	**15000 J**	**5400 J**	**11000 J**	**20000 J**	**14000 J**	**7800 J**	**9500 J**	**18000 J**	**6600 J**	**15000 J**	**7900 J**
Chromium	**70 J**	**52 J**	**46 J**	**39 J**	**57 J**	**41 J**	**44 J**	**66 J**	**47 J**	**43 J**	**41 J**
Cobalt	**10 J**	**6.9**	**6.5 J**	**7.4 J**	**10 J**	**7.4 J**	**9.8 J**	**12 J**	**7.7 J**	**9.7 J**	**6.6 J**
Copper	**250 J**	**100 J**	**170 J**	**160 J**	**120 J**	**100 J**	**78 J**	**120 J**	**72 J**	**79 J**	**78 J**
Iron	**30000 J**	**20000**	**21000 J**	**24000 J**	**31000 J**	**21000 J**	**28000 J**	**35000 J**	**23000 J**	**28000 J**	**20000 J**
Lead	**400 J**	**130 J**	**250 J**	**150 J**	**140 J**	**180 J**	**120 J**	**160 J**	**85 J**	**90 J**	**110 J**
Magnesium	**8000 J**	**5200 J**	**6600 J**	**5700 J**	**6600 J**	**5000 J**	**6300 J**	**8100 J**	**5000 J**	**6200 J**	**4400 J**
Manganese	**260 J**	**230 J**	**170 J**	**300 J**	**470 J**	**370 J**	**530 J**	**660 J**	**480 J**	**470 J**	**330 J**
Mercury	**1.9 J**	**1.5 J**	**1.2 J**	**0.83 J**	**1.5 J**	**0.81 J**	**0.92 J**	**1.2 J**	**1.1 J**	**1.1 J**	**1.4 J**
Nickel	**41 J**	**24 J**	**28 J**	**27 J**	**30 J**	**22 J**	**27 J**	**34 J**	**23 J**	**26 J**	**22 J**
Potassium	**2500 J**	**1900 J**	**1900 J**	**2100 J**	**2900 J**	**2100 J**	**2800 J**	**3400 J**	**2300 J**	**2600 J**	**1900 J**
Selenium	**2 J**	**1.2 J**	**0.92 J**	**6.2 J**	**1.4 J**	**0.99 J**	**1.1 J**	**1.4 J**	**1.1 J**	**1.1 J**	**1.2 J**
Silver	**7.2 J**	**4.5 J**	**6.3 J**	**2.3 J**	**3.4 J**	**2.4 J**	**2.2 J**	**3.1 J**	**2.9 J**	**2 J**	**2.5 J**
Sodium	**6300 J**	**4700**	**5900 J**	**2400 J**	**1600 J**	**900 J**	**1000 J**	**1200 J**	**760 J**	**870 J**	**690 J**
Thallium	**0.16 J**	**0.12 J**	0.14 UJ	0.13 UJ	**0.15 J**	**0.1 J**	**0.15 J**	**0.16 J**	**0.12 J**	**0.14 J**	0.12 UJ
Vanadium	**37 J**	**26**	**26 J**	**26 J**	**32 J**	**25 J**	**29 J**	**37 J**	**26 J**	**28 J**	**22 J**
Zinc	**620 J**	**220 J**	**460 J**	**320 J**	**260 J**	**200 J**	**180 J**	**290 J**	**150 J**	**180 J**	**170 J**
EDCs & PPCPs (Phenols) (mg/kg)											
Bisphenol A	**1.6 J**	**1.3 J**	**1.6 J**	**1.1 J**	0.99 UJ	1 UJ	0.95 UJ	0.95 UJ	0.97 UJ	0.89 UJ	1 UJ
Nonylphenol	**44 J**	**21 J**	**15 J**	**13 J**	**14 J**	**15 J**	**12 J**	**11 J**	**12 J**	**14 J**	**13 J**
Nonylphenol Diethoxylate	19 UJ	18 UJ	21 UJ	18 UJ	20 UJ	20 UJ	19 UJ	19 UJ	20 UJ	18 UJ	20 UJ
Nonylphenol Monoethoxylate	9.1 UJ	8.7 UJ	11 UJ	8.9 UJ	9.9 UJ	10 UJ	9.5 UJ	9.5 UJ	9.7 UJ	8.9 UJ	10 UJ
4-tert-Octylphenol	0.91 UJ	0.87 UJ	1.1 UJ	0.89 UJ	0.99 UJ	1 UJ	0.95 UJ	0.95 UJ	0.97 UJ	0.89 UJ	1 UJ
EDCs and PPCPs (mg/kg)											
Acetaminophen	0.038 U	0.039 U	0.039 U	0.038 U	0.038 U	0.037 U	0.04 U	0.036 U	0.038 U	0.037 U	0.038 U
alpha-Estradiol	0.038 UJ	0.039 UJ	0.039 UJ	0.038 UJ	0.038 UJ	0.037 UJ	0.04 UJ	0.036 UJ	0.038 UJ	0.037 UJ	0.038 UJ
Androstenedione	**0.0031 J**	0.0079 UJ	0.0078 UJ	0.0075 UJ	0.0076 UJ	**0.0016 J**	0.008 UJ	0.0073 UJ	0.0075 UJ	0.0074 UJ	0.0077 UJ
Atrazine	**0.0031 J**	**0.0028 J**	0.0078 UJ	**0.0026 J**	0.0076 UJ	0.0074 UJ	0.008 UJ	0.0073 UJ	0.0075 UJ	0.0074 UJ	0.0077 UJ
Bisphenol A	**0.22**	**0.18**	**0.35 J**	**0.29 J**	**0.16 J**	**0.14 J**	**0.12 J**	**0.17 J**	**0.12 J**	**0.1 J**	**0.22 J**
Carbamazepine	**0.022 J**	**0.0086 J**	**0.0049 J**	**0.0042 J**	0.015 UJ	0.015 UJ	0.016 UJ	0.015 UJ	0.015 UJ	0.015 UJ	0.015 UJ
DEET (N,N-Diethyl-3-Methyl Benzamide)	0.038 UJ	0.039 UJ	0.039 UJ	0.038 UJ	0.038 UJ	0.037 UJ	0.04 UJ	0.036 UJ	0.038 UJ	0.037 UJ	0.038 UJ
Diazepam	0.015 UJ	0.016 UJ	0.016 UJ	0.015 UJ	0.015 UJ	0.015 UJ	0.016 UJ	0.015 UJ	**0.0011 J**	0.015 UJ	0.015 UJ
Diclofenac	R	R	R	0.015 UJ	0.015 UJ	0.015 UJ	0.016 UJ	0.015 UJ	0.015 UJ	0.015 UJ	0.015 UJ
Diethylstilbestrol	**0.031 J**	R	R	R	0.038 UJ	0.037 UJ	0.04 UJ	0.036 UJ	R	0.037 UJ	0.038 UJ
Estradiol	0.038 UJ	0.039 UJ	0.039 UJ	0.038 UJ	0.038 UJ	0.037 UJ	0.04 UJ	0.036 UJ	0.038 UJ	0.037 UJ	0.038 UJ
Estriol	0.038 U	0.039 U	0.039 U	**0.023 J**	0.038 U	0.037 U	0.04 U	0.036 U	0.038 U	0.037 U	0.038 U

Table 2
Summary of Sediment Analytical Results
Phase I Sediment Cores
Gowanus Canal
Brooklyn, New York

Sample Name:	GC-SED-503	GC-SED-503	GC-SED-504	GC-SED-504	GC-SED-504	GC-SED-504	GC-SED-504	GC-SED-504	GC-SED-504	Duplicate of GC-SED-504	GC-SED-504
Sample Depth (feet):	(3.0-3.5)	(3.5-4.0)	(0.0-0.5)	(0.5-1.0)	(1.0-1.5)	(1.5-2.0)	(2.0-2.5)	(2.5-3.0)	(3.0-3.5)	(3.0-3.5)	(3.5-4.0)
Sample Date:	8/8/2012	8/8/2012	8/8/2012	8/8/2012	8/8/2012	8/8/2012	8/8/2012	8/8/2012	8/8/2012	8/8/2012	8/8/2012
Estrone	0.038 UJ	0.039 UJ	0.039 UJ	**0.073 J**	0.038 UJ	0.037 UJ	0.04 UJ	0.036 UJ	0.038 UJ	0.037 UJ	0.038 UJ
Ethinyl Estradiol	0.038 U	0.039 U	0.039 U	0.038 U	0.038 U	0.037 U	0.04 U	0.036 U	0.038 U	0.037 U	0.038 U
Gemfibrozil	R	0.016 UJ	R	0.015 UJ	0.015 UJ	0.015 UJ	0.016 UJ	0.015 UJ	0.015 UJ	0.015 UJ	0.015 UJ
Ibuprofen	0.038 UJ	**0.041 J**	0.039 UJ	0.038 UJ	0.038 UJ	0.037 UJ	0.04 UJ	0.036 UJ	0.038 UJ	0.037 UJ	0.038 UJ
Meprobamate	0.0075 UJ	0.0079 UJ	0.0078 UJ	0.0075 UJ	0.0076 UJ	0.0074 UJ	0.008 UJ	0.0073 UJ	0.0075 UJ	0.0074 UJ	0.0077 UJ
Naproxen	0.015 U	0.016 U	0.016 UJ	0.015 U	0.015 U	0.015 U	0.016 U	0.015 U	0.015 U	0.015 U	0.015 U
Pentoxifylline	**0.0017 J**	0.016 U	**0.0016 J**	0.015 U	0.015 U	0.015 U	0.016 U	0.015 U	0.015 U	0.015 U	0.015 U
Phenytoin (5,5-Diphenylhydantion/ Dilantin)	**0.055**	**0.044**	**0.0078 J**	**0.0082 J**	**0.0025 J**	**0.0026 J**	**0.0043 J**	**0.0034 J**	**0.0025 J**	**0.0022 J**	**0.0035 J**
Progesterone	0.015 UJ	0.016 UJ	0.016 UJ	**0.0074 J**	**0.0093 J**	**0.016 J**	**0.013 J**	**0.014 J**	**0.012 J**	**0.009 J**	0.015 UJ
Sulfamethoxazole	0.015 U	0.016 U	0.016 U	0.015 U	0.015 U	0.015 U	0.016 U	0.015 U	0.015 U	0.015 U	0.015 U
Testosterone	0.015 U	0.016 U	0.016 U	0.015 U	0.015 U	0.015 U	0.016 U	0.015 U	0.015 U	0.015 U	0.015 U
Trimethoprim	0.038 UJ	0.039 UJ	0.039 UJ	0.038 UJ	0.038 UJ	0.037 UJ	0.04 UJ	R	**0.018 J**	R	0.038 UJ
Pathogen											
C. perfringens (cfu/g)	**62000**	**400000**	**55000**	**28000**	**31000**	**30000**	**25000**	**31000**	**36000**	NA	**62000**
Coliphage, Male Specific (pfu/10g)	0 U	0 U	0 U	0 U	0 U	0 U	0 U	0 U	0 U	NA	0 U
Coliphage, Somatic (pfu/10g)	0 UJ	0 UJ	**125 J**	**13 J**	**6 J**	**1 J**	**3 J**	**2 J**	**2 J**	NA	0 UJ
Cryptosporidium (Oocysts/g)	0 U	0 U	0 U	0 U	0 U	0 U	0 U	0 U	0 U	NA	0 U
E.Coli (mpn/g)	0 U	0 U	**5630**	**2180**	**524.7**	**209.8**	**574.8**	**248.9**	**16**	NA	**114.3**
Enterococci (mpn/g)	**33.6**	**35**	**5200**	**58.8**	**55.6**	**44.6**	**106.3**	**77.1**	**106.3**	NA	**38.9**
Fecal Coliform (mpn/g)	**991**	**200**	**6440**	**2160**	**886.4**	**517.2**	**860**	**435.2**	**35.5**	NA	**204.6**
Giardia (Cysts/g)	0 UJ	0 U	0 U	0 U	0 U	0 U	0 U	0 U	0 U	NA	0 U
Plaque forming virus (pfu/g)	0 U	0 U	0 U	0 U	0 U	0 U	0 U	0 U	0 U	NA	0 U
Viruses (pos/neg)	neg	neg	neg	neg	neg	neg	neg	neg	neg	NA	neg
Other (%)											
Percent Solids	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Solids	**44.16**	**52.55**	**32.99**	**54.87**	**40.71**	**42.93**	**42.46**	**43.68**	**40.11**	NA	**39.49**
Other (mg/kg)											
Total Organic Carbon	**69000 J**	**40000**	**110000 J**	**68000 J**	**51000 J**	**35000 J**	**36000 J**	**50000 J**	**46000 J**	**39000 J**	**89000 J**

Table 2
Summary of Sediment Analytical Results
Phase I Sediment Cores
Gowanus Canal
Brooklyn, New York

Sample Name:	GC-SED-505	GC-SED-505	GC-SED-505	GC-SED-505	GC-SED-505	GC-SED-505	GC-SED-505	GC-SED-505	GC-SED-506	GC-SED-506	GC-SED-506
Sample Depth (feet):	(0.0-0.5)	(0.5-1.0)	(1.0-1.5)	(1.5-2.0)	(2.0-2.5)	(2.5-3.0)	(3.0-3.5)	(3.5-4.0)	(0.0-0.5)	(0.5-1.0)	(1.0-1.5)
Sample Date:	8/8/2012	8/8/2012	8/8/2012	8/8/2012	8/8/2012	8/8/2012	8/8/2012	8/8/2012	8/7/2012	8/7/2012	8/7/2012
BTEX (mg/kg)											
Benzene	0.84 UJ	0.013 UJ	0.011 UJ	0.012 UJ	0.012 UJ	0.011 UJ	0.012 UJ	0.57 UJ	**0.0043 J**	0.016 UJ	**0.0022 J**
Toluene	0.84 UJ	**0.0068 J**	0.011 UJ	0.012 UJ	0.012 UJ	0.011 UJ	0.012 UJ	0.57 UJ	0.015 UJ	0.016 UJ	0.012 UJ
Ethylbenzene	0.84 UJ	**0.0019 J**	0.011 UJ	0.012 UJ	0.012 UJ	0.011 UJ	0.012 UJ	0.57 UJ	0.015 UJ	0.016 UJ	0.012 UJ
m,p-Xylene	1.7 UJ	0.027 UJ	0.022 UJ	0.024 UJ	0.023 UJ	0.021 UJ	0.024 UJ	1.1 UJ	0.029 UJ	0.032 UJ	0.025 UJ
o-Xylene	0.84 UJ	0.013 UJ	0.011 UJ	0.012 UJ	0.012 UJ	0.011 UJ	0.012 UJ	0.57 UJ	0.015 UJ	0.016 UJ	0.012 UJ
Total Xylene	2.5 UJ	0.04 UJ	0.034 UJ	0.035 UJ	0.035 UJ	0.032 UJ	0.036 UJ	1.7 UJ	0.044 UJ	0.048 UJ	0.037 UJ
Total BTEX	0	**0.0087**	0	0	0	0	0	0	**0.0043**	0	**0.0022**
Other VOCs (mg/kg)											
Acetone	R	0.053 UJ	0.045 UJ	0.047 UJ	0.047 UJ	**0.015 J**	0.048 UJ	R	0.059 UJ	0.064 UJ	0.049 UJ
Bromochloromethane	0.84 UJ	0.013 UJ	0.011 UJ	0.012 UJ	0.012 UJ	0.011 UJ	0.012 UJ	0.57 UJ	0.015 UJ	0.016 UJ	0.012 UJ
Bromodichloromethane	0.84 UJ	0.013 UJ	0.011 UJ	0.012 UJ	0.012 UJ	0.011 UJ	0.012 UJ	0.57 UJ	0.015 UJ	0.016 UJ	0.012 UJ
Bromoform	0.84 UJ	0.013 UJ	0.011 UJ	0.012 UJ	0.012 UJ	0.011 UJ	0.012 UJ	0.57 UJ	0.015 UJ	0.016 UJ	0.012 UJ
Bromomethane	0.84 UJ	0.013 UJ	0.011 UJ	0.012 UJ	0.012 UJ	0.011 UJ	0.012 UJ	0.57 UJ	0.015 UJ	0.016 UJ	0.012 UJ
2-Butanone (Methyl ethyl ketone)	R	0.013 UJ	0.011 UJ	0.012 UJ	0.012 UJ	0.011 UJ	0.012 UJ	R	0.015 UJ	0.016 UJ	0.012 UJ
Carbon disulfide	0.84 UJ	0.013 UJ	0.011 UJ	0.012 UJ	0.012 UJ	0.011 UJ	0.012 UJ	0.57 UJ	0.015 UJ	0.016 UJ	**0.0014 J**
Carbon tetrachloride	0.84 UJ	0.013 UJ	0.011 UJ	0.012 UJ	0.012 UJ	0.011 UJ	0.012 UJ	0.57 UJ	0.015 UJ	0.016 UJ	0.012 UJ
Chlorobenzene	0.84 UJ	**0.0046 J**	0.011 UJ	0.012 UJ	**0.0021 J**	0.011 UJ	0.012 UJ	0.57 UJ	0.015 UJ	**0.0039 J**	**0.0055 J**
Chloroethane	0.84 UJ	0.013 UJ	0.011 UJ	0.012 UJ	0.012 UJ	0.011 UJ	0.012 UJ	0.57 UJ	0.015 UJ	0.016 UJ	0.012 UJ
Chloroform	0.84 UJ	0.013 UJ	0.011 UJ	0.012 UJ	0.012 UJ	0.011 UJ	0.012 UJ	0.57 UJ	0.015 UJ	0.016 UJ	0.012 UJ
Chloromethane	0.84 UJ	0.013 UJ	0.011 UJ	0.012 UJ	0.012 UJ	0.011 UJ	0.012 UJ	0.57 UJ	0.015 UJ	0.016 UJ	0.012 UJ
Cyclohexane	0.84 UJ	0.013 UJ	0.011 UJ	0.012 UJ	0.012 UJ	0.011 UJ	0.012 UJ	0.57 UJ	0.015 UJ	0.016 UJ	0.012 UJ
1,2-Dibromo-3-chloropropane	R	0.013 UJ	0.011 UJ	0.012 UJ	0.012 UJ	0.011 UJ	0.012 UJ	R	0.015 UJ	0.016 UJ	0.012 UJ
Dibromochloromethane	0.84 UJ	0.013 UJ	0.011 UJ	0.012 UJ	0.012 UJ	0.011 UJ	0.012 UJ	0.57 UJ	0.015 UJ	0.016 UJ	0.012 UJ
1,2-Dibromoethane	0.84 UJ	0.013 UJ	0.011 UJ	0.012 UJ	0.012 UJ	0.011 UJ	0.012 UJ	0.57 UJ	0.015 UJ	0.016 UJ	0.012 UJ
1,2-Dichlorobenzene	0.84 UJ	0.013 UJ	0.011 UJ	0.012 UJ	0.012 UJ	0.011 UJ	0.012 UJ	0.57 UJ	0.015 UJ	0.016 UJ	0.012 UJ
1,3-Dichlorobenzene	0.84 UJ	0.013 UJ	0.011 UJ	0.012 UJ	0.012 UJ	0.011 UJ	0.012 UJ	0.57 UJ	0.015 UJ	0.016 UJ	0.012 UJ
1,4-Dichlorobenzene	0.84 UJ	**0.0069 J**	0.011 UJ	0.012 UJ	**0.0017 J**	0.011 UJ	**0.0021 J**	0.57 UJ	0.015 UJ	0.016 UJ	**0.0021 J**
Dichlorodifluoromethane	0.84 UJ	0.013 UJ	0.011 UJ	0.012 UJ	0.012 UJ	0.011 UJ	0.012 UJ	0.57 UJ	0.015 UJ	0.016 UJ	0.012 UJ
1,1-Dichloroethane	0.84 UJ	0.013 UJ	0.011 UJ	0.012 UJ	0.012 UJ	0.011 UJ	0.012 UJ	0.57 UJ	0.015 UJ	0.016 UJ	0.012 UJ
1,2-Dichloroethane	0.84 UJ	0.013 UJ	0.011 UJ	0.012 UJ	0.012 UJ	0.011 UJ	0.012 UJ	0.57 UJ	0.015 UJ	0.016 UJ	0.012 UJ
cis-1,2-Dichloroethene	0.84 UJ	0.013 UJ	0.011 UJ	0.012 UJ	0.012 UJ	0.011 UJ	0.012 UJ	0.57 UJ	0.015 UJ	0.016 UJ	0.012 UJ
trans-1,2-Dichloroethene	0.84 UJ	0.013 UJ	0.011 UJ	0.012 UJ	0.012 UJ	0.011 UJ	0.012 UJ	0.57 UJ	0.015 UJ	0.016 UJ	0.012 UJ
1,1-Dichloroethene	0.84 UJ	0.013 UJ	0.011 UJ	0.012 UJ	0.012 UJ	0.011 UJ	0.012 UJ	0.57 UJ	0.015 UJ	0.016 UJ	0.012 UJ
1,2-Dichloropropane	0.84 UJ	0.013 UJ	0.011 UJ	0.012 UJ	0.012 UJ	0.011 UJ	0.012 UJ	0.57 UJ	0.015 UJ	0.016 UJ	0.012 UJ
cis-1,3-Dichloropropene	0.84 UJ	0.013 UJ	0.011 UJ	0.012 UJ	0.012 UJ	0.011 UJ	0.012 UJ	0.57 UJ	0.015 UJ	0.016 UJ	0.012 UJ
trans-1,3-Dichloropropene	0.84 UJ	0.013 UJ	0.011 UJ	0.012 UJ	0.012 UJ	0.011 UJ	0.012 UJ	0.57 UJ	0.015 UJ	0.016 UJ	0.012 UJ
1,4-Dioxane	R	R	R	R	R	R	R	R	R	R	R
2-Hexanone	0.84 UJ	0.013 UJ	0.011 UJ	0.012 UJ	0.012 UJ	0.011 UJ	0.012 UJ	0.57 UJ	0.015 UJ	0.016 UJ	0.012 UJ
Isopropyl benzene	0.84 UJ	0.013 UJ	0.011 UJ	0.012 UJ	0.012 UJ	0.011 UJ	0.012 UJ	0.57 UJ	0.015 UJ	0.016 UJ	0.012 UJ
Methyl acetate	**1.7 J**	0.013 UJ	0.011 UJ	0.012 UJ	0.012 UJ	0.011 UJ	0.012 UJ	R	0.015 UJ	0.016 UJ	0.012 UJ
Methyl tert-butyl ether (MTBE)	0.84 UJ	0.013 UJ	0.011 UJ	0.012 UJ	0.012 UJ	0.011 UJ	0.012 UJ	0.57 UJ	0.015 UJ	0.016 UJ	0.012 UJ
4-Methyl-2-pentanone	0.84 UJ	0.013 UJ	0.011 UJ	0.012 UJ	0.012 UJ	0.011 UJ	0.012 UJ	0.57 UJ	0.015 UJ	0.016 UJ	0.012 UJ
Methylcyclohexane	0.84 UJ	0.013 UJ	0.011 UJ	0.012 UJ	0.012 UJ	0.011 UJ	0.012 UJ	0.57 UJ	0.015 UJ	0.016 UJ	0.012 UJ
Methylene chloride	0.84 UJ	0.013 UJ	0.011 UJ	0.012 UJ	0.012 UJ	0.011 UJ	0.012 UJ	0.57 UJ	**0.0047 J**	**0.003 J**	0.012 UJ
Styrene	0.84 UJ	0.013 UJ	0.011 UJ	0.012 UJ	0.012 UJ	0.011 UJ	0.012 UJ	0.57 UJ	0.015 UJ	0.016 UJ	0.012 UJ
1,1,2,2-Tetrachloroethane	0.84 UJ	0.013 UJ	0.011 UJ	0.012 UJ	0.012 UJ	0.011 UJ	0.012 UJ	0.57 UJ	0.015 UJ	0.016 UJ	0.012 UJ
Tetrachloroethene	**0.2 J**	0.013 UJ	0.011 UJ	0.012 UJ	0.012 UJ	0.011 UJ	0.012 UJ	**0.13 J**	0.015 UJ	0.016 UJ	0.012 UJ

Table 2
Summary of Sediment Analytical Results
Phase I Sediment Cores
Gowanus Canal
Brooklyn, New York

Sample Name:	GC-SED-505	GC-SED-505	GC-SED-505	GC-SED-505	GC-SED-505	GC-SED-505	GC-SED-505	GC-SED-505	GC-SED-506	GC-SED-506	GC-SED-506
Sample Depth (feet):	(0.0-0.5)	(0.5-1.0)	(1.0-1.5)	(1.5-2.0)	(2.0-2.5)	(2.5-3.0)	(3.0-3.5)	(3.5-4.0)	(0.0-0.5)	(0.5-1.0)	(1.0-1.5)
Sample Date:	8/8/2012	8/8/2012	8/8/2012	8/8/2012	8/8/2012	8/8/2012	8/8/2012	8/8/2012	8/7/2012	8/7/2012	8/7/2012
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	0.84 UJ	0.013 UJ	0.011 UJ	0.012 UJ	0.012 UJ	0.011 UJ	0.012 UJ	0.57 UJ	0.015 UJ	0.016 UJ	0.012 UJ
1,2,3-Trichlorobenzene	0.84 UJ	0.013 UJ	0.011 UJ	0.012 UJ	0.012 UJ	0.011 UJ	0.012 UJ	0.57 UJ	0.015 UJ	0.016 UJ	0.012 UJ
1,2,4-Trichlorobenzene	0.84 UJ	0.013 UJ	0.011 UJ	0.012 UJ	0.012 UJ	0.011 UJ	0.012 UJ	0.57 UJ	0.015 UJ	0.016 UJ	0.012 UJ
1,1,1-Trichloroethane	0.84 UJ	0.013 UJ	0.011 UJ	0.012 UJ	0.012 UJ	0.011 UJ	0.012 UJ	0.57 UJ	0.015 UJ	0.016 UJ	0.012 UJ
1,1,2-Trichloroethane	0.84 UJ	0.013 UJ	0.011 UJ	0.012 UJ	0.012 UJ	0.011 UJ	0.012 UJ	0.57 UJ	0.015 UJ	0.016 UJ	0.012 UJ
Trichloroethene	0.84 UJ	0.013 UJ	0.011 UJ	0.012 UJ	0.012 UJ	0.011 UJ	0.012 UJ	0.57 UJ	0.015 UJ	0.016 UJ	0.012 UJ
Trichlorofluoromethane	0.84 UJ	0.013 UJ	0.011 UJ	0.012 UJ	0.012 UJ	0.011 UJ	0.012 UJ	0.57 UJ	0.015 UJ	0.016 UJ	0.012 UJ
Vinyl chloride	0.84 UJ	0.013 UJ	0.011 UJ	0.012 UJ	0.012 UJ	0.011 UJ	0.012 UJ	0.57 UJ	0.015 UJ	0.016 UJ	0.012 UJ
PAHs (mg/kg)											
Acenaphthene	**4.6 J**	**3.2 J**	**4.3 J**	**1.9 J**	**1.3 J**	**0.74 J**	**1.6 J**	**1.2 J**	**2.1 J**	**1.8 J**	**3.3 J**
Acenaphthylene	**2 J**	**1.7 J**	**2.5 J**	**2.2 J**	**1.8 J**	**1.1 J**	**0.99 J**	**1.2 J**	**2.9 J**	**2.8 J**	**2.7 J**
Anthracene	**3.3 J**	**2.7 J**	**4.5 J**	**2.3 J**	**1.6 J**	**0.93 J**	**1.4 J**	**1.3 J**	**3.1 J**	**2.8 J**	**2.9 J**
Benz[a]anthracene	**3.4 J**	**3.4 J**	**6.7 J**	**3.3 J**	**2.4 J**	**1.7 J**	**1.9 J**	**1.9 J**	**5.3 J**	**5.2 J**	**4.6 J**
Benzo[a]pyrene	**2.5 J**	**2.7 J**	**5.7 J**	**2.8 J**	**2.1 J**	**1.5 J**	**1.8 J**	**1.7 J**	**3.8 J**	**4.4 J**	**4 J**
Benzo[b]fluoranthene	**2 J**	**2 J**	**4.7 J**	**1.5 J**	**1.3 J**	**1.2 J**	**1.5 J**	**1 J**	**0.63 J**	**2.8 J**	**1.8 J**
Benzo[g,h,i]perylene	**1.6 J**	**1.7 J**	**3.1 J**	**1.6 J**	**1.1 J**	**1 J**	**1.1 J**	**1.1 J**	**2.5 J**	**2.6 J**	**2.5 J**
Benzo[k]fluoranthene	**0.92 J**	**1.1 J**	**1.8 J**	**0.98 J**	**0.51 J**	**0.42 J**	**0.35 J**	**0.66 J**	**3 J**	**1 J**	**2.1 J**
Chrysene	**3.4 J**	**3.3 J**	**6.3 J**	**2.9 J**	**2.3 J**	**1.6 J**	**1.8 J**	**2 J**	**4.9 J**	**4.3 J**	**5 J**
Dibenz[a,h]anthracene	**3.9 J**	**3.2 J**	**3 J**	**2.9 J**	**2.7 J**	**2.6 J**	**2.9 J**	**2.9 J**	**3.6 J**	**3.7 J**	**2.8 J**
Fluoranthene	**7.7 J**	**7.7 J**	**13 J**	**4.7 J**	**3.1 J**	**2.6 J**	**3.3 J**	**3.2 J**	**8.6 J**	**8.1 J**	**8.1 J**
Fluorene	**3 J**	**2.2 J**	**3 J**	**1.6 J**	**1.5 J**	0.72 UJ	**1.4 J**	**1.1 J**	**1.9 J**	**1.8 J**	**1.6 J**
Indeno[1,2,3-cd]pyrene	**4.1 J**	**3.5 J**	**4.2 J**	**3 J**	**2.8 J**	**2.4 J**	**2.8 J**	**2.7 J**	**4 J**	**4.6 J**	**4.2 J**
2-Methylnaphthalene	**2.7 J**	**1.8 J**	**2.3 J**	**0.84 J**	**0.65 J**	**0.12 J**	**0.42 J**	**0.18 J**	**0.42 J**	**0.33 J**	**0.55 J**
Naphthalene	**2.6 J**	**1.9 J**	**2.4 J**	**1 J**	**0.73 J**	0.72 UJ	**0.63 J**	0.76 UJ	**0.53 J**	1.1 UJ	**0.99 J**
Phenanthrene	**10 J**	**9 J**	**15 J**	**5.8 J**	**4.3 J**	**1.5 J**	**3.6 J**	**2.6 J**	**5.8 J**	**3.6 J**	**4.5 J**
Pyrene	**6.7 J**	**5.9 J**	**10 J**	**4.6 J**	**3.7 J**	**2.9 J**	**3.4 J**	**3.3 J**	**8.4 J**	**8.2 J**	**8.6 J**
Total PAHs	**64.42**	**57**	**92.5**	**43.92**	**33.89**	**22.31**	**30.89**	**28.04**	**61.48**	**58.03**	**60.24**
Alkylated PAHs (mg/kg)											
Acenaphthene	**20.88775 J**	**6.26809 J**	**4.7755 J**	**3.89373 J**	**3.9117 J**	**1.84113 J**	**2.6992 J**	**3.53598 J**	**2.39338 J**	**2.05698 J**	**3.59112 J**
Acenaphthylene	**2.79582 J**	**1.65523 J**	**2.58713 J**	**2.36645 J**	**2.47056 J**	**1.74589 J**	**0.80651 J**	**1.71062 J**	**1.89735 J**	**1.64086 J**	**2.23351 J**
Anthracene	**18.7896 J**	**5.22436 J**	**5.63464 J**	**5.81187 J**	**6.23787 J**	**3.10751 J**	**3.25102 J**	**4.71889 J**	**3.75037 J**	**3.32629 J**	**3.67556 J**
Benz[a]anthracene	**74.93725 J**	**5.74724 J**	**7.01876 J**	**7.23036 J**	**7.10326 J**	**4.85006 J**	**3.69293 J**	**6.28477 J**	**5.7879 J**	**4.59857 J**	**6.2212 J**
Benzo[a]pyrene	**54.22895 J**	**3.94479 J**	**4.91033 J**	**5.069 J**	**5.55596 J**	**3.58159 J**	**2.52211 J**	**4.59227 J**	**4.32652 J**	**3.43375 J**	**4.75735 J**
Benzo[b]fluoranthene	**49.83805 J**	**2.86977 J**	**2.70521 J**	**3.05392 J**	**3.8853 J**	**2.26372 J**	**2.06925 J**	**3.25392 J**	**3.26152 J**	**2.48705 J**	**3.54923 J**
Benzo[e]pyrene	**44.11159 J**	**2.65669 J**	**2.88664 J**	**3.03664 J**	**3.35378 J**	**2.24638 J**	**1.77465 J**	**2.98531 J**	**2.63013 J**	**2.10372 J**	**2.9053 J**
Benzo[g,h,i]perylene	**34.8739 J**	**1.91711 J**	**2.13374 J**	**2.20567 J**	**2.57457 J**	**1.70772 J**	**1.46933 J**	**2.36743 J**	**1.96497 J**	**1.53566 J**	**2.1235 J**
Benzo[k]fluoranthene	**54.82781 J**	**3.32442 J**	**3.65437 J**	**3.59334 J**	**4.20134 J**	**2.78878 J**	**2.32087 J**	**3.84634 J**	**3.28305 J**	**2.63057 J**	**3.50831 J**
1,1-Biphenyl	**3.1307 J**	**0.84251 J**	**0.65215 J**	**0.28154 J**	**0.63687 J**	**0.13341 J**	**0.22579 J**	**0.1483 J**	**0.17478 J**	**0.11783 J**	**0.156 J**
Chrysene	**88.72398 J**	**5.64395 J**	**6.30601 J**	**6.59807 J**	**6.39903 J**	**4.53673 J**	**3.6553 J**	**5.95999 J**	**5.15235 J**	**4.05176 J**	**5.60677 J**
C1-Chrysenes	**39.11677 J**	**3.02997 J**	**4.17768 J**	**4.32482 J**	**4.52288 J**	**2.9514 J**	**1.73575 J**	**3.37871 J**	**3.73949 J**	**3.15714 J**	**5.21594 J**
C2-Chrysenes	**15.05089 J**	**1.2089 J**	**1.58015 J**	**1.58579 J**	**1.77117 J**	**1.14135 J**	**0.75069 J**	**1.47665 J**	**1.74597 J**	**1.49774 J**	**2.75097 J**
C3-Chrysenes	**7.34255 J**	**0.72893 J**	**0.64246 J**	**0.6235 J**	**0.66345 J**	**0.52915 J**	**0.47533 J**	**0.75821 J**	**0.63928 J**	**0.68218 J**	**1.23755 J**
C4-Chrysenes	**4.20728 J**	**0.31276 J**	**0.37126 J**	**0.36338 J**	**0.45256 J**	**0.32546 J**	**0.29881 J**	**0.50468 J**	**0.42963 J**	**0.41825 J**	**0.67481 J**
Dibenz[a,h]anthracene	**9.64569 J**	**0.51492 J**	**0.57678 J**	**0.59903 J**	**0.65096 J**	**0.45444 J**	**0.35931 J**	**0.63211 J**	**0.61747 J**	**0.49933 J**	**0.68725 J**
Dibenzofuran	**13.76522 J**	**0.56867 J**	**0.47059 J**	**0.42442 J**	**0.55149 J**	**0.2407 J**	**0.44287 J**	**0.48788 J**	**0.28441 J**	**0.24498 J**	**0.25545 J**
Dibenzothiophene	**16.8602 J**	**1.93013 J**	**1.91504 J**	**1.91363 J**	**1.85735 J**	**1.05881 J**	**1.00402 J**	**1.60241 J**	**1.23909 J**	**0.97493 J**	**0.94603 J**
C1-Dibenzothiophenes	**15.58046 J**	**2.40871 J**	**2.58039 J**	**2.54512 J**	**2.5424 J**	**1.38361 J**	**1.12769 J**	**1.89444 J**	**2.02011 J**	**1.61025 J**	**2.25278 J**
C2-Dibenzothiophenes	**12.62981 J**	**1.94667 J**	**2.26301 J**	**2.28326 J**	**2.48974 J**	**1.49541 J**	**0.94619 J**	**1.79785 J**	**2.32116 J**	**1.98583 J**	**3.07902 J**

Table 2
Summary of Sediment Analytical Results
Phase I Sediment Cores
Gowanus Canal
Brooklyn, New York

Sample Name:	GC-SED-505	GC-SED-505	GC-SED-505	GC-SED-505	GC-SED-505	GC-SED-505	GC-SED-505	GC-SED-505	GC-SED-506	GC-SED-506	GC-SED-506
Sample Depth (feet):	(0.0-0.5)	(0.5-1.0)	(1.0-1.5)	(1.5-2.0)	(2.0-2.5)	(2.5-3.0)	(3.0-3.5)	(3.5-4.0)	(0.0-0.5)	(0.5-1.0)	(1.0-1.5)
Sample Date:	8/8/2012	8/8/2012	8/8/2012	8/8/2012	8/8/2012	8/8/2012	8/8/2012	8/8/2012	8/7/2012	8/7/2012	8/7/2012
C3-Dibenzothiophenes	**6.63407 J**	**1.1772 J**	**1.20061 J**	**1.16178 J**	**1.41638 J**	**0.88697 J**	**0.6007 J**	**1.09483 J**	**1.33267 J**	**1.17214 J**	**2.02756 J**
C4-Dibenzothiophenes	**2.34947 J**	**0.56386 J**	**0.4178 J**	**0.44447 J**	**0.63113 J**	**0.33587 J**	**0.27714 J**	**0.45832 J**	**0.57075 J**	**0.53449 J**	**0.89871 J**
Fluoranthene	**175.39456 J**	**11.10439 J**	**11.4339 J**	**11.16154 J**	**14.04063 J**	**7.07387 J**	**7.04033 J**	**10.97569 J**	**9.2245 J**	**7.02778 J**	**8.91806 J**
C1-Fluoranthenes/pyrenes	**57.9054 J**	**7.64659 J**	**10.07743 J**	**10.15853 J**	**10.74757 J**	**6.68452 J**	**4.1678 J**	**7.63819 J**	**10.21012 J**	**8.34794 J**	**12.20356 J**
C2-Fluoranthenes/pyrenes	**50.76214 J**	**3.14639 J**	**3.79616 J**	**3.75908 J**	**4.23717 J**	**2.72144 J**	**1.80767 J**	**3.17715 J**	**4.04883 J**	**3.32229 J**	**5.57827 J**
C3-Fluoranthenes/pyrenes	**19.65437 J**	**1.29306 J**	**1.2817 J**	**1.34778 J**	**1.69292 J**	**1.05429 J**	**0.69283 J**	**1.25558 J**	**1.52004 J**	**1.41265 J**	**2.55897 J**
C4-Fluoranthenes/pyrenes	**10.75622 J**	**0.53065 J**	**0.34117 J**	**0.36943 J**	**0.61692 J**	**0.35155 J**	**0.29387 J**	**0.49545 J**	**0.61892 J**	**0.63634 J**	**0.98778 J**
Fluorene	**13.10097 J**	**3.24828 J**	**2.55573 J**	**1.67281 J**	**2.42579 J**	**0.5098 J**	**1.6048 J**	**1.05536 J**	**1.12 J**	**0.7761 J**	**0.92 J**
C1-Fluorenes	**5.85724 J**	**2.38525 J**	**2.42197 J**	**2.31294 J**	**2.355 J**	**1.18752 J**	**1.14102 J**	**1.6547 J**	**1.55264 J**	**1.31309 J**	**1.71241 J**
C2-Fluorenes	**12.1234 J**	**2.23135 J**	**2.36335 J**	**2.31185 J**	**2.39771 J**	**1.54836 J**	**1.06041 J**	**1.89565 J**	**1.97344 J**	**1.82804 J**	**2.75103 J**
C3-Fluorenes	**31.92586 J**	**1.66474 J**	**1.34214 J**	**1.25268 J**	**1.59019 J**	**0.94025 J**	**0.77939 J**	**1.23503 J**	**1.56131 J**	**1.37766 J**	**2.20149 J**
Indeno[1,2,3-cd]pyrene	**37.37683 J**	**2.13887 J**	**2.2068 J**	**2.35412 J**	**2.90767 J**	**1.8276 J**	**1.56331 J**	**2.62586 J**	**2.65953 J**	**2.05697 J**	**2.86884 J**
Naphthalene	**18.78825 J**	**3.52279 J**	**2.48695 J**	**1.08636 J**	**1.4653 J**	**0.59906 J**	**1.28823 J**	**1.00352 J**	**0.87892 J**	**0.60631 J**	**1.60125 J**
C1-Naphthalenes	**14.46747 J**	**5.1316 J**	**3.4048 J**	**1.49312 J**	**2.69446 J**	**0.55625 J**	**1.36583 J**	**1.01244 J**	**1.04046 J**	**0.65873 J**	**1.41434 J**
C2-Naphthalenes	**16.12427 J**	**6.36119 J**	**5.36298 J**	**4.43091 J**	**5.15094 J**	**1.78736 J**	**2.9237 J**	**3.20427 J**	**3.15288 J**	**2.92027 J**	**3.37659 J**
C3-Naphthalenes	**12.11262 J**	**3.9869 J**	**3.67161 J**	**3.53767 J**	**3.89294 J**	**1.82003 J**	**1.84905 J**	**3.06567 J**	**3.21945 J**	**3.15246 J**	**3.96626 J**
C4-Naphthalenes	**5.76237 J**	**1.57369 J**	**1.42382 J**	**1.40639 J**	**1.74036 J**	**0.93841 J**	**0.75118 J**	**1.35389 J**	**1.90307 J**	**1.87743 J**	**2.61737 J**
Perylene	**13.00081 J**	**0.84165 J**	**1.00137 J**	**1.06932 J**	**1.36214 J**	**0.86545 J**	**0.74446 J**	**1.1955 J**	**0.95535 J**	**0.83002 J**	**1.09069 J**
Phenanthrene	**242.5923 J**	**17.13559 J**	**16.90642 J**	**12.51776 J**	**16.80636 J**	**4.40308 J**	**9.07978 J**	**8.005 J**	**7.06513 J**	**3.40749 J**	**6.03366 J**
C1-Phenanthrenes/anthracenes	**105.81545 J**	**13.16301 J**	**14.17476 J**	**13.88169 J**	**12.86802 J**	**6.70057 J**	**6.35186 J**	**9.56031 J**	**10.00944 J**	**7.49455 J**	**10.81036 J**
C2-Phenanthrenes/anthracenes	**57.90069 J**	**6.29356 J**	**7.42467 J**	**7.6011 J**	**8.35025 J**	**4.89454 J**	**3.18961 J**	**5.85566 J**	**7.29803 J**	**6.14123 J**	**9.57023 J**
C3-Phenanthrenes/anthracenes	**22.66481 J**	**2.47616 J**	**2.64985 J**	**2.73279 J**	**3.21768 J**	**2.00598 J**	**1.35001 J**	**2.3683 J**	**2.95077 J**	**2.66026 J**	**4.6517 J**
C4-Phenanthrenes/anthracenes	**6.41482 J**	**0.77864 J**	**0.76356 J**	**1.04521 J**	**1.30311 J**	**0.62232 J**	**0.62159 J**	**0.87917 J**	**1.03376 J**	**1.02896 J**	**1.9455 J**
Pyrene	**168.26601 J**	**12.37445 J**	**14.59103 J**	**13.99979 J**	**15.24267 J**	**9.13586 J**	**7.01007 J**	**12.1542 J**	**11.51821 J**	**9.00213 J**	**11.36582 J**
TPH (mg/kg)											
Total Petroleum Hydrocarbons	**10528.67 J**	**5576.98 J**	**2722.25 J**	**2747.53 J**	**3041.98 J**	**2670.53 J**	**2886.6 J**	**3354.67 J**	**4683.18 J**	**3838.27 J**	**5306.78 J**
Other SVOCs (mg/kg)											
Acetophenone	5.5 UJ	4.4 UJ	3.7 UJ	3.9 UJ	3.9 UJ	3.5 UJ	3.9 UJ	3.8 UJ	4.8 UJ	5.2 UJ	4 UJ
Atrazine	5.5 UJ	4.4 UJ	3.7 UJ	3.9 UJ	3.9 UJ	3.5 UJ	3.9 UJ	3.8 UJ	4.8 UJ	5.2 UJ	4 UJ
Benzaldehyde	5.5 UJ	4.4 UJ	3.7 UJ	3.9 UJ	3.9 UJ	3.5 UJ	3.9 UJ	3.8 UJ	4.8 UJ	5.2 UJ	4 UJ
1,1-Biphenyl	**0.62 J**	4.4 UJ	**0.49 J**	3.9 UJ	3.9 UJ	3.5 UJ	3.9 UJ	3.8 UJ	4.8 UJ	5.2 UJ	4 UJ
Bis(chloroisopropyl)ether	1.1 UJ	0.89 UJ	0.75 UJ	0.78 UJ	0.78 UJ	0.72 UJ	0.8 UJ	0.76 UJ	0.97 UJ	1.1 UJ	0.82 UJ
Bis(2-chloroethyl)ether	1.1 UJ	0.89 UJ	0.75 UJ	0.78 UJ	0.78 UJ	0.72 UJ	0.8 UJ	0.76 UJ	0.97 UJ	1.1 UJ	0.82 UJ
Bis(2-chloroethoxy)methane	5.5 UJ	4.4 UJ	3.7 UJ	3.9 UJ	3.9 UJ	3.5 UJ	3.9 UJ	3.8 UJ	4.8 UJ	5.2 UJ	4 UJ
Bis(2-ethylhexyl)phthalate	**13 J**	**9.2 J**	**6 J**	**8.5 J**	**5.4 J**	**3.1 J**	**5.3 J**	**4.7 J**	**16 J**	**11 J**	**14 J**

Table 2
Summary of Sediment Analytical Results
Phase I Sediment Cores
Gowanus Canal
Brooklyn, New York

Sample Name:	GC-SED-505	GC-SED-505	GC-SED-505	GC-SED-505	GC-SED-505	GC-SED-505	GC-SED-505	GC-SED-505	GC-SED-506	GC-SED-506	GC-SED-506
Sample Depth (feet):	(0.0-0.5)	(0.5-1.0)	(1.0-1.5)	(1.5-2.0)	(2.0-2.5)	(2.5-3.0)	(3.0-3.5)	(3.5-4.0)	(0.0-0.5)	(0.5-1.0)	(1.0-1.5)
Sample Date:	8/8/2012	8/8/2012	8/8/2012	8/8/2012	8/8/2012	8/8/2012	8/8/2012	8/8/2012	8/7/2012	8/7/2012	8/7/2012
4-Bromophenyl phenyl ether	5.5 UJ	4.4 UJ	3.7 UJ	3.9 UJ	3.9 UJ	3.5 UJ	3.9 UJ	3.8 UJ	4.8 UJ	5.2 UJ	4 UJ
Butyl benzyl phthalate	5.5 UJ	4.4 UJ	3.7 UJ	3.9 UJ	3.9 UJ	3.5 UJ	3.9 UJ	3.8 UJ	4.8 UJ	5.2 UJ	4 UJ
Caprolactam	28 UJ	22 UJ	19 UJ	20 UJ	20 UJ	18 UJ	20 UJ	19 UJ	25 UJ	27 UJ	21 UJ
Carbazole	**0.46 J**	**0.46 J**	**1 J**	0.78 UJ	0.78 UJ	0.72 UJ	0.8 UJ	0.76 UJ	0.97 UJ	1.1 UJ	**0.21 J**
4-Chloro-3-methylphenol	5.5 UJ	4.4 UJ	3.7 UJ	3.9 UJ	3.9 UJ	3.5 UJ	3.9 UJ	3.8 UJ	4.8 UJ	5.2 UJ	4 UJ
4-Chloroaniline	5.5 UJ	4.4 UJ	3.7 UJ	3.9 UJ	3.9 UJ	3.5 UJ	3.9 UJ	3.8 UJ	4.8 UJ	5.2 UJ	**0.4 J**
Chlorophene	5.5 UJ	4.4 UJ	3.7 UJ	3.9 UJ	3.9 UJ	3.5 UJ	3.9 UJ	3.8 UJ	4.8 UJ	5.2 UJ	4 UJ
2-Chloronaphthalene	1.1 UJ	0.89 UJ	0.75 UJ	0.78 UJ	0.78 UJ	0.72 UJ	0.8 UJ	0.76 UJ	0.97 UJ	1.1 UJ	0.82 UJ
2-Chlorophenol	5.5 UJ	4.4 UJ	3.7 UJ	3.9 UJ	3.9 UJ	3.5 UJ	3.9 UJ	3.8 UJ	4.8 UJ	5.2 UJ	4 UJ
4-Chlorophenyl phenyl ether	5.5 UJ	4.4 UJ	3.7 UJ	3.9 UJ	3.9 UJ	3.5 UJ	3.9 UJ	3.8 UJ	4.8 UJ	5.2 UJ	4 UJ
Dibenzofuran	5.5 UJ	4.4 UJ	**0.84 J**	3.9 UJ	3.9 UJ	3.5 UJ	3.9 UJ	3.8 UJ	4.8 UJ	5.2 UJ	4 UJ
3,3-Dichlorobenzidine	5.5 UJ	4.4 UJ	3.7 UJ	3.9 UJ	3.9 UJ	3.5 UJ	3.9 UJ	3.8 UJ	4.8 UJ	5.2 UJ	4 UJ
2,4-Dichlorophenol	1.1 UJ	0.89 UJ	0.75 UJ	0.78 UJ	0.78 UJ	0.72 UJ	0.8 UJ	0.76 UJ	0.97 UJ	1.1 UJ	0.82 UJ
Diethyl phthalate	5.5 UJ	4.4 UJ	3.7 UJ	3.9 UJ	3.9 UJ	3.5 UJ	3.9 UJ	3.8 UJ	4.8 UJ	5.2 UJ	4 UJ
Dimethyl phthalate	5.5 UJ	4.4 UJ	3.7 UJ	3.9 UJ	3.9 UJ	3.5 UJ	3.9 UJ	3.8 UJ	4.8 UJ	5.2 UJ	4 UJ
2,4-Dimethylphenol	5.5 UJ	4.4 UJ	3.7 UJ	3.9 UJ	3.9 UJ	3.5 UJ	3.9 UJ	3.8 UJ	4.8 UJ	5.2 UJ	4 UJ
Di-n-butyl phthalate	5.5 UJ	4.4 UJ	3.7 UJ	3.9 UJ	3.9 UJ	3.5 UJ	3.9 UJ	3.8 UJ	4.8 UJ	5.2 UJ	4 UJ
4,6-Dinitro-2-methylphenol	28 UJ	22 UJ	19 UJ	20 UJ	20 UJ	18 UJ	20 UJ	19 UJ	25 UJ	27 UJ	21 UJ
2,4-Dinitrophenol	28 UJ	22 UJ	19 UJ	20 UJ	20 UJ	18 UJ	20 UJ	19 UJ	25 UJ	27 UJ	21 UJ
2,4-Dinitrotoluene	5.5 UJ	4.4 UJ	3.7 UJ	3.9 UJ	3.9 UJ	3.5 UJ	3.9 UJ	3.8 UJ	4.8 UJ	5.2 UJ	4 UJ
2,6-Dinitrotoluene	5.5 UJ	4.4 UJ	3.7 UJ	3.9 UJ	3.9 UJ	3.5 UJ	3.9 UJ	3.8 UJ	4.8 UJ	5.2 UJ	4 UJ
Di-n-octyl phthalate	5.5 UJ	4.4 UJ	3.7 UJ	3.9 UJ	3.9 UJ	3.5 UJ	3.9 UJ	3.8 UJ	**0.75 J**	5.2 UJ	4 UJ
Hexachlorobenzene	1.1 UJ	0.89 UJ	0.75 UJ	0.78 UJ	0.78 UJ	0.72 UJ	0.8 UJ	0.76 UJ	0.97 UJ	1.1 UJ	0.82 UJ
Hexachlorobutadiene	1.1 UJ	0.89 UJ	0.75 UJ	0.78 UJ	0.78 UJ	0.72 UJ	0.8 UJ	0.76 UJ	0.97 UJ	1.1 UJ	0.82 UJ
Hexachlorocyclopentadiene	5.5 UJ	4.4 UJ	3.7 UJ	3.9 UJ	3.9 UJ	3.5 UJ	3.9 UJ	3.8 UJ	4.8 UJ	5.2 UJ	4 UJ
Hexachloroethane	5.5 UJ	4.4 UJ	3.7 UJ	3.9 UJ	3.9 UJ	3.5 UJ	3.9 UJ	3.8 UJ	4.8 UJ	5.2 UJ	4 UJ
Isophorone	5.5 UJ	4.4 UJ	3.7 UJ	3.9 UJ	3.9 UJ	3.5 UJ	3.9 UJ	3.8 UJ	4.8 UJ	5.2 UJ	4 UJ
2-Methylphenol (o-Cresol)	5.5 UJ	4.4 UJ	3.7 UJ	3.9 UJ	3.9 UJ	3.5 UJ	3.9 UJ	3.8 UJ	4.8 UJ	5.2 UJ	4 UJ
3,4-Methylphenol (m,p-Cresol)	5.5 UJ	4.4 UJ	**0.53 J**	3.9 UJ	3.9 UJ	3.5 UJ	3.9 UJ	3.8 UJ	4.8 UJ	5.2 UJ	4 UJ
2-Nitroaniline	28 UJ	22 UJ	19 UJ	20 UJ	20 UJ	18 UJ	20 UJ	19 UJ	25 UJ	27 UJ	21 UJ
3-Nitroaniline	28 UJ	22 UJ	19 UJ	20 UJ	20 UJ	18 UJ	20 UJ	19 UJ	25 UJ	27 UJ	21 UJ
4-Nitroaniline	28 UJ	22 UJ	19 UJ	20 UJ	20 UJ	18 UJ	20 UJ	19 UJ	25 UJ	27 UJ	21 UJ
Nitrobenzene	11 UJ	8.9 UJ	7.5 UJ	7.8 UJ	7.8 UJ	7.2 UJ	8 UJ	7.6 UJ	9.7 UJ	11 UJ	8.2 UJ
2-Nitrophenol	5.5 UJ	4.4 UJ	3.7 UJ	3.9 UJ	3.9 UJ	3.5 UJ	3.9 UJ	3.8 UJ	4.8 UJ	5.2 UJ	4 UJ

Table 2
Summary of Sediment Analytical Results
Phase I Sediment Cores
Gowanus Canal
Brooklyn, New York

Sample Name:	GC-SED-505	GC-SED-505	GC-SED-505	GC-SED-505	GC-SED-505	GC-SED-505	GC-SED-505	GC-SED-505	GC-SED-506	GC-SED-506	GC-SED-506
Sample Depth (feet):	(0.0-0.5)	(0.5-1.0)	(1.0-1.5)	(1.5-2.0)	(2.0-2.5)	(2.5-3.0)	(3.0-3.5)	(3.5-4.0)	(0.0-0.5)	(0.5-1.0)	(1.0-1.5)
Sample Date:	8/8/2012	8/8/2012	8/8/2012	8/8/2012	8/8/2012	8/8/2012	8/8/2012	8/8/2012	8/7/2012	8/7/2012	8/7/2012
4-Nitrophenol	28 UJ	22 UJ	19 UJ	20 UJ	20 UJ	18 UJ	20 UJ	19 UJ	25 UJ	27 UJ	21 UJ
N-Nitrosodi-n-propylamine	1.1 UJ	0.89 UJ	0.75 UJ	0.78 UJ	0.78 UJ	0.72 UJ	0.8 UJ	0.76 UJ	0.97 UJ	1.1 UJ	0.82 UJ
N-Nitrosodiphenylamine	5.5 UJ	4.4 UJ	3.7 UJ	3.9 UJ	3.9 UJ	3.5 UJ	3.9 UJ	3.8 UJ	4.8 UJ	5.2 UJ	4 UJ
Pentachlorophenol	5.5 UJ	4.4 UJ	3.7 UJ	3.9 UJ	3.9 UJ	3.5 UJ	3.9 UJ	3.8 UJ	4.8 UJ	5.2 UJ	4 UJ
Phenol	1.1 UJ	0.89 UJ	0.75 UJ	0.78 UJ	0.78 UJ	0.72 UJ	0.8 UJ	0.76 UJ	0.97 UJ	1.1 UJ	0.82 UJ
1,2,4,5-Tetrachlorobenzene	5.5 UJ	4.4 UJ	3.7 UJ	3.9 UJ	3.9 UJ	3.5 UJ	3.9 UJ	3.8 UJ	4.8 UJ	5.2 UJ	4 UJ
2,3,4,6-Tetrachlorophenol	5.5 UJ	4.4 UJ	3.7 UJ	3.9 UJ	3.9 UJ	3.5 UJ	3.9 UJ	3.8 UJ	4.8 UJ	5.2 UJ	4 UJ
2,4,5-Trichlorophenol	5.5 UJ	4.4 UJ	3.7 UJ	3.9 UJ	3.9 UJ	3.5 UJ	3.9 UJ	3.8 UJ	4.8 UJ	5.2 UJ	4 UJ
2,4,6-Trichlorophenol	5.5 UJ	4.4 UJ	3.7 UJ	3.9 UJ	3.9 UJ	3.5 UJ	3.9 UJ	3.8 UJ	4.8 UJ	5.2 UJ	4 UJ
PCBs (mg/kg)											
Aroclor 1016	0.028 UJ	0.022 UJ	0.018 UJ	0.02 UJ	0.02 UJ	0.018 UJ	0.02 UJ	0.019 UJ	0.024 UJ	0.026 UJ	0.02 UJ
Aroclor 1221	0.028 UJ	0.022 UJ	0.018 UJ	0.02 UJ	0.02 UJ	0.018 UJ	0.02 UJ	0.019 UJ	0.024 UJ	0.026 UJ	0.02 UJ
Aroclor 1232	0.028 UJ	0.022 UJ	0.018 UJ	0.02 UJ	0.02 UJ	0.018 UJ	0.02 UJ	0.019 UJ	0.024 UJ	0.026 UJ	0.02 UJ
Aroclor 1242	0.028 UJ	0.022 UJ	**0.56 J**	0.02 UJ	**0.083 J**	0.018 UJ	**0.05 J**	**0.11 J**	**0.2 J**	0.026 UJ	0.02 UJ
Aroclor 1248	0.028 UJ	0.022 UJ	0.018 UJ	0.02 UJ	0.02 UJ	0.018 UJ	0.02 UJ	0.019 UJ	0.024 UJ	0.026 UJ	0.02 UJ
Aroclor 1254	0.028 UJ	0.022 UJ	**0.47 J**	**0.2 J**	**0.097 J**	**0.45 J**	**0.099 J**	**0.2 J**	0.024 UJ	**0.55 J**	0.02 UJ
Aroclor 1260	**0.088 J**	**0.31 J**	0.018 UJ	0.02 UJ	0.02 UJ	0.018 UJ	0.02 UJ	0.019 UJ	**0.16 J**	0.026 UJ	**0.4 J**
Aroclor 1262	0.028 UJ	0.022 UJ	0.018 UJ	0.02 UJ	0.02 UJ	0.018 UJ	0.02 UJ	0.019 UJ	0.024 UJ	0.026 UJ	0.02 UJ
Aroclor 1268	0.028 UJ	0.022 UJ	0.018 UJ	0.02 UJ	0.02 UJ	0.018 UJ	0.02 UJ	0.019 UJ	0.024 UJ	0.026 UJ	0.02 UJ
Total PCBs	**0.088 J**	**0.31 J**	**1 J**	**0.2 J**	**0.18 J**	**0.45 J**	**0.15 J**	**0.31 J**	**0.36 J**	**0.55 J**	**0.4 J**
Pesticides (mg/kg)											
Aldrin	0.029 UJ	0.023 UJ	0.019 UJ	0.02 UJ	0.02 UJ	0.018 UJ	0.02 UJ	0.019 UJ	0.025 UJ	0.027 UJ	0.021 UJ
alpha-BHC	0.029 UJ	0.023 UJ	0.019 UJ	0.02 UJ	0.02 UJ	0.018 UJ	0.02 UJ	0.019 UJ	0.025 UJ	0.027 UJ	0.021 UJ
beta-BHC	0.029 UJ	0.023 UJ	0.019 UJ	0.02 UJ	0.02 UJ	0.018 UJ	0.02 UJ	0.019 UJ	0.025 UJ	0.027 UJ	0.021 UJ
gamma-BHC	0.029 UJ	0.023 UJ	0.019 UJ	0.02 UJ	0.02 UJ	0.018 UJ	0.02 UJ	0.019 UJ	0.025 UJ	0.027 UJ	0.021 UJ
delta-BHC	0.029 UJ	0.023 UJ	0.019 UJ	0.02 UJ	0.02 UJ	0.018 UJ	0.02 UJ	0.019 UJ	0.025 UJ	0.027 UJ	0.021 UJ
alpha-chlordane	0.029 UJ	0.023 UJ	0.019 UJ	0.02 UJ	0.02 UJ	0.018 UJ	0.02 UJ	0.019 UJ	**0.012 J**	0.027 UJ	**0.0074 J**
gamma-Chlordane	**0.34 J**	0.023 UJ	0.019 UJ	0.02 UJ	0.02 UJ	**0.066 JN**	0.02 UJ	**0.0099 J**	**0.16 J**	**0.081 J**	0.021 UJ
4,4-DDD	0.029 UJ	0.023 UJ	**0.015 J**	**0.003 J**	0.02 UJ	**0.29 J**	**0.0092 J**	0.019 UJ	**0.019 J**	0.027 UJ	**0.024 J**
4,4'-DDE	0.029 UJ	0.023 UJ	0.019 UJ	0.02 UJ	0.02 UJ	**0.19 J**	0.02 UJ	**0.013 J**	**0.016 J**	**0.02 J**	**0.017 J**
4,4'-DDT	0.029 UJ	0.023 UJ	0.019 UJ	0.02 UJ	0.02 UJ	**0.055 J**	0.02 UJ	0.019 UJ	0.025 UJ	**0.016 J**	0.021 UJ
Dieldrin	0.029 UJ	0.023 UJ	0.019 UJ	0.02 UJ	0.02 UJ	**0.044 J**	0.02 UJ	0.019 UJ	0.025 UJ	0.027 UJ	0.021 UJ
Endosulfan I	0.029 UJ	0.023 UJ	0.019 UJ	0.02 UJ	0.02 UJ	**0.018 JN**	0.02 UJ	0.019 UJ	0.025 UJ	0.027 UJ	0.021 UJ
Endosulfan II	0.029 UJ	0.023 UJ	0.019 UJ	0.02 UJ	0.02 UJ	0.018 UJ	0.02 UJ	0.019 UJ	0.025 UJ	0.027 UJ	0.021 UJ
Endosulfan sulfate	0.029 UJ	0.023 UJ	0.019 UJ	0.02 UJ	0.02 UJ	**0.025 J**	0.02 UJ	0.019 UJ	0.025 UJ	**0.0036 J**	**0.0032 J**
Endrin	0.029 UJ	0.023 UJ	**0.013 J**	**0.0055 J**	0.02 UJ	0.018 UJ	**0.0076 J**	0.019 UJ	0.025 UJ	**0.0079 J**	0.021 UJ
Endrin aldehyde	0.029 UJ	0.023 UJ	0.019 UJ	0.02 UJ	0.02 UJ	0.018 UJ	0.02 UJ	0.019 UJ	0.025 UJ	0.027 UJ	0.021 UJ
Endrin ketone	**0.0075 J**	0.023 UJ	0.019 UJ	0.02 UJ	0.02 UJ	**0.074 J**	0.02 UJ	0.019 UJ	**0.0085 J**	0.027 UJ	0.021 UJ
Heptachlor	0.029 UJ	0.023 UJ	**0.009 J**	0.02 UJ	0.02 UJ	0.018 UJ	0.02 UJ	0.019 UJ	0.025 UJ	0.027 UJ	0.021 UJ
Heptachlor epoxide	0.029 UJ	0.023 UJ	**0.017 J**	0.02 UJ	0.02 UJ	**0.23 J**	0.02 UJ	0.019 UJ	0.025 UJ	0.027 UJ	0.021 UJ
Methoxychlor	0.056 UJ	0.044 UJ	0.037 UJ	0.038 UJ	0.038 UJ	**0.053 JN**	0.039 UJ	0.037 UJ	0.048 UJ	0.052 UJ	0.04 UJ
Toxaphene	1.1 UJ	0.89 UJ	0.75 UJ	0.78 UJ	0.77 UJ	0.71 UJ	0.8 UJ	0.75 UJ	0.98 UJ	1.1 UJ	0.81 UJ
Herbicides (mg/kg)											
2,4-D	0.27 UJ	0.21 UJ	0.18 UJ	0.19 UJ	0.19 UJ	0.17 UJ	0.19 UJ	0.18 UJ	0.23 UJ	0.26 UJ	0.2 UJ
2,4-DB	0.27 UJ	0.21 UJ	0.18 UJ	0.19 UJ	0.19 UJ	0.17 UJ	0.19 UJ	0.18 UJ	0.23 UJ	0.26 UJ	0.2 UJ
Dicamba	0.13 UJ	0.11 UJ	0.09 UJ	0.094 UJ	0.094 UJ	0.085 UJ	0.095 UJ	0.091 UJ	0.12 UJ	0.13 UJ	0.098 UJ
Dichloroprop	0.27 UJ	0.21 UJ	0.18 UJ	0.19 UJ	0.19 UJ	0.17 UJ	0.19 UJ	0.18 UJ	0.23 UJ	0.26 UJ	0.2 UJ
2,2-Dichloropropionic acid	0.3 UJ	0.24 UJ	0.2 UJ	0.21 UJ	0.21 UJ	0.19 UJ	0.21 UJ	0.21 UJ	0.26 UJ	0.29 UJ	0.22 UJ
Dinoseb	0.04 UJ	0.032 UJ	0.027 UJ	0.028 UJ	0.028 UJ	0.026 UJ	0.029 UJ	0.027 UJ	0.035 UJ	0.038 UJ	0.029 UJ

Table 2
Summary of Sediment Analytical Results
Phase I Sediment Cores
Gowanus Canal
Brooklyn, New York

Sample Name:	GC-SED-505	GC-SED-505	GC-SED-505	GC-SED-505	GC-SED-505	GC-SED-505	GC-SED-505	GC-SED-505	GC-SED-506	GC-SED-506	GC-SED-506
Sample Depth (feet):	(0.0-0.5)	(0.5-1.0)	(1.0-1.5)	(1.5-2.0)	(2.0-2.5)	(2.5-3.0)	(3.0-3.5)	(3.5-4.0)	(0.0-0.5)	(0.5-1.0)	(1.0-1.5)
Sample Date:	8/8/2012	8/8/2012	8/8/2012	8/8/2012	8/8/2012	8/8/2012	8/8/2012	8/8/2012	8/7/2012	8/7/2012	8/7/2012
MCPP	27 UJ	21 UJ	18 UJ	19 UJ	19 UJ	17 UJ	19 UJ	18 UJ	23 UJ	26 UJ	20 UJ
Methylchlorophenoxyacetic acid	27 UJ	21 UJ	**11 J**	19 UJ	19 UJ	17 UJ	19 UJ	18 UJ	23 UJ	26 UJ	20 UJ
Pentachlorophenol	**0.0055 J**	**0.005 J**	**0.0032 J**	**0.003 J**	0.026 UJ	0.024 UJ	0.026 UJ	0.025 UJ	0.032 UJ	0.035 UJ	0.027 UJ
Silvex	0.067 UJ	0.053 UJ	0.045 UJ	0.047 UJ	0.047 UJ	0.043 UJ	0.048 UJ	0.046 UJ	0.059 UJ	0.064 UJ	0.049 UJ
2,4,5-Trichlorophenoxyacetic Acid	0.067 UJ	0.053 UJ	0.045 UJ	0.047 UJ	0.047 UJ	0.043 UJ	0.048 UJ	0.046 UJ	0.059 UJ	0.064 UJ	0.049 UJ
Metals (mg/kg)											
Aluminum	**7800 J**	**7200 J**	**7000 J**	**6900 J**	**10000 J**	**9800 J**	**9500 J**	**15000 J**	**13000 J**	**17000 J**	**12000 J**
Antimony	**4.4 J**	**2.4 J**	**0.74 J**	**0.48 J**	**0.6 J**	**0.66 J**	**0.7 J**	**0.78 J**	**1.3 J**	**1.6 J**	**0.91 J**
Arsenic	**5.6 J**	**5 J**	**5.5 J**	**4.4 J**	**6.5 J**	**5.7 J**	**4.9 J**	**8.3 J**	**6.9 J**	**8 J**	**7.6 J**
Barium	**120 J**	**87 J**	**47 J**	**36 J**	**49 J**	**54 J**	**65 J**	**78 J**	**88 J**	**100 J**	**91 J**
Beryllium	**0.34 J**	**0.35 J**	**0.35 J**	**0.35 J**	**0.49 J**	**0.54 J**	**0.56 J**	**0.74 J**	**0.7 J**	**0.91 J**	**0.68 J**
Cadmium	**7.9 J**	**0.97 J**	**0.5 J**	**0.63 J**	**0.65 J**	**0.75 J**	**0.71 J**	**1.1 J**	**1.5 J**	**1.8 J**	**1.5 J**
Calcium	**13000 J**	**12000 J**	**6600 J**	**4300 J**	**5400 J**	**6100 J**	**6200 J**	**7700 J**	**9000 J**	**8600 J**	**7600 J**
Chromium	**42 J**	**41 J**	**35 J**	**29 J**	**41 J**	**42 J**	**44 J**	**65 J**	**58 J**	**72 J**	**62 J**
Cobalt	**7.3 J**	**6.3 J**	**5.9 J**	**5.4 J**	**7.5 J**	**6.9 J**	**6.8 J**	**9.9 J**	**12 J**	**11 J**	**8.6 J**
Copper	**220 J**	**180 J**	**84 J**	**74 J**	**98 J**	**85 J**	**84 J**	**130 J**	**190 J**	**190 J**	**170 J**
Iron	**23000 J**	**22000 J**	**27000 J**	**21000 J**	**29000 J**	**23000 J**	**20000 J**	**29000 J**	**28000 J**	**35000 J**	**26000 J**
Lead	**380 J**	**240 J**	**120 J**	**100 J**	**130 J**	**110 J**	**150 J**	**170 J**	**240 J**	**240 J**	**480 J**
Magnesium	**8800 J**	**8000 J**	**5000 J**	**4200 J**	**5600 J**	**5300 J**	**5200 J**	**7600 J**	**9200 J**	**10000 J**	**7300 J**
Manganese	**140 J**	**140 J**	**200 J**	**160 J**	**220 J**	**230 J**	**210 J**	**340 J**	**240 J**	**320 J**	**270 J**
Mercury	**2.8 J**	**0.91 J**	**0.95 J**	**1 J**	**2.2 J**	**1.2 J**	**2.2 J**	**1.4 J**	**1.2 J**	**1.5 J**	**1.4 J**
Nickel	**35 J**	**28 J**	**22 J**	**17 J**	**23 J**	**22 J**	**22 J**	**35 J**	**32 J**	**39 J**	**32 J**
Potassium	**2200 J**	**2000 J**	**1700 J**	**1600 J**	**2200 J**	**2100 J**	**2100 J**	**3000 J**	**3300 J**	**4000 J**	**2900 J**
Selenium	**3 J**	**1.5 J**	**0.84 J**	**0.89 J**	**1.1 J**	**1.1 J**	**1 J**	**1.4 J**	**2.1 J**	**2.1 J**	**1.7 J**
Silver	**2 J**	**2.8 J**	**3.6 J**	**1.4 J**	**3.4 J**	**2.3 J**	**2.9 J**	**4.7 J**	**5.2 J**	**5 J**	**4.5 J**
Sodium	**14000 J**	**11000 J**	**5600 J**	**4300 J**	**4500 J**	**3500 J**	**2700 J**	**2800 J**	**12000 J**	**9800 J**	**6200 J**
Thallium	0.17 UJ	0.13 UJ	0.11 UJ	0.12 UJ	**0.12 J**	0.11 UJ	0.12 UJ	**0.18 J**	**0.21 J**	**0.22 J**	**0.17 J**
Vanadium	**30 J**	**28 J**	**19 J**	**18 J**	**25 J**	**24 J**	**25 J**	**35 J**	**41 J**	**45 J**	**35 J**
Zinc	**600 J**	**500 J**	**220 J**	**190 J**	**220 J**	**220 J**	**230 J**	**280 J**	**450 J**	**460 J**	**370 J**
EDCs & PPCPs (Phenols) (mg/kg)											
Bisphenol A	1.2 UJ	1.1 UJ	0.99 UJ	0.92 UJ	0.91 UJ	0.81 UJ	0.82 UJ	0.83 UJ	1.2 UJ	1.2 UJ	1.1 UJ
Nonylphenol	**22 J**	**22 J**	**8.4 J**	**10 J**	**11 J**	**14 J**	**24 J**	**23 J**	**16 J**	**21 J**	**25 J**
Nonylphenol Diethoxylate	24 UJ	21 UJ	20 UJ	19 UJ	19 UJ	17 UJ	17 UJ	17 UJ	23 UJ	23 UJ	22 UJ
Nonylphenol Monoethoxylate	12 UJ	11 UJ	9.9 UJ	9.2 UJ	9.1 UJ	8.1 UJ	8.2 UJ	8.3 UJ	12 UJ	12 UJ	11 UJ
4-tert-Octylphenol	1.2 UJ	1.1 UJ	0.99 UJ	0.92 UJ	0.91 UJ	0.81 UJ	0.82 UJ	0.83 UJ	1.2 UJ	1.2 UJ	1.1 UJ
EDCs and PPCPs (mg/kg)											
Acetaminophen	0.037 U	0.038 U	0.038 U	0.037 U	0.036 U	0.04 U	0.039 U	0.039 U	0.039 U	0.037 U	0.037 U
alpha-Estradiol	0.037 UJ	0.038 UJ	0.038 UJ	0.037 UJ	0.036 UJ	0.04 UJ	0.039 UJ	0.039 UJ	0.039 UJ	0.037 UJ	0.037 UJ
Androstenedione	**0.0019 J**	**0.0015 J**	**0.0026 J**	**0.0035 J**	**0.0026 J**	**0.0019 J**	0.0078 UJ	0.0079 UJ	**0.0026 J**	0.0073 UJ	0.0074 UJ
Atrazine	**0.0035 J**	0.0076 UJ	**0.0026 J**	**0.0033 J**	0.0073 UJ	0.008 UJ	0.0078 UJ	**0.0037 J**	0.0078 UJ	0.0073 UJ	0.0074 UJ
Bisphenol A	**0.25**	**0.26**	**0.15**	**0.26**	**0.086**	**0.075 J**	**0.1**	**0.28**	**0.15**	**0.31**	**0.3**
Carbamazepine	**0.0071 J**	**0.0052 J**	0.015 UJ	0.015 UJ	0.015 UJ	0.016 UJ	0.016 UJ	**0.0068 J**	0.016 UJ	0.015 UJ	0.015 UJ
DEET (N,N-Diethyl-3-Methyl Benzamide)	0.037 UJ	0.038 UJ	0.038 UJ	0.037 UJ	0.036 UJ	0.04 UJ	0.039 UJ	0.039 UJ	0.039 UJ	0.037 UJ	0.037 UJ
Diazepam	**0.0011 J**	0.015 UJ	0.015 UJ	0.015 UJ	0.015 UJ	0.016 UJ	0.016 UJ	**0.00094 J**	0.016 U	0.015 U	0.015 U
Diclofenac	**0.042 J**	R	R	R	R	R	0.016 UJ	R	0.016 UJ	R	0.015 UJ
Diethylstilbestrol	R	R	R	R	R	R	R	R	0.039 UJ	R	0.037 UJ
Estradiol	0.037 UJ	0.038 UJ	0.038 UJ	0.037 UJ	0.036 UJ	0.04 UJ	0.039 UJ	0.039 UJ	0.039 UJ	0.037 UJ	0.037 UJ
Estriol	0.037 U	0.038 U	0.038 U	0.037 U	0.036 U	0.04 U	0.039 U	0.039 U	0.039 U	0.037 U	0.037 U

Table 2
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Sample Name:	GC-SED-505	GC-SED-505	GC-SED-505	GC-SED-505	GC-SED-505	GC-SED-505	GC-SED-505	GC-SED-505	GC-SED-506	GC-SED-506	GC-SED-506
Sample Depth (feet):	(0.0-0.5)	(0.5-1.0)	(1.0-1.5)	(1.5-2.0)	(2.0-2.5)	(2.5-3.0)	(3.0-3.5)	(3.5-4.0)	(0.0-0.5)	(0.5-1.0)	(1.0-1.5)
Sample Date:	8/8/2012	8/8/2012	8/8/2012	8/8/2012	8/8/2012	8/8/2012	8/8/2012	8/8/2012	8/7/2012	8/7/2012	8/7/2012
Estrone	0.037 UJ	0.038 UJ	0.038 UJ	0.037 UJ	0.036 UJ	0.04 UJ	0.039 UJ	0.039 UJ	**0.18 J**	**0.19 J**	**0.21 J**
Ethinyl Estradiol	0.037 U	0.038 U	0.038 U	0.037 U	0.036 U	0.04 U	0.039 U	0.039 U	0.039 U	0.037 U	0.037 U
Gemfibrozil	**0.011 J**	R	R	R	R	R	0.016 UJ	R	0.016 UJ	R	0.015 UJ
Ibuprofen	0.037 UJ	0.038 UJ	0.038 UJ	0.037 UJ	0.036 UJ	0.04 UJ	0.039 UJ	0.039 UJ	0.039 UJ	0.037 UJ	0.037 UJ
Meprobamate	0.0074 UJ	0.0076 UJ	0.0076 UJ	0.0074 UJ	0.0073 UJ	0.008 UJ	0.0078 UJ	0.0079 UJ	0.0078 UJ	0.0073 UJ	0.0074 UJ
Naproxen	0.015 UJ	0.015 UJ	0.015 UJ	0.015 UJ	0.015 UJ	0.016 UJ	0.016 U	0.016 UJ	0.016 UJ	0.015 UJ	0.015 U
Pentoxifylline	**0.0014 J**	0.015 U	0.015 U	0.015 U	0.015 U	0.016 U	**0.0019 J**	**0.0019 J**	0.016 U	0.015 U	**0.0057 J**
Phenytoin (5,5-Diphenylhydantion/ Dilantin)	**0.022 J**	**0.026 J**	**0.0078 J**	**0.004 J**	**0.0054 J**	**0.0036 J**	**0.0029 J**	**0.021 J**	**0.0052 J**	**0.0053 J**	**0.0064 J**
Progesterone	**0.016 J**	**0.009 J**	**0.015 J**	**0.02 J**	**0.014 J**	**0.01 J**	**0.0048 J**	**0.015 J**	**0.0092 J**	**0.0066 J**	**0.0047 J**
Sulfamethoxazole	**0.00087 J**	0.015 U	0.015 U	0.015 U	**0.00074 J**	0.016 U	0.016 U	0.016 U	0.016 U	0.015 U	0.015 U
Testosterone	0.015 U	0.015 U	0.015 U	0.015 U	0.015 U	0.016 U	0.016 U	0.016 U	0.016 U	0.015 U	0.015 U
Trimethoprim	0.037 UJ	0.038 UJ	0.038 UJ	R	0.036 UJ	0.04 UJ	0.039 UJ	0.039 UJ	R	0.037 UJ	0.037 UJ
Pathogen											
C. perfringens (cfu/g)	**48000**	**55000**	**33000**	**45000**	**43000**	**32000**	**30000**	**50000**	**62000**	**30000**	**80000**
Coliphage, Male Specific (pfu/10g)	0 U	0 U	0 U	0 U	0 U	0 U	0 U	0 U	0 UJ	0 UJ	0 UJ
Coliphage, Somatic (pfu/10g)	**4360 J**	**29 J**	**10 J**	**6 J**	**2 J**	**2 J**	0 UJ	0 UJ	**58 J**	**11 J**	**30 J**
Cryptosporidium (Oocysts/g)	0 U	0 U	0 U	0 U	0 U	0 U	0 U	0 U	0 U	0 U	0 U
E.Coli (mpn/g)	**1680**	**365.4**	**344.8**	**38.4**	**8.6**	**6.3**	**7.4**	**6.3**	**770.1**	**88.2**	**95.9**
Enterococci (mpn/g)	**3880**	**86.6**	**85.9**	**59.2**	**34.1**	**43.5**	**43.3**	**23.8**	**56.1**	**51.9**	**149.4**
Fecal Coliform (mpn/g)	**2650**	**520**	**300**	**129.6**	**39.3**	**18.1**	**21.1**	**19.5**	**727**	**123.4**	**127.4**
Giardia (Cysts/g)	0 U	0 U	0 U	0 U	0 U	0 U	0 U	0 U	0 U	0 U	0 U
Plaque forming virus (pfu/g)	0 U	0 U	0 U	0 U	0 U	0 U	0 U	0 U	0 U	0 U	0 U
Viruses (pos/neg)	neg	neg	neg	neg	neg	neg	neg	neg	neg	neg	neg
Other (%)											
Percent Solids	NA	NA	NA	NA	NA	NA	NA	NA	**33.19**	**34.02**	**36.86**
Total Solids	**29.45**	**33.62**	**41.32**	**42.15**	**48.04**	**46.36**	**44.43**	**42.17**	NA	NA	NA
Other (mg/kg)											
Total Organic Carbon	**130000 J**	**110000 J**	**63000 J**	**63000 J**	**66000 J**	**50000 J**	**50000 J**	**56000 J**	**79000 J**	**74000 J**	**54000 J**

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Gowanus Canal
Brooklyn, New York

Sample Name:	GC-SED-506	GC-SED-506	GC-SED-506	GC-SED-506	GC-SED-506	GC-SED-507	GC-SED-507	GC-SED-507	GC-SED-507	GC-SED-507	GC-SED-507
Sample Depth (feet):	(1.5-2.0)	(2.0-2.5)	(2.5-3.0)	(3.0-3.5)	(3.5-4.0)	(0.0-0.5)	(0.5-1.0)	(1.0-1.5)	(1.5-2.0)	(2.0-2.5)	(2.5-3.0)
Sample Date:	8/7/2012	8/7/2012	8/7/2012	8/7/2012	8/7/2012	8/6/2012	8/6/2012	8/6/2012	8/6/2012	8/6/2012	8/6/2012
BTEX (mg/kg)											
Benzene	**0.0036 J**	**0.017 J**	**0.033 J**	**0.028 J**	**0.084 J**	**0.0065 J**	0.02 UJ	0.018 UJ	0.021 UJ	**0.0027 J**	0.014 UJ
Toluene	0.012 UJ	0.012 UJ	0.013 UJ	0.012 UJ	0.013 UJ	**0.005 J**	**0.0074 J**	**0.013 J**	**0.037 J**	**0.038 J**	**0.034 J**
Ethylbenzene	**0.0017 J**	0.012 UJ	0.013 UJ	**0.0021 J**	**0.0017 J**	**0.0076 J**	**0.024 J**	**0.06 J**	**0.089 J**	**0.051 J**	**0.062 J**
m,p-Xylene	0.025 UJ	0.023 UJ	**0.0041 J**	**0.0079 J**	**0.0064 J**	0.046 UJ	**0.009 J**	**0.034 J**	**0.053 J**	**0.03 J**	**0.037 J**
o-Xylene	0.012 UJ	**0.0036 J**	**0.0066 J**	**0.014 J**	**0.022 J**	0.023 UJ	**0.0078 J**	**0.018 J**	**0.029 J**	**0.018 J**	**0.021 J**
Total Xylene	0.037 UJ	0.035 UJ	**0.011 J**	**0.022 J**	**0.028 J**	0.069 UJ	**0.017 J**	**0.052 J**	**0.082 J**	**0.048 J**	**0.058 J**
Total BTEX	**0.0053**	**0.0206**	**0.044**	**0.0521**	**0.1137**	**0.0191**	**0.0484**	**0.125**	**0.208**	**0.1397**	**0.154**
Other VOCs (mg/kg)											
Acetone	**0.013 J**	0.047 UJ	0.05 UJ	0.048 UJ	0.053 UJ	0.091 UJ	0.082 UJ	0.074 UJ	0.083 UJ	0.058 UJ	0.055 UJ
Bromochloromethane	0.012 UJ	0.012 UJ	0.013 UJ	0.012 UJ	0.013 UJ	0.023 UJ	0.02 UJ	0.018 UJ	0.021 UJ	0.014 UJ	0.014 UJ
Bromodichloromethane	0.012 UJ	0.012 UJ	0.013 UJ	0.012 UJ	0.013 UJ	0.023 UJ	0.02 UJ	0.018 UJ	0.021 UJ	0.014 UJ	0.014 UJ
Bromoform	0.012 UJ	0.012 UJ	0.013 UJ	0.012 UJ	0.013 UJ	0.023 UJ	0.02 UJ	0.018 UJ	0.021 UJ	0.014 UJ	0.014 UJ
Bromomethane	0.012 UJ	0.012 UJ	0.013 UJ	0.012 UJ	0.013 UJ	0.023 UJ	0.02 UJ	0.018 UJ	0.021 UJ	0.014 UJ	0.014 UJ
2-Butanone (Methyl ethyl ketone)	0.012 UJ	0.012 UJ	0.013 UJ	0.012 UJ	0.013 UJ	0.023 UJ	0.02 UJ	0.018 UJ	0.021 UJ	0.014 UJ	0.014 UJ
Carbon disulfide	**0.0017 J**	0.012 UJ	0.013 UJ	0.012 UJ	**0.0024 J**	**0.0038 J**	0.02 UJ	**0.0049 J**	**0.0038 J**	**0.0047 J**	**0.0028 J**
Carbon tetrachloride	0.012 UJ	0.012 UJ	0.013 UJ	0.012 UJ	0.013 UJ	0.023 UJ	0.02 UJ	0.018 UJ	0.021 UJ	0.014 UJ	0.014 UJ
Chlorobenzene	**0.0042 J**	**0.0033 J**	**0.003 J**	**0.0036 J**	0.013 UJ	**0.004 J**	**0.014 J**	**0.022 J**	**0.029 J**	**0.017 J**	**0.016 J**
Chloroethane	0.012 UJ	0.012 UJ	0.013 UJ	0.012 UJ	0.013 UJ	0.023 UJ	0.02 UJ	0.018 UJ	0.021 UJ	0.014 UJ	0.014 UJ
Chloroform	0.012 UJ	0.012 UJ	0.013 UJ	0.012 UJ	0.013 UJ	0.023 UJ	0.02 UJ	0.018 UJ	0.021 UJ	0.014 UJ	0.014 UJ
Chloromethane	0.012 UJ	0.012 UJ	0.013 UJ	0.012 UJ	0.013 UJ	0.023 UJ	0.02 UJ	0.018 UJ	0.021 UJ	0.014 UJ	0.014 UJ
Cyclohexane	0.012 UJ	0.012 UJ	0.013 UJ	0.012 UJ	0.013 UJ	0.023 UJ	0.02 UJ	0.018 UJ	0.021 UJ	0.014 UJ	0.014 UJ
1,2-Dibromo-3-chloropropane	0.012 UJ	0.012 UJ	0.013 UJ	0.012 UJ	0.013 UJ	0.023 UJ	0.02 UJ	0.018 UJ	0.021 UJ	0.014 UJ	0.014 UJ
Dibromochloromethane	0.012 UJ	0.012 UJ	0.013 UJ	0.012 UJ	0.013 UJ	0.023 UJ	0.02 UJ	0.018 UJ	0.021 UJ	0.014 UJ	0.014 UJ
1,2-Dibromoethane	0.012 UJ	0.012 UJ	0.013 UJ	0.012 UJ	0.013 UJ	0.023 UJ	0.02 UJ	0.018 UJ	0.021 UJ	0.014 UJ	0.014 UJ
1,2-Dichlorobenzene	0.012 UJ	0.012 UJ	0.013 UJ	0.012 UJ	0.013 UJ	0.023 UJ	0.02 UJ	0.018 UJ	0.021 UJ	0.014 UJ	0.014 UJ
1,3-Dichlorobenzene	0.012 UJ	0.012 UJ	0.013 UJ	**0.002 J**	0.013 UJ	0.023 UJ	0.02 UJ	0.018 UJ	0.021 UJ	0.014 UJ	0.014 UJ
1,4-Dichlorobenzene	**0.0026 J**	**0.013 J**	**0.013 J**	**0.017 J**	**0.0094 J**	**0.0071 J**	**0.024 J**	**0.028 J**	**0.029 J**	**0.017 J**	**0.018 J**
Dichlorodifluoromethane	0.012 UJ	0.012 UJ	0.013 UJ	0.012 UJ	0.013 UJ	0.023 UJ	0.02 UJ	0.018 UJ	0.021 UJ	0.014 UJ	0.014 UJ
1,1-Dichloroethane	0.012 UJ	0.012 UJ	0.013 UJ	0.012 UJ	0.013 UJ	0.023 UJ	0.02 UJ	0.018 UJ	0.021 UJ	0.014 UJ	0.014 UJ
1,2-Dichloroethane	0.012 UJ	0.012 UJ	0.013 UJ	0.012 UJ	0.013 UJ	0.023 UJ	0.02 UJ	0.018 UJ	0.021 UJ	0.014 UJ	0.014 UJ
cis-1,2-Dichloroethene	0.012 UJ	0.012 UJ	0.013 UJ	0.012 UJ	0.013 UJ	0.023 UJ	0.02 UJ	0.018 UJ	0.021 UJ	0.014 UJ	0.014 UJ
trans-1,2-Dichloroethene	0.012 UJ	0.012 UJ	0.013 UJ	0.012 UJ	0.013 UJ	0.023 UJ	0.02 UJ	0.018 UJ	0.021 UJ	0.014 UJ	0.014 UJ
1,1-Dichloroethene	0.012 UJ	0.012 UJ	0.013 UJ	0.012 UJ	0.013 UJ	0.023 UJ	0.02 UJ	0.018 UJ	0.021 UJ	0.014 UJ	0.014 UJ
1,2-Dichloropropane	0.012 UJ	0.012 UJ	0.013 UJ	0.012 UJ	0.013 UJ	0.023 UJ	0.02 UJ	0.018 UJ	0.021 UJ	0.014 UJ	0.014 UJ
cis-1,3-Dichloropropene	0.012 UJ	0.012 UJ	0.013 UJ	0.012 UJ	0.013 UJ	0.023 UJ	0.02 UJ	0.018 UJ	0.021 UJ	0.014 UJ	0.014 UJ
trans-1,3-Dichloropropene	0.012 UJ	0.012 UJ	0.013 UJ	0.012 UJ	0.013 UJ	0.023 UJ	0.02 UJ	0.018 UJ	0.021 UJ	0.014 UJ	0.014 UJ
1,4-Dioxane	R	R	R	R	R	R	R	R	R	R	R
2-Hexanone	0.012 UJ	0.012 UJ	0.013 UJ	0.012 UJ	0.013 UJ	0.023 UJ	0.02 UJ	0.018 UJ	0.021 UJ	0.014 UJ	0.014 UJ
Isopropyl benzene	**0.0031 J**	**0.0062 J**	**0.0049 J**	**0.007 J**	**0.0085 J**	**0.018 J**	**0.0073 J**	**0.013 J**	**0.013 J**	**0.008 J**	**0.008 J**
Methyl acetate	0.012 UJ	0.012 UJ	0.013 UJ	0.012 UJ	0.013 UJ	0.023 UJ	0.02 UJ	0.018 UJ	0.021 UJ	0.014 UJ	0.014 UJ
Methyl tert-butyl ether (MTBE)	0.012 UJ	0.012 UJ	0.013 UJ	0.012 UJ	0.013 UJ	0.023 UJ	0.02 UJ	0.018 UJ	0.021 UJ	0.014 UJ	0.014 UJ
4-Methyl-2-pentanone	0.012 UJ	0.012 UJ	0.013 UJ	0.012 UJ	0.013 UJ	0.023 UJ	0.02 UJ	0.018 UJ	0.021 UJ	0.014 UJ	0.014 UJ
Methylcyclohexane	0.012 UJ	0.012 UJ	0.013 UJ	0.012 UJ	**0.0038 J**	0.023 UJ	0.02 UJ	0.018 UJ	0.021 UJ	0.014 UJ	0.014 UJ
Methylene chloride	0.012 UJ	0.012 UJ	0.013 UJ	0.012 UJ	0.013 UJ	0.023 UJ	0.02 UJ	0.018 UJ	0.021 UJ	0.014 UJ	0.014 UJ
Styrene	0.012 UJ	0.012 UJ	0.013 UJ	0.012 UJ	0.013 UJ	0.023 UJ	0.02 UJ	0.018 UJ	0.021 UJ	0.014 UJ	0.014 UJ
1,1,2,2-Tetrachloroethane	0.012 UJ	0.012 UJ	0.013 UJ	0.012 UJ	0.013 UJ	0.023 UJ	0.02 UJ	0.018 UJ	0.021 UJ	0.014 UJ	0.014 UJ
Tetrachloroethene	0.012 UJ	0.012 UJ	0.013 UJ	0.012 UJ	0.013 UJ	0.023 UJ	0.02 UJ	0.018 UJ	0.021 UJ	0.014 UJ	0.014 UJ

Table 2
Summary of Sediment Analytical Results
Phase I Sediment Cores
Gowanus Canal
Brooklyn, New York

Sample Name:	GC-SED-506	GC-SED-506	GC-SED-506	GC-SED-506	GC-SED-506	GC-SED-507	GC-SED-507	GC-SED-507	GC-SED-507	GC-SED-507	GC-SED-507
Sample Depth (feet):	(1.5-2.0)	(2.0-2.5)	(2.5-3.0)	(3.0-3.5)	(3.5-4.0)	(0.0-0.5)	(0.5-1.0)	(1.0-1.5)	(1.5-2.0)	(2.0-2.5)	(2.5-3.0)
Sample Date:	8/7/2012	8/7/2012	8/7/2012	8/7/2012	8/7/2012	8/6/2012	8/6/2012	8/6/2012	8/6/2012	8/6/2012	8/6/2012
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	0.012 UJ	0.012 UJ	0.013 UJ	0.012 UJ	0.013 UJ	0.023 UJ	0.02 UJ	0.018 UJ	0.021 UJ	0.014 UJ	0.014 UJ
1,2,3-Trichlorobenzene	0.012 UJ	0.012 UJ	0.013 UJ	0.012 UJ	0.013 UJ	0.023 UJ	0.02 UJ	0.018 UJ	0.021 UJ	0.014 UJ	0.014 UJ
1,2,4-Trichlorobenzene	0.012 UJ	0.012 UJ	0.013 UJ	0.012 UJ	0.013 UJ	0.023 UJ	0.02 UJ	0.018 UJ	0.021 UJ	0.014 UJ	0.014 UJ
1,1,1-Trichloroethane	0.012 UJ	0.012 UJ	0.013 UJ	0.012 UJ	0.013 UJ	0.023 UJ	0.02 UJ	0.018 UJ	0.021 UJ	0.014 UJ	0.014 UJ
1,1,2-Trichloroethane	0.012 UJ	0.012 UJ	0.013 UJ	0.012 UJ	0.013 UJ	0.023 UJ	0.02 UJ	0.018 UJ	0.021 UJ	0.014 UJ	0.014 UJ
Trichloroethene	0.012 UJ	0.012 UJ	0.013 UJ	0.012 UJ	0.013 UJ	0.023 UJ	0.02 UJ	0.018 UJ	0.021 UJ	0.014 UJ	0.014 UJ
Trichlorofluoromethane	0.012 UJ	0.012 UJ	0.013 UJ	0.012 UJ	0.013 UJ	0.023 UJ	0.02 UJ	0.018 UJ	0.021 UJ	0.014 UJ	0.014 UJ
Vinyl chloride	0.012 UJ	0.012 UJ	0.013 UJ	0.012 UJ	0.013 UJ	0.023 UJ	0.02 UJ	0.018 UJ	0.021 UJ	0.014 UJ	0.014 UJ
PAHs (mg/kg)											
Acenaphthene	**6.7 J**	**32 J**	**30 J**	**39 J**	**42 J**	**19 J**	**29 J**	**16 J**	**35 J**	**33 J**	**82 J**
Acenaphthylene	**4.3 J**	**16 J**	**13 J**	**15 J**	**16 J**	**7.7 J**	**10 J**	**5.2 J**	**11 J**	**11 J**	**23 J**
Anthracene	**6.3 J**	**25 J**	**25 J**	**34 J**	**40 J**	**11 J**	**19 J**	**9.3 J**	**22 J**	**20 J**	**38 J**
Benz[a]anthracene	**7.4 J**	**28 J**	**21 J**	**30 J**	**31 J**	**11 J**	**18 J**	**10 J**	**18 J**	**19 J**	**40 J**
Benzo[a]pyrene	**5.3 J**	**21 J**	**19 J**	**21 J**	**26 J**	**9.6 J**	**14 J**	**8 J**	**14 J**	**15 J**	**32 J**
Benzo[b]fluoranthene	**4.5 J**	**10 J**	**7.4 J**	**11 J**	**9.8 J**	**6.4 J**	**9.5 J**	**6.1 J**	**8.6 J**	**12 J**	**23 J**
Benzo[g,h,i]perylene	**4.1 J**	**12 J**	**9.8 J**	**11 J**	**13 J**	**2.5 J**	**6.9 J**	**4.5 J**	**6.5 J**	**5.4 J**	**10 J**
Benzo[k]fluoranthene	**1.6 J**	**8.8 J**	**7.4 J**	**6.5 J**	**13 J**	**3.9 J**	**4.8 J**	**4 J**	**4.4 J**	**3.9 J**	**8.3 J**
Chrysene	**7.1 J**	**24 J**	**21 J**	**32 J**	**26 J**	**11 J**	**18 J**	**10 J**	**18 J**	**18 J**	**37 J**
Dibenz[a,h]anthracene	**3.4 J**	**7.9 J**	**8.6 J**	**9 J**	**7.8 J**	**0.94 J**	**5.6 J**	**4.8 J**	**5.5 J**	**1.7 J**	**3.2 J**
Fluoranthene	**15 J**	**52 J**	**49 J**	**59 J**	**63 J**	**27 J**	**37 J**	**23 J**	**37 J**	**41 J**	**80 J**
Fluorene	**2.1 J**	**14 J**	**15 J**	**18 J**	**21 J**	**7.2 J**	**11 J**	**6.7 J**	**16 J**	**15 J**	**16 J**
Indeno[1,2,3-cd]pyrene	**4.1 J**	**13 J**	**12 J**	**13 J**	**17 J**	**2.5 J**	**7.8 J**	**6.3 J**	**7.7 J**	**5.6 J**	**11 J**
2-Methylnaphthalene	**0.73 J**	**7 J**	**11 J**	**21 J**	**31 J**	**6.3 J**	**17 J**	**13 J**	**28 J**	**27 J**	**13 J**
Naphthalene	**1.5 J**	**4.3 J**	**6.5 J**	**12 J**	**10 J**	**7.2 J**	**23 J**	**20 J**	**33 J**	**35 J**	**14 J**
Phenanthrene	**16 J**	**76 J**	**83 J**	**100 J**	**120 J**	**30 J**	**53 J**	**30 J**	**66 J**	**63 J**	**110 J**
Pyrene	**13 J**	**53 J**	**40 J**	**74 J**	**58 J**	**22 J**	**35 J**	**19 J**	**38 J**	**42 J**	**82 J**
Total PAHs	**103.1**	**404**	**378.7**	**505.5**	**544.6**	**185.2**	**318.6**	**195.9**	**368.7**	**367.6**	**622.5**
Alkylated PAHs (mg/kg)											
Acenaphthene	**5.44205 J**	**39.04208 J**	**39.29602 J**	**38.47024 J**	**68.43196 J**	**27.92168 J**	**42.15586 J**	**50.3255 J**	**43.45685 J**	**47.55699 J**	**72.56776 J**
Acenaphthylene	**1.82448 J**	**11.67262 J**	**9.3494 J**	**7.57908 J**	**13.9534 J**	**7.32751 J**	**10.22383 J**	**5.79094 J**	**7.55168 J**	**10.21272 J**	**8.20909 J**
Anthracene	**4.6998 J**	**34.89261 J**	**33.32814 J**	**34.87289 J**	**60.18627 J**	**16.98514 J**	**27.08712 J**	**21.46265 J**	**27.48087 J**	**39.41864 J**	**21.37718 J**
Benz[a]anthracene	**5.78862 J**	**33.91177 J**	**29.51865 J**	**26.83641 J**	**44.5683 J**	**21.0994 J**	**29.39543 J**	**16.17483 J**	**21.34995 J**	**28.00426 J**	**21.35485 J**
Benzo[a]pyrene	**4.38461 J**	**23.37952 J**	**20.43922 J**	**18.34716 J**	**31.22106 J**	**15.36094 J**	**21.25231 J**	**10.46125 J**	**14.31813 J**	**18.78942 J**	**14.93793 J**
Benzo[b]fluoranthene	**3.42614 J**	**13.6411 J**	**11.84208 J**	**10.12763 J**	**16.20758 J**	**9.64567 J**	**14.33407 J**	**6.95492 J**	**9.13448 J**	**12.00794 J**	**9.71131 J**
Benzo[e]pyrene	**2.80073 J**	**14.2843 J**	**12.69748 J**	**10.84599 J**	**17.77126 J**	**8.70952 J**	**12.00889 J**	**6.04359 J**	**8.01464 J**	**10.38859 J**	**8.49138 J**
Benzo[g,h,i]perylene	**1.9527 J**	**10.81876 J**	**9.58961 J**	**8.20269 J**	**13.43868 J**	**6.79951 J**	**9.38228 J**	**4.54646 J**	**5.96268 J**	**7.91546 J**	**6.43698 J**
Benzo[k]fluoranthene	**3.49137 J**	**17.03612 J**	**15.50555 J**	**13.56564 J**	**21.76741 J**	**11.01646 J**	**14.70618 J**	**7.72604 J**	**9.99412 J**	**12.95372 J**	**10.22836 J**
1,1-Biphenyl	**0.17542 J**	**0.39043 J**	**0.52778 J**	**0.44655 J**	**0.79876 J**	**1.3058 J**	**4.51333 J**	**5.1592 J**	**6.61846 J**	**5.03977 J**	**1.78325 J**
Chrysene	**5.10336 J**	**32.12393 J**	**28.31011 J**	**24.60464 J**	**40.53676 J**	**18.55984 J**	**25.24263 J**	**14.33623 J**	**18.66031 J**	**24.20134 J**	**18.91039 J**
C1-Chrysenes	**3.81173 J**	**21.00487 J**	**18.55271 J**	**16.00804 J**	**26.83465 J**	**13.74708 J**	**18.67959 J**	**9.52847 J**	**13.55234 J**	**17.79996 J**	**14.14932 J**
C2-Chrysenes	**1.69299 J**	**8.19236 J**	**8.18675 J**	**7.27078 J**	**11.88606 J**	**6.12154 J**	**8.08222 J**	**3.7035 J**	**5.68128 J**	**6.34724 J**	**5.83135 J**
C3-Chrysenes	**0.80672 J**	**3.92042 J**	**4.34815 J**	**4.00312 J**	**6.26279 J**	**1.93745 J**	**2.50468 J**	**1.39051 J**	**1.81043 J**	**2.07638 J**	**1.73303 J**
C4-Chrysenes	**0.49087 J**	**2.46342 J**	**2.8658 J**	**2.58145 J**	**3.6765 J**	**1.10203 J**	**1.29523 J**	**0.83251 J**	**1.05674 J**	**1.01878 J**	**0.8879 J**
Dibenz[a,h]anthracene	**0.62166 J**	**2.76859 J**	**2.6254 J**	**2.11986 J**	**3.50909 J**	**2.03191 J**	**2.8245 J**	**1.32293 J**	**1.77091 J**	**2.58791 J**	**2.01102 J**
Dibenzofuran	**0.48516 J**	**2.95673 J**	**3.36107 J**	**3.06508 J**	**4.76279 J**	**1.60412 J**	**2.74716 J**	**2.82245 J**	**2.98959 J**	**3.0375 J**	**3.37665 J**
Dibenzothiophene	**1.36934 J**	**12.74769 J**	**12.69361 J**	**12.50334 J**	**20.4745 J**	**6.51968 J**	**9.70462 J**	**9.03843 J**	**10.8384 J**	**11.91656 J**	**9.3131 J**
C1-Dibenzothiophenes	**2.39933 J**	**20.03035 J**	**21.00984 J**	**20.28808 J**	**32.65003 J**	**9.21992 J**	**13.26893 J**	**9.82496 J**	**12.02558 J**	**15.03911 J**	**10.58186 J**
C2-Dibenzothiophenes	**2.85418 J**	**19.60174 J**	**21.86519 J**	**20.37561 J**	**32.4026 J**	**9.20243 J**	**12.00743 J**	**7.7434 J**	**9.67795 J**	**12.36284 J**	**9.20932 J**

Table 2
Summary of Sediment Analytical Results
Phase I Sediment Cores
Gowanus Canal
Brooklyn, New York

Sample Name:	GC-SED-506	GC-SED-506	GC-SED-506	GC-SED-506	GC-SED-506	GC-SED-507	GC-SED-507	GC-SED-507	GC-SED-507	GC-SED-507	GC-SED-507
Sample Depth (feet):	(1.5-2.0)	(2.0-2.5)	(2.5-3.0)	(3.0-3.5)	(3.5-4.0)	(0.0-0.5)	(0.5-1.0)	(1.0-1.5)	(1.5-2.0)	(2.0-2.5)	(2.5-3.0)
Sample Date:	8/7/2012	8/7/2012	8/7/2012	8/7/2012	8/7/2012	8/6/2012	8/6/2012	8/6/2012	8/6/2012	8/6/2012	8/6/2012
C3-Dibenzothiophenes	**1.77432 J**	**12.13621 J**	**14.62619 J**	**13.69538 J**	**20.88886 J**	**4.59791 J**	**5.7055 J**	**3.64842 J**	**4.36891 J**	**5.34111 J**	**4.29858 J**
C4-Dibenzothiophenes	**0.78628 J**	**4.81182 J**	**5.98969 J**	**5.52465 J**	**7.82616 J**	**1.63291 J**	**1.91073 J**	**1.28226 J**	**1.44078 J**	**1.66085 J**	**1.38973 J**
Fluoranthene	**10.21572 J**	**60.07088 J**	**54.6189 J**	**55.2945 J**	**81.68901 J**	**42.12035 J**	**65.25053 J**	**31.54033 J**	**38.5377 J**	**62.46681 J**	**43.86715 J**
C1-Fluoranthenes/pyrenes	**10.70555 J**	**56.58757 J**	**50.94791 J**	**44.76809 J**	**71.89146 J**	**40.60429 J**	**52.75336 J**	**31.73514 J**	**42.46833 J**	**55.81357 J**	**42.81936 J**
C2-Fluoranthenes/pyrenes	**4.32425 J**	**20.58609 J**	**18.08852 J**	**15.9557 J**	**25.40656 J**	**14.1607 J**	**19.57619 J**	**10.2439 J**	**13.54894 J**	**18.76154 J**	**14.40694 J**
C3-Fluoranthenes/pyrenes	**1.75625 J**	**7.92044 J**	**7.31787 J**	**6.64965 J**	**10.60585 J**	**5.00429 J**	**6.76809 J**	**3.44627 J**	**4.58112 J**	**5.82123 J**	**4.64666 J**
C4-Fluoranthenes/pyrenes	**0.74966 J**	**2.6198 J**	**2.59903 J**	**2.46058 J**	**3.74113 J**	**1.6442 J**	**2.1094 J**	**1.20398 J**	**1.54893 J**	**1.71568 J**	**1.31801 J**
Fluorene	**1.07634 J**	**14.95452 J**	**18.20658 J**	**17.45842 J**	**28.82138 J**	**7.84504 J**	**14.49221 J**	**13.67946 J**	**18.80077 J**	**15.80086 J**	**8.87508 J**
C1-Fluorenes	**1.92859 J**	**18.33827 J**	**20.27824 J**	**19.64248 J**	**31.7444 J**	**8.56282 J**	**13.80794 J**	**11.43203 J**	**15.04835 J**	**16.85365 J**	**11.64045 J**
C2-Fluorenes	**2.96105 J**	**22.82864 J**	**28.0859 J**	**26.48846 J**	**42.34068 J**	**8.57981 J**	**12.79398 J**	**8.80557 J**	**10.37574 J**	**13.74252 J**	**9.59208 J**
C3-Fluorenes	**2.20645 J**	**15.60652 J**	**20.07849 J**	**18.70862 J**	**27.42395 J**	**5.56365 J**	**6.99572 J**	**4.79434 J**	**5.73269 J**	**6.98656 J**	**4.96391 J**
Indeno[1,2,3-cd]pyrene	**2.74244 J**	**11.03033 J**	**9.8197 J**	**8.3965 J**	**13.58519 J**	**8.62235 J**	**12.28609 J**	**5.83218 J**	**7.74651 J**	**10.31208 J**	**8.25259 J**
Naphthalene	**1.83957 J**	**6.98112 J**	**10.49697 J**	**8.01166 J**	**16.91303 J**	**9.79107 J**	**32.71272 J**	**44.13193 J**	**39.61633 J**	**33.99339 J**	**14.60936 J**
C1-Naphthalenes	**2.21518 J**	**21.51952 J**	**29.43544 J**	**32.56821 J**	**60.84303 J**	**15.36744 J**	**31.91366 J**	**36.83143 J**	**42.73021 J**	**33.13169 J**	**21.10581 J**
C2-Naphthalenes	**5.38966 J**	**47.03425 J**	**53.75807 J**	**53.92521 J**	**90.96144 J**	**20.72397 J**	**35.92994 J**	**37.6317 J**	**46.96277 J**	**43.15149 J**	**27.44604 J**
C3-Naphthalenes	**5.63191 J**	**42.03078 J**	**51.44782 J**	**53.1199 J**	**88.73514 J**	**15.02552 J**	**22.19794 J**	**21.38343 J**	**24.60457 J**	**25.88885 J**	**17.80183 J**
C4-Naphthalenes	**3.45858 J**	**23.51549 J**	**30.64695 J**	**31.0139 J**	**50.92239 J**	**7.38381 J**	**9.49243 J**	**7.88062 J**	**8.88983 J**	**9.99122 J**	**6.65928 J**
Perylene	**1.06118 J**	**4.00293 J**	**3.66186 J**	**3.39483 J**	**5.33573 J**	**2.66224 J**	**3.93889 J**	**1.83612 J**	**2.52552 J**	**3.36842 J**	**2.58251 J**
Phenanthrene	**8.26826 J**	**102.80288 J**	**104.96413 J**	**110.72678 J**	**170.47839 J**	**55.86329 J**	**95.79232 J**	**72.80073 J**	**101.61332 J**	**118.12434 J**	**75.25405 J**
C1-Phenanthrenes/anthracenes	**11.11189 J**	**99.09218 J**	**103.3495 J**	**96.28026 J**	**150.66617 J**	**47.42848 J**	**68.89171 J**	**50.44566 J**	**65.02165 J**	**79.28477 J**	**56.61176 J**
C2-Phenanthrenes/anthracenes	**8.77416 J**	**59.61533 J**	**66.17083 J**	**59.11194 J**	**90.53233 J**	**28.95355 J**	**37.79881 J**	**24.11509 J**	**31.05595 J**	**40.07745 J**	**29.5518 J**
C3-Phenanthrenes/anthracenes	**3.78044 J**	**25.29981 J**	**28.70676 J**	**26.12457 J**	**39.73343 J**	**10.42014 J**	**12.79762 J**	**7.7065 J**	**9.74648 J**	**12.09308 J**	**9.69729 J**
C4-Phenanthrenes/anthracenes	**1.47958 J**	**7.69401 J**	**8.9278 J**	**8.3131 J**	**12.15656 J**	**2.80669 J**	**3.34252 J**	**2.03522 J**	**2.539 J**	**2.74833 J**	**2.40808 J**
Pyrene	**15.99689 J**	**76.66577 J**	**70.21893 J**	**71.82291 J**	**108.61282 J**	**55.3961 J**	**80.3638 J**	**49.71265 J**	**50.17378 J**	**80.75141 J**	**58.87384 J**
TPH (mg/kg)											
Total Petroleum Hydrocarbons	**5997.26 J**	**22744.1 J**	**29744.36 J**	**26746.63 J**	**37224.91 J**	**9586.97 J**	**10032.33 J**	**9808.63 J**	**9925.84 J**	**8226.34 J**	**6801.86 J**
Other SVOCs (mg/kg)											
Acetophenone	4.1 UJ	9.6 UJ	10 UJ	**1.1 J**	11 UJ	7.4 UJ	6.7 UJ	6 UJ	6.8 UJ	9.4 UJ	9 UJ
Atrazine	4.1 UJ	9.6 UJ	10 UJ	9.8 UJ	11 UJ	7.4 UJ	6.7 UJ	6 UJ	6.8 UJ	9.4 UJ	9 UJ
Benzaldehyde	4.1 UJ	9.6 UJ	**5.8 J**	9.8 UJ	**6.2 J**	**2.4 J**	6.7 UJ	6 UJ	6.8 UJ	**3.3 J**	9 UJ
1,1-Biphenyl	4.1 UJ	9.6 UJ	10 UJ	9.8 UJ	11 UJ	**0.94 J**	**2.9 J**	**2 J**	**4.8 J**	**3.7 J**	**2 J**
Bis(chloroisopropyl)ether	0.82 UJ	1.9 UJ	2.1 UJ	2 UJ	2.2 UJ	1.5 UJ	1.4 UJ	1.2 UJ	1.4 UJ	1.9 UJ	1.8 UJ
Bis(2-chloroethyl)ether	0.82 UJ	1.9 UJ	2.1 UJ	2 UJ	2.2 UJ	1.5 UJ	1.4 UJ	1.2 UJ	1.4 UJ	1.9 UJ	1.8 UJ
Bis(2-chloroethoxy)methane	4.1 UJ	9.6 UJ	10 UJ	9.8 UJ	11 UJ	7.4 UJ	6.7 UJ	6 UJ	6.8 UJ	9.4 UJ	9 UJ
Bis(2-ethylhexyl)phthalate	**25 J**	**84 J**	**95 J**	**170 J**	**120 J**	**14 J**	**26 J**	**16 J**	**44 J**	**29 J**	**22 J**

Table 2
Summary of Sediment Analytical Results
Phase I Sediment Cores
Gowanus Canal
Brooklyn, New York

Sample Name:	GC-SED-506	GC-SED-506	GC-SED-506	GC-SED-506	GC-SED-506	GC-SED-507	GC-SED-507	GC-SED-507	GC-SED-507	GC-SED-507	GC-SED-507
Sample Depth (feet):	(1.5-2.0)	(2.0-2.5)	(2.5-3.0)	(3.0-3.5)	(3.5-4.0)	(0.0-0.5)	(0.5-1.0)	(1.0-1.5)	(1.5-2.0)	(2.0-2.5)	(2.5-3.0)
Sample Date:	8/7/2012	8/7/2012	8/7/2012	8/7/2012	8/7/2012	8/6/2012	8/6/2012	8/6/2012	8/6/2012	8/6/2012	8/6/2012
4-Bromophenyl phenyl ether	4.1 UJ	9.6 UJ	10 UJ	9.8 UJ	11 UJ	7.4 UJ	6.7 UJ	6 UJ	6.8 UJ	9.4 UJ	9 UJ
Butyl benzyl phthalate	4.1 UJ	9.6 UJ	10 UJ	9.8 UJ	11 UJ	7.4 UJ	6.7 UJ	6 UJ	6.8 UJ	9.4 UJ	**1.7 J**
Caprolactam	21 UJ	49 UJ	53 UJ	50 UJ	56 UJ	38 UJ	35 UJ	31 UJ	35 UJ	49 UJ	47 UJ
Carbazole	**0.33 J**	**1.5 J**	**1.3 J**	**1.4 J**	**1.4 J**	**0.5 J**	**1.1 J**	**0.8 J**	**0.98 J**	**1.1 J**	**1.3 J**
4-Chloro-3-methylphenol	4.1 UJ	9.6 UJ	10 UJ	9.8 UJ	11 UJ	7.4 UJ	6.7 UJ	6 UJ	6.8 UJ	9.4 UJ	9 UJ
4-Chloroaniline	**0.62 J**	**3.6 J**	**4.8 J**	**7.8 J**	**6.4 J**	**0.7 J**	**0.57 J**	**0.5 J**	**0.66 J**	9.4 UJ	9 UJ
Chlorophene	4.1 UJ	9.6 UJ	10 UJ	9.8 UJ	11 UJ	7.4 UJ	6.7 UJ	6 UJ	6.8 UJ	9.4 UJ	9 UJ
2-Chloronaphthalene	0.82 UJ	1.9 UJ	2.1 UJ	2 UJ	2.2 UJ	1.5 UJ	1.4 UJ	1.2 UJ	1.4 UJ	1.9 UJ	1.8 UJ
2-Chlorophenol	4.1 UJ	9.6 UJ	10 UJ	9.8 UJ	11 UJ	7.4 UJ	6.7 UJ	6 UJ	6.8 UJ	9.4 UJ	9 UJ
4-Chlorophenyl phenyl ether	4.1 UJ	9.6 UJ	10 UJ	9.8 UJ	11 UJ	7.4 UJ	6.7 UJ	6 UJ	6.8 UJ	9.4 UJ	9 UJ
Dibenzofuran	**0.62 J**	**2.5 J**	**2.9 J**	**3.4 J**	**3.4 J**	**1.2 J**	**2 J**	**1.3 J**	**2.4 J**	**2.3 J**	**4.7 J**
3,3-Dichlorobenzidine	4.1 UJ	9.6 UJ	10 UJ	9.8 UJ	11 UJ	7.4 UJ	6.7 UJ	6 UJ	6.8 UJ	9.4 UJ	9 UJ
2,4-Dichlorophenol	0.82 UJ	1.9 UJ	2.1 UJ	2 UJ	2.2 UJ	1.5 UJ	1.4 UJ	1.2 UJ	1.4 UJ	1.9 UJ	1.8 UJ
Diethyl phthalate	4.1 UJ	9.6 UJ	10 UJ	9.8 UJ	11 UJ	7.4 UJ	6.7 UJ	6 UJ	6.8 UJ	9.4 UJ	9 UJ
Dimethyl phthalate	4.1 UJ	9.6 UJ	10 UJ	9.8 UJ	11 UJ	7.4 UJ	6.7 UJ	6 UJ	6.8 UJ	9.4 UJ	9 UJ
2,4-Dimethylphenol	4.1 UJ	9.6 UJ	10 UJ	9.8 UJ	11 UJ	7.4 UJ	6.7 UJ	6 UJ	6.8 UJ	9.4 UJ	9 UJ
Di-n-butyl phthalate	4.1 UJ	9.6 UJ	10 UJ	9.8 UJ	11 UJ	7.4 UJ	6.7 UJ	6 UJ	6.8 UJ	9.4 UJ	9 UJ
4,6-Dinitro-2-methylphenol	21 UJ	49 UJ	53 UJ	50 UJ	56 UJ	38 UJ	35 UJ	31 UJ	35 UJ	49 UJ	47 UJ
2,4-Dinitrophenol	21 UJ	49 UJ	53 UJ	50 UJ	56 UJ	38 UJ	35 UJ	31 UJ	35 UJ	49 UJ	47 UJ
2,4-Dinitrotoluene	4.1 UJ	9.6 UJ	10 UJ	9.8 UJ	11 UJ	7.4 UJ	6.7 UJ	6 UJ	6.8 UJ	9.4 UJ	9 UJ
2,6-Dinitrotoluene	4.1 UJ	9.6 UJ	10 UJ	9.8 UJ	11 UJ	7.4 UJ	6.7 UJ	6 UJ	6.8 UJ	9.4 UJ	9 UJ
Di-n-octyl phthalate	**1.3 J**	**3.3 J**	**3 J**	**4.4 J**	**6.2 J**	**0.87 J**	**1.5 J**	6 UJ	6.8 UJ	9.4 UJ	9 UJ
Hexachlorobenzene	0.82 UJ	1.9 UJ	2.1 UJ	2 UJ	2.2 UJ	1.5 UJ	1.4 UJ	1.2 UJ	1.4 UJ	1.9 UJ	1.8 UJ
Hexachlorobutadiene	0.82 UJ	1.9 UJ	2.1 UJ	2 UJ	2.2 UJ	1.5 UJ	1.4 UJ	1.2 UJ	1.4 UJ	1.9 UJ	1.8 UJ
Hexachlorocyclopentadiene	4.1 UJ	9.6 UJ	10 UJ	9.8 UJ	11 UJ	7.4 UJ	6.7 UJ	6 UJ	6.8 UJ	9.4 UJ	9 UJ
Hexachloroethane	4.1 UJ	9.6 UJ	10 UJ	9.8 UJ	11 UJ	7.4 UJ	6.7 UJ	6 UJ	6.8 UJ	9.4 UJ	9 UJ
Isophorone	4.1 UJ	9.6 UJ	10 UJ	9.8 UJ	11 UJ	7.4 UJ	6.7 UJ	6 UJ	6.8 UJ	9.4 UJ	9 UJ
2-Methylphenol (o-Cresol)	4.1 UJ	9.6 UJ	10 UJ	9.8 UJ	11 UJ	7.4 UJ	6.7 UJ	6 UJ	6.8 UJ	9.4 UJ	9 UJ
3,4-Methylphenol (m,p-Cresol)	4.1 UJ	9.6 UJ	10 UJ	9.8 UJ	11 UJ	7.4 UJ	**0.96 J**	6 UJ	6.8 UJ	9.4 UJ	9 UJ
2-Nitroaniline	21 UJ	49 UJ	53 UJ	50 UJ	56 UJ	38 UJ	35 UJ	31 UJ	35 UJ	49 UJ	47 UJ
3-Nitroaniline	21 UJ	49 UJ	53 UJ	50 UJ	56 UJ	38 UJ	35 UJ	31 UJ	35 UJ	49 UJ	47 UJ
4-Nitroaniline	21 UJ	49 UJ	53 UJ	50 UJ	56 UJ	38 UJ	35 UJ	31 UJ	35 UJ	49 UJ	47 UJ
Nitrobenzene	8.2 UJ	19 UJ	21 UJ	20 UJ	22 UJ	15 UJ	14 UJ	12 UJ	14 UJ	19 UJ	18 UJ
2-Nitrophenol	4.1 UJ	9.6 UJ	10 UJ	9.8 UJ	11 UJ	7.4 UJ	6.7 UJ	6 UJ	6.8 UJ	9.4 UJ	9 UJ

Table 2
Summary of Sediment Analytical Results
Phase I Sediment Cores
Gowanus Canal
Brooklyn, New York

Sample Name:	GC-SED-506	GC-SED-506	GC-SED-506	GC-SED-506	GC-SED-506	GC-SED-507	GC-SED-507	GC-SED-507	GC-SED-507	GC-SED-507	GC-SED-507
Sample Depth (feet):	(1.5-2.0)	(2.0-2.5)	(2.5-3.0)	(3.0-3.5)	(3.5-4.0)	(0.0-0.5)	(0.5-1.0)	(1.0-1.5)	(1.5-2.0)	(2.0-2.5)	(2.5-3.0)
Sample Date:	8/7/2012	8/7/2012	8/7/2012	8/7/2012	8/7/2012	8/6/2012	8/6/2012	8/6/2012	8/6/2012	8/6/2012	8/6/2012
4-Nitrophenol	21 UJ	49 UJ	53 UJ	50 UJ	56 UJ	38 UJ	35 UJ	31 UJ	35 UJ	49 UJ	47 UJ
N-Nitrosodi-n-propylamine	0.82 UJ	1.9 UJ	2.1 UJ	2 UJ	2.2 UJ	1.5 UJ	1.4 UJ	1.2 UJ	1.4 UJ	1.9 UJ	1.8 UJ
N-Nitrosodiphenylamine	4.1 UJ	9.6 UJ	10 UJ	9.8 UJ	11 UJ	7.4 UJ	6.7 UJ	6 UJ	6.8 UJ	9.4 UJ	9 UJ
Pentachlorophenol	4.1 UJ	9.6 UJ	10 UJ	9.8 UJ	11 UJ	7.4 UJ	6.7 UJ	6 UJ	6.8 UJ	9.4 UJ	9 UJ
Phenol	0.82 UJ	1.9 UJ	2.1 UJ	2 UJ	2.2 UJ	1.5 UJ	1.4 UJ	1.2 UJ	1.4 UJ	1.9 UJ	1.8 UJ
1,2,4,5-Tetrachlorobenzene	4.1 UJ	9.6 UJ	10 UJ	9.8 UJ	11 UJ	7.4 UJ	6.7 UJ	6 UJ	6.8 UJ	9.4 UJ	9 UJ
2,3,4,6-Tetrachlorophenol	4.1 UJ	9.6 UJ	10 UJ	9.8 UJ	11 UJ	7.4 UJ	6.7 UJ	6 UJ	6.8 UJ	9.4 UJ	9 UJ
2,4,5-Trichlorophenol	4.1 UJ	9.6 UJ	10 UJ	9.8 UJ	11 UJ	7.4 UJ	6.7 UJ	6 UJ	6.8 UJ	9.4 UJ	9 UJ
2,4,6-Trichlorophenol	4.1 UJ	9.6 UJ	10 UJ	9.8 UJ	11 UJ	7.4 UJ	6.7 UJ	6 UJ	6.8 UJ	9.4 UJ	9 UJ
PCBs (mg/kg)											
Aroclor 1016	0.02 UJ	0.097 UJ	0.1 UJ	0.096 UJ	0.11 UJ	0.038 UJ	0.033 UJ	0.031 UJ	0.034 UJ	0.12 UJ	0.11 UJ
Aroclor 1221	0.02 UJ	0.097 UJ	0.1 UJ	0.096 UJ	0.11 UJ	0.038 UJ	0.033 UJ	0.031 UJ	0.034 UJ	0.12 UJ	0.11 UJ
Aroclor 1232	0.02 UJ	0.097 UJ	0.1 UJ	0.096 UJ	0.11 UJ	0.038 UJ	0.033 UJ	0.031 UJ	0.034 UJ	0.12 UJ	0.11 UJ
Aroclor 1242	0.02 UJ	0.097 UJ	0.1 UJ	0.096 UJ	**1.4 J**	**0.36 J**	**0.45 J**	**0.55 J**	**0.56 J**	**0.29 J**	**0.3 J**
Aroclor 1248	0.02 UJ	0.097 UJ	0.1 UJ	0.096 UJ	0.11 UJ	0.038 UJ	0.033 UJ	0.031 UJ	0.034 UJ	0.12 UJ	0.11 UJ
Aroclor 1254	0.02 UJ	0.097 UJ	0.1 UJ	0.096 UJ	0.11 UJ	0.038 UJ	0.033 UJ	0.031 UJ	0.034 UJ	0.12 UJ	0.11 UJ
Aroclor 1260	**0.24 J**	0.097 UJ	**1.7 J**	**1.5 J**	**2.1 J**	**0.23 J**	**0.26 J**	**0.26 J**	**0.45 J**	**0.19 J**	**0.21 J**
Aroclor 1262	0.02 UJ	0.097 UJ	0.1 UJ	0.096 UJ	0.11 UJ	0.038 UJ	0.033 UJ	0.031 UJ	0.034 UJ	0.12 UJ	0.11 UJ
Aroclor 1268	0.02 UJ	0.097 UJ	0.1 UJ	0.096 UJ	0.11 UJ	0.038 UJ	0.033 UJ	0.031 UJ	0.034 UJ	0.12 UJ	0.11 UJ
Total PCBs	**0.24 J**	0.097 UJ	**1.7 J**	**1.5 J**	**3.5 J**	**0.59 J**	**0.71 J**	**0.81 J**	**1 J**	**0.48 J**	**0.51 J**
Pesticides (mg/kg)											
Aldrin	0.021 UJ	0.019 UJ	0.021 UJ	0.02 UJ	0.022 UJ	0.038 UJ	0.034 UJ	0.031 UJ	0.035 UJ	0.024 UJ	0.023 UJ
alpha-BHC	0.021 UJ	0.019 UJ	0.021 UJ	0.02 UJ	0.022 UJ	0.038 UJ	0.034 UJ	0.031 UJ	0.035 UJ	0.024 UJ	0.023 UJ
beta-BHC	0.021 UJ	**0.013 J**	**0.014 J**	**0.023 J**	**0.028 J**	0.038 UJ	0.034 UJ	0.031 UJ	0.035 UJ	0.024 UJ	0.023 UJ
gamma-BHC	0.021 UJ	0.019 UJ	0.021 UJ	0.02 UJ	0.022 UJ	0.038 UJ	0.034 UJ	0.031 UJ	0.035 UJ	**0.044 J**	0.023 UJ
delta-BHC	0.021 UJ	0.019 UJ	0.021 UJ	**0.011 J**	**0.021 J**	0.038 UJ	0.034 UJ	0.031 UJ	0.035 UJ	0.024 UJ	0.023 UJ
alpha-chlordane	**0.013 J**	**0.037 J**	**0.032 J**	**0.043 J**	**0.066 J**	0.038 UJ	0.034 UJ	0.031 UJ	0.035 UJ	0.024 UJ	**0.018 J**
gamma-Chlordane	**0.079 J**	**0.21 J**	**0.24 J**	**0.46 J**	**0.6 J**	**0.55 J**	**0.6 J**	**0.67 J**	**0.62 J**	**0.53 J**	**0.4 J**
4,4-DDD	**0.035 J**	**0.059 J**	**0.095 J**	**0.061 J**	**0.065 J**	**0.038 J**	**0.047 J**	**0.049 J**	**0.065 J**	**0.068 J**	**0.021 J**
4,4'-DDE	**0.025 J**	**0.065 J**	**0.071 J**	**0.075 J**	**0.12 J**	**0.026 J**	**0.031 J**	0.031 UJ	**0.036 J**	**0.12 J**	0.023 UJ
4,4'-DDT	0.021 UJ	0.019 UJ	0.021 UJ	**0.099 J**	**0.034 JN**	0.038 UJ	0.034 UJ	0.031 UJ	**0.023 J**	**0.026 J**	0.023 UJ
Dieldrin	0.021 UJ	**0.02 JN**	**0.027 J**	0.02 UJ	**0.032 JN**	0.038 UJ	0.034 UJ	0.031 UJ	0.035 UJ	0.024 UJ	0.023 UJ
Endosulfan I	0.021 UJ	0.019 UJ	0.021 UJ	0.02 UJ	0.022 UJ	0.038 UJ	**0.021 J**	0.031 UJ	0.035 UJ	0.024 UJ	0.023 UJ
Endosulfan II	0.021 UJ	0.019 UJ	0.021 UJ	0.02 UJ	0.022 UJ	0.038 UJ	**0.0064 J**	0.031 UJ	0.035 UJ	0.024 UJ	0.023 UJ
Endosulfan sulfate	**0.0053 J**	**0.013 J**	**0.014 J**	**0.02 J**	**0.029 J**	0.038 UJ	0.034 UJ	0.031 UJ	0.035 UJ	0.024 UJ	0.023 UJ
Endrin	0.021 UJ	**0.021 JN**	**0.022 JN**	**0.034 JN**	**0.05 J**	0.038 UJ	0.034 UJ	0.031 UJ	0.035 UJ	0.024 UJ	0.023 UJ
Endrin aldehyde	0.021 UJ	0.019 UJ	0.021 UJ	0.02 UJ	**0.012 J**	0.038 UJ	0.034 UJ	0.031 UJ	0.035 UJ	0.024 UJ	**0.0063 J**
Endrin ketone	**0.018 J**	**0.06 J**	**0.057 J**	**0.07 J**	**0.11 J**	0.038 UJ	0.034 UJ	**0.0092 J**	0.035 UJ	0.024 UJ	0.023 UJ
Heptachlor	0.021 UJ	0.019 UJ	**0.0084 J**	0.02 UJ	0.022 UJ	0.038 UJ	0.034 UJ	0.031 UJ	0.035 UJ	0.024 UJ	0.023 UJ
Heptachlor epoxide	0.021 UJ	0.019 UJ	0.021 UJ	0.02 UJ	0.022 UJ	**0.013 J**	0.034 UJ	0.031 UJ	0.035 UJ	0.024 UJ	0.023 UJ
Methoxychlor	0.04 UJ	0.038 UJ	0.04 UJ	**0.041 JN**	**0.071 JN**	0.074 UJ	0.066 UJ	0.06 UJ	0.067 UJ	0.046 UJ	0.045 UJ
Toxaphene	0.82 UJ	0.76 UJ	0.82 UJ	0.79 UJ	0.86 UJ	1.5 UJ	1.4 UJ	1.2 UJ	1.4 UJ	0.94 UJ	0.92 UJ
Herbicides (mg/kg)											
2,4-D	0.2 UJ	0.19 UJ	0.2 UJ	0.19 UJ	0.21 UJ	0.37 UJ	0.33 UJ	0.3 UJ	0.33 UJ	0.23 UJ	**0.047 J**
2,4-DB	0.2 UJ	0.19 UJ	0.2 UJ	**0.18 J**	0.21 UJ	0.37 UJ	**0.25 J**	**0.13 J**	0.33 UJ	**0.13 J**	**0.32 J**
Dicamba	0.1 UJ	0.093 UJ	0.1 UJ	0.095 UJ	0.11 UJ	0.18 UJ	0.16 UJ	0.15 UJ	0.17 UJ	0.12 UJ	0.11 UJ
Dichloroprop	0.2 UJ	0.19 UJ	0.2 UJ	0.19 UJ	0.21 UJ	0.37 UJ	**0.11 J**	0.3 UJ	0.33 UJ	0.23 UJ	0.22 UJ
2,2-Dichloropropionic acid	0.22 UJ	0.21 UJ	0.23 UJ	0.21 UJ	0.24 UJ	0.41 UJ	0.37 UJ	0.33 UJ	0.37 UJ	0.26 UJ	0.25 UJ
Dinoseb	0.03 UJ	0.028 UJ	0.03 UJ	0.029 UJ	0.032 UJ	0.055 UJ	0.049 UJ	0.044 UJ	0.05 UJ	0.035 UJ	0.033 UJ

Table 2
Summary of Sediment Analytical Results
Phase I Sediment Cores
Gowanus Canal
Brooklyn, New York

Sample Name:	GC-SED-506	GC-SED-506	GC-SED-506	GC-SED-506	GC-SED-506	GC-SED-507	GC-SED-507	GC-SED-507	GC-SED-507	GC-SED-507	GC-SED-507
Sample Depth (feet):	(1.5-2.0)	(2.0-2.5)	(2.5-3.0)	(3.0-3.5)	(3.5-4.0)	(0.0-0.5)	(0.5-1.0)	(1.0-1.5)	(1.5-2.0)	(2.0-2.5)	(2.5-3.0)
Sample Date:	8/7/2012	8/7/2012	8/7/2012	8/7/2012	8/7/2012	8/6/2012	8/6/2012	8/6/2012	8/6/2012	8/6/2012	8/6/2012
MCPP	20 UJ	19 UJ	20 UJ	19 UJ	21 UJ	37 UJ	33 UJ	30 UJ	33 UJ	23 UJ	22 UJ
Methylchlorophenoxyacetic acid	20 UJ	19 UJ	**28 JN**	19 UJ	21 UJ	37 UJ	33 UJ	**34 JN**	33 UJ	23 UJ	22 UJ
Pentachlorophenol	0.027 UJ	0.026 UJ	0.028 UJ	0.026 UJ	0.029 UJ	0.05 UJ	**0.011 J**	**0.0078 J**	0.046 UJ	0.032 UJ	0.03 UJ
Silvex	0.05 UJ	0.047 UJ	0.05 UJ	0.048 UJ	0.053 UJ	0.091 UJ	0.082 UJ	**0.013 J**	0.083 UJ	0.058 UJ	0.055 UJ
2,4,5-Trichlorophenoxyacetic Acid	0.05 UJ	0.047 UJ	**0.0081 J**	0.048 UJ	0.053 UJ	0.091 UJ	0.082 UJ	**0.046 J**	**0.061 J**	0.058 UJ	**0.04 J**
Metals (mg/kg)											
Aluminum	**18000 J**	**11000 J**	**10000 J**	**10000 J**	**9800 J**	**12000 J**	**9700 J**	**8000 J**	**11000 J**	**8000 J**	**10000 J**
Antimony	**1.2 J**	**2.6 J**	**3.7 J**	**3.7 J**	**4.9 J**	**2 J**	**2.1 J**	**2.1 J**	**2.3 J**	**1.4 J**	**1.2 J**
Arsenic	**9.4 J**	**9.3 J**	**8.7 J**	**9.8 J**	**10 J**	**9.5 J**	**7.3 J**	**6.4 J**	**7.7 J**	**5.6 J**	**6.2 J**
Barium	**180 J**	**360 J**	**490 J**	**520 J**	**730 J**	**120 J**	**130 J**	**110 J**	**120 J**	**91 J**	**100 J**
Beryllium	**0.76 J**	**0.56 J**	**0.5 J**	**0.54 J**	**0.56 J**	**0.6 J**	**0.52 J**	**0.43 J**	**0.64 J**	**0.46 J**	**0.6 J**
Cadmium	**2.6 J**	**5.8 J**	**6.9 J**	**12 J**	**13 J**	**3.1 J**	**2.1 J**	**1.8 J**	**1.9 J**	**1.4 J**	**1.7 J**
Calcium	**10000 J**	**15000 J**	**18000 J**	**16000 J**	**14000 J**	**14000 J**	**14000 J**	**13000 J**	**16000 J**	**13000 J**	**8700 J**
Chromium	**75 J**	**92 J**	**110 J**	**170 J**	**190 J**	**68 J**	**64 J**	**54 J**	**64 J**	**47 J**	**49 J**
Cobalt	**10 J**	**9.4 J**	**9.7 J**	**8.7 J**	**8.7 J**	**10 J**	**8.3 J**	**7.3 J**	**9.6 J**	**7 J**	**8 J**
Copper	**270 J**	**460 J**	**590 J**	**670 J**	**740 J**	**290 J**	**290 J**	**250 J**	**280 J**	**200 J**	**200 J**
Iron	**31000 J**	**31000 J**	**30000 J**	**28000 J**	**29000 J**	**28000 J**	**27000 J**	**25000 J**	**30000 J**	**25000 J**	**24000 J**
Lead	**340 J**	**720 J**	**940 J**	**1100 J**	**1300 J**	**340 J**	**380 J**	**370 J**	**360 J**	**250 J**	**390 J**
Magnesium	**8600 J**	**8700 J**	**9000 J**	**8200 J**	**7300 J**	**12000 J**	**10000 J**	**9200 J**	**11000 J**	**7800 J**	**7500 J**
Manganese	**290 J**	**210 J**	**120 J**	**100 J**	**96 J**	**220 J**	**180 J**	**160 J**	**230 J**	**170 J**	**160 J**
Mercury	**2.9 J**	**4.4 J**	**4 J**	**5 J**	**6.5 J**	**1.5 J**	**1.3 J**	**1.7 J**	**1.3 J**	**1.2 J**	**0.91 J**
Nickel	**44 J**	**62 J**	**74 J**	**100 J**	**110 J**	**38 J**	**36 J**	**31 J**	**38 J**	**28 J**	**30 J**
Potassium	**2900 J**	**2100 J**	**1800 J**	**1700 J**	**1500 J**	**3300 J**	**2700 J**	**2200 J**	**2900 J**	**2100 J**	**2200 J**
Selenium	**2 J**	**2.6 J**	**3.1 J**	**3.6 J**	**3.8 J**	**5.9 J**	**5.2 J**	**6.2 J**	**5.5 J**	**3.8 J**	**4 J**
Silver	**7.8 J**	**12 J**	**12 J**	**16 J**	**21 J**	**5.2 J**	**6.1 J**	**3.4 J**	**4.4 J**	**2.5 J**	**2.6 J**
Sodium	**5500 J**	**3700 J**	**3200 J**	**2400 J**	**2100 J**	**23000 J**	**19000 J**	**16000 J**	**17000 J**	**11000 J**	**6000 J**
Thallium	**0.18 J**	**0.17 J**	**0.17 J**	**0.19 J**	**0.21 J**	0.23 UJ	0.2 UJ	0.18 UJ	0.21 UJ	0.14 UJ	**0.16 J**
Vanadium	**42 J**	**44 J**	**53 J**	**54 J**	**60 J**	**40 J**	**38 J**	**36 J**	**41 J**	**29 J**	**30 J**
Zinc	**600 J**	**1000 J**	**1300 J**	**1400 J**	**1500 J**	**790 J**	**870 J**	**710 J**	**780 J**	**560 J**	**470 J**
EDCs & PPCPs (Phenols) (mg/kg)											
Bisphenol A	0.9 UJ	0.97 UJ	0.89 UJ	0.96 UJ	0.98 UJ	1.7 UJ	1.5 UJ	1.7 UJ	1.6 UJ	1.2 UJ	1.1 UJ
Nonylphenol	**14 J**	**66 J**	**57 J**	**60 J**	**61 J**	**29 J**	**30 J**	**42 J**	**27 J**	**13 J**	**11 J**
Nonylphenol Diethoxylate	18 UJ	20 UJ	18 UJ	20 UJ	20 UJ	33 UJ	29 UJ	33 UJ	32 UJ	23 UJ	22 UJ
Nonylphenol Monoethoxylate	9 UJ	9.7 UJ	8.9 UJ	9.6 UJ	9.8 UJ	17 UJ	15 UJ	17 UJ	16 UJ	12 UJ	11 U
4-tert-Octylphenol	0.9 UJ	**1.1 J**	**1.7 J**	**2.4 J**	**2.8 J**	1.7 UJ	1.5 UJ	1.7 UJ	1.6 UJ	1.2 UJ	1.1 UJ
EDCs and PPCPs (mg/kg)											
Acetaminophen	0.039 U	0.037 U	0.04 U	0.04 U	0.038 U	0.037 U	0.04 U	0.04 U	0.04 U	0.036 U	0.037 U
alpha-Estradiol	0.039 UJ	0.037 UJ	0.04 UJ	0.04 UJ	0.038 UJ	0.037 UJ	0.04 UJ	0.04 UJ	0.04 UJ	0.036 UJ	0.037 UJ
Androstenedione	0.0077 UJ	0.0074 UJ	0.0079 UJ	0.0079 UJ	0.0077 UJ	0.0074 UJ	0.008 UJ	**0.0016 J**	0.008 UJ	0.0072 UJ	0.0075 UJ
Atrazine	**0.0026 J**	0.0074 UJ	0.0079 UJ	0.0079 UJ	0.0077 UJ	**0.0025 J**	**0.0032 J**	**0.0037 J**	**0.013 J**	0.0072 UJ	0.0075 UJ
Bisphenol A	**0.15**	**0.49**	**0.45**	**0.31**	**0.25**	**0.044 J**	**0.23**	**0.57**	**0.4**	**0.15**	**0.11**
Carbamazepine	0.015 UJ	0.015 UJ	0.016 UJ	0.016 UJ	0.015 UJ	0.015 UJ	**0.091 J**	**0.078 J**	**0.1 J**	**0.0084 J**	0.015 UJ
DEET (N,N-Diethyl-3-Methyl Benzamide)	0.039 UJ	0.037 UJ	0.04 UJ	0.04 UJ	0.038 UJ	0.037 UJ	0.04 UJ	0.04 UJ	0.04 UJ	0.036 UJ	0.037 UJ
Diazepam	0.015 U	0.015 U	0.016 U	0.016 U	**0.00098 J**	0.015 UJ	**0.00084 J**	**0.0013 J**	**0.0017 J**	0.014 U	0.015 U
Diclofenac	0.015 UJ	R	0.016 UJ	0.016 UJ	R	0.015 UJ	R	R	R	0.014 UJ	0.015 UJ
Diethylstilbestrol	0.039 UJ	0.037 UJ	0.04 UJ	R	0.038 UJ	R	R	R	R	0.036 UJ	R
Estradiol	0.039 UJ	0.037 UJ	0.04 UJ	0.04 UJ	0.038 UJ	0.037 UJ	0.04 UJ	0.04 UJ	0.04 UJ	0.036 UJ	0.037 UJ
Estriol	0.039 U	0.037 U	0.04 U	0.04 U	0.038 U	0.037 U	0.04 U	0.04 U	0.04 U	0.036 U	0.037 U

Table 2
Summary of Sediment Analytical Results
Phase I Sediment Cores
Gowanus Canal
Brooklyn, New York

Sample Name:	GC-SED-506	GC-SED-506	GC-SED-506	GC-SED-506	GC-SED-506	GC-SED-507	GC-SED-507	GC-SED-507	GC-SED-507	GC-SED-507	GC-SED-507
Sample Depth (feet):	(1.5-2.0)	(2.0-2.5)	(2.5-3.0)	(3.0-3.5)	(3.5-4.0)	(0.0-0.5)	(0.5-1.0)	(1.0-1.5)	(1.5-2.0)	(2.0-2.5)	(2.5-3.0)
Sample Date:	8/7/2012	8/7/2012	8/7/2012	8/7/2012	8/7/2012	8/6/2012	8/6/2012	8/6/2012	8/6/2012	8/6/2012	8/6/2012
Estrone	**0.084 J**	**0.47 J**	**0.45 J**	**0.033 J**	0.038 UJ	0.037 UJ	**0.19 J**	**0.26 J**	**0.24 J**	**0.045 J**	0.037 UJ
Ethinyl Estradiol	0.039 U	0.037 U	0.04 U	0.04 U	0.038 U	0.037 U	0.04 U	0.04 U	0.04 U	0.036 U	0.037 U
Gemfibrozil	0.015 UJ	R	0.016 UJ	0.016 UJ	0.015 UJ	0.015 UJ	R	R	R	0.014 UJ	0.015 UJ
Ibuprofen	0.039 UJ	0.037 UJ	0.04 UJ	0.04 UJ	0.038 UJ	0.037 U	0.04 UJ	0.04 UJ	0.04 UJ	0.036 UJ	0.037 UJ
Meprobamate	0.0077 UJ	0.0074 UJ	0.0079 UJ	0.0079 UJ	0.0077 UJ	0.0074 UJ	0.008 UJ	0.008 UJ	0.008 UJ	0.0072 UJ	0.0075 UJ
Naproxen	0.015 U	0.015 UJ	0.016 U	0.016 U	0.015 U	0.015 U	0.016 UJ	0.016 UJ	0.016 UJ	0.014 U	0.015 U
Pentoxifylline	0.015 U	0.015 U	**0.0015 J**	**0.01 J**	0.015 U	0.015 U	**0.0012 J**	**0.002 J**	0.016 U	**0.0033 J**	0.015 U
Phenytoin (5,5-Diphenylhydantion/ Dilantin)	**0.0047 J**	**0.0079 J**	**0.01 J**	**0.01 J**	**0.01 J**	0.037 U	**0.018 J**	**0.028 J**	**0.034 J**	**0.0081 J**	**0.0054 J**
Progesterone	**0.0035 J**	0.015 UJ	0.016 UJ	**0.0026 J**	**0.0034 J**	0.015 U	**0.011 J**	**0.013 J**	**0.013 J**	**0.0073 J**	**0.008 J**
Sulfamethoxazole	0.015 U	0.015 U	0.016 U	0.016 U	0.015 U	0.015 U	0.016 U	0.016 U	**0.0017 J**	0.014 U	0.015 U
Testosterone	0.015 U	0.015 U	0.016 U	0.016 U	0.015 U	0.015 U	0.016 U	0.016 U	0.016 U	0.014 U	0.015 U
Trimethoprim	0.039 UJ	0.037 UJ	0.04 UJ	0.04 UJ	0.038 UJ	0.037 UJ	0.04 UJ	0.04 UJ	0.04 UJ	0.036 UJ	0.037 UJ
Pathogen											
C. perfringens (cfu/g)	**330000**	**410000**	**570000**	**550000**	**820000**	**56000**	**70000**	**47000**	**82000**	**130000**	**170000**
Coliphage, Male Specific (pfu/10g)	0 UJ	0 UJ	0 UJ	0 UJ	0 UJ	0 U	0 U	0 U	0 U	0 U	0 U
Coliphage, Somatic (pfu/10g)	**20 J**	**4 J**	**6 J**	**3 J**	**5 J**	**313 J**	**85 J**	**101 J**	**67 J**	**64 J**	**71 J**
Cryptosporidium (Oocysts/g)	0 U	0 U	0 U	0 U	0 U	0 U	0 U	0 U	0 U	0 U	0 U
E.Coli (mpn/g)	**8.5**	**2**	**2**	0 U	**14.8**	**1690**	**46.4**	**83.9**	**107.6**	**110**	**84.2**
Enterococci (mpn/g)	**45.5**	**25**	**21.6**	**51.2**	**4.1**	**119.1**	**95.7**	**58.8**	**39.5**	**48.4**	**118.9**
Fecal Coliform (mpn/g)	**19.9**	**3448 J**	**14136 J**	**7701 J**	**1732.9 J**	**4950**	**122.3**	**116.2**	**172.3**	**235.9**	**63.1**
Giardia (Cysts/g)	0 U	0 U	0 U	0 U	0 U	0 U	0 U	0 U	0 U	0 U	0 U
Plaque forming virus (pfu/g)	0 U	0 U	0 U	0 U	0 U	0 U	0 U	0 U	0 U	0 U	0 U
Viruses (pos/neg)	neg	neg	neg	neg	neg	neg	neg	neg	neg	neg	neg
Other (%)											
Percent Solids	**40.64**	**42.51**	**41.61**	**40.11**	**38.7**	**23.52**	**23.76**	**21.9**	**25.52**	**33.56**	**37.48**
Total Solids	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Other (mg/kg)											
Total Organic Carbon	**66000 J**	**150000 J**	**190000 J**	**150000 J**	**180000 J**	**150000 J**	**140000 J**	**180000 J**	**160000 J**	**170000 J**	**59000 J**

Table 2
Summary of Sediment Analytical Results
Phase I Sediment Cores
Gowanus Canal
Brooklyn, New York

Sample Name:	GC-SED-507	GC-SED-508	GC-SED-508	GC-SED-508	GC-SED-508	GC-SED-508	GC-SED-508	GC-SED-508	GC-SED-508	Duplicate of GC-SED-508	GC-SED-509
Sample Depth (feet):	(3.0-3.5)	(0.0-0.5)	(0.5-1.0)	(1.0-1.5)	(1.5-2.0)	(2.0-2.5)	(2.5-3.0)	(3.0-3.5)	(3.5-4.0)	(3.5-4.0)	(0.0-0.5)
Sample Date:	8/6/2012	8/7/2012	8/7/2012	8/7/2012	8/7/2012	8/7/2012	8/7/2012	8/7/2012	8/7/2012	8/7/2012	8/16/2012
BTEX (mg/kg)											
Benzene	0.41 U	**0.02 J**	**4.5 J**	**0.14 J**	**0.064 J**	**1.6 J**	**0.097 J**	**0.13 J**	**0.64 J**	**0.46 J**	0.017 UJ
Toluene	0.41 U	0.015 UJ	0.87 UJ	**0.0041 J**	**0.0022 J**	0.83 UJ	0.013 UJ	0.011 UJ	0.014 UJ	0.014 UJ	0.017 UJ
Ethylbenzene	**0.075 J**	0.015 UJ	**0.31 J**	**0.0038 J**	**0.0032 J**	**0.17 J**	**0.0034 J**	**0.0026 J**	**0.01 J**	**0.0056 J**	0.017 UJ
m,p-Xylene	0.82 U	0.031 UJ	**0.31 J**	**0.02 J**	**0.014 J**	**0.23 J**	0.025 UJ	**0.014 J**	**0.067 J**	**0.046 J**	0.033 UJ
o-Xylene	0.41 U	0.015 UJ	0.87 UJ	**0.0079 J**	**0.0042 J**	0.83 UJ	0.013 UJ	0.011 UJ	0.014 UJ	0.014 UJ	0.017 UJ
Total Xylene	1.2 U	0.046 UJ	2.6 UJ	**0.028 J**	**0.018 J**	2.5 UJ	0.038 UJ	**0.014 J**	**0.067 J**	**0.046 J**	0.05 UJ
Total BTEX	**0.075**	**0.02**	**5.12**	**0.1759**	**0.0874**	**2**	**0.1004**	**0.1466**	**0.717**	**0.5116**	0
Other VOCs (mg/kg)											
Acetone	R	0.061 UJ	R	**0.014 J**	0.05 UJ	R	**0.013 J**	**0.02 J**	**0.026 J**	**0.014 J**	0.066 UJ
Bromochloromethane	0.41 U	0.015 UJ	0.87 UJ	0.014 UJ	0.013 UJ	0.83 UJ	0.013 UJ	0.011 UJ	0.014 UJ	0.014 UJ	0.017 UJ
Bromodichloromethane	0.41 U	0.015 UJ	0.87 UJ	0.014 UJ	0.013 UJ	0.83 UJ	0.013 UJ	0.011 UJ	0.014 UJ	0.014 UJ	0.017 UJ
Bromoform	0.41 U	0.015 UJ	0.87 UJ	0.014 UJ	0.013 UJ	0.83 UJ	0.013 UJ	0.011 UJ	0.014 UJ	0.014 UJ	0.017 UJ
Bromomethane	0.41 UJ	0.015 UJ	0.87 UJ	0.014 UJ	0.013 UJ	0.83 UJ	0.013 UJ	0.011 UJ	0.014 UJ	0.014 UJ	0.017 UJ
2-Butanone (Methyl ethyl ketone)	R	0.015 UJ	R	0.014 UJ	0.013 UJ	R	0.013 UJ	0.011 UJ	0.014 UJ	0.014 UJ	0.017 UJ
Carbon disulfide	0.41 U	0.015 UJ	0.87 UJ	**0.0018 J**	**0.0033 J**	0.83 UJ	**0.0022 J**	0.011 UJ	0.014 UJ	0.014 UJ	**0.005 J**
Carbon tetrachloride	0.41 U	0.015 UJ	0.87 UJ	0.014 UJ	0.013 UJ	0.83 UJ	0.013 UJ	0.011 UJ	0.014 UJ	0.014 UJ	0.017 UJ
Chlorobenzene	0.41 U	0.015 UJ	0.87 UJ	0.014 UJ	0.013 UJ	0.83 UJ	0.013 UJ	0.011 UJ	0.014 UJ	0.014 UJ	0.017 UJ
Chloroethane	0.41 UJ	0.015 UJ	0.87 UJ	0.014 UJ	0.013 UJ	0.83 UJ	0.013 UJ	0.011 UJ	0.014 UJ	0.014 UJ	0.017 UJ
Chloroform	0.41 U	0.015 UJ	0.87 UJ	0.014 UJ	0.013 UJ	0.83 UJ	0.013 UJ	0.011 UJ	0.014 UJ	0.014 UJ	0.017 UJ
Chloromethane	0.41 U	0.015 UJ	0.87 UJ	0.014 UJ	0.013 UJ	0.83 UJ	0.013 UJ	0.011 UJ	0.014 UJ	0.014 UJ	0.017 UJ
Cyclohexane	0.41 U	0.015 UJ	0.87 UJ	**0.0062 J**	**0.0054 J**	0.83 UJ	**0.0039 J**	0.011 UJ	**0.0055 J**	**0.0039 J**	0.017 UJ
1,2-Dibromo-3-chloropropane	R	0.015 UJ	R	0.014 UJ	0.013 UJ	R	0.013 UJ	0.011 UJ	0.014 UJ	0.014 UJ	0.017 UJ
Dibromochloromethane	0.41 U	0.015 UJ	0.87 UJ	0.014 UJ	0.013 UJ	0.83 UJ	0.013 UJ	0.011 UJ	0.014 UJ	0.014 UJ	0.017 UJ
1,2-Dibromoethane	0.41 U	0.015 UJ	0.87 UJ	0.014 UJ	0.013 UJ	0.83 UJ	0.013 UJ	0.011 UJ	0.014 UJ	0.014 UJ	0.017 UJ
1,2-Dichlorobenzene	0.41 U	0.015 UJ	0.87 UJ	0.014 UJ	0.013 UJ	0.83 UJ	0.013 UJ	0.011 UJ	0.014 UJ	0.014 UJ	0.017 UJ
1,3-Dichlorobenzene	0.41 U	0.015 UJ	0.87 UJ	0.014 UJ	0.013 UJ	0.83 UJ	0.013 UJ	0.011 UJ	0.014 UJ	0.014 UJ	0.017 UJ
1,4-Dichlorobenzene	0.41 U	0.015 UJ	0.87 UJ	0.014 UJ	0.013 UJ	0.83 UJ	0.013 UJ	0.011 UJ	0.014 UJ	0.014 UJ	0.017 UJ
Dichlorodifluoromethane	0.41 U	0.015 UJ	0.87 UJ	0.014 UJ	0.013 UJ	0.83 UJ	0.013 UJ	0.011 UJ	0.014 UJ	0.014 UJ	0.017 UJ
1,1-Dichloroethane	0.41 U	0.015 UJ	0.87 UJ	0.014 UJ	0.013 UJ	0.83 UJ	0.013 UJ	0.011 UJ	0.014 UJ	0.014 UJ	0.017 UJ
1,2-Dichloroethane	0.41 UJ	0.015 UJ	0.87 UJ	0.014 UJ	0.013 UJ	0.83 UJ	0.013 UJ	0.011 UJ	0.014 UJ	0.014 UJ	0.017 UJ
cis-1,2-Dichloroethene	0.41 U	0.015 UJ	0.87 UJ	0.014 UJ	0.013 UJ	0.83 UJ	0.013 UJ	0.011 UJ	0.014 UJ	0.014 UJ	0.017 UJ
trans-1,2-Dichloroethene	0.41 U	0.015 UJ	0.87 UJ	0.014 UJ	0.013 UJ	0.83 UJ	0.013 UJ	0.011 UJ	0.014 UJ	0.014 UJ	0.017 UJ
1,1-Dichloroethene	0.41 U	0.015 UJ	0.87 UJ	0.014 UJ	0.013 UJ	0.83 UJ	0.013 UJ	0.011 UJ	0.014 UJ	0.014 UJ	0.017 UJ
1,2-Dichloropropane	0.41 U	0.015 UJ	0.87 UJ	0.014 UJ	0.013 UJ	0.83 UJ	0.013 UJ	0.011 UJ	0.014 UJ	0.014 UJ	0.017 UJ
cis-1,3-Dichloropropene	0.41 U	0.015 UJ	0.87 UJ	0.014 UJ	0.013 UJ	0.83 UJ	0.013 UJ	0.011 UJ	0.014 UJ	0.014 UJ	0.017 UJ
trans-1,3-Dichloropropene	0.41 U	0.015 UJ	0.87 UJ	0.014 UJ	0.013 UJ	0.83 UJ	0.013 UJ	0.011 UJ	0.014 UJ	0.014 UJ	0.017 UJ
1,4-Dioxane	R	R	R	R	R	R	R	R	R	R	R
2-Hexanone	0.41 U	0.015 UJ	0.87 UJ	0.014 UJ	0.013 UJ	0.83 UJ	0.013 UJ	0.011 UJ	0.014 UJ	0.014 UJ	0.017 UJ
Isopropyl benzene	**0.26 J**	**0.046 J**	**3.8 J**	**0.19 J**	**0.22 J**	**3 J**	**0.11 J**	**0.065 J**	**0.21 J**	**0.15 J**	0.017 UJ
Methyl acetate	**1 J**	0.015 UJ	R	0.014 UJ	0.013 UJ	R	0.013 UJ	0.011 UJ	0.014 UJ	0.014 UJ	0.017 UJ
Methyl tert-butyl ether (MTBE)	0.41 U	0.015 UJ	0.87 UJ	0.014 UJ	0.013 UJ	0.83 UJ	0.013 UJ	0.011 UJ	0.014 UJ	0.014 UJ	0.017 UJ
4-Methyl-2-pentanone	0.41 U	0.015 UJ	0.87 UJ	0.014 UJ	0.013 UJ	0.83 UJ	0.013 UJ	0.011 UJ	0.014 UJ	0.014 UJ	0.017 UJ
Methylcyclohexane	0.41 U	0.015 UJ	0.87 UJ	**0.0047 J**	**0.0052 J**	0.83 UJ	**0.0051 J**	0.011 UJ	**0.0077 J**	**0.0056 J**	0.017 UJ
Methylene chloride	0.41 U	0.015 UJ	0.87 UJ	0.014 UJ	**0.013 J**	0.83 UJ	**0.0085 J**	**0.011 J**	**0.008 J**	0.014 UJ	0.017 UJ
Styrene	0.41 U	0.015 UJ	0.87 UJ	0.014 UJ	0.013 UJ	0.83 UJ	0.013 UJ	0.011 UJ	0.014 UJ	0.014 UJ	0.017 UJ
1,1,2,2-Tetrachloroethane	0.41 U	0.015 UJ	0.87 UJ	0.014 UJ	0.013 UJ	0.83 UJ	0.013 UJ	0.011 UJ	0.014 UJ	0.014 UJ	0.017 UJ
Tetrachloroethene	0.41 U	0.015 UJ	0.87 UJ	0.014 UJ	0.013 UJ	0.83 UJ	0.013 UJ	0.011 UJ	0.014 UJ	0.014 UJ	0.017 UJ

Table 2
Summary of Sediment Analytical Results
Phase I Sediment Cores
Gowanus Canal
Brooklyn, New York

Sample Name:	GC-SED-507	GC-SED-508	GC-SED-508	GC-SED-508	GC-SED-508	GC-SED-508	GC-SED-508	GC-SED-508	GC-SED-508	Duplicate of GC-SED-508	GC-SED-509
Sample Depth (feet):	(3.0-3.5)	(0.0-0.5)	(0.5-1.0)	(1.0-1.5)	(1.5-2.0)	(2.0-2.5)	(2.5-3.0)	(3.0-3.5)	(3.5-4.0)	(3.5-4.0)	(0.0-0.5)
Sample Date:	8/6/2012	8/7/2012	8/7/2012	8/7/2012	8/7/2012	8/7/2012	8/7/2012	8/7/2012	8/7/2012	8/7/2012	8/16/2012
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	0.41 U	0.015 UJ	0.87 UJ	0.014 UJ	0.013 UJ	0.83 UJ	0.013 UJ	0.011 UJ	0.014 UJ	0.014 UJ	0.017 UJ
1,2,3-Trichlorobenzene	0.41 UJ	0.015 UJ	0.87 UJ	0.014 UJ	0.013 UJ	0.83 UJ	0.013 UJ	0.011 UJ	0.014 UJ	0.014 UJ	0.017 UJ
1,2,4-Trichlorobenzene	0.41 U	0.015 UJ	0.87 UJ	0.014 UJ	0.013 UJ	0.83 UJ	0.013 UJ	0.011 UJ	0.014 UJ	0.014 UJ	0.017 UJ
1,1,1-Trichloroethane	0.41 U	0.015 UJ	0.87 UJ	0.014 UJ	0.013 UJ	0.83 UJ	0.013 UJ	0.011 UJ	0.014 UJ	0.014 UJ	0.017 UJ
1,1,2-Trichloroethane	0.41 U	0.015 UJ	0.87 UJ	0.014 UJ	0.013 UJ	0.83 UJ	0.013 UJ	0.011 UJ	0.014 UJ	0.014 UJ	0.017 UJ
Trichloroethene	0.41 U	0.015 UJ	0.87 UJ	0.014 UJ	0.013 UJ	0.83 UJ	0.013 UJ	0.011 UJ	0.014 UJ	0.014 UJ	0.017 UJ
Trichlorofluoromethane	0.41 UJ	0.015 UJ	0.87 UJ	0.014 UJ	0.013 UJ	0.83 UJ	0.013 UJ	0.011 UJ	0.014 UJ	0.014 UJ	0.017 UJ
Vinyl chloride	0.41 U	0.015 UJ	0.87 UJ	0.014 UJ	0.013 UJ	0.83 UJ	0.013 UJ	0.011 UJ	0.014 UJ	0.014 UJ	0.017 UJ
PAHs (mg/kg)											
Acenaphthene	**59**	**18 J**	**17 J**	**30 J**	**26 J**	**36 J**	**57 J**	**29 J**	**35 J**	**35 J**	**3.5 J**
Acenaphthylene	**6.9**	**9.8 J**	**14 J**	**16 J**	**14 J**	**17 J**	**24 J**	**13 J**	**18 J**	**19 J**	**5 J**
Anthracene	**13**	**9.4 J**	**12 J**	**16 J**	**13 J**	**14 J**	**33 J**	**14 J**	**13 J**	**29 J**	**4.6 J**
Benz[a]anthracene	**9.8**	**21 J**	**26 J**	**33 J**	**25 J**	**33 J**	**41 J**	**28 J**	**33 J**	**41 J**	**9.2 J**
Benzo[a]pyrene	**8.7**	**16 J**	**22 J**	**28 J**	**19 J**	**24 J**	**38 J**	**22 J**	**26 J**	**23 J**	**7.2 J**
Benzo[b]fluoranthene	**5.2 J**	**7.5 J**	**7.1 J**	**7.3 J**	**6 J**	**8.6 J**	**16 J**	**5.6 J**	**17 J**	**18 J**	**4.9 J**
Benzo[g,h,i]perylene	**2.9**	**6 J**	**11 J**	**15 J**	**11 J**	**15 J**	**21 J**	**13 J**	**15 J**	**15 J**	**4.9 J**
Benzo[k]fluoranthene	**3.2**	**4.6 J**	**12 J**	**19 J**	**13 J**	**16 J**	**16 J**	**14 J**	**3.8 J**	**3.5 J**	**2.7 J**
Chrysene	**9.2**	**17 J**	**29 J**	**28 J**	**29 J**	**29 J**	**40 J**	**25 J**	**34 J**	**32 J**	**9.1 J**
Dibenz[a,h]anthracene	**1.1 J**	**4.7 J**	**5.7 J**	**5.7 J**	**4 J**	**5.4 J**	**4.8 J**	**5.7 J**	**5.2 J**	**6.4 J**	**4.5 J**
Fluoranthene	**19**	**44 J**	**74 J**	**80 J**	**71 J**	**110 J**	**130 J**	**86 J**	**130 J**	**120 J**	**14 J**
Fluorene	0.55 U	**3.7 J**	**3.3 J**	**4.5 J**	**4.3 J**	**5.9 J**	**15 J**	**5.6 J**	**5.4 J**	**6.2 J**	**2.6 J**
Indeno[1,2,3-cd]pyrene	**3**	**6.6 J**	**9.4 J**	**12 J**	**8.7 J**	**12 J**	**15 J**	**9.8 J**	**12 J**	**12 J**	**6.2 J**
2-Methylnaphthalene	**2.2**	**1.6 J**	**1.4 J**	**3.1 J**	**2.6 J**	**3.6 J**	**7.7 J**	**2.1 J**	**2.9 J**	**2.3 J**	**0.64 J**
Naphthalene	**3.4**	**20 J**	**21 J**	**15 J**	**22 J**	**49 J**	**37 J**	**16 J**	**48 J**	**47 J**	**1.5 J**
Phenanthrene	**24**	**23 J**	**21 J**	**29 J**	**26 J**	**34 J**	**75 J**	**30 J**	**22 J**	**25 J**	**11 J**
Pyrene	**21**	**59 J**	**130 J**	**130 J**	**110 J**	**160 J**	**220 J**	**98 J**	**180 J**	**220 J**	**14 J**
Total PAHs	**191.6**	**271.9**	**415.9**	**471.6**	**404.6**	**572.5**	**790.5**	**416.8**	**600.3**	**654.4**	**105.5**
Alkylated PAHs (mg/kg)											
Acenaphthene	**87.39241**	**27.16291 J**	**21.20465 J**	**37.51552 J**	**45.06702 J**	**30.21925 J**	**57.26427 J**	**29.4051 J**	**28.65728 J**	**29.56341 J**	**4.66859 J**
Acenaphthylene	**4.33406**	**6.54918 J**	**9.36011 J**	**11.00631 J**	**12.10508 J**	**10.15098 J**	**12.79201 J**	**8.1566 J**	**7.39287 J**	**8.79779 J**	**4.78028 J**
Anthracene	**17.23715**	**11.99453 J**	**15.49237 J**	**19.06536 J**	**19.175 J**	**16.25411 J**	**25.43349 J**	**11.20277 J**	**12.71626 J**	**13.2368 J**	**6.58039 J**
Benz[a]anthracene	**12.57027**	**24.51946 J**	**28.24935 J**	**33.06104 J**	**42.48668 J**	**31.75713 J**	**40.1218 J**	**28.13666 J**	**28.1707 J**	**29.19204 J**	**11.3041 J**
Benzo[a]pyrene	**10.27783**	**13.6079 J**	**18.60074 J**	**23.29723 J**	**25.36256 J**	**21.83803 J**	**26.8809 J**	**17.72783 J**	**17.93131 J**	**18.48916 J**	**10.1476 J**
Benzo[b]fluoranthene	**4.90602**	**8.04101 J**	**10.77461 J**	**13.6101 J**	**15.15832 J**	**13.02484 J**	**16.35673 J**	**11.20055 J**	**12.63057 J**	**12.153 J**	**6.24858 J**
Benzo[e]pyrene	**4.30287**	**7.41836 J**	**9.83227 J**	**12.53649 J**	**13.6245 J**	**11.9313 J**	**14.51552 J**	**9.78718 J**	**10.32664 J**	**10.53417 J**	**6.27767 J**
Benzo[g,h,i]perylene	**3.56172**	**5.49668 J**	**7.33947 J**	**9.67903 J**	**10.43316 J**	**9.35479 J**	**11.09612 J**	**7.31248 J**	**7.8883 J**	**7.6225 J**	**5.40611 J**
Benzo[k]fluoranthene	**5.43929**	**9.41461 J**	**12.1902 J**	**15.9557 J**	**17.43694 J**	**15.23301 J**	**18.6618 J**	**12.19044 J**	**13.30008 J**	**13.13405 J**	**7.39176 J**
1,1-Biphenyl	**1.20803**	**0.41572 J**	**0.31616 J**	**0.50301 J**	**0.60145 J**	**0.92748 J**	**1.21022 J**	**0.68967 J**	**1.34989 J**	**1.06858 J**	**0.20874 J**
Chrysene	**11.26613**	**21.16323 J**	**23.57631 J**	**27.40742 J**	**30.55664 J**	**26.92837 J**	**33.94375 J**	**24.00817 J**	**23.93138 J**	**24.70423 J**	**10.79488 J**
C1-Chrysenes	**7.07106**	**12.72244 J**	**17.63855 J**	**21.22442 J**	**23.27917 J**	**20.05391 J**	**25.34821 J**	**17.08904 J**	**15.83996 J**	**17.4217 J**	**7.38651 J**
C2-Chrysenes	**2.89206**	**4.93384 J**	**6.50795 J**	**8.594 J**	**9.21738 J**	**8.66356 J**	**10.78962 J**	**7.23877 J**	**6.58739 J**	**7.07055 J**	**3.14446 J**
C3-Chrysenes	**0.87405**	**1.50899 J**	**2.06344 J**	**2.78101 J**	**2.93157 J**	**3.09324 J**	**3.76289 J**	**2.66772 J**	**2.48773 J**	**2.61313 J**	**1.40185 J**
C4-Chrysenes	**0.45213**	**0.79722 J**	**1.05069 J**	**1.57346 J**	**1.52598 J**	**1.66674 J**	**1.8122 J**	**1.44098 J**	**1.29312 J**	**1.43215 J**	**0.83295 J**
Dibenz[a,h]anthracene	**1.19952**	**1.88084 J**	**2.48772 J**	**3.06056 J**	**3.40886 J**	**2.99053 J**	**3.54018 J**	**2.36236 J**	**2.44986 J**	**2.46383 J**	**1.5371 J**
Dibenzofuran	**3.39646**	**1.11336 J**	**1.04616 J**	**1.9602 J**	**1.83923 J**	**1.70965 J**	**2.56946 J**	**1.34761 J**	**1.64763 J**	**1.46865 J**	**0.40626 J**
Dibenzothiophene	**12.47937**	**5.2981 J**	**7.0219 J**	**9.79652 J**	**10.48471 J**	**8.27505 J**	**12.3068 J**	**9.41114 J**	**10.10615 J**	**10.75926 J**	**2.06508 J**
C1-Dibenzothiophenes	**5.8376**	**10.92032 J**	**18.7427 J**	**20.37793 J**	**23.92149 J**	**26.77225 J**	**34.95071 J**	**29.51092 J**	**24.34897 J**	**26.94697 J**	**3.57183 J**
C2-Dibenzothiophenes	**4.26786**	**9.2108 J**	**15.1734 J**	**17.42061 J**	**19.67723 J**	**19.95666 J**	**26.29016 J**	**20.06224 J**	**17.46626 J**	**19.51375 J**	**3.91436 J**

Table 2
Summary of Sediment Analytical Results
Phase I Sediment Cores
Gowanus Canal
Brooklyn, New York

Sample Name:	GC-SED-507	GC-SED-508	GC-SED-508	GC-SED-508	GC-SED-508	GC-SED-508	GC-SED-508	GC-SED-508	GC-SED-508	Duplicate of GC-SED-508	GC-SED-509
Sample Depth (feet):	(3.0-3.5)	(0.0-0.5)	(0.5-1.0)	(1.0-1.5)	(1.5-2.0)	(2.0-2.5)	(2.5-3.0)	(3.0-3.5)	(3.5-4.0)	(3.5-4.0)	(0.0-0.5)
Sample Date:	8/6/2012	8/7/2012	8/7/2012	8/7/2012	8/7/2012	8/7/2012	8/7/2012	8/7/2012	8/7/2012	8/7/2012	8/16/2012
C3-Dibenzothiophenes	**2.17201**	**3.9315 J**	**6.06219 J**	**8.29598 J**	**8.82945 J**	**9.33869 J**	**12.00911 J**	**8.37607 J**	**7.13292 J**	**7.91759 J**	**2.53789 J**
C4-Dibenzothiophenes	**0.81473**	**1.27234 J**	**1.94855 J**	**2.93041 J**	**3.04694 J**	**3.47767 J**	**4.59712 J**	**3.21014 J**	**2.63517 J**	**3.05282 J**	**0.98459 J**
Fluoranthene	**18.72145**	**51.90501 J**	**84.02147 J**	**91.64556 J**	**103.31972 J**	**119.69542 J**	**152.91704 J**	**136.64362 J**	**122.07591 J**	**131.00843 J**	**18.71637 J**
C1-Fluoranthenes/pyrenes	**18.41697**	**37.3149 J**	**60.88128 J**	**68.20043 J**	**77.71287 J**	**69.57705 J**	**89.24231 J**	**66.86681 J**	**60.8462 J**	**68.92088 J**	**19.13403 J**
C2-Fluoranthenes/pyrenes	**6.34975**	**12.27732 J**	**18.52075 J**	**21.9609 J**	**24.39678 J**	**20.87344 J**	**27.0053 J**	**18.57494 J**	**17.57765 J**	**18.91972 J**	**8.29664 J**
C3-Fluoranthenes/pyrenes	**2.22193**	**4.06767 J**	**5.87515 J**	**7.50869 J**	**8.16791 J**	**7.28885 J**	**9.14685 J**	**6.37197 J**	**6.03139 J**	**6.5999 J**	**3.10371 J**
C4-Fluoranthenes/pyrenes	**0.68568**	**1.16924 J**	**1.64889 J**	**2.27065 J**	**2.41348 J**	**2.43297 J**	**3.01889 J**	**2.07418 J**	**2.08412 J**	**2.29745 J**	**1.08828 J**
Fluorene	**2.28928**	**3.37113 J**	**2.47708 J**	**2.69053 J**	**3.60778 J**	**4.37033 J**	**7.62445 J**	**2.56589 J**	**3.59663 J**	**3.21384 J**	**2.03646 J**
C1-Fluorenes	**9.45892**	**6.60311 J**	**9.82587 J**	**11.78973 J**	**11.03792 J**	**8.53161 J**	**13.35933 J**	**6.77961 J**	**7.04613 J**	**7.40216 J**	**2.65868 J**
C2-Fluorenes	**4.80414**	**10.23887 J**	**17.36609 J**	**19.55972 J**	**23.34867 J**	**23.38606 J**	**30.05887 J**	**25.11401 J**	**21.21696 J**	**23.47914 J**	**3.42666 J**
C3-Fluorenes	**2.65283**	**5.13823 J**	**8.88512 J**	**11.20429 J**	**11.92482 J**	**13.44379 J**	**17.18449 J**	**12.8559 J**	**11.17273 J**	**12.14067 J**	**2.68205 J**
Indeno[1,2,3-cd]pyrene	**4.77669**	**7.27175 J**	**9.54433 J**	**12.49407 J**	**13.82974 J**	**12.08248 J**	**14.49664 J**	**9.60592 J**	**10.6476 J**	**10.11456 J**	**5.84435 J**
Naphthalene	**9.17745**	**31.88507 J**	**39.6058 J**	**24.21666 J**	**47.87197 J**	**72.44554 J**	**62.27158 J**	**34.56063 J**	**65.09304 J**	**64.04251 J**	**1.78862 J**
C1-Naphthalenes	**6.57271**	**17.54188 J**	**19.39949 J**	**32.46353 J**	**41.51423 J**	**28.64642 J**	**38.11446 J**	**32.99566 J**	**31.39145 J**	**31.2695 J**	**1.55052 J**
C2-Naphthalenes	**17.51256**	**10.37087 J**	**9.10336 J**	**14.44585 J**	**16.15389 J**	**14.35428 J**	**25.24082 J**	**10.94393 J**	**11.68854 J**	**11.49273 J**	**3.96317 J**
C3-Naphthalenes	**20.76672**	**10.03315 J**	**13.75225 J**	**22.37054 J**	**16.70467 J**	**13.1932 J**	**22.01889 J**	**8.86529 J**	**10.20888 J**	**10.82972 J**	**3.76525 J**
C4-Naphthalenes	**4.69786**	**6.28014 J**	**9.32159 J**	**14.91778 J**	**13.23629 J**	**10.19364 J**	**15.40178 J**	**8.40278 J**	**8.30317 J**	**9.13386 J**	**2.33737 J**
Perylene	**1.3968**	**2.36775 J**	**3.16832 J**	**3.97942 J**	**4.35949 J**	**3.74759 J**	**4.56183 J**	**2.9835 J**	**3.35699 J**	**3.11691 J**	**1.89359 J**
Phenanthrene	**29.50486**	**34.82761 J**	**27.74345 J**	**22.91893 J**	**32.39118 J**	**30.52642 J**	**59.32148 J**	**15.79632 J**	**22.83291 J**	**19.29721 J**	**14.87167 J**
C1-Phenanthrenes/anthracenes	**25.3775**	**37.85914 J**	**54.12197 J**	**62.22019 J**	**63.44168 J**	**43.85962 J**	**66.12184 J**	**32.0724 J**	**33.33691 J**	**36.34132 J**	**16.73499 J**
C2-Phenanthrenes/anthracenes	**12.65015**	**25.9187 J**	**39.7564 J**	**47.5338 J**	**51.19731 J**	**41.57778 J**	**55.83813 J**	**39.43634 J**	**36.96542 J**	**40.94722 J**	**12.11405 J**
C3-Phenanthrenes/anthracenes	**4.57473**	**8.68301 J**	**13.39158 J**	**17.79192 J**	**18.71814 J**	**18.13619 J**	**23.62758 J**	**16.60677 J**	**14.67172 J**	**16.50288 J**	**5.52255 J**
C4-Phenanthrenes/anthracenes	**1.24924**	**2.11237 J**	**3.29357 J**	**4.85137 J**	**4.9329 J**	**5.68726 J**	**7.47242 J**	**5.06231 J**	**4.02543 J**	**4.63744 J**	**1.65476 J**
Pyrene	**24.74654**	**69.02984 J**	**113.87867 J**	**124.0822 J**	**137.01387 J**	**155.37628 J**	**199.20233 J**	**177.18943 J**	**155.25895 J**	**172.04338 J**	**23.20669 J**
TPH (mg/kg)											
Total Petroleum Hydrocarbons	**3820.07**	**6473.32 J**	**8367.53 J**	**11782.6 J**	**10650.49 J**	**13329.87 J**	**17717.73 J**	**13664.51 J**	**11751.04 J**	**13772.2 J**	**9161.28 J**
Other SVOCs (mg/kg)											
Acetophenone	2.7 U	5.1 UJ	5.7 UJ	**0.45 J**	4.1 UJ	5.4 UJ	**0.75 J**	3.7 UJ	**0.63 J**	4.6 UJ	5.4 UJ
Atrazine	2.7 U	5.1 UJ	5.7 UJ	4.6 UJ	4.1 UJ	5.4 UJ	4.1 UJ	3.7 UJ	4.5 UJ	4.6 UJ	5.4 UJ
Benzaldehyde	2.7 U	5.1 UJ	**3.3 J**	**2.7 J**	**2.4 J**	**3.1 J**	**2.5 J**	**2.2 J**	**2.7 J**	**2.7 J**	5.4 UJ
1,1-Biphenyl	**0.65 J**	5.1 UJ	5.7 UJ	**0.55 J**	**0.52 J**	**0.75 J**	**2.2 J**	**0.62 J**	**1.2 J**	**1.1 J**	5.4 UJ
Bis(chloroisopropyl)ether	0.55 U	1 UJ	1.2 UJ	0.93 UJ	0.84 UJ	1.1 UJ	0.83 UJ	0.76 UJ	0.91 UJ	0.94 UJ	1.1 UJ
Bis(2-chloroethyl)ether	0.55 U	1 UJ	1.2 UJ	0.93 UJ	0.84 UJ	1.1 UJ	0.83 UJ	0.76 UJ	0.91 UJ	0.94 UJ	1.1 UJ
Bis(2-chloroethoxy)methane	2.7 U	5.1 UJ	5.7 UJ	4.6 UJ	4.1 UJ	5.4 UJ	4.1 UJ	3.7 UJ	4.5 UJ	4.6 UJ	5.4 UJ
Bis(2-ethylhexyl)phthalate	**9.8**	**15 J**	**23 J**	**25 J**	**24 J**	**31 J**	**48 J**	**35 J**	**42 J**	**38 J**	**22 J**

Table 2
Summary of Sediment Analytical Results
Phase I Sediment Cores
Gowanus Canal
Brooklyn, New York

Sample Name:	GC-SED-507	GC-SED-508	GC-SED-508	GC-SED-508	GC-SED-508	GC-SED-508	GC-SED-508	GC-SED-508	GC-SED-508	Duplicate of GC-SED-508	GC-SED-509
Sample Depth (feet):	(3.0-3.5)	(0.0-0.5)	(0.5-1.0)	(1.0-1.5)	(1.5-2.0)	(2.0-2.5)	(2.5-3.0)	(3.0-3.5)	(3.5-4.0)	(3.5-4.0)	(0.0-0.5)
Sample Date:	8/6/2012	8/7/2012	8/7/2012	8/7/2012	8/7/2012	8/7/2012	8/7/2012	8/7/2012	8/7/2012	8/7/2012	8/16/2012
4-Bromophenyl phenyl ether	2.7 U	5.1 UJ	5.7 UJ	4.6 UJ	4.1 UJ	5.4 UJ	4.1 UJ	3.7 UJ	4.5 UJ	4.6 UJ	5.4 UJ
Butyl benzyl phthalate	2.7 U	5.1 UJ	5.7 UJ	4.6 UJ	4.1 UJ	5.4 UJ	**0.62 J**	3.7 UJ	4.5 UJ	4.6 UJ	5.4 UJ
Caprolactam	14 UJ	26 UJ	29 UJ	24 UJ	21 UJ	28 UJ	21 UJ	19 UJ	23 UJ	24 UJ	28 UJ
Carbazole	**0.23 J**	**1.6 J**	**1.1 J**	**3.1 J**	**2.4 J**	**2.7 J**	**1.9 J**	**1.8 J**	**2.6 J**	**2.5 J**	**0.48 J**
4-Chloro-3-methylphenol	2.7 U	5.1 UJ	5.7 UJ	4.6 UJ	4.1 UJ	5.4 UJ	4.1 UJ	3.7 UJ	4.5 UJ	4.6 UJ	5.4 UJ
4-Chloroaniline	2.7 U	5.1 UJ	**0.47 J**	**0.87 J**	**0.84 J**	5.4 UJ	**1.3 J**	3.7 UJ	**1.1 J**	**0.97 J**	**0.48 J**
Chlorophene	2.7 U	5.1 UJ	5.7 UJ	4.6 UJ	4.1 UJ	5.4 UJ	4.1 UJ	3.7 UJ	4.5 UJ	4.6 UJ	5.4 UJ
2-Chloronaphthalene	0.55 U	1 UJ	1.2 UJ	0.93 UJ	0.84 UJ	1.1 UJ	0.83 UJ	0.76 UJ	0.91 UJ	0.94 UJ	1.1 UJ
2-Chlorophenol	2.7 U	5.1 UJ	5.7 UJ	4.6 UJ	4.1 UJ	5.4 UJ	4.1 UJ	3.7 UJ	4.5 UJ	4.6 UJ	5.4 UJ
4-Chlorophenyl phenyl ether	2.7 U	5.1 UJ	5.7 UJ	4.6 UJ	4.1 UJ	5.4 UJ	4.1 UJ	3.7 UJ	4.5 UJ	4.6 UJ	5.4 UJ
Dibenzofuran	**3.1**	**0.9 J**	**0.96 J**	**1.8 J**	**1.7 J**	**2.3 J**	**3.3 J**	**1.9 J**	**1.9 J**	**1.9 J**	5.4 UJ
3,3-Dichlorobenzidine	2.7 U	5.1 UJ	5.7 UJ	4.6 UJ	4.1 UJ	5.4 UJ	4.1 UJ	3.7 UJ	4.5 UJ	4.6 UJ	5.4 UJ
2,4-Dichlorophenol	0.55 U	1 UJ	1.2 UJ	0.93 UJ	0.84 UJ	1.1 UJ	0.83 UJ	0.76 UJ	0.91 UJ	0.94 UJ	1.1 UJ
Diethyl phthalate	2.7 U	5.1 UJ	5.7 UJ	4.6 UJ	4.1 UJ	5.4 UJ	4.1 UJ	3.7 UJ	4.5 UJ	4.6 UJ	5.4 UJ
Dimethyl phthalate	2.7 U	5.1 UJ	5.7 UJ	4.6 UJ	4.1 UJ	5.4 UJ	4.1 UJ	3.7 UJ	4.5 UJ	4.6 UJ	5.4 UJ
2,4-Dimethylphenol	2.7 U	5.1 UJ	5.7 UJ	4.6 UJ	4.1 UJ	5.4 UJ	4.1 UJ	3.7 UJ	4.5 UJ	4.6 UJ	5.4 UJ
Di-n-butyl phthalate	2.7 U	5.1 UJ	5.7 UJ	**0.88 J**	4.1 UJ	5.4 UJ	4.1 UJ	3.7 UJ	4.5 UJ	4.6 UJ	5.4 UJ
4,6-Dinitro-2-methylphenol	14 UJ	26 UJ	29 UJ	24 UJ	21 UJ	28 UJ	21 UJ	19 UJ	23 UJ	24 UJ	28 UJ
2,4-Dinitrophenol	14 UJ	R	29 UJ	24 UJ	21 UJ	28 UJ	21 UJ	19 UJ	23 UJ	24 UJ	28 UJ
2,4-Dinitrotoluene	2.7 UJ	5.1 UJ	5.7 UJ	4.6 UJ	4.1 UJ	5.4 UJ	4.1 UJ	3.7 UJ	4.5 UJ	4.6 UJ	5.4 UJ
2,6-Dinitrotoluene	2.7 U	5.1 UJ	5.7 UJ	4.6 UJ	4.1 UJ	5.4 UJ	4.1 UJ	3.7 UJ	4.5 UJ	4.6 UJ	5.4 UJ
Di-n-octyl phthalate	**0.31 J**	5.1 UJ	5.7 UJ	**0.95 J**	4.1 UJ	**1.2 J**	**1.7 J**	**0.5 J**	4.5 UJ	**1.6 J**	5.4 UJ
Hexachlorobenzene	0.55 U	1 UJ	1.2 UJ	0.93 UJ	0.84 UJ	1.1 UJ	0.83 UJ	0.76 UJ	0.91 UJ	0.94 UJ	1.1 UJ
Hexachlorobutadiene	0.55 U	1 UJ	1.2 UJ	0.93 UJ	0.84 UJ	1.1 UJ	0.83 UJ	0.76 UJ	0.91 UJ	0.94 UJ	1.1 UJ
Hexachlorocyclopentadiene	2.7 U	R	5.7 UJ	4.6 UJ	4.1 UJ	5.4 UJ	4.1 UJ	3.7 UJ	4.5 UJ	4.6 UJ	5.4 UJ
Hexachloroethane	2.7 U	5.1 UJ	5.7 UJ	4.6 UJ	4.1 UJ	5.4 UJ	4.1 UJ	3.7 UJ	4.5 UJ	4.6 UJ	5.4 UJ
Isophorone	2.7 U	5.1 UJ	5.7 UJ	4.6 UJ	4.1 UJ	5.4 UJ	4.1 UJ	3.7 UJ	4.5 UJ	4.6 UJ	5.4 UJ
2-Methylphenol (o-Cresol)	2.7 U	5.1 UJ	5.7 UJ	4.6 UJ	4.1 UJ	5.4 UJ	4.1 UJ	3.7 UJ	4.5 UJ	4.6 UJ	5.4 UJ
3,4-Methylphenol (m,p-Cresol)	2.7 U	5.1 UJ	5.7 UJ	4.6 UJ	4.1 UJ	5.4 UJ	4.1 UJ	3.7 UJ	4.5 UJ	4.6 UJ	5.4 UJ
2-Nitroaniline	14 U	26 UJ	29 UJ	24 UJ	21 UJ	28 UJ	21 UJ	19 UJ	23 UJ	24 UJ	28 UJ
3-Nitroaniline	14 U	26 UJ	29 UJ	24 UJ	21 UJ	28 UJ	21 UJ	19 UJ	23 UJ	24 UJ	28 UJ
4-Nitroaniline	14 U	26 UJ	29 UJ	24 UJ	21 UJ	28 UJ	21 UJ	19 UJ	23 UJ	24 UJ	28 UJ
Nitrobenzene	5.5 U	10 UJ	12 UJ	9.3 UJ	8.4 UJ	11 UJ	8.3 UJ	7.6 UJ	9.1 UJ	9.4 UJ	11 UJ
2-Nitrophenol	2.7 U	5.1 UJ	5.7 UJ	4.6 UJ	4.1 UJ	5.4 UJ	4.1 UJ	3.7 UJ	4.5 UJ	4.6 UJ	5.4 UJ

Table 2
Summary of Sediment Analytical Results
Phase I Sediment Cores
Gowanus Canal
Brooklyn, New York

Sample Name:	GC-SED-507	GC-SED-508	GC-SED-508	GC-SED-508	GC-SED-508	GC-SED-508	GC-SED-508	GC-SED-508	GC-SED-508	Duplicate of GC-SED-508	GC-SED-509
Sample Depth (feet):	(3.0-3.5)	(0.0-0.5)	(0.5-1.0)	(1.0-1.5)	(1.5-2.0)	(2.0-2.5)	(2.5-3.0)	(3.0-3.5)	(3.5-4.0)	(3.5-4.0)	(0.0-0.5)
Sample Date:	8/6/2012	8/7/2012	8/7/2012	8/7/2012	8/7/2012	8/7/2012	8/7/2012	8/7/2012	8/7/2012	8/7/2012	8/16/2012
4-Nitrophenol	14 U	26 UJ	29 UJ	24 UJ	21 UJ	28 UJ	21 UJ	19 UJ	23 UJ	24 UJ	28 UJ
N-Nitrosodi-n-propylamine	0.55 U	1 UJ	1.2 UJ	0.93 UJ	0.84 UJ	1.1 UJ	0.83 UJ	0.76 UJ	0.91 UJ	0.94 UJ	1.1 UJ
N-Nitrosodiphenylamine	2.7 U	5.1 UJ	5.7 UJ	4.6 UJ	4.1 UJ	5.4 UJ	4.1 UJ	3.7 UJ	4.5 UJ	4.6 UJ	5.4 UJ
Pentachlorophenol	2.7 U	R	5.7 UJ	4.6 UJ	4.1 UJ	5.4 UJ	4.1 UJ	3.7 UJ	4.5 UJ	4.6 UJ	5.4 UJ
Phenol	0.55 U	1 UJ	1.2 UJ	0.93 UJ	0.84 UJ	1.1 UJ	0.83 UJ	0.76 UJ	0.91 UJ	0.94 UJ	1.1 UJ
1,2,4,5-Tetrachlorobenzene	2.7 U	5.1 UJ	5.7 UJ	4.6 UJ	4.1 UJ	5.4 UJ	4.1 UJ	3.7 UJ	4.5 UJ	4.6 UJ	5.4 UJ
2,3,4,6-Tetrachlorophenol	2.7 U	5.1 UJ	5.7 UJ	4.6 UJ	4.1 UJ	5.4 UJ	4.1 UJ	3.7 UJ	4.5 UJ	4.6 UJ	5.4 UJ
2,4,5-Trichlorophenol	2.7 U	5.1 UJ	5.7 UJ	4.6 UJ	4.1 UJ	5.4 UJ	4.1 UJ	3.7 UJ	4.5 UJ	4.6 UJ	5.4 UJ
2,4,6-Trichlorophenol	2.7 U	5.1 UJ	5.7 UJ	4.6 UJ	4.1 UJ	5.4 UJ	4.1 UJ	3.7 UJ	4.5 UJ	4.6 UJ	5.4 UJ
PCBs (mg/kg)											
Aroclor 1016	0.067 U	0.025 UJ	0.028 UJ	0.12 UJ	0.02 UJ	0.028 UJ	0.1 UJ	0.094 UJ	0.11 UJ	0.023 UJ	0.027 UJ
Aroclor 1221	0.067 U	0.025 UJ	0.028 UJ	0.12 UJ	0.02 UJ	0.028 UJ	0.1 UJ	0.094 UJ	0.11 UJ	0.023 UJ	0.027 UJ
Aroclor 1232	0.067 U	0.025 UJ	0.028 UJ	0.12 UJ	0.02 UJ	0.028 UJ	0.1 UJ	0.094 UJ	0.11 UJ	0.023 UJ	0.027 UJ
Aroclor 1242	**0.22 J**	**0.28 J**	**0.4 J**	**0.27 J**	**0.46 J**	**1.2 J**	**0.94 J**	**0.6 J**	**0.51 J**	**1.1 J**	**0.28 J**
Aroclor 1248	0.067 UJ	0.025 UJ	0.028 UJ	0.12 UJ	0.02 UJ	0.028 UJ	0.1 UJ	0.094 UJ	0.11 UJ	0.023 UJ	0.027 UJ
Aroclor 1254	0.067 UJ	0.025 UJ	0.028 UJ	**0.39 J**	0.02 UJ	0.028 UJ	0.1 UJ	0.094 UJ	**0.65 J**	0.023 UJ	0.027 UJ
Aroclor 1260	**0.13 J**	**0.17 J**	**0.25 J**	0.12 UJ	**0.31 J**	**0.82 J**	**1.1 J**	**0.69 J**	0.11 UJ	**0.8 J**	**0.28 J**
Aroclor 1262	0.067 UJ	0.025 UJ	0.028 UJ	0.12 UJ	0.02 UJ	0.028 UJ	0.1 UJ	0.094 UJ	0.11 UJ	0.023 UJ	0.027 UJ
Aroclor 1268	0.067 UJ	0.025 UJ	0.028 UJ	0.12 UJ	0.02 UJ	0.028 UJ	0.1 UJ	0.094 UJ	0.11 UJ	0.023 UJ	0.027 UJ
Total PCBs	**0.35 J**	**0.45 J**	**0.65 J**	**0.66 J**	**0.77 J**	**2 J**	**2 J**	**1.3 J**	**1.2 J**	**1.9 J**	**0.56 J**
Pesticides (mg/kg)											
Aldrin	0.014 U	0.026 UJ	0.029 UJ	0.023 UJ	0.021 UJ	0.028 UJ	**0.012 J**	**0.0087 J**	0.023 UJ	**0.0091 J**	0.028 UJ
alpha-BHC	0.014 U	0.026 UJ	0.029 UJ	0.023 UJ	0.021 UJ	0.028 UJ	0.021 UJ	0.019 UJ	0.023 UJ	0.024 UJ	0.028 UJ
beta-BHC	0.014 U	0.026 UJ	0.029 UJ	**0.0091 J**	**0.0085 J**	**0.016 J**	**0.019 J**	**0.0096 J**	**0.011 J**	**0.01 J**	0.028 UJ
gamma-BHC	0.014 U	0.026 UJ	0.029 UJ	0.023 UJ	0.021 UJ	0.028 UJ	0.021 UJ	0.019 UJ	0.023 UJ	0.024 UJ	0.028 UJ
delta-BHC	0.014 U	0.026 UJ	0.029 UJ	**0.013 J**	0.021 UJ	0.028 UJ	0.021 UJ	0.019 UJ	0.023 UJ	**0.0097 J**	0.028 UJ
alpha-chlordane	**0.0084 J**	0.026 UJ	**0.009 J**	**0.011 J**	**0.009 J**	**0.022 J**	**0.027 J**	**0.014 J**	**0.017 J**	**0.018 J**	0.028 UJ
gamma-Chlordane	**0.14 J**	**0.12 J**	**0.028 J**	0.023 UJ	**0.022 J**	**0.038 J**	**0.038 J**	**0.041 J**	0.023 UJ	**0.061 J**	**0.46 J**
4,4-DDD	**0.027**	**0.024 J**	**0.033 J**	**0.049 J**	**0.038 J**	**0.11 J**	**0.13 J**	**0.07 J**	**0.081 J**	**0.089 J**	**0.049 J**
4,4'-DDE	**0.012 J**	**0.017 J**	**0.024 J**	**0.03 J**	**0.022 J**	**0.056 J**	**0.072 J**	**0.036 J**	**0.046 J**	**0.052 J**	**0.029 J**
4,4'-DDT	0.014 U	0.026 UJ	0.029 UJ	**0.017 J**	0.021 UJ	0.028 UJ	0.021 UJ	0.019 UJ	0.023 UJ	0.024 UJ	0.028 UJ
Dieldrin	0.014 U	0.026 UJ	0.029 UJ	0.023 UJ	0.021 UJ	0.028 UJ	0.021 UJ	0.019 UJ	0.023 UJ	0.024 UJ	0.028 UJ
Endosulfan I	0.014 U	0.026 UJ	0.029 UJ	0.023 UJ	0.021 UJ	0.028 UJ	0.021 UJ	0.019 UJ	0.023 UJ	0.024 UJ	0.028 UJ
Endosulfan II	0.014 U	0.026 UJ	0.029 UJ	0.023 UJ	0.021 UJ	0.028 UJ	0.021 UJ	0.019 UJ	0.023 UJ	0.024 UJ	**0.0082 J**
Endosulfan sulfate	**0.0027 J**	0.026 UJ	0.029 UJ	**0.0068 J**	0.021 UJ	0.028 UJ	**0.0081 J**	**0.0084 J**	0.023 UJ	**0.0085 J**	**0.0088 J**
Endrin	0.014 U	0.026 UJ	0.029 UJ	0.023 UJ	0.021 UJ	0.028 UJ	**0.021 JN**	0.019 UJ	0.023 UJ	0.024 UJ	0.028 UJ
Endrin aldehyde	**0.0048 J**	0.026 UJ	0.029 UJ	0.023 UJ	0.021 UJ	0.028 UJ	0.021 UJ	**0.004 J**	0.023 UJ	0.024 UJ	**0.015 J**
Endrin ketone	**0.0048 J**	0.026 UJ	0.029 UJ	**0.018 J**	**0.015 J**	0.028 UJ	0.021 UJ	**0.03 J**	**0.035 J**	**0.041 J**	**0.02 J**
Heptachlor	0.014 U	0.026 UJ	0.029 UJ	0.023 UJ	0.021 UJ	0.028 UJ	0.021 UJ	0.019 UJ	0.023 UJ	0.024 UJ	0.028 UJ
Heptachlor epoxide	0.014 U	0.026 UJ	0.029 UJ	**0.0068 J**	**0.0053 J**	0.028 UJ	0.021 UJ	**0.012 J**	0.023 UJ	0.024 UJ	0.028 UJ
Methoxychlor	0.027 U	0.05 UJ	0.057 UJ	0.045 UJ	0.041 UJ	0.055 UJ	0.04 UJ	0.037 UJ	0.045 UJ	0.046 UJ	0.054 UJ
Toxaphene	0.54 U	1 UJ	1.1 UJ	0.92 UJ	0.83 UJ	1.1 UJ	0.82 UJ	0.75 UJ	0.91 UJ	0.94 UJ	1.1 UJ
Herbicides (mg/kg)											
2,4-D	0.13 U	0.24 UJ	0.28 UJ	0.22 UJ	0.2 UJ	0.27 UJ	0.2 UJ	0.18 UJ	0.22 UJ	0.23 UJ	0.26 UJ
2,4-DB	0.13 UJ	0.24 UJ	0.28 UJ	0.22 UJ	0.2 UJ	0.27 UJ	0.2 UJ	0.18 UJ	0.22 UJ	0.23 UJ	0.26 UJ
Dicamba	0.066 U	0.12 UJ	0.14 UJ	0.11 UJ	0.1 UJ	0.13 UJ	0.1 UJ	0.092 UJ	0.11 UJ	0.11 UJ	0.13 UJ
Dichloroprop	0.13 U	0.24 UJ	0.28 UJ	**0.2 J**	0.2 UJ	0.27 UJ	0.2 UJ	0.18 UJ	0.22 UJ	0.23 UJ	**0.19 J**
2,2-Dichloropropionic acid	0.15 U	0.28 UJ	0.31 UJ	0.25 UJ	0.23 UJ	0.3 UJ	0.23 UJ	0.21 UJ	0.25 UJ	0.25 UJ	0.3 UJ
Dinoseb	0.02 U	0.037 UJ	0.042 UJ	0.033 UJ	0.03 UJ	0.04 UJ	0.03 UJ	0.028 UJ	0.033 UJ	**0.015 J**	0.04 UJ

Table 2
Summary of Sediment Analytical Results
Phase I Sediment Cores
Gowanus Canal
Brooklyn, New York

Sample Name:	GC-SED-507	GC-SED-508	GC-SED-508	GC-SED-508	GC-SED-508	GC-SED-508	GC-SED-508	GC-SED-508	GC-SED-508	Duplicate of GC-SED-508	GC-SED-509
Sample Depth (feet):	(3.0-3.5)	(0.0-0.5)	(0.5-1.0)	(1.0-1.5)	(1.5-2.0)	(2.0-2.5)	(2.5-3.0)	(3.0-3.5)	(3.5-4.0)	(3.5-4.0)	(0.0-0.5)
Sample Date:	8/6/2012	8/7/2012	8/7/2012	8/7/2012	8/7/2012	8/7/2012	8/7/2012	8/7/2012	8/7/2012	8/7/2012	8/16/2012
MCPP	13 U	24 UJ	28 UJ	22 UJ	20 UJ	27 UJ	20 UJ	18 UJ	22 UJ	23 UJ	26 UJ
Methylchlorophenoxyacetic acid	13 U	24 UJ	28 UJ	22 UJ	20 UJ	27 UJ	20 UJ	18 UJ	**24 J**	**16 J**	26 UJ
Pentachlorophenol	0.018 U	0.034 UJ	0.038 UJ	0.031 UJ	0.028 UJ	0.036 UJ	**0.0085 J**	0.025 UJ	0.03 UJ	0.031 UJ	0.036 UJ
Silvex	0.033 U	0.061 UJ	0.07 UJ	0.056 UJ	0.05 UJ	0.066 UJ	0.05 UJ	0.046 UJ	0.055 UJ	0.056 UJ	0.066 UJ
2,4,5-Trichlorophenoxyacetic Acid	0.033 U	0.061 UJ	0.07 UJ	0.056 UJ	**0.028 J**	0.066 UJ	0.05 UJ	**0.018 J**	0.055 UJ	0.056 UJ	0.066 UJ
Metals (mg/kg)											
Aluminum	**4300**	**11000 J**	**18000 J**	**15000 J**	**12000 J**	**17000 J**	**12000 J**	**10000 J**	**13000 J**	**14000 J**	**13000 J**
Antimony	**0.68 J**	**1.3 J**	**1.3 J**	**2 J**	**1.3 J**	**1.9 J**	**2.1 J**	**1.7 J**	**1.5 J**	**2 J**	**1.9 J**
Arsenic	**3.9**	**13 J**	**19 J**	**16 J**	**20 J**	**27 J**	**20 J**	**17 J**	**24 J**	**22 J**	**8.2 J**
Barium	**75**	**150 J**	**280 J**	**280 J**	**270 J**	**420 J**	**410 J**	**410 J**	**390 J**	**450 J**	**110 J**
Beryllium	**0.27**	**0.58 J**	**0.99 J**	**0.8 J**	**0.68 J**	**0.88 J**	**0.68 J**	**0.59 J**	**0.75 J**	**0.8 J**	**0.6 J**
Cadmium	**0.66 J**	**1.6 J**	**2.3 J**	**2.4 J**	**2.6 J**	**5 J**	**5.5 J**	**3.8 J**	**4.3 J**	**6.4 J**	**2.7 J**
Calcium	**3300**	**8200 J**	**10000 J**	**9000 J**	**8600 J**	**12000 J**	**11000 J**	**9900 J**	**12000 J**	**12000 J**	**9100 J**
Chromium	**23 J**	**60 J**	**83 J**	**75 J**	**71 J**	**120 J**	**100 J**	**79 J**	**91 J**	**95 J**	**68 J**
Cobalt	**4.2 J**	**8.3 J**	**13 J**	**10 J**	**8.8 J**	**12 J**	**9.6 J**	**8.1 J**	**9.6 J**	**10 J**	**8.9 J**
Copper	**110**	**200 J**	**250 J**	**230 J**	**230 J**	**410 J**	**420 J**	**290 J**	**620 J**	**350 J**	**240 J**
Iron	**13000**	**28000 J**	**45000 J**	**38000 J**	**36000 J**	**48000 J**	**36000 J**	**32000 J**	**43000 J**	**42000 J**	**23000 J**
Lead	**300 J**	**240 J**	**290 J**	**330 J**	**320 J**	**580 J**	**620 J**	**450 J**	**510 J**	**540 J**	**320 J**
Magnesium	**3300**	**7500 J**	**9600 J**	**7800 J**	**6700 J**	**9400 J**	**7400 J**	**6600 J**	**8100 J**	**8600 J**	**12000 J**
Manganese	**150 J**	**280 J**	**550 J**	**430 J**	**360 J**	**440 J**	**330 J**	**310 J**	**370 J**	**380 J**	**190 J**
Mercury	**0.39 J**	**1 J**	**1.7 J**	**2.1 J**	**1.8 J**	**2.7 J**	**2.6 J**	**1.8 J**	**2.5 J**	**2.4 J**	**1.5 J**
Nickel	**22 J**	**33 J**	**50 J**	**44 J**	**47 J**	**74 J**	**67 J**	**53 J**	**61 J**	**64 J**	**35 J**
Potassium	**840**	**2600 J**	**3400 J**	**2800 J**	**2300 J**	**3200 J**	**2200 J**	**1900 J**	**2300 J**	**2500 J**	**2500 J**
Selenium	**2 J**	**2.2 J**	**3.9 J**	**2.8 J**	**3.3 J**	**7.1 J**	**6.3 J**	**5 J**	**7 J**	**6.1 J**	**2.4 J**
Silver	**1.1 J**	**4 J**	**7 J**	**5.7 J**	**8.6 J**	**10 J**	**9.2 J**	**6.7 J**	**10 J**	**9.5 J**	**4.4 J**
Sodium	**1900**	**8600 J**	**3300 J**	**2600 J**	**2300 J**	**2900 J**	**2200 J**	**1900 J**	**2500 J**	**2400 J**	**15000 J**
Thallium	0.081 UJ	**0.18 J**	**0.27 J**	**0.22 J**	**0.19 J**	**0.24 J**	**0.22 J**	**0.19 J**	**0.21 J**	**0.23 J**	**0.24 J**
Vanadium	**14**	**33 J**	**50 J**	**42 J**	**39 J**	**55 J**	**46 J**	**41 J**	**47 J**	**48 J**	**41 J**
Zinc	**220 J**	**480 J**	**570 J**	**510 J**	**520 J**	**730 J**	**830 J**	**690 J**	**740 J**	**880 J**	**610 J**
EDCs & PPCPs (Phenols) (mg/kg)											
Bisphenol A	0.65 U	1.4 UJ	1.3 UJ	1.2 UJ	1.1 UJ	1.1 UJ	0.94 UJ	0.9 UJ	0.98 UJ	0.93 UJ	1.3 UJ
Nonylphenol	**5.2**	**16 J**	**21 J**	**26 J**	**25 J**	**17 J**	**20 J**	**19 J**	**19 J**	**24 J**	**15 J**
Nonylphenol Diethoxylate	13 U	27 UJ	25 UJ	24 UJ	22 UJ	21 UJ	19 UJ	18 UJ	20 UJ	19 UJ	26 UJ
Nonylphenol Monoethoxylate	6.5 U	14 UJ	13 UJ	12 UJ	11 UJ	11 UJ	9.4 UJ	9 UJ	9.8 UJ	9.3 UJ	13 UJ
4-tert-Octylphenol	0.65 UJ	1.4 UJ	1.3 UJ	1.2 UJ	1.1 UJ	1.1 UJ	0.94 UJ	0.9 UJ	0.98 UJ	0.93 UJ	1.3 UJ
EDCs and PPCPs (mg/kg)											
Acetaminophen	0.039 U	0.038 U	0.039 U	0.04 U	0.04 U	0.039 U	0.038 U	0.039 U	0.039 U	0.038 U	0.037 U
alpha-Estradiol	0.039 UJ	0.038 UJ	0.039 UJ	0.04 UJ	0.04 UJ	0.039 UJ	0.038 UJ	0.039 UJ	0.039 UJ	0.038 UJ	0.037 UJ
Androstenedione	**0.0016 J**	0.0076 UJ	0.0077 UJ	0.008 UJ	0.008 UJ	0.0078 UJ	0.0077 UJ	0.0079 UJ	0.0077 UJ	0.0076 UJ	**0.0027 J**
Atrazine	0.0077 UJ	0.0076 UJ	0.0077 UJ	0.008 UJ	0.008 UJ	0.0078 UJ	0.0077 UJ	0.0079 UJ	0.0077 UJ	0.0076 UJ	0.0074 UJ
Bisphenol A	**0.15**	**0.1**	**0.057 J**	**0.046 J**	**0.083**	**0.059 J**	**0.11**	**0.078 J**	**0.25 J**	**0.068 J**	**0.21**
Carbamazepine	**0.0041 J**	**0.0094 J**	0.015 UJ	0.016 UJ	0.016 UJ	0.016 UJ	0.015 UJ	0.016 UJ	0.015 UJ	0.015 UJ	0.015 UJ
DEET (N,N-Diethyl-3-Methyl Benzamide)	0.039 UJ	0.038 UJ	0.039 UJ	0.04 UJ	0.04 UJ	0.039 UJ	0.038 UJ	0.039 UJ	0.039 UJ	0.038 UJ	0.037 UJ
Diazepam	0.015 U	0.015 U	0.015 U	0.016 U	0.016 U	0.016 U	0.015 U	0.016 U	0.015 U	0.015 U	0.015 U
Diclofenac	0.015 UJ	0.015 UJ	0.015 UJ	0.016 UJ	0.016 UJ	0.016 UJ	R	0.016 UJ	0.015 UJ	R	0.015 UJ
Diethylstilbestrol	0.039 UJ	0.038 UJ	0.039 UJ	0.04 UJ	0.04 UJ	0.039 UJ	0.038 UJ	R	0.039 UJ	0.038 UJ	0.037 UJ
Estradiol	0.039 UJ	0.038 UJ	0.039 UJ	0.04 UJ	0.04 UJ	0.039 UJ	0.038 UJ	0.039 UJ	0.039 UJ	0.038 UJ	0.037 UJ
Estriol	0.039 U	0.038 U	0.039 U	0.04 U	0.04 U	0.039 U	0.038 U	0.039 U	0.039 U	0.038 U	0.037 U

Table 2
Summary of Sediment Analytical Results
Phase I Sediment Cores
Gowanus Canal
Brooklyn, New York

Sample Name:	GC-SED-507	GC-SED-508	GC-SED-508	GC-SED-508	GC-SED-508	GC-SED-508	GC-SED-508	GC-SED-508	GC-SED-508	Duplicate of GC-SED-508	GC-SED-509
Sample Depth (feet):	(3.0-3.5)	(0.0-0.5)	(0.5-1.0)	(1.0-1.5)	(1.5-2.0)	(2.0-2.5)	(2.5-3.0)	(3.0-3.5)	(3.5-4.0)	(3.5-4.0)	(0.0-0.5)
Sample Date:	8/6/2012	8/7/2012	8/7/2012	8/7/2012	8/7/2012	8/7/2012	8/7/2012	8/7/2012	8/7/2012	8/7/2012	8/16/2012
Estrone	0.039 UJ	**0.036 J**	0.039 UJ	0.04 UJ	0.04 UJ	0.039 UJ	0.038 UJ	0.039 UJ	0.039 UJ	0.038 UJ	**0.16 J**
Ethinyl Estradiol	0.039 U	0.038 U	0.039 U	0.04 U	0.04 U	0.039 U	0.038 U	0.039 U	0.039 U	0.038 U	0.037 U
Gemfibrozil	0.015 UJ	0.015 UJ	0.015 UJ	0.016 UJ	0.016 UJ	0.016 UJ	R	0.016 UJ	0.015 UJ	R	0.015 UJ
Ibuprofen	0.039 UJ	0.038 UJ	0.039 UJ	0.04 UJ	0.04 UJ	0.039 UJ	0.038 UJ	0.039 UJ	0.039 UJ	0.038 UJ	0.037 UJ
Meprobamate	0.0077 UJ	0.0076 UJ	0.0077 UJ	0.008 UJ	0.008 UJ	0.0078 UJ	0.0077 UJ	0.0079 UJ	0.0077 UJ	0.0076 UJ	0.0074 UJ
Naproxen	0.015 UJ	0.015 U	0.015 U	0.016 U	0.016 U	0.016 U	0.015 UJ	0.016 U	0.015 U	0.015 UJ	0.015 U
Pentoxifylline	0.015 U	0.015 U	0.015 U	0.016 U	0.016 U	0.016 U	0.015 U	0.016 U	0.015 U	0.015 U	0.015 U
Phenytoin (5,5-Diphenylhydantion/ Dilantin)	**0.0035 J**	0.038 U	0.039 U	0.04 U	0.04 U	0.039 U	0.038 U	0.039 U	0.039 U	0.038 U	0.037 U
Progesterone	**0.012 J**	**0.0093 J**	**0.0052 J**	**0.003 J**	**0.0032 J**	**0.0036 J**	**0.0036 J**	**0.0021 J**	0.015 UJ	**0.0061 J**	**0.0077 J**
Sulfamethoxazole	0.015 U	0.015 U	0.015 U	0.016 U	0.016 U	0.016 U	0.015 U	0.016 U	0.015 U	0.015 U	0.015 U
Testosterone	0.015 U	0.015 U	0.015 U	0.016 U	0.016 U	0.016 U	0.015 U	0.016 U	0.015 U	0.015 U	0.015 U
Trimethoprim	0.039 UJ	R	R	R	R	R	R	R	R	R	0.037 UJ
Pathogen											
C. perfringens (cfu/g)	NA	**1000**	0 U	**95000**	**130000**	**140000**	**220000**	**150000**	**20000**	NA	**81000**
Coliphage, Male Specific (pfu/10g)	NA	0 UJ	0 UJ	0 UJ	0 UJ	0 UJ	0 UJ	0 UJ	0 UJ	NA	0 U
Coliphage, Somatic (pfu/10g)	NA	**54 J**	**10 J**	**3 J**	**3 J**	**5 J**	0 UJ	0 UJ	**2 J**	NA	**31 J**
Cryptosporidium (Oocysts/g)	NA	0 U	0 U	0 U	0 U	0 U	0 U	0 U	0 U	NA	0 U
E.Coli (mpn/g)	NA	**4020**	**517.2**	**84.5**	**69.7**	**52**	**22.8**	**15.8**	**10.9**	NA	**98.4**
Enterococci (mpn/g)	NA	**155.7**	**57.8**	**29.6**	**21.1**	**21.6**	**16.3**	**24.1**	**24.3**	NA	**140.3**
Fecal Coliform (mpn/g)	NA	**6700**	**7000**	**224.7**	**122.3**	**101.9**	**53**	**20.1**	**14.5**	NA	**1350**
Giardia (Cysts/g)	NA	0 U	0 U	0 U	0 U	0 U	0 U	0 U	0 U	NA	0 U
Plaque forming virus (pfu/g)	NA	0 U	0 U	0 U	0 U	0 U	0 U	0 U	0 U	NA	0 U
Viruses (pos/neg)	NA	neg	neg	neg	neg	neg	neg	neg	neg	NA	neg
Other (%)											
Percent Solids	NA	**24.9**	**31.5**	**33.61**	**34.02**	**37.04**	**37.73**	**46.5**	**40.62**	NA	**28.56**
Total Solids	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Other (mg/kg)											
Total Organic Carbon	**59000**	**91000 J**	**85000 J**	**73000 J**	**68000 J**	**130000 J**	**130000 J**	**96000 J**	**96000 J**	**120000 J**	**73000 J**

Table 2
Summary of Sediment Analytical Results
Phase I Sediment Cores
Gowanus Canal
Brooklyn, New York

Sample Name:	GC-SED-509	GC-SED-509	GC-SED-509	GC-SED-509	GC-SED-509	GC-SED-509	GC-SED-509	GC-SED-510	GC-SED-510	GC-SED-510	Duplicate of GC-SED-510
Sample Depth (feet):	(0.5-1.0)	(1.0-1.5)	(1.5-2.0)	(2.0-2.5)	(2.5-3.0)	(3.0-3.5)	(3.5-4.0)	(0.0-0.5)	(0.5-1.0)	(1.0-1.5)	(1.0-1.5)
Sample Date:	8/16/2012	8/16/2012	8/16/2012	8/16/2012	8/16/2012	8/16/2012	8/16/2012	8/13/2012	8/13/2012	8/13/2012	8/13/2012
BTEX (mg/kg)											
Benzene	0.015 UJ	0.015 UJ	0.015 UJ	0.015 UJ	0.014 UJ	0.013 UJ	0.013 UJ	0.56 UJ	0.57 UJ	0.01 UJ	0.52 UJ
Toluene	0.015 UJ	0.015 UJ	0.015 UJ	0.015 UJ	0.014 UJ	0.013 UJ	0.013 UJ	0.56 UJ	0.57 UJ	**0.0016 J**	**0.089 J**
Ethylbenzene	0.015 UJ	0.015 UJ	0.015 UJ	0.015 UJ	0.014 UJ	0.013 UJ	0.013 UJ	0.56 UJ	**0.1 J**	**0.0049 J**	**0.21 J**
m,p-Xylene	0.03 UJ	0.03 UJ	0.03 UJ	0.029 UJ	0.028 UJ	0.026 UJ	0.026 UJ	1.1 UJ	1.1 UJ	**0.0038 J**	**0.24 J**
o-Xylene	0.015 UJ	0.015 UJ	0.015 UJ	0.015 UJ	0.014 UJ	0.013 UJ	0.013 UJ	0.56 UJ	0.57 UJ	**0.002 J**	**0.1 J**
Total Xylene	0.045 UJ	0.045 UJ	0.045 UJ	0.044 UJ	0.043 UJ	0.039 UJ	0.039 UJ	1.7 UJ	1.7 UJ	**0.0058 J**	**0.34 J**
Total BTEX	0	0	0	0	0	0	0	0	**0.1**	**0.0123**	**0.639**
Other VOCs (mg/kg)											
Acetone	0.06 UJ	0.06 UJ	0.06 UJ	0.058 UJ	0.057 UJ	0.052 UJ	0.053 UJ	R	R	0.042 UJ	R
Bromochloromethane	0.015 UJ	0.015 UJ	0.015 UJ	0.015 UJ	0.014 UJ	0.013 UJ	0.013 UJ	0.56 UJ	0.57 UJ	0.01 UJ	0.52 UJ
Bromodichloromethane	0.015 UJ	0.015 UJ	0.015 UJ	0.015 UJ	0.014 UJ	0.013 UJ	0.013 UJ	0.56 UJ	0.57 UJ	0.01 UJ	0.52 UJ
Bromoform	0.015 UJ	0.015 UJ	0.015 UJ	0.015 UJ	0.014 UJ	0.013 UJ	0.013 UJ	0.56 UJ	0.57 UJ	0.01 UJ	0.52 UJ
Bromomethane	0.015 UJ	0.015 UJ	0.015 UJ	0.015 UJ	0.014 UJ	0.013 UJ	0.013 UJ	0.56 UJ	0.57 UJ	0.01 UJ	0.52 UJ
2-Butanone (Methyl ethyl ketone)	0.015 UJ	0.015 UJ	0.015 UJ	0.015 UJ	0.014 UJ	0.013 UJ	0.013 UJ	R	R	0.01 UJ	R
Carbon disulfide	0.015 UJ	0.015 UJ	**0.0058 J**	**0.0057 J**	0.014 UJ	**0.0019 J**	0.013 UJ	0.56 UJ	0.57 UJ	0.01 UJ	0.52 UJ
Carbon tetrachloride	0.015 UJ	0.015 UJ	0.015 UJ	0.015 UJ	0.014 UJ	0.013 UJ	0.013 UJ	0.56 UJ	0.57 UJ	0.01 UJ	0.52 UJ
Chlorobenzene	0.015 UJ	0.015 UJ	0.015 UJ	0.015 UJ	0.014 UJ	0.013 UJ	0.013 UJ	0.56 UJ	0.57 UJ	0.01 UJ	0.52 UJ
Chloroethane	0.015 UJ	0.015 UJ	0.015 UJ	0.015 UJ	0.014 UJ	0.013 UJ	0.013 UJ	0.56 UJ	0.57 UJ	0.01 UJ	0.52 UJ
Chloroform	0.015 UJ	0.015 UJ	0.015 UJ	0.015 UJ	0.014 UJ	0.013 UJ	0.013 UJ	0.56 UJ	0.57 UJ	0.01 UJ	0.52 UJ
Chloromethane	0.015 UJ	0.015 UJ	0.015 UJ	0.015 UJ	0.014 UJ	0.013 UJ	0.013 UJ	0.56 UJ	0.57 UJ	0.01 UJ	0.52 UJ
Cyclohexane	0.015 UJ	0.015 UJ	0.015 UJ	0.015 UJ	0.014 UJ	0.013 UJ	0.013 UJ	0.56 UJ	0.57 UJ	0.01 UJ	0.52 UJ
1,2-Dibromo-3-chloropropane	0.015 UJ	0.015 UJ	0.015 UJ	0.015 UJ	0.014 UJ	0.013 UJ	0.013 UJ	R	R	0.01 UJ	R
Dibromochloromethane	0.015 UJ	0.015 UJ	0.015 UJ	0.015 UJ	0.014 UJ	0.013 UJ	0.013 UJ	0.56 UJ	0.57 UJ	0.01 UJ	0.52 UJ
1,2-Dibromoethane	0.015 UJ	0.015 UJ	0.015 UJ	0.015 UJ	0.014 UJ	0.013 UJ	0.013 UJ	0.56 UJ	0.57 UJ	0.01 UJ	0.52 UJ
1,2-Dichlorobenzene	0.015 UJ	0.015 UJ	0.015 UJ	0.015 UJ	0.014 UJ	0.013 UJ	0.013 UJ	0.56 UJ	0.57 UJ	0.01 UJ	0.52 UJ
1,3-Dichlorobenzene	0.015 UJ	0.015 UJ	0.015 UJ	0.015 UJ	0.014 UJ	0.013 UJ	0.013 UJ	0.56 UJ	0.57 UJ	0.01 UJ	0.52 UJ
1,4-Dichlorobenzene	0.015 UJ	0.015 UJ	0.015 UJ	0.015 UJ	0.014 UJ	0.013 UJ	0.013 UJ	0.56 UJ	0.57 UJ	**0.011 J**	**0.14 J**
Dichlorodifluoromethane	0.015 UJ	0.015 UJ	0.015 UJ	0.015 UJ	0.014 UJ	0.013 UJ	0.013 UJ	0.56 UJ	0.57 UJ	0.01 UJ	0.52 UJ
1,1-Dichloroethane	0.015 UJ	0.015 UJ	0.015 UJ	0.015 UJ	0.014 UJ	0.013 UJ	0.013 UJ	0.56 UJ	0.57 UJ	0.01 UJ	0.52 UJ
1,2-Dichloroethane	0.015 UJ	0.015 UJ	0.015 UJ	0.015 UJ	0.014 UJ	0.013 UJ	0.013 UJ	0.56 UJ	0.57 UJ	0.01 UJ	0.52 UJ
cis-1,2-Dichloroethene	0.015 UJ	0.015 UJ	0.015 UJ	0.015 UJ	0.014 UJ	0.013 UJ	0.013 UJ	0.56 UJ	0.57 UJ	0.01 UJ	0.52 UJ
trans-1,2-Dichloroethene	0.015 UJ	0.015 UJ	0.015 UJ	0.015 UJ	0.014 UJ	0.013 UJ	0.013 UJ	0.56 UJ	0.57 UJ	0.01 UJ	0.52 UJ
1,1-Dichloroethene	0.015 UJ	0.015 UJ	0.015 UJ	0.015 UJ	0.014 UJ	0.013 UJ	0.013 UJ	0.56 UJ	0.57 UJ	0.01 UJ	0.52 UJ
1,2-Dichloropropane	0.015 UJ	0.015 UJ	0.015 UJ	0.015 UJ	0.014 UJ	0.013 UJ	0.013 UJ	0.56 UJ	0.57 UJ	0.01 UJ	0.52 UJ
cis-1,3-Dichloropropene	0.015 UJ	0.015 UJ	0.015 UJ	0.015 UJ	0.014 UJ	0.013 UJ	0.013 UJ	0.56 UJ	0.57 UJ	0.01 UJ	0.52 UJ
trans-1,3-Dichloropropene	0.015 UJ	0.015 UJ	0.015 UJ	0.015 UJ	0.014 UJ	0.013 UJ	0.013 UJ	0.56 UJ	0.57 UJ	0.01 UJ	0.52 UJ
1,4-Dioxane	R	R	R	R	R	R	R	R	R	R	R
2-Hexanone	0.015 UJ	0.015 UJ	0.015 UJ	0.015 UJ	0.014 UJ	0.013 UJ	0.013 UJ	0.56 UJ	0.57 UJ	0.01 UJ	0.52 UJ
Isopropyl benzene	0.015 UJ	0.015 UJ	0.015 UJ	0.015 UJ	0.014 UJ	0.013 UJ	**0.0018 J**	0.56 UJ	0.57 UJ	0.01 UJ	**0.078 J**
Methyl acetate	0.015 UJ	0.015 UJ	0.015 UJ	0.015 UJ	0.014 UJ	0.013 UJ	0.013 UJ	R	R	0.01 UJ	R
Methyl tert-butyl ether (MTBE)	0.015 UJ	0.015 UJ	0.015 UJ	0.015 UJ	0.014 UJ	0.013 UJ	0.013 UJ	0.56 UJ	0.57 UJ	0.01 UJ	0.52 UJ
4-Methyl-2-pentanone	0.015 UJ	0.015 UJ	0.015 UJ	0.015 UJ	0.014 UJ	0.013 UJ	0.013 UJ	0.56 UJ	0.57 UJ	0.01 UJ	0.52 UJ
Methylcyclohexane	0.015 UJ	0.015 UJ	0.015 UJ	0.015 UJ	0.014 UJ	0.013 UJ	0.013 UJ	0.56 UJ	0.57 UJ	0.01 UJ	**0.066 J**
Methylene chloride	0.015 UJ	0.015 UJ	0.015 UJ	0.015 UJ	0.014 UJ	0.013 UJ	0.013 UJ	0.56 UJ	0.57 UJ	0.01 UJ	0.52 UJ
Styrene	0.015 UJ	0.015 UJ	0.015 UJ	0.015 UJ	0.014 UJ	0.013 UJ	0.013 UJ	0.56 UJ	0.57 UJ	0.01 UJ	0.52 UJ
1,1,2,2-Tetrachloroethane	0.015 UJ	0.015 UJ	0.015 UJ	0.015 UJ	0.014 UJ	0.013 UJ	0.013 UJ	0.56 UJ	0.57 UJ	0.01 UJ	0.52 UJ
Tetrachloroethene	0.015 UJ	0.015 UJ	0.015 UJ	0.015 UJ	0.014 UJ	0.013 UJ	0.013 UJ	0.56 UJ	0.57 UJ	0.01 UJ	0.52 UJ

Table 2
Summary of Sediment Analytical Results
Phase I Sediment Cores
Gowanus Canal
Brooklyn, New York

Sample Name:	GC-SED-509	GC-SED-509	GC-SED-509	GC-SED-509	GC-SED-509	GC-SED-509	GC-SED-509	GC-SED-510	GC-SED-510	GC-SED-510	Duplicate of GC-SED-510
Sample Depth (feet):	(0.5-1.0)	(1.0-1.5)	(1.5-2.0)	(2.0-2.5)	(2.5-3.0)	(3.0-3.5)	(3.5-4.0)	(0.0-0.5)	(0.5-1.0)	(1.0-1.5)	(1.0-1.5)
Sample Date:	8/16/2012	8/16/2012	8/16/2012	8/16/2012	8/16/2012	8/16/2012	8/16/2012	8/13/2012	8/13/2012	8/13/2012	8/13/2012
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	0.015 UJ	0.015 UJ	0.015 UJ	0.015 UJ	0.014 UJ	0.013 UJ	0.013 UJ	0.56 UJ	0.57 UJ	0.01 UJ	0.52 UJ
1,2,3-Trichlorobenzene	0.015 UJ	0.015 UJ	0.015 UJ	0.015 UJ	0.014 UJ	0.013 UJ	0.013 UJ	0.56 UJ	**2.5 J**	0.01 UJ	0.52 UJ
1,2,4-Trichlorobenzene	0.015 UJ	0.015 UJ	0.015 UJ	0.015 UJ	0.014 UJ	0.013 UJ	0.013 UJ	0.56 UJ	**0.26 J**	0.01 UJ	0.52 UJ
1,1,1-Trichloroethane	0.015 UJ	0.015 UJ	0.015 UJ	0.015 UJ	0.014 UJ	0.013 UJ	0.013 UJ	0.56 UJ	0.57 UJ	0.01 UJ	0.52 UJ
1,1,2-Trichloroethane	0.015 UJ	0.015 UJ	0.015 UJ	0.015 UJ	0.014 UJ	0.013 UJ	0.013 UJ	0.56 UJ	0.57 UJ	0.01 UJ	0.52 UJ
Trichloroethene	0.015 UJ	0.015 UJ	0.015 UJ	0.015 UJ	0.014 UJ	0.013 UJ	0.013 UJ	0.56 UJ	0.57 UJ	0.01 UJ	0.52 UJ
Trichlorofluoromethane	0.015 UJ	0.015 UJ	0.015 UJ	0.015 UJ	0.014 UJ	0.013 UJ	0.013 UJ	0.56 UJ	0.57 UJ	0.01 UJ	0.52 UJ
Vinyl chloride	0.015 UJ	0.015 UJ	0.015 UJ	0.015 UJ	0.014 UJ	0.013 UJ	0.013 UJ	0.56 UJ	0.57 UJ	0.01 UJ	0.52 UJ
PAHs (mg/kg)											
Acenaphthene	**1.8 J**	**2 J**	**2 J**	**1.9 J**	**3 J**	**4.6 J**	**4.7 J**	**6.9 J**	**14 J**	**12 J**	**9.7 J**
Acenaphthylene	**3.1 J**	**3.2 J**	**3.3 J**	**2.7 J**	**3.4 J**	**5.4 J**	**4.2 J**	**8.8 J**	**12 J**	**11 J**	**9.2 J**
Anthracene	**3.1 J**	**2.6 J**	**2.9 J**	**2.9 J**	**3.8 J**	**4.8 J**	**4.6 J**	**14 J**	**25 J**	**20 J**	**16 J**
Benz[a]anthracene	**5.5 J**	**5.3 J**	**5 J**	**5.3 J**	**5.9 J**	**7.7 J**	**6.4 J**	**18 J**	**26 J**	**23 J**	**17 J**
Benzo[a]pyrene	**4.6 J**	**4.6 J**	**4.3 J**	**4 J**	**4.9 J**	**7.1 J**	**5.5 J**	**16 J**	**22 J**	**19 J**	**13 J**
Benzo[b]fluoranthene	**2.5 J**	**2 J**	**2.9 J**	**2.9 J**	**3.4 J**	**5.1 J**	**3.5 J**	**9.2 J**	**16 J**	**13 J**	**7.5 J**
Benzo[g,h,i]perylene	**3.1 J**	**3.1 J**	**2.9 J**	**2.8 J**	**3.1 J**	**4.3 J**	**3.4 J**	**8.5 J**	**11 J**	**10 J**	**6.8 J**
Benzo[k]fluoranthene	**2.1 J**	**2.5 J**	**1.3 J**	**1.4 J**	**1.3 J**	**0.94 J**	**1.4 J**	**7.2 J**	**5.1 J**	**5 J**	**5.4 J**
Chrysene	**5.6 J**	**5.6 J**	**5.5 J**	**5.1 J**	**6.1 J**	**8.1 J**	**6.8 J**	**19 J**	**29 J**	**24 J**	**16 J**
Dibenz[a,h]anthracene	**3.9 J**	**3.8 J**	**3.7 J**	**3.7 J**	**3.8 J**	**3.6 J**	**3.4 J**	**4.3 J**	**4.6 J**	**4.8 J**	**3.9 J**
Fluoranthene	**8.6 J**	**8.2 J**	**7.8 J**	**8.5 J**	**9.8 J**	**11 J**	**10 J**	**29 J**	**43 J**	**39 J**	**30 J**
Fluorene	**1.8 J**	**2 J**	**2.2 J**	**2 J**	**2 J**	**2.6 J**	**2.6 J**	**6.4 J**	**12 J**	**9.6 J**	**7.9 J**
Indeno[1,2,3-cd]pyrene	**4.5 J**	**4.4 J**	**4.4 J**	**4.3 J**	**4.4 J**	**5 J**	**4.4 J**	**7.3 J**	**9.7 J**	**9 J**	**6.7 J**
2-Methylnaphthalene	**0.33 J**	**0.33 J**	**0.41 J**	**0.59 J**	**0.7 J**	**1 J**	**0.58 J**	**3.9 J**	**12 J**	**8.8 J**	**8.1 J**
Naphthalene	**0.59 J**	**0.78 J**	**0.81 J**	**0.99 J**	**1.6 J**	**2 J**	**1.5 J**	**4.5 J**	**9.6 J**	**6.5 J**	**5.8 J**
Phenanthrene	**6.7 J**	**7.5 J**	**9.5 J**	**8.5 J**	**8.3 J**	**10 J**	**9.8 J**	**31 J**	**57 J**	**50 J**	**39 J**
Pyrene	**9 J**	**8.5 J**	**8.5 J**	**8.7 J**	**9.3 J**	**11 J**	**11 J**	**33 J**	**56 J**	**50 J**	**33 J**
Total PAHs	**66.82**	**66.41**	**67.42**	**66.28**	**74.8**	**94.24**	**83.78**	**227**	**364**	**314.7**	**235**
Alkylated PAHs (mg/kg)											
Acenaphthene	**2.06736 J**	**2.59138 J**	**2.07521 J**	**1.87646 J**	**3.23543 J**	**4.45194 J**	**7.28508 J**	**10.35915 J**	**18.47889 J**	**17.26119 J**	**17.99914 J**
Acenaphthylene	**2.36419 J**	**2.22073 J**	**2.05013 J**	**1.73756 J**	**2.45908 J**	**2.76577 J**	**3.5296 J**	**10.19905 J**	**12.74712 J**	**13.53195 J**	**13.60928 J**
Anthracene	**4.21021 J**	**4.28587 J**	**3.91508 J**	**3.35075 J**	**4.79766 J**	**5.34715 J**	**7.58169 J**	**22.33601 J**	**32.57325 J**	**32.80517 J**	**38.01128 J**
Benz[a]anthracene	**6.72859 J**	**6.35904 J**	**5.65083 J**	**5.12851 J**	**6.68474 J**	**8.03227 J**	**9.72139 J**	**28.16946 J**	**31.67691 J**	**33.041 J**	**39.37166 J**
Benzo[a]pyrene	**5.72298 J**	**5.34731 J**	**4.75273 J**	**4.3381 J**	**5.59189 J**	**6.8051 J**	**8.14454 J**	**24.38118 J**	**25.25979 J**	**26.55062 J**	**25.7202 J**
Benzo[b]fluoranthene	**3.38565 J**	**3.36264 J**	**2.94235 J**	**2.80926 J**	**3.5505 J**	**4.54492 J**	**4.93092 J**	**17.04701 J**	**15.68194 J**	**17.60043 J**	**16.5023 J**
Benzo[e]pyrene	**3.44221 J**	**3.33591 J**	**2.93596 J**	**2.78454 J**	**3.43891 J**	**4.31448 J**	**4.85777 J**	**15.00975 J**	**15.02324 J**	**15.84481 J**	**15.24133 J**
Benzo[g,h,i]perylene	**2.87724 J**	**2.74202 J**	**2.41627 J**	**2.25864 J**	**2.82027 J**	**3.44953 J**	**3.91662 J**	**13.22822 J**	**12.33898 J**	**13.15082 J**	**12.75209 J**
Benzo[k]fluoranthene	**4.05803 J**	**3.98104 J**	**3.46509 J**	**3.29445 J**	**4.02403 J**	**5.32782 J**	**5.77846 J**	**17.29017 J**	**17.40599 J**	**17.94969 J**	**17.47317 J**
1,1-Biphenyl	**0.12972 J**	**0.15874 J**	**0.12867 J**	**0.15288 J**	**0.14215 J**	**0.1342 J**	**0.14843 J**	**1.32486 J**	**2.88495 J**	**2.75152 J**	**3.01728 J**
Chrysene	**6.2443 J**	**6.07718 J**	**5.42495 J**	**5.05241 J**	**6.25589 J**	**7.86381 J**	**8.97284 J**	**26.94708 J**	**29.65769 J**	**31.02793 J**	**37.14384 J**
C1-Chrysenes	**4.22892 J**	**3.9485 J**	**3.54361 J**	**3.21714 J**	**4.13673 J**	**4.98717 J**	**6.00979 J**	**27.08825 J**	**33.64233 J**	**33.97894 J**	**32.5958 J**
C2-Chrysenes	**1.7349 J**	**1.60628 J**	**1.5168 J**	**1.3535 J**	**1.73839 J**	**2.18923 J**	**2.56236 J**	**16.74889 J**	**20.82128 J**	**20.13114 J**	**20.22392 J**
C3-Chrysenes	**0.7931 J**	**0.77365 J**	**0.63645 J**	**0.60763 J**	**0.7989 J**	**1.02545 J**	**1.0921 J**	**7.61713 J**	**9.61782 J**	**10.0073 J**	**9.48721 J**
C4-Chrysenes	**0.43681 J**	**0.43628 J**	**0.36677 J**	**0.36956 J**	**0.4463 J**	**0.52422 J**	**0.58456 J**	**3.97071 J**	**4.74854 J**	**5.12061 J**	**4.87719 J**
Dibenz[a,h]anthracene	**0.82031 J**	**0.77332 J**	**0.67233 J**	**0.63124 J**	**0.78842 J**	**1.00169 J**	**1.13772 J**	**3.49198 J**	**3.64356 J**	**3.95184 J**	**3.76667 J**
Dibenzofuran	**0.24326 J**	**0.29913 J**	**0.23594 J**	**0.226 J**	**0.28866 J**	**0.36821 J**	**0.54621 J**	**1.94262 J**	**2.34563 J**	**2.25768 J**	**2.29222 J**
Dibenzothiophene	**1.27941 J**	**1.40936 J**	**1.28189 J**	**1.0889 J**	**1.41569 J**	**1.68976 J**	**2.55157 J**	**6.31219 J**	**9.59298 J**	**9.47144 J**	**9.33928 J**
C1-Dibenzothiophenes	**2.22872 J**	**2.37384 J**	**2.18964 J**	**1.95377 J**	**2.57693 J**	**2.61452 J**	**3.72017 J**	**15.61462 J**	**23.71192 J**	**24.41927 J**	**23.35922 J**
C2-Dibenzothiophenes	**2.26707 J**	**2.31051 J**	**2.11221 J**	**1.98097 J**	**2.7377 J**	**2.84817 J**	**3.84028 J**	**19.93348 J**	**29.40155 J**	**29.86819 J**	**28.05236 J**

Table 2
Summary of Sediment Analytical Results
Phase I Sediment Cores
Gowanus Canal
Brooklyn, New York

Sample Name:	GC-SED-509	GC-SED-509	GC-SED-509	GC-SED-509	GC-SED-509	GC-SED-509	GC-SED-509	GC-SED-510	GC-SED-510	GC-SED-510	Duplicate of GC-SED-510
Sample Depth (feet):	(0.5-1.0)	(1.0-1.5)	(1.5-2.0)	(2.0-2.5)	(2.5-3.0)	(3.0-3.5)	(3.5-4.0)	(0.0-0.5)	(0.5-1.0)	(1.0-1.5)	(1.0-1.5)
Sample Date:	8/16/2012	8/16/2012	8/16/2012	8/16/2012	8/16/2012	8/16/2012	8/16/2012	8/13/2012	8/13/2012	8/13/2012	8/13/2012
C3-Dibenzothiophenes	**1.30985 J**	**1.40472 J**	**1.28266 J**	**1.25827 J**	**1.72347 J**	**1.89338 J**	**2.43508 J**	**13.93578 J**	**20.08419 J**	**21.20489 J**	**19.74357 J**
C4-Dibenzothiophenes	**0.49678 J**	**0.55108 J**	**0.50188 J**	**0.50375 J**	**0.71098 J**	**0.80118 J**	**0.94509 J**	**5.96468 J**	**8.3947 J**	**10.00225 J**	**8.3347 J**
Fluoranthene	**10.66498 J**	**10.61861 J**	**9.321 J**	**8.39416 J**	**11.51086 J**	**12.61717 J**	**16.40942 J**	**64.99117 J**	**53.91135 J**	**61.84086 J**	**57.66113 J**
C1-Fluoranthenes/pyrenes	**11.06738 J**	**10.46678 J**	**9.597 J**	**8.50774 J**	**11.24365 J**	**12.50136 J**	**16.5973 J**	**57.22013 J**	**74.33355 J**	**77.31365 J**	**72.9712 J**
C2-Fluoranthenes/pyrenes	**4.45589 J**	**4.26086 J**	**3.80181 J**	**3.43684 J**	**4.45428 J**	**5.43923 J**	**6.70371 J**	**29.81755 J**	**38.19234 J**	**39.37951 J**	**36.64333 J**
C3-Fluoranthenes/pyrenes	**1.63199 J**	**1.59924 J**	**1.36164 J**	**1.33282 J**	**1.71809 J**	**2.21973 J**	**2.52437 J**	**16.31726 J**	**18.6473 J**	**19.44603 J**	**18.34082 J**
C4-Fluoranthenes/pyrenes	**0.5622 J**	**0.55612 J**	**0.44288 J**	**0.4704 J**	**0.59521 J**	**0.79331 J**	**0.77304 J**	**5.49439 J**	**7.40801 J**	**7.92787 J**	**6.70962 J**
Fluorene	**1.01252 J**	**1.6184 J**	**1.46579 J**	**1.22578 J**	**1.22839 J**	**1.75132 J**	**2.61082 J**	**7.37882 J**	**12.72447 J**	**12.17274 J**	**12.49103 J**
C1-Fluorenes	**1.56369 J**	**1.87882 J**	**1.6774 J**	**1.5156 J**	**1.95339 J**	**2.02099 J**	**2.86026 J**	**12.16907 J**	**19.91564 J**	**20.77992 J**	**19.39376 J**
C2-Fluorenes	**2.06254 J**	**2.24401 J**	**2.01475 J**	**2.00331 J**	**2.77132 J**	**2.81907 J**	**3.84211 J**	**20.8222 J**	**29.58107 J**	**30.19148 J**	**27.85626 J**
C3-Fluorenes	**1.38606 J**	**1.5622 J**	**1.38272 J**	**1.46803 J**	**2.0089 J**	**2.06842 J**	**2.67138 J**	**15.99654 J**	**22.1787 J**	**22.52035 J**	**22.28301 J**
Indeno[1,2,3-cd]pyrene	**3.15592 J**	**3.00483 J**	**2.59991 J**	**2.47199 J**	**3.02274 J**	**3.82793 J**	**4.29022 J**	**13.93191 J**	**12.95753 J**	**13.68471 J**	**13.41364 J**
Naphthalene	**0.72058 J**	**0.7765 J**	**0.73663 J**	**0.84367 J**	**1.49535 J**	**1.82456 J**	**1.95617 J**	0.04763 UJ	0.04953 UJ	0.04997 UJ	0.04643 UJ
C1-Naphthalenes	**0.71585 J**	**0.9529 J**	**0.82126 J**	**0.97258 J**	**1.33769 J**	**1.92892 J**	**3.00371 J**	**7.07145 J**	**16.51817 J**	**15.64812 J**	**18.06552 J**
C2-Naphthalenes	**2.10328 J**	**2.94664 J**	**2.59965 J**	**2.96832 J**	**3.46464 J**	**3.92458 J**	**5.70483 J**	**21.13873 J**	**43.13166 J**	**42.16026 J**	**43.13581 J**
C3-Naphthalenes	**2.22712 J**	**2.9598 J**	**2.40841 J**	**3.02641 J**	**3.89613 J**	**3.7775 J**	**4.81315 J**	**29.0053 J**	**49.96553 J**	**51.40905 J**	**49.82343 J**
C4-Naphthalenes	**1.29219 J**	**1.68499 J**	**1.35187 J**	**1.75665 J**	**2.41643 J**	**2.28745 J**	**3.02935 J**	**23.12564 J**	**37.04644 J**	**38.9527 J**	**36.78618 J**
Perylene	**1.19268 J**	**1.17159 J**	**1.03767 J**	**1.02107 J**	**1.26955 J**	**1.55989 J**	**1.72065 J**	**4.92436 J**	**4.41478 J**	**4.83825 J**	**4.59995 J**
Phenanthrene	**8.67572 J**	**12.02638 J**	**11.21529 J**	**8.943 J**	**9.53221 J**	**10.71922 J**	**15.18147 J**	**71.43142 J**	**81.29656 J**	**86.6352 J**	**85.22207 J**
C1-Phenanthrenes/anthracenes	**10.92766 J**	**12.37963 J**	**11.25248 J**	**9.87878 J**	**12.33905 J**	**12.59776 J**	**17.74136 J**	**68.13364 J**	**102.01838 J**	**105.00316 J**	**99.84129 J**
C2-Phenanthrenes/anthracenes	**7.35325 J**	**7.6207 J**	**6.80287 J**	**6.47982 J**	**8.56962 J**	**9.03939 J**	**12.22488 J**	**57.35029 J**	**81.53562 J**	**84.59266 J**	**79.62916 J**
C3-Phenanthrenes/anthracenes	**2.9571 J**	**3.12211 J**	**2.75742 J**	**2.80232 J**	**3.73801 J**	**4.10413 J**	**5.26621 J**	**29.08814 J**	**39.52948 J**	**42.24543 J**	**40.70974 J**
C4-Phenanthrenes/anthracenes	**0.90269 J**	**0.94221 J**	**0.81121 J**	**0.83337 J**	**1.13514 J**	**1.34531 J**	**1.62077 J**	**10.32977 J**	**13.91045 J**	**14.35382 J**	**14.00835 J**
Pyrene	**13.85856 J**	**13.53912 J**	**12.30654 J**	**11.05135 J**	**15.12412 J**	**16.08811 J**	**25.43131 J**	**74.53725 J**	**68.61737 J**	**78.54466 J**	**73.66395 J**
TPH (mg/kg)											
Total Petroleum Hydrocarbons	**5199.76 J**	**6212.15 J**	**5173.73 J**	**5565.98 J**	**6065.85 J**	**6753.86 J**	**7176.58 J**	**15530.63 J**	**23139.33 J**	**23727.09 J**	**22295.95 J**
Other SVOCs (mg/kg)											
Acetophenone	4.9 UJ	4.9 UJ	4.9 UJ	4.8 UJ	4.7 UJ	4.3 UJ	4.3 UJ	3.6 UJ	3.7 UJ	3.4 UJ	**0.31 J**
Atrazine	4.9 UJ	4.9 UJ	4.9 UJ	4.8 UJ	4.7 UJ	4.3 UJ	4.3 UJ	3.6 UJ	3.7 UJ	3.4 UJ	3.4 UJ
Benzaldehyde	4.9 UJ	4.9 UJ	4.9 UJ	**2.7 J**	**2.7 J**	4.3 UJ	4.3 UJ	3.6 UJ	**2.5 J**	**2.3 J**	**2.2 J**
1,1-Biphenyl	4.9 UJ	4.9 UJ	4.9 UJ	4.8 UJ	4.7 UJ	4.3 UJ	4.3 UJ	**1.2 J**	**2.5 J**	**2.1 J**	**1.6 J**
Bis(chloroisopropyl)ether	1 UJ	1 UJ	1 UJ	0.97 UJ	0.95 UJ	0.88 UJ	0.88 UJ	0.74 UJ	0.75 UJ	0.69 UJ	0.69 UJ
Bis(2-chloroethyl)ether	1 UJ	1 UJ	1 UJ	0.97 UJ	0.95 UJ	0.88 UJ	0.88 UJ	0.74 UJ	0.75 UJ	0.69 UJ	0.69 UJ
Bis(2-chloroethoxy)methane	4.9 UJ	4.9 UJ	4.9 UJ	4.8 UJ	4.7 UJ	4.3 UJ	4.3 UJ	3.6 UJ	3.7 UJ	3.4 UJ	3.4 UJ
Bis(2-ethylhexyl)phthalate	**13 J**	**19 J**	**16 J**	**19 J**	**19 J**	**20 J**	**18 J**	**45 J**	**65 J**	**63 J**	**46 J**

Table 2
Summary of Sediment Analytical Results
Phase I Sediment Cores
Gowanus Canal
Brooklyn, New York

Sample Name:	GC-SED-509	GC-SED-509	GC-SED-509	GC-SED-509	GC-SED-509	GC-SED-509	GC-SED-509	GC-SED-510	GC-SED-510	GC-SED-510	Duplicate of GC-SED-510
Sample Depth (feet):	(0.5-1.0)	(1.0-1.5)	(1.5-2.0)	(2.0-2.5)	(2.5-3.0)	(3.0-3.5)	(3.5-4.0)	(0.0-0.5)	(0.5-1.0)	(1.0-1.5)	(1.0-1.5)
Sample Date:	8/16/2012	8/16/2012	8/16/2012	8/16/2012	8/16/2012	8/16/2012	8/16/2012	8/13/2012	8/13/2012	8/13/2012	8/13/2012
4-Bromophenyl phenyl ether	4.9 UJ	4.9 UJ	4.9 UJ	4.8 UJ	4.7 UJ	4.3 UJ	4.3 UJ	3.6 UJ	3.7 UJ	3.4 UJ	3.4 UJ
Butyl benzyl phthalate	4.9 UJ	4.9 UJ	4.9 UJ	4.8 UJ	4.7 UJ	4.3 UJ	**0.79 J**	**0.78 J**	**1 J**	**1.1 J**	**0.72 J**
Caprolactam	25 UJ	25 UJ	25 UJ	25 UJ	24 UJ	22 UJ	22 UJ	19 UJ	19 UJ	17 UJ	18 UJ
Carbazole	**0.34 J**	1 UJ	**0.31 J**	**0.2 J**	**0.34 J**	**0.29 J**	**0.3 J**	**0.63 J**	**0.77 J**	**0.92 J**	**0.55 J**
4-Chloro-3-methylphenol	4.9 UJ	4.9 UJ	4.9 UJ	4.8 UJ	4.7 UJ	4.3 UJ	4.3 UJ	3.6 UJ	3.7 UJ	3.4 UJ	3.4 UJ
4-Chloroaniline	**0.4 J**	**0.41 J**	4.9 UJ	**0.49 J**	**0.58 J**	**0.71 J**	**0.57 J**	**1.3 J**	**2.5 J**	**2.3 J**	**2 J**
Chlorophene	4.9 UJ	4.9 UJ	4.9 UJ	4.8 UJ	4.7 UJ	4.3 UJ	4.3 UJ	3.6 UJ	3.7 UJ	3.4 UJ	3.4 UJ
2-Chloronaphthalene	1 UJ	1 UJ	1 UJ	0.97 UJ	0.95 UJ	0.88 UJ	0.88 UJ	0.74 UJ	0.75 UJ	0.69 UJ	0.69 UJ
2-Chlorophenol	4.9 UJ	4.9 UJ	4.9 UJ	4.8 UJ	4.7 UJ	4.3 UJ	4.3 UJ	3.6 UJ	3.7 UJ	3.4 UJ	3.4 UJ
4-Chlorophenyl phenyl ether	4.9 UJ	4.9 UJ	4.9 UJ	4.8 UJ	4.7 UJ	4.3 UJ	4.3 UJ	3.6 UJ	3.7 UJ	3.4 UJ	3.4 UJ
Dibenzofuran	4.9 UJ	4.9 UJ	4.9 UJ	4.8 UJ	4.7 UJ	**0.46 J**	**0.46 J**	**1.2 J**	**2.2 J**	**2 J**	**1.4 J**
3,3-Dichlorobenzidine	4.9 UJ	4.9 UJ	4.9 UJ	4.8 UJ	4.7 UJ	4.3 UJ	4.3 UJ	3.6 UJ	3.7 UJ	3.4 UJ	3.4 UJ
2,4-Dichlorophenol	1 UJ	1 UJ	1 UJ	0.97 UJ	0.95 UJ	0.88 UJ	0.88 UJ	0.74 UJ	0.75 UJ	0.69 UJ	0.69 UJ
Diethyl phthalate	4.9 UJ	4.9 UJ	4.9 UJ	4.8 UJ	4.7 UJ	4.3 UJ	4.3 UJ	3.6 UJ	3.7 UJ	3.4 UJ	3.4 UJ
Dimethyl phthalate	4.9 UJ	4.9 UJ	4.9 UJ	4.8 UJ	4.7 UJ	4.3 UJ	4.3 UJ	3.6 UJ	3.7 UJ	3.4 UJ	**0.46 J**
2,4-Dimethylphenol	4.9 UJ	4.9 UJ	4.9 UJ	4.8 UJ	4.7 UJ	4.3 UJ	4.3 UJ	3.6 UJ	3.7 UJ	3.4 UJ	3.4 UJ
Di-n-butyl phthalate	4.9 UJ	4.9 UJ	4.9 UJ	4.8 UJ	4.7 UJ	4.3 UJ	4.3 UJ	3.6 UJ	3.7 UJ	3.4 UJ	3.4 UJ
4,6-Dinitro-2-methylphenol	25 UJ	25 UJ	25 UJ	25 UJ	24 UJ	22 UJ	22 UJ	19 UJ	19 UJ	17 UJ	18 UJ
2,4-Dinitrophenol	25 UJ	25 UJ	25 UJ	25 UJ	24 UJ	22 UJ	22 UJ	19 UJ	19 UJ	17 UJ	18 UJ
2,4-Dinitrotoluene	4.9 UJ	4.9 UJ	4.9 UJ	4.8 UJ	4.7 UJ	4.3 UJ	4.3 UJ	3.6 UJ	3.7 UJ	3.4 UJ	3.4 UJ
2,6-Dinitrotoluene	4.9 UJ	4.9 UJ	4.9 UJ	4.8 UJ	4.7 UJ	4.3 UJ	4.3 UJ	3.6 UJ	3.7 UJ	3.4 UJ	3.4 UJ
Di-n-octyl phthalate	4.9 UJ	4.9 UJ	4.9 UJ	4.8 UJ	4.7 UJ	4.3 UJ	4.3 UJ	3.6 UJ	**2.3 J**	**2.3 J**	**1.7 J**
Hexachlorobenzene	1 UJ	1 UJ	1 UJ	0.97 UJ	0.95 UJ	0.88 UJ	0.88 UJ	0.74 UJ	0.75 UJ	0.69 UJ	0.69 UJ
Hexachlorobutadiene	1 UJ	1 UJ	1 UJ	0.97 UJ	0.95 UJ	0.88 UJ	0.88 UJ	0.74 UJ	0.75 UJ	0.69 UJ	0.69 UJ
Hexachlorocyclopentadiene	4.9 UJ	4.9 UJ	4.9 UJ	4.8 UJ	4.7 UJ	4.3 UJ	4.3 UJ	3.6 UJ	3.7 UJ	3.4 UJ	3.4 UJ
Hexachloroethane	4.9 UJ	4.9 UJ	4.9 UJ	4.8 UJ	4.7 UJ	4.3 UJ	4.3 UJ	3.6 UJ	3.7 UJ	3.4 UJ	3.4 UJ
Isophorone	4.9 UJ	4.9 UJ	4.9 UJ	4.8 UJ	4.7 UJ	4.3 UJ	4.3 UJ	3.6 UJ	3.7 UJ	3.4 UJ	3.4 UJ
2-Methylphenol (o-Cresol)	4.9 UJ	4.9 UJ	4.9 UJ	4.8 UJ	4.7 UJ	4.3 UJ	4.3 UJ	3.6 UJ	3.7 UJ	3.4 UJ	3.4 UJ
3,4-Methylphenol (m,p-Cresol)	4.9 UJ	4.9 UJ	4.9 UJ	4.8 UJ	4.7 UJ	4.3 UJ	4.3 UJ	**0.68 J**	**0.41 J**	**0.38 J**	3.4 UJ
2-Nitroaniline	25 UJ	25 UJ	25 UJ	25 UJ	24 UJ	22 UJ	22 UJ	19 UJ	19 UJ	17 UJ	18 UJ
3-Nitroaniline	25 UJ	25 UJ	25 UJ	25 UJ	24 UJ	22 UJ	22 UJ	19 UJ	19 UJ	17 UJ	18 UJ
4-Nitroaniline	25 UJ	25 UJ	25 UJ	25 UJ	24 UJ	22 UJ	22 UJ	19 UJ	19 UJ	17 UJ	18 UJ
Nitrobenzene	10 UJ	10 UJ	10 UJ	9.7 UJ	9.5 UJ	8.8 UJ	8.8 UJ	7.4 UJ	7.5 UJ	6.9 UJ	6.9 UJ
2-Nitrophenol	4.9 UJ	4.9 UJ	4.9 UJ	4.8 UJ	4.7 UJ	4.3 UJ	4.3 UJ	3.6 UJ	3.7 UJ	3.4 UJ	3.4 UJ

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Summary of Sediment Analytical Results
Phase I Sediment Cores
Gowanus Canal
Brooklyn, New York

Sample Name:	GC-SED-509	GC-SED-509	GC-SED-509	GC-SED-509	GC-SED-509	GC-SED-509	GC-SED-509	GC-SED-510	GC-SED-510	GC-SED-510	Duplicate of GC-SED-510
Sample Depth (feet):	(0.5-1.0)	(1.0-1.5)	(1.5-2.0)	(2.0-2.5)	(2.5-3.0)	(3.0-3.5)	(3.5-4.0)	(0.0-0.5)	(0.5-1.0)	(1.0-1.5)	(1.0-1.5)
Sample Date:	8/16/2012	8/16/2012	8/16/2012	8/16/2012	8/16/2012	8/16/2012	8/16/2012	8/13/2012	8/13/2012	8/13/2012	8/13/2012
4-Nitrophenol	25 UJ	25 UJ	25 UJ	25 UJ	24 UJ	22 UJ	22 UJ	19 UJ	19 UJ	17 UJ	18 UJ
N-Nitrosodi-n-propylamine	1 UJ	1 UJ	1 UJ	0.97 UJ	0.95 UJ	0.88 UJ	0.88 UJ	0.74 UJ	0.75 UJ	0.69 UJ	0.69 UJ
N-Nitrosodiphenylamine	4.9 UJ	4.9 UJ	4.9 UJ	4.8 UJ	4.7 UJ	4.3 UJ	4.3 UJ	3.6 UJ	3.7 UJ	3.4 UJ	3.4 UJ
Pentachlorophenol	4.9 UJ	4.9 UJ	4.9 UJ	4.8 UJ	4.7 UJ	4.3 UJ	4.3 UJ	3.6 UJ	3.7 UJ	3.4 UJ	3.4 UJ
Phenol	1 UJ	1 UJ	1 UJ	0.97 UJ	0.95 UJ	0.88 UJ	0.88 UJ	**0.35 J**	0.75 UJ	0.69 UJ	0.69 UJ
1,2,4,5-Tetrachlorobenzene	4.9 UJ	4.9 UJ	4.9 UJ	4.8 UJ	4.7 UJ	4.3 UJ	4.3 UJ	3.6 UJ	3.7 UJ	3.4 UJ	3.4 UJ
2,3,4,6-Tetrachlorophenol	4.9 UJ	4.9 UJ	4.9 UJ	4.8 UJ	4.7 UJ	4.3 UJ	4.3 UJ	3.6 UJ	3.7 UJ	3.4 UJ	3.4 UJ
2,4,5-Trichlorophenol	4.9 UJ	4.9 UJ	4.9 UJ	4.8 UJ	4.7 UJ	4.3 UJ	4.3 UJ	3.6 UJ	3.7 UJ	3.4 UJ	3.4 UJ
2,4,6-Trichlorophenol	4.9 UJ	4.9 UJ	4.9 UJ	4.8 UJ	4.7 UJ	4.3 UJ	4.3 UJ	3.6 UJ	3.7 UJ	3.4 UJ	3.4 UJ
PCBs (mg/kg)											
Aroclor 1016	0.025 UJ	0.025 UJ	0.025 UJ	0.024 UJ	0.023 UJ	0.022 UJ	0.022 UJ	0.019 UJ	0.019 UJ	0.017 UJ	0.017 UJ
Aroclor 1221	0.025 UJ	0.025 UJ	0.025 UJ	0.024 UJ	0.023 UJ	0.022 UJ	0.022 UJ	0.019 UJ	0.019 UJ	0.017 UJ	0.017 UJ
Aroclor 1232	0.025 UJ	0.025 UJ	0.025 UJ	0.024 UJ	0.023 UJ	0.022 UJ	0.022 UJ	0.019 UJ	0.019 UJ	0.017 UJ	0.017 UJ
Aroclor 1242	**0.26 J**	**0.14 J**	**0.25 J**	**0.12 J**	**0.27 J**	**0.38 J**	**0.23 J**	**1.9 J**	**3.7 J**	**2.6 J**	**3.2 J**
Aroclor 1248	0.025 UJ	0.025 UJ	0.025 UJ	0.024 UJ	0.023 UJ	0.022 UJ	0.022 UJ	0.019 UJ	0.019 UJ	0.017 UJ	0.017 UJ
Aroclor 1254	0.025 UJ	0.025 UJ	0.025 UJ	0.024 UJ	0.023 UJ	0.022 UJ	0.022 UJ	0.019 UJ	0.019 UJ	0.017 UJ	0.017 UJ
Aroclor 1260	**0.14 J**	**0.1 J**	**0.16 J**	**0.1 J**	**0.17 J**	**0.29 J**	**0.16 J**	**4.6 J**	**4.8 J**	**3.7 J**	**4.1 J**
Aroclor 1262	0.025 UJ	0.025 UJ	0.025 UJ	0.024 UJ	0.023 UJ	0.022 UJ	0.022 UJ	0.019 UJ	0.019 UJ	0.017 UJ	0.017 UJ
Aroclor 1268	0.025 UJ	0.025 UJ	0.025 UJ	0.024 UJ	0.023 UJ	0.022 UJ	0.022 UJ	0.019 UJ	0.019 UJ	0.017 UJ	0.017 UJ
Total PCBs	**0.4 J**	**0.24 J**	**0.41 J**	**0.22 J**	**0.44 J**	**0.67 J**	**0.39 J**	**6.5 J**	**8.5 J**	**6.3 J**	**7.3 J**
Pesticides (mg/kg)											
Aldrin	0.025 UJ	0.025 UJ	0.025 UJ	0.025 UJ	0.024 UJ	0.022 UJ	0.022 UJ	0.018 UJ	0.019 UJ	0.017 UJ	0.018 UJ
alpha-BHC	0.025 UJ	0.025 UJ	0.025 UJ	0.025 UJ	0.024 UJ	0.022 UJ	0.022 UJ	0.018 UJ	0.019 UJ	0.017 UJ	0.018 UJ
beta-BHC	0.025 UJ	0.025 UJ	0.025 UJ	0.025 UJ	0.024 UJ	0.022 UJ	0.022 UJ	0.018 UJ	**0.028 J**	0.017 UJ	**0.022 J**
gamma-BHC	0.025 UJ	0.025 UJ	0.025 UJ	0.025 UJ	0.024 UJ	0.022 UJ	0.022 UJ	0.018 UJ	**0.0082 J**	0.017 UJ	**0.013 J**
delta-BHC	0.025 UJ	0.025 UJ	0.025 UJ	0.025 UJ	0.024 UJ	0.022 UJ	0.022 UJ	**0.023 J**	0.019 UJ	0.017 UJ	0.018 UJ
alpha-chlordane	0.025 UJ	**0.012 J**	**0.0094 J**	**0.0088 J**	**0.0075 J**	**0.0094 J**	**0.013 J**	**0.06 J**	**0.1 J**	**0.096 J**	**0.094 J**
gamma-Chlordane	**0.24 J**	**0.12 J**	0.025 UJ	**0.039 J**	0.024 UJ	**0.05 J**	**0.11 J**	**0.079 J**	**0.12 J**	**0.11 JN**	**0.11 J**
4,4-DDD	**0.026 J**	**0.026 J**	**0.026 J**	**0.025 J**	**0.028 J**	**0.028 J**	**0.033 J**	**0.23 J**	**0.45 J**	**0.37 J**	**0.51 J**
4,4'-DDE	0.025 UJ	0.025 UJ	**0.021 J**	**0.033 J**	**0.034 J**	**0.034 J**	**0.039 J**	**0.13 J**	**0.25 J**	**0.22 J**	**0.22 J**
4,4'-DDT	0.025 UJ	0.025 UJ	0.025 UJ	0.025 UJ	0.024 UJ	0.022 UJ	**0.03 JN**	**0.021 JN**	**0.024 JN**	**0.019 JN**	0.018 UJ
Dieldrin	0.025 UJ	0.025 UJ	0.025 UJ	0.025 UJ	0.024 UJ	0.022 UJ	0.022 UJ	**0.036 JN**	**0.06 JN**	**0.051 JN**	**0.047 JN**
Endosulfan I	0.025 UJ	0.025 UJ	0.025 UJ	0.025 UJ	0.024 UJ	0.022 UJ	0.022 UJ	0.018 UJ	0.019 UJ	0.017 UJ	0.018 UJ
Endosulfan II	0.025 UJ	0.025 UJ	0.025 UJ	0.025 UJ	0.024 UJ	0.022 UJ	**0.0041 J**	0.018 UJ	**0.022 JN**	**0.017 JN**	**0.019 JN**
Endosulfan sulfate	0.025 UJ	0.025 UJ	0.025 UJ	0.025 UJ	0.024 UJ	0.022 UJ	**0.0043 J**	**0.03 J**	**0.049 J**	**0.035 J**	**0.035 J**
Endrin	**0.01 J**	**0.011 J**	**0.0091 J**	**0.012 J**	0.024 UJ	0.022 UJ	0.022 UJ	**0.042 JN**	**0.074 JN**	**0.06 JN**	**0.067 JN**
Endrin aldehyde	0.025 UJ	0.025 UJ	0.025 UJ	0.025 UJ	0.024 UJ	0.022 UJ	0.022 UJ	0.018 UJ	**0.014 J**	0.017 UJ	0.018 UJ
Endrin ketone	**0.0076 J**	**0.0084 J**	0.025 UJ	0.025 UJ	0.024 UJ	**0.015 J**	**0.017 J**	**0.1 J**	**0.18 J**	**0.15 J**	**0.15 J**
Heptachlor	0.025 UJ	0.025 UJ	0.025 UJ	0.025 UJ	0.024 UJ	0.022 UJ	0.022 UJ	0.018 UJ	0.019 UJ	0.017 UJ	0.018 UJ
Heptachlor epoxide	0.025 UJ	0.025 UJ	0.025 UJ	**0.0061 J**	**0.005 J**	**0.0076 J**	**0.0058 J**	0.018 UJ	**0.082 J**	**0.03 JN**	**0.031 JN**
Methoxychlor	0.049 UJ	0.049 UJ	**0.026 J**	0.048 UJ	0.047 UJ	0.043 UJ	0.043 UJ	**0.064 JN**	**0.089 JN**	**0.069 JN**	**0.04 JN**
Toxaphene	1 UJ	1 UJ	0.99 UJ	0.97 UJ	0.95 UJ	0.87 UJ	0.88 UJ	0.73 UJ	0.74 UJ	0.69 UJ	0.69 UJ
Herbicides (mg/kg)											
2,4-D	0.24 UJ	0.24 UJ	0.24 UJ	0.23 UJ	0.23 UJ	0.21 UJ	0.21 UJ	0.18 UJ	0.18 UJ	0.17 UJ	0.17 UJ
2,4-DB	0.24 UJ	0.24 UJ	0.24 UJ	0.23 UJ	0.23 UJ	0.21 UJ	0.21 UJ	0.18 UJ	0.18 UJ	0.17 UJ	0.17 UJ
Dicamba	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.11 UJ	0.1 UJ	0.11 UJ	0.089 UJ	0.09 UJ	0.083 UJ	0.084 UJ
Dichloroprop	0.24 UJ	0.24 UJ	0.24 UJ	0.23 UJ	**0.077 J**	0.21 UJ	0.21 UJ	0.18 UJ	0.18 UJ	0.17 UJ	0.17 UJ
2,2-Dichloropropionic acid	0.27 UJ	0.27 UJ	0.27 UJ	0.26 UJ	0.26 UJ	0.24 UJ	0.24 UJ	0.2 UJ	0.2 UJ	0.19 UJ	0.19 UJ
Dinoseb	0.036 UJ	0.036 UJ	0.036 UJ	0.035 UJ	0.034 UJ	0.031 UJ	0.032 UJ	0.027 UJ	0.027 UJ	0.025 UJ	0.025 UJ

Table 2
Summary of Sediment Analytical Results
Phase I Sediment Cores
Gowanus Canal
Brooklyn, New York

Sample Name:	GC-SED-509	GC-SED-509	GC-SED-509	GC-SED-509	GC-SED-509	GC-SED-509	GC-SED-509	GC-SED-510	GC-SED-510	GC-SED-510	Duplicate of GC-SED-510
Sample Depth (feet):	(0.5-1.0)	(1.0-1.5)	(1.5-2.0)	(2.0-2.5)	(2.5-3.0)	(3.0-3.5)	(3.5-4.0)	(0.0-0.5)	(0.5-1.0)	(1.0-1.5)	(1.0-1.5)
Sample Date:	8/16/2012	8/16/2012	8/16/2012	8/16/2012	8/16/2012	8/16/2012	8/16/2012	8/13/2012	8/13/2012	8/13/2012	8/13/2012
MCPP	24 UJ	24 UJ	24 UJ	23 UJ	23 UJ	21 UJ	21 UJ	18 UJ	18 UJ	17 UJ	17 UJ
Methylchlorophenoxyacetic acid	24 UJ	24 UJ	**11 J**	**21 J**	**34 J**	21 UJ	21 UJ	18 UJ	18 UJ	17 UJ	17 UJ
Pentachlorophenol	0.033 UJ	0.033 UJ	0.033 UJ	0.032 UJ	0.031 UJ	0.029 UJ	0.029 UJ	0.025 UJ	0.025 UJ	0.023 UJ	0.023 UJ
Silvex	0.06 UJ	0.06 UJ	0.06 UJ	0.058 UJ	0.057 UJ	0.052 UJ	0.053 UJ	0.045 UJ	0.045 UJ	0.042 UJ	0.042 UJ
2,4,5-Trichlorophenoxyacetic Acid	0.06 UJ	0.06 UJ	0.06 UJ	0.058 UJ	0.057 UJ	0.052 UJ	0.053 UJ	0.045 UJ	0.045 UJ	0.042 UJ	0.042 UJ
Metals (mg/kg)											
Aluminum	**16000 J**	**14000 J**	**17000 J**	**18000 J**	**18000 J**	**17000 J**	**17000 J**	**7500 J**	**9800 J**	**8800 J**	**9500 J**
Antimony	**1.1 J**	**1 J**	**1.2 J**	**1 J**	**1.2 J**	**0.98 J**	**1 J**	**5.4 J**	**7.1 J**	**3.6 J**	**5.8 J**
Arsenic	**7.7 J**	**6.4 J**	**7.3 J**	**7.5 J**	**9.3 J**	**8.3 J**	**8.9 J**	**9.2 J**	**12 J**	**9.9 J**	**12 J**
Barium	**87 J**	**80 J**	**93 J**	**91 J**	**120 J**	**110 J**	**140 J**	**320 J**	**560 J**	**400 J**	**470 J**
Beryllium	**0.77 J**	**0.63 J**	**0.78 J**	**0.76 J**	**0.9 J**	**0.83 J**	**0.79 J**	**0.47 J**	**0.61 J**	**0.53 J**	**0.58 J**
Cadmium	**1.6 J**	**1.6 J**	**1.7 J**	**1.7 J**	**2.2 J**	**2.2 J**	**2.6 J**	**7.4 J**	**13 J**	**9.6 J**	**11 J**
Calcium	**7200 J**	**6700 J**	**7200 J**	**6900 J**	**7500 J**	**7100 J**	**8100 J**	**7300 J**	**20000 J**	**9300 J**	**11000 J**
Chromium	**64 J**	**54 J**	**65 J**	**68 J**	**77 J**	**78 J**	**85 J**	**140 J**	**210 J**	**170 J**	**200 J**
Cobalt	**10 J**	**8.7 J**	**10 J**	**10 J**	**11 J**	**10 J**	**10 J**	**7.7 J**	**10 J**	**8.9 J**	**9.4 J**
Copper	**190 J**	**170 J**	**190 J**	**170 J**	**190 J**	**190 J**	**200 J**	**450 J**	**750 J**	**450 J**	**610 J**
Iron	**27000 J**	**23000 J**	**27000 J**	**28000 J**	**29000 J**	**27000 J**	**28000 J**	**22000 J**	**28000 J**	**24000 J**	**28000 J**
Lead	**240 J**	**220 J**	**240 J**	**230 J**	**270 J**	**270 J**	**320 J**	**770 J**	**970 J**	**810 J**	**1000 J**
Magnesium	**11000 J**	**9700 J**	**10000 J**	**10000 J**	**10000 J**	**9600 J**	**9600 J**	**6400 J**	**8000 J**	**6900 J**	**7600 J**
Manganese	**260 J**	**210 J**	**260 J**	**280 J**	**300 J**	**300 J**	**310 J**	**140 J**	**180 J**	**160 J**	**140 J**
Mercury	**2 J**	**1.9 J**	**1.7 J**	**1.5 J**	**1.9 J**	**2.1 J**	**2 J**	**1.9 J**	**3.4 J**	**2.6 J**	**2.8 J**
Nickel	**34 J**	**30 J**	**33 J**	**34 J**	**38 J**	**38 J**	**41 J**	**110 J**	**170 J**	**140 J**	**160 J**
Potassium	**2800 J**	**2400 J**	**2800 J**	**2900 J**	**3000 J**	**2800 J**	**2600 J**	**2000 J**	**2300 J**	**2200 J**	**2200 J**
Selenium	**2.1 J**	**1.9 J**	**2 J**	**1.8 J**	**2.1 J**	**1.7 J**	**2 J**	**1.9 J**	**2 J**	**1.7 J**	**2.1 J**
Silver	**3.3 J**	**4 J**	**5.9 J**	**5.2 J**	**7.2 J**	**6.6 J**	**7.9 J**	**9.3 J**	**13 J**	**9.7 J**	**11 J**
Sodium	**10000 J**	**7800 J**	**5400 J**	**3800 J**	**2700 J**	**1500 J**	**1000 J**	**9600 J**	**8200 J**	**8000 J**	**8000 J**
Thallium	**0.29 J**	**0.26 J**	**0.3 J**	**0.29 J**	**0.3 J**	**0.31 J**	**0.33 J**	**0.22 J**	**0.3 J**	**0.25 J**	**0.28 J**
Vanadium	**42 J**	**37 J**	**41 J**	**41 J**	**43 J**	**41 J**	**42 J**	**45 J**	**60 J**	**49 J**	**60 J**
Zinc	**440 J**	**410 J**	**450 J**	**390 J**	**450 J**	**400 J**	**460 J**	**850 J**	**1200 J**	**920 J**	**1100 J**
EDCs & PPCPs (Phenols) (mg/kg)											
Bisphenol A	1.2 UJ	1.2 UJ	1.1 UJ	1.2 UJ	1.1 UJ	1.1 UJ	1 UJ	0.94 UJ	0.84 UJ	0.89 UJ	0.84 UJ
Nonylphenol	**12 J**	**19 J**	**27 J**	**29 J**	**24 J**	**26 J**	**27 J**	**14 J**	**22 J**	**26 J**	**23 J**
Nonylphenol Diethoxylate	23 UJ	24 UJ	22 UJ	24 UJ	22 UJ	22 UJ	20 UJ	19 UJ	17 UJ	18 UJ	17 UJ
Nonylphenol Monoethoxylate	12 UJ	12 UJ	11 UJ	12 UJ	11 UJ	11 UJ	10 UJ	9.4 UJ	8.4 UJ	8.9 UJ	8.4 UJ
4-tert-Octylphenol	1.2 UJ	1.2 UJ	1.1 UJ	1.2 UJ	1.1 UJ	1.1 UJ	1 UJ	0.94 UJ	**1 J**	**1.2 J**	**1.1 J**
EDCs and PPCPs (mg/kg)											
Acetaminophen	0.039 U	0.04 U	0.039 U	0.038 U	0.036 U	0.038 U	0.039 U	0.038 U	0.039 U	0.038 U	0.039 U
alpha-Estradiol	0.039 UJ	0.04 UJ	0.039 UJ	0.038 UJ	0.036 UJ	0.038 UJ	0.039 UJ	0.038 UJ	0.039 UJ	0.038 UJ	0.039 UJ
Androstenedione	**0.0028 J**	**0.0023 J**	**0.0019 J**	**0.0015 J**	0.0073 UJ	0.0075 UJ	0.0079 UJ	0.0077 UJ	0.0077 UJ	0.0075 UJ	0.0079 UJ
Atrazine	0.0078 UJ	0.0079 UJ	0.0077 UJ	0.0076 UJ	0.0073 UJ	0.0075 UJ	0.0079 UJ	0.0077 UJ	0.0077 UJ	0.0075 UJ	0.0079 UJ
Bisphenol A	**0.17**	**0.16**	**0.16**	**0.14**	**0.14**	**0.18**	**0.18**	**0.12 J**	**0.12**	**0.12**	**0.12**
Carbamazepine	0.016 UJ	0.016 UJ	0.015 UJ	0.015 UJ	0.015 UJ	0.015 UJ	0.016 UJ	0.015 UJ	0.015 UJ	0.015 UJ	0.0028 UJ
DEET (N,N-Diethyl-3-Methyl Benzamide)	0.039 UJ	0.04 UJ	0.039 UJ	0.038 UJ	0.036 UJ	0.038 UJ	0.039 UJ	**0.2 J**	0.039 UJ	0.038 UJ	0.039 UJ
Diazepam	0.016 U	0.016 U	0.015 U	0.015 U	0.015 U	0.015 U	0.016 U	0.015 U	0.015 U	0.015 U	0.016 U
Diclofenac	0.016 UJ	0.016 UJ	0.015 UJ	0.015 UJ	R	0.015 UJ	0.016 UJ	R	R	R	R
Diethylstilbestrol	0.039 UJ	0.04 UJ	0.039 UJ	0.038 UJ	**0.047 J**	R	0.039 UJ	R	R	**0.049 J**	R
Estradiol	0.039 UJ	0.04 UJ	0.039 UJ	0.038 UJ	0.036 UJ	0.038 UJ	0.039 UJ	0.038 UJ	0.039 UJ	0.038 UJ	0.039 UJ
Estriol	0.039 U	0.04 U	0.039 U	0.038 U	0.036 U	0.038 U	0.039 U	0.038 U	0.039 U	0.038 U	0.039 U

Table 2
Summary of Sediment Analytical Results
Phase I Sediment Cores
Gowanus Canal
Brooklyn, New York

Sample Name:	GC-SED-509	GC-SED-509	GC-SED-509	GC-SED-509	GC-SED-509	GC-SED-509	GC-SED-509	GC-SED-510	GC-SED-510	GC-SED-510	Duplicate of GC-SED-510
Sample Depth (feet):	(0.5-1.0)	(1.0-1.5)	(1.5-2.0)	(2.0-2.5)	(2.5-3.0)	(3.0-3.5)	(3.5-4.0)	(0.0-0.5)	(0.5-1.0)	(1.0-1.5)	(1.0-1.5)
Sample Date:	8/16/2012	8/16/2012	8/16/2012	8/16/2012	8/16/2012	8/16/2012	8/16/2012	8/13/2012	8/13/2012	8/13/2012	8/13/2012
Estrone	**0.11 J**	**0.16 J**	**0.19 J**	**0.11 J**	0.036 UJ	0.038 UJ	0.039 UJ	**0.042 J**	0.039 UJ	0.038 UJ	0.039 UJ
Ethinyl Estradiol	0.039 U	0.04 U	0.039 U	0.038 U	0.036 U	0.038 U	0.039 U	0.038 U	0.039 UJ	0.038 U	0.039 U
Gemfibrozil	0.016 UJ	0.016 UJ	0.015 UJ	0.015 UJ	R	0.015 UJ	0.016 UJ	R	R	R	R
Ibuprofen	0.039 UJ	0.04 UJ	0.039 U	0.038 UJ	0.036 UJ	0.038 UJ	0.039 UJ	0.038 UJ	0.039 UJ	0.038 UJ	0.025 UJ
Meprobamate	0.0078 UJ	0.0079 UJ	0.0077 UJ	0.0076 UJ	0.0073 UJ	0.0075 UJ	0.0079 UJ	0.0077 UJ	0.0077 UJ	0.0075 UJ	0.0079 UJ
Naproxen	0.016 U	0.016 U	0.015 U	0.015 U	0.015 U	0.015 U	0.016 U	0.015 UJ	0.015 UJ	0.015 UJ	0.002 UJ
Pentoxifylline	0.016 U	**0.0014 J**	0.015 U	0.015 U	**0.0036 J**	0.015 U	**0.0012 J**	0.015 U	0.015 U	0.015 U	0.016 U
Phenytoin (5,5-Diphenylhydantion/ Dilantin)	0.039 U	0.04 U	0.039 U	0.038 U	0.036 U	0.038 U	0.039 U	0.038 U	**0.0019 J**	0.038 U	0.005 U
Progesterone	**0.0082 J**	**0.0047 J**	**0.0047 J**	**0.0059 J**	**0.0048 J**	**0.0044 J**	**0.0019 J**	**0.0082 J**	**0.0086 J**	**0.0059 J**	**0.0066 J**
Sulfamethoxazole	0.016 U	0.016 U	0.015 U	0.015 U	0.015 U	0.015 U	0.016 U	0.015 U	0.015 U	0.015 U	0.016 U
Testosterone	0.016 U	0.016 U	0.015 U	0.015 U	0.015 U	0.015 U	0.016 U	0.015 U	0.015 U	0.015 U	0.016 U
Trimethoprim	R	0.04 UJ	0.039 UJ	0.038 UJ	0.036 UJ	0.038 UJ	R	0.038 UJ	0.039 UJ	0.038 UJ	0.039 UJ
Pathogen											
C. perfringens (cfu/g)	**5400**	**49000**	**57000**	**62000**	**50000**	**90000**	**79000**	**90000**	**160000**	**170000**	NA
Coliphage, Male Specific (pfu/10g)	0 U	0 U	0 U	**1**	0 U	0 U	0 U	0 U	0 U	0 U	NA
Coliphage, Somatic (pfu/10g)	**11 J**	**31 J**	**23 J**	**5 J**	**3 J**	**2 J**	0 UJ	**226 J**	**51 J**	**46 J**	NA
Cryptosporidium (Oocysts/g)	0 UJ	0 U	0 U	0 UJ	0 U	0 U	0 UJ	0 UJ	0 UJ	0 U	NA
E.Coli (mpn/g)	**101.7**	**56.5**	**22.8**	**8.4**	**9.8**	**2**	**1**	**204.6**	**2**	0 U	NA
Enterococci (mpn/g)	**64**	**72.5**	**60.8**	**36.8**	**28.1**	**84.7**	**66.9**	**234.8**	**14.6**	**32.4**	NA
Fecal Coliform (mpn/g)	**191.8**	**101.2**	**53.8**	**28.8**	**26.2**	**20.3**	**25.6**	**200**	**740**	**620**	NA
Giardia (Cysts/g)	0 U	0 U	0 U	0 U	0 U	0 U	0 U	0 UJ	0 U	0 U	NA
Plaque forming virus (pfu/g)	0 U	0 U	0 U	0 U	0 U	0 U	0 U	0 U	0 U	0 U	NA
Viruses (pos/neg)	neg	neg	neg	neg	neg	neg	neg	neg	neg	neg	NA
Other (%)											
Percent Solids	**32.57**	**33.5**	**33.75**	**34.18**	**36**	**37.44**	**38.37**	**39.58**	**43.77**	**43.55**	NA
Total Solids	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Other (mg/kg)											
Total Organic Carbon	**51000 J**	**41000 J**	**72000 J**	**50000 J**	**70000 J**	**75000 J**	**60000 J**	**61000 J**	**120000 J**	**120000 J**	**120000 J**

Table 2
Summary of Sediment Analytical Results
Phase I Sediment Cores
Gowanus Canal
Brooklyn, New York

Sample Name:	GC-SED-510	GC-SED-510	GC-SED-510	GC-SED-510	GC-SED-510	GC-SED-511	GC-SED-511	GC-SED-511	GC-SED-511	GC-SED-512	GC-SED-512	GC-SED-512
Sample Depth (feet):	(1.5-2.0)	(2.0-2.5)	(2.5-3.0)	(3.0-3.5)	(3.5-4.0)	(0.0-0.5)	(0.5-1.0)	(1.0-1.5)	(1.5-2.0)	(0.0-0.5)	(0.5-1.0)	(1.0-1.5)
Sample Date:	8/13/2012	8/13/2012	8/13/2012	8/13/2012	8/13/2012	8/13/2012	8/13/2012	8/13/2012	8/13/2012	8/9/2012	8/9/2012	8/9/2012
BTEX (mg/kg)												
Benzene	0.55 UJ	0.55 UJ	0.52 UJ	0.52 UJ	0.55 UJ	0.53 UJ	0.33 U	0.31 U	0.37 U	0.011 UJ	0.01 UJ	0.01 UJ
Toluene	0.55 UJ	0.55 UJ	0.52 UJ	0.52 UJ	0.55 UJ	**0.19 J**	0.33 U	0.31 U	0.37 U	0.011 UJ	0.01 UJ	0.01 UJ
Ethylbenzene	**0.13 J**	**0.09 J**	**0.089 J**	**0.38 J**	**0.5 J**	**0.84 J**	**0.057 J**	0.31 U	0.37 U	0.011 UJ	0.01 UJ	**0.0083 J**
m,p-Xylene	**0.15 J**	1.1 UJ	1 UJ	**0.34 J**	**0.34 J**	**0.58 J**	0.65 U	0.63 U	0.75 U	0.023 UJ	0.021 UJ	**0.0081 J**
o-Xylene	0.55 UJ	0.55 UJ	0.52 UJ	**0.17 J**	**0.18 J**	0.53 UJ	0.33 U	0.31 U	0.37 U	0.011 UJ	0.01 UJ	**0.0053 J**
Total Xylene	1.6 UJ	1.6 UJ	1.6 UJ	**0.51 J**	**0.52 J**	**0.58 J**	0.98 U	0.94 U	1.1 U	0.034 UJ	0.031 UJ	**0.013 J**
Total BTEX	**0.28**	**0.09**	**0.089**	**0.89**	**1.02**	**1.61**	**0.057**	0	0	0	0	**0.0213**
Other VOCs (mg/kg)												
Acetone	R	R	R	R	R	R	R	R	R	0.045 UJ	0.041 UJ	0.041 UJ
Bromochloromethane	0.55 UJ	0.55 UJ	0.52 UJ	0.52 UJ	0.55 UJ	0.53 UJ	0.33 U	0.31 U	0.37 U	0.011 UJ	0.01 UJ	0.01 UJ
Bromodichloromethane	0.55 UJ	0.55 UJ	0.52 UJ	0.52 UJ	0.55 UJ	0.53 UJ	0.33 UJ	0.31 UJ	0.37 UJ	0.011 UJ	0.01 UJ	0.01 UJ
Bromoform	0.55 UJ	0.55 UJ	0.52 UJ	0.52 UJ	0.55 UJ	0.53 UJ	0.33 U	0.31 U	0.37 U	0.011 UJ	0.01 UJ	0.01 UJ
Bromomethane	0.55 UJ	0.55 UJ	0.52 UJ	0.52 UJ	0.55 UJ	0.53 UJ	0.33 UJ	0.31 UJ	0.37 UJ	0.011 UJ	0.01 UJ	0.01 UJ
2-Butanone (Methyl ethyl ketone)	R	R	R	R	R	R	R	R	R	0.011 UJ	0.01 UJ	0.01 UJ
Carbon disulfide	0.55 UJ	0.55 UJ	0.52 UJ	0.52 UJ	0.55 UJ	0.53 UJ	0.33 U	0.31 U	0.37 U	0.011 UJ	0.01 UJ	0.01 UJ
Carbon tetrachloride	0.55 UJ	0.55 UJ	0.52 UJ	0.52 UJ	0.55 UJ	0.53 UJ	0.33 UJ	0.31 UJ	0.37 UJ	0.011 UJ	0.01 UJ	0.01 UJ
Chlorobenzene	0.55 UJ	0.55 UJ	0.52 UJ	**0.098 J**	**0.098 J**	**0.056 J**	0.33 U	0.31 U	0.37 U	0.011 UJ	0.01 UJ	**0.003 J**
Chloroethane	0.55 UJ	0.55 UJ	0.52 UJ	0.52 UJ	0.55 UJ	0.53 UJ	0.33 UJ	0.31 UJ	0.37 UJ	0.011 UJ	0.01 UJ	0.01 UJ
Chloroform	0.55 UJ	0.55 UJ	0.52 UJ	0.52 UJ	0.55 UJ	0.53 UJ	0.33 U	0.31 U	0.37 U	0.011 UJ	0.01 UJ	0.01 UJ
Chloromethane	0.55 UJ	0.55 UJ	0.52 UJ	0.52 UJ	0.55 UJ	0.53 UJ	0.33 U	0.31 U	0.37 U	0.011 UJ	0.01 UJ	0.01 UJ
Cyclohexane	0.55 UJ	0.55 UJ	0.52 UJ	0.52 UJ	0.55 UJ	0.53 UJ	0.33 U	0.31 U	0.37 U	0.011 UJ	0.01 UJ	0.01 UJ
1,2-Dibromo-3-chloropropane	R	R	R	R	R	R	R	R	R	0.011 UJ	0.01 UJ	0.01 UJ
Dibromochloromethane	0.55 UJ	0.55 UJ	0.52 UJ	0.52 UJ	0.55 UJ	0.53 UJ	0.33 U	0.31 U	0.37 U	0.011 UJ	0.01 UJ	0.01 UJ
1,2-Dibromoethane	0.55 UJ	0.55 UJ	0.52 UJ	0.52 UJ	0.55 UJ	0.53 UJ	0.33 U	0.31 U	0.37 U	0.011 UJ	0.01 UJ	0.01 UJ
1,2-Dichlorobenzene	0.55 UJ	0.55 UJ	0.52 UJ	0.52 UJ	0.55 UJ	0.53 UJ	0.33 U	0.31 U	0.37 U	0.011 UJ	0.01 UJ	0.01 UJ
1,3-Dichlorobenzene	0.55 UJ	0.55 UJ	0.52 UJ	0.52 UJ	0.55 UJ	0.53 UJ	0.33 U	**0.061 J**	0.37 U	0.011 UJ	0.01 UJ	0.01 UJ
1,4-Dichlorobenzene	0.55 UJ	0.55 UJ	0.52 UJ	**0.17 J**	**0.25 J**	0.53 UJ	0.33 UJ	**0.058 J**	0.37 UJ	0.011 UJ	0.01 UJ	**0.0063 J**
Dichlorodifluoromethane	0.55 UJ	0.55 UJ	0.52 UJ	0.52 UJ	0.55 UJ	0.53 UJ	0.33 U	0.31 U	0.37 U	0.011 UJ	0.01 UJ	0.01 UJ
1,1-Dichloroethane	0.55 UJ	0.55 UJ	0.52 UJ	0.52 UJ	0.55 UJ	0.53 UJ	0.33 U	0.31 U	0.37 U	0.011 UJ	0.01 UJ	0.01 UJ
1,2-Dichloroethane	0.55 UJ	0.55 UJ	0.52 UJ	0.52 UJ	0.55 UJ	0.53 UJ	0.33 UJ	0.31 UJ	0.37 UJ	0.011 UJ	0.01 UJ	0.01 UJ
cis-1,2-Dichloroethene	0.55 UJ	0.55 UJ	0.52 UJ	0.52 UJ	0.55 UJ	0.53 UJ	0.33 U	0.31 U	0.37 U	0.011 UJ	0.01 UJ	0.01 UJ
trans-1,2-Dichloroethene	0.55 UJ	0.55 UJ	0.52 UJ	0.52 UJ	0.55 UJ	0.53 UJ	0.33 U	0.31 U	0.37 U	0.011 UJ	0.01 UJ	0.01 UJ
1,1-Dichloroethene	0.55 UJ	0.55 UJ	0.52 UJ	0.52 UJ	0.55 UJ	0.53 UJ	0.33 U	0.31 U	0.37 U	0.011 UJ	0.01 UJ	0.01 UJ
1,2-Dichloropropane	0.55 UJ	0.55 UJ	0.52 UJ	0.52 UJ	0.55 UJ	0.53 UJ	0.33 U	0.31 U	0.37 U	0.011 UJ	0.01 UJ	0.01 UJ
cis-1,3-Dichloropropene	0.55 UJ	0.55 UJ	0.52 UJ	0.52 UJ	0.55 UJ	0.53 UJ	0.33 U	0.31 U	0.37 U	0.011 UJ	0.01 UJ	0.01 UJ
trans-1,3-Dichloropropene	0.55 UJ	0.55 UJ	0.52 UJ	0.52 UJ	0.55 UJ	0.53 UJ	0.33 UJ	0.31 UJ	0.37 UJ	0.011 UJ	0.01 UJ	0.01 UJ
1,4-Dioxane	R	R	R	R	R	R	R	R	R	R	R	R
2-Hexanone	0.55 UJ	0.55 UJ	0.52 UJ	0.52 UJ	0.55 UJ	0.53 UJ	0.33 U	0.31 U	0.37 U	0.011 UJ	0.01 UJ	0.01 UJ
Isopropyl benzene	0.55 UJ	0.55 UJ	0.52 UJ	**0.12 J**	**0.16 J**	**0.15 J**	0.33 U	0.31 U	0.37 U	0.011 UJ	0.01 UJ	**0.0022 J**
Methyl acetate	R	R	R	R	**0.96 J**	R	R	**0.63 J**	**0.7 J**	0.011 UJ	0.01 UJ	0.01 UJ
Methyl tert-butyl ether (MTBE)	0.55 UJ	0.55 UJ	0.52 UJ	0.52 UJ	0.55 UJ	0.53 UJ	0.33 UJ	0.31 UJ	0.37 UJ	0.011 UJ	0.01 UJ	0.01 UJ
4-Methyl-2-pentanone	0.55 UJ	0.55 UJ	0.52 UJ	0.52 UJ	0.55 UJ	0.53 UJ	0.33 U	0.31 U	0.37 U	0.011 UJ	0.01 UJ	0.01 UJ
Methylcyclohexane	0.55 UJ	0.55 UJ	0.52 UJ	**0.077 J**	**0.082 J**	**0.57 J**	**0.049 J**	0.31 U	0.37 U	0.011 UJ	0.01 UJ	0.01 UJ
Methylene chloride	0.55 UJ	0.55 UJ	0.52 UJ	0.52 UJ	0.55 UJ	0.53 UJ	0.33 U	0.31 U	0.37 U	0.011 UJ	0.01 UJ	0.01 UJ
Styrene	0.55 UJ	0.55 UJ	0.52 UJ	0.52 UJ	0.55 UJ	0.53 UJ	0.33 U	0.31 U	0.37 U	0.011 UJ	0.01 UJ	0.01 UJ
1,1,2,2-Tetrachloroethane	0.55 UJ	0.55 UJ	0.52 UJ	0.52 UJ	0.55 UJ	0.53 UJ	0.33 U	0.31 U	0.37 U	0.011 UJ	0.01 UJ	0.01 UJ
Tetrachloroethene	0.55 UJ	0.55 UJ	0.52 UJ	0.52 UJ	0.55 UJ	0.53 UJ	0.33 U	0.31 U	0.37 U	0.011 UJ	0.01 UJ	0.01 UJ

Table 2
Summary of Sediment Analytical Results
Phase I Sediment Cores
Gowanus Canal
Brooklyn, New York

Sample Name:	GC-SED-510	GC-SED-510	GC-SED-510	GC-SED-510	GC-SED-510	GC-SED-511	GC-SED-511	GC-SED-511	GC-SED-511	GC-SED-512	GC-SED-512	GC-SED-512
Sample Depth (feet):	(1.5-2.0)	(2.0-2.5)	(2.5-3.0)	(3.0-3.5)	(3.5-4.0)	(0.0-0.5)	(0.5-1.0)	(1.0-1.5)	(1.5-2.0)	(0.0-0.5)	(0.5-1.0)	(1.0-1.5)
Sample Date:	8/13/2012	8/13/2012	8/13/2012	8/13/2012	8/13/2012	8/13/2012	8/13/2012	8/13/2012	8/13/2012	8/9/2012	8/9/2012	8/9/2012
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	0.55 UJ	0.55 UJ	0.52 UJ	0.52 UJ	0.55 UJ	0.53 UJ	0.33 U	0.31 U	0.37 U	0.011 UJ	0.01 UJ	0.01 UJ
1,2,3-Trichlorobenzene	0.55 UJ	0.55 UJ	0.52 UJ	0.52 UJ	0.55 UJ	0.53 UJ	0.33 UJ	0.31 UJ	0.37 UJ	0.011 UJ	0.01 UJ	0.01 UJ
1,2,4-Trichlorobenzene	0.55 UJ	0.55 UJ	0.52 UJ	0.52 UJ	0.55 UJ	0.53 UJ	0.33 UJ	0.31 UJ	0.37 UJ	0.011 UJ	0.01 UJ	0.01 UJ
1,1,1-Trichloroethane	0.55 UJ	0.55 UJ	0.52 UJ	0.52 UJ	0.55 UJ	0.53 UJ	0.33 UJ	0.31 UJ	0.37 UJ	0.011 UJ	0.01 UJ	0.01 UJ
1,1,2-Trichloroethane	0.55 UJ	0.55 UJ	0.52 UJ	0.52 UJ	0.55 UJ	0.53 UJ	0.33 U	0.31 U	0.37 U	0.011 UJ	0.01 UJ	0.01 UJ
Trichloroethene	0.55 UJ	0.55 UJ	0.52 UJ	0.52 UJ	0.55 UJ	0.53 UJ	0.33 U	0.31 U	0.37 U	0.011 UJ	0.01 UJ	0.01 UJ
Trichlorofluoromethane	0.55 UJ	0.55 UJ	0.52 UJ	0.52 UJ	0.55 UJ	0.53 UJ	0.33 UJ	0.31 UJ	0.37 UJ	0.011 UJ	0.01 UJ	0.01 UJ
Vinyl chloride	0.55 UJ	0.55 UJ	0.52 UJ	0.52 UJ	0.55 UJ	0.53 UJ	0.33 U	0.31 U	0.37 U	0.011 UJ	0.01 UJ	0.01 UJ
PAHs (mg/kg)												
Acenaphthene	**13 J**	**12 J**	**21 J**	**18 J**	**18 J**	**16 J**	**6.3**	**1.8**	**4.6**	**9 J**	**21 J**	**16 J**
Acenaphthylene	**11 J**	**12 J**	**17 J**	**13 J**	**14 J**	**10 J**	**2.5**	**1.3**	**5.2**	**9.6 J**	**16 J**	**13 J**
Anthracene	**21 J**	**19 J**	**29 J**	**24 J**	**25 J**	**29 J**	**12**	**3.3**	**8.5**	**16 J**	**32 J**	**23 J**
Benz[a]anthracene	**23 J**	**24 J**	**30 J**	**27 J**	**26 J**	**43 J**	**16 J**	**4.4**	**9.3**	**20 J**	**36 J**	**26 J**
Benzo[a]pyrene	**18 J**	**19 J**	**27 J**	**23 J**	**21 J**	**41 J**	**13 J**	**3.4 J**	**8 J**	**17 J**	**33 J**	**22 J**
Benzo[b]fluoranthene	**11 J**	**11 J**	**18 J**	**16 J**	**14 J**	**32 J**	**9 J**	**2.4 J**	**6 J**	**12 J**	**24 J**	**15 J**
Benzo[g,h,i]perylene	**9.8 J**	**11 J**	**15 J**	**13 J**	**11 J**	**26 J**	**8.1 J**	**2.2 J**	**4.6 J**	**9.3 J**	**17 J**	**11 J**
Benzo[k]fluoranthene	**6.8 J**	**8 J**	**7.3 J**	**6 J**	**5.9 J**	**16 J**	**7.1 J**	**1.6 J**	**1.8 J**	**5.5 J**	**8.5 J**	**6.4 J**
Chrysene	**23 J**	**23 J**	**32 J**	**26 J**	**25 J**	**45 J**	**15 J**	**3.9**	**10**	**19 J**	**40 J**	**26 J**
Dibenz[a,h]anthracene	**4.2 J**	**4.8 J**	**6.1 J**	**4.9 J**	**4.7 J**	**7.7 J**	**2.9 J**	**1.7 J**	**2.5 J**	**4.7 J**	**8.9 J**	**6.7 J**
Fluoranthene	**40 J**	**37 J**	**50 J**	**45 J**	**44 J**	**92 J**	**32**	**9.4**	**17**	**38 J**	**71 J**	**45 J**
Fluorene	**10 J**	**9.9 J**	**16 J**	**14 J**	**13 J**	**15 J**	**6.4**	**1.6**	**4.1**	**7.7 J**	**15 J**	**12 J**
Indeno[1,2,3-cd]pyrene	**8.3 J**	**9.8 J**	**12 J**	**11 J**	**9.5 J**	**22 J**	**7.4 J**	**2.6 J**	**4.2 J**	**7.7 J**	**15 J**	**11 J**
2-Methylnaphthalene	**10 J**	**11 J**	**18 J**	**14 J**	**15 J**	**7.2 J**	**3.9**	**0.54**	**1.7**	**5.5 J**	**17 J**	**12 J**
Naphthalene	**6.9 J**	**7.7 J**	**13 J**	**11 J**	**11 J**	**13 J**	**6.6**	**0.96**	**2.2**	**5.8 J**	**14 J**	**10 J**
Phenanthrene	**55 J**	**48 J**	**69 J**	**64 J**	**61 J**	**86 J**	**35**	**8.7**	**17**	**42 J**	**83 J**	**57 J**
Pyrene	**48 J**	**45 J**	**74 J**	**58 J**	**55 J**	**95 J**	**28 J**	**7.1**	**17**	**36 J**	**68 J**	**47 J**
Total PAHs	**319**	**312.2**	**454.4**	**387.9**	**373.1**	**595.9**	**211.2**	**56.9**	**123.7**	**264.8**	**519.4**	**359.1**
Alkylated PAHs (mg/kg)												
Acenaphthene	**18.832 J**	**18.05174 J**	**29.39869 J**	**24.68773 J**	**28.91537 J**	**9.63855**	**2.63235**	**2.2239**	NA	**9.05047**	**15.38346**	**17.94606 J**
Acenaphthylene	**12.54328 J**	**12.35273 J**	**14.20705 J**	**13.91899 J**	**16.71385 J**	**7.68933**	**1.62238**	**1.75415**	NA	**5.7908**	**7.88821**	**8.86492**
Anthracene	**33.71966 J**	**31.48036 J**	**39.14429 J**	**43.02063 J**	**47.97492 J**	**18.87015**	**4.73984**	**4.58477**	NA	**14.73188**	**25.49419**	**27.21741**
Benz[a]anthracene	**42.09552 J**	**32.49153 J**	**51.24371 J**	**42.04581 J**	**47.17577 J**	**19.19399**	**4.93486**	**6.15701**	NA	**20.03717**	**29.09947**	**27.61782**
Benzo[a]pyrene	**28.12985 J**	**25.83048 J**	**28.78978 J**	**27.13321 J**	**32.67711 J**	**15.74903**	**3.76419**	**5.26113**	NA	**13.40141**	**23.88052**	**22.31957**
Benzo[b]fluoranthene	**19.82059 J**	**17.16323 J**	**17.7562 J**	**17.45514 J**	**21.66957 J**	**10.25825**	**2.59797**	**3.91829**	NA	**8.25972**	**15.65444**	**13.41749**
Benzo[e]pyrene	**17.26725 J**	**15.60997 J**	**17.07362 J**	**16.05439 J**	**19.42573 J**	**9.39581**	**2.30858**	**3.2066**	NA	**8.17319**	**14.77786**	**13.61487**
Benzo[g,h,i]perylene	**13.88134 J**	**12.3362 J**	**13.12747 J**	**12.23469 J**	**14.68576 J**	**7.29911**	**1.71078**	**2.61961**	NA	**6.26085**	**11.98962**	**10.66749**
Benzo[k]fluoranthene	**20.15265 J**	**18.46312 J**	**19.49922 J**	**18.771 J**	**22.77585 J**	**11.22714**	**2.86251**	**4.20162**	NA	**9.41297**	**18.30961**	**16.34371**
1,1-Biphenyl	**2.94318 J**	**2.89199 J**	**4.87375 J**	**4.00969 J**	**4.63876 J**	**1.28807**	**0.24082**	**0.24211**	NA	**1.38827**	**2.66961**	**3.21571**
Chrysene	**39.06215 J**	**31.32237 J**	**34.09643 J**	**32.58719 J**	**44.27206 J**	**18.18492**	**4.55217**	**5.83685**	NA	**17.3864**	**26.8082**	**25.55358**
C1-Chrysenes	**33.6885 J**	**31.61206 J**	**36.11021 J**	**34.80343 J**	**40.98716 J**	**19.88366**	**4.78045**	**5.1115**	NA	**15.64099**	**26.27542**	**27.06079**
C2-Chrysenes	**19.99968 J**	**18.56476 J**	**20.82634 J**	**20.15129 J**	**23.1868 J**	**12.15621**	**2.74004**	**3.00637**	NA	**8.40553**	**14.36525**	**14.83805 J**
C3-Chrysenes	**9.44961 J**	**8.74738 J**	**10.31446 J**	**9.718 J**	**11.13506 J**	**6.1014**	**1.38112**	**1.49354**	NA	**4.45524**	**6.94397**	**7.1275 J**
C4-Chrysenes	**5.4539 J**	**4.60471 J**	**5.2848 J**	**5.11998 J**	**5.75536 J**	**3.10736**	**0.82046**	**0.82263**	NA	**2.03462**	**3.58935**	**3.63489 J**
Dibenz[a,h]anthracene	**4.1701 J**	**3.76694 J**	**4.03479 J**	**3.80335 J**	**4.73086 J**	**2.24055**	**0.51713**	**0.74442**	NA	**1.86131**	**3.82873**	**3.46266**
Dibenzofuran	**2.93359 J**	**2.40322 J**	**6.32515 J**	**3.69435 J**	**3.49047 J**	**1.2823**	**0.33565**	**0.3582**	NA	**1.13144**	**2.76426**	**2.48142**
Dibenzothiophene	**9.96961 J**	**9.22498 J**	**11.67042 J**	**11.10438 J**	**13.0016 J**	**5.43642**	**1.38673**	**1.34838**	NA	**4.51939**	**7.89949**	**8.2438**
C1-Dibenzothiophenes	**23.85214 J**	**22.74159 J**	**26.94275 J**	**26.10383 J**	**30.47941 J**	**14.04742**	**3.26839**	**3.07834**	NA	**10.9048**	**16.90895**	**17.9751**
C2-Dibenzothiophenes	**28.33778 J**	**26.99471 J**	**31.83912 J**	**30.45541 J**	**35.38946 J**	**17.05331**	**3.94276**	**3.72806**	NA	**12.31793**	**20.56919**	**22.02754 J**

Table 2
Summary of Sediment Analytical Results
Phase I Sediment Cores
Gowanus Canal
Brooklyn, New York

Sample Name:	GC-SED-510	GC-SED-510	GC-SED-510	GC-SED-510	GC-SED-510	GC-SED-511	GC-SED-511	GC-SED-511	GC-SED-511	GC-SED-512	GC-SED-512	GC-SED-512
Sample Depth (feet):	(1.5-2.0)	(2.0-2.5)	(2.5-3.0)	(3.0-3.5)	(3.5-4.0)	(0.0-0.5)	(0.5-1.0)	(1.0-1.5)	(1.5-2.0)	(0.0-0.5)	(0.5-1.0)	(1.0-1.5)
Sample Date:	8/13/2012	8/13/2012	8/13/2012	8/13/2012	8/13/2012	8/13/2012	8/13/2012	8/13/2012	8/13/2012	8/9/2012	8/9/2012	8/9/2012
C3-Dibenzothiophenes	**19.77417 J**	**18.95128 J**	**22.07629 J**	**21.23028 J**	**24.61511 J**	**11.86129**	**2.85071**	**2.59473**	NA	**7.75766**	**12.77078**	**13.66419 J**
C4-Dibenzothiophenes	**8.40864 J**	**7.94515 J**	**9.52212 J**	**8.93206 J**	**10.36621 J**	**4.95547**	**1.24444**	**1.18778**	NA	**2.87683**	**5.49592**	**5.4011 J**
Fluoranthene	**67.11494 J**	**56.97416 J**	**80.09588 J**	**64.27523 J**	**80.94705 J**	**28.50434**	**8.15398**	**12.0825**	NA	**27.49452**	**51.17083**	**41.33313 J**
C1-Fluoranthenes/pyrenes	**76.44123 J**	**72.4773 J**	**84.22213 J**	**79.38222 J**	**93.76973 J**	**44.34856**	**10.98825**	**11.2524**	NA	**29.69432**	**64.61866**	**66.96233**
C2-Fluoranthenes/pyrenes	**38.32272 J**	**35.7156 J**	**41.86694 J**	**38.58931 J**	**44.87842 J**	**22.69188**	**5.51954**	**5.82562**	NA	**13.99019**	**31.21358**	**31.42018**
C3-Fluoranthenes/pyrenes	**19.52909 J**	**18.41767 J**	**20.65997 J**	**19.05381 J**	**22.76299 J**	**11.74416**	**2.96092**	**2.9973**	NA	**6.72154**	**14.81177**	**14.99141 J**
C4-Fluoranthenes/pyrenes	**7.06783 J**	**6.12413 J**	**7.87992 J**	**6.97375 J**	**7.85868 J**	**4.34608**	**1.16213**	**1.11041**	NA	**2.04353**	**4.87061**	**4.84933 J**
Fluorene	**12.83526 J**	**12.21554 J**	**18.70958 J**	**16.13352 J**	**18.67649 J**	**6.90434**	**1.66984**	**1.59435**	NA	**6.14818**	**11.62662**	**12.19148 J**
C1-Fluorenes	**20.10032 J**	**19.21115 J**	**24.04894 J**	**22.47832 J**	**27.77403 J**	**12.21267**	**2.7995**	**2.4972**	NA	**8.96685**	**16.23816**	**17.53461**
C2-Fluorenes	**28.80482 J**	**27.3412 J**	**33.34487 J**	**31.33836 J**	**36.81333 J**	**16.78295**	**3.73934**	**3.51099**	NA	**12.97795**	**22.03513**	**23.18795 J**
C3-Fluorenes	**22.9527 J**	**20.90025 J**	**25.26291 J**	**23.89894 J**	**27.76742 J**	**13.1593**	**3.22899**	**3.04956**	NA	**8.76037**	**17.41021**	**17.75147 J**
Indeno[1,2,3-cd]pyrene	**15.12078 J**	**13.39909 J**	**14.40554 J**	**13.47182 J**	**16.24784 J**	**8.11197**	**1.92403**	**3.10904**	NA	**6.65561**	**13.71133**	**11.75814**
Naphthalene	0.04742 UJ	0.04624 UJ	0.04931 UJ	0.04783 UJ	0.04845 UJ	0.0391 U	0.01289 U	0.01276 U	NA	**5.23237**	**12.09826**	**15.02672 J**
C1-Naphthalenes	**17.59579 J**	**17.90892 J**	**27.2131 J**	**23.88787 J**	**28.85488 J**	**6.93406**	0.01289 U	0.01276 U	NA	**7.35345**	**17.12545**	**20.0138 J**
C2-Naphthalenes	**43.50358 J**	**41.77834 J**	**54.54438 J**	**51.86383 J**	**62.26131 J**	**22.75525**	**4.68441**	**4.26562**	NA	**18.19649**	**33.96977**	**37.52565**
C3-Naphthalenes	**51.07685 J**	**48.41703 J**	**59.50446 J**	**56.89727 J**	**66.92235 J**	**29.79801**	**6.56604**	**5.83472**	NA	**21.78152**	**36.44071**	**38.4569**
C4-Naphthalenes	**37.73499 J**	**35.59566 J**	**43.05294 J**	**40.83456 J**	**47.61195 J**	**22.14277**	**4.89736**	**4.38548**	NA	**14.5451**	**27.38102**	**27.8906 J**
Perylene	**5.59347 J**	**4.71678 J**	**5.14546 J**	**4.72777 J**	**6.00257 J**	**3.04776**	**0.80126**	**1.25679**	NA	**2.37583**	**5.19183**	**4.53682**
Phenanthrene	**91.0395 J**	**79.30425 J**	**126.56378 J**	**99.16781 J**	**110.26157 J**	**42.59144**	**8.80511**	**11.08175**	NA	**39.14324**	**63.556**	**61.65397**
C1-Phenanthrenes/anthracenes	**105.81508 J**	**99.87535 J**	**117.99445 J**	**113.27904 J**	**132.00584 J**	**59.26492**	**13.32435**	**13.24212**	NA	**46.63756**	**74.24535**	**76.96716**
C2-Phenanthrenes/anthracenes	**82.40685 J**	**78.40433 J**	**91.20163 J**	**87.79659 J**	**101.68818 J**	**48.52978**	**11.07591**	**10.96507**	NA	**33.95041**	**58.07778**	**59.99443 J**
C3-Phenanthrenes/anthracenes	**40.74824 J**	**38.82188 J**	**45.19291 J**	**43.24275 J**	**50.11421 J**	**24.00952**	**5.51904**	**5.28239**	NA	**16.05114**	**27.73016**	**29.40066 J**
C4-Phenanthrenes/anthracenes	**13.79994 J**	**13.07109 J**	**15.10192 J**	**14.77166 J**	**16.70006 J**	**8.0991**	**1.95342**	**1.8608**	NA	**5.18669**	**9.14734**	**9.73819 J**
Pyrene	**79.78891 J**	**70.66635 J**	**99.54377 J**	**80.32168 J**	**108.41054 J**	**41.25688**	**13.66737**	**12.9748**	NA	**35.09341**	**60.32884**	**58.36129**
TPH (mg/kg)												
Total Petroleum Hydrocarbons	**23408.47 J**	**21695.64 J**	**24807.29 J**	**22640.2 J**	**27128.16 J**	**14129.47**	**3561.44**	**3214.48**	NA	**12105.1**	**14558.93**	**16520.32**
Other SVOCs (mg/kg)												
Acetophenone	3.6 UJ	3.6 UJ	3.4 UJ	3.4 UJ	3.6 UJ	**0.91 J**	2.1 U	2.1 U	2.5 U	**0.41 J**	**1 J**	**0.67 J**
Atrazine	3.6 UJ	3.6 UJ	3.4 UJ	3.4 UJ	3.6 UJ	3.5 UJ	2.1 UJ	2.1 UJ	2.5 UJ	3.7 UJ	6.7 UJ	6.7 UJ
Benzaldehyde	**2.4 J**	**2.4 J**	**2.5 J**	**2.3 J**	**2.5 J**	**2.4 J**	2.1 U	2.1 U	**1.5 J**	3.7 UJ	6.7 UJ	6.7 UJ
1,1-Biphenyl	**2.1 J**	**2.2 J**	**3.7 J**	**3 J**	**2.9 J**	**2 J**	**0.89 J**	**0.19 J**	**0.54 J**	**1.5 J**	**3.4 J**	**3 J**
Bis(chloroisopropyl)ether	0.73 UJ	0.73 UJ	0.69 UJ	0.7 UJ	0.73 UJ	0.71 UJ	0.44 U	0.42 U	0.5 U	0.75 UJ	1.4 UJ	1.4 UJ
Bis(2-chloroethyl)ether	0.73 UJ	0.73 UJ	0.69 UJ	0.7 UJ	0.73 UJ	0.71 UJ	0.44 U	0.42 U	0.5 U	0.75 UJ	1.4 UJ	1.4 UJ
Bis(2-chloroethoxy)methane	3.6 UJ	3.6 UJ	3.4 UJ	3.4 UJ	3.6 UJ	3.5 UJ	2.1 U	2.1 U	2.5 U	3.7 UJ	6.7 UJ	6.7 UJ
Bis(2-ethylhexyl)phthalate	**63 J**	**56 J**	**79 J**	**64 J**	**68 J**	**42 J**	**17 J**	**7.1**	**27**	**45 J**	**82 J**	**60 J**

Table 2
Summary of Sediment Analytical Results
Phase I Sediment Cores
Gowanus Canal
Brooklyn, New York

Sample Name:	GC-SED-510	GC-SED-510	GC-SED-510	GC-SED-510	GC-SED-510	GC-SED-511	GC-SED-511	GC-SED-511	GC-SED-511	GC-SED-512	GC-SED-512	GC-SED-512
Sample Depth (feet):	(1.5-2.0)	(2.0-2.5)	(2.5-3.0)	(3.0-3.5)	(3.5-4.0)	(0.0-0.5)	(0.5-1.0)	(1.0-1.5)	(1.5-2.0)	(0.0-0.5)	(0.5-1.0)	(1.0-1.5)
Sample Date:	8/13/2012	8/13/2012	8/13/2012	8/13/2012	8/13/2012	8/13/2012	8/13/2012	8/13/2012	8/13/2012	8/9/2012	8/9/2012	8/9/2012
4-Bromophenyl phenyl ether	3.6 UJ	3.6 UJ	3.4 UJ	3.4 UJ	3.6 UJ	3.5 UJ	2.1 U	2.1 U	2.5 U	3.7 UJ	6.7 UJ	6.7 UJ
Butyl benzyl phthalate	**1.4 J**	**1.2 J**	**1.5 J**	**0.99 J**	**1.5 J**	**0.86 J**	**0.35 J**	2.1 U	**0.39 J**	**0.89 J**	**2.2 J**	**1.1 J**
Caprolactam	18 UJ	19 UJ	18 UJ	18 UJ	19 UJ	18 UJ	11 U	11 U	13 U	19 UJ	34 UJ	35 UJ
Carbazole	**0.78 J**	**1 J**	**1.5 J**	**1.3 J**	**1 J**	**8.1 J**	**2.9**	**0.4 J**	**0.34 J**	**1.5 J**	**2.7 J**	**1.4 J**
4-Chloro-3-methylphenol	3.6 UJ	3.6 UJ	3.4 UJ	3.4 UJ	3.6 UJ	3.5 UJ	2.1 U	2.1 U	2.5 U	3.7 UJ	6.7 UJ	6.7 UJ
4-Chloroaniline	**1.9 J**	**2.4 J**	**3.8 J**	**2.9 J**	**3.1 J**	**1.5 J**	**0.39 J**	**0.19 J**	**0.83 J**	**1.5 J**	**2.5 J**	**2.2 J**
Chlorophene	3.6 UJ	3.6 UJ	3.4 UJ	3.4 UJ	3.6 UJ	3.5 UJ	2.1 U	2.1 U	2.5 U	3.7 UJ	6.7 UJ	6.7 UJ
2-Chloronaphthalene	0.73 UJ	0.73 UJ	0.69 UJ	0.7 UJ	0.73 UJ	0.71 UJ	0.44 U	0.42 U	0.5 U	0.75 UJ	1.4 UJ	1.4 UJ
2-Chlorophenol	3.6 UJ	3.6 UJ	3.4 UJ	3.4 UJ	3.6 UJ	3.5 UJ	2.1 U	2.1 U	2.5 U	3.7 UJ	6.7 UJ	6.7 UJ
4-Chlorophenyl phenyl ether	3.6 UJ	3.6 UJ	3.4 UJ	3.4 UJ	3.6 UJ	3.5 UJ	2.1 U	2.1 U	2.5 U	3.7 UJ	6.7 UJ	6.7 UJ
Dibenzofuran	**1.9 J**	**2 J**	**4.3 J**	**2.9 J**	**2.5 J**	**5.4 J**	**2.5**	**0.47 J**	**0.7 J**	**1.7 J**	**3.8 J**	**2.2 J**
3,3-Dichlorobenzidine	3.6 UJ	3.6 UJ	3.4 UJ	3.4 UJ	3.6 UJ	3.5 UJ	2.1 U	2.1 U	2.5 U	3.7 UJ	6.7 UJ	6.7 UJ
2,4-Dichlorophenol	0.73 UJ	0.73 UJ	0.69 UJ	0.7 UJ	0.73 UJ	0.71 UJ	0.44 U	0.42 U	0.5 U	0.75 UJ	1.4 UJ	1.4 UJ
Diethyl phthalate	3.6 UJ	3.6 UJ	3.4 UJ	3.4 UJ	3.6 UJ	3.5 UJ	2.1 U	2.1 U	2.5 U	3.7 UJ	6.7 UJ	6.7 UJ
Dimethyl phthalate	3.6 UJ	3.6 UJ	3.4 UJ	3.4 UJ	3.6 UJ	3.5 UJ	2.1 U	2.1 U	2.5 U	3.7 UJ	6.7 UJ	6.7 UJ
2,4-Dimethylphenol	3.6 UJ	3.6 UJ	3.4 UJ	3.4 UJ	3.6 UJ	3.5 UJ	2.1 U	2.1 U	2.5 U	3.7 UJ	6.7 UJ	6.7 UJ
Di-n-butyl phthalate	3.6 UJ	3.6 UJ	3.4 UJ	3.4 UJ	3.6 UJ	3.5 UJ	2.1 U	2.1 U	2.5 U	**4.3 J**	6.7 UJ	6.7 UJ
4,6-Dinitro-2-methylphenol	18 UJ	19 UJ	18 UJ	18 UJ	19 UJ	18 UJ	11 U	11 U	13 U	19 UJ	34 UJ	35 UJ
2,4-Dinitrophenol	18 UJ	19 UJ	18 UJ	18 UJ	19 UJ	18 UJ	11 U	11 U	13 U	19 UJ	34 UJ	35 UJ
2,4-Dinitrotoluene	3.6 UJ	3.6 UJ	3.4 UJ	3.4 UJ	3.6 UJ	3.5 UJ	2.1 U	2.1 U	2.5 U	3.7 UJ	6.7 UJ	6.7 UJ
2,6-Dinitrotoluene	3.6 UJ	3.6 UJ	3.4 UJ	3.4 UJ	3.6 UJ	3.5 UJ	2.1 U	2.1 U	2.5 U	3.7 UJ	6.7 UJ	6.7 UJ
Di-n-octyl phthalate	**2.4 J**	**2 J**	**3.3 J**	**2.6 J**	**2.5 J**	**1.2 J**	**0.3 J**	2.1 U	**0.69 J**	**1.5 J**	**3.3 J**	**2.6 J**
Hexachlorobenzene	0.73 UJ	0.73 UJ	0.69 UJ	0.7 UJ	0.73 UJ	0.71 UJ	0.44 U	0.42 U	0.5 U	0.75 UJ	1.4 UJ	1.4 UJ
Hexachlorobutadiene	0.73 UJ	0.73 UJ	0.69 UJ	0.7 UJ	0.73 UJ	0.71 UJ	0.44 U	0.42 U	0.5 U	0.75 UJ	1.4 UJ	1.4 UJ
Hexachlorocyclopentadiene	3.6 UJ	3.6 UJ	3.4 UJ	3.4 UJ	3.6 UJ	3.5 UJ	2.1 UJ	2.1 UJ	2.5 UJ	3.7 UJ	6.7 UJ	6.7 UJ
Hexachloroethane	3.6 UJ	3.6 UJ	3.4 UJ	3.4 UJ	3.6 UJ	3.5 UJ	2.1 U	2.1 U	2.5 U	3.7 UJ	6.7 UJ	6.7 UJ
Isophorone	3.6 UJ	3.6 UJ	3.4 UJ	3.4 UJ	3.6 UJ	3.5 UJ	2.1 U	2.1 U	2.5 U	3.7 UJ	6.7 UJ	6.7 UJ
2-Methylphenol (o-Cresol)	3.6 UJ	3.6 UJ	3.4 UJ	3.4 UJ	3.6 UJ	**0.27 J**	2.1 U	2.1 U	2.5 U	3.7 UJ	6.7 UJ	6.7 UJ
3,4-Methylphenol (m,p-Cresol)	3.6 UJ	**0.38 J**	**0.48 J**	**0.42 J**	**0.47 J**	**1.1 J**	**0.26 J**	2.1 U	2.5 U	3.7 UJ	6.7 UJ	6.7 UJ
2-Nitroaniline	18 UJ	19 UJ	18 UJ	18 UJ	19 UJ	18 UJ	11 U	11 U	13 U	19 UJ	34 UJ	35 UJ
3-Nitroaniline	18 UJ	19 UJ	18 UJ	18 UJ	19 UJ	18 UJ	11 U	11 U	13 U	19 UJ	34 UJ	35 UJ
4-Nitroaniline	18 UJ	19 UJ	18 UJ	18 UJ	19 UJ	18 UJ	11 U	11 U	13 U	19 UJ	34 UJ	35 UJ
Nitrobenzene	7.3 UJ	7.3 UJ	6.9 UJ	7 UJ	7.3 UJ	7.1 UJ	4.4 U	4.2 U	5 U	7.5 UJ	14 UJ	14 UJ
2-Nitrophenol	3.6 UJ	3.6 UJ	3.4 UJ	3.4 UJ	3.6 UJ	3.5 UJ	2.1 U	2.1 U	2.5 U	3.7 UJ	6.7 UJ	6.7 UJ

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Summary of Sediment Analytical Results
Phase I Sediment Cores
Gowanus Canal
Brooklyn, New York

Sample Name:	GC-SED-510	GC-SED-510	GC-SED-510	GC-SED-510	GC-SED-510	GC-SED-511	GC-SED-511	GC-SED-511	GC-SED-511	GC-SED-512	GC-SED-512	GC-SED-512
Sample Depth (feet):	(1.5-2.0)	(2.0-2.5)	(2.5-3.0)	(3.0-3.5)	(3.5-4.0)	(0.0-0.5)	(0.5-1.0)	(1.0-1.5)	(1.5-2.0)	(0.0-0.5)	(0.5-1.0)	(1.0-1.5)
Sample Date:	8/13/2012	8/13/2012	8/13/2012	8/13/2012	8/13/2012	8/13/2012	8/13/2012	8/13/2012	8/13/2012	8/9/2012	8/9/2012	8/9/2012
4-Nitrophenol	18 UJ	19 UJ	18 UJ	18 UJ	19 UJ	18 UJ	11 U	11 U	13 U	19 UJ	34 UJ	35 UJ
N-Nitrosodi-n-propylamine	0.73 UJ	0.73 UJ	0.69 UJ	0.7 UJ	0.73 UJ	0.71 UJ	0.44 U	0.42 U	0.5 U	0.75 UJ	1.4 UJ	1.4 UJ
N-Nitrosodiphenylamine	3.6 UJ	3.6 UJ	3.4 UJ	3.4 UJ	3.6 UJ	3.5 UJ	2.1 U	2.1 U	2.5 U	3.7 UJ	6.7 UJ	6.7 UJ
Pentachlorophenol	3.6 UJ	3.6 UJ	3.4 UJ	3.4 UJ	3.6 UJ	3.5 UJ	2.1 U	2.1 U	2.5 U	3.7 UJ	6.7 UJ	6.7 UJ
Phenol	0.73 UJ	0.73 UJ	0.69 UJ	0.7 UJ	0.73 UJ	**0.75 J**	**0.11 J**	0.42 U	0.5 U	0.75 UJ	1.4 UJ	1.4 UJ
1,2,4,5-Tetrachlorobenzene	3.6 UJ	3.6 UJ	3.4 UJ	3.4 UJ	3.6 UJ	3.5 UJ	2.1 U	2.1 U	2.5 U	3.7 UJ	6.7 UJ	6.7 UJ
2,3,4,6-Tetrachlorophenol	3.6 UJ	3.6 UJ	3.4 UJ	3.4 UJ	3.6 UJ	3.5 UJ	2.1 U	2.1 U	2.5 U	3.7 UJ	6.7 UJ	6.7 UJ
2,4,5-Trichlorophenol	3.6 UJ	3.6 UJ	3.4 UJ	3.4 UJ	3.6 UJ	3.5 UJ	2.1 U	2.1 U	2.5 U	3.7 UJ	6.7 UJ	6.7 UJ
2,4,6-Trichlorophenol	3.6 UJ	3.6 UJ	3.4 UJ	3.4 UJ	3.6 UJ	3.5 UJ	2.1 U	2.1 U	2.5 U	3.7 UJ	6.7 UJ	6.7 UJ
PCBs (mg/kg)												
Aroclor 1016	0.018 UJ	0.018 UJ	0.017 UJ	0.017 UJ	0.018 UJ	0.017 UJ	0.011 U	0.01 U	0.012 U	0.019 UJ	0.017 UJ	0.017 UJ
Aroclor 1221	0.018 UJ	0.018 UJ	0.017 UJ	0.017 UJ	0.018 UJ	0.017 UJ	0.011 U	0.01 U	0.012 U	0.019 UJ	0.017 UJ	0.017 UJ
Aroclor 1232	0.018 UJ	0.018 UJ	0.017 UJ	0.017 UJ	0.018 UJ	0.017 UJ	0.011 U	0.01 U	0.012 U	0.019 UJ	0.017 UJ	0.017 UJ
Aroclor 1242	**2.4 J**	0.018 UJ	**3.2 J**	0.017 UJ	**2.2 J**	**1.8 J**	**0.43 J**	**0.19 J**	**0.67 J**	**1.3 J**	**1.5 J**	**1.3 J**
Aroclor 1248	0.018 UJ	0.018 UJ	0.017 UJ	0.017 UJ	0.018 UJ	0.017 UJ	0.011 U	0.01 U	0.012 U	0.019 UJ	0.017 UJ	0.017 UJ
Aroclor 1254	0.018 UJ	0.018 UJ	0.017 UJ	0.017 UJ	0.018 UJ	0.017 UJ	0.011 U	0.01 U	0.012 U	0.019 UJ	0.017 UJ	0.017 UJ
Aroclor 1260	**4.1 J**	**3.5 J**	**4.2 J**	**5.1 J**	**2.9 J**	**2.5 J**	**0.75 J**	**0.22 J**	**1.1 J**	**1.9 J**	**2.5 J**	**2.7 J**
Aroclor 1262	0.018 UJ	0.018 UJ	0.017 UJ	0.017 UJ	0.018 UJ	0.017 UJ	0.011 U	0.01 U	0.012 U	0.019 UJ	0.017 UJ	0.017 UJ
Aroclor 1268	0.018 UJ	0.018 UJ	0.017 UJ	0.017 UJ	0.018 UJ	0.017 UJ	0.011 U	0.01 U	0.012 U	0.019 UJ	0.017 UJ	0.017 UJ
Total PCBs	**6.5 J**	**3.5 J**	**7.4 J**	**5.1 J**	**5.1 J**	**4.3 J**	**1.2 J**	**0.41 J**	**1.8 J**	**3.2 J**	**4 J**	**4 J**
Pesticides (mg/kg)												
Aldrin	0.019 UJ	0.018 UJ	0.018 UJ	0.018 UJ	0.018 UJ	0.018 UJ	0.011 U	**0.003 J**	**0.012 J**	0.019 UJ	0.017 UJ	0.017 UJ
alpha-BHC	0.019 UJ	0.018 UJ	0.018 UJ	0.018 UJ	0.018 UJ	0.018 UJ	0.011 U	0.01 U	0.013 U	0.019 UJ	0.017 UJ	0.017 UJ
beta-BHC	0.019 UJ	**0.022 J**	**0.024 JN**	**0.019 JN**	**0.019 J**	**0.018 JN**	0.011 U	0.01 U	0.013 U	0.019 UJ	**0.02 JN**	0.017 UJ
gamma-BHC	0.019 UJ	0.018 UJ	0.018 UJ	0.018 UJ	0.018 UJ	**0.0088 J**	0.011 U	0.01 U	0.013 U	**0.0069 J**	0.017 UJ	0.017 UJ
delta-BHC	0.019 UJ	**0.019 J**	**0.05 J**	**0.021 J**	**0.021 J**	**0.03 J**	**0.0068 J**	0.01 U	**0.011 J**	**0.03 J**	**0.037 J**	**0.02 J**
alpha-chlordane	**0.042 J**	**0.1 J**	**0.11 J**	**0.12 J**	**0.07 J**	**0.079 J**	**0.014**	**0.0085 J**	**0.034**	**0.058 J**	**0.086 J**	**0.055 J**
gamma-Chlordane	**0.082 J**	**0.12 J**	**0.13 J**	**0.14 J**	**0.084 J**	**0.089 J**	**0.015 J**	**0.013**	**0.038 J**	**0.11 J**	**0.11 J**	**0.07 J**
4,4-DDD	**0.16 J**	**0.44 J**	**0.47 J**	**0.43 J**	**0.28 J**	**0.34 J**	**0.071**	**0.032**	**0.15**	**0.089 J**	**0.36 J**	**0.22 J**
4,4'-DDE	**0.11 J**	**0.24 J**	**0.24 J**	**0.28 J**	**0.16 J**	**0.17 J**	**0.033 J**	**0.02 J**	**0.073 J**	**0.13 J**	**0.2 J**	**0.13 J**
4,4'-DDT	**0.019 JN**	**0.14 JN**	**0.025 JN**	**0.044 JN**	0.018 UJ	**0.019 JN**	0.011 U	0.01 U	0.013 U	0.019 UJ	0.017 UJ	0.017 UJ
Dieldrin	**0.022 JN**	**0.056 JN**	**0.058 JN**	**0.068 J**	**0.032 JN**	**0.046 JN**	0.011 U	0.01 U	**0.021 JN**	**0.037 JN**	**0.051 J**	**0.028 JN**
Endosulfan I	0.019 UJ	0.018 UJ	0.018 UJ	0.018 UJ	0.018 UJ	0.018 UJ	0.011 U	0.01 U	0.013 U	0.019 UJ	0.017 UJ	0.017 UJ
Endosulfan II	0.019 UJ	**0.022 JN**	**0.021 JN**	**0.024 JN**	0.018 UJ	0.018 UJ	0.011 U	0.01 U	0.013 U	0.019 UJ	**0.02 JN**	0.017 UJ
Endosulfan sulfate	**0.018 J**	**0.047 J**	**0.053 J**	**0.054 J**	**0.033 J**	**0.028 J**	**0.0064 J**	**0.0035 J**	0.013 U	**0.017 J**	**0.035 J**	**0.013 J**
Endrin	**0.03 JN**	**0.063 JN**	**0.068 JN**	**0.08 JN**	**0.045 JN**	**0.051 JN**	0.011 U	0.01 U	**0.02 JN**	**0.04 JN**	**0.063 JN**	**0.038 JN**
Endrin aldehyde	0.019 UJ	0.018 UJ	**0.019 J**	**0.017 J**	0.018 UJ	**0.011 J**	0.011 U	0.01 U	**0.0042 J**	0.019 UJ	0.017 UJ	0.017 UJ
Endrin ketone	**0.079 J**	**0.17 J**	**0.17 J**	**0.21 J**	**0.11 J**	**0.11 J**	**0.027**	**0.011**	**0.059**	**0.094 J**	**0.14 J**	**0.095 J**
Heptachlor	0.019 UJ	0.018 UJ	0.018 UJ	0.018 UJ	0.018 UJ	0.018 UJ	0.011 U	0.01 U	0.013 U	0.019 UJ	0.017 UJ	0.017 UJ
Heptachlor epoxide	**0.035 J**	**0.026 JN**	**0.032 JN**	**0.057 J**	**0.028 J**	**0.026 JN**	**0.011 JN**	**0.0038 J**	0.013 U	0.019 UJ	**0.021 JN**	0.017 UJ
Methoxychlor	**0.039 JN**	**0.088 JN**	**0.096 JN**	**0.12 JN**	**0.053 JN**	**0.054 JN**	0.021 U	0.02 U	**0.034 JN**	**0.056 JN**	**0.071 JN**	**0.045 JN**
Toxaphene	0.73 UJ	0.72 UJ	0.69 UJ	0.7 UJ	0.72 UJ	0.7 UJ	0.42 U	0.41 U	0.5 U	0.75 UJ	0.68 UJ	0.67 UJ
Herbicides (mg/kg)												
2,4-D	0.17 UJ	0.18 UJ	0.17 UJ	0.17 UJ	0.17 UJ	0.17 UJ	0.1 U	0.1 U	0.12 U	0.18 UJ	0.16 UJ	0.16 UJ
2,4-DB	0.17 UJ	0.18 UJ	0.17 UJ	0.17 UJ	0.17 UJ	0.17 UJ	0.1 UJ	0.1 UJ	0.12 UJ	0.18 UJ	0.16 UJ	0.16 UJ
Dicamba	0.087 UJ	0.088 UJ	0.083 UJ	0.084 UJ	0.087 UJ	0.085 UJ	0.052 U	0.05 U	0.06 U	0.09 UJ	0.082 UJ	0.082 UJ
Dichloroprop	0.17 UJ	0.18 UJ	0.17 UJ	0.17 UJ	0.17 UJ	0.17 UJ	0.1 U	0.1 U	0.12 U	0.18 UJ	0.16 UJ	0.16 UJ
2,2-Dichloropropionic acid	0.2 UJ	0.2 UJ	0.19 UJ	0.19 UJ	0.2 UJ	0.19 UJ	0.12 U	0.11 U	0.13 U	0.2 UJ	0.18 UJ	0.18 UJ
Dinoseb	0.026 UJ	0.026 UJ	0.025 UJ	0.025 UJ	0.026 UJ	0.026 UJ	0.016 U	0.015 U	0.018 U	0.027 UJ	0.025 UJ	0.024 UJ

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Gowanus Canal
Brooklyn, New York

Sample Name:	GC-SED-510	GC-SED-510	GC-SED-510	GC-SED-510	GC-SED-510	GC-SED-511	GC-SED-511	GC-SED-511	GC-SED-511	GC-SED-512	GC-SED-512	GC-SED-512
Sample Depth (feet):	(1.5-2.0)	(2.0-2.5)	(2.5-3.0)	(3.0-3.5)	(3.5-4.0)	(0.0-0.5)	(0.5-1.0)	(1.0-1.5)	(1.5-2.0)	(0.0-0.5)	(0.5-1.0)	(1.0-1.5)
Sample Date:	8/13/2012	8/13/2012	8/13/2012	8/13/2012	8/13/2012	8/13/2012	8/13/2012	8/13/2012	8/13/2012	8/9/2012	8/9/2012	8/9/2012
MCPP	17 UJ	18 UJ	17 UJ	17 UJ	17 UJ	17 UJ	10 U	10 U	12 U	18 UJ	16 UJ	16 UJ
Methylchlorophenoxyacetic acid	17 UJ	18 UJ	17 UJ	**17 J**	17 UJ	17 UJ	10 U	10 U	12 U	18 UJ	16 UJ	16 UJ
Pentachlorophenol	0.024 UJ	0.024 UJ	0.023 UJ	0.023 UJ	0.024 UJ	**0.0057 J**	0.014 U	0.014 U	**0.0019 J**	0.025 UJ	0.023 UJ	0.022 UJ
Silvex	0.044 UJ	0.044 UJ	0.042 UJ	0.042 UJ	0.044 UJ	0.043 UJ	0.026 U	0.025 U	0.03 U	0.045 UJ	0.041 UJ	0.041 UJ
2,4,5-Trichlorophenoxyacetic Acid	0.044 UJ	0.044 UJ	**0.01 J**	**0.033 J**	**0.0096 J**	0.043 UJ	0.026 U	0.025 U	0.03 U	0.045 UJ	0.041 UJ	0.041 UJ
Metals (mg/kg)												
Aluminum	**11000 J**	**11000 J**	**9700 J**	**10000 J**	**11000 J**	**7000 J**	**3000**	**1500**	**5500**	**7500 J**	**4000 J**	**4800 J**
Antimony	**6 J**	**15 J**	**4.5 J**	**4.8 J**	**4.4 J**	**9.1 J**	**16 J**	**1.2 J**	**3.6 J**	**3.6 J**	**6.1 J**	**3 J**
Arsenic	**13 J**	**12 J**	**18 J**	**14 J**	**15 J**	**13 J**	**4.2 J**	**2 J**	**5.2 J**	**8.3 J**	**5.6 J**	**5.6 J**
Barium	**520 J**	**470 J**	**460 J**	**540 J**	**590 J**	**370 J**	**230 J**	**65 J**	**170 J**	**330 J**	**230 J**	**220 J**
Beryllium	**0.64 J**	**0.6 J**	**0.54 J**	**0.61 J**	**0.61 J**	**0.4 J**	**0.2**	**0.088**	**0.31**	**0.44 J**	**0.3 J**	**0.28 J**
Cadmium	**13 J**	**11 J**	**11 J**	**13 J**	**15 J**	**7.2 J**	**3.6 J**	**1.6 J**	**4.7 J**	**6.4 J**	**5.1 J**	**4.6 J**
Calcium	**11000 J**	**12000 J**	**12000 J**	**14000 J**	**14000 J**	**9400 J**	**38000**	**1500**	**14000**	**14000 J**	**5300 J**	**9000 J**
Chromium	**220 J**	**190 J**	**200 J**	**230 J**	**270 J**	**150 J**	**63**	**32**	**85**	**140 J**	**100 J**	**96 J**
Cobalt	**10 J**	**10 J**	**9.9 J**	**10 J**	**11 J**	**7.7 J**	**3.8**	**1.7**	**7.1**	**7.7 J**	**4.7 J**	**4.7 J**
Copper	**720 J**	**690 J**	**530 J**	**630 J**	**610 J**	**840 J**	**280**	**97**	**3200**	**470 J**	**340 J**	**260 J**
Iron	**30000 J**	**29000 J**	**29000 J**	**31000 J**	**32000 J**	**24000 J**	**26000**	**4900**	**20000**	**26000 J**	**14000 J**	**15000 J**
Lead	**1000 J**	**1000 J**	**990 J**	**1100 J**	**1100 J**	**800 J**	**430**	**160**	**470**	**920 J**	**630 J**	**540 J**
Magnesium	**8500 J**	**8100 J**	**7900 J**	**8900 J**	**9200 J**	**5900 J**	**16000**	**1500**	**9100**	**8500 J**	**3700 J**	**4000 J**
Manganese	**150 J**	**150 J**	**140 J**	**200 J**	**160 J**	**130 J**	**220 J**	**35 J**	**120 J**	**170 J**	**81 J**	**110 J**
Mercury	**3.1 J**	**2.4 J**	**8.6 J**	**4.3 J**	**4.5 J**	**1.7 J**	**0.59 J**	**0.78 J**	**1.9 J**	**7.8 J**	**2.9 J**	**2.7 J**
Nickel	**180 J**	**160 J**	**170 J**	**180 J**	**200 J**	**130 J**	**50 J**	**23 J**	**65 J**	**110 J**	**120 J**	**69 J**
Potassium	**2500 J**	**2500 J**	**2300 J**	**2500 J**	**2600 J**	**1800 J**	**730**	**530**	**1900**	**1700 J**	**910 J**	**1100 J**
Selenium	**2.2 J**	**2 J**	**2.2 J**	**2.3 J**	**2.6 J**	**1.4 J**	**0.74 J**	**0.41 J**	**0.91 J**	**1.5 J**	**1.1 J**	**1 J**
Silver	**14 J**	**11 J**	**12 J**	**13 J**	**13 J**	**9 J**	**3.5 J**	**1.7 J**	**3.5 J**	**7 J**	**5 J**	**5.3 J**
Sodium	**8300 J**	**8200 J**	**8900 J**	**8800 J**	**9700 J**	**8800 J**	**3900**	**4800**	**4200**	**8200 J**	**3900 J**	**4400 J**
Thallium	**0.3 J**	**0.28 J**	**0.26 J**	**0.3 J**	**0.31 J**	**0.19 J**	**0.084**	0.06 U	**0.14**	**0.21 J**	**0.11 J**	**0.13 J**
Vanadium	**63 J**	**59 J**	**59 J**	**65 J**	**73 J**	**41 J**	**21**	**12**	**27**	**46 J**	**31 J**	**31 J**
Zinc	**1200 J**	**1200 J**	**1100 J**	**1200 J**	**1300 J**	**860 J**	**420**	**170**	**430**	**770 J**	**640 J**	**480 J**
EDCs & PPCPs (Phenols) (mg/kg)												
Bisphenol A	0.94 UJ	0.8 UJ	0.86 UJ	0.83 UJ	0.96 UJ	0.68 U	0.47 U	0.5 U	NA	0.77 UJ	0.76 U	0.77 UJ
Nonylphenol	**23 J**	**25 J**	**31 J**	**31 J**	**34 J**	**12**	**4.9**	**4.4**	NA	**23 J**	**25 J**	**31 J**
Nonylphenol Diethoxylate	19 UJ	16 UJ	18 UJ	17 UJ	20 UJ	14 U	9.3 U	9.9 U	NA	16 UJ	16 U	16 UJ
Nonylphenol Monoethoxylate	9.4 UJ	8 UJ	8.6 UJ	8.3 UJ	9.6 UJ	6.8 U	4.7 U	5 U	NA	7.7 UJ	7.6 U	7.7 UJ
4-tert-Octylphenol	**1 J**	**1.2 J**	**1.5 J**	**1.6 J**	**1.5 J**	0.68 U	0.47 U	0.5 U	NA	**1.2 J**	**1.3 J**	**1.3 J**
EDCs and PPCPs (mg/kg)												
Acetaminophen	0.04 U	0.039 U	0.036 U	0.037 U	0.039 U	0.038 U	0.037 U	0.038 U	NA	0.038 U	0.037 U	0.036 U
alpha-Estradiol	0.04 UJ	0.039 UJ	0.036 UJ	0.037 UJ	0.039 UJ	0.038 UJ	0.037 UJ	0.038 UJ	NA	0.038 UJ	0.037 UJ	0.036 UJ
Androstenedione	0.0079 UJ	0.0079 UJ	0.0072 UJ	0.0075 UJ	0.0078 UJ	0.0077 UJ	0.0074 UJ	0.0077 UJ	NA	0.0077 UJ	0.0075 UJ	0.0073 UJ
Atrazine	0.0079 UJ	0.0079 UJ	0.0072 UJ	0.0075 UJ	0.0078 UJ	0.0077 UJ	0.0074 UJ	0.0077 UJ	NA	0.0077 UJ	0.0075 UJ	0.0073 UJ
Bisphenol A	**0.12**	**0.097**	**0.14**	**0.22**	**0.12**	0.077 U	**0.08**	0.077 U	NA	**0.073 J**	**0.27**	**0.1**
Carbamazepine	0.016 UJ	0.016 UJ	0.014 UJ	0.015 UJ	0.016 UJ	0.015 UJ	0.015 UJ	0.015 UJ	NA	0.015 UJ	0.015 UJ	**0.003 J**
DEET (N,N-Diethyl-3-Methyl Benzamide)	0.04 UJ	0.039 UJ	0.036 UJ	0.037 UJ	0.039 UJ	0.038 UJ	0.037 UJ	0.038 UJ	NA	0.038 UJ	0.037 UJ	0.036 UJ
Diazepam	0.016 U	0.016 U	0.014 U	0.015 U	0.016 U	0.015 U	0.015 U	0.015 U	NA	0.015 UJ	0.015 U	0.015 U
Diclofenac	R	R	R	R	R	0.015 UJ	0.015 UJ	0.015 UJ	NA	0.015 UJ	0.015 UJ	R
Diethylstilbestrol	**0.036 J**	R	0.036 UJ	R	0.039 UJ	R	R	0.038 UJ	NA	R	R	0.036 UJ
Estradiol	0.04 UJ	0.039 UJ	0.036 UJ	0.037 UJ	0.039 UJ	0.038 UJ	0.037 UJ	0.038 UJ	NA	0.038 UJ	0.037 UJ	0.036 UJ
Estriol	0.04 U	0.039 U	0.036 U	0.037 U	0.039 U	0.038 U	0.037 U	0.038 U	NA	0.038 U	0.037 U	0.036 U

Table 2
Summary of Sediment Analytical Results
Phase I Sediment Cores
Gowanus Canal
Brooklyn, New York

Sample Name:	GC-SED-510	GC-SED-510	GC-SED-510	GC-SED-510	GC-SED-510	GC-SED-511	GC-SED-511	GC-SED-511	GC-SED-511	GC-SED-512	GC-SED-512	GC-SED-512
Sample Depth (feet):	(1.5-2.0)	(2.0-2.5)	(2.5-3.0)	(3.0-3.5)	(3.5-4.0)	(0.0-0.5)	(0.5-1.0)	(1.0-1.5)	(1.5-2.0)	(0.0-0.5)	(0.5-1.0)	(1.0-1.5)
Sample Date:	8/13/2012	8/13/2012	8/13/2012	8/13/2012	8/13/2012	8/13/2012	8/13/2012	8/13/2012	8/13/2012	8/9/2012	8/9/2012	8/9/2012
Estrone	0.04 UJ	0.039 UJ	0.036 UJ	0.037 UJ	0.039 UJ	0.038 UJ	0.037 UJ	0.038 UJ	NA	0.038 UJ	0.037 UJ	0.036 UJ
Ethinyl Estradiol	0.04 UJ	0.039 U	0.036 U	0.037 U	0.039 U	0.038 U	0.037 U	0.038 U	NA	0.038 U	0.037 U	0.036 U
Gemfibrozil	R	R	0.014 UJ	R	R	0.015 UJ	0.015 UJ	0.015 UJ	NA	0.015 UJ	0.015 UJ	0.015 UJ
Ibuprofen	0.04 UJ	0.039 UJ	0.036 UJ	0.037 UJ	0.039 UJ	0.038 UJ	0.037 U	0.038 U	NA	0.038 UJ	0.037 UJ	0.036 UJ
Meprobamate	0.0079 UJ	0.0079 UJ	0.0072 UJ	0.0075 UJ	0.0078 UJ	0.0077 UJ	0.0074 UJ	0.0077 UJ	NA	0.0077 UJ	0.0075 UJ	0.0073 UJ
Naproxen	0.016 UJ	0.016 UJ	0.014 UJ	0.015 UJ	0.016 UJ	0.015 U	0.015 U	0.015 U	NA	0.015 U	0.015 U	0.015 U
Pentoxifylline	0.016 U	0.016 U	0.014 U	0.015 U	0.016 U	0.015 U	0.015 U	0.015 U	NA	0.015 U	0.015 U	0.015 U
Phenytoin (5,5-Diphenylhydantion/ Dilantin)	0.04 U	0.039 U	**0.0023 J**	**0.0027 J**	**0.0028 J**	0.038 U	0.037 U	0.038 U	NA	0.038 U	**0.0029 J**	**0.0024 J**
Progesterone	**0.0062 J**	**0.0048 J**	**0.0031 J**	**0.0057 J**	**0.0071 J**	0.015 UJ	0.015 U	0.015 U	NA	**0.0053 J**	**0.0043 J**	**0.0053 J**
Sulfamethoxazole	0.016 U	0.016 U	0.014 U	0.015 U	0.016 U	0.015 U	0.015 U	0.015 U	NA	0.015 U	0.015 U	0.015 U
Testosterone	0.016 U	0.016 U	0.014 U	0.015 U	0.016 U	0.015 U	0.015 U	0.015 U	NA	0.015 U	0.015 U	0.015 U
Trimethoprim	0.04 UJ	0.039 UJ	0.036 UJ	0.037 UJ	0.039 UJ	0.038 UJ	0.037 UJ	0.038 UJ	NA	0.038 UJ	0.037 UJ	0.036 UJ
Pathogen												
C. perfringens (cfu/g)	**15000**	**200000**	**160000**	**230000**	**190000**	**70000**	**68000**	**37000**	NA	**66000**	**140000**	**110000**
Coliphage, Male Specific (pfu/10g)	0 U	0 U	0 U	0 U	0 U	0 U	0 U	0 U	NA	**1**	0 U	0 U
Coliphage, Somatic (pfu/10g)	**79 J**	**20 J**	**8 J**	**3 J**	**2 J**	**147 J**	**40 J**	**36 J**	NA	**101**	**34**	**4**
Cryptosporidium (Oocysts/g)	0 U	0 U	0 UJ	0 U	0 UJ	0 U	0 U	0 U	NA	0 UJ	0 UJ	0 UJ
E.Coli (mpn/g)	**1**	0 U	0 U	0 U	0 U	**579.4**	**135.4**	**98.7**	NA	**866.4**	**3.1**	**10.9**
Enterococci (mpn/g)	**27.2**	**28.8**	**40.9**	**53.5**	**65.7**	**143**	**133.8**	**870.4**	NA	**1750**	**29.1**	**33.3**
Fecal Coliform (mpn/g)	**845 J**	**520**	**437.1**	**913.9 J**	**52 J**	**860**	**160.7**	**155.3**	NA	**1986.3**	**96.1**	**31.3**
Giardia (Cysts/g)	0 U	0 U	0 U	0 U	0 U	0 U	0 U	0 U	NA	0 U	0 U	0 U
Plaque forming virus (pfu/g)	0 U	0 U	0 U	0 U	0 U	0 U	0 U	0 U	NA	0 U	0 U	0 U
Viruses (pos/neg)	neg	neg	neg	neg	neg	neg	neg	neg	NA	neg	neg	neg
Other (%)												
Percent Solids	**45.04**	**44.92**	**46.15**	**47.68**	**47.34**	**48.47**	**80.31**	**81.76**	NA	**51.39**	**50.57**	**49.8**
Total Solids	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Other (mg/kg)												
Total Organic Carbon	**140000 J**	**140000 J**	**100000 J**	**130000 J**	**150000 J**	**94000 J**	**38000 J**	**32000 J**	**54000 J**	**96000 J**	**150000 J**	**120000 J**

Table 2
Summary of Sediment Analytical Results
Phase I Sediment Cores
Gowanus Canal
Brooklyn, New York

Sample Name:	Duplicate of: GC-SED-512	GC-SED-512	GC-SED-512	GC-SED-512	GC-SED-512	GC-SED-512	GC-SED-513	GC-SED-513	GC-SED-513	GC-SED-513	GC-SED-513	GC-SED-513
Sample Depth (feet):	(1.0-1.5)	(1.5-2.0)	(2.0-2.5)	(2.5-3.0)	(3.0-3.5)	(3.5-4.0)	(0.0-0.5)	(0.5-1.0)	(1.0-1.5)	(1.5-2.0)	(2.0-2.5)	(2.5-3.0)
Sample Date:	8/9/2012	8/9/2012	8/9/2012	8/9/2012	8/9/2012	8/9/2012	8/9/2012	8/9/2012	8/9/2012	8/9/2012	8/9/2012	8/9/2012
BTEX (mg/kg)												
Benzene	0.01 UJ	0.0091 U	0.0096 U	0.013 UJ	0.01 UJ	0.0086 U	0.012 UJ	0.013 UJ	0.0063 U	0.0079 U	0.0083 U	0.0074 U
Toluene	0.01 UJ	0.0091 U	0.0096 U	**0.011 J**	0.01 UJ	**0.0024 J**	**0.055 J**	**0.0025 J**	0.0063 U	0.0079 U	0.0083 U	0.0074 U
Ethylbenzene	**0.007 J**	**0.0078 J**	0.0096 U	**0.0066 J**	0.01 UJ	**0.0038 J**	**0.0051 J**	**0.0026 J**	0.0063 U	**0.0024 J**	0.0083 U	0.0074 U
m,p-Xylene	**0.0059 J**	**0.0057 J**	0.019 U	**0.0087 J**	0.021 UJ	0.017 U	**0.0038 J**	0.025 UJ	0.013 U	0.016 U	0.017 U	0.015 U
o-Xylene	**0.0036 J**	**0.0038 J**	0.0096 U	**0.0042 J**	0.01 UJ	0.0086 U	0.012 UJ	0.013 UJ	0.0063 U	0.0079 U	0.0083 U	0.0074 U
Total Xylene	**0.0095 J**	**0.0095 J**	0.029 U	**0.013 J**	0.031 UJ	0.026 U	0.035 UJ	0.038 UJ	0.019 U	0.024 U	0.025 U	0.022 U
Total BTEX	**0.0165**	**0.0173**	0	**0.0306**	0	**0.0062**	**0.0639**	**0.0051**	0	**0.0024**	0	0
Other VOCs (mg/kg)												
Acetone	0.041 UJ	0.036 UJ	0.038 UJ	0.052 UJ	0.041 UJ	0.034 U	0.047 UJ	0.05 UJ	0.025 U	0.032 U	0.033 U	0.03 UJ
Bromochloromethane	0.01 UJ	0.0091 U	0.0096 U	0.013 UJ	0.01 UJ	0.0086 U	0.012 UJ	0.013 UJ	0.0063 U	0.0079 U	0.0083 U	0.0074 U
Bromodichloromethane	0.01 UJ	0.0091 U	0.0096 U	0.013 UJ	0.01 UJ	0.0086 U	0.012 UJ	0.013 UJ	0.0063 U	0.0079 U	0.0083 U	0.0074 U
Bromoform	0.01 UJ	0.0091 U	0.0096 U	0.013 UJ	0.01 UJ	0.0086 U	0.012 UJ	0.013 UJ	0.0063 U	0.0079 U	0.0083 U	0.0074 U
Bromomethane	0.01 UJ	0.0091 U	0.0096 U	0.013 UJ	0.01 UJ	0.0086 U	0.012 UJ	0.013 UJ	0.0063 U	0.0079 U	0.0083 U	0.0074 U
2-Butanone (Methyl ethyl ketone)	0.01 UJ	0.0091 UJ	0.0096 U	0.013 UJ	0.01 UJ	0.0086 U	0.012 UJ	0.013 UJ	0.0063 U	0.0079 U	0.0083 U	0.0074 UJ
Carbon disulfide	0.01 UJ	**0.0017 J**	0.0096 U	**0.0033 J**	0.01 UJ	**0.0013 J**	**0.0066 J**	**0.0094 J**	**0.0049 J**	**0.0022 J**	**0.0019 J**	**0.0016 J**
Carbon tetrachloride	0.01 UJ	0.0091 U	0.0096 U	0.013 UJ	0.01 UJ	0.0086 UJ	0.012 UJ	0.013 UJ	0.0063 UJ	0.0079 UJ	0.0083 UJ	0.0074 U
Chlorobenzene	**0.036 J**	**0.0018 J**	0.0096 U	**0.0042 J**	0.01 UJ	**0.17**	**0.0023 J**	**0.0022 J**	0.0063 U	**0.0038 J**	**0.013**	**0.0022 J**
Chloroethane	0.01 UJ	0.0091 U	0.0096 UJ	0.013 UJ	0.01 UJ	0.0086 U	0.012 UJ	0.013 UJ	0.0063 U	0.0079 U	0.0083 U	0.0074 U
Chloroform	0.01 UJ	0.0091 U	0.0096 U	0.013 UJ	0.01 UJ	0.0086 U	0.012 UJ	0.013 UJ	0.0063 U	0.0079 U	0.0083 U	0.0074 U
Chloromethane	0.01 UJ	0.0091 U	0.0096 U	0.013 UJ	0.01 UJ	0.0086 U	0.012 UJ	0.013 UJ	0.0063 U	0.0079 U	0.0083 U	0.0074 U
Cyclohexane	0.01 UJ	0.0091 U	0.0096 U	0.013 UJ	0.01 UJ	0.0086 U	0.012 UJ	0.013 UJ	0.0063 U	0.0079 U	0.0083 U	0.0074 U
1,2-Dibromo-3-chloropropane	0.01 UJ	0.0091 UJ	0.0096 UJ	0.013 UJ	0.01 UJ	0.0086 UJ	0.012 UJ	0.013 UJ	0.0063 UJ	0.0079 UJ	0.0083 UJ	0.0074 UJ
Dibromochloromethane	0.01 UJ	0.0091 U	0.0096 U	0.013 UJ	0.01 UJ	0.0086 U	0.012 UJ	0.013 UJ	0.0063 U	0.0079 U	0.0083 U	0.0074 U
1,2-Dibromoethane	0.01 UJ	0.0091 U	0.0096 U	0.013 UJ	0.01 UJ	0.0086 U	0.012 UJ	0.013 UJ	0.0063 U	0.0079 U	0.0083 U	0.0074 U
1,2-Dichlorobenzene	0.01 UJ	0.0091 U	0.0096 U	0.013 UJ	0.01 UJ	0.0086 U	0.012 UJ	0.013 UJ	0.0063 U	0.0079 U	0.0083 U	0.0074 U
1,3-Dichlorobenzene	0.01 UJ	0.0091 U	0.0096 U	0.013 UJ	0.01 UJ	0.0086 U	0.012 UJ	0.013 UJ	0.0063 U	0.0079 U	0.0083 U	0.0074 U
1,4-Dichlorobenzene	**0.011 J**	**0.0057 J**	**0.015**	**0.014 J**	0.01 UJ	**0.027**	**0.0065 J**	**0.011 J**	**0.041**	**0.023**	**0.05**	**0.015**
Dichlorodifluoromethane	0.01 UJ	0.0091 U	0.0096 U	0.013 UJ	0.01 UJ	0.0086 U	0.012 UJ	0.013 UJ	0.0063 U	0.0079 U	0.0083 U	0.0074 U
1,1-Dichloroethane	0.01 UJ	0.0091 U	0.0096 U	0.013 UJ	0.01 UJ	0.0086 U	0.012 UJ	0.013 UJ	0.0063 U	0.0079 U	0.0083 U	0.0074 U
1,2-Dichloroethane	0.01 UJ	0.0091 U	0.0096 U	0.013 UJ	0.01 UJ	0.0086 U	0.012 UJ	0.013 UJ	0.0063 U	0.0079 U	0.0083 U	0.0074 U
cis-1,2-Dichloroethene	0.01 UJ	0.0091 U	0.0096 U	0.013 UJ	0.01 UJ	0.0086 U	0.012 UJ	0.013 UJ	0.0063 U	0.0079 U	0.0083 U	0.0074 U
trans-1,2-Dichloroethene	0.01 UJ	0.0091 U	0.0096 U	0.013 UJ	0.01 UJ	0.0086 U	0.012 UJ	0.013 UJ	0.0063 U	0.0079 U	0.0083 U	0.0074 U
1,1-Dichloroethene	0.01 UJ	0.0091 U	0.0096 U	0.013 UJ	0.01 UJ	0.0086 U	0.012 UJ	0.013 UJ	0.0063 U	0.0079 U	0.0083 U	0.0074 U
1,2-Dichloropropane	0.01 UJ	0.0091 U	0.0096 U	0.013 UJ	0.01 UJ	0.0086 U	0.012 UJ	0.013 UJ	0.0063 U	0.0079 U	0.0083 U	0.0074 U
cis-1,3-Dichloropropene	0.01 UJ	0.0091 U	0.0096 U	0.013 UJ	0.01 UJ	0.0086 U	0.012 UJ	0.013 UJ	0.0063 U	0.0079 U	0.0083 U	0.0074 U
trans-1,3-Dichloropropene	0.01 UJ	0.0091 U	0.0096 U	0.013 UJ	0.01 UJ	0.0086 UJ	0.012 UJ	0.013 UJ	0.0063 UJ	0.0079 UJ	0.0083 UJ	0.0074 U
1,4-Dioxane	R	R	R	R	R	R	R	R	R	R	R	R
2-Hexanone	0.01 UJ	0.0091 U	0.0096 UJ	0.013 UJ	0.01 UJ	0.0086 U	0.012 UJ	0.013 UJ	0.0063 U	0.0079 U	0.0083 U	0.0074 U
Isopropyl benzene	**0.0019 J**	**0.002 J**	0.0096 U	**0.0021 J**	0.01 UJ	0.0086 U	0.012 UJ	0.013 UJ	0.0063 U	**0.0014 J**	0.0083 U	0.0074 U
Methyl acetate	0.01 UJ	0.0091 U	0.0096 U	0.013 UJ	0.01 UJ	0.0086 U	0.012 UJ	0.013 UJ	0.0063 U	0.0079 U	0.0083 U	0.0074 U
Methyl tert-butyl ether (MTBE)	0.01 UJ	0.0091 U	0.0096 U	0.013 UJ	0.01 UJ	0.0086 U	0.012 UJ	0.013 UJ	0.0063 U	0.0079 U	0.0083 U	0.0074 U
4-Methyl-2-pentanone	0.01 UJ	0.0091 U	0.0096 UJ	0.013 UJ	0.01 UJ	0.0086 U	0.012 UJ	0.013 UJ	0.0063 U	0.0079 U	0.0083 U	0.0074 U
Methylcyclohexane	0.01 UJ	0.0091 U	0.0096 U	0.013 UJ	0.01 UJ	0.0086 U	0.012 UJ	0.013 UJ	0.0063 U	0.0079 U	0.0083 U	0.0074 U
Methylene chloride	0.01 UJ	0.0091 U	0.0096 U	0.013 UJ	0.01 UJ	0.0086 U	0.012 UJ	0.013 UJ	0.0063 U	0.0079 U	0.0083 U	0.0074 U
Styrene	0.01 UJ	0.0091 U	0.0096 U	0.013 UJ	0.01 UJ	0.0086 U	0.012 UJ	0.013 UJ	0.0063 U	0.0079 U	0.0083 U	0.0074 U
1,1,2,2-Tetrachloroethane	0.01 UJ	0.0091 U	0.0096 U	0.013 UJ	0.01 UJ	0.0086 U	0.012 UJ	0.013 UJ	0.0063 U	0.0079 U	0.0083 U	0.0074 U
Tetrachloroethene	0.01 UJ	0.0091 U	0.0096 U	0.013 UJ	0.01 UJ	0.0086 U	0.012 UJ	0.013 UJ	0.0063 U	0.0079 U	0.0083 U	0.0074 U

Table 2
Summary of Sediment Analytical Results
Phase I Sediment Cores
Gowanus Canal
Brooklyn, New York

Sample Name:	Duplicate of: GC-SED-512	GC-SED-512	GC-SED-512	GC-SED-512	GC-SED-512	GC-SED-512	GC-SED-513	GC-SED-513	GC-SED-513	GC-SED-513	GC-SED-513	GC-SED-513
Sample Depth (feet):	(1.0-1.5)	(1.5-2.0)	(2.0-2.5)	(2.5-3.0)	(3.0-3.5)	(3.5-4.0)	(0.0-0.5)	(0.5-1.0)	(1.0-1.5)	(1.5-2.0)	(2.0-2.5)	(2.5-3.0)
Sample Date:	8/9/2012	8/9/2012	8/9/2012	8/9/2012	8/9/2012	8/9/2012	8/9/2012	8/9/2012	8/9/2012	8/9/2012	8/9/2012	8/9/2012
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	0.01 UJ	0.0091 U	0.0096 U	0.013 UJ	0.01 UJ	0.0086 U	0.012 UJ	0.013 UJ	0.0063 U	0.0079 U	0.0083 U	0.0074 U
1,2,3-Trichlorobenzene	0.01 UJ	0.0091 U	0.0096 UJ	0.013 UJ	0.01 UJ	0.0086 U	0.012 UJ	0.013 UJ	0.0063 U	0.0079 U	0.0083 U	0.0074 U
1,2,4-Trichlorobenzene	0.01 UJ	0.0091 U	0.0096 U	0.013 UJ	0.01 UJ	0.0086 U	0.012 UJ	0.013 UJ	0.0063 U	0.0079 U	0.0083 U	0.0074 U
1,1,1-Trichloroethane	0.01 UJ	0.0091 U	0.0096 U	0.013 UJ	0.01 UJ	0.0086 UJ	0.012 UJ	0.013 UJ	0.0063 UJ	0.0079 UJ	0.0083 UJ	0.0074 U
1,1,2-Trichloroethane	0.01 UJ	0.0091 U	0.0096 U	0.013 UJ	0.01 UJ	0.0086 U	0.012 UJ	0.013 UJ	0.0063 U	0.0079 U	0.0083 U	0.0074 U
Trichloroethene	0.01 UJ	0.0091 U	0.0096 U	0.013 UJ	0.01 UJ	0.0086 U	0.012 UJ	0.013 UJ	0.0063 U	0.0079 U	0.0083 U	0.0074 U
Trichlorofluoromethane	0.01 UJ	0.0091 U	0.0096 U	0.013 UJ	0.01 UJ	0.0086 U	0.012 UJ	0.013 UJ	0.0063 U	0.0079 U	0.0083 U	0.0074 U
Vinyl chloride	0.01 UJ	0.0091 U	0.0096 U	0.013 UJ	0.01 UJ	0.0086 U	0.012 UJ	0.013 UJ	0.0063 U	0.0079 U	0.0083 U	0.0074 U
PAHs (mg/kg)												
Acenaphthene	**13 J**	**10**	**6.6**	**7.2 J**	**2.3 J**	**2.3**	**2.8 J**	**5.3 J**	**2.1**	**1.3**	**0.51 J**	**0.44 J**
Acenaphthylene	**9.1 J**	**8.6**	**6.2**	**6.5 J**	**3.9 J**	**4**	**3.5 J**	**5.5 J**	**2**	**1.1**	**1.2**	**0.51**
Anthracene	**18 J**	**14**	**9.1**	**9 J**	**4.1 J**	**3.6**	**5.4 J**	**11 J**	**3.7**	**2.4**	**1.3**	**0.72**
Benz[a]anthracene	**21 J**	**17**	**12**	**12 J**	**9 J**	**8.2**	**8.2 J**	**15 J**	**5.5**	**3**	**3.1**	**1.6**
Benzo[a]pyrene	**18 J**	**15**	**10**	**9.9 J**	**7.6 J**	**6.7**	**6.9 J**	**12 J**	**4.6**	**2.4**	**3**	**1.5**
Benzo[b]fluoranthene	**12 J**	**7.5**	**8.2**	**7.7 J**	**4.7 J**	**4.9**	**6 J**	**9.1 J**	**3.2**	**2.1**	**2.4**	**1.5**
Benzo[g,h,i]perylene	**8.9 J**	**7.7**	**5.5**	**5.4 J**	**4.4 J**	**3.8**	**3.7 J**	**6.6 J**	**2.6**	**1.7**	**2**	**1.3**
Benzo[k]fluoranthene	**5.6 J**	**7.6**	**2.3**	**2.7 J**	**4.6 J**	**2.5**	**1.4 J**	**4.1 J**	**1.9**	**0.68 J**	**1.3**	**0.67**
Chrysene	**21 J**	**17**	**12**	**12 J**	**8.4 J**	**7.4**	**8.1 J**	**14 J**	**5.1**	**2.6**	**3.3**	**1.8**
Dibenz[a,h]anthracene	**4.7 J**	**5.2**	**3.2**	**6.6 J**	**3.3 J**	**2.5**	**3.2 J**	**4 J**	**2 J**	**3.8 J**	**2.1 J**	**1.8 J**
Fluoranthene	**36 J**	**32**	**21**	**23 J**	**19 J**	**16**	**14 J**	**25 J**	**10**	**5.7**	**6.3**	**3.7**
Fluorene	**9.5 J**	**7.2**	**4.5**	**5.5 J**	**1.8 J**	**1.2**	**3 J**	**5.1 J**	**1.9**	**1.9**	**0.88**	**0.71**
Indeno[1,2,3-cd]pyrene	**7.5 J**	**8.3**	**5.5**	**8.2 J**	**4.8 J**	**3.8**	**4.5 J**	**6.5 J**	**2.8**	**3.7**	**2.7**	**2.1**
2-Methylnaphthalene	**9.9 J**	**6.6**	**4.1**	**4 J**	**0.99 J**	**0.56 J**	**1.9 J**	**3.1 J**	**0.78**	**0.53 J**	**0.24 J**	**0.15 J**
Naphthalene	**7.6 J**	**6.6**	**3.5**	**3.7 J**	**1.9 J**	**0.81**	**1.6 J**	**3.4 J**	**1.3**	**0.64 J**	**0.39 J**	**0.21 J**
Phenanthrene	**47 J**	**34**	**22**	**21 J**	**7.9 J**	**5.2**	**14 J**	**27 J**	**8.9**	**5.8**	**2.5**	**2.4**
Pyrene	**43 J**	**29**	**20**	**18 J**	**15 J**	**13**	**14 J**	**27 J**	**9.5**	**5.8**	**5.5**	**3.1**
Total PAHs	**291.8**	**233.3**	**155.7**	**162.4**	**103.7**	**86.47**	**102.2**	**183.7**	**67.88**	**45.15**	**38.72**	**24.21**
Alkylated PAHs (mg/kg)												
Acenaphthene	**21.36169**	**11.75888**	**10.11044 J**	**3.23784 J**	**1.90506**	**3.09786**	**4.08679**	**7.08984 J**	**6.23435**	**1.08313**	**0.45885**	**1.75624**
Acenaphthylene	**9.3878**	**6.75498**	**4.69029 J**	**2.77977 J**	**1.98216**	**2.91032**	**3.63124**	**5.5546 J**	**4.80724**	**0.82485**	**0.43399**	**0.55923**
Anthracene	**32.68107**	**17.79933**	**13.83503 J**	**5.46887 J**	**3.92261**	**5.6142**	**8.81422**	**14.79549 J**	**12.2771**	**2.07845**	**0.87423**	**4.44642**
Benz[a]anthracene	**35.1157**	**18.86239**	**16.80248 J**	**8.58898 J**	**7.99943**	**11.21272**	**10.92959**	**17.91245 J**	**14.90634**	**2.39668**	**1.46321**	**9.06951**
Benzo[a]pyrene	**25.27523**	**15.40465**	**14.1365 J**	**7.75796 J**	**6.14241**	**9.23061**	**9.02689**	**14.57477 J**	**12.0476**	**1.90676**	**1.18332**	**7.40974**
Benzo[b]fluoranthene	**14.53551**	**8.99711**	**9.71332 J**	**5.41442 J**	**4.4447**	**6.73267**	**5.8123**	**9.42097 J**	**7.16703**	**1.36895**	**1.05715**	**7.23808**
Benzo[e]pyrene	**14.96373**	**9.35603**	**9.05435 J**	**5.03396 J**	**4.1542**	**6.19587**	**5.69962**	**9.28403 J**	**7.55285**	**1.21558**	**0.84282**	**5.1431**
Benzo[g,h,i]perylene	**10.15143**	**7.31594**	**7.07762 J**	**3.8521 J**	**3.01041**	**4.68994**	**4.1519**	**6.41892 J**	**5.02267**	**0.93043**	**0.58459**	**4.147**
Benzo[k]fluoranthene	**19.21096**	**11.41216**	**10.60897 J**	**6.51793 J**	**5.09777**	**7.70979**	**6.77545**	**10.87759 J**	**9.02412**	**1.38388**	**1.02263**	**7.06709**
1,1-Biphenyl	**3.39543**	**1.90306**	**1.47292 J**	**0.46603 J**	**0.14339**	**0.3269**	**0.63491**	**1.2368 J**	**0.95836**	**0.11513**	**0.04437**	**0.12488**
Chrysene	**31.57426**	**17.69267**	**15.60555 J**	**7.78946 J**	**7.23883**	**9.78581**	**10.26073**	**16.93542 J**	**13.99442**	**2.30941**	**1.43122**	**8.03704**
C1-Chrysenes	**32.05894**	**18.9179**	**15.2723 J**	**7.29758 J**	**6.66971**	**8.84818**	**10.77881**	**18.35433 J**	**16.94798**	**2.36032**	**1.22842**	**3.50752**
C2-Chrysenes	**16.02955**	**10.41749**	**8.13791 J**	**3.40296 J**	**3.55563**	**4.29991**	**5.9404**	**10.16714 J**	**9.81154**	**1.46807**	**0.81934**	**1.5915**
C3-Chrysenes	**7.17979**	**4.92472**	**4.01974 J**	**1.52475 J**	**1.86243**	**2.02567**	**2.90196**	**4.88079 J**	**4.60195**	**0.73009**	**0.53365**	**0.86324**
C4-Chrysenes	**3.76296**	**2.50288**	**2.08783 J**	**0.82787 J**	**0.9878**	**1.09043**	**1.47669**	**2.31606 J**	**2.1585**	**0.39132**	**0.40045**	**0.60363**
Dibenz[a,h]anthracene	**3.59639**	**2.3615**	**2.21661 J**	**1.19705 J**	**0.87602**	**1.44465**	**1.38303**	**2.21047 J**	**1.83173**	**0.26673**	**0.15822**	**1.09157**
Dibenzofuran	**2.4344**	**1.4166**	**1.1871 J**	**0.78931 J**	**0.21889**	**0.51337**	**0.64259**	**1.18282 J**	**0.8826**	**0.13846**	**0.08508**	**0.73439**
Dibenzothiophene	**10.2408**	**5.13909**	**4.12527 J**	**1.39931 J**	**0.40137**	**1.24171**	**2.50474**	**4.29458 J**	**3.53799**	**0.59818**	**0.23738**	**1.07658**
C1-Dibenzothiophenes	**24.05094**	**11.62279**	**9.17282 J**	**2.6718 J**	**2.08449**	**3.51429**	**6.30436**	**10.73773 J**	**8.9532**	**1.44231**	**0.62173**	**1.21768**
C2-Dibenzothiophenes	**27.9265**	**14.54956**	**11.53227 J**	**3.86866 J**	**3.96165**	**5.85342**	**8.32278**	**14.20372 J**	**11.61713**	**1.78083**	**1.03702**	**1.78731**

Table 2
Summary of Sediment Analytical Results
Phase I Sediment Cores
Gowanus Canal
Brooklyn, New York

Sample Name:	Duplicate of: GC-SED-512	GC-SED-512	GC-SED-512	GC-SED-512	GC-SED-512	GC-SED-512	GC-SED-513	GC-SED-513	GC-SED-513	GC-SED-513	GC-SED-513	GC-SED-513
Sample Depth (feet):	(1.0-1.5)	(1.5-2.0)	(2.0-2.5)	(2.5-3.0)	(3.0-3.5)	(3.5-4.0)	(0.0-0.5)	(0.5-1.0)	(1.0-1.5)	(1.5-2.0)	(2.0-2.5)	(2.5-3.0)
Sample Date:	8/9/2012	8/9/2012	8/9/2012	8/9/2012	8/9/2012	8/9/2012	8/9/2012	8/9/2012	8/9/2012	8/9/2012	8/9/2012	8/9/2012
C3-Dibenzothiophenes	**16.16396**	**9.26785**	**7.42311 J**	**2.72649 J**	**3.0317**	**4.37803**	**5.41485**	**8.99432 J**	**7.68605**	**1.34642**	**1.12153**	**1.68259**
C4-Dibenzothiophenes	**6.0492**	**3.80369**	**3.01607 J**	**1.18701 J**	**1.39458**	**1.92075**	**2.25838**	**3.72869 J**	**3.12122**	**0.63537**	**0.71191**	**0.92103**
Fluoranthene	**63.88063**	**28.18558**	**29.68488 J**	**13.65326 J**	**12.54469**	**18.27009**	**16.84286**	**30.46973 J**	**22.69547**	**3.82359**	**2.87073**	**22.09912**
C1-Fluoranthenes/pyrenes	**88.66893**	**47.08627**	**36.31767 J**	**16.68922 J**	**14.16211**	**21.1038**	**26.01115**	**42.52789 J**	**37.70504**	**5.02796**	**2.78857**	**7.35315**
C2-Fluoranthenes/pyrenes	**36.5388**	**21.91856**	**16.71238 J**	**7.79832 J**	**6.80596**	**9.81752**	**12.74159**	**20.10856 J**	**19.48749**	**2.56531**	**1.52474**	**4.99614**
C3-Fluoranthenes/pyrenes	**15.43387**	**10.79523**	**7.83192 J**	**3.54894 J**	**3.36537**	**4.37364**	**5.8914**	**9.72462 J**	**9.20488**	**1.3401**	**0.8712**	**2.1379**
C4-Fluoranthenes/pyrenes	**4.8807**	**3.41109**	**2.64213 J**	**1.0627 J**	**1.19946**	**1.44698**	**1.99263**	**3.22459 J**	**2.84671**	**0.54852**	**0.45229**	**0.89032**
Fluorene	**12.07926**	**7.24037**	**5.4142 J**	**2.12327 J**	**0.4248**	**1.44649**	**3.0607**	**5.48107 J**	**4.5854**	**0.71824**	**0.26036**	**1.48221**
C1-Fluorenes	**20.69701**	**10.91324**	**8.80642 J**	**2.5707 J**	**1.66463**	**3.34293**	**5.63475**	**9.56962 J**	**8.07475**	**1.11736**	**0.60456**	**1.31823**
C2-Fluorenes	**28.67501**	**15.39595**	**12.39307 J**	**3.8354 J**	**4.47612**	**6.50327**	**8.22948**	**14.46747 J**	**11.97762**	**1.71105**	**1.53765**	**3.41692**
C3-Fluorenes	**20.90465**	**11.98414**	**10.09504 J**	**3.62176 J**	**4.33127**	**6.58309**	**7.19136**	**11.95317 J**	**9.36286**	**1.57526**	**1.72477**	**4.11829**
Indeno[1,2,3-cd]pyrene	**11.68064**	**7.93251**	**8.01978 J**	**4.54175 J**	**3.35143**	**5.43781**	**4.72114**	**7.34474 J**	**5.74241**	**0.96762**	**0.67201**	**5.00783**
Naphthalene	**15.64826**	**9.91129**	**6.88602 J**	**2.22241 J**	**0.83542**	0.01885 U	**2.61781**	**5.69416 J**	**3.62594**	0.37533 U	0.17388 U	0.34323 U
C1-Naphthalenes	**20.9268**	**11.94737**	**9.16547 J**	**2.58137 J**	**0.60536**	**1.66738**	**3.26408**	**6.21281 J**	**4.99218**	**0.59228**	**0.21199**	**0.43506**
C2-Naphthalenes	**41.44319**	**22.55195**	**18.19985 J**	**5.14257 J**	**1.50021**	**5.76732**	**9.33731**	**16.22831 J**	**13.7456**	**2.0649**	**1.49334**	**2.63484**
C3-Naphthalenes	**46.74876**	**24.01011**	**19.92948 J**	**5.5603 J**	**3.06368**	**8.56817**	**12.5104**	**20.98816 J**	**16.95752**	**2.9322**	**2.70024**	**5.91675**
C4-Naphthalenes	**34.71877**	**18.03712**	**15.41539 J**	**4.50225 J**	**4.22704**	**7.94246**	**10.5308**	**17.68293 J**	**13.72653**	**2.14753**	**2.16765**	**5.3997**
Perylene	**4.92091**	**3.12423**	**3.2713 J**	**1.95354 J**	**1.3065**	**2.211**	**1.93821**	**3.09475 J**	**2.5519**	**0.39058**	**0.31972**	**2.27743**
Phenanthrene	**70.60062**	**35.43577**	**30.63769 J**	**11.46468 J**	**2.98479**	**9.28656**	**17.23545**	**32.71937 J**	**25.25127**	**4.26367**	**1.79547**	**15.77165**
C1-Phenanthrenes/anthracenes	**100.90175**	**50.74871**	**39.12121 J**	**12.34774 J**	**9.41876**	**16.41853**	**26.99857**	**45.13412 J**	**38.03551**	**6.11624**	**2.80837**	**8.40921**
C2-Phenanthrenes/anthracenes	**76.8182**	**41.03795**	**32.68144 J**	**11.43831 J**	**12.45149**	**17.29322**	**23.50742**	**38.82747 J**	**33.6798**	**5.18749**	**3.34053**	**8.01154**
C3-Phenanthrenes/anthracenes	**33.51608**	**20.44745**	**16.08481 J**	**6.2082 J**	**6.86674**	**9.99284**	**11.90785**	**20.44184 J**	**17.39358**	**2.81012**	**2.18573**	**4.86504**
C4-Phenanthrenes/anthracenes	**10.66242**	**6.83977**	**5.64585 J**	**2.20721 J**	**2.59067**	**4.23841**	**4.09472**	**6.54903 J**	**5.68319**	**0.98839**	**1.05371**	**1.82336**
Pyrene	**86.06012**	**36.57788**	**37.0152 J**	**15.06929 J**	**15.23256**	**20.60145**	**24.21115**	**38.73368 J**	**29.96388**	**4.72745**	**3.22461**	**17.7083**
TPH (mg/kg)												
Total Petroleum Hydrocarbons	**18480.41**	**12552.82**	**11568.46 J**	**6630.3 J**	**6137.19**	**7797.77**	**8347.05**	**12847.55 J**	**8842.18**	**1848.74**	**2967.24**	**5636.22**
Other SVOCs (mg/kg)												
Acetophenone	**0.51 J**	**0.6 J**	**0.35 J**	**0.78 J**	3.4 UJ	2.8 U	3.8 UJ	4.1 UJ	2.1 U	5.2 U	2.7 U	2.4 U
Atrazine	3.3 UJ	5.9 U	3.1 U	8.6 UJ	3.4 UJ	2.8 U	3.8 UJ	4.1 UJ	2.1 UJ	5.2 UJ	2.7 UJ	2.4 UJ
Benzaldehyde	**2.1 J**	5.9 U	**1.9 J**	8.6 UJ	3.4 UJ	2.8 U	3.8 UJ	**2.5 J**	2.1 U	5.2 U	2.7 U	2.4 U
1,1-Biphenyl	**2 J**	**1.6 J**	**1 J**	**1.1 J**	3.4 UJ	**0.25 J**	**0.47 J**	**0.94 J**	**0.26 J**	5.2 U	2.7 U	2.4 U
Bis(chloroisopropyl)ether	0.67 UJ	1.2 U	0.64 U	1.7 UJ	0.68 UJ	0.57 U	0.78 UJ	0.83 UJ	0.42 U	1.1 U	0.55 U	0.49 U
Bis(2-chloroethyl)ether	0.67 UJ	1.2 U	0.64 U	1.7 UJ	0.68 UJ	0.57 U	0.78 UJ	0.83 UJ	0.42 U	1.1 U	0.55 U	0.49 U
Bis(2-chloroethoxy)methane	3.3 UJ	5.9 U	3.1 U	8.6 UJ	3.4 UJ	2.8 U	3.8 UJ	4.1 UJ	2.1 U	5.2 U	2.7 U	2.4 U
Bis(2-ethylhexyl)phthalate	**45 J**	**50**	**32**	**41 J**	**19 J**	**21**	**20 J**	**31 J**	**14**	**7.8 J**	**66**	**6.3**

Table 2
Summary of Sediment Analytical Results
Phase I Sediment Cores
Gowanus Canal
Brooklyn, New York

Sample Name:	Duplicate of: GC-SED-512	GC-SED-512	GC-SED-512	GC-SED-512	GC-SED-512	GC-SED-512	GC-SED-513	GC-SED-513	GC-SED-513	GC-SED-513	GC-SED-513	GC-SED-513
Sample Depth (feet):	(1.0-1.5)	(1.5-2.0)	(2.0-2.5)	(2.5-3.0)	(3.0-3.5)	(3.5-4.0)	(0.0-0.5)	(0.5-1.0)	(1.0-1.5)	(1.5-2.0)	(2.0-2.5)	(2.5-3.0)
Sample Date:	8/9/2012	8/9/2012	8/9/2012	8/9/2012	8/9/2012	8/9/2012	8/9/2012	8/9/2012	8/9/2012	8/9/2012	8/9/2012	8/9/2012
4-Bromophenyl phenyl ether	3.3 UJ	5.9 U	3.1 U	8.6 UJ	3.4 UJ	2.8 U	3.8 UJ	4.1 UJ	2.1 U	5.2 U	2.7 U	2.4 U
Butyl benzyl phthalate	**0.9 J**	**0.97 J**	**0.73 J**	**2.2 J**	**0.63 J**	**0.7 J**	**0.7 J**	**1.3 J**	**0.46 J**	5.2 U	**6.1**	**0.36 J**
Caprolactam	17 UJ	31 U	16 U	44 UJ	17 UJ	14 U	20 UJ	21 UJ	11 U	27 U	14 U	12 U
Carbazole	**1.1 J**	**1.2**	**0.59 J**	**0.7 J**	**1 J**	**0.36 J**	**0.36 J**	**1.2 J**	**0.46**	1.1 U	0.55 U	**0.29 J**
4-Chloro-3-methylphenol	3.3 UJ	5.9 U	3.1 U	8.6 UJ	3.4 UJ	2.8 U	3.8 UJ	4.1 UJ	2.1 U	5.2 U	2.7 U	2.4 U
4-Chloroaniline	**1.5 J**	**1.1 J**	**0.97 J**	**1.1 J**	**0.68 J**	**0.8 J**	**0.35 J**	**0.64 J**	**0.22 J**	5.2 U	2.7 U	2.4 U
Chlorophene	3.3 UJ	5.9 UJ	3.1 UJ	8.6 UJ	3.4 UJ	2.8 UJ	3.8 UJ	4.1 UJ	2.1 U	5.2 U	2.7 U	2.4 U
2-Chloronaphthalene	0.67 UJ	1.2 U	0.64 U	1.7 UJ	0.68 UJ	0.57 U	0.78 UJ	0.83 UJ	0.42 U	1.1 U	0.55 U	0.49 U
2-Chlorophenol	3.3 UJ	5.9 U	3.1 U	8.6 UJ	3.4 UJ	2.8 U	3.8 UJ	4.1 UJ	2.1 U	5.2 U	2.7 U	2.4 U
4-Chlorophenyl phenyl ether	3.3 UJ	5.9 U	3.1 U	8.6 UJ	3.4 UJ	2.8 U	3.8 UJ	4.1 UJ	2.1 U	5.2 U	2.7 U	2.4 U
Dibenzofuran	**1.9 J**	**1.6 J**	**0.94 J**	**1.1 J**	**0.81 J**	**0.45 J**	**0.59 J**	**1.2 J**	**0.5 J**	5.2 U	2.7 U	2.4 U
3,3-Dichlorobenzidine	3.3 UJ	5.9 U	3.1 U	8.6 UJ	3.4 UJ	2.8 U	3.8 UJ	4.1 UJ	2.1 U	5.2 U	2.7 U	2.4 U
2,4-Dichlorophenol	0.67 UJ	1.2 U	0.64 U	1.7 UJ	0.68 UJ	0.57 U	0.78 UJ	0.83 UJ	0.42 U	1.1 U	0.55 U	0.49 U
Diethyl phthalate	3.3 UJ	5.9 U	3.1 U	8.6 UJ	**0.38 J**	2.8 U	3.8 UJ	4.1 UJ	2.1 U	5.2 U	2.7 U	2.4 U
Dimethyl phthalate	3.3 UJ	5.9 U	3.1 U	8.6 UJ	3.4 UJ	2.8 U	3.8 UJ	4.1 UJ	2.1 U	5.2 U	2.7 U	2.4 U
2,4-Dimethylphenol	3.3 UJ	5.9 U	3.1 U	8.6 UJ	3.4 UJ	2.8 U	3.8 UJ	4.1 UJ	2.1 U	5.2 U	2.7 U	2.4 U
Di-n-butyl phthalate	3.3 UJ	5.9 U	**0.46 J**	**6.7 J**	3.4 UJ	2.8 U	3.8 UJ	4.1 UJ	2.1 U	5.2 U	**1 J**	2.4 U
4,6-Dinitro-2-methylphenol	17 UJ	31 U	16 U	44 UJ	17 UJ	14 U	20 UJ	21 UJ	11 U	27 U	14 U	12 U
2,4-Dinitrophenol	17 UJ	31 U	16 U	44 UJ	17 UJ	14 U	20 UJ	21 UJ	11 U	27 U	14 U	12 U
2,4-Dinitrotoluene	3.3 UJ	5.9 U	3.1 U	8.6 UJ	3.4 UJ	2.8 U	3.8 UJ	4.1 UJ	2.1 U	5.2 U	2.7 U	2.4 U
2,6-Dinitrotoluene	3.3 UJ	5.9 U	3.1 U	8.6 UJ	3.4 UJ	2.8 U	3.8 UJ	4.1 UJ	2.1 U	5.2 U	2.7 U	2.4 U
Di-n-octyl phthalate	**2.1 J**	**1.5 J**	**1.3 J**	**1.7 J**	3.4 UJ	**0.34 J**	**0.71 J**	**1.2 J**	**0.4 J**	5.2 U	2.7 U	2.4 U
Hexachlorobenzene	0.67 UJ	1.2 U	0.64 U	1.7 UJ	0.68 UJ	0.57 U	0.78 UJ	0.83 UJ	0.42 U	1.1 U	0.55 U	0.49 U
Hexachlorobutadiene	0.67 UJ	1.2 U	0.64 U	1.7 UJ	0.68 UJ	0.57 U	0.78 UJ	0.83 UJ	0.42 U	1.1 U	0.55 U	0.49 U
Hexachlorocyclopentadiene	3.3 UJ	5.9 U	3.1 U	8.6 UJ	3.4 UJ	2.8 U	3.8 UJ	4.1 UJ	2.1 U	5.2 U	2.7 U	2.4 U
Hexachloroethane	3.3 UJ	5.9 U	3.1 U	8.6 UJ	3.4 UJ	2.8 U	3.8 UJ	4.1 UJ	2.1 U	5.2 U	2.7 U	2.4 U
Isophorone	3.3 UJ	5.9 U	3.1 U	8.6 UJ	3.4 UJ	2.8 U	3.8 UJ	4.1 UJ	2.1 U	5.2 U	2.7 U	2.4 U
2-Methylphenol (o-Cresol)	3.3 UJ	5.9 U	3.1 U	8.6 UJ	3.4 UJ	2.8 U	3.8 UJ	4.1 UJ	2.1 U	5.2 U	2.7 U	2.4 U
3,4-Methylphenol (m,p-Cresol)	3.3 UJ	5.9 U	**0.73 J**	**0.85 J**	3.4 UJ	2.8 U	**0.48 J**	4.1 UJ	2.1 U	5.2 U	2.7 U	2.4 U
2-Nitroaniline	17 UJ	31 U	16 U	44 UJ	17 UJ	14 U	20 UJ	21 UJ	11 U	27 U	14 U	12 U
3-Nitroaniline	17 UJ	31 U	16 U	44 UJ	17 UJ	14 U	20 UJ	21 UJ	11 U	27 U	14 U	12 U
4-Nitroaniline	17 UJ	31 U	16 U	44 UJ	17 UJ	14 U	20 UJ	21 UJ	11 U	27 U	14 U	12 U
Nitrobenzene	6.7 UJ	12 U	6.4 U	17 UJ	6.8 UJ	5.7 U	7.8 UJ	8.3 UJ	4.2 U	11 U	5.5 U	4.9 U
2-Nitrophenol	3.3 UJ	5.9 U	3.1 U	8.6 UJ	3.4 UJ	2.8 U	3.8 UJ	4.1 UJ	2.1 U	5.2 U	2.7 U	2.4 U

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Summary of Sediment Analytical Results
Phase I Sediment Cores
Gowanus Canal
Brooklyn, New York

Sample Name:	Duplicate of: GC-SED-512	GC-SED-512	GC-SED-512	GC-SED-512	GC-SED-512	GC-SED-512	GC-SED-513	GC-SED-513	GC-SED-513	GC-SED-513	GC-SED-513	GC-SED-513
Sample Depth (feet):	(1.0-1.5)	(1.5-2.0)	(2.0-2.5)	(2.5-3.0)	(3.0-3.5)	(3.5-4.0)	(0.0-0.5)	(0.5-1.0)	(1.0-1.5)	(1.5-2.0)	(2.0-2.5)	(2.5-3.0)
Sample Date:	8/9/2012	8/9/2012	8/9/2012	8/9/2012	8/9/2012	8/9/2012	8/9/2012	8/9/2012	8/9/2012	8/9/2012	8/9/2012	8/9/2012
4-Nitrophenol	17 UJ	31 U	16 U	44 UJ	17 UJ	14 U	20 UJ	21 UJ	11 U	27 U	14 U	12 U
N-Nitrosodi-n-propylamine	0.67 UJ	1.2 U	0.64 U	1.7 UJ	0.68 UJ	0.57 U	0.78 UJ	0.83 UJ	0.42 U	1.1 U	0.55 U	0.49 U
N-Nitrosodiphenylamine	3.3 UJ	5.9 U	3.1 U	8.6 UJ	3.4 UJ	2.8 U	**1.8 J**	4.1 UJ	2.1 U	5.2 U	2.7 U	2.4 U
Pentachlorophenol	3.3 UJ	5.9 U	3.1 U	8.6 UJ	3.4 UJ	2.8 U	3.8 UJ	4.1 UJ	2.1 U	5.2 U	2.7 U	2.4 U
Phenol	0.67 UJ	1.2 U	0.64 U	1.7 UJ	0.68 UJ	0.57 U	0.78 UJ	0.83 UJ	0.42 U	1.1 U	0.55 U	0.49 U
1,2,4,5-Tetrachlorobenzene	3.3 UJ	5.9 U	3.1 U	8.6 UJ	3.4 UJ	2.8 U	3.8 UJ	4.1 UJ	2.1 U	5.2 U	2.7 U	2.4 U
2,3,4,6-Tetrachlorophenol	3.3 UJ	5.9 U	3.1 U	8.6 UJ	3.4 UJ	2.8 U	3.8 UJ	4.1 UJ	2.1 U	5.2 U	2.7 U	2.4 U
2,4,5-Trichlorophenol	3.3 UJ	5.9 U	3.1 U	8.6 UJ	3.4 UJ	2.8 U	3.8 UJ	4.1 UJ	2.1 U	5.2 U	2.7 U	2.4 U
2,4,6-Trichlorophenol	3.3 UJ	5.9 U	3.1 U	8.6 UJ	3.4 UJ	2.8 U	3.8 UJ	4.1 UJ	2.1 U	5.2 U	2.7 U	2.4 U
PCBs (mg/kg)												
Aroclor 1016	0.017 UJ	0.015 U	0.016 U	0.022 UJ	0.017 UJ	0.014 U	0.019 UJ	0.021 UJ	0.01 U	0.013 U	0.014 U	0.012 U
Aroclor 1221	0.017 UJ	0.015 U	0.016 U	0.022 UJ	0.017 UJ	0.014 U	0.019 UJ	0.021 UJ	0.01 U	0.013 U	0.014 U	0.012 U
Aroclor 1232	0.017 UJ	0.015 U	0.016 U	0.022 UJ	0.017 UJ	0.014 U	0.019 UJ	0.021 UJ	0.01 U	0.013 U	0.014 U	0.012 U
Aroclor 1242	**2.3 J**	**0.99 J**	**1.2 J**	**0.4 J**	**0.32 J**	**0.4 J**	**0.71 J**	**1.3 J**	**0.44 J**	**0.23 J**	**0.21 J**	**0.081 J**
Aroclor 1248	0.017 UJ	0.015 U	0.016 U	0.022 UJ	0.017 UJ	0.014 U	0.019 UJ	0.021 UJ	0.01 U	0.013 U	0.014 U	0.012 U
Aroclor 1254	0.017 UJ	0.015 U	0.016 U	0.022 UJ	0.017 UJ	0.014 U	0.019 UJ	0.021 UJ	0.01 U	**0.2 J**	**0.34 J**	**0.086 J**
Aroclor 1260	**3.3 J**	**1.7 J**	**1.5 J**	**0.53 J**	**0.58 J**	**0.9 J**	**1.2 J**	**2.2 J**	**0.98 J**	0.013 U	0.014 U	0.012 U
Aroclor 1262	0.017 UJ	0.015 U	0.016 U	0.022 UJ	0.017 UJ	0.014 U	0.019 UJ	0.021 UJ	0.01 U	0.013 U	0.014 U	0.012 U
Aroclor 1268	0.017 UJ	0.015 U	0.016 U	0.022 UJ	0.017 UJ	0.014 U	0.019 UJ	0.021 UJ	0.01 U	0.013 U	0.014 U	0.012 U
Total PCBs	**5.6 J**	**2.7 J**	**2.7 J**	**0.93 J**	**0.9 J**	**1.3 J**	**1.9 J**	**3.5 J**	**1.4 J**	**0.43 J**	**0.55 J**	**0.17 J**
Pesticides (mg/kg)												
Aldrin	0.017 UJ	0.015 UJ	0.016 UJ	0.022 UJ	0.017 UJ	0.014 UJ	0.02 UJ	0.021 UJ	0.011 UJ	0.013 UJ	0.014 UJ	0.013 UJ
alpha-BHC	0.017 UJ	0.015 U	0.016 U	0.022 UJ	0.017 UJ	0.014 UJ	0.02 UJ	0.021 UJ	0.011 UJ	0.013 UJ	0.014 UJ	0.013 UJ
beta-BHC	0.017 UJ	**0.0062 J**	0.016 U	0.022 UJ	0.017 UJ	0.014 U	0.02 UJ	0.021 UJ	**0.007 J**	**0.0043 J**	0.014 U	0.013 U
gamma-BHC	0.017 UJ	0.015 U	0.016 U	0.022 UJ	0.017 UJ	0.014 U	0.02 UJ	**0.0074 J**	0.011 U	0.013 U	**0.017**	0.013 U
delta-BHC	**0.031 J**	0.015 U	0.016 U	0.022 UJ	0.017 UJ	0.014 U	0.02 UJ	**0.023 JN**	0.011 U	0.013 U	0.014 U	0.013 U
alpha-chlordane	**0.069 J**	**0.019**	**0.038**	**0.011 J**	**0.013 J**	**0.018 J**	**0.027 J**	**0.04 J**	**0.01 J**	**0.0082 J**	**0.0056 J**	0.013 UJ
gamma-Chlordane	**0.13 J**	**0.025 J**	**0.14**	0.022 UJ	**0.042 J**	**0.021 JN**	**0.078 J**	**0.11 J**	**0.018 J**	**0.022 J**	0.014 UJ	0.013 UJ
4,4-DDD	**0.21 J**	**0.07 J**	**0.17 J**	**0.035 J**	**0.018 J**	**0.022 J**	**0.025 JN**	**0.036 JN**	0.011 UJ	0.013 UJ	0.014 UJ	0.013 UJ
4,4'-DDE	**0.14 J**	**0.042**	**0.097**	**0.03 J**	**0.015 J**	**0.021**	**0.073 J**	**0.1 J**	**0.026**	**0.035**	0.014 U	**0.0035 J**
4,4'-DDT	0.017 UJ	0.015 U	**0.016 JN**	**0.012 J**	**0.021 J**	**0.032 J**	0.02 UJ	0.021 UJ	**0.029**	**0.018 J**	**0.0051 J**	0.013 U
Dieldrin	**0.037 J**	0.015 U	**0.018 JN**	0.022 UJ	0.017 UJ	0.014 UJ	**0.022 J**	**0.028 JN**	0.011 UJ	0.013 UJ	0.014 UJ	0.013 UJ
Endosulfan I	0.017 UJ	0.015 UJ	0.016 UJ	0.022 UJ	0.017 UJ	0.014 UJ	0.02 UJ	0.021 UJ	0.011 UJ	0.013 UJ	0.014 UJ	0.013 UJ
Endosulfan II	0.017 UJ	0.015 U	0.016 U	0.022 UJ	0.017 UJ	0.014 UJ	0.02 UJ	0.021 UJ	0.011 UJ	0.013 UJ	0.014 UJ	0.013 UJ
Endosulfan sulfate	**0.028 J**	**0.0096 J**	**0.015 J**	**0.0037 J**	**0.0026 J**	**0.0054 J**	**0.019 J**	**0.021 J**	0.011 UJ	**0.0024 J**	**0.0027 J**	0.013 UJ
Endrin	**0.042 JN**	0.015 U	**0.028 JN**	0.022 UJ	0.017 UJ	0.014 UJ	**0.041 JN**	**0.036 JN**	0.011 UJ	0.013 UJ	0.014 UJ	0.013 UJ
Endrin aldehyde	0.017 UJ	0.015 U	0.016 U	0.022 UJ	0.017 UJ	0.014 U	0.02 UJ	0.021 UJ	0.011 U	0.013 U	0.014 U	0.013 U
Endrin ketone	**0.11 J**	**0.029**	**0.061**	**0.013 J**	**0.015 J**	**0.02 J**	**0.057 J**	**0.076 J**	**0.02 J**	**0.011 J**	0.014 UJ	0.013 UJ
Heptachlor	0.017 UJ	0.015 UJ	0.016 UJ	0.022 UJ	0.017 UJ	0.014 UJ	0.02 UJ	0.021 UJ	0.011 UJ	0.013 UJ	0.014 UJ	0.013 UJ
Heptachlor epoxide	0.017 UJ	0.015 UJ	0.016 UJ	0.022 UJ	0.017 UJ	0.014 UJ	0.02 UJ	0.021 UJ	0.011 UJ	0.013 UJ	0.014 UJ	0.013 UJ
Methoxychlor	**0.064 JN**	0.03 U	**0.034 JN**	0.042 UJ	0.034 UJ	0.028 U	**0.062 JN**	**0.042 JN**	0.021 U	0.026 U	0.027 U	**0.003 J**
Toxaphene	0.68 UJ	0.6 U	0.63 U	0.86 UJ	0.69 UJ	0.57 U	0.78 UJ	0.84 UJ	0.42 U	0.52 U	0.55 U	0.5 U
Herbicides (mg/kg)												
2,4-D	0.16 UJ	0.15 UJ	0.15 UJ	0.21 UJ	0.16 UJ	0.14 UJ	0.19 UJ	0.2 UJ	0.1 U	0.13 U	0.13 U	0.12 U
2,4-DB	0.16 UJ	0.15 UJ	0.15 UJ	0.21 UJ	0.16 UJ	0.14 UJ	0.19 UJ	0.2 UJ	0.1 UJ	0.13 UJ	0.13 UJ	0.12 UJ
Dicamba	0.081 UJ	0.073 U	0.076 U	0.1 UJ	0.082 UJ	0.069 U	0.093 UJ	0.1 UJ	0.051 U	0.063 U	0.066 U	0.059 U
Dichloroprop	0.16 UJ	0.15 U	0.15 U	0.21 UJ	0.16 UJ	0.14 U	**0.048 J**	0.2 UJ	0.1 U	0.13 U	0.13 U	0.12 U
2,2-Dichloropropionic acid	0.18 UJ	0.16 U	0.17 U	0.23 UJ	0.18 UJ	0.15 U	0.21 UJ	0.23 UJ	0.11 U	0.14 U	0.15 U	0.13 U
Dinoseb	0.024 UJ	0.022 U	0.023 U	0.031 UJ	0.025 UJ	0.021 U	0.028 UJ	0.03 UJ	0.015 U	0.019 U	0.02 U	0.018 U

Table 2
Summary of Sediment Analytical Results
Phase I Sediment Cores
Gowanus Canal
Brooklyn, New York

Sample Name:	Duplicate of: GC-SED-512	GC-SED-512	GC-SED-512	GC-SED-512	GC-SED-512	GC-SED-512	GC-SED-513	GC-SED-513	GC-SED-513	GC-SED-513	GC-SED-513	GC-SED-513
Sample Depth (feet):	(1.0-1.5)	(1.5-2.0)	(2.0-2.5)	(2.5-3.0)	(3.0-3.5)	(3.5-4.0)	(0.0-0.5)	(0.5-1.0)	(1.0-1.5)	(1.5-2.0)	(2.0-2.5)	(2.5-3.0)
Sample Date:	8/9/2012	8/9/2012	8/9/2012	8/9/2012	8/9/2012	8/9/2012	8/9/2012	8/9/2012	8/9/2012	8/9/2012	8/9/2012	8/9/2012
MCPP	16 UJ	15 UJ	15 UJ	21 UJ	16 UJ	14 UJ	19 UJ	20 UJ	10 U	13 U	13 U	12 U
Methylchlorophenoxyacetic acid	16 UJ	15 U	**11 J**	21 UJ	16 UJ	14 U	19 UJ	20 UJ	**8.6 J**	13 U	13 U	12 U
Pentachlorophenol	0.022 UJ	0.02 U	0.021 U	0.029 UJ	0.023 UJ	0.019 U	0.026 UJ	0.028 UJ	0.014 U	0.017 U	0.018 U	0.016 U
Silvex	0.041 UJ	0.036 U	0.038 U	0.052 UJ	**0.006 J**	0.034 U	0.047 UJ	0.05 UJ	0.025 U	0.032 U	0.033 U	0.03 U
2,4,5-Trichlorophenoxyacetic Acid	0.041 UJ	0.036 UJ	0.038 UJ	0.052 UJ	0.041 UJ	0.034 UJ	0.047 UJ	0.05 UJ	0.025 U	0.032 U	0.033 U	0.03 U
Metals (mg/kg)												
Aluminum	**8600 J**	**5400**	**6200**	**11000 J**	**9100 J**	**6900**	**4100 J**	**4700 J**	**4800**	**3100**	**4600**	**5600**
Antimony	**6.7 J**	**2.3 J**	**2.2 J**	**2.1 J**	**0.75 J**	**1 J**	**1.6 J**	**3.4 J**	**1.4 J**	**2.2 J**	**15 J**	**1.8 J**
Arsenic	**9.1 J**	**5.3 J**	**5.9 J**	**7.1 J**	**5.3 J**	**5.3 J**	**4.4 J**	**5.4 J**	**3.7 J**	**2.8 J**	**2.7 J**	**3.3 J**
Barium	**370 J**	**170 J**	**230 J**	**140 J**	**150 J**	**180 J**	**160 J**	**200 J**	**130 J**	**63 J**	**130 J**	**66 J**
Beryllium	**0.46 J**	**0.31**	**0.33**	**0.62 J**	**0.58 J**	**0.41**	**0.28 J**	**0.28 J**	**0.35**	**0.34**	**0.29**	**0.34**
Cadmium	**12 J**	**3 J**	**4.5 J**	**2.7 J**	**2 J**	**2.4 J**	**2.6 J**	**3.9 J**	**3.2 J**	**0.97 J**	**0.94 J**	**1.1 J**
Calcium	**9600 J**	**9300 J**	**6800 J**	**6000 J**	**7800 J**	**7500 J**	**4900 J**	**5400 J**	**10000 J**	**37000 J**	**22000 J**	**9900 J**
Chromium	**180 J**	**69 J**	**74 J**	**77 J**	**63 J**	**57 J**	**69 J**	**84 J**	**59 J**	**26 J**	**43 J**	**38 J**
Cobalt	**8.1 J**	**5.4**	**5.9**	**9 J**	**7.7 J**	**6**	**4.3 J**	**4.9 J**	**5.3**	**4.1**	**6**	**5.5**
Copper	**520 J**	**220 J**	**250 J**	**320 J**	**150 J**	**200 J**	**180 J**	**290 J**	**210 J**	**190 J**	**180 J**	**250 J**
Iron	**25000 J**	**15000**	**16000**	**24000 J**	**24000 J**	**16000**	**14000 J**	**16000 J**	**13000**	**10000**	**14000**	**25000**
Lead	**1200 J**	**400**	**480**	**620 J**	**410 J**	**380**	**410 J**	**470 J**	**330**	**170**	**570**	**240**
Magnesium	**6500 J**	**6400 J**	**5100 J**	**7200 J**	**6900 J**	**5700 J**	**3800 J**	**4300 J**	**5800 J**	**11000 J**	**14000 J**	**7500 J**
Manganese	**160 J**	**110 J**	**120 J**	**220 J**	**190 J**	**130 J**	**86 J**	**93 J**	**92 J**	**94 J**	**120 J**	**140 J**
Mercury	**2.1 J**	**1.5 J**	**2.2 J**	**2.3 J**	**1.4 J**	**1.3 J**	**3 J**	**2.3 J**	**0.71 J**	**0.33 J**	**23 J**	**0.42 J**
Nickel	**120 J**	**59**	**48**	**44 J**	**35 J**	**35**	**53 J**	**65 J**	**41**	**27**	**58**	**31**
Potassium	**1700 J**	**1200**	**1400**	**2400 J**	**2000 J**	**1700**	**1000 J**	**1200 J**	**1000**	**780**	**1100**	**1100**
Selenium	**1.7 J**	**0.85 J**	**1.3 J**	**1.4 J**	**1 J**	**0.97 J**	**0.84 J**	**1.1 J**	**0.75 J**	**0.46 J**	**0.63 J**	**0.54 J**
Silver	**7.7 J**	**3.5 J**	**3.9 J**	**4.8 J**	**4.4 J**	**7.1 J**	**4.1 J**	**5.6 J**	**3.2 J**	**1.1 J**	**1.7 J**	**8.7 J**
Sodium	**7500 J**	**4400 J**	**5000 J**	**8100 J**	**6700 J**	**5800 J**	**5100 J**	**6200 J**	**4000 J**	**2400 J**	**3200 J**	**3700 J**
Thallium	**0.22 J**	**0.13 J**	**0.16 J**	**0.26 J**	**0.21 J**	**0.17 J**	**0.11 J**	**0.12 J**	**0.098 J**	**0.079 J**	**0.097 J**	**0.11 J**
Vanadium	**50 J**	**25**	**27**	**38 J**	**31 J**	**27**	**22 J**	**28 J**	**26**	**13**	**19**	**19**
Zinc	**1100 J**	**410**	**460**	**490 J**	**350 J**	**410**	**440 J**	**550 J**	**360**	**200**	**290**	**300**
EDCs & PPCPs (Phenols) (mg/kg)												
Bisphenol A	0.69 U	0.7 U	0.82 UJ	0.82 UJ	0.77 U	0.71 U	0.73 U	1 UJ	0.56 U	0.51 U	0.63 U	0.61 U
Nonylphenol	**27 J**	**25 J**	**37 J**	**15 J**	**35**	**37**	**14**	**21 J**	**12**	**9.1**	**18**	**18**
Nonylphenol Diethoxylate	14 U	14 U	17 UJ	17 UJ	16 U	15 U	15 U	20 UJ	12 U	11 U	13 U	13 U
Nonylphenol Monoethoxylate	6.9 U	7 U	8.2 UJ	8.2 UJ	7.7 U	7.1 U	7.3 U	10 UJ	5.6 U	5.1 U	6.3 U	6.1 U
4-tert-Octylphenol	**1.4 J**	**1 J**	**0.91 J**	0.82 UJ	0.77 U	0.71 U	0.73 U	1 UJ	0.56 U	0.51 U	0.63 U	0.61 U
EDCs and PPCPs (mg/kg)												
Acetaminophen	0.038 U	0.037 U	0.037 U	0.039 UJ	0.039 U	0.037 UJ	0.037 U	0.039 U	0.037 U	0.039 U	0.039 U	0.036 U
alpha-Estradiol	0.038 UJ	0.037 UJ	0.037 UJ	0.039 UJ	0.039 UJ	0.037 UJ	0.037 UJ	0.039 UJ	0.037 UJ	0.039 UJ	0.039 UJ	0.036 UJ
Androstenedione	0.0076 UJ	0.0074 UJ	0.0074 UJ	**0.0016 J**	0.0078 UJ	0.0075 UJ	0.0075 UJ	0.0078 UJ	0.0074 UJ	0.0078 UJ	0.0077 UJ	0.0072 UJ
Atrazine	0.0076 UJ	0.0074 UJ	0.0074 UJ	0.0078 UJ	**0.0024 J**	0.0075 UJ	**0.0026 J**	0.0078 UJ	0.0074 UJ	**0.003 J**	0.0077 UJ	0.0072 UJ
Bisphenol A	**0.1**	**0.094**	**0.18**	**0.21 J**	**0.24**	**0.28 J**	**0.059 J**	**0.099**	**0.091**	**0.051 J**	**0.077**	**0.059 J**
Carbamazepine	0.015 UJ	**0.0029 J**	0.015 UJ	0.016 UJ	0.016 UJ	0.015 UJ	0.015 UJ	0.016 UJ	0.015 UJ	0.016 UJ	**0.17 J**	**0.062 J**
DEET (N,N-Diethyl-3-Methyl Benzamide)	0.038 UJ	0.037 UJ	0.037 UJ	0.039 UJ	0.039 UJ	0.037 UJ	0.037 UJ	0.039 UJ	0.037 UJ	0.039 UJ	0.039 UJ	0.036 UJ
Diazepam	0.015 U	0.015 U	0.015 U	0.016 UJ	0.016 UJ	0.015 UJ	0.015 U	0.016 U	0.015 U	0.016 U	0.015 U	0.014 U
Diclofenac	0.015 UJ	0.015 UJ	0.015 UJ	0.016 UJ	0.016 UJ	0.015 UJ	0.015 UJ	R	0.015 UJ	0.016 UJ	0.015 UJ	0.014 UJ
Diethylstilbestrol	R	0.037 UJ	0.037 UJ	0.039 UJ	0.039 UJ	0.037 UJ	0.037 UJ	**0.065 J**	0.037 UJ	0.039 UJ	0.039 UJ	R
Estradiol	0.038 UJ	0.037 UJ	0.037 UJ	0.039 UJ	0.039 UJ	0.037 UJ	0.037 UJ	0.039 UJ	0.037 UJ	0.039 UJ	0.039 UJ	0.036 UJ
Estriol	0.038 U	0.037 U	0.037 U	0.039 UJ	0.039 U	0.037 UJ	0.037 U	0.039 U	0.037 U	0.039 U	0.039 U	0.036 U

Table 2
Summary of Sediment Analytical Results
Phase I Sediment Cores
Gowanus Canal
Brooklyn, New York

Sample Name:	Duplicate of: GC-SED-512	GC-SED-512	GC-SED-512	GC-SED-512	GC-SED-512	GC-SED-512	GC-SED-513	GC-SED-513	GC-SED-513	GC-SED-513	GC-SED-513	GC-SED-513
Sample Depth (feet):	(1.0-1.5)	(1.5-2.0)	(2.0-2.5)	(2.5-3.0)	(3.0-3.5)	(3.5-4.0)	(0.0-0.5)	(0.5-1.0)	(1.0-1.5)	(1.5-2.0)	(2.0-2.5)	(2.5-3.0)
Sample Date:	8/9/2012	8/9/2012	8/9/2012	8/9/2012	8/9/2012	8/9/2012	8/9/2012	8/9/2012	8/9/2012	8/9/2012	8/9/2012	8/9/2012
Estrone	0.038 UJ	0.037 UJ	**0.021 J**	0.039 UJ	0.039 UJ	0.037 UJ	**0.029 J**	**0.043 J**	**0.036 J**	0.039 UJ	**0.035 J**	0.036 UJ
Ethinyl Estradiol	0.038 U	0.037 U	0.037 U	0.039 UJ	0.039 U	0.037 UJ	0.037 U	0.039 U	0.037 U	0.039 U	0.039 U	0.036 U
Gemfibrozil	0.015 UJ	0.015 UJ	0.015 UJ	0.016 UJ	0.016 UJ	0.015 UJ	0.015 UJ	0.016 UJ	0.015 UJ	0.016 UJ	0.015 UJ	0.014 UJ
Ibuprofen	0.038 UJ	0.037 UJ	0.037 UJ	0.039 UJ	0.039 U	0.037 UJ	0.037 U	0.039 UJ	0.037 U	0.039 U	0.039 U	0.036 U
Meprobamate	0.0076 UJ	0.0074 UJ	0.0074 UJ	0.0078 UJ	0.0078 UJ	0.0075 UJ	0.0075 UJ	0.0078 UJ	0.0074 UJ	0.0078 UJ	0.0077 UJ	0.0072 UJ
Naproxen	0.015 U	0.015 U	0.015 U	0.016 UJ	0.016 U	0.015 UJ	0.015 U	0.016 U	0.015 U	0.016 U	0.015 U	0.014 U
Pentoxifylline	0.015 U	0.015 U	0.015 U	**0.0077 J**	0.016 U	**0.007 J**	0.015 U	0.016 U	0.015 U	0.016 U	0.015 U	0.014 U
Phenytoin (5,5-Diphenylhydantion/ Dilantin)	**0.0032 J**	0.037 U	**0.002 J**	0.039 UJ	**0.0025 J**	**0.0073 J**	0.037 U	0.039 U	0.037 U	0.039 U	0.039 U	0.036 U
Progesterone	**0.0027 J**	**0.0021 J**	**0.0041 J**	**0.0045 J**	0.016 U	**0.0041 J**	**0.0024 J**	**0.0049 J**	**0.0028 J**	0.016 U	0.015 U	0.014 U
Sulfamethoxazole	0.015 U	0.015 U	0.015 U	0.016 UJ	0.016 U	0.015 UJ	0.015 U	0.016 U	0.015 U	0.016 U	0.015 U	0.014 U
Testosterone	0.015 U	0.015 U	0.015 U	0.016 UJ	0.016 U	0.015 UJ	0.015 U	0.016 U	0.015 U	0.016 U	0.015 U	0.014 U
Trimethoprim	0.038 UJ	0.037 UJ	0.037 UJ	0.039 UJ	0.039 UJ	R	0.037 UJ	0.039 UJ	0.037 UJ	0.039 UJ	0.039 UJ	0.036 UJ
Pathogen												
C. perfringens (cfu/g)	NA	**68000**	**120000**	**210000**	**50000**	**100000**	**120000**	**62000**	**64000**	**20000**	**20000**	**35000**
Coliphage, Male Specific (pfu/10g)	NA	0 U	0 U	0 U	0 U	0 U	0 U	0 U	0 U	**1**	**4**	0 U
Coliphage, Somatic (pfu/10g)	NA	**6**	**27**	**107**	**6**	**5**	**210**	**187**	**141**	**31**	**7**	**6**
Cryptosporidium (Oocysts/g)	NA	R	0 UJ	0 U	0 UJ	0 UJ	0 UJ	0 UJ	0 UJ	0 UJ	0 UJ	0 UJ
E.Coli (mpn/g)	NA	**4.1**	**1**	0 U	0 U	0 U	**1480**	**160.2**	**90.8**	**40.4**	**3.1**	0 U
Enterococci (mpn/g)	NA	**35**	**70.8**	**107.1**	**184.2**	**107.6**	**4800**	**355.5**	**313**	**357.8**	**151**	**104.3**
Fecal Coliform (mpn/g)	NA	**53**	**45.5**	**203.5**	**71.9**	**98.1**	**1553.1**	**235.9**	**104.3**	**90.4**	**73.8**	**48.7**
Giardia (Cysts/g)	NA	0 U	0 U	0 U	0 UJ	0 U	0 UJ	0 UJ	0 U	0 UJ	0 UJ	0 UJ
Plaque forming virus (pfu/g)	NA	0 U	0 U	0 U	0 U	0 U	0 U	0 U	0 U	0 U	0 U	0 U
Viruses (pos/neg)	NA	neg	neg	neg	neg	neg	neg	neg	neg	neg	neg	neg
Other (%)												
Percent Solids	NA	**51.52**	**50.79**	**46.86**	**49.63**	**51.95**	**41.82**	**46.85**	**59.51**	**87.34**	**82.46**	**65.97**
Total Solids	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Other (mg/kg)												
Total Organic Carbon	**110000 J**	**90000 J**	**110000 J**	**160000 J**	**63000 J**	**56000 J**	**76000 J**	**120000 J**	**17000 J**	**60000 J**	**82000 J**	**25000 J**

Table 2
Summary of Sediment Analytical Results
Phase I Sediment Cores
Gowanus Canal
Brooklyn, New York

Sample Name:	GC-SED-513	GC-SED-513	GC-SED-514	GC-SED-514	GC-SED-514	GC-SED-514	GC-SED-514	GC-SED-514	GC-SED-514	GC-SED-515	GC-SED-515	GC-SED-515
Sample Depth (feet):	(3.0-3.5)	(3.5-4.0)	(0.0-0.5)	(0.5-1.0)	(1.0-1.5)	(1.5-2.0)	(2.0-2.5)	(2.5-3.0)	(3.0-3.5)	(0.0-0.5)	(0.5-1.0)	(1.0-1.5)
Sample Date:	8/9/2012	8/9/2012	8/14/2012	8/14/2012	8/14/2012	8/14/2012	8/14/2012	8/14/2012	8/14/2012	8/14/2012	8/14/2012	8/14/2012
BTEX (mg/kg)												
Benzene	0.0084 U	0.0077 U	0.44 U	0.42 U	0.48 U	0.53 UJ	0.52 UJ	0.0079 U	0.0074 U	0.012 UJ	0.0097 U	0.46 U
Toluene	0.0084 U	0.0077 U	**0.1 J**	**0.08 J**	**0.12 J**	**0.29 J**	0.52 UJ	**0.0014 J**	0.0074 U	**0.0025 J**	0.0097 U	0.46 U
Ethylbenzene	0.0084 U	0.0077 U	**0.15 J**	**0.12 J**	**0.17 J**	**0.23 J**	**0.24 J**	0.0079 U	0.0074 U	0.012 UJ	0.0097 U	**0.18 J**
m,p-Xylene	0.017 U	0.015 U	0.88 U	0.83 U	**0.15 J**	**0.2 J**	**0.21 J**	0.016 U	0.015 U	0.023 UJ	0.019 U	0.91 U
o-Xylene	0.0084 U	0.0077 U	0.44 U	0.42 U	**0.071 J**	**0.097 J**	**0.1 J**	0.0079 U	0.0074 U	0.012 UJ	0.0097 U	0.46 U
Total Xylene	0.025 U	0.023 U	1.3 U	1.2 U	**0.22 J**	**0.3 J**	**0.31 J**	0.024 U	0.022 U	0.035 UJ	0.029 U	1.4 U
Total BTEX	0	0	**0.25**	**0.2**	**0.51**	**0.82**	**0.55**	**0.0014**	0	**0.0025**	0	**0.18**
Other VOCs (mg/kg)												
Acetone	0.034 UJ	0.031 UJ	1.8 U	1.7 U	1.9 U	2.1 UJ	2.1 UJ	0.032 U	0.03 UJ	**0.013 J**	0.039 UJ	1.8 U
Bromochloromethane	0.0084 U	0.0077 U	0.44 U	0.42 U	0.48 U	0.53 UJ	0.52 UJ	0.0079 U	0.0074 U	0.012 UJ	0.0097 U	0.46 U
Bromodichloromethane	0.0084 U	0.0077 U	0.44 U	0.42 U	0.48 U	0.53 UJ	0.52 UJ	0.0079 U	0.0074 U	0.012 UJ	0.0097 U	0.46 U
Bromoform	0.0084 U	0.0077 U	0.44 U	0.42 U	0.48 U	0.53 UJ	0.52 UJ	0.0079 U	0.0074 U	0.012 UJ	0.0097 U	0.46 U
Bromomethane	0.0084 U	0.0077 UJ	0.44 U	0.42 U	0.48 U	0.53 UJ	0.52 UJ	0.0079 UJ	0.0074 U	0.012 UJ	0.0097 U	0.46 U
2-Butanone (Methyl ethyl ketone)	0.0084 UJ	0.0077 UJ	0.44 U	0.42 U	**0.2 J**	**0.22 J**	**0.16 J**	0.0079 UJ	0.0074 UJ	0.012 UJ	0.0097 UJ	0.46 U
Carbon disulfide	**0.0023 J**	**0.0041 J**	0.44 U	**0.091 J**	**0.11 J**	**0.11 J**	**0.12 J**	0.0079 U	0.0074 U	0.012 UJ	0.0097 U	0.46 U
Carbon tetrachloride	0.0084 U	0.0077 U	0.44 U	0.42 U	0.48 U	0.53 UJ	0.52 UJ	0.0079 U	0.0074 UJ	0.012 UJ	0.0097 UJ	0.46 U
Chlorobenzene	**0.0035 J**	**0.0038 J**	0.44 U	**0.054 J**	**0.087 J**	**0.095 J**	**0.093 J**	0.0079 U	0.0074 U	0.012 UJ	0.0097 U	0.46 U
Chloroethane	0.0084 U	0.0077 U	0.44 U	0.42 U	0.48 U	0.53 UJ	0.52 UJ	0.0079 UJ	0.0074 U	0.012 UJ	0.0097 U	0.46 U
Chloroform	0.0084 U	0.0077 U	0.44 U	0.42 U	0.48 U	0.53 UJ	0.52 UJ	0.0079 U	0.0074 U	0.012 UJ	0.0097 U	0.46 U
Chloromethane	0.0084 U	0.0077 U	0.44 U	0.42 U	0.48 U	0.53 UJ	0.52 UJ	0.0079 U	0.0074 U	0.012 UJ	0.0097 U	0.46 U
Cyclohexane	0.0084 U	0.0077 U	0.44 U	0.42 U	0.48 U	0.53 UJ	0.52 UJ	0.0079 U	0.0074 U	0.012 UJ	0.0097 U	0.46 U
1,2-Dibromo-3-chloropropane	0.0084 UJ	0.0077 UJ	0.44 U	0.42 U	0.48 U	0.53 UJ	0.52 UJ	0.0079 UJ	0.0074 UJ	0.012 UJ	0.0097 UJ	0.46 U
Dibromochloromethane	0.0084 U	0.0077 U	0.44 U	0.42 U	0.48 U	0.53 UJ	0.52 UJ	0.0079 U	0.0074 U	0.012 UJ	0.0097 U	0.46 U
1,2-Dibromoethane	0.0084 U	0.0077 U	0.44 U	0.42 U	0.48 U	0.53 UJ	0.52 UJ	0.0079 U	0.0074 U	0.012 UJ	0.0097 U	0.46 U
1,2-Dichlorobenzene	0.0084 U	0.0077 U	0.44 U	0.42 U	0.48 U	0.53 UJ	0.52 UJ	0.0079 U	0.0074 U	0.012 UJ	0.0097 U	0.46 U
1,3-Dichlorobenzene	0.0084 U	0.0077 U	0.44 U	0.42 U	0.48 U	0.53 UJ	0.52 UJ	0.0079 U	0.0074 U	0.012 UJ	0.0097 U	0.46 U
1,4-Dichlorobenzene	**0.41**	**0.099**	**0.15 J**	**0.16 J**	**0.15 J**	**0.2 J**	**0.2 J**	0.0079 U	0.0074 U	0.012 UJ	0.0097 U	**0.16 J**
Dichlorodifluoromethane	0.0084 U	0.0077 U	0.44 U	0.42 U	0.48 U	0.53 UJ	0.52 UJ	0.0079 U	0.0074 U	0.012 UJ	0.0097 U	0.46 U
1,1-Dichloroethane	0.0084 U	0.0077 U	0.44 U	0.42 U	0.48 U	0.53 UJ	0.52 UJ	0.0079 U	0.0074 U	0.012 UJ	0.0097 U	0.46 U
1,2-Dichloroethane	0.0084 U	0.0077 U	0.44 U	0.42 U	0.48 U	0.53 UJ	0.52 UJ	0.0079 U	0.0074 U	0.012 UJ	0.0097 U	0.46 U
cis-1,2-Dichloroethene	0.0084 U	0.0077 U	0.44 U	0.42 U	0.48 U	0.53 UJ	0.52 UJ	0.0079 U	0.0074 U	0.012 UJ	0.0097 U	0.46 U
trans-1,2-Dichloroethene	0.0084 U	0.0077 U	0.44 U	0.42 U	0.48 U	0.53 UJ	0.52 UJ	0.0079 U	0.0074 U	0.012 UJ	0.0097 U	0.46 U
1,1-Dichloroethene	0.0084 U	0.0077 U	0.44 U	0.42 U	0.48 U	0.53 UJ	0.52 UJ	0.0079 U	0.0074 U	0.012 UJ	0.0097 U	0.46 U
1,2-Dichloropropane	0.0084 U	0.0077 U	0.44 U	0.42 U	0.48 U	0.53 UJ	0.52 UJ	0.0079 U	0.0074 U	0.012 UJ	0.0097 U	0.46 U
cis-1,3-Dichloropropene	0.0084 U	0.0077 U	0.44 U	0.42 U	0.48 U	0.53 UJ	0.52 UJ	0.0079 U	0.0074 U	0.012 UJ	0.0097 U	0.46 U
trans-1,3-Dichloropropene	0.0084 U	0.0077 U	0.44 U	0.42 U	0.48 U	0.53 UJ	0.52 UJ	0.0079 U	0.0074 U	0.012 UJ	0.0097 U	0.46 U
1,4-Dioxane	R	R	R	R	R	R	R	R	R	R	R	R
2-Hexanone	0.0084 U	0.0077 UJ	0.44 U	0.42 U	0.48 U	0.53 UJ	0.52 UJ	0.0079 UJ	0.0074 U	0.012 UJ	0.0097 U	0.46 U
Isopropyl benzene	0.0084 U	0.0077 U	**0.05 J**	**0.046 J**	**0.052 J**	**0.084 J**	**0.097 J**	0.0079 U	0.0074 U	0.012 UJ	0.0097 U	0.46 U
Methyl acetate	0.0084 U	0.0077 U	**1.8**	**1.9**	**2.4**	**3 J**	**2.2 J**	0.0079 UJ	0.0074 U	0.012 UJ	0.0097 U	**0.8**
Methyl tert-butyl ether (MTBE)	0.0084 U	0.0077 U	0.44 U	0.42 U	0.48 U	0.53 UJ	0.52 UJ	0.0079 U	0.0074 U	0.012 UJ	0.0097 U	0.46 U
4-Methyl-2-pentanone	0.0084 U	0.0077 UJ	0.44 U	0.42 U	0.48 U	0.53 UJ	0.52 UJ	0.0079 UJ	0.0074 U	0.012 UJ	0.0097 U	0.46 U
Methylcyclohexane	0.0084 U	0.0077 U	0.44 U	0.42 U	0.48 U	0.53 UJ	0.52 UJ	0.0079 U	0.0074 U	0.012 UJ	0.0097 U	0.46 U
Methylene chloride	0.0084 U	0.0077 U	0.44 U	0.42 U	0.48 U	0.53 UJ	0.52 UJ	0.0079 U	0.0074 U	0.012 UJ	0.0097 U	0.46 U
Styrene	0.0084 U	0.0077 U	0.44 U	0.42 U	0.48 U	0.53 UJ	0.52 UJ	0.0079 U	0.0074 U	0.012 UJ	0.0097 U	0.46 U
1,1,2,2-Tetrachloroethane	0.0084 U	0.0077 U	0.44 U	0.42 U	0.48 U	0.53 UJ	0.52 UJ	0.0079 UJ	0.0074 U	0.012 UJ	0.0097 U	0.46 U
Tetrachloroethene	0.0084 U	0.0077 U	0.44 U	0.42 U	0.48 U	0.53 UJ	0.52 UJ	0.0079 U	0.0074 U	0.012 UJ	0.0097 U	0.46 U

Table 2
Summary of Sediment Analytical Results
Phase I Sediment Cores
Gowanus Canal
Brooklyn, New York

Sample Name:	GC-SED-513	GC-SED-513	GC-SED-514	GC-SED-514	GC-SED-514	GC-SED-514	GC-SED-514	GC-SED-514	GC-SED-514	GC-SED-515	GC-SED-515	GC-SED-515
Sample Depth (feet):	(3.0-3.5)	(3.5-4.0)	(0.0-0.5)	(0.5-1.0)	(1.0-1.5)	(1.5-2.0)	(2.0-2.5)	(2.5-3.0)	(3.0-3.5)	(0.0-0.5)	(0.5-1.0)	(1.0-1.5)
Sample Date:	8/9/2012	8/9/2012	8/14/2012	8/14/2012	8/14/2012	8/14/2012	8/14/2012	8/14/2012	8/14/2012	8/14/2012	8/14/2012	8/14/2012
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	0.0084 U	0.0077 U	0.44 U	0.42 U	0.48 U	0.53 UJ	0.52 UJ	0.0079 U	0.0074 U	0.012 UJ	0.0097 U	0.46 U
1,2,3-Trichlorobenzene	0.0084 U	0.0077 U	0.44 UJ	0.42 UJ	0.48 UJ	0.53 UJ	0.52 UJ	0.0079 UJ	0.0074 U	0.012 UJ	0.0097 U	0.46 UJ
1,2,4-Trichlorobenzene	0.0084 U	0.0077 U	0.44 UJ	0.42 UJ	0.48 UJ	0.53 UJ	0.52 UJ	0.0079 UJ	0.0074 U	0.012 UJ	0.0097 U	0.46 UJ
1,1,1-Trichloroethane	0.0084 U	0.0077 U	0.44 U	0.42 U	0.48 U	0.53 UJ	0.52 UJ	0.0079 U	0.0074 U	0.012 UJ	0.0097 U	0.46 U
1,1,2-Trichloroethane	0.0084 U	0.0077 U	0.44 U	0.42 U	0.48 U	0.53 UJ	0.52 UJ	0.0079 U	0.0074 U	0.012 UJ	0.0097 U	0.46 U
Trichloroethene	0.0084 U	0.0077 U	0.44 U	0.42 U	0.48 U	0.53 UJ	0.52 UJ	0.0079 U	0.0074 U	0.012 UJ	0.0097 U	0.46 U
Trichlorofluoromethane	0.0084 U	0.0077 U	0.44 U	0.42 U	0.48 U	0.53 UJ	0.52 UJ	0.0079 U	0.0074 U	0.012 UJ	0.0097 U	0.46 U
Vinyl chloride	0.0084 U	0.0077 U	0.44 U	0.42 U	0.48 U	0.53 UJ	0.52 UJ	0.0079 U	0.0074 U	0.012 UJ	0.0097 U	0.46 U
PAHs (mg/kg)												
Acenaphthene	**0.28 J**	**0.48 J**	**6.3**	**5.2**	**9.5**	**13 J**	**13 J**	**3.4**	**2.2**	**1.1 J**	**1.2**	**5.2**
Acenaphthylene	**1.3**	**1.2**	**6.9**	**6.2**	**9.8**	**13 J**	**12 J**	**3.7**	**2.4**	**1.1 J**	**1.7**	**5.6**
Anthracene	**0.68**	**0.96**	**13**	**10**	**17**	**23 J**	**21 J**	**5.5**	**5**	**1.6 J**	**1.5**	**7.8**
Benz[a]anthracene	**2.1**	**3**	**19**	**14**	**22**	**29 J**	**24 J**	**7.4**	**12**	**3.6 J**	**4.3**	**17**
Benzo[a]pyrene	**2.6**	**2.7**	**15 J**	**11**	**18**	**22 J**	**20 J**	**6.2 J**	**10**	**2.8 J**	**4**	**13**
Benzo[b]fluoranthene	**2.1**	**2.5**	**8.7 J**	**6.6**	**15**	**15 J**	**14 J**	**4.1 J**	**9.7**	**2.2 J**	**3.3**	**8.4**
Benzo[g,h,i]perylene	**1.9**	**1.8**	**8.3 J**	**5.8**	**9.8**	**10 J**	**9.3 J**	**3.3 J**	**6**	**1.7 J**	**2.5**	**7**
Benzo[k]fluoranthene	**0.75 J**	**0.23 J**	**7.2 J**	**4.8**	**3.6**	**5.7 J**	**5 J**	**2.4 J**	**3.2**	**1.1 J**	**1.6**	**5.3**
Chrysene	**1.9**	**2.7**	**19**	**14**	**24**	**29 J**	**27 J**	**8.2**	**13**	**3.3 J**	**4.1**	**17**
Dibenz[a,h]anthracene	**2.1**	**1.9**	**4.4 J**	**3.5**	**4.7**	**5.5 J**	**4.9 J**	**2.5 J**	**3.2**	**2.9 J**	**2.5**	**3.2**
Fluoranthene	**4.2**	**6.4**	**32**	**22**	**39**	**46 J**	**41 J**	**13**	**27**	**4.9 J**	**7.1**	**23**
Fluorene	0.56 U	**0.83**	**5.9**	**4.4**	**7.9**	**11 J**	**10 J**	**2.9**	**2**	**1.3 J**	**0.92**	**1.5**
Indeno[1,2,3-cd]pyrene	**2.6**	**2.7**	**7.5 J**	**5.6**	**8.5**	**9.5 J**	**8.8 J**	**3.6 J**	**5.9**	**3.1 J**	**3.3**	**6.1**
2-Methylnaphthalene	**0.14 J**	**0.14 J**	**3.5**	**2.6**	**6.9**	**9.8 J**	**9.9 J**	**1.9**	**0.92**	**0.34 J**	**0.3 J**	**1.1**
Naphthalene	0.56 U	**0.33 J**	**3.8**	**2.9**	**5.2**	**6.3 J**	**6.7 J**	**2**	**1.1**	**0.49 J**	**0.42 J**	**1.5**
Phenanthrene	**0.85**	**3.2**	**35**	**25**	**44**	**55 J**	**53 J**	**14**	**20**	**3.9 J**	**2.1**	**6.9**
Pyrene	**3.7**	**5.1**	**33**	**25**	**44**	**62 J**	**51 J**	**12**	**19**	**6.1 J**	**7.5**	**32**
Total PAHs	**27.2**	**36.17**	**228.5**	**168.6**	**288.9**	**364.8**	**330.6**	**96.1**	**142.6**	**41.53**	**48.34**	**161.6**
Alkylated PAHs (mg/kg)												
Acenaphthene	**0.32616**	**0.1416**	**6.06217**	**5.06693**	**9.17856**	**15.46806 J**	**16.86907 J**	**4.57289**	**1.19473**	**2.31042 J**	**2.24959 J**	**8.18235**
Acenaphthylene	**1.01052**	**0.47471**	**5.09723**	**3.76532**	**6.79788**	**12.19058 J**	**10.94868 J**	**2.84602**	**1.03081**	**2.40573 J**	**3.42422 J**	**7.67845**
Anthracene	**1.17962**	**0.51362**	**13.01136**	**9.91465**	**17.12057**	**27.72219 J**	**28.13965 J**	**7.60117**	**1.9262**	**4.17018 J**	**4.2158 J**	**15.28163**
Benz[a]anthracene	**3.39183**	**1.44465**	**18.64349**	**12.2569**	**17.62806**	**27.29115 J**	**28.4776 J**	**9.01697**	**2.67813**	**6.99392 J**	**8.23718 J**	**25.63339**
Benzo[a]pyrene	**2.69276**	**1.29526**	**14.99126**	**8.9986**	**13.99843**	**21.87322 J**	**22.72457 J**	**7.60557**	**2.66939**	**6.20242 J**	**7.66639 J**	**21.29438**
Benzo[b]fluoranthene	**2.15231**	**1.09159**	**9.93676**	**6.31502**	**9.4377**	**14.07912 J**	**15.28636 J**	**5.76185**	**2.22207**	**4.56771 J**	**5.14139 J**	**12.98701**
Benzo[e]pyrene	**1.8079**	**0.9458**	**8.28728**	**5.49821**	**8.43907**	**13.14821 J**	**13.6686 J**	**4.78584**	**1.92426**	**4.16714 J**	**4.937 J**	**12.7125**
Benzo[g,h,i]perylene	**1.2175**	**0.57815**	**6.78097**	**4.48377**	**6.75383**	**10.37265 J**	**10.69454 J**	**3.99406**	**2.15183**	**3.24835 J**	**4.64287 J**	**11.65653**
Benzo[k]fluoranthene	**2.16272**	**1.04397**	**9.81065**	**6.445**	**9.91868**	**15.21096 J**	**15.99763 J**	**5.73361**	**2.12997**	**4.79104 J**	**5.64127 J**	**15.61368**
1,1-Biphenyl	**0.04738**	**0.02256**	**0.88064**	**0.66964**	**1.38815**	**2.28947 J**	**2.61151 J**	**0.67485**	**0.17149**	**0.23467 J**	**0.11545 J**	**0.59594**
Chrysene	**2.36374**	**1.18287**	**17.39102**	**11.6037**	**16.71952**	**26.07045 J**	**26.76916 J**	**8.42156**	**2.61324**	**6.97461 J**	**7.48935 J**	**23.84973**
C1-Chrysenes	**2.81919**	**1.60591**	**15.23765**	**10.78183**	**17.20982**	**28.11744 J**	**27.31794 J**	**7.95065**	**2.36309**	**5.43267 J**	**6.98377 J**	**20.14029**
C2-Chrysenes	**1.54745**	**1.29026**	**8.30922**	**6.22259**	**9.90464**	**16.73391 J**	**15.88098 J**	**4.69071**	**1.4172**	**2.87543 J**	**3.93158 J**	**10.91791**
C3-Chrysenes	**0.77562**	**0.95302**	**3.83505**	**2.95193**	**4.87365**	**8.21676 J**	**7.72489 J**	**2.43309**	**0.76057**	**1.41276 J**	**1.96027 J**	**5.40043**
C4-Chrysenes	**0.45459**	**0.65286**	**2.02373**	**1.56975**	**2.49442**	**4.21371 J**	**4.12 J**	**1.33924**	**0.4876**	**0.7213 J**	**1.01619 J**	**2.58045**
Dibenz[a,h]anthracene	**0.34857**	**0.16473**	**2.17231**	**1.36105**	**2.03145**	**3.23793 J**	**3.27439 J**	**1.18536**	**0.46059**	**0.97892 J**	**1.24972 J**	**3.41356**
Dibenzofuran	**0.14261**	0.04726 U	**0.82243**	**0.69127**	**1.15414**	**1.8803 J**	**2.32979 J**	**0.68203**	**0.26362**	**0.3594 J**	**0.1773 J**	**1.38659**
Dibenzothiophene	**0.17414**	**0.08415**	**3.51624**	**2.86261**	**4.87993**	**7.84041 J**	**8.22127 J**	**2.16394**	**0.53598**	**1.14572 J**	**0.49887 J**	**3.09204**
C1-Dibenzothiophenes	**0.53533**	**0.17564**	**9.52391**	**7.32552**	**12.36035**	**19.9043 J**	**19.64066 J**	**4.63512**	**1.14445**	**2.7212 J**	**2.77669 J**	**10.37061**
C2-Dibenzothiophenes	**1.45104**	**0.64451**	**11.83082**	**9.01641**	**14.99534**	**24.70143 J**	**23.44027 J**	**5.58664**	**1.53766**	**3.55025 J**	**4.14392 J**	**14.0993**

Table 2
Summary of Sediment Analytical Results
Phase I Sediment Cores
Gowanus Canal
Brooklyn, New York

Sample Name:	GC-SED-513	GC-SED-513	GC-SED-514	GC-SED-514	GC-SED-514	GC-SED-514	GC-SED-514	GC-SED-514	GC-SED-514	GC-SED-515	GC-SED-515	GC-SED-515
Sample Depth (feet):	(3.0-3.5)	(3.5-4.0)	(0.0-0.5)	(0.5-1.0)	(1.0-1.5)	(1.5-2.0)	(2.0-2.5)	(2.5-3.0)	(3.0-3.5)	(0.0-0.5)	(0.5-1.0)	(1.0-1.5)
Sample Date:	8/9/2012	8/9/2012	8/14/2012	8/14/2012	8/14/2012	8/14/2012	8/14/2012	8/14/2012	8/14/2012	8/14/2012	8/14/2012	8/14/2012
C3-Dibenzothiophenes	**1.84429**	**1.20066**	**8.1534**	**6.31865**	**10.56741**	**18.29823 J**	**16.43531 J**	**3.90641**	**1.16186**	**2.52613 J**	**3.24065 J**	**9.95391**
C4-Dibenzothiophenes	**1.02103**	**0.88962**	**3.40466**	**2.75131**	**4.51276**	**7.49746 J**	**7.06818 J**	**1.75138**	**0.58439**	**1.04764 J**	**1.32646 J**	**3.69394**
Fluoranthene	**6.06201**	**2.79841**	**24.73821**	**18.65118**	**30.53333**	**42.3549 J**	**48.39097 J**	**16.62839**	**4.74049**	**12.25781 J**	**12.79948 J**	**45.23593**
C1-Fluoranthenes/pyrenes	**6.40556**	**3.0221**	**32.70962**	**23.97753**	**40.50261**	**64.75527 J**	**62.89393 J**	**17.59545**	**4.93466**	**12.48019 J**	**14.92587 J**	**45.63593**
C2-Fluoranthenes/pyrenes	**3.1945**	**1.76095**	**15.24314**	**12.01111**	**19.99968**	**31.25301 J**	**30.93799 J**	**8.46068**	**2.51437**	**6.43302 J**	**8.10129 J**	**25.01575**
C3-Fluoranthenes/pyrenes	**1.6952**	**1.30337**	**7.43912**	**5.90246**	**9.72752**	**16.51658 J**	**15.07366 J**	**4.41521**	**1.42123**	**2.82536 J**	**3.88216 J**	**11.23619**
C4-Fluoranthenes/pyrenes	**0.64389**	**0.81131**	**2.94786**	**2.23**	**3.57234**	**5.68983 J**	**5.60854 J**	**1.7663**	**0.62365**	**1.02882 J**	**1.35319 J**	**3.5285**
Fluorene	**0.19872**	**0.10736**	**4.33238**	**3.53894**	**6.23977**	**10.09576 J**	**11.47876 J**	**2.89102**	**0.74763**	**1.24309 J**	**0.33822 J**	**2.82079**
C1-Fluorenes	**0.44482**	**0.16804**	**7.48719**	**6.05976**	**10.69171**	**16.46076 J**	**17.16507 J**	**3.95751**	**0.92487**	**1.99681 J**	**1.84052 J**	**6.99049**
C2-Fluorenes	**1.83983**	**0.54392**	**11.59454**	**9.04976**	**15.16212**	**25.0306 J**	**24.01093 J**	**5.40977**	**1.55314**	**3.54218 J**	**4.16352 J**	**14.392**
C3-Fluorenes	**2.8407**	**1.10941**	**9.39894**	**7.38557**	**12.15461**	**19.35527 J**	**19.23748 J**	**4.60998**	**1.56086**	**3.01317 J**	**3.68485 J**	**11.66959**
Indeno[1,2,3-cd]pyrene	**1.38445**	**0.63992**	**7.69049**	**4.89335**	**7.25329**	**11.33791 J**	**11.62386 J**	**4.47963**	**2.01513**	**3.69187 J**	**4.8446 J**	**12.72975**
Naphthalene	0.26956 U	0.10125 U	0.01851 U	0.01639 U	0.04009 U	0.04567 UJ	0.04624 UJ	0.01666 U	0.01543 U	**1.1082 J**	**0.69074 J**	**3.09291**
C1-Naphthalenes	**0.21317**	**0.08296**	**4.23807**	**3.41272**	**7.9619**	**13.90692 J**	**15.72479 J**	**3.95944**	0.01543 U	**1.16491 J**	**0.46965 J**	**2.82954**
C2-Naphthalenes	**0.39153**	**0.20664**	**14.47986**	**11.72595**	**21.50545**	**35.85778 J**	**37.39529 J**	**8.41319**	**2.04903**	**2.93196 J**	**1.48104 J**	**8.98202**
C3-Naphthalenes	**0.85672**	**0.34492**	**18.82412**	**15.16048**	**26.28889**	**43.47185 J**	**42.91859 J**	**9.30267**	**2.53563**	**4.03979 J**	**3.14629 J**	**16.27855**
C4-Naphthalenes	**1.6371**	**0.47356**	**14.81288**	**11.81408**	**19.68858**	**32.64385 J**	**31.65238 J**	**6.8469**	**2.16308**	**3.21842 J**	**3.38994 J**	**12.76843**
Perylene	**0.59269**	**0.32066**	**2.72485**	**1.83595**	**2.65867**	**4.02159 J**	**4.23743 J**	**1.75729**	**0.69672**	**1.30636 J**	**1.64718 J**	**4.27129**
Phenanthrene	**1.99673**	**0.95063**	**27.87851**	**22.71209**	**40.74554**	**59.05391 J**	**68.5542 J**	**18.62188**	**4.32131**	**8.55823 J**	**2.91904 J**	**24.37342**
C1-Phenanthrenes/anthracenes	**2.4103**	**1.128**	**40.29582**	**31.086**	**54.02645**	**85.59565 J**	**86.33586 J**	**21.03409**	**5.09573**	**11.73436 J**	**10.51137 J**	**46.68781**
C2-Phenanthrenes/anthracenes	**3.85655**	**1.60965**	**34.35441**	**26.24823**	**43.37153**	**70.10586 J**	**67.92105 J**	**16.63193**	**4.60584**	**10.6736 J**	**12.30893 J**	**43.39291**
C3-Phenanthrenes/anthracenes	**3.22758**	**1.59473**	**16.73804**	**13.12552**	**21.25476**	**35.50633 J**	**33.88629 J**	**8.30388**	**2.54146**	**5.7459 J**	**7.36003 J**	**22.79102**
C4-Phenanthrenes/anthracenes	**1.58135**	**0.94775**	**5.68761**	**4.6332**	**7.62411**	**12.0819 J**	**11.37936 J**	**2.78657**	**1.08017**	**2.00143 J**	**2.52175 J**	**7.12725**
Pyrene	**7.18428**	**3.38112**	**30.20697**	**22.55803**	**37.66108**	**53.73692 J**	**58.88857 J**	**17.74337**	**5.39511**	**14.40208 J**	**17.75148 J**	**52.85014**
TPH (mg/kg)												
Total Petroleum Hydrocarbons	**4055.65**	**2588.33**	**9698.84**	**7866.73**	**14210.88**	**20990.2 J**	**20146 J**	**5663.9**	**3315.08**	**7447.03 J**	**7627.57 J**	**16090.19**
Other SVOCs (mg/kg)												
Acetophenone	2.7 U	2.5 U	2.9 U	2.7 U	3.1 U	3.5 UJ	**0.31 J**	2.6 U	2.4 U	3.9 UJ	3.2 U	3 U
Atrazine	2.7 U	2.5 U	2.9 UJ	2.7 UJ	3.1 UJ	3.5 UJ	3.4 UJ	2.6 UJ	2.4 UJ	3.9 UJ	3.2 UJ	3 UJ
Benzaldehyde	2.7 U	2.5 U	**1.9 J**	**1.7 J**	**2.1 J**	**2.6 J**	**2.4 J**	**1.6 J**	2.4 UJ	**2.1 J**	3.2 U	**1.8 J**
1,1-Biphenyl	2.7 U	2.5 U	**0.98 J**	**0.74 J**	**1.6 J**	**2.2 J**	**2.1 J**	**0.58 J**	**0.31 J**	3.9 UJ	3.2 U	**0.31 J**
Bis(chloroisopropyl)ether	0.56 U	0.51 U	0.59 U	0.55 U	0.64 U	0.7 UJ	0.69 UJ	0.53 U	0.49 U	0.78 UJ	0.64 U	0.61 U
Bis(2-chloroethyl)ether	0.56 U	0.51 U	0.59 U	0.55 U	0.64 U	0.7 UJ	0.69 UJ	0.53 U	0.49 U	0.78 UJ	0.64 U	0.61 U
Bis(2-chloroethoxy)methane	2.7 U	2.5 U	2.9 U	2.7 U	3.1 U	3.5 UJ	3.4 UJ	2.6 U	2.4 U	3.9 UJ	3.2 U	3 U
Bis(2-ethylhexyl)phthalate	**11**	**9.9**	**35**	**32**	**48**	**81 J**	**64 J**	**18**	**9.5**	**13 J**	**16**	**56**

Table 2
Summary of Sediment Analytical Results
Phase I Sediment Cores
Gowanus Canal
Brooklyn, New York

Sample Name:	GC-SED-513	GC-SED-513	GC-SED-514	GC-SED-514	GC-SED-514	GC-SED-514	GC-SED-514	GC-SED-514	GC-SED-514	GC-SED-515	GC-SED-515	GC-SED-515
Sample Depth (feet):	(3.0-3.5)	(3.5-4.0)	(0.0-0.5)	(0.5-1.0)	(1.0-1.5)	(1.5-2.0)	(2.0-2.5)	(2.5-3.0)	(3.0-3.5)	(0.0-0.5)	(0.5-1.0)	(1.0-1.5)
Sample Date:	8/9/2012	8/9/2012	8/14/2012	8/14/2012	8/14/2012	8/14/2012	8/14/2012	8/14/2012	8/14/2012	8/14/2012	8/14/2012	8/14/2012
4-Bromophenyl phenyl ether	2.7 U	2.5 U	2.9 U	2.7 U	3.1 U	3.5 UJ	3.4 UJ	2.6 U	2.4 U	3.9 UJ	3.2 U	3 U
Butyl benzyl phthalate	**1.1 J**	2.5 U	**0.76 J**	**0.69 J**	**1.2 J**	**1.5 J**	**1 J**	**0.75 J**	**0.34 J**	3.9 UJ	**0.6 J**	**1.2 J**
Caprolactam	14 U	13 U	15 U	14 U	16 U	18 UJ	18 UJ	13 U	13 U	20 UJ	16 UJ	16 UJ
Carbazole	**0.076 J**	**0.31 J**	**1.4**	**0.7**	**1**	**0.99 J**	**0.94 J**	**0.47 J**	**2.4**	**0.2 J**	**0.21 J**	0.61 U
4-Chloro-3-methylphenol	2.7 U	2.5 U	2.9 U	2.7 U	3.1 U	3.5 UJ	3.4 UJ	2.6 U	2.4 U	3.9 UJ	3.2 U	3 U
4-Chloroaniline	2.7 U	**0.26 J**	**1.4 J**	**1.2 J**	**2 J**	**3.5 J**	**2.6 J**	**0.64 J**	**0.37 J**	3.9 UJ	**0.27 J**	**1.1 J**
Chlorophene	2.7 U	2.5 U	2.9 U	2.7 U	3.1 U	3.5 UJ	3.4 UJ	2.6 U	2.4 U	3.9 UJ	3.2 U	3 U
2-Chloronaphthalene	0.56 U	0.51 U	0.59 U	0.55 U	0.64 U	0.7 UJ	0.69 UJ	0.53 U	0.49 U	0.78 UJ	0.64 U	0.61 U
2-Chlorophenol	2.7 U	2.5 U	2.9 U	2.7 U	3.1 U	3.5 UJ	3.4 UJ	2.6 U	2.4 U	3.9 UJ	3.2 U	3 U
4-Chlorophenyl phenyl ether	2.7 U	2.5 U	2.9 U	2.7 U	3.1 U	3.5 UJ	3.4 UJ	2.6 U	2.4 U	3.9 UJ	3.2 U	3 U
Dibenzofuran	2.7 U	2.5 U	**1.3 J**	**0.95 J**	**1.5 J**	**1.9 J**	**2.1 J**	**0.57 J**	**0.85 J**	3.9 UJ	3.2 U	3 U
3,3-Dichlorobenzidine	2.7 U	2.5 U	2.9 U	2.7 U	3.1 U	3.5 UJ	3.4 UJ	2.6 U	2.4 U	3.9 UJ	3.2 U	3 U
2,4-Dichlorophenol	0.56 U	0.51 U	0.59 U	0.55 U	0.64 U	0.7 UJ	0.69 UJ	0.53 U	0.49 U	0.78 UJ	0.64 U	0.61 U
Diethyl phthalate	2.7 U	2.5 U	2.9 U	2.7 U	3.1 U	3.5 UJ	3.4 UJ	2.6 U	2.4 U	3.9 UJ	3.2 U	3 U
Dimethyl phthalate	2.7 U	2.5 U	2.9 U	2.7 U	3.1 U	3.5 UJ	3.4 UJ	2.6 U	2.4 U	3.9 UJ	3.2 U	3 U
2,4-Dimethylphenol	2.7 U	2.5 U	2.9 U	2.7 U	3.1 U	3.5 UJ	3.4 UJ	2.6 U	2.4 U	3.9 UJ	3.2 U	3 U
Di-n-butyl phthalate	2.7 U	2.5 U	2.9 U	2.7 U	3.1 U	3.5 UJ	3.4 UJ	**0.4 J**	2.4 U	3.9 UJ	3.2 U	3 U
4,6-Dinitro-2-methylphenol	14 U	13 U	15 U	14 U	16 U	18 UJ	18 UJ	13 U	13 U	20 UJ	16 U	16 U
2,4-Dinitrophenol	14 U	13 U	15 U	14 U	16 U	18 UJ	18 UJ	13 U	13 U	20 UJ	16 UJ	16 UJ
2,4-Dinitrotoluene	2.7 U	2.5 U	2.9 U	2.7 U	3.1 U	3.5 UJ	3.4 UJ	2.6 U	2.4 U	3.9 UJ	3.2 U	3 U
2,6-Dinitrotoluene	2.7 U	2.5 U	2.9 U	2.7 U	3.1 U	3.5 UJ	3.4 UJ	2.6 U	2.4 U	3.9 UJ	3.2 U	3 U
Di-n-octyl phthalate	**2.6 J**	2.5 U	**1 J**	**0.96 J**	**1.9 J**	**3.1 J**	**2.3 J**	**0.51 J**	**0.26 J**	3.9 UJ	3.2 U	3 U
Hexachlorobenzene	0.56 U	**0.62**	0.59 U	0.55 U	0.64 U	0.7 UJ	0.69 UJ	0.53 U	0.49 U	0.78 UJ	0.64 U	0.61 U
Hexachlorobutadiene	0.56 U	0.51 U	0.59 U	0.55 U	0.64 U	0.7 UJ	0.69 UJ	0.53 U	0.49 U	0.78 UJ	0.64 U	0.61 U
Hexachlorocyclopentadiene	2.7 UJ	2.5 UJ	2.9 U	2.7 U	3.1 U	3.5 UJ	3.4 UJ	2.6 U	2.4 U	3.9 UJ	3.2 UJ	3 UJ
Hexachloroethane	2.7 U	2.5 U	2.9 U	2.7 U	3.1 U	3.5 UJ	3.4 UJ	2.6 U	2.4 U	3.9 UJ	3.2 U	3 U
Isophorone	2.7 U	2.5 U	2.9 U	2.7 U	3.1 U	3.5 UJ	3.4 UJ	2.6 U	2.4 U	3.9 UJ	3.2 U	3 U
2-Methylphenol (o-Cresol)	2.7 U	2.5 U	2.9 U	2.7 U	3.1 U	3.5 UJ	3.4 UJ	2.6 U	2.4 U	3.9 UJ	3.2 U	3 U
3,4-Methylphenol (m,p-Cresol)	2.7 U	2.5 U	2.9 U	**0.27 J**	3.1 U	**0.69 J**	**0.55 J**	2.6 U	2.4 U	3.9 UJ	3.2 U	3 U
2-Nitroaniline	14 U	13 U	15 U	14 U	16 U	18 UJ	18 UJ	13 U	13 U	20 UJ	16 U	16 U
3-Nitroaniline	14 U	13 U	15 U	14 U	16 U	18 UJ	18 UJ	13 U	13 U	20 UJ	16 UJ	16 UJ
4-Nitroaniline	14 U	13 U	15 U	14 U	16 U	18 UJ	18 UJ	13 U	13 U	20 UJ	16 UJ	16 UJ
Nitrobenzene	5.6 U	5.1 U	5.9 U	5.5 U	6.4 U	7 UJ	6.9 UJ	5.3 U	4.9 U	7.8 UJ	6.4 U	6.1 U
2-Nitrophenol	2.7 U	2.5 U	2.9 U	2.7 U	3.1 U	3.5 UJ	3.4 UJ	2.6 U	2.4 U	3.9 UJ	3.2 U	3 U

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Summary of Sediment Analytical Results
Phase I Sediment Cores
Gowanus Canal
Brooklyn, New York

Sample Name:	GC-SED-513	GC-SED-513	GC-SED-514	GC-SED-514	GC-SED-514	GC-SED-514	GC-SED-514	GC-SED-514	GC-SED-514	GC-SED-515	GC-SED-515	GC-SED-515
Sample Depth (feet):	(3.0-3.5)	(3.5-4.0)	(0.0-0.5)	(0.5-1.0)	(1.0-1.5)	(1.5-2.0)	(2.0-2.5)	(2.5-3.0)	(3.0-3.5)	(0.0-0.5)	(0.5-1.0)	(1.0-1.5)
Sample Date:	8/9/2012	8/9/2012	8/14/2012	8/14/2012	8/14/2012	8/14/2012	8/14/2012	8/14/2012	8/14/2012	8/14/2012	8/14/2012	8/14/2012
4-Nitrophenol	14 U	13 U	15 U	14 U	16 U	18 UJ	18 UJ	13 U	13 U	20 UJ	16 UJ	16 UJ
N-Nitrosodi-n-propylamine	0.56 U	0.51 U	0.59 U	0.55 U	0.64 U	0.7 UJ	0.69 UJ	0.53 U	0.49 U	0.78 UJ	0.64 U	0.61 U
N-Nitrosodiphenylamine	2.7 U	2.5 U	2.9 U	2.7 U	3.1 U	3.5 UJ	3.4 UJ	2.6 U	2.4 U	3.9 UJ	3.2 U	3 U
Pentachlorophenol	2.7 U	2.5 U	2.9 U	2.7 U	3.1 U	3.5 UJ	3.4 UJ	2.6 U	2.4 U	3.9 UJ	3.2 U	3 U
Phenol	0.56 U	0.51 U	0.59 U	0.55 U	0.64 U	0.7 UJ	0.69 UJ	0.53 U	0.49 U	0.78 UJ	0.64 U	0.61 U
1,2,4,5-Tetrachlorobenzene	2.7 U	2.5 U	2.9 U	2.7 U	3.1 U	3.5 UJ	3.4 UJ	2.6 U	2.4 U	3.9 UJ	3.2 U	3 U
2,3,4,6-Tetrachlorophenol	2.7 U	2.5 U	2.9 U	2.7 U	3.1 U	3.5 UJ	3.4 UJ	2.6 U	2.4 U	3.9 UJ	3.2 U	3 U
2,4,5-Trichlorophenol	2.7 U	2.5 U	2.9 U	2.7 U	3.1 U	3.5 UJ	3.4 UJ	2.6 U	2.4 U	3.9 UJ	3.2 U	3 U
2,4,6-Trichlorophenol	2.7 U	2.5 U	2.9 U	2.7 U	3.1 U	3.5 UJ	3.4 UJ	2.6 U	2.4 U	3.9 UJ	3.2 U	3 U
PCBs (mg/kg)												
Aroclor 1016	0.014 U	0.013 U	**0.69 J**	**0.62 J**	**1.1 J**	0.018 UJ	0.017 UJ	0.013 U	0.012 U	**0.21 J**	**0.23 J**	**0.71 J**
Aroclor 1221	0.014 U	0.013 U	0.014 U	0.014 U	0.016 U	0.018 UJ	0.017 UJ	0.013 U	0.012 U	0.019 UJ	0.016 U	0.015 U
Aroclor 1232	0.014 U	0.013 U	0.014 U	0.014 U	0.016 U	0.018 UJ	0.017 UJ	0.013 U	0.012 U	0.019 UJ	0.016 U	0.015 U
Aroclor 1242	**0.24 J**	**0.097 J**	0.014 U	0.014 U	0.016 U	**1.6 J**	**1.2 J**	**0.35 J**	0.012 U	0.019 UJ	0.016 U	0.015 U
Aroclor 1248	0.014 U	0.013 U	0.014 U	0.014 U	0.016 U	0.018 UJ	0.017 UJ	0.013 U	0.012 U	0.019 UJ	0.016 U	0.015 U
Aroclor 1254	**0.2 J**	0.013 U	0.014 U	0.014 U	0.016 U	0.018 UJ	0.017 UJ	0.013 U	0.012 U	0.019 UJ	0.016 U	0.015 U
Aroclor 1260	0.014 U	**0.12 J**	**1.5 J**	**1.4 J**	**2.3 J**	**2.4 J**	**1.9 J**	**0.43 J**	**0.15 J**	**0.66 J**	**0.5 J**	**2.4 J**
Aroclor 1262	0.014 U	0.013 U	0.014 U	0.014 U	0.016 U	0.018 UJ	0.017 UJ	0.013 U	0.012 U	0.019 UJ	0.016 U	0.015 U
Aroclor 1268	0.014 U	0.013 U	0.014 U	0.014 U	0.016 U	0.018 UJ	0.017 UJ	0.013 U	0.012 U	0.019 UJ	0.016 U	0.015 U
Total PCBs	**0.44 J**	**0.22 J**	**2.2 J**	**2 J**	**3.4 J**	**4 J**	**3.1 J**	**0.78 J**	**0.15 J**	**0.87 J**	**0.73 J**	**3.1 J**
Pesticides (mg/kg)												
Aldrin	0.014 UJ	0.013 UJ	0.015 U	0.014 U	0.016 U	0.018 UJ	0.018 UJ	0.013 U	0.012 U	0.019 UJ	0.016 U	0.016 U
alpha-BHC	0.014 UJ	0.013 UJ	0.015 U	0.014 U	0.016 U	0.018 UJ	0.018 UJ	0.013 U	0.012 U	0.019 UJ	0.016 U	0.016 U
beta-BHC	0.014 U	0.013 U	**0.015 J**	**0.014 J**	**0.017 J**	**0.02 J**	0.018 UJ	0.013 U	0.012 U	0.019 UJ	0.016 U	0.016 U
gamma-BHC	0.014 U	0.013 U	**0.004 J**	**0.0026 J**	**0.0043 J**	**0.0075 J**	**0.008 J**	0.013 U	0.012 U	0.019 UJ	0.016 U	**0.0035 J**
delta-BHC	0.014 U	0.013 U	**0.015**	**0.013 J**	**0.021 J**	**0.027 JN**	**0.027 J**	0.013 UJ	0.012 UJ	0.019 UJ	0.016 U	**0.0095 J**
alpha-chlordane	**0.0059 J**	**0.018 J**	**0.031**	**0.029 J**	**0.05**	**0.072 J**	**0.062 J**	**0.017 J**	**0.0073 J**	**0.015 J**	**0.0096 J**	**0.026**
gamma-Chlordane	**0.011 J**	**0.02 J**	**0.057**	**0.052**	**0.06 J**	**0.15 J**	**0.09 J**	**0.079**	**0.06**	**0.047 J**	0.016 U	**0.089 J**
4,4-DDD	0.014 UJ	**0.019 J**	**0.045 J**	**0.052 J**	**0.17 J**	**0.33 J**	**0.22 J**	**0.063 J**	**0.023 J**	**0.026 J**	0.016 U	**0.062 J**
4,4'-DDE	**0.021**	**0.01 J**	**0.064**	**0.066**	**0.12**	**0.18 J**	**0.15 J**	**0.037**	**0.016**	**0.03 J**	**0.026**	**0.044**
4,4'-DDT	0.014 U	**0.011 J**	0.015 U	0.014 U	0.016 U	**0.19 J**	0.018 UJ	0.013 UJ	0.012 UJ	0.019 UJ	0.016 U	0.016 U
Dieldrin	0.014 UJ	0.013 UJ	**0.017 JN**	**0.017 JN**	**0.029 JN**	**0.075 J**	**0.037 J**	0.013 U	**0.0049 J**	0.019 UJ	0.016 U	**0.019 JN**
Endosulfan I	0.014 UJ	0.013 UJ	0.015 U	0.014 U	0.016 U	0.018 UJ	0.018 UJ	0.013 U	0.012 U	0.019 UJ	0.016 U	0.016 U
Endosulfan II	0.014 UJ	0.013 UJ	0.015 U	0.014 U	0.016 U	0.018 UJ	0.018 UJ	0.013 UJ	0.012 UJ	0.019 UJ	0.016 U	0.016 U
Endosulfan sulfate	0.014 UJ	0.013 UJ	**0.01 J**	**0.015 J**	**0.023**	**0.031 J**	**0.027 J**	**0.0071 J**	**0.0021 J**	**0.0077 J**	**0.0027 J**	**0.018**
Endrin	0.014 UJ	0.013 UJ	**0.021 JN**	**0.021 JN**	**0.041 JN**	0.018 UJ	**0.045 JN**	0.013 U	0.012 U	0.019 UJ	0.016 U	**0.023 JN**
Endrin aldehyde	0.014 U	0.013 U	**0.0039 J**	0.014 U	0.016 U	**0.012 J**	**0.0094 J**	**0.0039 J**	0.012 U	0.019 UJ	0.016 U	**0.0064 J**
Endrin ketone	0.014 UJ	**0.0071 J**	**0.048**	**0.052**	**0.09**	**0.13 J**	**0.11 J**	**0.028**	**0.0098 J**	**0.026 J**	**0.016**	**0.066**
Heptachlor	0.014 UJ	0.013 UJ	0.015 U	0.014 U	0.016 U	0.018 UJ	0.018 UJ	0.013 U	0.012 U	0.019 UJ	0.016 U	0.016 U
Heptachlor epoxide	0.014 UJ	0.013 UJ	**0.016 J**	0.014 U	**0.043 J**	**0.065 J**	**0.052 J**	**0.013 JN**	0.012 U	0.019 UJ	0.016 U	0.016 U
Methoxychlor	0.027 U	0.025 U	0.029 U	**0.03 JN**	**0.046 JN**	**0.068 JN**	**0.053 JN**	0.026 UJ	0.024 UJ	0.038 UJ	0.031 U	**0.034 JN**
Toxaphene	0.55 U	0.51 U	0.58 U	0.55 U	0.63 U	0.7 UJ	0.7 UJ	0.52 U	0.49 U	0.77 UJ	0.64 U	0.61 U
Herbicides (mg/kg)												
2,4-D	0.13 U	0.12 U	0.14 U	0.13 U	0.15 U	0.17 UJ	0.17 UJ	0.13 U	0.12 U	0.19 UJ	0.16 U	0.15 U
2,4-DB	0.13 UJ	0.12 UJ	0.14 U	0.13 U	0.15 U	0.17 UJ	0.17 UJ	0.13 U	0.12 U	0.19 UJ	0.16 U	0.15 U
Dicamba	0.067 U	0.061 U	0.07 U	0.067 U	0.077 U	0.084 UJ	0.084 UJ	0.063 U	0.059 U	0.094 UJ	0.078 U	0.073 U
Dichloroprop	0.13 U	0.12 U	0.14 U	0.13 U	0.15 U	0.17 UJ	0.17 UJ	0.13 U	0.12 U	0.19 UJ	0.16 U	0.15 U
2,2-Dichloropropionic acid	0.15 U	0.14 U	0.16 U	0.15 U	0.17 U	0.19 UJ	0.19 UJ	0.14 U	0.13 U	0.21 UJ	0.17 U	0.16 U
Dinoseb	R	0.018 U	0.021 UJ	0.02 UJ	0.023 UJ	0.025 UJ	0.025 UJ	0.019 UJ	0.018 UJ	0.028 UJ	0.023 UJ	0.022 UJ

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Summary of Sediment Analytical Results
Phase I Sediment Cores
Gowanus Canal
Brooklyn, New York

Sample Name:	GC-SED-513	GC-SED-513	GC-SED-514	GC-SED-514	GC-SED-514	GC-SED-514	GC-SED-514	GC-SED-514	GC-SED-514	GC-SED-515	GC-SED-515	GC-SED-515
Sample Depth (feet):	(3.0-3.5)	(3.5-4.0)	(0.0-0.5)	(0.5-1.0)	(1.0-1.5)	(1.5-2.0)	(2.0-2.5)	(2.5-3.0)	(3.0-3.5)	(0.0-0.5)	(0.5-1.0)	(1.0-1.5)
Sample Date:	8/9/2012	8/9/2012	8/14/2012	8/14/2012	8/14/2012	8/14/2012	8/14/2012	8/14/2012	8/14/2012	8/14/2012	8/14/2012	8/14/2012
MCPP	**14 JN**	12 U	14 U	13 U	15 U	17 UJ	17 UJ	13 U	12 U	19 UJ	16 U	15 U
Methylchlorophenoxyacetic acid	**24 JN**	12 U	14 U	13 U	15 U	17 UJ	17 UJ	13 U	12 U	19 UJ	16 U	15 U
Pentachlorophenol	**0.013 J**	0.017 U	0.019 U	0.018 U	0.021 U	0.023 UJ	0.023 UJ	0.017 U	0.016 U	0.026 UJ	**0.0073 J**	0.02 U
Silvex	0.034 U	0.031 U	0.035 U	0.033 U	0.038 U	0.042 UJ	0.042 UJ	0.032 U	0.03 U	0.047 UJ	0.039 U	0.036 U
2,4,5-Trichlorophenoxyacetic Acid	0.034 U	0.031 U	0.035 U	0.033 U	0.038 U	0.042 UJ	0.042 UJ	0.032 U	0.03 U	0.047 UJ	0.039 U	0.036 U
Metals (mg/kg)												
Aluminum	**7100**	**4300**	**5700**	**5200**	**6500**	**9500 J**	**9100 J**	**7400**	**5000**	**9600 J**	**11000**	**8500**
Antimony	**0.92 J**	**0.51 J**	**4.7 J**	**4.2 J**	**6.3 J**	**5.9 J**	**3.7 J**	**2.8 J**	**1.2 J**	**1.5 J**	**1.1 J**	**2.2 J**
Arsenic	**3.6 J**	**2.7 J**	**6.8**	**6.2**	**6.8**	**12 J**	**10 J**	**6.2**	**4.4**	**8.6 J**	**7.9**	**9.7**
Barium	**92 J**	**90 J**	**240**	**170**	**210**	**430 J**	**370 J**	**150**	**420**	**130 J**	**120**	**330**
Beryllium	**0.52**	**0.36**	**0.37**	**0.31**	**0.37**	**0.58 J**	**0.5 J**	**0.46**	**0.28**	**0.54 J**	**0.64**	**0.49**
Cadmium	**1.8 J**	**1.1 J**	**5.4 J**	**3.8 J**	**24**	**11 J**	**9.9 J**	**3**	**1.6**	**2.8 J**	**2.7 J**	**5.4 J**
Calcium	**6800 J**	**16000 J**	**7500**	**8000**	**8100**	**9800 J**	**9500 J**	**7500**	**3700**	**7200 J**	**5300**	**15000**
Chromium	**66 J**	**37 J**	**91 J**	**88 J**	**90 J**	**180 J**	**160 J**	**74 J**	**47 J**	**64 J**	**64 J**	**90 J**
Cobalt	**10**	**5.1**	**6.6**	**5.6**	**8.1**	**10 J**	**8.8 J**	**6.9**	**4.4**	**8.2 J**	**8.5**	**8.2**
Copper	**200 J**	**84 J**	**410**	**350**	**380**	**580 J**	**450 J**	**390**	**150**	**230 J**	**210**	**310**
Iron	**21000**	**20000**	**18000**	**17000**	**20000**	**28000 J**	**26000 J**	**21000**	**12000**	**21000 J**	**20000**	**21000**
Lead	**460**	**310**	**660**	**590**	**710**	**1100 J**	**900 J**	**430**	**290**	**370 J**	**310**	**690**
Magnesium	**5300 J**	**8500 J**	**4900**	**4800**	**5300**	**7600 J**	**7300 J**	**5500**	**3100**	**6800 J**	**6300**	**8100**
Manganese	**120 J**	**190 J**	**110**	**100**	**130**	**170 J**	**150 J**	**120**	**85**	**190 J**	**190**	**180**
Mercury	**2.7 J**	**0.71 J**	**1.8**	**1.3**	**1.9**	**2.9 J**	**3.7 J**	**1.9**	**0.76**	**1.5 J**	**2.7**	**1.7**
Nickel	**210**	**29**	**77**	**85**	**79**	**150 J**	**130 J**	**52**	**29**	**42 J**	**38**	**72**
Potassium	**1200**	**920**	**1500**	**1400**	**1500**	**2200 J**	**2200 J**	**1700**	**1100**	**2400 J**	**2600**	**2300**
Selenium	**0.76 J**	**0.51 J**	**1.7**	**1.2**	**7.2**	**2 J**	**1.9 J**	**1**	**2**	**1.9 J**	**1.7**	**1.7**
Silver	**44 J**	**9.8 J**	**5.7**	**5.5**	**5.3**	**11 J**	**9.6 J**	**4**	**2.4**	**4.8 J**	**5.7**	**7.5**
Sodium	**4700 J**	**3000 J**	**5700**	**4300**	**3900**	**7400 J**	**7200 J**	**5300**	**3500**	**9300 J**	**7100**	**6700**
Thallium	**0.11 J**	0.076 UJ	**0.15**	**0.14**	**0.15**	**0.27 J**	**0.24 J**	**0.15**	**0.091**	**0.24 J**	**0.27**	**0.24**
Vanadium	**21**	**17**	**29**	**26**	**30**	**55 J**	**49 J**	**27**	**16**	**33 J**	**36**	**37**
Zinc	**430**	**250**	**660 J**	**580 J**	**600**	**1000 J**	**890 J**	**500**	**470**	**530 J**	**490 J**	**810 J**
EDCs & PPCPs (Phenols) (mg/kg)												
Bisphenol A	0.58 U	0.52 U	0.69 U	0.66 U	0.66 U	**2.3 J**	0.83 UJ	0.65 UJ	0.67 UJ	0.97 UJ	0.84 UJ	0.81 UJ
Nonylphenol	**29**	**25**	**15**	**12**	**20**	**36 J**	**20 J**	**12**	**11**	**18 J**	**24 J**	**52 J**
Nonylphenol Diethoxylate	12 U	11 U	14 U	14 U	14 U	16 UJ	17 UJ	13 U	14 U	20 UJ	17 UJ	17 UJ
Nonylphenol Monoethoxylate	5.8 U	5.2 U	6.9 U	6.6 U	6.6 U	7.7 UJ	8.3 UJ	6.5 U	6.7 U	9.7 UJ	8.4 UJ	8.1 UJ
4-tert-Octylphenol	0.58 U	0.52 U	0.69 U	0.66 U	**0.74**	**1.2 J**	0.83 UJ	0.65 U	0.67 U	0.97 UJ	0.84 UJ	0.81 UJ
EDCs and PPCPs (mg/kg)												
Acetaminophen	0.036 U	0.037 U	0.038 U	0.038 U	0.04 U	0.04 U	0.039 U	0.037 U	0.039 U	0.037 U	0.037 U	0.039 U
alpha-Estradiol	0.036 UJ	0.037 UJ	0.038 UJ	0.038 UJ	0.04 UJ	0.04 UJ	0.039 UJ	0.037 UJ	0.039 UJ	0.037 UJ	0.037 UJ	0.039 UJ
Androstenedione	0.0072 UJ	0.0074 UJ	0.0075 UJ	0.0076 UJ	0.008 UJ	0.008 UJ	0.0079 UJ	0.0074 UJ	0.0079 UJ	**0.0015 J**	0.0075 UJ	0.0079 UJ
Atrazine	0.0072 UJ	0.0074 UJ	0.0075 UJ	0.0076 UJ	0.008 UJ	0.008 UJ	0.0079 UJ	0.0074 UJ	0.0079 UJ	0.0074 UJ	0.0075 UJ	0.0079 UJ
Bisphenol A	**0.076**	**0.066 J**	**0.058 J**	**0.054 J**	**0.089**	**0.097**	**0.11**	**0.086**	**0.055 J**	**0.21**	**0.32**	**0.29**
Carbamazepine	0.014 UJ	0.015 UJ	0.015 UJ	0.015 UJ	0.016 UJ	0.016 UJ	0.016 UJ	0.015 UJ	0.016 UJ	0.015 UJ	0.015 UJ	0.016 UJ
DEET (N,N-Diethyl-3-Methyl Benzamide)	0.036 UJ	0.037 UJ	0.038 UJ	0.038 UJ	0.04 UJ	0.04 UJ	0.039 UJ	0.037 UJ	0.039 UJ	0.037 UJ	0.037 UJ	0.039 UJ
Diazepam	0.014 U	0.015 U	0.015 U	0.015 U	0.016 U	0.016 U	0.016 U	0.015 U	0.016 U	0.015 U	0.015 U	0.016 U
Diclofenac	0.014 UJ	0.015 UJ	0.015 UJ	0.015 UJ	0.016 UJ	0.016 UJ	R	0.015 UJ	0.016 UJ	0.015 UJ	0.015 UJ	0.016 UJ
Diethylstilbestrol	R	R	R	R	R	R	R	0.037 UJ	0.039 U	0.037 UJ	0.037 UJ	0.039 UJ
Estradiol	0.036 UJ	0.037 UJ	0.038 UJ	0.038 UJ	0.04 UJ	0.04 UJ	0.039 UJ	0.037 UJ	0.039 UJ	0.037 UJ	0.037 UJ	0.039 UJ
Estriol	0.036 U	0.037 U	0.038 U	0.038 U	0.04 U	0.04 U	0.039 U	0.037 U	0.039 U	0.037 U	0.037 U	0.039 U

Table 2
Summary of Sediment Analytical Results
Phase I Sediment Cores
Gowanus Canal
Brooklyn, New York

Sample Name:	GC-SED-513	GC-SED-513	GC-SED-514	GC-SED-514	GC-SED-514	GC-SED-514	GC-SED-514	GC-SED-514	GC-SED-514	GC-SED-515	GC-SED-515	GC-SED-515
Sample Depth (feet):	(3.0-3.5)	(3.5-4.0)	(0.0-0.5)	(0.5-1.0)	(1.0-1.5)	(1.5-2.0)	(2.0-2.5)	(2.5-3.0)	(3.0-3.5)	(0.0-0.5)	(0.5-1.0)	(1.0-1.5)
Sample Date:	8/9/2012	8/9/2012	8/14/2012	8/14/2012	8/14/2012	8/14/2012	8/14/2012	8/14/2012	8/14/2012	8/14/2012	8/14/2012	8/14/2012
Estrone	0.036 UJ	0.037 UJ	0.038 UJ	0.038 UJ	0.04 UJ	0.04 UJ	0.039 UJ	0.037 UJ	0.039 UJ	0.037 UJ	0.037 UJ	0.039 UJ
Ethinyl Estradiol	0.036 U	0.037 U	0.038 U	0.038 U	0.04 U	0.04 U	0.039 U	0.037 U	0.039 U	0.037 U	0.037 U	0.039 U
Gemfibrozil	0.014 UJ	0.015 UJ	0.015 UJ	0.015 UJ	0.016 UJ	0.016 UJ	0.016 UJ	0.015 UJ	0.016 U	0.015 UJ	0.015 UJ	0.016 UJ
Ibuprofen	0.036 UJ	0.037 U	0.038 UJ	0.038 UJ	0.04 UJ	0.04 UJ	0.039 UJ	0.037 U	0.039 U	0.037 UJ	0.037 UJ	0.039 U
Meprobamate	0.0072 UJ	0.0074 UJ	0.0075 UJ	0.0076 UJ	0.008 UJ	0.008 UJ	0.0079 UJ	0.0074 UJ	0.0079 UJ	0.0074 UJ	0.0075 UJ	0.0079 UJ
Naproxen	0.014 U	0.015 U	**0.0047 J**	**0.0047 J**	0.016 U	0.016 U	0.016 U	0.015 U	0.016 U	0.015 U	0.015 U	0.016 U
Pentoxifylline	0.014 U	0.015 U	**0.0016 J**	**0.0031 J**	**0.0027 J**	**0.0037 J**	0.016 U	0.015 U	0.016 U	0.015 U	**0.0024 J**	**0.0035 J**
Phenytoin (5,5-Diphenylhydantion/ Dilantin)	0.036 U	0.037 U	0.038 U	**0.0019 J**	0.04 U	**0.0021 J**	0.039 U	0.037 U	**0.003 J**	0.037 U	0.037 U	0.039 U
Progesterone	0.014 UJ	0.015 U	**0.0031 J**	**0.0022 J**	**0.003 J**	**0.0044 J**	**0.006 J**	**0.0042 J**	**0.0019 J**	**0.0056 J**	0.015 UJ	0.016 U
Sulfamethoxazole	0.014 U	0.015 U	**0.0046 J**	**0.0022 J**	0.016 U	**0.0014 J**	0.016 U	0.015 U	0.016 U	0.015 U	0.015 U	0.016 U
Testosterone	0.014 U	0.015 U	0.015 U	0.015 U	0.016 U	0.016 U	0.016 U	0.015 U	0.016 U	0.015 U	0.015 U	0.016 U
Trimethoprim	0.036 UJ	0.037 UJ	0.038 UJ	0.038 UJ	0.04 UJ	0.04 UJ	0.039 UJ	0.037 UJ	0.039 UJ	0.037 UJ	R	0.039 UJ
Pathogen												
C. perfringens (cfu/g)	**35000**	**23000**	**100000**	**62000**	**40000**	**27000**	**180000**	**68000**	**48000**	**42000**	**60000**	**22000**
Coliphage, Male Specific (pfu/10g)	0 U	**1**	0 U	0 U	0 U	0 U	0 U	0 U	0 U	0 U	0 U	0 U
Coliphage, Somatic (pfu/10g)	**1**	0 U	**77 J**	**49 J**	**72 J**	**58 J**	**69 J**	**9 J**	**4 J**	**33 J**	**2 J**	0 UJ
Cryptosporidium (Oocysts/g)	0 UJ	0 UJ	0 UJ	0 U	0 U	0 U	0 UJ	0 UJ	0 U	0 UJ	0 U	0 UJ
E.Coli (mpn/g)	0 U	0 U	**72.7**	**2**	0 U	0 U	0 U	0 U	0 U	**98.4**	0 U	**1**
Enterococci (mpn/g)	**141.4**	**10.7**	**110.7**	**141.4**	**47.5**	**90.8**	**104.6**	**114.5**	**88**	**227.7**	**167.9**	**88.4**
Fecal Coliform (mpn/g)	**60.5**	**63.7**	**2030**	**860**	**1440**	**1070**	**1850**	**1060**	**1460**	**850**	**1090**	**750**
Giardia (Cysts/g)	0 U	0 UJ	0 UJ	0 U	0 U	0 U	0 U	0 U	0 U	0 UJ	0 U	0 U
Plaque forming virus (pfu/g)	0 U	0 U	0 U	0 U	0 U	0 U	0 U	0 U	0 U	0 U	0 U	0 U
Viruses (pos/neg)	neg	neg	neg	neg	neg	neg	neg	neg	neg	neg	neg	neg
Other (%)												
Percent Solids	**74.61**	**77.3**	**51.43**	**57.92**	**54.31**	**49.93**	**49.31**	**60.6**	**59.58**	**41.89**	**50.13**	**50.5**
Total Solids	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Other (mg/kg)												
Total Organic Carbon	**62000 J**	**20000 J**	**75000 J**	**64000 J**	**110000 J**	**150000 J**	**120000 J**	**48000 J**	**37000 J**	**78000 J**	**65000 J**	**72000 J**

Table 2
Summary of Sediment Analytical Results
Phase I Sediment Cores
Gowanus Canal
Brooklyn, New York

Sample Name:	GC-SED-515	GC-SED-515	GC-SED-515	GC-SED-515	Duplicate of GC-SED-515	GC-SED-515	GC-SED-516	GC-SED-516	GC-SED-516	GC-SED-516	GC-SED-516	GC-SED-516
Sample Depth (feet):	(1.5-2.0)	(2.0-2.5)	(2.5-3.0)	(3.0-3.5)	(3.0-3.5)	(3.5-4.0)	(0.0-0.5)	(0.5-1.0)	(1.0-1.5)	(1.5-2.0)	(2.0-2.5)	(2.5-3.0)
Sample Date:	8/14/2012	8/14/2012	8/14/2012	8/14/2012	8/14/2012	8/14/2012	8/14/2012	8/14/2012	8/14/2012	8/14/2012	8/14/2012	8/14/2012
BTEX (mg/kg)												
Benzene	0.45 U	0.48 U	0.49 U	0.46 U	0.53 UJ	0.51 UJ	0.63 UJ	0.0096 U	0.01 UJ	0.0071 U	0.0061 U	0.48 U
Toluene	0.45 U	0.48 U	0.49 U	0.46 U	0.53 UJ	0.51 UJ	0.63 UJ	0.0096 U	0.01 UJ	0.0071 U	0.0061 U	**0.15 J**
Ethylbenzene	**0.16 J**	**0.32 J**	**0.31 J**	**0.37 J**	**0.33 J**	**0.29 J**	**0.11 J**	0.0096 U	0.01 UJ	0.0071 U	0.0061 U	**0.066 J**
m,p-Xylene	0.91 U	**0.2 J**	**0.2 J**	**0.27 J**	**0.22 J**	**0.21 J**	1.3 UJ	0.019 U	0.02 UJ	0.014 U	0.012 U	0.96 U
o-Xylene	0.45 U	**0.12 J**	**0.1 J**	**0.14 J**	**0.12 J**	**0.12 J**	0.63 UJ	0.0096 U	0.01 UJ	0.0071 U	0.0061 U	0.48 U
Total Xylene	1.4 U	**0.32 J**	**0.3 J**	**0.41 J**	**0.34 J**	**0.33 J**	1.9 UJ	0.029 U	0.03 UJ	0.021 U	0.018 U	1.4 U
Total BTEX	**0.16**	**0.64**	**0.61**	**0.78**	**0.67**	**0.62**	**0.11**	0	0	0	0	**0.216**
Other VOCs (mg/kg)												
Acetone	1.8 U	1.9 U	2 U	**0.9 J**	2.1 UJ	**0.67 J**	2.5 UJ	0.038 UJ	**0.018 J**	0.028 U	0.024 U	1.9 U
Bromochloromethane	0.45 U	0.48 U	0.49 U	0.46 U	0.53 UJ	0.51 UJ	0.63 UJ	0.0096 U	0.01 UJ	0.0071 U	0.0061 U	0.48 U
Bromodichloromethane	0.45 U	0.48 U	0.49 U	0.46 U	0.53 UJ	0.51 UJ	0.63 UJ	0.0096 U	0.01 UJ	0.0071 U	0.0061 U	0.48 U
Bromoform	0.45 U	0.48 U	0.49 U	0.46 U	0.53 UJ	0.51 UJ	0.63 UJ	0.0096 U	0.01 UJ	0.0071 U	0.0061 U	0.48 U
Bromomethane	0.45 U	0.48 U	0.49 U	0.46 U	0.53 UJ	0.51 UJ	0.63 UJ	0.0096 U	0.01 UJ	0.0071 UJ	0.0061 UJ	0.48 U
2-Butanone (Methyl ethyl ketone)	0.45 U	0.48 U	0.49 U	**0.32 J**	0.53 UJ	**0.24 J**	0.63 UJ	0.0096 UJ	0.01 UJ	0.0071 UJ	0.0061 UJ	0.48 U
Carbon disulfide	**0.11 J**	**0.18 J**	**0.16 J**	**0.18 J**	0.53 UJ	0.51 UJ	0.63 UJ	0.0096 U	**0.0036 J**	**0.0032 J**	0.0061 U	0.48 U
Carbon tetrachloride	0.45 U	0.48 U	0.49 U	0.46 U	0.53 UJ	0.51 UJ	0.63 UJ	0.0096 UJ	0.01 UJ	0.0071 U	0.0061 U	0.48 U
Chlorobenzene	0.45 U	0.48 U	0.49 U	0.46 U	0.53 UJ	0.51 UJ	0.63 UJ	0.0096 U	0.01 UJ	0.0071 U	0.0061 U	0.48 U
Chloroethane	0.45 U	0.48 U	0.49 U	0.46 U	0.53 UJ	0.51 UJ	0.63 UJ	0.0096 U	0.01 UJ	0.0071 UJ	0.0061 UJ	0.48 U
Chloroform	0.45 U	0.48 U	0.49 U	0.46 U	0.53 UJ	0.51 UJ	0.63 UJ	0.0096 U	0.01 UJ	0.0071 U	0.0061 U	0.48 U
Chloromethane	0.45 U	0.48 U	0.49 U	0.46 U	0.53 UJ	0.51 UJ	0.63 UJ	0.0096 U	0.01 UJ	0.0071 U	0.0061 U	0.48 U
Cyclohexane	0.45 U	0.48 U	0.49 U	0.46 U	0.53 UJ	0.51 UJ	0.63 UJ	0.0096 U	0.01 UJ	0.0071 U	0.0061 U	0.48 U
1,2-Dibromo-3-chloropropane	0.45 U	0.48 U	0.49 U	0.46 U	0.53 UJ	0.51 UJ	0.63 UJ	0.0096 UJ	0.01 UJ	0.0071 UJ	0.0061 UJ	0.48 U
Dibromochloromethane	0.45 U	0.48 U	0.49 U	0.46 U	0.53 UJ	0.51 UJ	0.63 UJ	0.0096 U	0.01 UJ	0.0071 U	0.0061 U	0.48 U
1,2-Dibromoethane	0.45 U	0.48 U	0.49 U	0.46 U	0.53 UJ	0.51 UJ	0.63 UJ	0.0096 U	0.01 UJ	0.0071 U	0.0061 U	0.48 U
1,2-Dichlorobenzene	0.45 U	0.48 U	0.49 U	0.46 U	0.53 UJ	0.51 UJ	0.63 UJ	0.0096 U	0.01 UJ	0.0071 U	0.0061 U	0.48 U
1,3-Dichlorobenzene	0.45 U	**0.05 J**	0.49 U	0.46 U	0.53 UJ	0.51 UJ	0.63 UJ	0.0096 U	0.01 UJ	0.0071 U	0.0061 U	0.48 U
1,4-Dichlorobenzene	**0.17 J**	**0.16 J**	**0.14 J**	**0.2 J**	**0.15 J**	**0.18 J**	**0.085 J**	0.0096 U	0.01 UJ	0.0071 U	0.0061 U	**0.18 J**
Dichlorodifluoromethane	0.45 U	0.48 U	0.49 U	0.46 U	0.53 UJ	0.51 UJ	0.63 UJ	0.0096 U	0.01 UJ	0.0071 U	0.0061 U	0.48 U
1,1-Dichloroethane	0.45 U	0.48 U	0.49 U	0.46 U	0.53 UJ	0.51 UJ	0.63 UJ	0.0096 U	0.01 UJ	0.0071 U	0.0061 U	0.48 U
1,2-Dichloroethane	0.45 U	0.48 U	0.49 U	0.46 U	0.53 UJ	0.51 UJ	0.63 UJ	0.0096 U	0.01 UJ	0.0071 U	0.0061 U	0.48 U
cis-1,2-Dichloroethene	0.45 U	0.48 U	0.49 U	0.46 U	0.53 UJ	0.51 UJ	0.63 UJ	0.0096 U	0.01 UJ	0.0071 U	0.0061 U	0.48 U
trans-1,2-Dichloroethene	0.45 U	0.48 U	0.49 U	0.46 U	0.53 UJ	0.51 UJ	0.63 UJ	0.0096 U	0.01 UJ	0.0071 U	0.0061 U	0.48 U
1,1-Dichloroethene	0.45 U	0.48 U	0.49 U	0.46 U	0.53 UJ	0.51 UJ	0.63 UJ	0.0096 U	0.01 UJ	0.0071 U	0.0061 U	0.48 U
1,2-Dichloropropane	0.45 U	0.48 U	0.49 U	0.46 U	0.53 UJ	0.51 UJ	0.63 UJ	0.0096 U	0.01 UJ	0.0071 U	0.0061 U	0.48 U
cis-1,3-Dichloropropene	0.45 U	0.48 U	0.49 U	0.46 U	0.53 UJ	0.51 UJ	0.63 UJ	0.0096 U	0.01 UJ	0.0071 U	0.0061 U	0.48 U
trans-1,3-Dichloropropene	0.45 U	0.48 U	0.49 U	0.46 U	0.53 UJ	0.51 UJ	0.63 UJ	0.0096 U	0.01 UJ	0.0071 U	0.0061 U	0.48 U
1,4-Dioxane	R	R	R	R	R	R	R	R	R	R	R	R
2-Hexanone	0.45 U	0.48 U	0.49 U	0.46 U	0.53 UJ	0.51 UJ	0.63 UJ	0.0096 U	0.01 UJ	0.0071 UJ	0.0061 UJ	0.48 U
Isopropyl benzene	**0.05 J**	**0.08 J**	**0.069 J**	**0.1 J**	**0.083 J**	**0.086 J**	0.63 UJ	0.0096 U	0.01 UJ	0.0071 U	0.0061 U	**0.16 J**
Methyl acetate	**0.59**	**1.3**	**0.99**	**1.2**	**0.75 J**	**1.1 J**	**2.5 J**	0.0096 U	0.01 UJ	0.0071 UJ	0.0061 UJ	**0.28 J**
Methyl tert-butyl ether (MTBE)	0.45 U	0.48 U	0.49 U	0.46 U	0.53 UJ	0.51 UJ	0.63 UJ	0.0096 U	0.01 UJ	0.0071 U	0.0061 U	0.48 U
4-Methyl-2-pentanone	0.45 U	0.48 U	0.49 U	0.46 U	0.53 UJ	0.51 UJ	0.63 UJ	0.0096 U	0.01 UJ	0.0071 UJ	0.0061 UJ	0.48 U
Methylcyclohexane	0.45 U	0.48 U	0.49 U	0.46 U	0.53 UJ	0.51 UJ	0.63 UJ	0.0096 U	0.01 UJ	0.0071 U	0.0061 U	0.48 U
Methylene chloride	0.45 U	0.48 U	0.49 U	0.46 U	0.53 UJ	0.51 U	0.63 UJ	0.0096 U	0.01 U	0.0071 U	0.0061 U	0.48 U
Styrene	0.45 U	0.48 U	0.49 U	0.46 U	0.53 UJ	0.51 UJ	0.63 UJ	0.0096 U	0.01 UJ	0.0071 U	0.0061 U	0.48 U
1,1,2,2-Tetrachloroethane	0.45 U	0.48 U	0.49 U	0.46 U	0.53 UJ	0.51 UJ	0.63 UJ	0.0096 U	0.01 UJ	0.0071 UJ	0.0061 UJ	0.48 U
Tetrachloroethene	0.45 U	0.48 U	0.49 U	0.46 U	0.53 UJ	0.51 UJ	0.63 UJ	0.0096 U	0.01 UJ	0.0071 U	0.0061 U	0.48 U

Table 2
Summary of Sediment Analytical Results
Phase I Sediment Cores
Gowanus Canal
Brooklyn, New York

Sample Name:	GC-SED-515	GC-SED-515	GC-SED-515	GC-SED-515	Duplicate of GC-SED-515	GC-SED-515	GC-SED-516	GC-SED-516	GC-SED-516	GC-SED-516	GC-SED-516	GC-SED-516
Sample Depth (feet):	(1.5-2.0)	(2.0-2.5)	(2.5-3.0)	(3.0-3.5)	(3.0-3.5)	(3.5-4.0)	(0.0-0.5)	(0.5-1.0)	(1.0-1.5)	(1.5-2.0)	(2.0-2.5)	(2.5-3.0)
Sample Date:	8/14/2012	8/14/2012	8/14/2012	8/14/2012	8/14/2012	8/14/2012	8/14/2012	8/14/2012	8/14/2012	8/14/2012	8/14/2012	8/14/2012
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	0.45 U	0.48 U	0.49 U	0.46 U	0.53 UJ	0.51 UJ	0.63 UJ	0.0096 U	0.01 UJ	0.0071 U	0.0061 U	0.48 U
1,2,3-Trichlorobenzene	0.45 UJ	0.48 UJ	0.49 UJ	0.46 UJ	0.53 UJ	0.51 UJ	0.63 UJ	0.0096 U	0.01 UJ	0.0071 UJ	0.0061 UJ	0.48 UJ
1,2,4-Trichlorobenzene	0.45 UJ	0.48 UJ	0.49 UJ	0.46 UJ	0.53 UJ	0.51 UJ	0.63 UJ	0.0096 U	0.01 UJ	0.0071 UJ	0.0061 UJ	**0.057 J**
1,1,1-Trichloroethane	0.45 U	0.48 U	0.49 U	0.46 U	0.53 UJ	0.51 UJ	0.63 UJ	0.0096 U	0.01 UJ	0.0071 U	0.0061 U	0.48 U
1,1,2-Trichloroethane	0.45 U	0.48 U	0.49 U	0.46 U	0.53 UJ	0.51 UJ	0.63 UJ	0.0096 U	0.01 UJ	0.0071 U	0.0061 U	0.48 U
Trichloroethene	0.45 U	0.48 U	0.49 U	0.46 U	0.53 UJ	0.51 UJ	0.63 UJ	0.0096 U	0.01 UJ	0.0071 U	0.0061 U	0.48 U
Trichlorofluoromethane	0.45 U	0.48 U	0.49 U	0.46 U	0.53 UJ	0.51 UJ	0.63 UJ	0.0096 U	0.01 UJ	0.0071 U	0.0061 U	0.48 U
Vinyl chloride	0.45 U	0.48 U	0.49 U	0.46 U	0.53 UJ	0.51 UJ	0.63 UJ	0.0096 U	0.01 UJ	0.0071 U	0.0061 U	0.48 U
PAHs (mg/kg)												
Acenaphthene	**6.8**	**8.9**	**8.7**	**8.1 J**	**8.3 J**	**12 J**	**4.5 J**	**3.1**	**1.5 J**	**1.3**	**5.1**	**13**
Acenaphthylene	**5.9**	**9**	**9.8**	**6.5 J**	**11 J**	**13 J**	**4.9 J**	**5**	**3.3 J**	**2.1**	**4.8**	**11**
Anthracene	**11**	**16**	**15**	**14**	**14 J**	**21 J**	**8.5 J**	**5.9**	**3.1 J**	**1.9**	**8**	**20**
Benz[a]anthracene	**20**	**23**	**26**	**22**	**21 J**	**33 J**	**13 J**	**11**	**8 J**	**5.2**	**19**	**27**
Benzo[a]pyrene	**14**	**18**	**21**	**17**	**16 J**	**24 J**	**10 J**	**9.7**	**6.7 J**	**3.9**	**13**	**20**
Benzo[b]fluoranthene	**11**	**13**	**11**	**12**	**9.8 J**	**18 J**	**7.5 J**	**5.1**	**4.6 J**	**2.6**	**8.7**	**13**
Benzo[g,h,i]perylene	**8.7**	**10**	**11**	**8.3**	**8.6 J**	**11 J**	**5 J**	**5.1**	**3.3 J**	**1.9**	**6.2**	**8.5**
Benzo[k]fluoranthene	**3.7**	**5.6**	**9.9**	**4.1**	**6.1 J**	**4.2 J**	**2.7 J**	**5.7**	**1.9 J**	**0.98**	**3.8**	**4.9**
Chrysene	**19**	**24**	**25**	**20**	**23 J**	**31 J**	**12 J**	**11**	**7.2 J**	**5.5**	**18**	**21**
Dibenz[a,h]anthracene	**3.5**	**4.1**	**4.4**	**3.9**	**4.6 J**	**4.7 J**	**3.8 J**	**3**	**2.8 J**	**1.9**	**2.3**	**3.9**
Fluoranthene	**24**	**33**	**30**	**28**	**33 J**	**43 J**	**18 J**	**17**	**11 J**	**7.1**	**21**	**34**
Fluorene	**2.6**	**6.3**	**6.3**	**6 J**	**6.8 J**	**9.3 J**	**3.5 J**	**2.8**	**1.5 J**	**1**	**2.1**	**7.5**
Indeno[1,2,3-cd]pyrene	**6.9**	**8.1**	**9.1**	**7.3**	**7.7 J**	**9.5 J**	**5.5 J**	**5.2**	**3.9 J**	**2.5**	**5.2**	**7.4**
2-Methylnaphthalene	**1.8**	**5.6**	**6.5**	**7.1**	**5.3 J**	**10 J**	**1.6 J**	**1.4**	**0.62 J**	**0.42 J**	**1.4**	**1.7**
Naphthalene	**2.3**	**5**	**5.3**	**5**	**4 J**	**8 J**	**2 J**	**3.1**	**0.97 J**	**0.59**	**2**	**3**
Phenanthrene	**19**	**37**	**38**	**37**	**35 J**	**51 J**	**16 J**	**16**	**4.2 J**	**2.8**	**15**	**39**
Pyrene	**37**	**53**	**55**	**49**	**40 J**	**70 J**	**23 J**	**23**	**15 J**	**9.1**	**43**	**55**
Total PAHs	**197.2**	**279.6**	**292**	**255.3**	**254.2**	**372.7**	**141.5**	**133.1**	**79.59**	**50.79**	**178.6**	**289.9**
Alkylated PAHs (mg/kg)												
Acenaphthene	**10.07862**	**10.45899**	**13.26382**	**12.69395 J**	**13.8159 J**	**17.18541 J**	**7.06405 J**	**3.60111**	**1.79382**	**2.5453**	**5.69427**	**23.69945**
Acenaphthylene	**8.97204**	**8.54441**	**13.43677**	**11.56381 J**	**11.77002 J**	**14.43386 J**	**6.75551 J**	**6.96353**	**3.48631**	**3.95325**	**6.16529**	**18.54099**
Anthracene	**22.26301**	**18.2999**	**25.06312**	**23.74801 J**	**25.57074 J**	**32.21262 J**	**13.24463 J**	**9.32636**	**4.34032**	**5.42181**	**11.53356**	**41.17746**
Benz[a]anthracene	**44.58391**	**24.40405**	**33.11902**	**29.84102 J**	**32.65734 J**	**38.62305 J**	**17.82508 J**	**15.50008**	**9.56197**	**11.15983**	**15.40832**	**41.92775**
Benzo[a]pyrene	**36.1957**	**19.75906**	**26.96137**	**23.83692 J**	**25.74037 J**	**30.47837 J**	**14.58391 J**	**13.5838**	**7.9844**	**8.3554**	**11.53972**	**31.54217**
Benzo[b]fluoranthene	**27.24125**	**11.41696**	**14.93514**	**13.76047 J**	**15.33325 J**	**17.00275 J**	**8.73832 J**	**7.61162**	**4.63084**	**4.50803**	**6.05455**	**17.20157**
Benzo[e]pyrene	**24.10408**	**11.61409**	**15.4885**	**13.86263 J**	**15.22828 J**	**17.39999 J**	**8.91596 J**	**7.88633**	**4.74302**	**4.80012**	**6.52502**	**17.74049**
Benzo[g,h,i]perylene	**22.37876**	**10.0286**	**13.13835**	**11.4946 J**	**13.74035 J**	**14.55805 J**	**6.88385 J**	**5.98898**	**3.62232**	**3.51835**	**4.76611**	**12.39218**
Benzo[k]fluoranthene	**30.94695**	**13.64665**	**17.79455**	**16.0842 J**	**17.56686 J**	**20.41156 J**	**10.33603 J**	**9.1493**	**5.43405**	**5.36228**	**7.66442**	**20.09339**
1,1-Biphenyl	**0.70497**	**1.24393**	**1.89186**	**1.76778 J**	**1.87951 J**	**2.4937 J**	**0.49448 J**	**0.34965**	**0.1591**	**0.18146**	**0.42197**	**1.29594**
Chrysene	**42.5753**	**22.84983**	**29.9667**	**28.06432 J**	**30.73072 J**	**35.79088 J**	**16.95315 J**	**13.47803**	**7.4306**	**9.92943**	**14.46677**	**39.73744**
C1-Chrysenes	**26.44396**	**19.8888**	**28.58693**	**25.33261 J**	**26.67813 J**	**32.35354 J**	**16.25054 J**	**16.70015**	**9.76378**	**10.70828**	**14.71216**	**40.434**
C2-Chrysenes	**13.84499**	**10.99199**	**16.44665**	**14.40531 J**	**14.71716 J**	**18.01699 J**	**9.1633 J**	**9.53979**	**5.8867**	**6.36081**	**8.47999**	**24.37911**
C3-Chrysenes	**6.81294**	**5.57333**	**8.33531**	**7.19284 J**	**7.28563 J**	**8.95087 J**	**4.405 J**	**4.57356**	**2.93945**	**3.03656**	**4.2479**	**12.5338**
C4-Chrysenes	**3.30021**	**2.61196**	**3.87387**	**3.35051 J**	**3.29371 J**	**4.13097 J**	**1.88606 J**	**1.98486**	**1.37023**	**1.37707**	**1.88481**	**5.48534**
Dibenz[a,h]anthracene	**6.78218**	**3.00968**	**4.24286**	**3.62961 J**	**4.21957 J**	**4.69449 J**	**2.31561 J**	**2.08586**	**1.23239**	**1.20724**	**1.66415**	**4.66995**
Dibenzofuran	**1.53122**	**1.46187**	**1.66813**	**1.64489 J**	**1.83901 J**	**2.13101 J**	**0.73663 J**	**0.38283**	**0.18353**	**0.1335**	**0.51173**	**2.29322**
Dibenzothiophene	**5.08185**	**5.34341**	**6.95068**	**6.74052 J**	**7.26092 J**	**9.00804 J**	**3.83028 J**	**2.22719**	**1.01858**	**0.86891**	**2.88447**	**11.78793**
C1-Dibenzothiophenes	**13.48397**	**13.6488**	**18.41587**	**17.83169 J**	**19.0649 J**	**23.83838 J**	**9.14397 J**	**6.0909**	**2.90911**	**4.38538**	**8.41903**	**27.97681**
C2-Dibenzothiophenes	**16.80292**	**17.1751**	**23.01759**	**22.43008 J**	**23.99926 J**	**28.9464 J**	**11.11165 J**	**8.87369**	**4.96932**	**7.57446**	**11.69015**	**32.79577**

Table 2
Summary of Sediment Analytical Results
Phase I Sediment Cores
Gowanus Canal
Brooklyn, New York

Sample Name:	GC-SED-515	GC-SED-515	GC-SED-515	GC-SED-515	Duplicate of GC-SED-515	GC-SED-515	GC-SED-516	GC-SED-516	GC-SED-516	GC-SED-516	GC-SED-516	GC-SED-516
Sample Depth (feet):	(1.5-2.0)	(2.0-2.5)	(2.5-3.0)	(3.0-3.5)	(3.0-3.5)	(3.5-4.0)	(0.0-0.5)	(0.5-1.0)	(1.0-1.5)	(1.5-2.0)	(2.0-2.5)	(2.5-3.0)
Sample Date:	8/14/2012	8/14/2012	8/14/2012	8/14/2012	8/14/2012	8/14/2012	8/14/2012	8/14/2012	8/14/2012	8/14/2012	8/14/2012	8/14/2012
C3-Dibenzothiophenes	**11.59331**	**11.86697**	**15.66767**	**15.44005 J**	**16.28426 J**	**19.73017 J**	**7.41204 J**	**6.72796**	**4.36664**	**5.55109**	**7.91293**	**21.66315**
C4-Dibenzothiophenes	**4.34918**	**4.58772**	**5.85941**	**5.88299 J**	**6.01688 J**	**7.37504 J**	**2.72482 J**	**2.48503**	**1.79263**	**2.03648**	**2.87668**	**7.79988**
Fluoranthene	**82.13692**	**40.33012**	**49.76069**	**47.11964 J**	**52.21624 J**	**64.08181 J**	**28.12886 J**	**21.49731**	**14.24994**	**16.44969**	**22.36429**	**59.73465**
C1-Fluoranthenes/pyrenes	**56.94615**	**48.16386**	**66.61297**	**62.97565 J**	**66.91928 J**	**81.37644 J**	**36.64952 J**	**38.6004**	**22.12674**	**24.6765**	**35.44303**	**93.69372**
C2-Fluoranthenes/pyrenes	**36.53376**	**24.17219**	**35.01973**	**32.57538 J**	**34.03758 J**	**41.24114 J**	**19.64138 J**	**22.0124**	**12.59676**	**13.91041**	**18.75111**	**53.06245**
C3-Fluoranthenes/pyrenes	**14.34083**	**10.86097**	**16.21836**	**15.01438 J**	**15.09701 J**	**18.64904 J**	**8.76706 J**	**9.89055**	**6.06014**	**6.52205**	**8.41745**	**24.54702**
C4-Fluoranthenes/pyrenes	**4.29888**	**3.54011**	**5.52635**	**4.58935 J**	**5.13267 J**	**5.75 J**	**2.82212 J**	**2.85158**	**1.86909**	**1.93062**	**2.59579**	**7.43576**
Fluorene	**3.88235**	**6.71497**	**9.13462**	**8.81227 J**	**9.42942 J**	**12.04194 J**	**3.78637 J**	**2.17674**	**0.71619**	**0.5171**	**2.46341**	**13.438**
C1-Fluorenes	**8.7868**	**10.93429**	**15.14816**	**14.75484 J**	**15.5763 J**	**19.85984 J**	**7.188 J**	**5.03976**	**2.3105**	**3.16089**	**6.83942**	**25.87313**
C2-Fluorenes	**16.9844**	**18.18999**	**24.80346**	**24.87027 J**	**25.14596 J**	**32.28676 J**	**10.53285 J**	**8.23989**	**4.55627**	**7.17899**	**12.0319**	**37.04855**
C3-Fluorenes	**15.03865**	**14.01018**	**17.8146**	**18.1104 J**	**19.13395 J**	**23.82245 J**	**7.70727 J**	**6.39497**	**4.10277**	**5.57181**	**8.5248**	**23.35916**
Indeno[1,2,3-cd]pyrene	**26.65966**	**10.82845**	**14.29245**	**12.35811 J**	**14.3698 J**	**15.84284 J**	**7.69156 J**	**6.71743**	**4.04034**	**3.75594**	**5.18339**	**14.13904**
Naphthalene	**3.1113**	**5.23426**	**7.02706**	**6.56839 J**	**6.98734 J**	**9.03011 J**	**2.34852 J**	**1.43651**	**0.99531**	**1.14009**	**1.86309**	**3.95335**
C1-Naphthalenes	**3.40641**	**7.51071**	**10.80571**	**9.94852 J**	**10.49752 J**	**14.28569 J**	**2.75326 J**	**1.69142**	**0.77459**	**0.76053**	**2.06396**	**6.51695**
C2-Naphthalenes	**11.52755**	**17.59195**	**24.04966**	**22.99383 J**	**24.23031 J**	**32.53456 J**	**9.60319 J**	**5.29348**	**2.40984**	**2.87165**	**8.40858**	**33.26481**
C3-Naphthalenes	**20.16821**	**24.7365**	**32.43634**	**32.32991 J**	**34.39569 J**	**44.23379 J**	**12.57487 J**	**7.28164**	**3.98145**	**8.4234**	**14.20875**	**52.66788**
C4-Naphthalenes	**15.16946**	**17.95171**	**23.22485**	**23.70496 J**	**24.95645 J**	**31.07605 J**	**8.61079 J**	**5.40583**	**3.82902**	**7.2177**	**10.39726**	**32.65148**
Perylene	**9.22501**	**3.52712**	**4.66078**	**4.17439 J**	**4.62249 J**	**5.41696 J**	**2.6939 J**	**2.52631**	**1.50308**	**1.45391**	**2.032**	**5.53617**
Phenanthrene	**49.50042**	**42.73065**	**56.288**	**51.96616 J**	**56.51833 J**	**75.21739 J**	**22.04799 J**	**13.7144**	**4.41854**	**3.32672**	**18.39278**	**71.44433**
C1-Phenanthrenes/anthracenes	**61.79919**	**64.00099**	**85.38665**	**82.63101 J**	**89.09922 J**	**110.93358 J**	**38.47699 J**	**28.70806**	**13.76129**	**24.25458**	**39.99085**	**121.39037**
C2-Phenanthrenes/anthracenes	**51.512**	**51.45286**	**68.66213**	**66.74766 J**	**71.75136 J**	**86.74228 J**	**32.6995 J**	**27.83916**	**15.90036**	**24.56771**	**35.44059**	**96.54414**
C3-Phenanthrenes/anthracenes	**26.30477**	**26.28309**	**35.4938**	**34.51814 J**	**35.98371 J**	**43.87617 J**	**17.06023 J**	**15.99519**	**10.06517**	**12.35364**	**17.68347**	**48.23628**
C4-Phenanthrenes/anthracenes	**8.38576**	**8.81726**	**11.91546**	**11.36694 J**	**11.57724 J**	**14.61267 J**	**5.35618 J**	**5.2731**	**3.48034**	**3.76338**	**5.36637**	**14.95931**
Pyrene	**85.07201**	**50.66716**	**64.61806**	**60.85529 J**	**67.22679 J**	**84.07212 J**	**37.00676 J**	**33.16997**	**20.84286**	**23.96112**	**34.81172**	**82.04829**
TPH (mg/kg)												
Total Petroleum Hydrocarbons	**18172.22**	**19628.89**	**22345.57**	**24024.07 J**	**25571.25 J**	**30152.55 J**	**10943.41 J**	**7487.65**	**5897.4**	**6074.97**	**10612.27**	**24239.11**
Other SVOCs (mg/kg)												
Acetophenone	3 U	**0.31 J**	3.2 U	**0.42 J**	3.5 UJ	3.3 UJ	4.1 UJ	3.1 U	3.3 UJ	2.3 U	2 U	3.1 U
Atrazine	3 UJ	3.2 UJ	3.2 UJ	3 UJ	3.5 UJ	3.3 UJ	4.1 UJ	3.1 UJ	3.3 UJ	2.3 UJ	2 UJ	3.1 UJ
Benzaldehyde	**1.8 J**	**2 J**	**2.2 J**	**2 J**	**2.4 J**	**2.2 J**	**2.5 J**	**1.9 J**	3.3 UJ	2.3 U	**1.2 J**	**1.9 J**
1,1-Biphenyl	**0.56 J**	**1.3 J**	**1.5 J**	**1.3 J**	**1.2 J**	**2.2 J**	**0.47 J**	**0.48 J**	3.3 UJ	2.3 U	**0.42 J**	**0.95 J**
Bis(chloroisopropyl)ether	0.61 U	0.64 U	0.65 U	0.61 U	0.7 UJ	0.68 UJ	0.83 UJ	0.64 U	0.67 UJ	0.48 U	0.4 U	0.63 U
Bis(2-chloroethyl)ether	0.61 U	0.64 U	0.65 U	0.61 U	0.7 UJ	0.68 UJ	0.83 UJ	0.64 U	0.67 UJ	0.48 U	0.4 U	0.63 U
Bis(2-chloroethoxy)methane	3 U	3.2 U	3.2 U	3 U	3.5 UJ	3.3 UJ	4.1 UJ	3.1 U	3.3 UJ	2.3 U	2 U	3.1 U
Bis(2-ethylhexyl)phthalate	**63**	**85**	**79**	**68**	**59 J**	**91 J**	**31 J**	**21**	**21 J**	**16**	**58**	**620**

Table 2
Summary of Sediment Analytical Results
Phase I Sediment Cores
Gowanus Canal
Brooklyn, New York

Sample Name:	GC-SED-515	GC-SED-515	GC-SED-515	GC-SED-515	Duplicate of GC-SED-515	GC-SED-515	GC-SED-516	GC-SED-516	GC-SED-516	GC-SED-516	GC-SED-516	GC-SED-516
Sample Depth (feet):	(1.5-2.0)	(2.0-2.5)	(2.5-3.0)	(3.0-3.5)	(3.0-3.5)	(3.5-4.0)	(0.0-0.5)	(0.5-1.0)	(1.0-1.5)	(1.5-2.0)	(2.0-2.5)	(2.5-3.0)
Sample Date:	8/14/2012	8/14/2012	8/14/2012	8/14/2012	8/14/2012	8/14/2012	8/14/2012	8/14/2012	8/14/2012	8/14/2012	8/14/2012	8/14/2012
4-Bromophenyl phenyl ether	3 U	3.2 U	3.2 U	3 U	3.5 UJ	3.3 UJ	4.1 UJ	3.1 U	3.3 UJ	2.3 U	2 U	3.1 U
Butyl benzyl phthalate	**2.4 J**	**2.1 J**	**2.1 J**	**1.7 J**	**1.7 J**	**2.9 J**	4.1 UJ	**0.7 J**	**0.7 J**	2.3 U	**0.8 J**	**1.4 J**
Caprolactam	15 UJ	16 UJ	16 UJ	16 UJ	18 UJ	17 UJ	21 UJ	16 UJ	17 UJ	12 UJ	10 UJ	16 UJ
Carbazole	**0.6 J**	**0.74**	**1.1**	**0.57 J**	**0.68 J**	**0.53 J**	0.83 UJ	**0.74**	0.67 UJ	**0.13 J**	**0.56**	0.63 U
4-Chloro-3-methylphenol	3 U	3.2 U	3.2 U	3 U	3.5 UJ	3.3 UJ	4.1 UJ	3.1 U	3.3 UJ	2.3 U	2 U	3.1 U
4-Chloroaniline	**1 J**	**1.8 J**	**1.7 J**	**1.3 J**	**2.2 J**	**2.3 J**	**0.52 J**	**0.44 J**	**0.35 J**	**0.26 J**	**0.96 J**	**1.9 J**
Chlorophene	3 U	3.2 U	3.2 U	3 U	3.5 UJ	3.3 UJ	4.1 UJ	3.1 U	3.3 UJ	2.3 U	2 U	3.1 U
2-Chloronaphthalene	0.61 U	0.64 U	0.65 U	0.61 U	0.7 UJ	0.68 UJ	0.83 UJ	0.64 U	0.67 UJ	0.48 U	0.4 U	0.63 U
2-Chlorophenol	3 U	3.2 U	3.2 U	3 U	3.5 UJ	3.3 UJ	4.1 UJ	3.1 U	3.3 UJ	2.3 U	2 U	3.1 U
4-Chlorophenyl phenyl ether	3 U	3.2 U	3.2 U	3 U	3.5 UJ	3.3 UJ	4.1 UJ	3.1 U	3.3 UJ	2.3 U	2 U	3.1 U
Dibenzofuran	3 U	3.2 U	3.2 U	**1.2 J**	**1.2 J**	**1.9 J**	**0.52 J**	**0.82 J**	3.3 UJ	2.3 U	**0.88 J**	3.1 U
3,3-Dichlorobenzidine	3 U	3.2 U	3.2 U	3 U	3.5 UJ	3.3 UJ	4.1 UJ	3.1 U	3.3 UJ	2.3 U	2 U	3.1 U
2,4-Dichlorophenol	0.61 U	0.64 U	0.65 U	0.61 U	0.7 UJ	0.68 UJ	0.83 UJ	0.64 U	0.67 UJ	0.48 U	0.4 U	0.63 U
Diethyl phthalate	3 U	3.2 U	3.2 U	3 U	3.5 UJ	3.3 UJ	4.1 UJ	3.1 U	3.3 UJ	2.3 U	2 U	3.1 U
Dimethyl phthalate	3 U	3.2 U	3.2 U	3 U	3.5 UJ	3.3 UJ	4.1 UJ	3.1 U	3.3 UJ	2.3 U	2 U	3.1 U
2,4-Dimethylphenol	3 U	3.2 U	3.2 U	3 U	3.5 UJ	3.3 UJ	4.1 UJ	3.1 U	3.3 UJ	2.3 U	2 U	3.1 U
Di-n-butyl phthalate	3 U	3.2 U	3.2 U	3 U	3.5 UJ	3.3 UJ	4.1 UJ	3.1 U	3.3 UJ	2.3 U	2 U	3.1 U
4,6-Dinitro-2-methylphenol	15 U	16 U	16 U	16 U	18 UJ	17 UJ	21 UJ	16 U	17 UJ	12 U	10 U	16 U
2,4-Dinitrophenol	15 UJ	16 UJ	16 UJ	16 UJ	18 UJ	17 UJ	21 UJ	16 UJ	17 UJ	12 UJ	10 UJ	16 UJ
2,4-Dinitrotoluene	3 U	3.2 U	3.2 U	3 U	3.5 UJ	3.3 UJ	4.1 UJ	3.1 U	3.3 UJ	2.3 U	2 U	3.1 U
2,6-Dinitrotoluene	3 U	3.2 U	3.2 U	3 U	3.5 UJ	3.3 UJ	4.1 UJ	3.1 U	3.3 UJ	2.3 U	2 U	3.1 U
Di-n-octyl phthalate	**1.8 J**	**2.2 J**	**2.1 J**	**1.9 J**	**1.4 J**	**2.3 J**	**0.75 J**	**0.44 J**	3.3 UJ	**0.31 J**	**1.3 J**	**3.2**
Hexachlorobenzene	0.61 U	0.64 U	0.65 U	0.61 U	0.7 UJ	0.68 UJ	0.83 UJ	0.64 U	0.67 UJ	0.48 U	0.4 U	0.63 U
Hexachlorobutadiene	0.61 U	0.64 U	0.65 U	0.61 U	0.7 UJ	0.68 UJ	0.83 UJ	0.64 U	0.67 UJ	0.48 U	0.4 U	0.63 U
Hexachlorocyclopentadiene	3 UJ	3.2 UJ	3.2 UJ	3 UJ	3.5 UJ	3.3 UJ	4.1 UJ	3.1 UJ	3.3 UJ	2.3 UJ	2 UJ	3.1 UJ
Hexachloroethane	3 U	3.2 U	3.2 U	3 U	3.5 UJ	3.3 UJ	4.1 UJ	3.1 U	3.3 UJ	2.3 U	2 U	3.1 U
Isophorone	3 U	3.2 U	3.2 U	3 U	3.5 UJ	3.3 UJ	4.1 UJ	3.1 U	3.3 UJ	2.3 U	2 U	3.1 U
2-Methylphenol (o-Cresol)	3 U	3.2 U	3.2 U	3 U	3.5 UJ	3.3 UJ	4.1 UJ	3.1 U	3.3 UJ	2.3 U	2 U	3.1 U
3,4-Methylphenol (m,p-Cresol)	3 U	3.2 U	3.2 U	3 U	3.5 UJ	**0.34 J**	4.1 UJ	3.1 U	3.3 UJ	2.3 U	2 U	3.1 U
2-Nitroaniline	15 U	16 U	16 U	16 U	18 UJ	17 UJ	21 UJ	16 U	17 UJ	12 U	10 U	16 U
3-Nitroaniline	15 UJ	16 UJ	16 UJ	16 UJ	18 UJ	17 UJ	21 UJ	16 UJ	17 UJ	12 UJ	10 UJ	16 UJ
4-Nitroaniline	15 UJ	16 UJ	16 UJ	16 UJ	18 UJ	17 UJ	21 UJ	16 UJ	17 UJ	12 UJ	10 UJ	16 UJ
Nitrobenzene	6.1 U	6.4 U	6.5 U	6.1 U	7 UJ	6.8 UJ	8.3 UJ	6.4 U	6.7 UJ	4.8 U	4 U	6.3 U
2-Nitrophenol	3 U	3.2 U	3.2 U	3 U	3.5 UJ	3.3 UJ	4.1 UJ	3.1 U	3.3 UJ	2.3 U	2 U	3.1 U

Table 2
Summary of Sediment Analytical Results
Phase I Sediment Cores
Gowanus Canal
Brooklyn, New York

Sample Name:	GC-SED-515	GC-SED-515	GC-SED-515	GC-SED-515	Duplicate of GC-SED-515	GC-SED-515	GC-SED-516	GC-SED-516	GC-SED-516	GC-SED-516	GC-SED-516	GC-SED-516
Sample Depth (feet):	(1.5-2.0)	(2.0-2.5)	(2.5-3.0)	(3.0-3.5)	(3.0-3.5)	(3.5-4.0)	(0.0-0.5)	(0.5-1.0)	(1.0-1.5)	(1.5-2.0)	(2.0-2.5)	(2.5-3.0)
Sample Date:	8/14/2012	8/14/2012	8/14/2012	8/14/2012	8/14/2012	8/14/2012	8/14/2012	8/14/2012	8/14/2012	8/14/2012	8/14/2012	8/14/2012
4-Nitrophenol	15 UJ	16 UJ	16 UJ	16 UJ	18 UJ	17 UJ	21 UJ	16 UJ	17 UJ	12 UJ	10 UJ	16 UJ
N-Nitrosodi-n-propylamine	0.61 U	0.64 U	0.65 U	0.61 U	0.7 UJ	0.68 UJ	0.83 UJ	0.64 U	0.67 UJ	0.48 U	0.4 U	0.63 U
N-Nitrosodiphenylamine	3 U	3.2 U	3.2 U	3 U	3.5 UJ	3.3 UJ	4.1 UJ	3.1 U	3.3 UJ	2.3 U	2 U	3.1 U
Pentachlorophenol	3 U	3.2 U	3.2 U	3 U	3.5 UJ	3.3 UJ	4.1 UJ	3.1 U	3.3 UJ	2.3 U	2 U	3.1 U
Phenol	0.61 U	0.64 U	0.65 U	0.61 U	0.7 UJ	0.68 UJ	0.83 UJ	0.64 U	0.67 UJ	0.48 U	0.4 U	0.63 U
1,2,4,5-Tetrachlorobenzene	3 U	3.2 U	3.2 U	3 U	3.5 UJ	3.3 UJ	4.1 UJ	3.1 U	3.3 UJ	2.3 U	2 U	3.1 U
2,3,4,6-Tetrachlorophenol	3 U	3.2 U	3.2 U	3 U	3.5 UJ	3.3 UJ	4.1 UJ	3.1 U	3.3 UJ	2.3 U	2 U	3.1 U
2,4,5-Trichlorophenol	3 U	3.2 U	3.2 U	3 U	3.5 UJ	3.3 UJ	4.1 UJ	3.1 U	3.3 UJ	2.3 U	2 U	3.1 U
2,4,6-Trichlorophenol	3 U	3.2 U	3.2 U	3 U	3.5 UJ	3.3 UJ	4.1 UJ	3.1 U	3.3 UJ	2.3 U	2 U	3.1 U
PCBs (mg/kg)												
Aroclor 1016	**1 J**	**1.3 J**	**0.97 J**	**1.4 J**	**1.9 J**	**1.7 J**	**0.58 J**	**0.29 J**	**1.9 J**	**0.55 J**	**0.96 J**	**1 J**
Aroclor 1221	0.074 U	0.08 U	0.082 U	0.075 U	0.17 UJ	0.16 UJ	0.021 UJ	0.016 U	0.017 UJ	0.059 U	0.1 U	0.16 U
Aroclor 1232	0.074 U	0.08 U	0.082 U	0.075 U	0.17 UJ	0.16 UJ	0.021 UJ	0.016 U	0.017 UJ	0.059 U	0.1 U	0.16 U
Aroclor 1242	0.074 U	0.08 U	0.082 U	0.075 U	0.17 UJ	0.16 UJ	0.021 UJ	0.016 U	0.017 UJ	0.059 U	0.1 U	0.16 U
Aroclor 1248	0.074 U	0.08 U	0.082 U	0.075 U	0.17 UJ	0.16 UJ	0.021 UJ	0.016 U	0.017 UJ	0.059 U	0.1 U	0.16 U
Aroclor 1254	0.074 U	0.08 U	0.082 U	0.075 U	0.17 UJ	0.16 UJ	0.021 UJ	0.016 U	0.017 UJ	0.059 U	0.1 U	0.16 U
Aroclor 1260	**3.7 J**	**4.4 J**	**3.9 J**	**4.9 J**	**5.3 J**	**6 J**	**1.5 J**	**1.6 J**	**1.7 J**	**3.5 J**	**8.8 J**	**14 J**
Aroclor 1262	0.074 U	0.08 U	0.082 U	0.075 U	0.17 UJ	0.16 UJ	0.021 UJ	0.016 U	0.017 UJ	0.059 U	0.1 U	0.16 U
Aroclor 1268	0.074 U	0.08 U	0.082 U	0.075 U	0.17 UJ	0.16 UJ	0.021 UJ	0.016 U	0.017 UJ	0.059 U	0.1 U	0.16 U
Total PCBs	**4.7 J**	**5.7 J**	**4.9 J**	**6.3 J**	**7.2 J**	**7.7 J**	**2.1 J**	**1.9 J**	**3.6 J**	**4.1 J**	**9.8 J**	**15 J**
Pesticides (mg/kg)												
Aldrin	**0.017**	0.016 U	0.016 U	0.015 U	0.018 UJ	0.017 UJ	**0.01 J**	**0.0077 J**	0.017 UJ	**0.0035 J**	0.01 U	**0.016**
alpha-BHC	0.015 U	0.016 U	0.016 U	0.015 U	0.018 UJ	0.017 UJ	0.021 UJ	0.016 U	0.017 UJ	0.012 U	0.01 U	0.016 U
beta-BHC	**0.013 J**	**0.015 J**	**0.016 J**	**0.0059 J**	0.018 UJ	0.017 UJ	0.021 UJ	0.016 U	**0.022 J**	0.012 U	0.01 U	**0.0092 J**
gamma-BHC	0.015 U	**0.0048 J**	0.016 U	0.015 U	0.018 UJ	0.017 UJ	0.021 UJ	0.016 U	**0.013 J**	0.012 U	**0.0028 J**	**0.0036 J**
delta-BHC	**0.015**	0.016 U	**0.02**	**0.02**	**0.012 J**	**0.017 J**	0.021 UJ	0.016 U	**0.026 J**	0.012 U	**0.011**	**0.019**
alpha-chlordane	**0.038**	**0.037**	**0.041**	**0.036**	**0.039 J**	**0.053 J**	**0.022 J**	**0.014 J**	0.017 UJ	**0.0062 J**	**0.036**	**0.038 J**
gamma-Chlordane	**0.072 J**	**0.07 J**	**0.12 J**	**0.11**	**0.12 J**	**0.17 J**	**0.042 J**	**0.041**	**0.053 J**	**0.026 J**	**0.12**	**0.18**
4,4-DDD	**0.11 J**	**0.11 J**	**0.092 JN**	**0.057 JN**	**0.1 JN**	**0.13 JN**	**0.038 JN**	0.016 U	0.017 UJ	0.012 U	**0.035 JN**	0.016 U
4,4'-DDE	**0.084**	**0.096**	**0.11**	**0.1**	**0.1 J**	**0.15 J**	**0.051 J**	**0.038**	**0.039 J**	**0.017**	**0.088**	**0.1**
4,4'-DDT	**0.015 JN**	0.016 U	0.016 U	**0.018 JN**	**0.025 JN**	**0.026 JN**	0.021 UJ	0.016 U	0.017 UJ	0.012 U	**0.025 JN**	**0.052 JN**
Dieldrin	**0.033 J**	**0.036 J**	**0.064**	**0.043 J**	**0.042 J**	**0.067 J**	0.021 UJ	**0.023 J**	**0.019 J**	**0.013**	**0.065**	**0.12 J**
Endosulfan I	0.015 U	0.016 U	0.016 U	0.015 U	0.018 UJ	0.017 UJ	0.021 UJ	0.016 U	0.017 UJ	0.012 U	0.01 U	0.016 U
Endosulfan II	**0.017 JN**	**0.019 JN**	**0.026 J**	**0.021 JN**	**0.021 JN**	**0.032 JN**	0.021 UJ	0.016 U	0.017 UJ	0.012 U	**0.033 J**	**0.065 J**
Endosulfan sulfate	**0.032 J**	**0.035 J**	**0.03 J**	**0.04 J**	**0.042 J**	**0.039 J**	**0.018 J**	**0.0091 J**	0.017 UJ	0.012 U	**0.022 JN**	**0.046 JN**
Endrin	**0.038 JN**	**0.042 JN**	**0.048 JN**	**0.047 JN**	**0.048 JN**	**0.068 JN**	**0.021 JN**	**0.017 JN**	**0.022 JN**	0.012 U	**0.043 JN**	**0.069 JN**
Endrin aldehyde	**0.0065 J**	**0.0079 J**	**0.0087 J**	**0.0083 J**	0.018 UJ	0.017 UJ	0.021 UJ	0.016 U	0.017 UJ	0.012 U	**0.0071 J**	**0.014 J**
Endrin ketone	**0.13**	**0.15**	**0.2**	**0.15**	**0.17 J**	**0.25 J**	**0.061 J**	**0.06**	**0.068 J**	**0.047**	**0.22**	**0.51 J**
Heptachlor	0.015 U	0.016 U	0.016 U	0.015 U	0.018 UJ	0.017 UJ	0.021 UJ	0.016 U	0.017 UJ	0.012 U	0.01 U	0.016 U
Heptachlor epoxide	0.015 U	**0.019 JN**	**0.029 J**	**0.02 JN**	**0.032 J**	**0.032 JN**	**0.022 JN**	**0.029 J**	**0.035 J**	0.012 U	**0.08 J**	**0.027 JN**
Methoxychlor	**0.05 JN**	**0.053 JN**	**0.073 JN**	**0.057 JN**	**0.07 JN**	**0.091 JN**	0.041 UJ	0.031 U	**0.035 JN**	0.023 U	**0.073 JN**	**0.16 JN**
Toxaphene	0.61 U	0.63 U	0.64 U	0.6 U	0.7 UJ	0.67 UJ	0.83 UJ	0.64 U	0.65 UJ	0.47 U	0.41 U	0.63 U
Herbicides (mg/kg)												
2,4-D	0.14 U	0.15 U	0.16 U	0.15 U	0.17 UJ	0.16 UJ	0.2 UJ	0.15 U	0.16 UJ	0.11 U	0.098 U	0.15 U
2,4-DB	0.14 U	0.15 U	0.16 U	0.15 U	0.17 UJ	0.16 UJ	0.2 UJ	0.15 U	0.16 UJ	0.11 U	0.098 U	0.15 U
Dicamba	0.072 U	0.077 U	0.078 U	0.074 U	0.085 UJ	0.081 UJ	0.1 UJ	0.077 U	0.08 UJ	0.057 U	0.049 U	0.076 U
Dichloroprop	0.14 U	0.15 U	0.16 U	0.15 U	0.17 UJ	0.16 UJ	0.2 UJ	0.15 U	0.16 UJ	0.11 U	0.098 U	0.15 U
2,2-Dichloropropionic acid	0.16 U	0.17 U	0.18 U	0.17 U	0.19 UJ	0.18 UJ	0.23 UJ	0.17 U	0.18 UJ	0.13 U	0.11 U	0.17 U
Dinoseb	0.022 UJ	0.023 UJ	0.023 UJ	0.022 UJ	0.025 UJ	0.024 UJ	0.03 UJ	0.023 UJ	0.024 UJ	0.017 UJ	0.015 UJ	0.023 UJ

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Gowanus Canal
Brooklyn, New York

Sample Name:	GC-SED-515	GC-SED-515	GC-SED-515	GC-SED-515	Duplicate of GC-SED-515	GC-SED-515	GC-SED-516	GC-SED-516	GC-SED-516	GC-SED-516	GC-SED-516	GC-SED-516
Sample Depth (feet):	(1.5-2.0)	(2.0-2.5)	(2.5-3.0)	(3.0-3.5)	(3.0-3.5)	(3.5-4.0)	(0.0-0.5)	(0.5-1.0)	(1.0-1.5)	(1.5-2.0)	(2.0-2.5)	(2.5-3.0)
Sample Date:	8/14/2012	8/14/2012	8/14/2012	8/14/2012	8/14/2012	8/14/2012	8/14/2012	8/14/2012	8/14/2012	8/14/2012	8/14/2012	8/14/2012
MCPP	14 U	15 U	16 U	15 U	17 UJ	16 UJ	20 UJ	15 U	16 UJ	11 U	9.8 U	15 U
Methylchlorophenoxyacetic acid	14 U	15 U	16 U	15 U	17 UJ	16 UJ	20 UJ	15 U	16 UJ	11 U	9.8 U	15 U
Pentachlorophenol	0.02 U	0.021 U	0.022 U	0.02 U	0.023 UJ	0.022 UJ	0.028 UJ	0.021 U	0.022 UJ	0.016 U	0.013 U	0.021 U
Silvex	0.036 U	0.038 U	0.039 U	0.037 U	0.042 UJ	**0.017 J**	0.05 UJ	0.038 U	0.04 UJ	0.028 U	0.024 U	0.038 U
2,4,5-Trichlorophenoxyacetic Acid	0.036 U	0.038 U	0.039 U	0.037 U	0.042 UJ	0.041 UJ	0.05 UJ	0.038 U	0.04 UJ	0.028 U	0.024 U	0.038 U
Metals (mg/kg)												
Aluminum	**8000**	**8700**	**8600**	**8500**	**9400 J**	**9200 J**	**11000 J**	**7600**	**6600 J**	**3300**	**3000**	**5600**
Antimony	**3.7 J**	**2.5 J**	**2.4 J**	**2.5 J**	**4.5 J**	**2.9 J**	**4.2 J**	**2.8 J**	**3.1 J**	**1.6 J**	**2.4 J**	**5.4 J**
Arsenic	**10**	**11**	**13**	**12**	**15 J**	**15 J**	**18 J**	**10**	**8.9 J**	**5.3**	**7.3**	**11**
Barium	**250**	**270**	**270**	**280**	**330 J**	**340 J**	**440 J**	**190**	**220 J**	**110**	**170**	**250**
Beryllium	**0.47**	**0.45**	**0.5**	**0.49**	**0.51 J**	**0.53 J**	**0.66 J**	**0.43**	**0.39 J**	**0.27**	**0.21**	**0.32**
Cadmium	**6.5 J**	**8.9 J**	**9.7 J**	**7.8 J**	**9.3 J**	**11 J**	**14 J**	**3.8 J**	**4.2 J**	**3.5 J**	**6 J**	**9.1 J**
Calcium	**15000**	**16000**	**16000**	**15000**	**18000 J**	**17000 J**	**21000 J**	**9300**	**17000 J**	**14000**	**10000**	**24000**
Chromium	**120 J**	**140 J**	**140 J**	**160 J**	**180 J**	**210 J**	**270 J**	**78 J**	**98 J**	**96 J**	**110 J**	**200 J**
Cobalt	**8.5**	**9.7**	**9.7**	**8.5**	**9.9 J**	**9.4 J**	**11 J**	**7.5**	**7.1 J**	**3.9**	**4.3**	**7.1**
Copper	**400**	**370**	**390**	**370**	**480 J**	**510 J**	**640 J**	**250**	**250 J**	**170**	**240**	**350**
Iron	**22000**	**26000**	**27000**	**22000**	**26000 J**	**26000 J**	**33000 J**	**31000**	**33000 J**	**23000**	**27000**	**51000**
Lead	**820**	**750**	**740**	**720**	**900 J**	**1000 J**	**1400 J**	**350**	**380 J**	**270**	**460**	**800**
Magnesium	**7500**	**8300**	**8200**	**7800**	**9000 J**	**8800 J**	**11000 J**	**7500**	**12000 J**	**8100**	**6300**	**13000**
Manganese	**150**	**160**	**170**	**150**	**180 J**	**160 J**	**190 J**	**190**	**350 J**	**3500**	**820**	**290**
Mercury	**2**	**3.3**	**2.5**	**2.3**	**2.5 J**	**3 J**	**2 J**	**1.3**	**1.7 J**	**2.4**	**1.4**	**1.8**
Nickel	**100**	**100**	**110**	**120**	**130 J**	**180 J**	**210 J**	**52**	**63 J**	**63**	**89**	**140**
Potassium	**2400**	**2800**	**2700**	**2500**	**2800 J**	**2100 J**	**2700 J**	**1900**	**1600 J**	**670**	**660**	**1100**
Selenium	**1.8**	**2**	**2.1**	**1.6**	**2 J**	**1.9 J**	**3.7 J**	**2.2**	**1.8 J**	**0.97**	**1.1**	**1.8**
Silver	**8.1**	**6.6**	**7.4**	**7.8**	**9.2 J**	**10 J**	**13 J**	**4.7**	**4.3 J**	**2.7**	**5**	**6.7**
Sodium	**6300**	**7100**	**7500**	**6900**	**7800 J**	**7900 J**	**10000 J**	**7900**	**7300 J**	**4200**	**4000**	**6600**
Thallium	**0.23**	**0.25**	**0.27**	**0.25**	**0.29 J**	**0.28 J**	**0.35 J**	**0.19**	**0.16 J**	**0.086**	**0.11**	**0.16**
Vanadium	**38**	**41**	**46**	**38**	**43 J**	**46 J**	**58 J**	**28**	**27 J**	**15**	**21**	**32**
Zinc	**860 J**	**870 J**	**1000 J**	**890 J**	**1000 J**	**1200 J**	**1500 J**	**600 J**	**900 J**	**1100 J**	**710 J**	**890 J**
EDCs & PPCPs (Phenols) (mg/kg)												
Bisphenol A	0.73 U	0.78 U	0.79 U	0.81 UJ	0.82 UJ	0.78 UJ	1 UJ	0.73 U	0.66 U	0.53 U	0.66 UJ	0.58 U
Nonylphenol	**38**	**41**	**45 J**	**50 J**	**45 J**	**49 J**	**22 J**	**14**	**15**	**10**	**36 J**	**24**
Nonylphenol Diethoxylate	15 U	16 U	16 U	17 UJ	17 UJ	16 UJ	20 UJ	15 U	14 U	11 U	14 U	12 U
Nonylphenol Monoethoxylate	7.3 U	7.8 U	7.9 U	8.1 UJ	8.2 UJ	7.8 UJ	10 UJ	7.3 U	6.6 U	5.3 U	6.6 U	5.8 U
4-tert-Octylphenol	0.73 U	0.78 U	**0.89 J**	**1 J**	**0.92 J**	**0.97 J**	1 UJ	0.73 U	0.66 U	0.53 U	**1.6 J**	**1.2**
EDCs and PPCPs (mg/kg)												
Acetaminophen	0.038 U	0.036 U	0.037 U	0.038 U	0.039 U	0.04 U	0.037 U	0.038 U	0.037 U	0.039 U	0.037 U	0.038 U
alpha-Estradiol	0.038 UJ	0.036 UJ	0.037 UJ	0.038 UJ	0.039 UJ	0.04 UJ	0.037 UJ	0.038 UJ	0.037 UJ	0.039 UJ	0.037 UJ	0.038 UJ
Androstenedione	0.0076 UJ	0.0072 UJ	0.0073 UJ	0.0076 UJ	0.0077 UJ	0.008 UJ	**0.0019 J**	0.0076 UJ	0.0074 UJ	0.0078 UJ	0.0074 UJ	0.0077 UJ
Atrazine	0.0076 UJ	0.0072 UJ	0.0073 UJ	0.0076 UJ	0.0077 UJ	0.008 UJ	0.0074 UJ	0.0076 UJ	0.0074 UJ	0.0078 UJ	0.0074 UJ	0.0077 UJ
Bisphenol A	**0.19**	**0.25**	**0.26**	**0.2**	**0.27**	**0.24**	**0.12**	**0.14**	**0.28**	**0.16**	**0.44**	**0.34**
Carbamazepine	0.015 UJ	0.014 UJ	0.015 UJ	0.015 UJ	0.015 UJ	0.016 UJ	0.015 UJ	0.015 UJ	0.015 UJ	0.016 UJ	0.015 UJ	0.015 UJ
DEET (N,N-Diethyl-3-Methyl Benzamide)	0.038 UJ	0.036 UJ	0.037 UJ	0.038 UJ	0.039 UJ	0.04 UJ	0.037 UJ	0.038 UJ	0.037 UJ	0.039 UJ	0.037 UJ	0.038 UJ
Diazepam	0.015 U	0.014 U	0.015 U	0.015 U	0.015 U	0.016 U	0.015 U	0.015 U	0.015 U	0.016 U	0.015 U	0.015 U
Diclofenac	0.015 UJ	0.014 UJ	0.015 UJ	0.015 UJ	0.015 UJ	R	0.015 UJ	0.015 UJ	0.015 UJ	0.016 UJ	0.015 UJ	0.015 UJ
Diethylstilbestrol	0.038 UJ	0.036 UJ	**0.047 J**	0.038 UJ	0.039 UJ	**0.048 J**	R	0.038 UJ	R	R	0.037 UJ	R
Estradiol	0.038 UJ	0.036 UJ	0.037 UJ	0.038 UJ	0.039 UJ	0.04 UJ	0.037 UJ	0.038 UJ	0.037 UJ	0.039 UJ	0.037 UJ	0.038 UJ
Estriol	0.038 U	0.036 U	0.037 U	0.038 U	0.039 U	0.04 U	0.037 U	0.038 U	0.037 U	0.039 U	0.037 U	0.038 U

Table 2
Summary of Sediment Analytical Results
Phase I Sediment Cores
Gowanus Canal
Brooklyn, New York

Sample Name:	GC-SED-515	GC-SED-515	GC-SED-515	GC-SED-515	Duplicate of GC-SED-515	GC-SED-515	GC-SED-516	GC-SED-516	GC-SED-516	GC-SED-516	GC-SED-516	GC-SED-516
Sample Depth (feet):	(1.5-2.0)	(2.0-2.5)	(2.5-3.0)	(3.0-3.5)	(3.0-3.5)	(3.5-4.0)	(0.0-0.5)	(0.5-1.0)	(1.0-1.5)	(1.5-2.0)	(2.0-2.5)	(2.5-3.0)
Sample Date:	8/14/2012	8/14/2012	8/14/2012	8/14/2012	8/14/2012	8/14/2012	8/14/2012	8/14/2012	8/14/2012	8/14/2012	8/14/2012	8/14/2012
Estrone	0.038 UJ	0.036 UJ	0.037 UJ	0.038 UJ	0.039 UJ	0.04 UJ	0.037 UJ	0.038 UJ	0.037 UJ	0.039 UJ	0.037 UJ	0.038 UJ
Ethinyl Estradiol	0.038 U	0.036 U	0.037 U	0.038 U	0.039 U	0.04 U	0.037 U	0.038 U	0.037 U	0.039 U	0.037 U	0.038 U
Gemfibrozil	0.015 UJ	0.014 UJ	0.015 UJ	0.015 UJ	0.015 UJ	0.016 UJ	0.015 UJ	0.015 UJ	0.015 UJ	0.016 UJ	0.015 UJ	0.015 U
Ibuprofen	0.038 U	0.036 UJ	0.037 UJ	0.038 UJ	0.039 UJ	0.04 UJ	0.037 UJ	0.038 UJ	0.037 UJ	0.039 UJ	0.037 U	0.038 U
Meprobamate	0.0076 UJ	0.0072 UJ	0.0073 UJ	0.0076 UJ	0.0077 UJ	0.008 UJ	0.0074 UJ	0.0076 UJ	0.0074 UJ	0.0078 UJ	0.0074 UJ	0.0077 UJ
Naproxen	0.015 U	0.014 U	0.015 U	0.015 U	0.015 U	0.016 UJ	0.015 U	**0.0025 J**	**0.0021 J**	0.016 U	0.015 U	0.015 U
Pentoxifylline	**0.0051 J**	**0.0042 J**	0.015 U	0.015 U	0.015 U	0.016 U	**0.0013 J**	**0.0043 J**	**0.0019 J**	**0.0096 J**	0.015 U	**0.0045 J**
Phenytoin (5,5-Diphenylhydantion/ Dilantin)	**0.0022 J**	**0.0032 J**	**0.0035 J**	**0.0047 J**	**0.0043 J**	**0.0054 J**	0.037 U	0.038 U	0.037 U	0.039 U	**0.0021 J**	0.038 U
Progesterone	0.015 U	0.014 UJ	**0.0021 J**	**0.0021 J**	0.015 UJ	**0.0031 J**	**0.0072 J**	**0.0036 J**	0.015 UJ	0.016 UJ	0.015 U	**0.0022 J**
Sulfamethoxazole	0.015 U	0.014 U	0.015 U	0.015 U	0.015 U	0.016 U	**0.0017 J**	**0.0032 J**	**0.0015 J**	0.016 U	0.015 U	0.015 U
Testosterone	0.015 U	0.014 U	0.015 U	0.015 U	0.015 U	0.016 U	0.015 U	0.015 U	0.015 U	0.016 U	0.015 U	0.015 U
Trimethoprim	0.038 UJ	0.036 UJ	0.037 UJ	0.038 UJ	0.039 UJ	0.04 UJ	0.037 UJ	0.038 UJ	0.037 UJ	0.039 UJ	0.037 UJ	0.038 UJ
Pathogen												
C. perfringens (cfu/g)	**100000**	**11000**	**110000**	**260000**	NA	**340000**	**6000**	**57000**	**33000**	**21000**	**88000**	**34000**
Coliphage, Male Specific (pfu/10g)	0 U	0 U	0 U	0 U	NA	0 U	0 U	0 U	0 U	0 U	0 U	0 U
Coliphage, Somatic (pfu/10g)	0 UJ	0 UJ	0 UJ	**1 J**	NA	0 UJ	**36 J**	**11 J**	**2 J**	**1 J**	0 UJ	0 UJ
Cryptosporidium (Oocysts/g)	0 UJ	0 U	0 U	0 U	NA	0 U	0 U	0 U	0 U	0 U	0 U	0 U
E.Coli (mpn/g)	**2**	**1**	0 U	0 U	NA	0 U	**22.6**	**3.1**	**1**	0 U	**1**	0 U
Enterococci (mpn/g)	**126.1**	**62**	**46.8**	**66.3**	NA	**95.7**	**223.5**	**130.8**	**116.9**	**26.9**	**38.4**	**24.1**
Fecal Coliform (mpn/g)	**8450**	**913.7**	**740**	**410**	NA	**2310**	**1986.3**	**1119.9**	**264.6**	**1600**	**960**	**1190**
Giardia (Cysts/g)	0 U	0 U	0 U	0 U	NA	0 U	0 U	0 U	0 U	0 U	0 U	0 U
Plaque forming virus (pfu/g)	0 U	0 U	0 U	0 U	NA	0 U	0 U	0 U	0 U	0 U	0 U	0 U
Viruses (pos/neg)	neg	neg	neg	neg	NA	neg	neg	neg	neg	neg	neg	neg
Other (%)												
Percent Solids	**54.08**	**53.49**	**53.65**	**50.06**	NA	**49.57**	**37.94**	**47.97**	**54.04**	**75.86**	**84.02**	**58.76**
Total Solids	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Other (mg/kg)												
Total Organic Carbon	**99000 J**	**88000 J**	**100000 J**	**110000 J**	**120000 J**	**120000 J**	**86000 J**	**52000 J**	**50000 J**	**36000 J**	**51000 J**	**99000 J**

Table 2
Summary of Sediment Analytical Results
Phase I Sediment Cores
Gowanus Canal
Brooklyn, New York

Sample Name:	GC-SED-516	GC-SED-516	GC-SED-517	GC-SED-517	GC-SED-517	GC-SED-517	GC-SED-518	GC-SED-518	Duplicate of GC-SED-518	GC-SED-518	GC-SED-518	GC-SED-518
Sample Depth (feet):	(3.0-3.5)	(3.5-4.0)	(0.0-0.5)	(0.5-1.0)	(1.0-1.5)	(1.5-2.0)	(0.0-0.5)	(0.5-1.0)	(0.5-1.0)	(1.0-1.5)	(1.5-2.0)	(2.0-2.5)
Sample Date:	8/14/2012	8/14/2012	8/2/2012	8/2/2012	8/2/2012	8/2/2012	8/2/2012	8/2/2012	8/2/2012	8/2/2012	8/2/2012	8/2/2012
BTEX (mg/kg)												
Benzene	0.41 U	**0.14 J**	0.011 UJ	0.011 UJ	0.011 UJ	0.0071 U	**0.0026 J**	0.013 UJ	0.013 UJ	0.013 UJ	0.012 UJ	0.012 UJ
Toluene	**0.12 J**	**0.16 J**	0.011 UJ	0.011 UJ	0.011 UJ	0.0071 U	**0.0042 J**	0.013 UJ	0.013 UJ	**0.0035 J**	0.012 UJ	**0.0026 J**
Ethylbenzene	**0.48**	**1.1 J**	**0.0018 J**	0.011 UJ	0.011 UJ	0.0071 U	**0.012 J**	0.013 UJ	0.013 UJ	**0.0069 J**	**0.0036 J**	0.012 UJ
m,p-Xylene	**0.13 J**	**0.23 J**	0.022 UJ	0.023 UJ	0.022 UJ	0.014 U	**0.004 J**	0.026 UJ	0.027 UJ	0.026 UJ	0.024 UJ	0.024 UJ
o-Xylene	0.41 U	**0.2 J**	0.011 UJ	0.011 UJ	0.011 UJ	0.0071 U	**0.0031 J**	0.013 UJ	0.013 UJ	**0.002 J**	0.012 UJ	0.012 UJ
Total Xylene	1.2 U	**0.43 J**	0.034 UJ	0.034 UJ	0.033 UJ	0.021 U	**0.0071 J**	0.04 UJ	0.04 UJ	0.038 UJ	0.036 UJ	0.036 UJ
Total BTEX	**0.73**	**1.83**	**0.0018**	0	0	0	**0.0259**	0	0	**0.0124**	**0.0036**	**0.0026**
Other VOCs (mg/kg)												
Acetone	1.6 U	2.2 UJ	0.045 UJ	0.046 UJ	0.043 UJ	0.028 UJ	0.053 UJ	0.053 UJ	0.054 UJ	0.051 UJ	0.047 UJ	0.048 UJ
Bromochloromethane	0.41 U	0.55 UJ	0.011 UJ	0.011 UJ	0.011 UJ	0.0071 U	0.013 UJ	0.013 UJ	0.013 UJ	0.013 UJ	0.012 UJ	0.012 UJ
Bromodichloromethane	0.41 U	0.55 UJ	0.011 UJ	0.011 UJ	0.011 UJ	0.0071 U	0.013 UJ	0.013 UJ	0.013 UJ	0.013 UJ	0.012 UJ	0.012 UJ
Bromoform	0.41 U	0.55 UJ	0.011 UJ	0.011 UJ	0.011 UJ	0.0071 U	0.013 UJ	0.013 UJ	0.013 UJ	0.013 UJ	0.012 UJ	0.012 UJ
Bromomethane	0.41 U	0.55 UJ	0.011 UJ	0.011 UJ	0.011 UJ	0.0071 U	0.013 UJ	0.013 UJ	0.013 UJ	0.013 UJ	0.012 UJ	0.012 UJ
2-Butanone (Methyl ethyl ketone)	0.41 U	0.55 UJ	0.011 UJ	0.011 UJ	0.011 UJ	0.0071 UJ	0.013 UJ	0.013 UJ	0.013 UJ	0.013 UJ	0.012 UJ	0.012 UJ
Carbon disulfide	0.41 U	**0.14 J**	**0.0052 J**	**0.0058 J**	**0.0059 J**	**0.0027 J**	**0.012 J**	**0.0089 J**	**0.011 J**	**0.0087 J**	0.012 UJ	**0.0076 J**
Carbon tetrachloride	0.41 U	0.55 UJ	0.011 UJ	0.011 UJ	0.011 UJ	0.0071 U	0.013 UJ	0.013 UJ	0.013 UJ	0.013 UJ	0.012 UJ	0.012 UJ
Chlorobenzene	0.41 U	0.55 UJ	0.011 UJ	0.011 UJ	0.011 UJ	0.0071 U	0.013 UJ	0.013 UJ	0.013 UJ	0.013 UJ	0.012 UJ	0.012 UJ
Chloroethane	0.41 U	0.55 UJ	0.011 UJ	0.011 UJ	0.011 UJ	0.0071 UJ	0.013 UJ	0.013 UJ	0.013 UJ	0.013 UJ	0.012 UJ	0.012 UJ
Chloroform	0.41 U	0.55 UJ	0.011 UJ	0.011 UJ	0.011 UJ	0.0071 U	0.013 UJ	0.013 UJ	0.013 UJ	0.013 UJ	0.012 UJ	0.012 UJ
Chloromethane	0.41 U	0.55 UJ	0.011 UJ	0.011 UJ	0.011 UJ	0.0071 U	0.013 UJ	0.013 UJ	0.013 UJ	0.013 UJ	0.012 UJ	0.012 UJ
Cyclohexane	0.41 U	0.55 UJ	0.011 UJ	0.011 UJ	0.011 UJ	0.0071 U	0.013 UJ	0.013 UJ	0.013 UJ	0.013 UJ	0.012 UJ	0.012 UJ
1,2-Dibromo-3-chloropropane	0.41 U	0.55 UJ	0.011 UJ	0.011 UJ	0.011 UJ	0.0071 U	0.013 UJ	0.013 UJ	0.013 UJ	0.013 UJ	0.012 UJ	0.012 UJ
Dibromochloromethane	0.41 U	0.55 UJ	0.011 UJ	0.011 UJ	0.011 UJ	0.0071 U	0.013 UJ	0.013 UJ	0.013 UJ	0.013 UJ	0.012 UJ	0.012 UJ
1,2-Dibromoethane	0.41 U	0.55 UJ	0.011 UJ	0.011 UJ	0.011 UJ	0.0071 U	0.013 UJ	0.013 UJ	0.013 UJ	0.013 UJ	0.012 UJ	0.012 UJ
1,2-Dichlorobenzene	**0.071 J**	**0.12 J**	0.011 UJ	0.011 UJ	0.011 UJ	0.0071 U	0.013 UJ	0.013 UJ	0.013 UJ	0.013 UJ	0.012 UJ	0.012 UJ
1,3-Dichlorobenzene	0.41 U	0.55 UJ	0.011 UJ	0.011 UJ	0.011 UJ	0.0071 U	0.013 UJ	0.013 UJ	0.013 UJ	0.013 UJ	0.012 UJ	0.012 UJ
1,4-Dichlorobenzene	**0.26 J**	**0.22 J**	0.011 UJ	0.011 UJ	0.011 UJ	0.0071 U	**0.005 J**	**0.0017 J**	0.013 UJ	**0.002 J**	0.012 UJ	0.012 UJ
Dichlorodifluoromethane	0.41 U	0.55 UJ	0.011 UJ	0.011 UJ	0.011 UJ	0.0071 U	0.013 UJ	0.013 UJ	0.013 UJ	0.013 UJ	0.012 UJ	0.012 UJ
1,1-Dichloroethane	0.41 U	0.55 UJ	0.011 UJ	0.011 UJ	0.011 UJ	0.0071 U	0.013 UJ	0.013 UJ	0.013 UJ	0.013 UJ	0.012 UJ	0.012 UJ
1,2-Dichloroethane	0.41 U	0.55 UJ	0.011 UJ	0.011 UJ	0.011 UJ	0.0071 U	0.013 UJ	0.013 UJ	0.013 UJ	0.013 UJ	0.012 UJ	0.012 UJ
cis-1,2-Dichloroethene	0.41 U	**0.081 J**	0.011 UJ	0.011 UJ	0.011 UJ	0.0071 U	0.013 UJ	0.013 UJ	0.013 UJ	0.013 UJ	0.012 UJ	0.012 UJ
trans-1,2-Dichloroethene	0.41 U	0.55 UJ	0.011 UJ	0.011 UJ	0.011 UJ	0.0071 U	0.013 UJ	0.013 UJ	0.013 UJ	0.013 UJ	0.012 UJ	0.012 UJ
1,1-Dichloroethene	0.41 U	0.55 UJ	0.011 UJ	0.011 UJ	0.011 UJ	0.0071 U	0.013 UJ	0.013 UJ	0.013 UJ	0.013 UJ	0.012 UJ	0.012 UJ
1,2-Dichloropropane	0.41 U	0.55 UJ	0.011 UJ	0.011 UJ	0.011 UJ	0.0071 U	0.013 UJ	0.013 UJ	0.013 UJ	0.013 UJ	0.012 UJ	0.012 UJ
cis-1,3-Dichloropropene	0.41 U	0.55 UJ	0.011 UJ	0.011 UJ	0.011 UJ	0.0071 U	0.013 UJ	0.013 UJ	0.013 UJ	0.013 UJ	0.012 UJ	0.012 UJ
trans-1,3-Dichloropropene	0.41 U	0.55 UJ	0.011 UJ	0.011 UJ	0.011 UJ	0.0071 U	0.013 UJ	0.013 UJ	0.013 UJ	0.013 UJ	0.012 UJ	0.012 UJ
1,4-Dioxane	R	R	R	R	R	R	R	R	R	R	R	R
2-Hexanone	0.41 U	0.55 UJ	0.011 UJ	0.011 UJ	0.011 UJ	0.0071 UJ	0.013 UJ	0.013 UJ	0.013 UJ	0.013 UJ	0.012 UJ	0.012 UJ
Isopropyl benzene	**0.19 J**	**0.22 J**	0.011 UJ	0.011 UJ	0.011 UJ	0.0071 U	**0.0024 J**	0.013 UJ	0.013 UJ	**0.0018 J**	0.012 UJ	0.012 UJ
Methyl acetate	**0.77**	**0.91 J**	0.011 UJ	0.011 UJ	0.011 UJ	0.0071 U	0.013 UJ	0.013 UJ	0.013 UJ	0.013 UJ	0.012 UJ	0.012 UJ
Methyl tert-butyl ether (MTBE)	0.41 U	0.55 UJ	0.011 UJ	0.011 UJ	0.011 UJ	0.0071 U	0.013 UJ	0.013 UJ	0.013 UJ	0.013 UJ	0.012 UJ	0.012 UJ
4-Methyl-2-pentanone	0.41 U	0.55 UJ	0.011 UJ	0.011 UJ	0.011 UJ	0.0071 UJ	0.013 UJ	0.013 UJ	0.013 UJ	0.013 UJ	0.012 UJ	0.012 UJ
Methylcyclohexane	0.41 U	0.55 UJ	0.011 UJ	0.011 UJ	0.011 UJ	0.0071 U	0.013 UJ	0.013 UJ	0.013 UJ	0.013 UJ	0.012 UJ	0.012 UJ
Methylene chloride	0.41 U	0.55 UJ	0.011 UJ	0.011 UJ	0.011 UJ	0.0071 UJ	0.013 UJ	0.013 UJ	**0.014 J**	0.013 UJ	0.012 UJ	**0.015 J**
Styrene	0.41 U	0.55 UJ	0.011 UJ	0.011 UJ	0.011 UJ	0.0071 U	0.013 UJ	0.013 UJ	0.013 UJ	0.013 UJ	0.012 UJ	0.012 UJ
1,1,2,2-Tetrachloroethane	0.41 U	0.55 UJ	0.011 UJ	0.011 UJ	0.011 UJ	0.0071 U	0.013 UJ	0.013 UJ	0.013 UJ	0.013 UJ	0.012 UJ	0.012 UJ
Tetrachloroethene	0.41 U	0.55 UJ	0.011 UJ	0.011 UJ	0.011 UJ	0.0071 U	0.013 UJ	0.013 UJ	0.013 UJ	0.013 UJ	0.012 UJ	0.012 UJ

Table 2
Summary of Sediment Analytical Results
Phase I Sediment Cores
Gowanus Canal
Brooklyn, New York

Sample Name:	GC-SED-516	GC-SED-516	GC-SED-517	GC-SED-517	GC-SED-517	GC-SED-517	GC-SED-518	GC-SED-518	Duplicate of GC-SED-518	GC-SED-518	GC-SED-518	GC-SED-518
Sample Depth (feet):	(3.0-3.5)	(3.5-4.0)	(0.0-0.5)	(0.5-1.0)	(1.0-1.5)	(1.5-2.0)	(0.0-0.5)	(0.5-1.0)	(0.5-1.0)	(1.0-1.5)	(1.5-2.0)	(2.0-2.5)
Sample Date:	8/14/2012	8/14/2012	8/2/2012	8/2/2012	8/2/2012	8/2/2012	8/2/2012	8/2/2012	8/2/2012	8/2/2012	8/2/2012	8/2/2012
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	0.41 U	0.55 UJ	0.011 UJ	0.011 UJ	0.011 UJ	0.0071 U	0.013 UJ	0.013 UJ	0.013 UJ	0.013 UJ	0.012 UJ	0.012 UJ
1,2,3-Trichlorobenzene	0.41 UJ	0.55 UJ	0.011 UJ	0.011 UJ	0.011 UJ	0.0071 U	0.013 UJ	0.013 UJ	0.013 UJ	0.013 UJ	0.012 UJ	0.012 UJ
1,2,4-Trichlorobenzene	**0.058 J**	**0.074 J**	0.011 UJ	0.011 UJ	0.011 UJ	0.0071 U	0.013 UJ	0.013 UJ	0.013 UJ	0.013 UJ	0.012 UJ	0.012 UJ
1,1,1-Trichloroethane	0.41 U	0.55 UJ	0.011 UJ	0.011 UJ	0.011 UJ	0.0071 U	0.013 UJ	0.013 UJ	0.013 UJ	0.013 UJ	0.012 UJ	0.012 UJ
1,1,2-Trichloroethane	0.41 U	0.55 UJ	0.011 UJ	0.011 UJ	0.011 UJ	0.0071 U	0.013 UJ	0.013 UJ	0.013 UJ	0.013 UJ	0.012 UJ	0.012 UJ
Trichloroethene	0.41 U	0.55 UJ	0.011 UJ	0.011 UJ	0.011 UJ	0.0071 U	0.013 UJ	0.013 UJ	0.013 UJ	0.013 UJ	0.012 UJ	0.012 UJ
Trichlorofluoromethane	0.41 U	0.55 UJ	0.011 UJ	0.011 UJ	0.011 UJ	0.0071 U	0.013 UJ	0.013 UJ	0.013 UJ	0.013 UJ	0.012 UJ	0.012 UJ
Vinyl chloride	0.41 U	0.55 UJ	0.011 UJ	0.011 UJ	0.011 UJ	0.0071 U	0.013 UJ	0.013 UJ	0.013 UJ	0.013 UJ	0.012 UJ	0.012 UJ
PAHs (mg/kg)												
Acenaphthene	**6.5**	**22 J**	**2.2 J**	**2.4 J**	**6.6 J**	**0.24 J**	**4.3 J**	**5.6 J**	**6 J**	**6.4 J**	**5.7 J**	**3.4 J**
Acenaphthylene	**4.2**	**20 J**	**3.3 J**	**4 J**	**7.2 J**	**1.1**	**6.6 J**	**7.7 J**	**8.7 J**	**8 J**	**6.2 J**	**4.6 J**
Anthracene	**9.8**	**37 J**	**5.5 J**	**5.1 J**	**9.3 J**	**0.67**	**8.7 J**	**12 J**	**12 J**	**12 J**	**9 J**	**6 J**
Benz[a]anthracene	**11**	**41 J**	**11 J**	**7.4 J**	**23 J**	**1.9**	**12 J**	**14 J**	**14 J**	**14 J**	**10 J**	**8.4 J**
Benzo[a]pyrene	**8.3 J**	**30 J**	**10 J**	**6.4 J**	**20 J**	**1.9**	**10 J**	**12 J**	**12 J**	**12 J**	**8.7 J**	**6.9 J**
Benzo[b]fluoranthene	**4.5 J**	**16 J**	**7.7 J**	**4.1 J**	**17 J**	**1.6**	**5.2 J**	**5.4 J**	**7.7 J**	**8.8 J**	**5.8 J**	**3.6 J**
Benzo[g,h,i]perylene	**3.6 J**	**14 J**	**5.5 J**	**3.4 J**	**11 J**	**1**	**4.9 J**	**5.8 J**	**3.4 J**	**5.4 J**	**4.3 J**	**3.6 J**
Benzo[k]fluoranthene	**2.8 J**	**11 J**	**4.6 J**	**2.4 J**	**7.7 J**	**0.42 J**	**4.7 J**	**6.6 J**	**4.1 J**	**2.3 J**	**2.9 J**	**3.6 J**
Chrysene	**11**	**42 J**	**11 J**	**7.3 J**	**21 J**	**1.6**	**12 J**	**15 J**	**14 J**	**14 J**	**11 J**	**7.6 J**
Dibenz[a,h]anthracene	**2.4 J**	**5.8 J**	**1.4 J**	**1.1 J**	**2.3 J**	**0.28 J**	**1.2 J**	**1.5 J**	**1.1 J**	**1.9 J**	**1.2 J**	**0.79 J**
Fluoranthene	**15**	**57 J**	**23 J**	**13 J**	**46 J**	**3.5**	**21 J**	**25 J**	**23 J**	**25 J**	**18 J**	**14 J**
Fluorene	**3.1**	**17 J**	**2.3 J**	**1.6 J**	**5.1 J**	**0.25 J**	**3.7 J**	**4.9 J**	**5.2 J**	**5.1 J**	**4.7 J**	**2.5 J**
Indeno[1,2,3-cd]pyrene	**3.8 J**	**12 J**	**4.5 J**	**2.4 J**	**8.9 J**	**0.76**	**3.8 J**	**4.6 J**	**3 J**	**4.5 J**	**3.4 J**	**2.8 J**
2-Methylnaphthalene	**1**	**4.7 J**	**0.7 J**	**0.71 J**	**2.2 J**	**0.14 J**	**1.5 J**	**2.1 J**	**1.9 J**	**2.1 J**	**1.9 J**	**1 J**
Naphthalene	**1.9**	**11 J**	**0.94 J**	**1.1 J**	**5.1 J**	**0.2 J**	**1.9 J**	**2.4 J**	**2.4 J**	**2.4 J**	**2.2 J**	**1.4 J**
Phenanthrene	**18**	**84 J**	**14 J**	**6.5 J**	**32 J**	**0.8**	**16 J**	**24 J**	**22 J**	**23 J**	**19 J**	**12 J**
Pyrene	**19**	**97 J**	**22 J**	**15 J**	**39 J**	**4.6**	**24 J**	**29 J**	**27 J**	**28 J**	**22 J**	**16 J**
Total PAHs	**125.9**	**521.5**	**129.6**	**83.91**	**263.4**	**20.96**	**141.5**	**177.6**	**167.5**	**174.9**	**136**	**98.19**
Alkylated PAHs (mg/kg)												
Acenaphthene	**10.9175**	**28.0388**	**3.11857 J**	**3.82206 J**	**0.50566**	**0.19678**	**7.6566 J**	**8.99865 J**	**8.32014 J**	**9.22059 J**	**8.05818 J**	**5.18821 J**
Acenaphthylene	**6.3002**	**17.9991**	**4.14987 J**	**4.42009 J**	**2.69883**	**0.75938**	**7.25741 J**	**7.61542 J**	**8.42279 J**	**8.42593 J**	**5.33526 J**	**4.65413 J**
Anthracene	**17.53861**	**47.21744**	**6.75845 J**	**8.44001 J**	**2.12548**	**0.73327**	**17.5134 J**	**18.8026 J**	**17.16492 J**	**19.52685 J**	**14.04458 J**	**9.80579 J**
Benz[a]anthracene	**17.28586**	**45.45635**	**11.33599 J**	**13.291 J**	**6.29371**	**1.92712**	**20.37154 J**	**21.81168 J**	**24.53541 J**	**20.85783 J**	**14.89972 J**	**14.66462 J**
Benzo[a]pyrene	**12.62039**	**33.811**	**9.74523 J**	**9.69412 J**	**5.746**	**1.88161**	**15.1731 J**	**15.81774 J**	**16.95155 J**	**15.37723 J**	**10.94992 J**	**9.70872 J**
Benzo[b]fluoranthene	**7.01529**	**17.58995**	**6.39388 J**	**6.08594 J**	**4.06435**	**1.18882**	**8.98546 J**	**9.56234 J**	**10.18075 J**	**9.49668 J**	**6.92965 J**	**5.93625 J**
Benzo[e]pyrene	**7.24803**	**19.21041**	**6.39303 J**	**5.99084 J**	**3.62217**	**1.18587**	**9.08649 J**	**9.38401 J**	**10.19482 J**	**9.03514 J**	**6.61592 J**	**6.04322 J**
Benzo[g,h,i]perylene	**5.10843**	**13.33298**	**5.56564 J**	**4.7311 J**	**2.89937**	**0.67114**	**5.37152 J**	**6.05796 J**	**7.81695 J**	**5.64561 J**	**3.82966 J**	**4.28821 J**
Benzo[k]fluoranthene	**8.1462**	**22.8491**	**7.60864 J**	**7.10063 J**	**4.23742**	**1.43938**	**10.82863 J**	**11.05787 J**	**11.79715 J**	**10.79244 J**	**7.86808 J**	**7.30908 J**
1,1-Biphenyl	**0.66936**	**3.66153**	**0.28161 J**	**0.28521 J**	0.01585 U	**0.02908**	**0.65306 J**	**0.76786 J**	**0.74446 J**	**0.88871 J**	**0.69178 J**	**0.4545 J**
Chrysene	**15.94923**	**42.95269**	**10.60826 J**	**12.12024 J**	**4.43424**	**1.59125**	**19.04123 J**	**20.21843 J**	**22.69347 J**	**19.30254 J**	**13.72626 J**	**13.32293 J**
C1-Chrysenes	**15.614**	**42.39833**	**12.00194 J**	**11.82431 J**	**7.33321**	**2.62165**	**19.55934 J**	**21.61618 J**	**23.96451 J**	**20.1492 J**	**13.97111 J**	**12.48967 J**
C2-Chrysenes	**9.01539**	**24.88286**	**6.65952 J**	**6.93275 J**	**4.46498**	**1.64921**	**11.27557 J**	**12.45173 J**	**15.36904 J**	**12.40895 J**	**8.26767 J**	**7.10698 J**
C3-Chrysenes	**4.48265**	**12.49437**	**3.18476 J**	**3.12081 J**	**2.14714**	**0.79653**	**5.67382 J**	**6.27182 J**	**7.11801 J**	**5.33308 J**	**3.9227 J**	**3.45697 J**
C4-Chrysenes	**2.07423**	**5.72925**	**1.56713 J**	**1.52626 J**	**1.12896**	**0.31797**	**2.43054 J**	**2.58492 J**	**3.11401 J**	**2.16911 J**	**1.56285 J**	**1.55342 J**
Dibenz[a,h]anthracene	**1.8412**	**4.86477**	**1.6305 J**	**1.32645 J**	**0.8589**	**0.21543**	**1.57661 J**	**1.79981 J**	**2.49452 J**	**1.77198 J**	**1.24339 J**	**1.35177 J**
Dibenzofuran	**0.9752**	**3.21155**	**0.35934 J**	**0.39774 J**	0.01572 U	**0.03043**	**0.71658 J**	**0.9336 J**	**0.85011 J**	**0.85223 J**	**0.77833 J**	**0.53964 J**
Dibenzothiophene	**5.46556**	**14.46536**	**1.84664 J**	**2.24866 J**	**0.27767**	**0.1059**	**4.68759 J**	**5.1307 J**	**4.43267 J**	**5.15945 J**	**3.91659 J**	**2.54406 J**
C1-Dibenzothiophenes	**12.49295**	**33.09217**	**4.5039 J**	**5.66308 J**	**1.01687**	**0.43271**	**11.88017 J**	**12.83573 J**	**11.71837 J**	**12.86967 J**	**8.97497 J**	**6.42268 J**
C2-Dibenzothiophenes	**14.58629**	**36.63196**	**7.00246 J**	**8.14245 J**	**2.72291**	**1.20442**	**15.01715 J**	**16.23934 J**	**15.85352 J**	**15.90113 J**	**10.83445 J**	**8.18137 J**

Table 2
Summary of Sediment Analytical Results
Phase I Sediment Cores
Gowanus Canal
Brooklyn, New York

Sample Name:	GC-SED-516	GC-SED-516	GC-SED-517	GC-SED-517	GC-SED-517	GC-SED-517	GC-SED-518	GC-SED-518	Duplicate of GC-SED-518	GC-SED-518	GC-SED-518	GC-SED-518
Sample Depth (feet):	(3.0-3.5)	(3.5-4.0)	(0.0-0.5)	(0.5-1.0)	(1.0-1.5)	(1.5-2.0)	(0.0-0.5)	(0.5-1.0)	(0.5-1.0)	(1.0-1.5)	(1.5-2.0)	(2.0-2.5)
Sample Date:	8/14/2012	8/14/2012	8/2/2012	8/2/2012	8/2/2012	8/2/2012	8/2/2012	8/2/2012	8/2/2012	8/2/2012	8/2/2012	8/2/2012
C3-Dibenzothiophenes	**9.61018**	**23.34444**	**4.84765 J**	**5.48122 J**	**3.07501**	**1.22095**	**9.51937 J**	**10.23085 J**	**10.49707 J**	**9.65294 J**	**6.88835 J**	**5.39886 J**
C4-Dibenzothiophenes	**3.45319**	**8.58579**	**2.05396 J**	**2.25699 J**	**1.60757**	**0.57266**	**4.06567 J**	**4.19082 J**	**4.23444 J**	**4.14011 J**	**2.75377 J**	**2.11934 J**
Fluoranthene	**24.48213**	**67.59486**	**18.71918 J**	**18.84017 J**	**7.30347**	**3.29555**	**30.89466 J**	**31.2283 J**	**31.42239 J**	**32.5751 J**	**23.07337 J**	**19.95764 J**
C1-Fluoranthenes/pyrenes	**39.23958**	**96.42913**	**27.23506 J**	**25.44087 J**	**15.90931**	**6.50683**	**47.86592 J**	**51.40176 J**	**51.72206 J**	**50.33336 J**	**35.42142 J**	**26.67081 J**
C2-Fluoranthenes/pyrenes	**20.69303**	**51.37667**	**14.09785 J**	**12.5578 J**	**8.43442**	**3.67846**	**24.86779 J**	**25.7954 J**	**27.50197 J**	**25.13554 J**	**17.70886 J**	**13.31535 J**
C3-Fluoranthenes/pyrenes	**9.49402**	**23.15922**	**6.86975 J**	**6.41253 J**	**4.39147**	**1.96137**	**11.825 J**	**13.07319 J**	**14.09245 J**	**12.3627 J**	**8.97404 J**	**6.70644 J**
C4-Fluoranthenes/pyrenes	**3.0519**	**7.78588**	**2.02142 J**	**2.19964 J**	**1.61833**	**0.58794**	**3.82212 J**	**4.11595 J**	**4.47321 J**	**3.78596 J**	**2.71545 J**	**2.02456 J**
Fluorene	**3.62015**	**17.71185**	**1.21226 J**	**1.52726 J**	**0.25456**	**0.07322**	**4.30805 J**	**5.41382 J**	**4.94354 J**	**5.4786 J**	**4.99844 J**	**3.00836 J**
C1-Fluorenes	**10.21166**	**7.49775**	**3.90619 J**	**4.55226 J**	**0.85663**	**0.33679**	**9.84605 J**	**10.95219 J**	**10.32378 J**	**11.25572 J**	**8.24566 J**	**5.78846 J**
C2-Fluorenes	**16.04891**	**40.26907**	**6.53042 J**	**7.56996 J**	**1.87678**	**0.87814**	**14.84516 J**	**16.04654 J**	**16.50865 J**	**16.37288 J**	**10.95194 J**	**8.45817 J**
C3-Fluorenes	**10.49993**	**25.90702**	**5.77889 J**	**6.01981 J**	**2.71041**	**1.14758**	**11.35817 J**	**11.8436 J**	**11.60837 J**	**11.20506 J**	**7.63395 J**	**6.15432 J**
Indeno[1,2,3-cd]pyrene	**5.61428**	**14.85116**	**5.87241 J**	**4.89808 J**	**3.12795**	**0.73276**	**5.83582 J**	**6.77087 J**	**8.24617 J**	**5.97656 J**	**4.22036 J**	**4.75213 J**
Naphthalene	**2.4886**	**14.8296**	0.02107 UJ	**1.50311 J**	0.01577 U	**0.19483**	**3.00581 J**	**3.74303 J**	**3.53249 J**	**3.72964 J**	**2.80462 J**	**2.15234 J**
C1-Naphthalenes	**2.44784**	**14.601**	**1.48329 J**	**1.49824 J**	0.01577 U	**0.13597**	**4.02008 J**	**4.94183 J**	**4.69851 J**	**5.29009 J**	**4.17326 J**	**2.75447 J**
C2-Naphthalenes	**14.86243**	**51.17563**	**4.34015 J**	**6.01119 J**	**0.79793**	**0.34196**	**13.1375 J**	**15.7737 J**	**15.06537 J**	**17.00928 J**	**13.04275 J**	**9.22072 J**
C3-Naphthalenes	**23.65013**	**62.30511**	**6.57443 J**	**9.08768 J**	**1.89473**	**0.57228**	**16.43765 J**	**18.32809 J**	**17.77611 J**	**19.44378 J**	**13.52436 J**	**10.35953 J**
C4-Naphthalenes	**14.77484**	**37.50478**	**6.223 J**	**7.83722 J**	**2.6058**	**0.85484**	**13.31228 J**	**14.29628 J**	**14.11391 J**	**14.15912 J**	**9.41866 J**	**7.98074 J**
Perylene	**2.11472**	**5.88965**	**2.25636 J**	**1.7157 J**	**1.17429**	**0.35378**	**2.50678 J**	**2.66746 J**	**2.9418 J**	**2.43821 J**	**1.94475 J**	**1.798 J**
Phenanthrene	**31.80269**	**107.4049**	**8.1736 J**	**9.97458 J**	**2.11625**	**0.55911**	**29.3494 J**	**33.09538 J**	**31.58315 J**	**37.03139 J**	**27.18916 J**	**19.45085 J**
C1-Phenanthrenes/anthracenes	**53.44273**	**147.38599**	**18.50898 J**	**23.23828 J**	**5.81153**	**2.03938**	**49.56456 J**	**54.41535 J**	**49.62088 J**	**56.39572 J**	**39.47757 J**	**28.03171 J**
C2-Phenanthrenes/anthracenes	**42.79332**	**104.35239**	**20.50007 J**	**23.42512 J**	**8.66236**	**3.71978**	**43.71067 J**	**47.12007 J**	**46.3338 J**	**46.62903 J**	**31.95913 J**	**23.94379 J**
C3-Phenanthrenes/anthracenes	**21.1394**	**51.23046**	**11.41775 J**	**11.30278 J**	**6.29489**	**2.7043**	**21.60029 J**	**22.6451 J**	**23.29871 J**	**22.08819 J**	**15.2405 J**	**11.77303 J**
C4-Phenanthrenes/anthracenes	**6.28281**	**15.34844**	**3.98788 J**	**4.26837 J**	**2.74878**	**1.1067**	**7.5875 J**	**8.09029 J**	**7.80066 J**	**7.64021 J**	**5.40683 J**	**3.95305 J**
Pyrene	**38.93287**	**94.75276**	**24.37556 J**	**25.7998 J**	**14.92563**	**4.59171**	**38.96 J**	**41.24352 J**	**42.39531 J**	**43.71362 J**	**29.25461 J**	**27.09113 J**
TPH (mg/kg)												
Total Petroleum Hydrocarbons	**12910.94**	**32536.66**	**6802.99 J**	**7768.31 J**	**4433.96**	**1317.69**	**13591.24 J**	**11868.82 J**	**12081.57 J**	**12130.28 J**	**8667.56 J**	**8440.14 J**
Other SVOCs (mg/kg)												
Acetophenone	2.7 U	**0.59 J**	3.7 UJ	3.7 UJ	3.5 UJ	2.3 U	4.4 UJ	4.3 UJ	4.4 UJ	4.2 UJ	3.9 UJ	3.9 UJ
Atrazine	2.7 UJ	3.6 UJ	3.7 UJ	3.7 UJ	3.5 UJ	2.3 U	4.4 UJ	4.3 UJ	4.4 UJ	4.2 UJ	3.9 UJ	3.9 UJ
Benzaldehyde	2.7 U	**2.8 J**	3.7 UJ	3.7 UJ	3.5 UJ	2.3 U	4.4 UJ	4.3 UJ	**0.73 J**	**0.68 J**	3.9 UJ	3.9 UJ
1,1-Biphenyl	**0.61 J**	**3 J**	3.7 UJ	3.7 UJ	**0.64 J**	2.3 U	**0.4 J**	**0.53 J**	**0.53 J**	**0.62 J**	**0.61 J**	**0.38 J**
Bis(chloroisopropyl)ether	0.54 U	0.74 UJ	0.75 UJ	0.76 UJ	0.72 UJ	0.47 U	0.89 UJ	0.88 UJ	0.89 UJ	0.86 UJ	0.79 UJ	0.79 UJ
Bis(2-chloroethyl)ether	0.54 U	0.74 UJ	0.75 UJ	0.76 UJ	0.72 UJ	0.47 U	0.89 UJ	0.88 UJ	0.89 UJ	0.86 UJ	0.79 UJ	0.79 UJ
Bis(2-chloroethoxy)methane	2.7 U	3.6 UJ	3.7 UJ	3.7 UJ	3.5 UJ	2.3 U	4.4 UJ	4.3 UJ	4.4 UJ	4.2 UJ	3.9 UJ	3.9 UJ
Bis(2-ethylhexyl)phthalate	**58**	**140 J**	**23 J**	**19 J**	**20 J**	**44**	**29 J**	**31 J**	**33 J**	**43 J**	**25 J**	**20 J**

Table 2
Summary of Sediment Analytical Results
Phase I Sediment Cores
Gowanus Canal
Brooklyn, New York

Sample Name:	GC-SED-516	GC-SED-516	GC-SED-517	GC-SED-517	GC-SED-517	GC-SED-517	GC-SED-518	GC-SED-518	Duplicate of GC-SED-518	GC-SED-518	GC-SED-518	GC-SED-518
Sample Depth (feet):	(3.0-3.5)	(3.5-4.0)	(0.0-0.5)	(0.5-1.0)	(1.0-1.5)	(1.5-2.0)	(0.0-0.5)	(0.5-1.0)	(0.5-1.0)	(1.0-1.5)	(1.5-2.0)	(2.0-2.5)
Sample Date:	8/14/2012	8/14/2012	8/2/2012	8/2/2012	8/2/2012	8/2/2012	8/2/2012	8/2/2012	8/2/2012	8/2/2012	8/2/2012	8/2/2012
4-Bromophenyl phenyl ether	2.7 U	3.6 UJ	3.7 UJ	3.7 UJ	3.5 UJ	2.3 U	4.4 UJ	4.3 UJ	4.4 UJ	4.2 UJ	3.9 UJ	3.9 UJ
Butyl benzyl phthalate	**1.1 J**	**2.6 J**	**0.83 J**	3.7 UJ	3.5 UJ	2.3 U	4.4 UJ	4.3 UJ	**0.69 J**	**0.6 J**	3.9 UJ	3.9 UJ
Caprolactam	14 UJ	19 UJ	19 UJ	19 UJ	**2.9 J**	12 U	23 UJ	22 UJ	23 UJ	22 UJ	20 UJ	20 UJ
Carbazole	**0.41 J**	**0.96 J**	**0.89 J**	**0.19 J**	**3.3 J**	**0.076 J**	**0.3 J**	**0.36 J**	0.89 UJ	**0.41 J**	**0.38 J**	**0.3 J**
4-Chloro-3-methylphenol	2.7 U	3.6 UJ	3.7 UJ	3.7 UJ	3.5 UJ	2.3 U	4.4 UJ	4.3 UJ	4.4 UJ	4.2 UJ	3.9 UJ	3.9 UJ
4-Chloroaniline	**1 J**	**6.8 J**	3.7 UJ	**0.44 J**	**0.6 J**	2.3 U	**0.85 J**	**0.92 J**	**1.4 J**	**1.2 J**	**0.92 J**	**0.76 J**
Chlorophene	2.7 U	3.6 UJ	3.7 UJ	3.7 UJ	3.5 UJ	2.3 U	4.4 UJ	4.3 UJ	4.4 UJ	4.2 UJ	3.9 UJ	3.9 UJ
2-Chloronaphthalene	0.54 U	0.74 UJ	0.75 UJ	0.76 UJ	0.72 UJ	0.47 U	0.89 UJ	0.88 UJ	0.89 UJ	0.86 UJ	0.79 UJ	0.79 UJ
2-Chlorophenol	2.7 U	3.6 UJ	3.7 UJ	3.7 UJ	3.5 UJ	2.3 U	4.4 UJ	4.3 UJ	4.4 UJ	4.2 UJ	3.9 UJ	3.9 UJ
4-Chlorophenyl phenyl ether	2.7 U	3.6 UJ	3.7 UJ	3.7 UJ	3.5 UJ	2.3 U	4.4 UJ	4.3 UJ	4.4 UJ	4.2 UJ	3.9 UJ	3.9 UJ
Dibenzofuran	**0.85 J**	**3 J**	**0.81 J**	3.7 UJ	**2.8 J**	2.3 U	4.4 UJ	4.3 UJ	4.4 UJ	4.2 UJ	3.9 UJ	3.9 UJ
3,3-Dichlorobenzidine	2.7 U	3.6 UJ	3.7 UJ	3.7 UJ	3.5 UJ	2.3 U	4.4 UJ	4.3 UJ	4.4 UJ	4.2 UJ	3.9 UJ	3.9 UJ
2,4-Dichlorophenol	0.54 U	0.74 UJ	0.75 UJ	0.76 UJ	0.72 UJ	0.47 U	0.89 UJ	0.88 UJ	0.89 UJ	0.86 UJ	0.79 UJ	0.79 UJ
Diethyl phthalate	2.7 U	3.6 UJ	3.7 UJ	3.7 UJ	3.5 UJ	2.3 U	4.4 UJ	4.3 UJ	4.4 UJ	4.2 UJ	3.9 UJ	3.9 UJ
Dimethyl phthalate	2.7 U	3.6 UJ	3.7 UJ	3.7 UJ	3.5 UJ	2.3 U	4.4 UJ	4.3 UJ	4.4 UJ	4.2 UJ	3.9 UJ	3.9 UJ
2,4-Dimethylphenol	2.7 U	3.6 UJ	3.7 UJ	3.7 UJ	3.5 UJ	2.3 U	4.4 UJ	4.3 UJ	4.4 UJ	4.2 UJ	3.9 UJ	3.9 UJ
Di-n-butyl phthalate	2.7 U	**0.82 J**	3.7 UJ	3.7 UJ	3.5 UJ	2.3 U	4.4 UJ	4.3 UJ	4.4 UJ	4.2 UJ	3.9 UJ	3.9 UJ
4,6-Dinitro-2-methylphenol	14 U	19 UJ	19 UJ	19 UJ	18 UJ	12 U	23 UJ	22 UJ	23 UJ	22 UJ	20 UJ	20 UJ
2,4-Dinitrophenol	14 UJ	19 UJ	19 UJ	19 UJ	18 UJ	12 U	23 UJ	22 UJ	23 UJ	22 UJ	20 UJ	20 UJ
2,4-Dinitrotoluene	2.7 U	3.6 UJ	3.7 UJ	3.7 UJ	3.5 UJ	2.3 U	4.4 UJ	4.3 UJ	4.4 UJ	4.2 UJ	3.9 UJ	3.9 UJ
2,6-Dinitrotoluene	2.7 U	3.6 UJ	3.7 UJ	3.7 UJ	3.5 UJ	2.3 U	4.4 UJ	4.3 UJ	4.4 UJ	4.2 UJ	3.9 UJ	3.9 UJ
Di-n-octyl phthalate	**1.1 J**	**6.8 J**	**0.4 J**	**0.78 J**	**0.63 J**	2.3 U	**0.97 J**	**1.2 J**	**1.2 J**	**1.2 J**	**0.84 J**	**0.68 J**
Hexachlorobenzene	0.54 U	0.74 UJ	0.75 UJ	0.76 UJ	0.72 UJ	0.47 U	0.89 UJ	0.88 UJ	0.89 UJ	0.86 UJ	0.79 UJ	0.79 UJ
Hexachlorobutadiene	0.54 U	0.74 UJ	0.75 UJ	0.76 UJ	0.72 UJ	0.47 U	0.89 UJ	0.88 UJ	0.89 UJ	0.86 UJ	0.79 UJ	0.79 UJ
Hexachlorocyclopentadiene	2.7 UJ	3.6 UJ	3.7 UJ	3.7 UJ	3.5 UJ	2.3 U	4.4 UJ	4.3 UJ	4.4 UJ	4.2 UJ	3.9 UJ	3.9 UJ
Hexachloroethane	2.7 U	3.6 UJ	3.7 UJ	3.7 UJ	3.5 UJ	2.3 U	4.4 UJ	4.3 UJ	4.4 UJ	4.2 UJ	3.9 UJ	3.9 UJ
Isophorone	2.7 U	3.6 UJ	3.7 UJ	3.7 UJ	3.5 UJ	2.3 U	4.4 UJ	4.3 UJ	4.4 UJ	4.2 UJ	3.9 UJ	3.9 UJ
2-Methylphenol (o-Cresol)	2.7 U	3.6 UJ	3.7 UJ	3.7 UJ	3.5 UJ	2.3 U	4.4 UJ	4.3 UJ	4.4 UJ	4.2 UJ	3.9 UJ	3.9 UJ
3,4-Methylphenol (m,p-Cresol)	2.7 U	**0.39 J**	3.7 UJ	3.7 UJ	3.5 UJ	2.3 U	4.4 UJ	4.3 UJ	4.4 UJ	4.2 UJ	3.9 UJ	3.9 UJ
2-Nitroaniline	14 U	19 UJ	19 UJ	19 UJ	18 UJ	12 U	23 UJ	22 UJ	23 UJ	22 UJ	20 UJ	20 UJ
3-Nitroaniline	14 UJ	19 UJ	19 UJ	19 UJ	18 UJ	12 U	23 UJ	22 UJ	23 UJ	22 UJ	20 UJ	20 UJ
4-Nitroaniline	14 UJ	19 UJ	19 UJ	19 UJ	18 UJ	12 U	23 UJ	22 UJ	23 UJ	22 UJ	20 UJ	20 UJ
Nitrobenzene	5.4 U	7.4 UJ	7.5 UJ	7.6 UJ	7.2 UJ	4.7 U	8.9 UJ	8.8 UJ	8.9 UJ	8.6 UJ	7.9 UJ	7.9 UJ
2-Nitrophenol	2.7 U	3.6 UJ	3.7 UJ	3.7 UJ	3.5 UJ	2.3 U	4.4 UJ	4.3 UJ	4.4 UJ	4.2 UJ	3.9 UJ	3.9 UJ

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Summary of Sediment Analytical Results
Phase I Sediment Cores
Gowanus Canal
Brooklyn, New York

Sample Name:	GC-SED-516	GC-SED-516	GC-SED-517	GC-SED-517	GC-SED-517	GC-SED-517	GC-SED-518	GC-SED-518	Duplicate of GC-SED-518	GC-SED-518	GC-SED-518	GC-SED-518
Sample Depth (feet):	(3.0-3.5)	(3.5-4.0)	(0.0-0.5)	(0.5-1.0)	(1.0-1.5)	(1.5-2.0)	(0.0-0.5)	(0.5-1.0)	(0.5-1.0)	(1.0-1.5)	(1.5-2.0)	(2.0-2.5)
Sample Date:	8/14/2012	8/14/2012	8/2/2012	8/2/2012	8/2/2012	8/2/2012	8/2/2012	8/2/2012	8/2/2012	8/2/2012	8/2/2012	8/2/2012
4-Nitrophenol	14 UJ	19 UJ	19 UJ	19 UJ	18 UJ	12 U	23 UJ	22 UJ	23 UJ	22 UJ	20 UJ	20 UJ
N-Nitrosodi-n-propylamine	0.54 U	0.74 UJ	0.75 UJ	0.76 UJ	0.72 UJ	0.47 U	0.89 UJ	0.88 UJ	0.89 UJ	0.86 UJ	0.79 UJ	0.79 UJ
N-Nitrosodiphenylamine	2.7 U	3.6 UJ	3.7 UJ	3.7 UJ	3.5 UJ	2.3 U	4.4 UJ	4.3 UJ	4.4 UJ	4.2 UJ	3.9 UJ	3.9 UJ
Pentachlorophenol	2.7 U	3.6 UJ	3.7 UJ	3.7 UJ	3.5 UJ	2.3 U	4.4 UJ	4.3 UJ	4.4 UJ	4.2 UJ	3.9 UJ	3.9 UJ
Phenol	0.54 U	**0.19 J**	0.75 UJ	0.76 UJ	0.72 UJ	0.47 U	0.89 UJ	0.88 UJ	0.89 UJ	0.86 UJ	0.79 UJ	0.79 UJ
1,2,4,5-Tetrachlorobenzene	2.7 U	3.6 UJ	3.7 UJ	3.7 UJ	3.5 UJ	2.3 U	4.4 UJ	4.3 UJ	4.4 UJ	4.2 UJ	3.9 UJ	3.9 UJ
2,3,4,6-Tetrachlorophenol	2.7 U	3.6 UJ	3.7 UJ	3.7 UJ	3.5 UJ	2.3 U	4.4 UJ	4.3 UJ	4.4 UJ	4.2 UJ	3.9 UJ	3.9 UJ
2,4,5-Trichlorophenol	2.7 U	3.6 UJ	3.7 UJ	3.7 UJ	3.5 UJ	2.3 U	4.4 UJ	4.3 UJ	4.4 UJ	4.2 UJ	3.9 UJ	3.9 UJ
2,4,6-Trichlorophenol	2.7 U	3.6 UJ	3.7 UJ	3.7 UJ	3.5 UJ	2.3 U	4.4 UJ	4.3 UJ	4.4 UJ	4.2 UJ	3.9 UJ	3.9 UJ
PCBs (mg/kg)												
Aroclor 1016	**0.96 J**	**2 J**	0.18 UJ	0.019 UJ	0.018 UJ	0.12 U	0.022 UJ	0.022 UJ	0.022 UJ	0.021 UJ	0.019 UJ	0.019 UJ
Aroclor 1221	0.14 U	0.18 UJ	0.18 UJ	0.019 UJ	0.018 UJ	0.12 U	0.022 UJ	0.022 UJ	0.022 UJ	0.021 UJ	0.019 UJ	0.019 UJ
Aroclor 1232	0.14 U	0.18 UJ	0.18 UJ	0.019 UJ	0.018 UJ	0.12 U	0.022 UJ	0.022 UJ	0.022 UJ	0.021 UJ	0.019 UJ	0.019 UJ
Aroclor 1242	0.14 U	0.18 UJ	**3.1 J**	**0.94 J**	**1.2 J**	**5.2 J**	**0.99 J**	**1.2 J**	**0.81 J**	**1.2 J**	**0.76 J**	**0.66 J**
Aroclor 1248	0.14 U	0.18 UJ	0.18 UJ	0.019 UJ	0.018 UJ	0.12 UJ	0.022 UJ	0.022 UJ	0.022 UJ	0.021 UJ	0.019 UJ	0.019 UJ
Aroclor 1254	0.14 U	0.18 UJ	0.18 UJ	0.019 UJ	0.018 UJ	0.12 UJ	0.022 UJ	0.022 UJ	0.022 UJ	0.021 UJ	0.019 UJ	0.019 UJ
Aroclor 1260	**12 J**	**5.9 J**	**4.1 J**	**1.3 J**	**1.7 J**	**2.7 J**	**1.7 J**	**1.9 J**	**1.3 J**	**1.8 J**	**0.98 J**	**0.87 J**
Aroclor 1262	0.14 U	0.18 UJ	0.18 UJ	0.019 UJ	0.018 UJ	0.12 UJ	0.022 UJ	0.022 UJ	0.022 UJ	0.021 UJ	0.019 UJ	0.019 UJ
Aroclor 1268	0.14 U	0.18 UJ	0.18 UJ	0.019 UJ	0.018 UJ	0.12 UJ	0.022 UJ	0.022 UJ	0.022 UJ	0.021 UJ	0.019 UJ	0.019 UJ
Total PCBs	**13 J**	**7.9 J**	**7.2 J**	**2.2 J**	**2.9 J**	**7.9 J**	**2.7 J**	**3.1 J**	**2.1 J**	**3 J**	**1.7 J**	**1.5 J**
Pesticides (mg/kg)												
Aldrin	**0.016 J**	0.018 UJ	**0.057 J**	**0.058 J**	**0.058 J**	**0.022 J**	**0.058 J**	0.022 UJ	0.022 UJ	0.021 UJ	0.02 UJ	0.02 UJ
alpha-BHC	0.014 U	0.018 UJ	0.019 UJ	0.019 UJ	0.018 UJ	0.012 U	0.022 UJ	0.022 UJ	0.022 UJ	0.021 UJ	0.02 UJ	0.02 UJ
beta-BHC	0.014 U	0.018 UJ	0.019 UJ	**0.042 JN**	0.018 UJ	0.012 U	**0.064 JN**	**0.078 J**	**0.051 JN**	0.021 UJ	**0.068 J**	0.02 UJ
gamma-BHC	0.014 U	0.018 UJ	**0.035 J**	**0.034 J**	**0.028 J**	**0.0091 J**	**0.073 J**	**0.063 J**	**0.033 J**	**0.063 J**	**0.033 JN**	0.02 UJ
delta-BHC	**0.014**	**0.022 J**	**0.026 JN**	**0.034 J**	**0.023 JN**	0.012 U	**0.085 J**	**0.077 J**	**0.028 J**	**0.063 J**	**0.039 J**	0.02 UJ
alpha-chlordane	**0.033 J**	**0.059 J**	0.019 UJ	**0.057 J**	0.018 UJ	0.012 U	**0.12 J**	**0.081 J**	0.022 UJ	**0.11 J**	0.02 UJ	0.02 UJ
gamma-Chlordane	**0.13**	**0.19 J**	**0.13 J**	**0.15 J**	**0.076 J**	**0.055**	**0.29 J**	**0.16 J**	**0.078 J**	**0.2 J**	**0.16 J**	0.02 UJ
4,4-DDD	**0.028 JN**	**0.077 JN**	**0.22 J**	**0.17 J**	**0.14 J**	**0.051 J**	**0.33 J**	**0.16 J**	**0.14 J**	**0.24 J**	**0.14 J**	0.02 UJ
4,4'-DDE	**0.079**	**0.14 J**	**0.098 J**	**0.11 J**	**0.062 J**	0.012 U	**0.19 J**	**0.065 JN**	**0.052 JN**	**0.098 J**	**0.057 JN**	0.02 UJ
4,4'-DDT	**0.033 JN**	**0.033 JN**	**0.21 J**	**0.17 J**	**0.14 J**	**0.09**	**0.19 J**	**0.097 J**	**0.1 J**	**0.21 J**	**0.087 J**	0.02 UJ
Dieldrin	**0.078 J**	**0.088 J**	**0.072 JN**	**0.073 J**	**0.093 J**	**0.028 JN**	**0.058 JN**	**0.039 JN**	0.022 UJ	**0.1 J**	**0.025 JN**	**0.0078 J**
Endosulfan I	0.014 U	0.018 UJ	0.019 UJ	0.019 UJ	0.018 UJ	0.012 U	0.022 UJ	0.022 UJ	0.022 UJ	0.021 UJ	0.02 UJ	0.02 UJ
Endosulfan II	**0.061 J**	**0.048 J**	0.019 UJ	0.019 UJ	0.018 UJ	0.012 U	0.022 UJ	0.022 UJ	0.022 UJ	**0.081 J**	0.02 UJ	**0.035 J**
Endosulfan sulfate	**0.022 JN**	**0.031 JN**	**0.058 J**	0.019 UJ	0.018 UJ	0.012 U	**0.036 JN**	0.022 UJ	**0.069 J**	**0.088 J**	0.02 UJ	0.02 UJ
Endrin	**0.047 JN**	**0.07 JN**	**0.18 J**	**0.076 J**	**0.12 J**	**0.069**	**0.068 JN**	**0.027 JN**	0.022 UJ	**0.086 JN**	**0.027 JN**	0.02 UJ
Endrin aldehyde	0.014 U	0.018 UJ	0.019 UJ	0.019 UJ	0.018 UJ	0.012 U	0.022 UJ	0.022 UJ	0.022 UJ	0.021 UJ	0.02 UJ	0.02 UJ
Endrin ketone	**0.28**	**0.34 J**	**0.037 JN**	0.019 UJ	0.018 UJ	0.012 U	**0.092 J**	0.022 UJ	**0.078 J**	0.021 UJ	**0.022 JN**	**0.02 J**
Heptachlor	0.014 U	0.018 UJ	**0.067 J**	**0.074 J**	0.018 UJ	0.012 U	**0.091 J**	**0.096 J**	**0.053 J**	0.021 UJ	**0.088 J**	0.02 UJ
Heptachlor epoxide	**0.027 JN**	0.018 UJ	**0.025 JN**	**0.04 J**	0.018 UJ	0.012 U	**0.073 J**	**0.062 J**	**0.022 JN**	**0.065 J**	**0.054 J**	0.02 UJ
Methoxychlor	**0.093 JN**	**0.11 JN**	**0.11 JN**	**0.082 JN**	**0.1 J**	**0.08**	**0.12 JN**	**0.056 JN**	**0.18 JN**	**0.26 J**	**0.059 JN**	0.038 UJ
Toxaphene	0.53 U	0.72 UJ	0.74 UJ	0.75 UJ	0.73 UJ	0.47 U	0.87 UJ	0.89 UJ	0.87 UJ	0.84 UJ	0.78 UJ	0.78 UJ
Herbicides (mg/kg)												
2,4-D	0.13 UJ	0.18 UJ	0.18 UJ	0.18 UJ	0.17 UJ	**0.037 J**	0.21 UJ	0.21 UJ	0.21 UJ	0.21 UJ	0.19 UJ	0.19 UJ
2,4-DB	0.13 UJ	0.18 UJ	0.18 UJ	0.18 UJ	0.17 UJ	0.11 U	0.21 UJ	0.21 UJ	0.21 UJ	0.21 UJ	0.19 UJ	0.19 UJ
Dicamba	0.065 U	0.088 UJ	0.089 UJ	0.092 UJ	0.087 UJ	0.057 U	0.11 UJ	0.11 UJ	0.11 UJ	0.1 UJ	0.095 UJ	0.096 UJ
Dichloroprop	0.13 UJ	0.18 UJ	**0.23 JN**	0.18 UJ	0.17 UJ	**0.13 JN**	**1.2 JN**	**0.58 JN**	0.21 UJ	0.21 UJ	0.19 UJ	0.19 UJ
2,2-Dichloropropionic acid	0.15 U	0.2 UJ	0.2 UJ	0.21 UJ	0.2 UJ	0.13 U	0.24 UJ	0.24 UJ	0.24 UJ	0.23 UJ	0.21 UJ	0.22 UJ
Dinoseb	0.02 UJ	0.026 UJ	0.027 UJ	0.027 UJ	0.026 UJ	0.017 U	0.032 UJ	0.032 UJ	0.032 UJ	0.031 UJ	0.028 UJ	0.029 UJ

Table 2
Summary of Sediment Analytical Results
Phase I Sediment Cores
Gowanus Canal
Brooklyn, New York

Sample Name:	GC-SED-516	GC-SED-516	GC-SED-517	GC-SED-517	GC-SED-517	GC-SED-517	GC-SED-518	GC-SED-518	Duplicate of GC-SED-518	GC-SED-518	GC-SED-518	GC-SED-518
Sample Depth (feet):	(3.0-3.5)	(3.5-4.0)	(0.0-0.5)	(0.5-1.0)	(1.0-1.5)	(1.5-2.0)	(0.0-0.5)	(0.5-1.0)	(0.5-1.0)	(1.0-1.5)	(1.5-2.0)	(2.0-2.5)
Sample Date:	8/14/2012	8/14/2012	8/2/2012	8/2/2012	8/2/2012	8/2/2012	8/2/2012	8/2/2012	8/2/2012	8/2/2012	8/2/2012	8/2/2012
MCPP	13 UJ	18 UJ	18 UJ	18 UJ	17 UJ	**18 J**	21 UJ	21 UJ	21 UJ	21 UJ	19 UJ	19 UJ
Methylchlorophenoxyacetic acid	13 U	18 UJ	18 UJ	18 UJ	17 UJ	11 U	**75 J**	21 UJ	21 UJ	21 UJ	19 UJ	19 UJ
Pentachlorophenol	0.018 U	0.024 UJ	0.025 UJ	0.025 UJ	0.024 UJ	0.016 U	0.029 UJ	0.029 UJ	0.029 UJ	0.028 UJ	0.026 UJ	0.026 UJ
Silvex	**0.015 J**	0.044 UJ	**0.021 J**	0.046 UJ	0.043 UJ	0.028 U	**0.025 J**	**0.031 J**	0.054 UJ	0.051 UJ	0.047 UJ	0.048 UJ
2,4,5-Trichlorophenoxyacetic Acid	0.033 U	0.044 UJ	0.045 UJ	0.046 UJ	0.043 UJ	0.028 U	**0.09 J**	0.053 UJ	0.054 UJ	0.051 UJ	0.047 UJ	0.048 UJ
Metals (mg/kg)												
Aluminum	**3600**	**6700 J**	**9200 J**	**9500 J**	**9500 J**	**5300**	**10000 J**	**10000 J**	**9200 J**	**9700 J**	**11000 J**	**13000 J**
Antimony	**6.9 J**	**9.5 J**	**1.5 J**	**1.4 J**	**1.5 J**	**0.76 J**	**1.5 J**	**1.6 J**	**1.4 J**	**1.3 J**	**1.2 J**	**1.1 J**
Arsenic	**7.6**	**11 J**	**7.7 J**	**8.2 J**	**7.9 J**	**3.6**	**8.7 J**	**8.9 J**	**9 J**	**8.6 J**	**8.1 J**	**8.8 J**
Barium	**220**	**600 J**	**170 J**	**200 J**	**180 J**	**100**	**200 J**	**200 J**	**200 J**	**180 J**	**180 J**	**160 J**
Beryllium	**0.23**	**0.42 J**	**0.47 J**	**0.49 J**	**0.45 J**	**0.33 J**	**0.54 J**	**0.52 J**	**0.51 J**	**0.51 J**	**0.61 J**	**0.72 J**
Cadmium	**8.1 J**	**19 J**	**3.2 J**	**4.2 J**	**3.5 J**	**1.2**	**4.4 J**	**5 J**	**4.4 J**	**3.9 J**	**3.5 J**	**3.4 J**
Calcium	**22000**	**15000 J**	**8300 J**	**7300 J**	**7400 J**	**6700 J**	**7000 J**	**7300 J**	**6800 J**	**6900 J**	**5900 J**	**6600 J**
Chromium	**130 J**	**350 J**	**86 J**	**82 J**	**77 J**	**39 J**	**97 J**	**96 J**	**94 J**	**87 J**	**80 J**	**89 J**
Cobalt	**5.1**	**8 J**	**7.8 J**	**8.1 J**	**7.3 J**	**6.1**	**8.3 J**	**8.3 J**	**7.8 J**	**7.8 J**	**8.3 J**	**9.6 J**
Copper	**290**	**660 J**	**250 J**	**250 J**	**220 J**	**190**	**270 J**	**280 J**	**270 J**	**250 J**	**220 J**	**230 J**
Iron	**48000**	**34000 J**	**26000 J**	**23000 J**	**22000 J**	**14000**	**22000 J**	**23000 J**	**22000 J**	**22000 J**	**22000 J**	**26000 J**
Lead	**500**	**1200 J**	**380 J**	**410 J**	**380 J**	**300**	**470 J**	**470 J**	**440 J**	**430 J**	**350 J**	**410 J**
Magnesium	**7900**	**8300 J**	**8200 J**	**8000 J**	**7900 J**	**4900**	**8300 J**	**8300 J**	**7700 J**	**7600 J**	**7600 J**	**9000 J**
Manganese	**120**	**140 J**	**170 J**	**170 J**	**160 J**	**100**	**180 J**	**190 J**	**180 J**	**180 J**	**190 J**	**240 J**
Mercury	**1.5**	**3.7 J**	**1.1 J**	**2.7 J**	**3.7 J**	**0.32 J**	**2.4 J**	**2.1 J**	**2.2 J**	**2.1 J**	**1.7 J**	**1.6 J**
Nickel	**98**	**220 J**	**55 J**	**54 J**	**50 J**	**55**	**62 J**	**60 J**	**60 J**	**57 J**	**48 J**	**48 J**
Potassium	**940**	**1600 J**	**2000 J**	**2100 J**	**1900 J**	**900**	**2400 J**	**2300 J**	**2100 J**	**2100 J**	**2300 J**	**2800 J**
Selenium	**5**	**3 J**	**1.3 J**	**1.2 J**	**1.2 J**	**0.48**	**1.6 J**	**1.7 J**	**1.1 J**	**1.6 J**	**0.64 J**	**0.61 J**
Silver	**5.5**	**15 J**	**7.8 J**	**5.7 J**	**5.3 J**	**1.9 J**	**7 J**	**5.8 J**	**5.5 J**	**5.5 J**	**4.9 J**	**5.9 J**
Sodium	**6600**	**8400 J**	**10000 J**	**10000 J**	**8800 J**	**3500**	**12000 J**	**10000 J**	**10000 J**	**9100 J**	**8500 J**	**9800 J**
Thallium	**0.11**	**0.26 J**	**0.21 J**	**0.24 J**	**0.21 J**	**0.08**	**0.26 J**	**0.26 J**	**0.23 J**	**0.23 J**	**0.25 J**	**0.28 J**
Vanadium	**23**	**62 J**	**34 J**	**33 J**	**32 J**	**26**	**38 J**	**38 J**	**36 J**	**36 J**	**35 J**	**41 J**
Zinc	**690 J**	**1400 J**	**600 J**	**620 J**	**580 J**	**330**	**640 J**	**640 J**	**620 J**	**570 J**	**500 J**	**540 J**
EDCs & PPCPs (Phenols) (mg/kg)												
Bisphenol A	0.62 U	0.75 UJ	0.96 UJ	0.93 UJ	0.88 UJ	0.6 U	1.1 UJ	1 UJ	1.1 UJ	1.1 UJ	0.95 UJ	0.92 UJ
Nonylphenol	**29 J**	**33 J**	**19 J**	**12 J**	**13 J**	**9.1**	**16 J**	**15 J**	**16 J**	**18 J**	**14 J**	**12 J**
Nonylphenol Diethoxylate	13 U	15 UJ	20 UJ	19 UJ	18 UJ	12 U	21 UJ	20 UJ	21 UJ	21 UJ	19 UJ	19 UJ
Nonylphenol Monoethoxylate	6.2 U	7.5 UJ	9.6 UJ	9.3 UJ	8.8 UJ	6 U	11 UJ	10 UJ	11 UJ	11 UJ	9.5 UJ	9.2 UJ
4-tert-Octylphenol	**1.5 J**	**1.8 J**	0.96 UJ	0.93 UJ	0.88 UJ	0.6 U	1.1 UJ	1 UJ	1.1 UJ	1.1 UJ	0.95 UJ	0.92 UJ
EDCs and PPCPs (mg/kg)												
Acetaminophen	0.039 U	0.036 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.039 U	0.04 U	0.04 U	0.04 U	0.039 U
alpha-Estradiol	0.039 UJ	0.036 UJ	0.04 UJ	0.04 UJ	0.04 UJ	0.04 UJ	0.04 UJ	0.039 UJ	0.04 UJ	0.04 UJ	0.04 UJ	0.039 UJ
Androstenedione	**0.0016 J**	0.0073 UJ	0.0079 U	0.0079 U	0.008 U	0.0079 U	0.008 U	0.0079 U	0.008 U	0.0079 U	0.0079 U	0.0079 U
Atrazine	0.0078 UJ	0.0073 UJ	0.0079 UJ	0.0079 UJ	0.008 UJ	0.0079 UJ	0.008 UJ	0.0079 UJ	0.008 UJ	0.0079 UJ	0.0079 UJ	0.0079 UJ
Bisphenol A	**0.28**	**0.49**	**0.093 J**	**0.076 J**	**0.083 J**	**0.065 J**	**0.16 J**	**0.12 J**	**0.16 J**	**0.14 J**	**0.16 J**	**0.17 J**
Carbamazepine	0.016 UJ	0.015 UJ	0.016 UJ	0.016 UJ	0.016 UJ	0.016 UJ	0.016 UJ	0.016 UJ	0.016 UJ	0.016 UJ	0.016 UJ	0.016 UJ
DEET (N,N-Diethyl-3-Methyl Benzamide)	0.039 UJ	0.036 UJ	0.04 UJ	0.04 UJ	0.04 UJ	0.04 UJ	0.04 UJ	0.039 UJ	0.04 UJ	0.04 UJ	0.04 UJ	0.039 UJ
Diazepam	0.016 U	0.015 U	0.016 U	0.016 U	0.016 U	0.016 U	0.016 U	0.016 U	0.016 U	0.016 U	0.016 U	0.016 U
Diclofenac	0.016 UJ	0.015 UJ	0.016 UJ	0.016 UJ	R	0.016 UJ	0.016 UJ	R	0.016 UJ	0.016 UJ	0.016 UJ	R
Diethylstilbestrol	0.039 UJ	0.036 UJ	0.04 UJ	0.04 UJ	R	R	**0.054 J**	R	0.04 UJ	R	R	R
Estradiol	0.039 UJ	0.036 UJ	0.04 UJ	0.04 UJ	0.04 UJ	0.04 UJ	0.04 UJ	0.039 UJ	0.04 UJ	0.04 UJ	0.04 UJ	0.039 UJ
Estriol	0.039 U	0.036 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.039 U	0.04 U	0.04 U	0.04 U	0.039 U

Table 2
Summary of Sediment Analytical Results
Phase I Sediment Cores
Gowanus Canal
Brooklyn, New York

Sample Name:	GC-SED-516	GC-SED-516	GC-SED-517	GC-SED-517	GC-SED-517	GC-SED-517	GC-SED-518	GC-SED-518	Duplicate of GC-SED-518	GC-SED-518	GC-SED-518	GC-SED-518
Sample Depth (feet):	(3.0-3.5)	(3.5-4.0)	(0.0-0.5)	(0.5-1.0)	(1.0-1.5)	(1.5-2.0)	(0.0-0.5)	(0.5-1.0)	(0.5-1.0)	(1.0-1.5)	(1.5-2.0)	(2.0-2.5)
Sample Date:	8/14/2012	8/14/2012	8/2/2012	8/2/2012	8/2/2012	8/2/2012	8/2/2012	8/2/2012	8/2/2012	8/2/2012	8/2/2012	8/2/2012
Estrone	0.039 UJ	**0.027 J**	0.04 UJ	0.04 UJ	0.04 UJ	0.04 UJ	**0.022 J**	**0.023 J**	0.04 UJ	0.04 UJ	0.04 UJ	0.039 UJ
Ethinyl Estradiol	0.039 U	0.036 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.039 U	0.04 U	0.04 U	0.04 U	0.039 U
Gemfibrozil	0.016 UJ	0.015 UJ	R	0.016 UJ	R	0.016 UJ	R	R	R	R	R	R
Ibuprofen	0.039 UJ	0.036 U	0.04 UJ	0.04 UJ	R	0.04 UJ	0.04 UJ	0.039 UJ	0.04 UJ	0.04 UJ	0.04 UJ	0.039 UJ
Meprobamate	0.0078 UJ	0.0073 UJ	0.0079 UJ	0.0079 UJ	0.008 UJ	0.0079 UJ	0.008 UJ	0.0079 UJ	0.008 UJ	0.0079 UJ	0.0079 UJ	0.0079 UJ
Naproxen	0.016 UJ	0.015 U	0.016 U	0.016 U	0.016 UJ	0.016 U	0.016 U	0.016 U	0.016 U	0.016 U	0.016 U	0.016 U
Pentoxifylline	0.016 U	0.015 U	0.016 U	0.016 U	0.016 U	**0.0022 J**	0.016 U	0.016 U	0.016 U	0.016 U	0.016 U	0.016 U
Phenytoin (5,5-Diphenylhydantion/ Dilantin)	0.039 U	0.036 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.039 U	0.04 U	0.04 U	0.04 U	0.039 U
Progesterone	**0.0036 J**	0.015 U	**0.013 J**	**0.0073 J**	**0.01 J**	0.016 UJ	**0.012 J**	**0.011 J**	**0.0085 J**	**0.0069 J**	**0.0049 J**	**0.0043 J**
Sulfamethoxazole	0.016 U	0.015 U	0.016 U	0.016 U	0.016 U	0.016 U	0.016 U	0.016 U	0.016 U	0.016 U	0.016 U	0.016 U
Testosterone	0.016 U	0.015 U	0.016 U	0.016 U	0.016 U	0.016 U	0.016 U	0.016 U	0.016 U	0.016 U	0.016 U	0.016 U
Trimethoprim	0.039 UJ	0.036 UJ	0.04 UJ	0.04 UJ	0.04 UJ	0.04 UJ	0.04 UJ	0.039 UJ	0.04 UJ	0.04 UJ	0.04 UJ	0.039 UJ
Pathogen												
C. perfringens (cfu/g)	**30000**	NA	**24000**	**32000**	**39000**	**26000**	**17000**	**110000**	NA	**20000**	**32000**	**74000**
Coliphage, Male Specific (pfu/10g)	0 U	NA	0 U	**1**	0 U	0 U	0 U	0 U	NA	**1**	0 U	0 U
Coliphage, Somatic (pfu/10g)	0 UJ	NA	**3 J**	**4 J**	0 UJ	0 UJ	**441**	**63 J**	NA	**184**	**90**	**95**
Cryptosporidium (Oocysts/g)	0 UJ	NA	0 UJ	0 U	0 U	0 U	0 UJ	0 U	NA	R	0 UJ	0 U
E.Coli (mpn/g)	0 U	NA	**4.1**	**2**	0 U	0 U	**1220**	**38.8**	NA	**9.8**	**11**	**1**
Enterococci (mpn/g)	**18.7**	NA	**258.1**	**135.3**	**35.5**	**35.9**	**108.6**	**40.5**	NA	**30.3**	**46.7**	**58.5**
Fecal Coliform (mpn/g)	**740**	NA	**410**	**310**	**31 J**	**20 J**	**1299.7**	**62.4**	NA	**13.4**	**6.3**	**6.3**
Giardia (Cysts/g)	0 U	NA	0 U	0 U	0 U	0 U	0 U	0 U	NA	0 UJ	0 U	0 U
Plaque forming virus (pfu/g)	0 U	NA	0 U	0 U	0 U	0 U	0 U	0 U	NA	0 U	0 U	0 U
Viruses (pos/neg)	neg	NA	neg	neg	neg	neg	neg	neg	NA	neg	neg	neg
Other (%)												
Percent Solids	**65.64**	NA	**63.98**	**69.88**	**57.95**	**53.74**	**34.79**	**36.56**	NA	**38.61**	**43.78**	**43.48**
Total Solids	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Other (mg/kg)												
Total Organic Carbon	**61000 J**	**140000 J**	**65000 J**	**58000 J**	**60000 J**	**11000**	**71000 J**	**82000 J**	**95000 J**	**88000 J**	**76000 J**	**70000 J**

Table 2
Summary of Sediment Analytical Results
Phase I Sediment Cores
Gowanus Canal
Brooklyn, New York

Sample Name:	GC-SED-518	GC-SED-518	GC-SED-518	GC-SED-519	GC-SED-519	GC-SED-519	GC-SED-519	GC-SED-519	GC-SED-519	GC-SED-519	GC-SED-520	GC-SED-520
Sample Depth (feet):	(2.5-3.0)	(3.0-3.5)	(3.5-4.0)	(0.0-0.5)	(0.5-1.0)	(1.0-1.5)	(1.5-2.0)	(2.0-2.5)	(2.5-3.0)	(3.0-3.5)	(0.0-0.5)	(0.5-1.0)
Sample Date:	8/2/2012	8/2/2012	8/2/2012	8/2/2012	8/2/2012	8/2/2012	8/2/2012	8/2/2012	8/2/2012	8/2/2012	8/3/2012	8/3/2012
BTEX (mg/kg)												
Benzene	0.012 UJ	0.012 UJ	0.011 UJ	0.011 UJ	0.011 UJ	0.012 UJ	0.011 UJ	0.01 UJ	0.011 UJ	**0.0016 J**	**0.0035 J**	0.0093 U
Toluene	**0.003 J**	0.012 UJ	0.011 UJ	0.011 UJ	0.011 UJ	0.012 UJ	0.011 UJ	0.01 UJ	0.011 UJ	0.01 UJ	0.012 UJ	**0.0016 J**
Ethylbenzene	0.012 UJ	0.012 UJ	0.011 UJ	0.011 UJ	0.011 UJ	0.012 UJ	**0.0018 J**	0.01 UJ	0.011 UJ	**0.023 J**	**0.0032 J**	**0.0016 J**
m,p-Xylene	0.024 UJ	0.024 UJ	0.023 UJ	0.023 UJ	0.023 UJ	0.023 UJ	0.021 UJ	0.021 UJ	0.021 UJ	**0.0042 J**	0.023 UJ	0.019 U
o-Xylene	0.012 UJ	0.012 UJ	0.011 UJ	0.011 UJ	0.011 UJ	0.012 UJ	0.011 UJ	0.01 UJ	0.011 UJ	**0.0053 J**	0.012 UJ	0.0093 U
Total Xylene	0.036 UJ	0.037 UJ	0.034 UJ	0.034 UJ	0.034 UJ	0.035 UJ	0.032 UJ	0.031 UJ	0.032 UJ	**0.0095 J**	0.035 UJ	0.028 U
Total BTEX	**0.003**	0	0	0	0	0	**0.0018**	0	0	**0.0341**	**0.0067**	**0.0032**
Other VOCs (mg/kg)												
Acetone	0.048 UJ	**0.021 J**	0.046 UJ	0.045 UJ	0.046 UJ	0.046 UJ	0.043 UJ	0.041 UJ	0.043 UJ	0.041 UJ	0.047 UJ	0.037 U
Bromochloromethane	0.012 UJ	0.012 UJ	0.011 UJ	0.011 UJ	0.011 UJ	0.012 UJ	0.011 UJ	0.01 UJ	0.011 UJ	0.01 UJ	0.012 UJ	0.0093 U
Bromodichloromethane	0.012 UJ	0.012 UJ	0.011 UJ	0.011 UJ	0.011 UJ	0.012 UJ	0.011 UJ	0.01 UJ	0.011 UJ	0.01 UJ	0.012 UJ	0.0093 U
Bromoform	0.012 UJ	0.012 UJ	0.011 UJ	0.011 UJ	0.011 UJ	0.012 UJ	0.011 UJ	0.01 UJ	0.011 UJ	0.01 UJ	0.012 UJ	0.0093 U
Bromomethane	0.012 UJ	0.012 UJ	0.011 UJ	0.011 UJ	0.011 UJ	0.012 UJ	0.011 UJ	0.01 UJ	0.011 UJ	0.01 UJ	0.012 UJ	0.0093 U
2-Butanone (Methyl ethyl ketone)	0.012 UJ	0.012 UJ	0.011 UJ	0.011 UJ	0.011 UJ	0.012 UJ	0.011 UJ	0.01 UJ	0.011 UJ	0.01 UJ	0.012 UJ	**0.013**
Carbon disulfide	**0.0045 J**	**0.01 J**	0.011 UJ	0.011 UJ	0.011 UJ	**0.0072 J**	**0.0041 J**	**0.0029 J**	**0.0047 J**	**0.002 J**	**0.0084 J**	**0.0045 J**
Carbon tetrachloride	0.012 UJ	0.012 UJ	0.011 UJ	0.011 UJ	0.011 UJ	0.012 UJ	0.011 UJ	0.01 UJ	0.011 UJ	0.01 UJ	0.012 UJ	0.0093 U
Chlorobenzene	0.012 UJ	0.012 UJ	0.011 UJ	0.011 UJ	0.011 UJ	0.012 UJ	0.011 UJ	0.01 UJ	0.011 UJ	0.01 UJ	**0.0018 J**	**0.043**
Chloroethane	0.012 UJ	0.012 UJ	0.011 UJ	0.011 UJ	0.011 UJ	0.012 UJ	0.011 UJ	0.01 UJ	0.011 UJ	0.01 UJ	0.012 UJ	0.0093 U
Chloroform	0.012 UJ	0.012 UJ	0.011 UJ	0.011 UJ	0.011 UJ	0.012 UJ	0.011 UJ	0.01 UJ	0.011 UJ	0.01 UJ	0.012 UJ	0.0093 U
Chloromethane	0.012 UJ	0.012 UJ	0.011 UJ	0.011 UJ	0.011 UJ	0.012 UJ	0.011 UJ	0.01 UJ	0.011 UJ	0.01 UJ	0.012 UJ	0.0093 U
Cyclohexane	0.012 UJ	0.012 UJ	0.011 UJ	0.011 UJ	0.011 UJ	0.012 UJ	0.011 UJ	0.01 UJ	0.011 UJ	0.01 UJ	0.012 UJ	0.0093 U
1,2-Dibromo-3-chloropropane	0.012 UJ	0.012 UJ	0.011 UJ	0.011 UJ	0.011 UJ	0.012 UJ	0.011 UJ	0.01 UJ	0.011 UJ	0.01 UJ	0.012 UJ	0.0093 U
Dibromochloromethane	0.012 UJ	0.012 UJ	0.011 UJ	0.011 UJ	0.011 UJ	0.012 UJ	0.011 UJ	0.01 UJ	0.011 UJ	0.01 UJ	0.012 UJ	0.0093 U
1,2-Dibromoethane	0.012 UJ	0.012 UJ	0.011 UJ	0.011 UJ	0.011 UJ	0.012 UJ	0.011 UJ	0.01 UJ	0.011 UJ	0.01 UJ	0.012 UJ	0.0093 U
1,2-Dichlorobenzene	0.012 UJ	0.012 UJ	0.011 UJ	0.011 UJ	0.011 UJ	0.012 UJ	0.011 UJ	0.01 UJ	0.011 UJ	0.01 UJ	0.012 UJ	**0.013**
1,3-Dichlorobenzene	0.012 UJ	0.012 UJ	0.011 UJ	0.011 UJ	0.011 UJ	0.012 UJ	0.011 UJ	0.01 UJ	0.011 UJ	**0.0021 J**	0.012 UJ	**0.0038 J**
1,4-Dichlorobenzene	0.012 UJ	0.012 UJ	0.011 UJ	**0.0021 J**	0.011 UJ	0.012 UJ	**0.003 J**	**0.003 J**	**0.0039 J**	**0.0055 J**	**0.0026 J**	**0.058**
Dichlorodifluoromethane	0.012 UJ	0.012 UJ	0.011 UJ	0.011 UJ	0.011 UJ	0.012 UJ	0.011 UJ	0.01 UJ	0.011 UJ	0.01 UJ	0.012 UJ	0.0093 U
1,1-Dichloroethane	0.012 UJ	0.012 UJ	0.011 UJ	0.011 UJ	0.011 UJ	0.012 UJ	0.011 UJ	0.01 UJ	0.011 UJ	0.01 UJ	0.012 UJ	0.0093 U
1,2-Dichloroethane	0.012 UJ	0.012 UJ	0.011 UJ	0.011 UJ	0.011 UJ	0.012 UJ	0.011 UJ	0.01 UJ	0.011 UJ	0.01 UJ	0.012 UJ	0.0093 UJ
cis-1,2-Dichloroethene	0.012 UJ	0.012 UJ	0.011 UJ	0.011 UJ	0.011 UJ	0.012 UJ	0.011 UJ	0.01 UJ	0.011 UJ	0.01 UJ	0.012 UJ	0.0093 U
trans-1,2-Dichloroethene	0.012 UJ	0.012 UJ	0.011 UJ	0.011 UJ	0.011 UJ	0.012 UJ	0.011 UJ	0.01 UJ	0.011 UJ	0.01 UJ	0.012 UJ	0.0093 U
1,1-Dichloroethene	0.012 UJ	0.012 UJ	0.011 UJ	0.011 UJ	0.011 UJ	0.012 UJ	0.011 UJ	0.01 UJ	0.011 UJ	0.01 UJ	0.012 UJ	0.0093 U
1,2-Dichloropropane	0.012 UJ	0.012 UJ	0.011 UJ	0.011 UJ	0.011 UJ	0.012 UJ	0.011 UJ	0.01 UJ	0.011 UJ	0.01 UJ	0.012 UJ	0.0093 U
cis-1,3-Dichloropropene	0.012 UJ	0.012 UJ	0.011 UJ	0.011 UJ	0.011 UJ	0.012 UJ	0.011 UJ	0.01 UJ	0.011 UJ	0.01 UJ	0.012 UJ	0.0093 U
trans-1,3-Dichloropropene	0.012 UJ	0.012 UJ	0.011 UJ	0.011 UJ	0.011 UJ	0.012 UJ	0.011 UJ	0.01 UJ	0.011 UJ	0.01 UJ	0.012 UJ	0.0093 U
1,4-Dioxane	R	R	R	R	R	R	R	R	R	R	R	R
2-Hexanone	0.012 UJ	0.012 UJ	0.011 UJ	0.011 UJ	0.011 UJ	0.012 UJ	0.011 UJ	0.01 UJ	0.011 UJ	0.01 UJ	0.012 UJ	0.0093 U
Isopropyl benzene	0.012 UJ	0.012 UJ	0.011 UJ	0.011 UJ	0.011 UJ	0.012 UJ	0.011 UJ	0.01 UJ	**0.0019 J**	**0.0045 J**	**0.0016 J**	**0.012**
Methyl acetate	0.012 UJ	0.012 UJ	0.011 UJ	0.011 UJ	0.011 UJ	0.012 UJ	0.011 UJ	0.01 UJ	0.011 UJ	0.01 UJ	0.012 UJ	0.0093 U
Methyl tert-butyl ether (MTBE)	0.012 UJ	0.012 UJ	0.011 UJ	0.011 UJ	0.011 UJ	0.012 UJ	0.011 UJ	0.01 UJ	0.011 UJ	0.01 UJ	0.012 UJ	0.0093 U
4-Methyl-2-pentanone	0.012 UJ	0.012 UJ	0.011 UJ	0.011 UJ	0.011 UJ	0.012 UJ	0.011 UJ	0.01 UJ	0.011 UJ	0.01 UJ	0.012 UJ	0.0093 U
Methylcyclohexane	0.012 UJ	0.012 UJ	0.011 UJ	0.011 UJ	0.011 UJ	0.012 UJ	0.011 UJ	0.01 UJ	0.011 UJ	0.01 UJ	0.012 UJ	**0.0016 J**
Methylene chloride	**0.013 J**	**0.016 J**	0.011 UJ	0.011 UJ	0.011 UJ	**0.017 J**	0.011 UJ	0.01 UJ	0.011 UJ	0.01 UJ	0.012 UJ	0.0093 U
Styrene	0.012 UJ	0.012 UJ	0.011 UJ	0.011 UJ	0.011 UJ	0.012 UJ	0.011 UJ	0.01 UJ	0.011 UJ	0.01 UJ	0.012 UJ	0.0093 U
1,1,2,2-Tetrachloroethane	0.012 UJ	0.012 UJ	0.011 UJ	0.011 UJ	0.011 UJ	0.012 UJ	0.011 UJ	0.01 UJ	0.011 UJ	0.01 UJ	0.012 UJ	0.0093 U
Tetrachloroethene	0.012 UJ	0.012 UJ	0.011 UJ	0.011 UJ	0.011 UJ	0.012 UJ	0.011 UJ	0.01 UJ	0.011 UJ	0.01 UJ	0.012 UJ	0.0093 U

Table 2
Summary of Sediment Analytical Results
Phase I Sediment Cores
Gowanus Canal
Brooklyn, New York

Sample Name:	GC-SED-518	GC-SED-518	GC-SED-518	GC-SED-519	GC-SED-519	GC-SED-519	GC-SED-519	GC-SED-519	GC-SED-519	GC-SED-519	GC-SED-520	GC-SED-520
Sample Depth (feet):	(2.5-3.0)	(3.0-3.5)	(3.5-4.0)	(0.0-0.5)	(0.5-1.0)	(1.0-1.5)	(1.5-2.0)	(2.0-2.5)	(2.5-3.0)	(3.0-3.5)	(0.0-0.5)	(0.5-1.0)
Sample Date:	8/2/2012	8/2/2012	8/2/2012	8/2/2012	8/2/2012	8/2/2012	8/2/2012	8/2/2012	8/2/2012	8/2/2012	8/3/2012	8/3/2012
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	0.012 UJ	0.012 UJ	0.011 UJ	0.011 UJ	0.011 UJ	0.012 UJ	0.011 UJ	0.01 UJ	0.011 UJ	0.01 UJ	0.012 UJ	0.0093 U
1,2,3-Trichlorobenzene	0.012 UJ	0.012 UJ	0.011 UJ	0.011 UJ	0.011 UJ	0.012 UJ	0.011 UJ	0.01 UJ	0.011 UJ	0.01 UJ	0.012 UJ	0.0093 U
1,2,4-Trichlorobenzene	0.012 UJ	0.012 UJ	0.011 UJ	0.011 UJ	0.011 UJ	0.012 UJ	0.011 UJ	0.01 UJ	0.011 UJ	0.01 UJ	0.012 UJ	0.0093 U
1,1,1-Trichloroethane	0.012 UJ	0.012 UJ	0.011 UJ	0.011 UJ	0.011 UJ	0.012 UJ	0.011 UJ	0.01 UJ	0.011 UJ	0.01 UJ	0.012 UJ	0.0093 U
1,1,2-Trichloroethane	0.012 UJ	0.012 UJ	0.011 UJ	0.011 UJ	0.011 UJ	0.012 UJ	0.011 UJ	0.01 UJ	0.011 UJ	0.01 UJ	0.012 UJ	0.0093 U
Trichloroethene	0.012 UJ	0.012 UJ	0.011 UJ	0.011 UJ	0.011 UJ	0.012 UJ	0.011 UJ	0.01 UJ	0.011 UJ	0.01 UJ	0.012 UJ	0.0093 U
Trichlorofluoromethane	0.012 UJ	0.012 UJ	0.011 UJ	0.011 UJ	0.011 UJ	0.012 UJ	0.011 UJ	0.01 UJ	0.011 UJ	0.01 UJ	0.012 UJ	0.0093 U
Vinyl chloride	0.012 UJ	0.012 UJ	0.011 UJ	0.011 UJ	0.011 UJ	0.012 UJ	0.011 UJ	0.01 UJ	0.011 UJ	0.01 UJ	0.012 UJ	0.0093 U
PAHs (mg/kg)												
Acenaphthene	**3.2 J**	**4.9 J**	**2.6 J**	**1.7 J**	**3.7 J**	**4.4 J**	**4 J**	**12 J**	**9.6 J**	**21 J**	**5.6 J**	**7.1**
Acenaphthylene	**4.3 J**	**6.7 J**	**4.4 J**	**3.1 J**	**5 J**	**4.8 J**	**5.9 J**	**13 J**	**9 J**	**20 J**	**12 J**	**8.6**
Anthracene	**5.8 J**	**9 J**	**4.5 J**	**3.3 J**	**6.1 J**	**6.4 J**	**6.5 J**	**19 J**	**14 J**	**34 J**	**13 J**	**14**
Benz[a]anthracene	**8 J**	**12 J**	**7.6 J**	**5.3 J**	**10 J**	**9.6 J**	**10 J**	**21 J**	**15 J**	**38 J**	**24 J**	**20**
Benzo[a]pyrene	**7 J**	**9.6 J**	**6.9 J**	**4.6 J**	**8 J**	**8.5 J**	**9 J**	**18 J**	**13 J**	**32 J**	**23 J**	**17**
Benzo[b]fluoranthene	**5.8 J**	**6.7 J**	**4.7 J**	**3.2 J**	**3.9 J**	**4.3 J**	**5.9 J**	**13 J**	**7.1 J**	**25 J**	**17 J**	**14**
Benzo[g,h,i]perylene	**3.4 J**	**4.1 J**	**2.9 J**	**2.1 J**	**3.1 J**	**3.5 J**	**3.3 J**	**5.7 J**	**3.8 J**	**14 J**	**11 J**	**7.9**
Benzo[k]fluoranthene	**1.6 J**	**2.4 J**	**2.1 J**	**1.6 J**	**4.7 J**	**5.2 J**	**2.8 J**	**3.9 J**	**5.1 J**	**8 J**	**5.6 J**	**2.9**
Chrysene	**7.5 J**	**12 J**	**8.2 J**	**4.9 J**	**9.4 J**	**10 J**	**11 J**	**23 J**	**15 J**	**35 J**	**24 J**	**21**
Dibenz[a,h]anthracene	**1.1 J**	**1.4 J**	**0.9 J**	**0.61 J**	**1.1 J**	**1.1 J**	**1.1 J**	**1.6 J**	**1.2 J**	**4.3 J**	**3.6 J**	**3**
Fluoranthene	**15 J**	**20 J**	**12 J**	**10 J**	**16 J**	**19 J**	**18 J**	**36 J**	**26 J**	**63 J**	**35 J**	**34**
Fluorene	**2.7 J**	**4 J**	**1.1 J**	**0.94 J**	**1.2 J**	**1.3 J**	**1.2 J**	**7.3 J**	**6.6 J**	**14 J**	**3.1 J**	**4.1**
Indeno[1,2,3-cd]pyrene	**2.8 J**	**3.5 J**	**2.4 J**	**1.7 J**	**2.6 J**	**3 J**	**2.7 J**	**5.1 J**	**3.4 J**	**12 J**	**8 J**	**6.2**
2-Methylnaphthalene	**1.3 J**	**2 J**	**0.8 J**	**0.39 J**	**0.92 J**	**0.69 J**	**0.73 J**	**3.6 J**	**4.9 J**	**9.8 J**	**1.5 J**	**1.7**
Naphthalene	**1.5 J**	**1.9 J**	**1.1 J**	**0.59 J**	**2 J**	**1.1 J**	**1.3 J**	**5.1 J**	**7.6 J**	**14 J**	**2.7 J**	**2.9**
Phenanthrene	**12 J**	**17 J**	**5.5 J**	**4.4 J**	**3.8 J**	**7.5 J**	**6.7 J**	**31 J**	**27 J**	**77 J**	**13 J**	**21**
Pyrene	**16 J**	**22 J**	**15 J**	**11 J**	**19 J**	**19 J**	**19 J**	**38 J**	**29 J**	**61 J**	**39 J**	**33**
Total PAHs	**99**	**139.2**	**82.7**	**59.43**	**100.5**	**109.4**	**109.1**	**256.3**	**197.3**	**482.1**	**241.1**	**218.4**
Alkylated PAHs (mg/kg)												
Acenaphthene	**4.30774 J**	**7.68632 J**	**4.60333 J**	**2.38663 J**	**7.15317 J**	**5.6605**	**6.53501**	**16.24298 J**	**28.10351**	**30.43985 J**	**5.75462**	**11.05471**
Acenaphthylene	**3.7216 J**	**6.55426 J**	**4.85187 J**	**2.44067 J**	**6.37116 J**	**4.07524**	**5.98309**	**12.24172 J**	**16.09744**	**19.72186 J**	**12.44985**	**14.42362**
Anthracene	**7.97397 J**	**16.46896 J**	**9.62891 J**	**4.63353 J**	**13.29777 J**	**10.37815**	**11.18374**	**26.34447 J**	**42.79564**	**53.22637 J**	**14.36041**	**23.08782**
Benz[a]anthracene	**9.78779 J**	**20.04891 J**	**14.01181 J**	**8.34718 J**	**19.18476 J**	**14.11848**	**19.53776**	**35.58187 J**	**47.85433**	**55.84362 J**	**30.39412**	**30.15442**
Benzo[a]pyrene	**7.29322 J**	**14.45255 J**	**11.01309 J**	**5.94464 J**	**13.59536 J**	**10.22988**	**15.09564**	**24.97587 J**	**35.15236**	**35.71325 J**	**24.86601**	**25.35448**
Benzo[b]fluoranthene	**4.87241 J**	**9.26741 J**	**7.12321 J**	**4.15962 J**	**8.88726 J**	**7.42813**	**9.37544**	**14.67922 J**	**20.05917**	**19.34498 J**	**14.09116**	**14.99881**
Benzo[e]pyrene	**4.55321 J**	**8.71586 J**	**6.93321 J**	**3.85224 J**	**8.31026 J**	**6.57345**	**9.10266**	**14.63217 J**	**20.26857**	**19.37216 J**	**14.47718**	**12.66987**
Benzo[g,h,i]perylene	**2.9475 J**	**4.90655 J**	**3.79062 J**	**2.81692 J**	**4.45335 J**	**3.54657**	**7.78337**	**11.7811 J**	**16.37535**	**11.84334 J**	**11.75719**	**9.89293**
Benzo[k]fluoranthene	**5.73486 J**	**10.70138 J**	**8.25685 J**	**4.80505 J**	**10.31899 J**	**8.07556**	**11.22229**	**17.37121 J**	**23.95965**	**25.84542 J**	**16.35636**	**16.60204**
1,1-Biphenyl	**0.48351 J**	**0.82748 J**	**0.38397 J**	**0.14 J**	**0.24263 J**	**0.18005**	**0.30531**	**1.13318 J**	**3.52918**	**4.16685 J**	**0.46216**	**1.37569**
Chrysene	**8.92096 J**	**18.31821 J**	**13.12749 J**	**7.34422 J**	**17.70253 J**	**13.19418**	**17.53986**	**32.82907 J**	**44.31625**	**51.13581 J**	**28.06972**	**28.88019**
C1-Chrysenes	**8.68277 J**	**18.37329 J**	**13.30585 J**	**6.26038 J**	**17.61914 J**	**12.46671**	**18.24495**	**34.05869 J**	**49.23066**	**55.37014 J**	**36.26338**	**32.76626**
C2-Chrysenes	**4.6325 J**	**10.83797 J**	**7.86932 J**	**3.65188 J**	**10.00011 J**	**7.72062**	**11.38955**	**21.33691 J**	**32.27557**	**29.64157 J**	**24.12377**	**21.9736**
C3-Chrysenes	**2.11534 J**	**5.24116 J**	**3.78997 J**	**1.8392 J**	**4.36048 J**	**3.77508**	**5.70095**	**10.32181 J**	**15.81503**	**14.86689 J**	**11.59338**	**10.07866**
C4-Chrysenes	**0.97582 J**	**1.94945 J**	**1.83673 J**	**0.89195 J**	**1.8576 J**	**1.5395**	**2.32852**	**4.59664 J**	**6.76541**	**6.20459 J**	**4.57924**	**4.40114**
Dibenz[a,h]anthracene	**0.85015 J**	**1.5963 J**	**1.21114 J**	**0.82674 J**	**1.44996 J**	**1.1587**	**2.26709**	**3.57389 J**	**4.94507**	**4.06145 J**	**3.8831**	**3.82714**
Dibenzofuran	**0.48096 J**	**0.87187 J**	**0.52148 J**	**0.31252 J**	**0.52201 J**	**0.82249**	**0.97002**	**1.46321 J**	**2.7756**	**3.14452 J**	**0.61181**	**1.86443**
Dibenzothiophene	**2.01725 J**	**3.88487 J**	**2.08667 J**	**1.21648 J**	**1.91251 J**	**2.06308**	**2.41056**	**6.18844 J**	**11.40943**	**14.94449 J**	**3.08651**	**5.47985**
C1-Dibenzothiophenes	**5.11254 J**	**10.18307 J**	**6.14972 J**	**2.58743 J**	**7.77343 J**	**6.2014**	**7.43629**	**18.00434 J**	**29.58617**	**36.62613 J**	**9.68511**	**14.14879**
C2-Dibenzothiophenes	**6.57345 J**	**13.36026 J**	**9.48024 J**	**3.77674 J**	**10.97353 J**	**8.74511**	**11.24186**	**23.88267 J**	**37.37619**	**44.66 J**	**17.04234**	**19.08593**

Table 2
Summary of Sediment Analytical Results
Phase I Sediment Cores
Gowanus Canal
Brooklyn, New York

Sample Name:	GC-SED-518	GC-SED-518	GC-SED-518	GC-SED-519	GC-SED-519	GC-SED-519	GC-SED-519	GC-SED-519	GC-SED-519	GC-SED-519	GC-SED-520	GC-SED-520
Sample Depth (feet):	(2.5-3.0)	(3.0-3.5)	(3.5-4.0)	(0.0-0.5)	(0.5-1.0)	(1.0-1.5)	(1.5-2.0)	(2.0-2.5)	(2.5-3.0)	(3.0-3.5)	(0.0-0.5)	(0.5-1.0)
Sample Date:	8/2/2012	8/2/2012	8/2/2012	8/2/2012	8/2/2012	8/2/2012	8/2/2012	8/2/2012	8/2/2012	8/2/2012	8/3/2012	8/3/2012
C3-Dibenzothiophenes	**4.23658 J**	**8.66914 J**	**6.70728 J**	**2.41889 J**	**6.6209 J**	**6.52655**	**7.65491**	**16.13801 J**	**24.19079**	**29.3227 J**	**11.54616**	**12.17913**
C4-Dibenzothiophenes	**1.91797 J**	**3.70594 J**	**3.06643 J**	**1.04804 J**	**2.99056 J**	**2.86708**	**3.12876**	**6.43009 J**	**9.7143**	**12.35597 J**	**4.6502**	**4.74008**
Fluoranthene	**15.82773 J**	**27.72085 J**	**20.65581 J**	**11.98806 J**	**26.44703 J**	**24.18633**	**26.08178**	**45.28803 J**	**60.58409**	**76.42679 J**	**33.63082**	**37.45349**
C1-Fluoranthenes/pyrenes	**21.08426 J**	**44.45606 J**	**30.41217 J**	**11.76696 J**	**37.92524 J**	**29.99112**	**35.59088**	**71.88041 J**	**102.90622**	**130.81218 J**	**63.59323**	**64.22768**
C2-Fluoranthenes/pyrenes	**10.45405 J**	**23.38529 J**	**16.07286 J**	**6.2084 J**	**20.00557 J**	**16.57191**	**19.45364**	**37.834 J**	**53.86009**	**69.07355 J**	**36.6269**	**34.95224**
C3-Fluoranthenes/pyrenes	**5.31146 J**	**11.85814 J**	**8.24927 J**	**3.12796 J**	**10.27961 J**	**9.01538**	**9.82384**	**19.72584 J**	**28.47758**	**36.10902 J**	**18.96601**	**18.28864**
C4-Fluoranthenes/pyrenes	**1.88349 J**	**3.79262 J**	**3.00204 J**	**1.01017 J**	**3.44802 J**	**3.05074**	**3.17543**	**5.96908 J**	**8.70904**	**9.79925 J**	**5.42072**	**6.28892**
Fluorene	**2.43281 J**	**4.3178 J**	**1.13405 J**	**0.67597 J**	**0.85586 J**	**0.77718**	**1.02217**	**5.85346 J**	**15.65364**	**17.73717 J**	**1.72295**	**4.86344**
C1-Fluorenes	**4.28851 J**	**8.94851 J**	**4.22117 J**	**2.16043 J**	**6.03574 J**	**4.32658**	**5.62462**	**16.05864 J**	**28.10641**	**33.20508 J**	**7.84193**	**11.32281**
C2-Fluorenes	**6.58161 J**	**13.51441 J**	**9.10115 J**	**3.63688 J**	**10.8432 J**	**8.50674**	**11.41183**	**24.8373 J**	**41.95671**	**49.8974 J**	**14.54086**	**18.25653**
C3-Fluorenes	**5.37272 J**	**10.35541 J**	**8.44129 J**	**2.97875 J**	**8.133 J**	**7.66713**	**9.36341**	**19.3602 J**	**30.35833**	**36.20208 J**	**10.57421**	**10.92273**
Indeno[1,2,3-cd]pyrene	**3.2296 J**	**5.57191 J**	**4.25973 J**	**3.19357 J**	**5.21935 J**	**4.17941**	**8.21523**	**12.50285 J**	**17.18596**	**13.6166 J**	**12.24418**	**13.81511**
Naphthalene	**2.19085 J**	**3.64512 J**	**1.86195 J**	**0.80639 J**	**1.66319 J**	**1.13667**	**1.72914**	**6.17821 J**	**21.3707**	**25.68172 J**	**3.60633**	**5.22686**
C1-Naphthalenes	**2.72646 J**	**4.7604 J**	**2.0602 J**	**0.68894 J**	**1.1187 J**	**1.36405**	**1.87187**	**7.32054 J**	**22.16296**	**25.60133 J**	**2.53808**	**5.2794**
C2-Naphthalenes	**7.60772 J**	**13.51654 J**	**7.24535 J**	**2.7045 J**	**7.90905 J**	**8.01527**	**7.98047**	**25.46743 J**	**57.86245**	**62.73872 J**	**6.53679**	**16.2165**
C3-Naphthalenes	**8.35942 J**	**15.78654 J**	**10.07336 J**	**4.09529 J**	**12.41102 J**	**11.13562**	**11.04512**	**31.66583 J**	**62.2711**	**66.94831 J**	**9.89599**	**21.52675**
C4-Naphthalenes	**6.53197 J**	**12.20394 J**	**9.03161 J**	**3.5651 J**	**10.12852 J**	**8.57628**	**10.16589**	**25.58129 J**	**44.39436**	**47.72053 J**	**8.81837**	**13.7485**
Perylene	**1.19425 J**	**2.63002 J**	**2.01177 J**	**1.24733 J**	**2.40991 J**	**2.03854**	**2.8585**	**4.27952 J**	**6.09742**	**5.7906 J**	**4.49208**	**4.61532**
Phenanthrene	**15.56793 J**	**28.25265 J**	**11.73348 J**	**5.51549 J**	**5.31258 J**	**9.85848**	**11.65944**	**39.5866 J**	**84.61109**	**106.78701 J**	**8.05755**	**31.00103**
C1-Phenanthrenes/anthracenes	**22.16682 J**	**46.10211 J**	**26.49982 J**	**10.71922 J**	**32.57709 J**	**27.171**	**31.95415**	**78.85124 J**	**132.35111**	**169.44735 J**	**39.67504**	**62.50242**
C2-Phenanthrenes/anthracenes	**18.60162 J**	**40.88281 J**	**27.87352 J**	**10.986 J**	**33.58654 J**	**27.79209**	**34.0833**	**71.74501 J**	**111.28989**	**135.14936 J**	**49.32138**	**56.70025**
C3-Phenanthrenes/anthracenes	**9.41464 J**	**19.85046 J**	**14.8827 J**	**5.31963 J**	**16.35977 J**	**15.0588**	**17.23791**	**35.09072 J**	**52.79795**	**63.60196 J**	**26.89091**	**27.20088**
C4-Phenanthrenes/anthracenes	**3.6266 J**	**7.23967 J**	**5.41866 J**	**2.06748 J**	**6.06161 J**	**5.60762**	**5.98459**	**12.15591 J**	**17.9727**	**21.79902 J**	**9.3007**	**9.2915**
Pyrene	**20.68929 J**	**34.91536 J**	**25.86512 J**	**14.4561 J**	**32.72228 J**	**26.13383**	**31.48474**	**59.28718 J**	**88.40645**	**99.32982 J**	**44.43828**	**42.87167**
TPH (mg/kg)												
Total Petroleum Hydrocarbons	**7550.36 J**	**10527.22 J**	**10643.98 J**	**4891.3 J**	**9472.59 J**	**9332.85**	**10219**	**18020.84 J**	**28992.56**	**27919.61 J**	**7668.22**	**9043.66**
Other SVOCs (mg/kg)												
Acetophenone	3.9 UJ	4 UJ	3.8 UJ	3.7 UJ	3.7 UJ	3.8 UJ	3.5 UJ	3.4 UJ	3.5 UJ	3.3 UJ	3.8 UJ	3 U
Atrazine	3.9 UJ	4 UJ	3.8 UJ	3.7 UJ	3.7 UJ	3.8 UJ	3.5 UJ	3.4 UJ	3.5 UJ	3.3 UJ	3.8 UJ	3 U
Benzaldehyde	3.9 UJ	4 UJ	3.8 UJ	3.7 UJ	3.7 UJ	3.8 UJ	3.5 UJ	**0.79 J**	**0.62 J**	3.3 UJ	**1.5 J**	**1.1 J**
1,1-Biphenyl	**0.41 J**	**0.55 J**	3.8 UJ	3.7 UJ	3.7 UJ	3.8 UJ	3.5 UJ	**1 J**	**1.2 J**	**2.9 J**	**0.42 J**	**0.85 J**
Bis(chloroisopropyl)ether	0.8 UJ	0.81 UJ	0.76 UJ	0.75 UJ	0.75 UJ	0.77 UJ	0.71 UJ	0.69 UJ	0.72 UJ	0.68 UJ	0.78 UJ	0.62 U
Bis(2-chloroethyl)ether	0.8 UJ	0.81 UJ	0.76 UJ	0.75 UJ	0.75 UJ	0.77 UJ	0.71 UJ	0.69 UJ	0.72 UJ	0.68 UJ	0.78 UJ	0.62 U
Bis(2-chloroethoxy)methane	3.9 UJ	4 UJ	3.8 UJ	3.7 UJ	3.7 UJ	3.8 UJ	3.5 UJ	3.4 UJ	3.5 UJ	3.3 UJ	3.8 UJ	3 U
Bis(2-ethylhexyl)phthalate	**23 J**	**29 J**	**25 J**	**12 J**	**19 J**	**23 J**	**29 J**	**48 J**	**58 J**	**78 J**	**14 J**	**31**

Table 2
Summary of Sediment Analytical Results
Phase I Sediment Cores
Gowanus Canal
Brooklyn, New York

Sample Name:	GC-SED-518	GC-SED-518	GC-SED-518	GC-SED-519	GC-SED-519	GC-SED-519	GC-SED-519	GC-SED-519	GC-SED-519	GC-SED-519	GC-SED-520	GC-SED-520
Sample Depth (feet):	(2.5-3.0)	(3.0-3.5)	(3.5-4.0)	(0.0-0.5)	(0.5-1.0)	(1.0-1.5)	(1.5-2.0)	(2.0-2.5)	(2.5-3.0)	(3.0-3.5)	(0.0-0.5)	(0.5-1.0)
Sample Date:	8/2/2012	8/2/2012	8/2/2012	8/2/2012	8/2/2012	8/2/2012	8/2/2012	8/2/2012	8/2/2012	8/2/2012	8/3/2012	8/3/2012
4-Bromophenyl phenyl ether	3.9 UJ	4 UJ	3.8 UJ	3.7 UJ	3.7 UJ	3.8 UJ	3.5 UJ	3.4 UJ	3.5 UJ	3.3 UJ	3.8 UJ	3 U
Butyl benzyl phthalate	**0.55 J**	4 UJ	**0.67 J**	3.7 UJ	3.7 UJ	**0.57 J**	**0.54 J**	**0.93 J**	**0.64 J**	**1.4 J**	3.8 UJ	**0.43 J**
Caprolactam	20 UJ	21 UJ	19 UJ	19 UJ	19 UJ	20 UJ	18 UJ	17 UJ	18 UJ	17 UJ	20 UJ	16 U
Carbazole	**0.39 J**	0.81 UJ	**0.15 J**	**0.25 J**	**0.36 J**	**0.75 J**	**0.29 J**	**0.55 J**	**0.62 J**	**1.2 J**	**0.57 J**	**0.58 J**
4-Chloro-3-methylphenol	3.9 UJ	4 UJ	3.8 UJ	3.7 UJ	3.7 UJ	3.8 UJ	3.5 UJ	3.4 UJ	3.5 UJ	3.3 UJ	3.8 UJ	3 U
4-Chloroaniline	**1 J**	**1.2 J**	**1.1 J**	**0.52 J**	**0.73 J**	**0.9 J**	**0.97 J**	**2 J**	**1.9 J**	**2.3 J**	**0.33 J**	**0.71 J**
Chlorophene	3.9 UJ	4 UJ	3.8 UJ	3.7 UJ	3.7 UJ	3.8 UJ	3.5 UJ	3.4 UJ	3.5 UJ	3.3 UJ	3.8 UJ	3 UJ
2-Chloronaphthalene	0.8 UJ	0.81 UJ	0.76 UJ	0.75 UJ	0.75 UJ	0.77 UJ	0.71 UJ	0.69 UJ	0.72 UJ	0.68 UJ	0.78 UJ	0.62 U
2-Chlorophenol	3.9 UJ	4 UJ	3.8 UJ	3.7 UJ	3.7 UJ	3.8 UJ	3.5 UJ	3.4 UJ	3.5 UJ	3.3 UJ	3.8 UJ	3 U
4-Chlorophenyl phenyl ether	3.9 UJ	4 UJ	3.8 UJ	3.7 UJ	3.7 UJ	3.8 UJ	3.5 UJ	3.4 UJ	3.5 UJ	3.3 UJ	3.8 UJ	3 U
Dibenzofuran	3.9 UJ	4 UJ	3.8 UJ	3.7 UJ	3.7 UJ	3.8 UJ	3.5 UJ	3.4 UJ	3.5 UJ	3.3 UJ	3.8 UJ	3 U
3,3-Dichlorobenzidine	3.9 UJ	4 UJ	3.8 UJ	3.7 UJ	3.7 UJ	3.8 UJ	3.5 UJ	3.4 UJ	3.5 UJ	3.3 UJ	3.8 UJ	3 U
2,4-Dichlorophenol	0.8 UJ	0.81 UJ	0.76 UJ	0.75 UJ	0.75 UJ	0.77 UJ	0.71 UJ	0.69 UJ	0.72 UJ	**0.19 J**	0.78 UJ	0.62 U
Diethyl phthalate	3.9 UJ	4 UJ	3.8 UJ	3.7 UJ	3.7 UJ	3.8 UJ	3.5 UJ	3.4 UJ	3.5 UJ	3.3 UJ	3.8 UJ	3 U
Dimethyl phthalate	3.9 UJ	4 UJ	3.8 UJ	3.7 UJ	3.7 UJ	3.8 UJ	3.5 UJ	3.4 UJ	3.5 UJ	3.3 UJ	3.8 UJ	3 U
2,4-Dimethylphenol	3.9 UJ	4 UJ	3.8 UJ	3.7 UJ	3.7 UJ	3.8 UJ	3.5 UJ	3.4 UJ	3.5 UJ	3.3 UJ	3.8 UJ	3 U
Di-n-butyl phthalate	3.9 UJ	4 UJ	3.8 UJ	3.7 UJ	3.7 UJ	3.8 UJ	3.5 UJ	3.4 UJ	3.5 UJ	3.3 UJ	3.8 UJ	3 U
4,6-Dinitro-2-methylphenol	20 UJ	21 UJ	19 UJ	19 UJ	19 UJ	20 UJ	18 UJ	17 UJ	18 UJ	17 UJ	20 UJ	16 U
2,4-Dinitrophenol	20 UJ	21 UJ	19 UJ	19 UJ	19 UJ	20 UJ	18 UJ	17 UJ	18 UJ	17 UJ	20 UJ	16 U
2,4-Dinitrotoluene	3.9 UJ	4 UJ	3.8 UJ	3.7 UJ	3.7 UJ	3.8 UJ	3.5 UJ	3.4 UJ	3.5 UJ	3.3 UJ	3.8 UJ	3 U
2,6-Dinitrotoluene	3.9 UJ	4 UJ	3.8 UJ	3.7 UJ	3.7 UJ	3.8 UJ	3.5 UJ	3.4 UJ	3.5 UJ	3.3 UJ	3.8 UJ	3 U
Di-n-octyl phthalate	**0.53 J**	4 UJ	**0.67 J**	3.7 UJ	3.7 UJ	**0.59 J**	**0.65 J**	**1.4 J**	**1.3 J**	**4.4 J**	**0.72 J**	**5.8**
Hexachlorobenzene	0.8 UJ	0.81 UJ	0.76 UJ	0.75 UJ	0.75 UJ	0.77 UJ	0.71 UJ	0.69 UJ	0.72 UJ	0.68 UJ	0.78 UJ	0.62 U
Hexachlorobutadiene	0.8 UJ	0.81 UJ	0.76 UJ	0.75 UJ	0.75 UJ	0.77 UJ	0.71 UJ	0.69 UJ	0.72 UJ	0.68 UJ	0.78 UJ	0.62 U
Hexachlorocyclopentadiene	3.9 UJ	4 UJ	3.8 UJ	3.7 UJ	3.7 UJ	3.8 UJ	3.5 UJ	3.4 UJ	3.5 UJ	3.3 UJ	3.8 UJ	3 U
Hexachloroethane	3.9 UJ	4 UJ	3.8 UJ	3.7 UJ	3.7 UJ	3.8 UJ	3.5 UJ	3.4 UJ	3.5 UJ	3.3 UJ	3.8 UJ	3 U
Isophorone	3.9 UJ	4 UJ	3.8 UJ	3.7 UJ	3.7 UJ	3.8 UJ	3.5 UJ	3.4 UJ	3.5 UJ	3.3 UJ	3.8 UJ	3 U
2-Methylphenol (o-Cresol)	3.9 UJ	4 UJ	3.8 UJ	3.7 UJ	3.7 UJ	3.8 UJ	3.5 UJ	3.4 UJ	3.5 UJ	3.3 UJ	3.8 UJ	3 U
3,4-Methylphenol (m,p-Cresol)	3.9 UJ	4 UJ	3.8 UJ	3.7 UJ	3.7 UJ	3.8 UJ	3.5 UJ	3.4 UJ	3.5 UJ	**0.36 J**	3.8 UJ	3 U
2-Nitroaniline	20 UJ	21 UJ	19 UJ	19 UJ	19 UJ	20 UJ	18 UJ	17 UJ	18 UJ	17 UJ	20 UJ	16 U
3-Nitroaniline	20 UJ	21 UJ	19 UJ	19 UJ	19 UJ	20 UJ	18 UJ	17 UJ	18 UJ	17 UJ	20 UJ	16 U
4-Nitroaniline	20 UJ	21 UJ	19 UJ	19 UJ	19 UJ	20 UJ	18 UJ	17 UJ	18 UJ	17 UJ	20 UJ	16 U
Nitrobenzene	8 UJ	8.1 UJ	7.6 UJ	7.5 UJ	7.5 UJ	7.7 UJ	7.1 UJ	6.9 UJ	7.2 UJ	6.8 UJ	7.8 UJ	6.2 U
2-Nitrophenol	3.9 UJ	4 UJ	3.8 UJ	3.7 UJ	3.7 UJ	3.8 UJ	3.5 UJ	3.4 UJ	3.5 UJ	3.3 UJ	3.8 UJ	3 U

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Summary of Sediment Analytical Results
Phase I Sediment Cores
Gowanus Canal
Brooklyn, New York

Sample Name:	GC-SED-518	GC-SED-518	GC-SED-518	GC-SED-519	GC-SED-519	GC-SED-519	GC-SED-519	GC-SED-519	GC-SED-519	GC-SED-519	GC-SED-520	GC-SED-520
Sample Depth (feet):	(2.5-3.0)	(3.0-3.5)	(3.5-4.0)	(0.0-0.5)	(0.5-1.0)	(1.0-1.5)	(1.5-2.0)	(2.0-2.5)	(2.5-3.0)	(3.0-3.5)	(0.0-0.5)	(0.5-1.0)
Sample Date:	8/2/2012	8/2/2012	8/2/2012	8/2/2012	8/2/2012	8/2/2012	8/2/2012	8/2/2012	8/2/2012	8/2/2012	8/3/2012	8/3/2012
4-Nitrophenol	20 UJ	21 UJ	19 UJ	19 UJ	19 UJ	20 UJ	18 UJ	17 UJ	18 UJ	17 UJ	20 UJ	16 U
N-Nitrosodi-n-propylamine	0.8 UJ	0.81 UJ	0.76 UJ	0.75 UJ	0.75 UJ	0.77 UJ	0.71 UJ	0.69 UJ	0.72 UJ	0.68 UJ	0.78 UJ	0.62 U
N-Nitrosodiphenylamine	3.9 UJ	4 UJ	3.8 UJ	3.7 UJ	3.7 UJ	3.8 UJ	3.5 UJ	3.4 UJ	3.5 UJ	3.3 UJ	3.8 UJ	**160**
Pentachlorophenol	3.9 UJ	4 UJ	3.8 UJ	3.7 UJ	3.7 UJ	3.8 UJ	3.5 UJ	3.4 UJ	3.5 UJ	3.3 UJ	3.8 UJ	3 U
Phenol	0.8 UJ	0.81 UJ	0.76 UJ	0.75 UJ	0.75 UJ	0.77 UJ	0.71 UJ	0.69 UJ	0.72 UJ	0.68 UJ	**0.17 J**	0.62 U
1,2,4,5-Tetrachlorobenzene	3.9 UJ	4 UJ	3.8 UJ	3.7 UJ	3.7 UJ	3.8 UJ	3.5 UJ	3.4 UJ	3.5 UJ	3.3 UJ	3.8 UJ	3 U
2,3,4,6-Tetrachlorophenol	3.9 UJ	4 UJ	3.8 UJ	3.7 UJ	3.7 UJ	3.8 UJ	3.5 UJ	3.4 UJ	3.5 UJ	3.3 UJ	3.8 UJ	3 U
2,4,5-Trichlorophenol	3.9 UJ	4 UJ	3.8 UJ	3.7 UJ	3.7 UJ	3.8 UJ	3.5 UJ	3.4 UJ	3.5 UJ	3.3 UJ	3.8 UJ	3 U
2,4,6-Trichlorophenol	3.9 UJ	4 UJ	3.8 UJ	3.7 UJ	3.7 UJ	3.8 UJ	3.5 UJ	3.4 UJ	3.5 UJ	3.3 UJ	3.8 UJ	3 U
PCBs (mg/kg)												
Aroclor 1016	0.02 UJ	0.02 UJ	0.019 UJ	0.018 UJ	0.019 UJ	0.019 UJ	0.17 UJ	0.17 UJ	0.17 UJ	0.17 UJ	0.019 UJ	0.015 U
Aroclor 1221	0.02 UJ	0.02 UJ	0.019 UJ	0.018 UJ	0.019 UJ	0.019 UJ	0.17 UJ	0.17 UJ	0.17 UJ	0.17 UJ	0.019 UJ	0.015 U
Aroclor 1232	0.02 UJ	0.02 UJ	0.019 UJ	0.018 UJ	0.019 UJ	0.019 UJ	0.17 UJ	0.17 UJ	0.17 UJ	0.17 UJ	0.019 UJ	0.015 U
Aroclor 1242	**0.64 J**	**1 J**	**0.9 J**	**0.45 J**	**0.78 J**	**0.89 J**	**2 J**	**4.4 J**	**3.9 J**	**5.9 J**	**0.66 J**	**0.9 J**
Aroclor 1248	0.02 UJ	0.02 UJ	0.019 UJ	0.018 UJ	0.019 UJ	0.019 UJ	0.17 UJ	0.17 UJ	0.17 UJ	0.17 UJ	0.019 UJ	0.015 U
Aroclor 1254	0.02 UJ	0.02 UJ	0.019 UJ	0.018 UJ	0.019 UJ	0.019 UJ	0.17 UJ	0.17 UJ	0.17 UJ	0.17 UJ	0.019 UJ	**1.1 J**
Aroclor 1260	**1 J**	**2 J**	**1.9 J**	**0.7 J**	**1.6 J**	**1.7 J**	**4 J**	**8.5 J**	**11 J**	**17 J**	**0.76 J**	0.015 U
Aroclor 1262	0.02 UJ	0.02 UJ	0.019 UJ	0.018 UJ	0.019 UJ	0.019 UJ	0.17 UJ	0.17 UJ	0.17 UJ	0.17 UJ	0.019 UJ	0.015 U
Aroclor 1268	0.02 UJ	0.02 UJ	0.019 UJ	0.018 UJ	0.019 UJ	0.019 UJ	0.17 UJ	0.17 UJ	0.17 UJ	0.17 UJ	0.019 UJ	0.015 U
Total PCBs	**1.6 J**	**3 J**	**2.8 J**	**1.2 J**	**2.4 J**	**2.6 J**	**6 J**	**13 J**	**15 J**	**23 J**	**1.4 J**	**2 J**
Pesticides (mg/kg)												
Aldrin	0.02 UJ	0.02 UJ	**0.055 J**	**0.014 J**	0.019 UJ	0.019 UJ	0.018 UJ	0.017 UJ	0.018 UJ	0.017 UJ	0.019 UJ	0.015 U
alpha-BHC	0.02 UJ	0.02 UJ	0.019 UJ	0.019 UJ	0.019 UJ	0.019 UJ	0.018 UJ	**0.018 JN**	**0.036 J**	0.017 UJ	**0.0089 J**	0.015 U
beta-BHC	0.02 UJ	0.02 UJ	**0.031 JN**	0.019 UJ	0.019 UJ	**0.02 JN**	**0.024 JN**	**0.02 JN**	**0.02 JN**	**0.049 JN**	0.019 UJ	0.015 U
gamma-BHC	0.02 UJ	0.02 UJ	0.019 UJ	0.019 UJ	0.019 UJ	0.019 UJ	0.018 UJ	0.017 UJ	**0.049 J**	0.017 UJ	0.019 UJ	0.015 U
delta-BHC	0.02 UJ	0.02 UJ	**0.024 J**	0.019 UJ	0.019 UJ	0.019 UJ	0.018 UJ	0.017 UJ	0.018 UJ	**0.027 J**	0.019 UJ	0.015 U
alpha-chlordane	**0.043 JN**	0.02 UJ	**0.1 J**	0.019 UJ	**0.022 JN**	**0.045 J**	**0.094 J**	**0.11 J**	**0.075 J**	**0.061 J**	**0.011 J**	**0.032**
gamma-Chlordane	**0.17 J**	**0.047 JN**	**0.2 J**	**0.034 JN**	**0.13 J**	**0.12 J**	**0.15 J**	**0.26 J**	**0.13 J**	**0.15 J**	**0.066 J**	**0.1**
4,4-DDD	**0.13 J**	**0.09 J**	**0.19 J**	**0.067 J**	**0.16 J**	**0.11 J**	**0.13 JN**	**0.22 JN**	**0.16 JN**	**0.12 JN**	**0.055 J**	**0.095 J**
4,4'-DDE	**0.063 J**	0.02 UJ	**0.081 J**	0.019 UJ	0.019 UJ	0.019 UJ	**0.12 J**	**0.17 J**	**0.14 J**	**0.11 J**	**0.022 J**	**0.036**
4,4'-DDT	**0.14 J**	**0.064 J**	**0.22 J**	**0.072 J**	**0.15 J**	**0.15 J**	**0.23 J**	**0.5 J**	**0.42 J**	**0.32 J**	0.019 UJ	0.015 U
Dieldrin	**0.063 J**	0.02 UJ	**0.074 J**	**0.032 J**	**0.1 J**	**0.09 J**	**0.14 J**	**0.14 J**	**0.12 J**	**0.089 J**	0.019 UJ	0.015 U
Endosulfan I	0.02 UJ	0.02 UJ	0.019 UJ	0.019 UJ	0.019 UJ	0.019 UJ	0.018 UJ	0.017 UJ	0.018 UJ	0.017 UJ	0.019 UJ	0.015 U
Endosulfan II	0.02 UJ	0.02 UJ	0.019 UJ	0.019 UJ	0.019 UJ	0.019 UJ	**0.11 J**	0.017 UJ	0.018 UJ	0.017 UJ	0.019 UJ	0.015 U
Endosulfan sulfate	**0.035 J**	0.02 UJ	**0.081 J**	0.019 UJ	**0.072 J**	0.019 UJ	**0.09 J**	**0.2 J**	**0.095 J**	**0.071 J**	**0.0063 J**	0.015 U
Endrin	**0.055 J**	0.02 UJ	**0.041 J**	0.019 UJ	**0.073 J**	**0.068 J**	**0.083 J**	**0.13 J**	**0.1 J**	**0.092 J**	0.019 UJ	**0.076 J**
Endrin aldehyde	0.02 UJ	0.02 UJ	0.019 UJ	0.019 UJ	0.019 UJ	0.019 UJ	0.018 UJ	0.017 UJ	0.018 UJ	0.017 UJ	**0.0069 J**	0.015 U
Endrin ketone	0.02 UJ	0.02 UJ	**0.052 JN**	0.019 UJ	0.019 UJ	**0.051 J**	**0.027 JN**	**0.12 JN**	**0.12 JN**	**0.11 JN**	**0.03 J**	0.015 U
Heptachlor	**0.031 JN**	**0.021 JN**	**0.075 J**	0.019 UJ	**0.034 J**	**0.031 JN**	**0.076 J**	**0.12 J**	**0.07 J**	**0.077 J**	0.019 UJ	0.015 U
Heptachlor epoxide	0.02 UJ	0.02 UJ	**0.043 J**	0.019 UJ	**0.023 JN**	0.019 UJ	**0.039 J**	**0.033 JN**	**0.023 JN**	**0.041 J**	**0.011 J**	0.015 U
Methoxychlor	**0.07 JN**	**0.052 JN**	**0.16 JN**	**0.06 J**	**0.27 J**	**0.11 JN**	**0.24 J**	**0.35 JN**	**0.26 JN**	**0.18 JN**	0.037 UJ	**0.079 JN**
Toxaphene	0.79 UJ	0.8 UJ	0.77 UJ	0.75 UJ	0.75 UJ	0.77 UJ	0.69 UJ	0.68 UJ	0.71 UJ	0.68 UJ	0.76 UJ	0.61 U
Herbicides (mg/kg)												
2,4-D	0.19 UJ	0.2 UJ	0.18 UJ	0.18 UJ	0.18 UJ	0.19 UJ	0.17 UJ	0.16 UJ	0.17 UJ	0.16 UJ	0.19 UJ	0.15 U
2,4-DB	0.19 UJ	0.2 UJ	0.18 UJ	0.18 UJ	0.18 UJ	0.19 UJ	0.17 UJ	0.16 UJ	0.17 UJ	0.16 UJ	0.19 UJ	0.15 U
Dicamba	0.096 UJ	0.098 UJ	0.092 UJ	0.09 UJ	0.091 UJ	0.093 UJ	0.086 UJ	0.082 UJ	0.085 UJ	0.081 UJ	0.093 UJ	0.075 U
Dichloroprop	0.19 UJ	0.2 UJ	0.18 UJ	0.18 UJ	0.18 UJ	0.19 UJ	0.17 UJ	0.16 UJ	0.17 UJ	0.16 UJ	0.19 UJ	0.15 U
2,2-Dichloropropionic acid	0.22 UJ	0.22 UJ	0.21 UJ	0.2 UJ	0.2 UJ	0.21 UJ	0.19 UJ	0.18 UJ	0.19 UJ	0.18 UJ	0.21 UJ	0.17 U
Dinoseb	0.029 UJ	0.029 UJ	0.028 UJ	0.027 UJ	0.027 UJ	0.028 UJ	0.026 UJ	0.025 UJ	0.026 UJ	0.024 UJ	0.028 UJ	0.022 U

Table 2
Summary of Sediment Analytical Results
Phase I Sediment Cores
Gowanus Canal
Brooklyn, New York

Sample Name:	GC-SED-518	GC-SED-518	GC-SED-518	GC-SED-519	GC-SED-519	GC-SED-519	GC-SED-519	GC-SED-519	GC-SED-519	GC-SED-519	GC-SED-520	GC-SED-520
Sample Depth (feet):	(2.5-3.0)	(3.0-3.5)	(3.5-4.0)	(0.0-0.5)	(0.5-1.0)	(1.0-1.5)	(1.5-2.0)	(2.0-2.5)	(2.5-3.0)	(3.0-3.5)	(0.0-0.5)	(0.5-1.0)
Sample Date:	8/2/2012	8/2/2012	8/2/2012	8/2/2012	8/2/2012	8/2/2012	8/2/2012	8/2/2012	8/2/2012	8/2/2012	8/3/2012	8/3/2012
MCPP	19 UJ	20 UJ	18 UJ	18 UJ	18 UJ	19 UJ	17 UJ	16 UJ	17 UJ	16 UJ	19 UJ	15 U
Methylchlorophenoxyacetic acid	19 UJ	20 UJ	18 UJ	18 UJ	18 UJ	19 UJ	17 UJ	16 UJ	17 UJ	16 UJ	19 UJ	15 U
Pentachlorophenol	0.026 UJ	0.027 UJ	0.025 UJ	0.025 UJ	0.025 UJ	0.026 UJ	0.024 UJ	0.023 UJ	0.023 UJ	0.022 UJ	0.026 UJ	0.021 U
Silvex	0.048 UJ	0.049 UJ	0.046 UJ	0.045 UJ	0.046 UJ	0.046 UJ	0.043 UJ	0.041 UJ	0.043 UJ	0.041 UJ	0.047 UJ	0.037 U
2,4,5-Trichlorophenoxyacetic Acid	0.048 UJ	0.049 UJ	0.046 UJ	0.045 UJ	0.046 UJ	0.046 UJ	0.043 UJ	0.041 UJ	0.043 UJ	0.041 UJ	0.047 UJ	0.037 U
Metals (mg/kg)												
Aluminum	**12000 J**	**12000 J**	**9600 J**	**8400 J**	**7300 J**	**8200 J**	**10000 J**	**6200 J**	**7600 J**	**5400 J**	**9900 J**	**6600**
Antimony	**1.1 J**	**1.4 J**	**0.96 J**	**0.9 J**	**1 J**	**1.4 J**	**2 J**	**1.5 J**	**2.1 J**	**1.8 J**	**2.7 J**	**5.4 J**
Arsenic	**8.5 J**	**10 J**	**7.6 J**	**6 J**	**6.5 J**	**8.2 J**	**12 J**	**9 J**	**11 J**	**14 J**	**11 J**	**41 J**
Barium	**160 J**	**240 J**	**200 J**	**100 J**	**320 J**	**200 J**	**290 J**	**240 J**	**250 J**	**230 J**	**170 J**	**280 J**
Beryllium	**0.66 J**	**0.68 J**	**0.58 J**	**0.46 J**	**0.43 J**	**0.49 J**	**0.57 J**	**0.33 J**	**0.44 J**	**0.28 J**	**0.59 J**	**0.48 J**
Cadmium	**3.5 J**	**4.9 J**	**5.2 J**	**2.5 J**	**3.1 J**	**3.7 J**	**5.9 J**	**5.9 J**	**7.8 J**	**7.9 J**	**9.9 J**	**14 J**
Calcium	**7200 J**	**9300 J**	**7800 J**	**5400 J**	**8100 J**	**11000 J**	**17000 J**	**12000 J**	**15000 J**	**10000 J**	**7600 J**	**6900 J**
Chromium	**86 J**	**110 J**	**83 J**	**61 J**	**59 J**	**74 J**	**120 J**	**110 J**	**170 J**	**160 J**	**91 J**	**130 J**
Cobalt	**9.3 J**	**9.7 J**	**7.6 J**	**6.6 J**	**6.4 J**	**7.6 J**	**8.7 J**	**5.9 J**	**7.8 J**	**5.7 J**	**8.8 J**	**8**
Copper	**250 J**	**290 J**	**220 J**	**180 J**	**200 J**	**250 J**	**340 J**	**280 J**	**370 J**	**390 J**	**250 J**	**290 J**
Iron	**25000 J**	**32000 J**	**20000 J**	**18000 J**	**18000 J**	**23000 J**	**26000 J**	**20000 J**	**24000 J**	**26000 J**	**24000 J**	**17000**
Lead	**400 J**	**500 J**	**400 J**	**270 J**	**360 J**	**410 J**	**700 J**	**570 J**	**750 J**	**600 J**	**520 J**	**490 J**
Magnesium	**8900 J**	**9600 J**	**7900 J**	**6500 J**	**6800 J**	**8400 J**	**11000 J**	**7500 J**	**9000 J**	**6700 J**	**8500 J**	**6200**
Manganese	**230 J**	**240 J**	**200 J**	**160 J**	**130 J**	**150 J**	**190 J**	**120 J**	**150 J**	**130 J**	**190 J**	**120 J**
Mercury	**1.9 J**	**2.1 J**	**2 J**	**1.2 J**	**1.3 J**	**1.4 J**	**5 J**	**3.1 J**	**2.2 J**	**4 J**	**1.3 J**	**1.5 J**
Nickel	**50 J**	**64 J**	**48 J**	**35 J**	**35 J**	**53 J**	**80 J**	**77 J**	**110 J**	**100 J**	**45 J**	**52**
Potassium	**2700 J**	**2600 J**	**2100 J**	**1900 J**	**1600 J**	**1800 J**	**2100 J**	**1400 J**	**1600 J**	**1100 J**	**2000 J**	**1200**
Selenium	**1 J**	**1.2 J**	**0.44 J**	**0.65 J**	**0.51 J**	**0.64 J**	**1.2 J**	**1.2 J**	**1.3 J**	**1.2 J**	**1.3 J**	**0.84 J**
Silver	**7.9 J**	**7.4 J**	**6.7 J**	**5.1 J**	**4.4 J**	**5 J**	**6.8 J**	**5.9 J**	**6.2 J**	**6.6 J**	**4.5 J**	**4.8 J**
Sodium	**9800 J**	**10000 J**	**7400 J**	**8100 J**	**7100 J**	**7900 J**	**8100 J**	**5900 J**	**7000 J**	**5600 J**	**8900 J**	**4200**
Thallium	**0.3 J**	**0.28 J**	**0.23 J**	**0.19 J**	**0.18 J**	**0.2 J**	**0.24 J**	**0.17 J**	**0.19 J**	**0.16 J**	**0.33 J**	**0.19 J**
Vanadium	**42 J**	**43 J**	**34 J**	**30 J**	**29 J**	**33 J**	**39 J**	**29 J**	**40 J**	**33 J**	**35 J**	**22 J**
Zinc	**550 J**	**650 J**	**510 J**	**440 J**	**480 J**	**600 J**	**800 J**	**650 J**	**800 J**	**720 J**	**920 J**	**980**
EDCs & PPCPs (Phenols) (mg/kg)												
Bisphenol A	0.97 UJ	0.99 UJ	0.88 UJ	0.82 UJ	0.92 UJ	0.8 UJ	0.73 U	0.86 UJ	0.8 UJ	0.83 UJ	0.84 UJ	0.72 U
Nonylphenol	**16 J**	**21 J**	**28 J**	**13 J**	**21 J**	**24 J**	**27**	**43 J**	**33 J**	**48 J**	**11 J**	**23**
Nonylphenol Diethoxylate	20 UJ	20 UJ	18 UJ	17 UJ	19 UJ	16 UJ	15 U	18 UJ	16 UJ	17 UJ	17 UJ	15 U
Nonylphenol Monoethoxylate	9.7 UJ	9.9 UJ	8.8 UJ	8.2 UJ	9.2 UJ	8 UJ	7.3 U	8.6 UJ	8 UJ	8.3 UJ	8.4 UJ	7.2 U
4-tert-Octylphenol	0.97 UJ	0.99 UJ	0.88 UJ	0.82 UJ	0.92 UJ	0.8 UJ	0.73 U	0.86 UJ	0.8 UJ	**1.5 J**	0.84 UJ	**2.1**
EDCs and PPCPs (mg/kg)												
Acetaminophen	0.039 U	0.04 U	0.04 U	0.039 U	0.04 U	0.04 U	0.04 U	0.039 U	0.039 U	0.04 U	0.039 U	0.04 U
alpha-Estradiol	0.039 UJ	0.04 UJ	0.04 UJ	0.039 UJ	0.04 UJ	0.04 UJ	0.04 UJ	0.039 UJ	0.039 UJ	0.04 UJ	0.039 UJ	0.04 UJ
Androstenedione	0.0079 U	0.008 U	0.008 U	0.0079 U	0.0079 U	0.008 U	0.008 U	0.0079 U	0.0078 U	0.0079 U	0.0079 U	0.0079 U
Atrazine	0.0079 UJ	0.008 UJ	0.008 UJ	0.0079 UJ	0.0079 UJ	0.008 UJ	0.008 UJ	0.0079 UJ	0.0078 UJ	0.0079 UJ	0.0079 UJ	0.0079 UJ
Bisphenol A	**0.19 J**	**0.19 J**	**0.31 J**	**0.13 J**	**0.2 J**	**0.25 J**	**0.43 J**	**0.23 J**	**0.39 J**	**0.24 J**	**0.72**	**0.21**
Carbamazepine	0.016 UJ	0.016 UJ	0.016 UJ	0.016 UJ	0.016 UJ	0.016 UJ	0.016 UJ	0.016 UJ	0.016 UJ	0.016 UJ	0.016 UJ	0.016 UJ
DEET (N,N-Diethyl-3-Methyl Benzamide)	0.039 UJ	0.04 UJ	0.04 UJ	0.039 UJ	0.04 UJ	0.04 UJ	0.04 UJ	0.039 UJ	0.039 UJ	0.04 UJ	0.039 UJ	0.04 UJ
Diazepam	0.016 U	0.016 U	0.016 U	0.016 U	0.016 U	0.016 U	0.016 U	0.016 U	0.016 U	0.016 U	0.016 U	0.016 U
Diclofenac	R	R	0.016 UJ	0.016 UJ	0.016 UJ	R	R	R	R	R	R	0.016 UJ
Diethylstilbestrol	R	0.04 UJ	0.04 UJ	R	0.04 UJ	R	**0.032 J**	R	R	R	R	R
Estradiol	0.039 UJ	0.04 UJ	0.04 UJ	0.039 UJ	0.04 UJ	0.04 UJ	0.04 UJ	0.039 UJ	0.039 UJ	0.04 UJ	0.039 UJ	0.04 UJ
Estriol	0.039 U	0.04 U	0.04 U	0.039 U	0.04 U	0.04 U	0.04 U	0.039 U	0.039 U	0.04 U	0.039 U	0.04 U

Table 2
Summary of Sediment Analytical Results
Phase I Sediment Cores
Gowanus Canal
Brooklyn, New York

Sample Name:	GC-SED-518	GC-SED-518	GC-SED-518	GC-SED-519	GC-SED-519	GC-SED-519	GC-SED-519	GC-SED-519	GC-SED-519	GC-SED-519	GC-SED-520	GC-SED-520
Sample Depth (feet):	(2.5-3.0)	(3.0-3.5)	(3.5-4.0)	(0.0-0.5)	(0.5-1.0)	(1.0-1.5)	(1.5-2.0)	(2.0-2.5)	(2.5-3.0)	(3.0-3.5)	(0.0-0.5)	(0.5-1.0)
Sample Date:	8/2/2012	8/2/2012	8/2/2012	8/2/2012	8/2/2012	8/2/2012	8/2/2012	8/2/2012	8/2/2012	8/2/2012	8/3/2012	8/3/2012
Estrone	0.039 UJ	0.04 UJ	0.04 UJ	0.039 UJ	0.04 UJ	0.04 UJ	0.04 UJ	0.039 UJ	0.039 UJ	0.04 UJ	0.039 UJ	**0.19 J**
Ethinyl Estradiol	0.039 U	0.04 U	0.04 U	0.039 U	0.04 U	0.04 U	0.04 U	0.039 U	0.039 U	0.04 U	0.039 U	0.04 U
Gemfibrozil	R	R	0.016 UJ	0.016 UJ	0.016 UJ	R	R	R	R	R	R	0.016 UJ
Ibuprofen	0.039 UJ	R	0.04 UJ	**0.14 J**	0.04 U	R	R	0.039 UJ	0.039 UJ	0.04 UJ	0.039 UJ	0.04 UJ
Meprobamate	0.0079 UJ	0.008 UJ	0.008 UJ	0.0079 UJ	0.0079 UJ	0.008 UJ	0.008 UJ	0.0079 UJ	0.0078 UJ	0.0079 UJ	0.0079 UJ	0.0079 UJ
Naproxen	0.016 UJ	0.016 U	0.016 U	0.016 U	0.016 U	0.016 UJ	0.016 U	0.016 UJ	0.016 UJ	0.016 U	0.016 U	0.016 U
Pentoxifylline	0.016 U	0.016 U	0.016 U	0.016 U	0.016 U	0.016 U	0.016 U	0.016 U	0.016 U	0.016 U	**0.0018 J**	0.016 U
Phenytoin (5,5-Diphenylhydantion/ Dilantin)	0.039 U	0.04 U	0.04 U	0.039 U	0.04 U	**0.002 J**	**0.0027 J**	**0.0031 J**	**0.0029 J**	**0.0022 J**	**0.0088 J**	**0.024 J**
Progesterone	**0.0058 J**	R	**0.0034 J**	**0.0041 J**	**0.0032 J**	**0.0052 J**	R	0.016 UJ	0.016 UJ	0.016 UJ	**0.0083 J**	**0.0024 J**
Sulfamethoxazole	0.016 U	0.016 U	0.016 U	0.016 U	0.016 U	0.016 U	0.016 U	0.016 U	0.016 U	0.016 U	0.016 U	0.016 U
Testosterone	0.016 U	0.016 U	0.016 U	0.016 U	0.016 U	0.016 U	0.016 U	0.016 U	0.016 U	0.016 U	0.016 U	0.016 U
Trimethoprim	0.039 UJ	0.04 UJ	0.04 UJ	0.039 UJ	0.04 UJ	0.04 UJ	0.04 UJ	0.039 UJ	0.039 UJ	0.04 UJ	0.039 UJ	0.04 UJ
Pathogen												
C. perfringens (cfu/g)	**2100**	**48000**	**80000**	**35000**	**82000**	**22000**	**12000**	0 U	0 U	0 U	**49000**	**110000**
Coliphage, Male Specific (pfu/10g)	0 U	0 U	0 U	0 U	0 U	0 U	**1**	0 U	0 U	0 U	0 U	0 U
Coliphage, Somatic (pfu/10g)	**141**	**37**	0 U	**171**	**2**	**2**	**9**	0 U	**3**	**2**	**49 J**	**5 J**
Cryptosporidium (Oocysts/g)	0 U	0 U	0 U	0 U	0 U	0 U	0 U	0 U	0 U	0 U	0 U	0 U
E.Coli (mpn/g)	**4.1**	**4.1**	0 U	**313**	**9.8**	**8.5**	**1**	**1**	0 U	**1**	**214.3**	**31.8**
Enterococci (mpn/g)	**23.9**	**120**	**25.3**	**169.4**	**33.3**	**27.5**	**4.1**	**17.9**	**23.7**	**14.4**	**133.8**	**57.1**
Fecal Coliform (mpn/g)	**2**	**1**	**2**	**156.5**	**13.4**	**7.5**	**2**	**1**	**1**	**2**	**4870**	**1986.3**
Giardia (Cysts/g)	0 U	0 U	0 U	0 U	0 U	0 U	0 U	0 U	0 U	0 U	0 U	0 U
Plaque forming virus (pfu/g)	0 U	0 U	0 U	0 U	0 U	0 U	0 U	0 U	0 U	0 U	0 U	0 U
Viruses (pos/neg)	neg	neg	neg	neg	neg	neg	neg	neg	neg	neg	neg	neg
Other (%)												
Percent Solids	**44.4**	**35.2**	**41.69**	**45.94**	**45.77**	**48.18**	**48.88**	**46.45**	**49.69**	**52.83**	**43.82**	**55.38**
Total Solids	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Other (mg/kg)												
Total Organic Carbon	**67000 J**	**81000 J**	**67000 J**	**70000 J**	**79000 J**	**61000 J**	**86000 J**	**100000 J**	**95000 J**	**130000 J**	**77000 J**	**67000**

Table 2
Summary of Sediment Analytical Results
Phase I Sediment Cores
Gowanus Canal
Brooklyn, New York

Sample Name:	GC-SED-520	GC-SED-520	GC-SED-520	GC-SED-520	GC-SED-520	GC-SED-520	GC-SED-521	GC-SED-521	GC-SED-521	GC-SED-521	Duplicate of GC-SED-521
Sample Depth (feet):	(1.0-1.5)	(1.5-2.0)	(2.0-2.5)	(2.5-3.0)	(3.0-3.5)	(3.5-4.0)	(0.0-0.5)	(0.5-1.0)	(1.0-1.5)	(1.5-2.0)	(1.5-2.0)
Sample Date:	8/3/2012	8/3/2012	8/3/2012	8/3/2012	8/3/2012	8/3/2012	8/3/2012	8/3/2012	8/3/2012	8/3/2012	8/3/2012
BTEX (mg/kg)											
Benzene	**0.0025 J**	**0.0049 J**	**0.009**	**0.0045 J**	0.0085 U	**0.0028 J**	0.0073 U	0.0074 U	**0.0028 J**	**0.0055 J**	**0.0034 J**
Toluene	**0.0016 J**	**0.0021 J**	**0.0024 J**	**0.0017 J**	0.0085 U	**0.0019 J**	0.0073 U	**0.0011 J**	**0.0031 J**	**0.0016 J**	**0.004 J**
Ethylbenzene	**0.011**	**0.027**	**0.0043 J**	0.0079 U	0.0085 U	0.0079 U	0.0073 U	**0.0014 J**	**0.03**	**0.0052 J**	**0.028 J**
m,p-Xylene	0.015 U	**0.006 J**	**0.042**	**0.014 J**	**0.0057 J**	**0.012 J**	0.015 U	0.015 U	**0.0054 J**	0.02 U	**0.0073 J**
o-Xylene	0.0077 U	0.0087 U	**0.049**	**0.021**	**0.0078 J**	**0.019**	0.0073 U	0.0074 U	**0.0013 J**	0.0098 U	**0.01**
Total Xylene	0.023 U	**0.006 J**	**0.091**	**0.035**	**0.014 J**	**0.031**	0.022 U	0.022 U	**0.0067 J**	0.029 U	**0.017 J**
Total BTEX	**0.0151**	**0.04**	**0.1067**	**0.0412**	**0.014**	**0.0357**	0	**0.0025**	**0.0426**	**0.0123**	**0.0524**
Other VOCs (mg/kg)											
Acetone	0.031 U	**0.078**	0.035 U	**0.065**	0.034 U	**0.06**	0.029 U	0.029 U	0.034 U	0.039 U	0.038 U
Bromochloromethane	0.0077 U	0.0087 U	0.0089 U	0.0079 U	0.0085 U	0.0079 U	0.0073 U	0.0074 U	0.0085 U	0.0098 U	0.0095 U
Bromodichloromethane	0.0077 U	0.0087 U	0.0089 U	0.0079 U	0.0085 U	0.0079 U	0.0073 U	0.0074 U	0.0085 U	0.0098 U	0.0095 U
Bromoform	0.0077 U	0.0087 U	0.0089 U	0.0079 U	0.0085 U	0.0079 U	0.0073 U	0.0074 U	0.0085 U	0.0098 U	0.0095 U
Bromomethane	0.0077 U	0.0087 U	0.0089 U	0.0079 U	0.0085 U	0.0079 U	0.0073 U	0.0074 U	0.0085 U	0.0098 U	0.0095 U
2-Butanone (Methyl ethyl ketone)	**0.015 J**	**0.026 J**	**0.016 J**	**0.022**	0.0085 U	**0.021**	0.0073 U	0.0074 U	0.0085 U	0.0098 U	0.0095 U
Carbon disulfide	**0.0083**	**0.012**	**0.0076 J**	**0.0034 J**	**0.0025 J**	**0.0041 J**	0.0073 U	**0.0016 J**	**0.0026 J**	**0.004 J**	**0.0019 J**
Carbon tetrachloride	0.0077 U	0.0087 U	0.0089 U	0.0079 U	0.0085 U	0.0079 U	0.0073 U	0.0074 U	0.0085 U	0.0098 U	0.0095 U
Chlorobenzene	**0.049**	**0.039**	**0.017**	**0.009**	**0.003 J**	**0.0063 J**	0.0073 U	**0.0023 J**	**0.016**	**0.023**	**0.018**
Chloroethane	0.0077 U	0.0087 U	0.0089 U	0.0079 U	0.0085 U	0.0079 U	0.0073 U	0.0074 U	0.0085 U	0.0098 U	0.0095 U
Chloroform	0.0077 U	0.0087 U	0.0089 U	0.0079 U	0.0085 U	0.0079 U	0.0073 U	0.0074 U	0.0085 U	0.0098 U	0.0095 U
Chloromethane	0.0077 U	0.0087 U	0.0089 U	0.0079 U	0.0085 U	0.0079 U	0.0073 U	0.0074 U	0.0085 U	0.0098 U	0.0095 U
Cyclohexane	0.0077 U	0.0087 U	**0.00093 J**	0.0079 U	0.0085 U	0.0079 U	0.0073 U	0.0074 U	0.0085 U	0.0098 U	0.0095 U
1,2-Dibromo-3-chloropropane	0.0077 UJ	0.0087 UJ	0.0089 UJ	0.0079 U	0.0085 U	0.0079 U	0.0073 U	0.0074 U	0.0085 U	0.0098 U	0.0095 U
Dibromochloromethane	0.0077 U	0.0087 U	0.0089 U	0.0079 U	0.0085 U	0.0079 U	0.0073 U	0.0074 U	0.0085 U	0.0098 U	0.0095 U
1,2-Dibromoethane	0.0077 U	0.0087 U	0.0089 U	0.0079 U	0.0085 U	0.0079 U	0.0073 U	0.0074 U	0.0085 U	0.0098 U	0.0095 U
1,2-Dichlorobenzene	**0.015**	**0.012**	**0.0085 J**	**0.0065 J**	**0.0023 J**	**0.002 J**	0.0073 U	**0.0015 J**	**0.0043 J**	**0.0062 J**	**0.0053 J**
1,3-Dichlorobenzene	0.0077 U	0.0087 U	**0.01**	**0.0072 J**	**0.0014 J**	**0.0012 J**	0.0073 U	0.0074 U	0.0085 U	0.0098 U	0.0095 U
1,4-Dichlorobenzene	**0.072**	**0.099**	**0.042**	**0.022**	**0.013**	**0.014**	0.0073 U	**0.008**	**0.032**	**0.048**	**0.036**
Dichlorodifluoromethane	0.0077 U	0.0087 U	0.0089 U	0.0079 U	0.0085 U	0.0079 U	0.0073 U	0.0074 U	0.0085 U	0.0098 U	0.0095 U
1,1-Dichloroethane	0.0077 U	0.0087 U	0.0089 U	0.0079 U	0.0085 U	0.0079 U	0.0073 U	0.0074 U	0.0085 U	0.0098 U	0.0095 U
1,2-Dichloroethane	0.0077 U	0.0087 U	0.0089 U	0.0079 UJ	0.0085 U	0.0079 U	0.0073 U	0.0074 U	0.0085 U	0.0098 U	0.0095 U
cis-1,2-Dichloroethene	0.0077 U	0.0087 U	0.0089 U	0.0079 U	0.0085 U	0.0079 U	0.0073 U	0.0074 U	0.0085 U	0.0098 U	0.0095 U
trans-1,2-Dichloroethene	0.0077 U	0.0087 U	0.0089 U	0.0079 U	0.0085 U	0.0079 U	0.0073 U	0.0074 U	0.0085 U	0.0098 U	0.0095 U
1,1-Dichloroethene	0.0077 U	0.0087 U	0.0089 U	0.0079 U	0.0085 U	0.0079 U	0.0073 U	0.0074 U	0.0085 U	0.0098 U	0.0095 U
1,2-Dichloropropane	0.0077 U	0.0087 U	0.0089 U	0.0079 U	0.0085 U	0.0079 U	0.0073 U	0.0074 U	0.0085 U	0.0098 U	0.0095 U
cis-1,3-Dichloropropene	0.0077 U	0.0087 U	0.0089 U	0.0079 U	0.0085 U	0.0079 U	0.0073 U	0.0074 U	0.0085 U	0.0098 U	0.0095 U
trans-1,3-Dichloropropene	0.0077 U	0.0087 U	0.0089 U	0.0079 U	0.0085 U	0.0079 U	0.0073 U	0.0074 U	0.0085 U	0.0098 U	0.0095 U
1,4-Dioxane	R	R	R	R	R	R	R	R	R	R	R
2-Hexanone	0.0077 U	0.0087 U	0.0089 U	0.0079 U	0.0085 U	0.0079 U	0.0073 U	0.0074 U	0.0085 U	0.0098 U	0.0095 U
Isopropyl benzene	**0.014**	**0.02**	**0.013**	**0.0064 J**	**0.0018 J**	**0.0045 J**	0.0073 U	**0.0032 J**	**0.0065 J**	**0.0081 J**	**0.0069 J**
Methyl acetate	0.0077 U	0.0087 U	0.0089 U	0.0079 U	0.0085 U	0.0079 U	0.0073 U	0.0074 U	0.0085 U	0.0098 U	0.0095 U
Methyl tert-butyl ether (MTBE)	0.0077 U	0.0087 U	0.0089 U	0.0079 U	0.0085 U	0.0079 U	0.0073 U	0.0074 U	0.0085 U	0.0098 U	0.0095 U
4-Methyl-2-pentanone	0.0077 UJ	0.0087 UJ	0.0089 UJ	0.0079 U	0.0085 U	0.0079 U	0.0073 U	0.0074 U	0.0085 U	0.0098 U	0.0095 U
Methylcyclohexane	**0.0011 J**	**0.0024 J**	**0.0026 J**	**0.0017 J**	0.0085 U	**0.0015 J**	0.0073 U	0.0074 U	**0.005 J**	**0.0029 J**	**0.0045 J**
Methylene chloride	0.0077 U	0.0087 U	0.0089 U	0.0079 U	0.0085 U	0.0079 U	0.0073 U	0.0074 U	0.0085 U	0.0098 U	0.0095 U
Styrene	0.0077 U	0.0087 U	0.0089 U	0.0079 U	0.0085 U	0.0079 U	0.0073 U	0.0074 U	0.0085 U	0.0098 U	0.0095 U
1,1,2,2-Tetrachloroethane	0.0077 U	0.0087 U	0.0089 U	0.0079 U	0.0085 U	0.0079 U	0.0073 U	0.0074 U	0.0085 U	0.0098 U	0.0095 U
Tetrachloroethene	0.0077 U	0.0087 U	0.0089 U	0.0079 U	0.0085 U	0.0079 U	0.0073 U	0.0074 U	0.0085 U	0.0098 U	0.0095 U

Table 2
Summary of Sediment Analytical Results
Phase I Sediment Cores
Gowanus Canal
Brooklyn, New York

Sample Name:	GC-SED-520	GC-SED-520	GC-SED-520	GC-SED-520	GC-SED-520	GC-SED-520	GC-SED-521	GC-SED-521	GC-SED-521	GC-SED-521	Duplicate of GC-SED-521
Sample Depth (feet):	(1.0-1.5)	(1.5-2.0)	(2.0-2.5)	(2.5-3.0)	(3.0-3.5)	(3.5-4.0)	(0.0-0.5)	(0.5-1.0)	(1.0-1.5)	(1.5-2.0)	(1.5-2.0)
Sample Date:	8/3/2012	8/3/2012	8/3/2012	8/3/2012	8/3/2012	8/3/2012	8/3/2012	8/3/2012	8/3/2012	8/3/2012	8/3/2012
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	0.0077 U	0.0087 U	0.0089 U	0.0079 U	0.0085 U	0.0079 U	0.0073 U	0.0074 U	0.0085 U	0.0098 U	0.0095 U
1,2,3-Trichlorobenzene	0.0077 UJ	0.0087 UJ	0.0089 UJ	0.0079 U	0.0085 U	0.0079 U	0.0073 U	0.0074 U	0.0085 U	0.0098 U	0.0095 U
1,2,4-Trichlorobenzene	0.0077 U	0.0087 U	0.0089 U	0.0079 U	0.0085 U	0.0079 U	0.0073 U	0.0074 U	0.0085 U	0.0098 U	0.0095 U
1,1,1-Trichloroethane	0.0077 U	0.0087 U	0.0089 U	0.0079 U	0.0085 U	0.0079 U	0.0073 U	0.0074 U	0.0085 U	0.0098 U	0.0095 U
1,1,2-Trichloroethane	0.0077 U	0.0087 U	0.0089 U	0.0079 U	0.0085 U	0.0079 U	0.0073 U	0.0074 U	0.0085 U	0.0098 U	0.0095 U
Trichloroethene	0.0077 U	0.0087 U	0.0089 U	0.0079 U	0.0085 U	0.0079 U	0.0073 U	0.0074 U	0.0085 U	0.0098 U	0.0095 U
Trichlorofluoromethane	0.0077 U	0.0087 U	0.0089 U	0.0079 U	0.0085 U	0.0079 U	0.0073 U	0.0074 U	0.0085 U	0.0098 U	0.0095 U
Vinyl chloride	0.0077 U	0.0087 U	0.0089 U	0.0079 U	0.0085 U	0.0079 U	0.0073 U	0.0074 U	0.0085 U	0.0098 U	0.0095 U
PAHs (mg/kg)											
Acenaphthene	**5.9**	**9.6**	**13**	**20**	**19**	**12**	**3**	**2**	**5.7**	**10**	**11**
Acenaphthylene	**6.1**	**7.9**	**11**	**16**	**13**	**6.9**	**3.9**	**4.3**	**8.8**	**12**	**7.4**
Anthracene	**10**	**13**	**22**	**32**	**32**	**12**	**4.5**	**4**	**11**	**16**	**16**
Benz[a]anthracene	**14**	**20**	**26**	**30**	**35**	**18**	**7.1**	**7**	**15**	**20**	**21**
Benzo[a]pyrene	**12**	**17**	**24**	**28 J**	**32 J**	**16 J**	**6.2**	**6.5**	**14**	**18**	**19**
Benzo[b]fluoranthene	**7.8**	**13**	**13**	**18 J**	**23 J**	**8.2 J**	**4.9**	**4.6**	**10**	**13**	**15 J**
Benzo[g,h,i]perylene	**5.5**	**8.4**	**12**	**12 J**	**14 J**	**8 J**	**2.9**	**2.9**	**6.4**	**8.1**	**5.7**
Benzo[k]fluoranthene	**4.3**	**5.7**	**12**	**7.5 J**	**11 J**	**12 J**	**1.4**	**1.9**	**4.4**	**5.3**	**8.6**
Chrysene	**15**	**21**	**27**	**30**	**34**	**19**	**7.4**	**7.6**	**16**	**21**	**22**
Dibenz[a,h]anthracene	**1.9**	**3.2**	**4.9**	**3.7 J**	**6.4 J**	**3.2 J**	**0.81**	**0.95**	**2.4**	**3.4 J**	**2 J**
Fluoranthene	**23**	**40**	**44**	**53**	**69**	**39**	**13 J**	**13**	**30**	**37**	**43**
Fluorene	**3.6**	**6.4**	**12**	**19**	**18**	**7.9**	**1.3**	**1.2**	**3.8**	**4.9**	**6.5**
Indeno[1,2,3-cd]pyrene	**4.5**	**7.4**	**10**	**11 J**	**14 J**	**7.7 J**	**2.3**	**2.4**	**5.7**	**7.8**	**6.4**
2-Methylnaphthalene	**2.1**	**4.5**	**14**	**29**	**24**	**11**	**0.83**	**0.51**	**1.8**	**2.5**	**3.3**
Naphthalene	**3**	**4.6**	**12**	**26**	**20**	**13**	**1.5**	**1**	**3**	**4.5 J**	**6.4 J**
Phenanthrene	**15**	**49**	**60**	**72**	**84**	**42**	**7.5**	**4.9**	**17**	**29**	**33**
Pyrene	**25**	**35**	**40**	**47**	**54**	**29**	**11**	**11**	**24**	**31**	**33**
Total PAHs	**158.7**	**265.7**	**356.9**	**454.2**	**502.4**	**264.9**	**79.54**	**75.76**	**179**	**243.5**	**259.3**
Alkylated PAHs (mg/kg)											
Acenaphthene	**6.86694**	**14.18841**	**16.66243**	**17.80292**	**23.18943**	**15.84632**	**3.55407**	**1.93602**	**6.41151**	**12.74378**	**11.6838**
Acenaphthylene	**7.26322**	**8.4417**	**14.29058**	**14.97959**	**16.00327**	**6.68507**	**3.82336**	**3.13033**	**9.15243**	**11.61897**	**8.1168**
Anthracene	**12.83886**	**20.85536**	**31.08049**	**31.67172**	**40.23579**	**16.11391**	**5.67165**	**4.63094**	**17.37345**	**22.46893**	**20.49604**
Benz[a]anthracene	**18.54616**	**28.83599**	**44.10827**	**32.24291**	**46.74912**	**19.88805**	**7.82397**	**7.39968**	**20.90511**	**27.61427**	**25.10592**
Benzo[a]pyrene	**13.90197**	**23.65914**	**36.23832**	**27.36852**	**37.23224**	**15.78573**	**6.36475**	**6.61915**	**16.80157**	**21.73462**	**18.36061**
Benzo[b]fluoranthene	**9.69397**	**17.26538**	**28.6167**	**15.58838**	**24.14311**	**10.14789**	**3.7738**	**4.0094**	**12.14588**	**13.32531**	**13.07092**
Benzo[e]pyrene	**7.6103**	**12.36893**	**20.62637**	**13.14412**	**18.52589**	**8.21394**	**3.20353**	**3.20825**	**9.29279**	**11.0441**	**11.32631**
Benzo[g,h,i]perylene	**6.10063**	**10.25487**	**18.18233**	**10.74978**	**15.43958**	**6.77235**	**2.43573**	**2.54815**	**7.52873**	**8.55667**	**7.26916**
Benzo[k]fluoranthene	**10.14585**	**18.63865**	**30.29006**	**19.175**	**26.3659**	**11.42372**	**4.26684**	**4.49936**	**12.41838**	**15.1284**	**13.32354**
1,1-Biphenyl	**0.56757**	**0.88483**	**1.12464**	**1.89152**	**3.82686**	**1.04599**	**0.37234**	**0.20003**	**0.65717**	**2.02422**	**1.86778**
Chrysene	**16.80333**	**27.61023**	**39.81882**	**30.03874**	**40.86796**	**18.34134**	**7.42675**	**6.79848**	**19.84486**	**25.53049**	**22.22773**
C1-Chrysenes	**17.98443**	**23.5693**	**38.55207**	**32.30076**	**40.19818**	**19.90785**	**8.81394**	**7.17359**	**20.86137**	**30.228**	**27.54102**
C2-Chrysenes	**11.68743**	**15.29036**	**25.1163**	**21.96006**	**27.40587**	**14.63625**	**6.06726**	**4.6721**	**14.42189**	**22.3959**	**18.75834**
C3-Chrysenes	**5.43742**	**7.29212**	**12.7856**	**10.39858**	**13.54832**	**6.6409**	**2.92259**	**2.34609**	**7.03608**	**11.08025**	**8.79365**
C4-Chrysenes	**2.4042**	**3.52539**	**6.04235**	**4.55303**	**5.94987**	**3.28145**	**1.28548**	**0.97248**	**2.98807**	**4.95319**	**4.79849**
Dibenz[a,h]anthracene	**2.34396**	**3.87899**	**6.85665**	**4.32852**	**5.88263**	**2.65651**	**1.01887**	**0.98415**	**2.98699**	**3.67066**	**2.53794**
Dibenzofuran	**1.44987**	**4.37296**	**5.16295**	**3.55899**	**5.03804**	**2.54277**	**0.45934**	**0.38823**	**1.24231**	**2.44538**	**2.14662**
Dibenzothiophene	**2.92415**	**6.31711**	**9.22614**	**9.11611**	**11.60796**	**5.35877**	**1.55706**	**1.00552**	**3.30106**	**6.44567**	**6.43593**
C1-Dibenzothiophenes	**7.74066**	**12.26877**	**19.78751**	**20.53712**	**25.60103**	**12.66661**	**3.75418**	**2.50544**	**8.0018**	**15.29945**	**15.24614**
C2-Dibenzothiophenes	**11.21567**	**15.61221**	**24.44772**	**24.48834**	**30.22689**	**15.54474**	**5.23633**	**3.7577**	**11.86759**	**20.34162**	**20.78038**

Table 2
Summary of Sediment Analytical Results
Phase I Sediment Cores
Gowanus Canal
Brooklyn, New York

Sample Name:	GC-SED-520	GC-SED-520	GC-SED-520	GC-SED-520	GC-SED-520	GC-SED-520	GC-SED-521	GC-SED-521	GC-SED-521	GC-SED-521	Duplicate of GC-SED-521
Sample Depth (feet):	(1.0-1.5)	(1.5-2.0)	(2.0-2.5)	(2.5-3.0)	(3.0-3.5)	(3.5-4.0)	(0.0-0.5)	(0.5-1.0)	(1.0-1.5)	(1.5-2.0)	(1.5-2.0)
Sample Date:	8/3/2012	8/3/2012	8/3/2012	8/3/2012	8/3/2012	8/3/2012	8/3/2012	8/3/2012	8/3/2012	8/3/2012	8/3/2012
C3-Dibenzothiophenes	**7.27188**	**10.08534**	**15.60059**	**14.96773**	**18.92269**	**9.3823**	**3.50497**	**2.50232**	**8.24369**	**13.8002**	**14.82162**
C4-Dibenzothiophenes	**2.91285**	**4.07539**	**6.10847**	**5.86471**	**7.36083**	**3.7993**	**1.46652**	**1.02013**	**3.45054**	**5.48007**	**6.54523**
Fluoranthene	**24.47688**	**43.70777**	**59.08634**	**39.63064**	**57.30027**	**25.16776**	**9.25334**	**9.17301**	**24.48105**	**35.67087**	**37.0281**
C1-Fluoranthenes/pyrenes	**34.345**	**43.69616**	**69.67977**	**63.55493**	**76.51254**	**34.28709**	**16.7181**	**13.30717**	**38.23579**	**53.37414**	**55.53536**
C2-Fluoranthenes/pyrenes	**18.28**	**25.80573**	**40.40451**	**32.93988**	**40.87201**	**20.86389**	**9.68268**	**7.2424**	**21.14353**	**33.30823**	**35.51678**
C3-Fluoranthenes/pyrenes	**9.57765**	**12.69799**	**21.14943**	**16.05037**	**20.36446**	**11.15334**	**4.91798**	**3.73705**	**11.67414**	**18.96278**	**20.28533**
C4-Fluoranthenes/pyrenes	**3.2055**	**4.85752**	**7.84557**	**6.12428**	**8.10342**	**4.37686**	**1.79546**	**1.42627**	**4.41414**	**7.008**	**6.91021**
Fluorene	**2.55491**	**7.69484**	**14.7024**	**14.99843**	**19.389**	**8.27006**	**0.43909**	**0.58845**	**2.85514**	**3.97007**	**3.48388**
C1-Fluorenes	**5.5343**	**10.24573**	**17.61059**	**18.56128**	**22.42018**	**10.85572**	**3.22866**	**2.04971**	**6.68286**	**11.27688**	**9.79575**
C2-Fluorenes	**9.80229**	**15.25206**	**24.989**	**24.13356**	**30.05165**	**14.95914**	**5.17944**	**3.52174**	**11.58521**	**20.55787**	**19.83718**
C3-Fluorenes	**7.12089**	**11.68219**	**17.12945**	**16.22633**	**19.48293**	**10.4748**	**3.35647**	**2.49124**	**7.98562**	**14.39447**	**15.59337**
Indeno[1,2,3-cd]pyrene	**8.89612**	**15.80865**	**27.50673**	**15.65606**	**22.8463**	**9.92216**	**3.52976**	**3.79199**	**11.25971**	**12.45634**	**9.25831**
Naphthalene	**3.4374**	**7.94954**	**17.49616**	**19.312**	**33.41577**	**20.68351**	**1.12411**	**1.28302**	**4.29812**	**7.92217**	**5.03418**
C1-Naphthalenes	**3.40916**	**11.24249**	**23.63748**	**28.50614**	**37.2256**	**18.5686**	**2.11941**	**0.96243**	**3.71637**	**7.01866**	**4.9818**
C2-Naphthalenes	**8.25294**	**25.81143**	**43.08511**	**45.55236**	**58.55579**	**29.37902**	**5.64963**	**2.9532**	**11.13254**	**25.63634**	**23.91849**
C3-Naphthalenes	**13.29545**	**26.65225**	**43.48215**	**42.42286**	**54.43625**	**27.90653**	**6.38203**	**4.06294**	**15.07599**	**33.51359**	**34.19282**
C4-Naphthalenes	**9.42899**	**16.3698**	**26.63896**	**25.55385**	**32.42261**	**16.89976**	**3.7806**	**2.74137**	**9.79287**	**20.00246**	**23.3751**
Perylene	**3.00303**	**4.93177**	**8.67043**	**4.9383**	**7.08551**	**3.2172**	**1.21783**	**1.29403**	**3.71883**	**4.14486**	**3.76331**
Phenanthrene	**15.97074**	**54.19973**	**78.33726**	**68.7751**	**94.29711**	**40.1033**	**6.26754**	**6.12212**	**17.16393**	**33.25837**	**38.80214**
C1-Phenanthrenes/anthracenes	**33.66287**	**56.12749**	**90.98983**	**91.12446**	**112.7513**	**53.46971**	**15.93554**	**11.60818**	**33.729**	**63.63459**	**65.96466**
C2-Phenanthrenes/anthracenes	**32.32119**	**45.00335**	**69.29026**	**64.97748**	**80.57611**	**40.43056**	**15.58608**	**11.47493**	**34.21476**	**56.96552**	**62.36734**
C3-Phenanthrenes/anthracenes	**15.65437**	**21.18448**	**32.704**	**28.91318**	**36.65656**	**18.19935**	**7.8284**	**5.72237**	**17.56207**	**28.55653**	**33.03436**
C4-Phenanthrenes/anthracenes	**5.09511**	**6.7086**	**11.14651**	**9.43283**	**11.92084**	**6.0957**	**2.64546**	**1.82012**	**6.04707**	**9.49904**	**11.67128**
Pyrene	**26.86747**	**41.85691**	**58.62487**	**47.96389**	**64.28523**	**27.60525**	**10.64161**	**9.91035**	**26.46206**	**35.1302**	**45.87455**
TPH (mg/kg)											
Total Petroleum Hydrocarbons	**5868.24**	**10141.62**	**13707**	**12589.78**	**18287.8**	**8320.88**	**2533.73**	**2294.41**	**6985.49**	**11602.04**	**11590.51**
Other SVOCs (mg/kg)											
Acetophenone	2.5 U	**0.57 J**	**0.63 J**	2.6 U	2.8 U	2.6 U	2.4 U	2.4 U	**0.27 J**	3.2 U	3.1 U
Atrazine	2.5 U	2.9 U	2.9 U	2.6 U	2.8 U	2.6 U	2.4 U	2.4 U	2.8 U	3.2 U	3.1 U
Benzaldehyde	2.5 U	2.9 U	2.9 U	2.6 U	2.8 U	2.6 U	**0.81 J**	**0.82 J**	2.8 U	**1.4 J**	**1.2 J**
1,1-Biphenyl	**0.55 J**	**0.77 J**	**0.97 J**	**1.4 J**	**3**	**1 J**	**0.35 J**	2.4 U	**0.56 J**	**1.4 J**	**1.3 J**
Bis(chloroisopropyl)ether	0.51 U	0.58 U	0.59 U	0.53 U	0.57 U	0.53 U	0.49 U	0.49 U	0.56 U	0.65 U	0.64 U
Bis(2-chloroethyl)ether	0.51 U	0.58 U	0.59 U	0.53 U	0.57 U	0.53 U	0.49 U	0.49 U	0.56 U	0.65 U	0.64 U
Bis(2-chloroethoxy)methane	2.5 U	2.9 U	2.9 U	2.6 U	2.8 U	2.6 U	2.4 U	2.4 U	2.8 U	3.2 U	3.1 U
Bis(2-ethylhexyl)phthalate	**18**	**61**	**53**	**41**	**39**	**14**	**12**	**9.7**	**32**	**51**	**63**

Table 2
Summary of Sediment Analytical Results
Phase I Sediment Cores
Gowanus Canal
Brooklyn, New York

Sample Name:	GC-SED-520	GC-SED-520	GC-SED-520	GC-SED-520	GC-SED-520	GC-SED-520	GC-SED-521	GC-SED-521	GC-SED-521	GC-SED-521	Duplicate of GC-SED-521
Sample Depth (feet):	(1.0-1.5)	(1.5-2.0)	(2.0-2.5)	(2.5-3.0)	(3.0-3.5)	(3.5-4.0)	(0.0-0.5)	(0.5-1.0)	(1.0-1.5)	(1.5-2.0)	(1.5-2.0)
Sample Date:	8/3/2012	8/3/2012	8/3/2012	8/3/2012	8/3/2012	8/3/2012	8/3/2012	8/3/2012	8/3/2012	8/3/2012	8/3/2012
4-Bromophenyl phenyl ether	2.5 U	2.9 U	2.9 U	2.6 U	2.8 U	2.6 U	2.4 U	2.4 U	2.8 U	3.2 U	3.1 U
Butyl benzyl phthalate	2.5 U	**0.88 J**	**0.61 J**	**0.42 J**	**1.4 J**	2.6 U	2.4 U	2.4 U	2.8 U	3.2 U	3.1 U
Caprolactam	13 U	**3.3 J**	15 U	13 U	14 U	13 U	12 U	12 U	14 U	16 U	16 UJ
Carbazole	**0.58**	**2.1**	**2.9**	**1.6**	**4**	**2.7**	**0.42 J**	**0.42 J**	**1.2**	**1.5 J**	**3.3 J**
4-Chloro-3-methylphenol	2.5 U	2.9 U	2.9 U	2.6 U	2.8 U	2.6 U	2.4 U	2.4 U	2.8 U	3.2 U	3.1 U
4-Chloroaniline	**0.57 J**	**1.4 J**	**1.5 J**	**1.8 J**	**1.5 J**	**0.86 J**	**0.36 J**	**0.3 J**	**1 J**	**1.9 J**	**2.2 J**
Chlorophene	2.5 UJ	2.9 UJ	2.9 UJ	2.6 UJ	2.8 UJ	2.6 UJ	2.4 UJ	2.4 UJ	2.8 UJ	3.2 U	3.1 U
2-Chloronaphthalene	0.51 U	0.58 U	0.59 U	0.53 U	0.57 U	0.53 U	0.49 U	0.49 U	0.56 U	0.65 U	0.64 U
2-Chlorophenol	2.5 U	2.9 U	2.9 U	2.6 U	2.8 U	2.6 U	2.4 U	2.4 U	2.8 U	3.2 U	3.1 U
4-Chlorophenyl phenyl ether	2.5 U	2.9 U	2.9 U	2.6 U	2.8 U	2.6 U	2.4 U	2.4 U	2.8 U	3.2 U	3.1 U
Dibenzofuran	2.5 U	2.9 U	2.9 U	2.6 U	2.8 U	2.6 U	2.4 U	2.4 U	2.8 U	3.2 U	**3.1**
3,3-Dichlorobenzidine	2.5 U	2.9 U	2.9 U	2.6 U	2.8 U	2.6 U	2.4 U	2.4 U	2.8 U	3.2 U	3.1 U
2,4-Dichlorophenol	0.51 U	0.58 U	0.59 U	0.53 U	0.57 U	0.53 U	0.49 U	0.49 U	0.56 U	0.65 U	0.64 U
Diethyl phthalate	2.5 U	2.9 U	2.9 U	2.6 U	2.8 U	2.6 U	2.4 U	2.4 U	2.8 U	3.2 U	3.1 U
Dimethyl phthalate	2.5 U	2.9 U	2.9 U	2.6 U	2.8 U	2.6 U	2.4 U	2.4 U	2.8 U	3.2 U	3.1 U
2,4-Dimethylphenol	2.5 U	2.9 U	2.9 U	**0.6 J**	**0.5 J**	2.6 U	2.4 U	2.4 U	2.8 U	3.2 U	3.1 U
Di-n-butyl phthalate	2.5 U	2.9 U	**0.85 J**	2.6 U	2.8 U	2.6 U	**0.52 J**	2.4 U	2.8 U	**0.63 J**	3.1 U
4,6-Dinitro-2-methylphenol	13 U	15 U	15 U	13 U	14 U	13 U	12 U	12 U	14 U	16 U	16 UJ
2,4-Dinitrophenol	13 U	15 U	15 U	13 U	14 U	13 U	12 U	12 U	14 U	16 U	16 UJ
2,4-Dinitrotoluene	2.5 U	2.9 U	2.9 U	2.6 U	2.8 U	2.6 U	2.4 U	2.4 U	2.8 U	3.2 U	3.1 UJ
2,6-Dinitrotoluene	2.5 U	2.9 U	2.9 U	2.6 U	2.8 U	2.6 U	2.4 U	2.4 U	2.8 U	3.2 U	3.1 U
Di-n-octyl phthalate	**3.7**	**15**	**9.5**	**2.6 J**	**1.8 J**	**0.49 J**	**1.8 J**	**0.76 J**	**4.4**	**13 J**	**24 J**
Hexachlorobenzene	0.51 U	0.58 U	0.59 U	0.53 U	0.57 U	0.53 U	0.49 U	0.49 U	0.56 U	0.65 U	0.64 U
Hexachlorobutadiene	0.51 U	0.58 U	0.59 U	0.53 U	0.57 U	0.53 U	0.49 U	0.49 U	0.56 U	0.65 U	0.64 U
Hexachlorocyclopentadiene	2.5 U	2.9 U	2.9 U	2.6 U	2.8 U	2.6 U	R	2.4 U	2.8 U	3.2 U	3.1 U
Hexachloroethane	2.5 U	2.9 U	2.9 U	2.6 U	2.8 U	2.6 U	2.4 U	2.4 U	2.8 U	3.2 U	3.1 U
Isophorone	2.5 U	2.9 U	2.9 U	2.6 U	2.8 U	2.6 U	2.4 U	2.4 U	2.8 U	3.2 U	3.1 U
2-Methylphenol (o-Cresol)	2.5 U	2.9 U	2.9 U	2.6 U	2.8 U	2.6 U	2.4 U	2.4 U	2.8 U	3.2 U	3.1 U
3,4-Methylphenol (m,p-Cresol)	2.5 U	**0.35 J**	**0.86 J**	**0.62 J**	**0.48 J**	**0.47 J**	2.4 U	2.4 U	**0.42 J**	**0.39 J**	**0.4 J**
2-Nitroaniline	13 U	15 U	15 U	13 U	14 U	13 U	12 U	12 U	14 U	16 U	16 U
3-Nitroaniline	13 U	15 U	15 U	13 U	14 U	13 U	12 U	12 U	14 U	16 U	16 U
4-Nitroaniline	13 U	15 U	15 U	13 U	14 U	13 U	12 U	12 U	14 U	16 U	16 U
Nitrobenzene	5.1 U	5.8 U	5.9 U	5.3 U	5.7 U	5.3 U	4.9 U	4.9 U	5.6 U	6.5 U	6.4 U
2-Nitrophenol	2.5 U	2.9 U	2.9 U	2.6 U	2.8 U	2.6 U	2.4 U	2.4 U	2.8 U	3.2 U	3.1 U

Table 2
Summary of Sediment Analytical Results
Phase I Sediment Cores
Gowanus Canal
Brooklyn, New York

Sample Name:	GC-SED-520	GC-SED-520	GC-SED-520	GC-SED-520	GC-SED-520	GC-SED-520	GC-SED-521	GC-SED-521	GC-SED-521	GC-SED-521	Duplicate of GC-SED-521
Sample Depth (feet):	(1.0-1.5)	(1.5-2.0)	(2.0-2.5)	(2.5-3.0)	(3.0-3.5)	(3.5-4.0)	(0.0-0.5)	(0.5-1.0)	(1.0-1.5)	(1.5-2.0)	(1.5-2.0)
Sample Date:	8/3/2012	8/3/2012	8/3/2012	8/3/2012	8/3/2012	8/3/2012	8/3/2012	8/3/2012	8/3/2012	8/3/2012	8/3/2012
4-Nitrophenol	13 U	15 U	15 U	13 U	14 U	13 U	12 U	12 U	14 U	16 U	16 U
N-Nitrosodi-n-propylamine	0.51 U	0.58 U	0.59 U	0.53 U	0.57 U	0.53 U	0.49 U	0.49 U	0.56 U	0.65 U	0.64 U
N-Nitrosodiphenylamine	**17**	**14**	2.9 U	2.6 U	2.8 U	2.6 U	**12 J**	**4.4**	**23**	**48**	**39**
Pentachlorophenol	2.5 U	2.9 U	2.9 U	2.6 U	2.8 U	2.6 U	2.4 U	2.4 U	2.8 U	3.2 U	3.1 U
Phenol	0.51 U	**0.29 J**	**0.45 J**	**0.42 J**	**0.94**	**0.38 J**	0.49 U	0.49 U	0.56 U	**0.11 J**	**0.15 J**
1,2,4,5-Tetrachlorobenzene	2.5 U	2.9 U	2.9 U	2.6 U	2.8 U	2.6 U	2.4 U	2.4 U	2.8 U	3.2 U	3.1 U
2,3,4,6-Tetrachlorophenol	2.5 U	2.9 U	2.9 U	2.6 U	2.8 U	2.6 U	2.4 U	2.4 U	2.8 U	3.2 U	3.1 U
2,4,5-Trichlorophenol	2.5 U	2.9 U	2.9 U	2.6 U	2.8 U	2.6 U	2.4 U	2.4 U	2.8 U	3.2 U	3.1 U
2,4,6-Trichlorophenol	2.5 U	2.9 U	2.9 U	2.6 U	2.8 U	2.6 U	2.4 U	2.4 U	2.8 U	3.2 U	3.1 U
PCBs (mg/kg)											
Aroclor 1016	0.013 U	0.071 U	0.074 U	0.26 U	0.28 U	0.066 U	0.012 U	0.012 U	0.014 U	0.016 U	0.016 U
Aroclor 1221	0.013 U	0.071 U	0.074 U	0.26 U	0.28 U	0.066 U	0.012 U	0.012 U	0.014 U	0.016 U	0.016 U
Aroclor 1232	0.013 U	0.071 U	0.074 U	0.26 U	0.28 U	0.066 U	0.012 U	0.012 U	0.014 U	0.016 U	0.016 U
Aroclor 1242	**0.71 J**	0.071 U	0.074 U	0.26 U	0.28 U	0.066 U	**0.22 J**	**0.16 J**	**0.72 J**	**1.1 J**	**1.7 J**
Aroclor 1248	0.013 U	**4.6 J**	**18 J**	**44 J**	**42 J**	**2.8 J**	0.012 U	0.012 U	0.014 U	0.016 U	0.016 U
Aroclor 1254	**0.8 J**	**5 J**	**7.8 J**	**18 J**	**24 J**	0.066 U	**0.23 J**	0.012 U	0.014 U	0.016 UJ	**1.6 J**
Aroclor 1260	0.013 U	0.071 U	0.074 U	0.26 U	0.28 U	**5.1 J**	0.012 U	**0.14 J**	**0.76 J**	**0.81 J**	0.016 UJ
Aroclor 1262	0.013 U	0.071 U	0.074 U	0.26 U	0.28 U	0.066 U	0.012 U	0.012 U	0.014 U	0.016 U	0.016 U
Aroclor 1268	0.013 U	0.071 U	0.074 U	0.26 U	0.28 U	0.066 U	0.012 U	0.012 U	0.014 U	0.016 U	0.016 U
Total PCBs	**1.5 J**	**9.6 J**	**26 J**	**62 J**	**66 J**	**7.9 J**	**0.45 J**	**0.3 J**	**1.5 J**	**1.9 J**	**3.3 J**
Pesticides (mg/kg)											
Aldrin	0.013 U	0.015 U	0.015 U	0.013 U	0.014 U	**0.018**	0.012 U	0.012 U	0.014 U	**0.0068 J**	0.016 U
alpha-BHC	0.013 U	0.015 U	0.015 U	0.013 U	0.014 U	0.013 U	0.012 U	0.012 U	0.014 U	0.016 U	0.016 U
beta-BHC	**0.015 J**	0.015 U	**0.037 JN**	**0.05 JN**	**0.047 JN**	0.013 U	0.012 U	0.012 U	0.014 U	0.016 U	0.016 U
gamma-BHC	0.013 U	0.015 U	0.015 U	0.013 U	0.014 U	**0.0043 J**	0.012 U	0.012 U	0.014 U	0.016 U	0.016 U
delta-BHC	0.013 U	0.015 U	**0.13 J**	0.013 U	**0.26 J**	0.013 U	**0.0037 J**	**0.0052 J**	0.014 U	**0.012 J**	0.016 U
alpha-chlordane	**0.015**	**0.045 J**	**0.067 JN**	**0.079 JN**	**0.11 JN**	**0.088 J**	**0.0054 J**	**0.008 J**	**0.013 J**	**0.046**	**0.065**
gamma-Chlordane	**0.056**	**0.12**	**0.27 J**	**0.46**	**0.19 JN**	**0.09**	**0.054**	**0.061**	**0.084**	**0.13**	**0.17 J**
4,4-DDD	**0.075**	**0.14**	**0.29**	**0.37 J**	**0.56**	**0.34 J**	**0.019**	**0.03**	**0.04**	**0.13**	**0.1**
4,4'-DDE	**0.031**	**0.074 J**	**0.056 JN**	**0.16 J**	**0.31 J**	**0.069 J**	**0.01 J**	**0.014**	**0.019**	**0.061 J**	**0.035 J**
4,4'-DDT	**0.035 J**	0.015 U	**0.036 JN**	**0.11 JN**	**0.14 JN**	**0.043 JN**	**0.0089 J**	**0.014**	**0.023 J**	0.016 U	0.016 U
Dieldrin	0.013 U	**0.022 JN**	**0.04 JN**	**0.068 J**	**0.096 JN**	**0.066 J**	0.012 U	0.012 U	0.014 U	**0.021 JN**	0.016 U
Endosulfan I	0.013 U	**0.0033 J**	**0.013 J**	**0.03**	**0.027 JN**	0.013 U	0.012 U	0.012 U	0.014 U	0.016 U	0.016 U
Endosulfan II	0.013 U	0.015 U	0.015 U	**0.019 JN**	**0.028 JN**	**0.021 JN**	0.012 U	0.012 U	0.014 U	0.016 U	0.016 U
Endosulfan sulfate	**0.0048 J**	0.015 U	**0.02 J**	**0.053**	**0.068 J**	**0.051 J**	**0.0018 J**	**0.0032 J**	**0.0043 J**	**0.0096 J**	**0.0081 J**
Endrin	**0.028 J**	**0.059**	**0.15**	**0.33 J**	**0.34**	**0.06 JN**	0.012 U	0.012 U	**0.012 J**	**0.032 J**	**0.039 J**
Endrin aldehyde	0.013 U	**0.0037 J**	0.015 U	0.013 U	0.014 U	0.013 U	0.012 U	0.012 U	0.014 U	0.016 U	0.016 U
Endrin ketone	**0.024**	**0.045**	**0.088**	**0.024 JN**	**0.23**	**0.19**	0.012 U	**0.013**	**0.017**	**0.063**	**0.032 J**
Heptachlor	0.013 U	0.015 U	0.015 U	0.013 U	0.014 U	0.013 U	0.012 U	0.012 U	0.014 U	0.016 U	0.016 U
Heptachlor epoxide	0.013 U	**0.036 J**	**0.27 J**	**0.6 J**	**0.65 J**	**0.032 JN**	**0.0048 J**	0.012 U	0.014 U	**0.016 JN**	**0.018 JN**
Methoxychlor	0.025 U	**0.034 JN**	**0.064 JN**	**0.11 JN**	**0.18 JN**	**0.074 JN**	0.024 U	0.024 U	0.027 U	**0.041 JN**	0.031 U
Toxaphene	0.51 U	0.58 U	0.59 U	0.53 U	0.56 U	0.52 U	0.48 U	0.48 U	0.56 U	0.64 U	0.64 U
Herbicides (mg/kg)											
2,4-D	0.12 U	0.14 U	0.14 U	0.13 U	0.14 U	0.13 U	0.12 U	0.12 U	0.14 U	0.16 U	0.15 U
2,4-DB	0.12 U	0.14 U	0.14 U	0.13 U	0.14 U	0.13 U	0.12 U	0.12 U	0.14 U	0.16 U	0.15 UJ
Dicamba	0.062 U	0.07 U	0.071 U	0.063 U	0.068 U	0.064 U	0.058 U	0.059 U	0.068 U	0.078 U	0.076 U
Dichloroprop	0.12 U	0.14 U	0.14 U	0.13 U	**0.019 J**	0.13 U	0.12 U	0.12 U	0.14 U	0.16 U	0.15 U
2,2-Dichloropropionic acid	0.14 U	0.16 U	0.16 U	0.14 U	0.15 U	0.14 U	0.13 U	0.13 U	0.15 U	0.18 U	0.17 U
Dinoseb	0.018 U	0.021 U	0.021 U	0.019 U	**0.021 J**	0.019 U	R	0.018 U	0.02 U	0.023 U	**0.01 J**

Table 2
Summary of Sediment Analytical Results
Phase I Sediment Cores
Gowanus Canal
Brooklyn, New York

Sample Name:	GC-SED-520	GC-SED-520	GC-SED-520	GC-SED-520	GC-SED-520	GC-SED-520	GC-SED-521	GC-SED-521	GC-SED-521	GC-SED-521	Duplicate of GC-SED-521
Sample Depth (feet):	(1.0-1.5)	(1.5-2.0)	(2.0-2.5)	(2.5-3.0)	(3.0-3.5)	(3.5-4.0)	(0.0-0.5)	(0.5-1.0)	(1.0-1.5)	(1.5-2.0)	(1.5-2.0)
Sample Date:	8/3/2012	8/3/2012	8/3/2012	8/3/2012	8/3/2012	8/3/2012	8/3/2012	8/3/2012	8/3/2012	8/3/2012	8/3/2012
MCPP	12 U	14 U	14 U	13 U	14 U	13 U	12 U	**16**	14 U	16 U	15 U
Methylchlorophenoxyacetic acid	12 U	14 U	**17 J**	13 U	14 U	**11 J**	12 U	12 U	14 U	16 U	15 U
Pentachlorophenol	0.017 U	0.019 U	**0.0047 J**	0.017 U	0.019 U	0.017 U	0.016 UJ	0.016 U	0.019 U	0.021 U	0.021 U
Silvex	0.031 U	0.035 U	**0.011 J**	0.032 U	0.034 U	**0.0064 J**	0.029 U	0.029 U	0.034 U	0.039 U	0.038 U
2,4,5-Trichlorophenoxyacetic Acid	0.031 U	0.035 U	**0.014 J**	0.032 U	0.034 U	**0.007 J**	0.029 U	0.029 U	0.034 U	0.039 U	**0.015 J**
Metals (mg/kg)											
Aluminum	**6400**	**5200**	**7000**	**5000**	**5000**	**4300**	**3900**	**4300**	**6200**	**5600**	**5400**
Antimony	**1.4 J**	**7.5 J**	**8.6 J**	**5.7 J**	**7.3 J**	**13 J**	**0.91 J**	**1.5 J**	**1.4 J**	**2.7 J**	**2.1 J**
Arsenic	**13 J**	**7.6 J**	**8.3 J**	**14 J**	**11 J**	**9.7 J**	**3.1**	**3.5 J**	**5.5 J**	**5.7 J**	**5.7 J**
Barium	**190 J**	**420 J**	**530 J**	**700 J**	**650 J**	**540 J**	**310 J**	**75 J**	**170 J**	**250 J**	**580 J**
Beryllium	**0.74 J**	**0.64 J**	**0.41 J**	**0.33 J**	**0.37 J**	**0.27 J**	**0.37**	**0.33 J**	**0.48 J**	**0.52 J**	**0.61 J**
Cadmium	**14 J**	**77 J**	**41 J**	**52 J**	**45 J**	**24 J**	**5.9 J**	**4.4 J**	**17 J**	**29 J**	**27 J**
Calcium	**5600 J**	**5400 J**	**6500 J**	**6000 J**	**7200 J**	**4900 J**	**3700 J**	**4900 J**	**6300 J**	**5300 J**	**5400 J**
Chromium	**92 J**	**180 J**	**180 J**	**230 J**	**300 J**	**380 J**	**340 J**	**42 J**	**130 J**	**260 J**	**230 J**
Cobalt	**8.1**	**7.1**	**6.7**	**6.8**	**6.3**	**5.6**	**5**	**3.9**	**6.2**	**5.8**	**6.6**
Copper	**240 J**	**380 J**	**480 J**	**640 J**	**600 J**	**620 J**	**110 J**	**860 J**	**200 J**	**760 J**	**440 J**
Iron	**17000**	**17000**	**23000**	**23000**	**22000**	**19000**	**13000**	**11000**	**15000**	**15000**	**16000**
Lead	**390 J**	**790 J**	**1000 J**	**1400 J**	**1400 J**	**1100 J**	**230**	**180 J**	**380 J**	**780 J**	**670 J**
Magnesium	**5000**	**4400**	**4400**	**3900**	**3800**	**3300**	**3300**	**3900**	**5100**	**4200**	**4200**
Manganese	**110 J**	**90 J**	**99 J**	**93 J**	**100 J**	**86 J**	**120 J**	**77 J**	**100 J**	**77 J**	**59 J**
Mercury	**2.6 J**	**1.4 J**	**2 J**	**2.7 J**	**2.6 J**	**2 J**	**0.38 J**	**0.42 J**	**0.93 J**	**1.5 J**	**1.2 J**
Nickel	**99**	**78**	**100**	**110**	**110**	**120**	**29**	**21**	**49**	**91**	**89**
Potassium	**1100**	**880**	**910**	**920**	**880**	**760**	**850**	**890**	**1300**	**1000**	**1100**
Selenium	**1.2 J**	**1.1 J**	**1.6 J**	**1.4 J**	**1.4 J**	**0.96 J**	**0.58 J**	**0.42 J**	**1.1 J**	**1.3 J**	**1.4 J**
Silver	**3.9 J**	**6.6 J**	**9.2 J**	**11 J**	**10 J**	**11 J**	**1.9**	**1.9 J**	**7.3 J**	**62 J**	**7.2 J**
Sodium	**2800**	**3200**	**3200**	**2600**	**2800**	**2300**	**4000**	**3900**	**5200**	**4800**	**4900**
Thallium	**0.14 J**	**0.13 J**	**0.19 J**	**0.26**	**0.25**	**0.27**	**0.083**	**0.11**	**0.16**	**0.16**	**0.15**
Vanadium	**23 J**	**23 J**	**43 J**	**64 J**	**61 J**	**55 J**	**12 J**	**16 J**	**23 J**	**30 J**	**28 J**
Zinc	**600**	**1200**	**1100**	**1500**	**1800**	**1600**	**680**	**540**	**680**	**990**	**980**
EDCs & PPCPs (Phenols) (mg/kg)											
Bisphenol A	0.57 U	0.62 U	0.76 U	0.65 U	0.72 U	0.63 U	0.55 U	0.56 U	0.72 U	0.8 UJ	0.7 U
Nonylphenol	**24**	**76**	**53 J**	**45 J**	**37**	**16**	**9 J**	**13**	**27**	**45 J**	**24 J**
Nonylphenol Diethoxylate	12 U	13 U	16 U	13 U	15 U	13 U	11 UJ	12 U	15 U	16 UJ	14 U
Nonylphenol Monoethoxylate	5.7 U	6.2 U	7.6 U	6.5 U	7.2 U	6.3 U	5.5 U	5.6 U	7.2 U	8 UJ	7 U
4-tert-Octylphenol	**0.78**	**1.5**	**3.7 J**	**2.8 J**	**3.1 J**	**1.9**	0.55 U	0.56 U	**1.4**	**2.8 J**	**1.8**
EDCs and PPCPs (mg/kg)											
Acetaminophen	0.04 U	0.038 U	0.04 U	0.038 U	0.038 U	0.039 U	0.036 U	0.038 U	0.039 U	0.39 U	0.038 U
alpha-Estradiol	0.04 UJ	0.038 UJ	0.04 UJ	0.038 UJ	0.038 UJ	0.039 UJ	0.036 UJ	0.038 UJ	0.039 UJ	0.39 UJ	0.038 UJ
Androstenedione	0.008 U	0.0076 U	0.0079 U	0.0077 U	0.0075 U	0.0079 U	0.0072 UJ	0.0077 U	0.0078 U	0.078 UJ	0.0077 U
Atrazine	0.008 UJ	0.0076 UJ	0.0079 UJ	0.0077 UJ	0.0075 UJ	0.0079 UJ	0.0072 UJ	0.0077 UJ	0.0078 UJ	0.078 UJ	0.0077 UJ
Bisphenol A	**0.11**	**0.18**	**0.18**	**0.26**	**0.16**	**0.1**	0.072 U	0.077 U	**0.12**	0.78 U	**0.15**
Carbamazepine	0.016 UJ	0.015 UJ	0.016 UJ	0.015 UJ	0.015 UJ	0.016 UJ	0.014 UJ	0.015 UJ	0.016 UJ	0.16 UJ	0.015 UJ
DEET (N,N-Diethyl-3-Methyl Benzamide)	0.04 UJ	0.038 UJ	**0.054 J**	0.038 UJ	0.038 UJ	0.039 UJ	0.036 UJ	0.038 UJ	0.039 UJ	0.39 UJ	0.038 UJ
Diazepam	0.016 U	0.015 U	0.016 U	0.015 U	0.015 U	0.016 U	0.014 U	0.015 U	0.016 U	0.16 U	0.015 U
Diclofenac	0.016 UJ	R	0.016 UJ	0.015 UJ	R	R	0.014 UJ	0.015 UJ	R	R	R
Diethylstilbestrol	R	R	R	R	R	R	R	R	R	R	**0.36 J**
Estradiol	0.04 UJ	0.038 UJ	0.04 UJ	0.038 UJ	0.038 UJ	0.039 UJ	0.036 UJ	0.038 UJ	0.039 UJ	0.39 U	0.038 UJ
Estriol	0.04 U	0.038 U	0.04 U	0.038 U	0.038 U	0.039 U	0.036 U	0.038 U	0.039 U	0.39 U	0.038 U

Table 2
Summary of Sediment Analytical Results
Phase I Sediment Cores
Gowanus Canal
Brooklyn, New York

Sample Name:	GC-SED-520	GC-SED-520	GC-SED-520	GC-SED-520	GC-SED-520	GC-SED-520	GC-SED-521	GC-SED-521	GC-SED-521	GC-SED-521	Duplicate of GC-SED-521
Sample Depth (feet):	(1.0-1.5)	(1.5-2.0)	(2.0-2.5)	(2.5-3.0)	(3.0-3.5)	(3.5-4.0)	(0.0-0.5)	(0.5-1.0)	(1.0-1.5)	(1.5-2.0)	(1.5-2.0)
Sample Date:	8/3/2012	8/3/2012	8/3/2012	8/3/2012	8/3/2012	8/3/2012	8/3/2012	8/3/2012	8/3/2012	8/3/2012	8/3/2012
Estrone	**0.082 J**	**0.12 J**	**0.063 J**	0.038 UJ	0.038 UJ	0.039 UJ	0.036 UJ	**0.053 J**	**0.14 J**	0.39 U	**0.27 J**
Ethinyl Estradiol	0.04 U	0.038 U	0.04 U	0.038 U	0.038 UJ	0.039 UJ	0.036 U	0.038 U	0.039 U	0.39 UJ	**0.044**
Gemfibrozil	0.016 UJ	R	0.016 UJ	0.015 UJ	R	R	0.014 UJ	0.015 UJ	0.016 UJ	R	R
Ibuprofen	0.04 UJ	0.038 UJ	0.04 U	0.038 U	0.038 UJ	0.039 UJ	0.036 U	0.038 U	0.039 UJ	R	0.038 UJ
Meprobamate	0.008 UJ	0.0076 UJ	0.0079 UJ	0.0077 UJ	0.0075 UJ	0.0079 UJ	0.0072 UJ	0.0077 UJ	0.0078 UJ	0.078 UJ	0.0077 UJ
Naproxen	0.016 U	0.015 U	0.016 U	0.015 U	0.015 UJ	0.016 UJ	0.014 U	0.015 U	0.016 U	0.16 U	0.015 UJ
Pentoxifylline	0.016 U	0.015 U	0.016 U	0.015 U	0.015 U	0.016 U	0.014 U	0.015 U	0.016 U	0.16 U	0.015 U
Phenytoin (5,5-Diphenylhydantion/ Dilantin)	**0.014 J**	**0.023 J**	**0.036 J**	**0.037 J**	**0.042**	**0.067 J**	0.036 U	**0.012 J**	**0.0096 J**	**0.039 J**	**0.028 J**
Progesterone	0.016 UJ	**0.005 J**	**0.0038 J**	**0.0038 J**	0.015 UJ	**0.0072 J**	0.014 U	**0.0023 J**	**0.0043 J**	R	**0.0045 J**
Sulfamethoxazole	0.016 U	0.015 U	0.016 U	0.015 U	0.015 U	0.016 U	0.014 U	0.015 U	0.016 U	0.16 U	0.015 U
Testosterone	0.016 U	0.015 U	0.016 U	0.015 U	0.015 U	0.016 U	0.014 U	0.015 U	0.016 U	0.16 U	0.015 U
Trimethoprim	0.04 UJ	0.038 UJ	0.04 UJ	0.038 UJ	0.038 UJ	0.039 UJ	0.036 UJ	0.038 UJ	0.039 UJ	R	0.038 UJ
Pathogen											
C. perfringens (cfu/g)	**79000**	**410000**	**370000**	**380000**	**380000**	**230000**	**50000**	**33000**	**170000**	**20000**	NA
Coliphage, Male Specific (pfu/10g)	0 U	0 U	0 U	0 U	0 U	0 U	**2**	0 U	0 U	0 U	NA
Coliphage, Somatic (pfu/10g)	0 UJ	**4 J**	0 UJ	0 UJ	**2 J**	**2 J**	**205 J**	**52 J**	**76 J**	**30 J**	NA
Cryptosporidium (Oocysts/g)	0 U	0 U	0 U	R	R	0 UJ	0 U	0 U	0 U	0 U	NA
E.Coli (mpn/g)	**36.8**	**28.3**	**8.5**	**4.1**	**12.2**	**12.2**	**165**	**248**	**93.2**	**54.8**	NA
Enterococci (mpn/g)	**60.9**	**88.8**	**18.7**	**23.3**	**26.2**	**41.7**	**3310**	**210.5**	**1220**	**76.9**	NA
Fecal Coliform (mpn/g)	**517.2**	**328.2**	**38.6**	**39.9**	**203.5**	**72.4**	**14080**	**1060 J**	**517.2**	**1986.3**	NA
Giardia (Cysts/g)	0 U	0 U	0 U	R	0 UJ	**105 J**	0 U	0 U	0 U	0 U	NA
Plaque forming virus (pfu/g)	0 U	0 U	0 U	0 U	0 U	0 U	0 U	0 U	0 U	0 U	NA
Viruses (pos/neg)	neg	neg	neg	neg	neg	neg	neg	neg	neg	neg	NA
Other (%)											
Percent Solids	**73.55**	**74.25**	**56.47**	**64.64**	**64.26**	**61.08**	**67.26**	**66.49**	**55.75**	**54.25**	NA
Total Solids	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Other (mg/kg)											
Total Organic Carbon	**30000 J**	**110000**	**89000**	**96000**	**120000**	**53000**	**11000 J**	**16000**	**55000**	**73000 J**	**110000 J**

Table 2
Summary of Sediment Analytical Results
Phase I Sediment Cores
Gowanus Canal
Brooklyn, New York

Sample Name:	GC-SED-521	GC-SED-521	GC-SED-521	GC-SED-521	GC-SED-522	GC-SED-522	GC-SED-522	GC-SED-522	GC-SED-522	GC-SED-522	GC-SED-522
Sample Depth (feet):	(2.0-2.5)	(2.5-3.0)	(3.0-3.5)	(3.5-4.0)	(0.0-0.5)	(0.5-1.0)	(1.0-1.5)	(1.5-2.0)	(2.0-2.5)	(2.5-3.0)	(3.0-3.5)
Sample Date:	8/3/2012	8/3/2012	8/3/2012	8/3/2012	8/3/2012	8/3/2012	8/3/2012	8/3/2012	8/3/2012	8/3/2012	8/3/2012
BTEX (mg/kg)											
Benzene	**0.0064 J**	**0.0066 J**	**0.0061 J**	**0.007 J**	0.0082 U	0.0082 U	**0.0036 J**	**0.0031 J**	**0.0026 J**	**0.0029 J**	**0.0014 J**
Toluene	**0.0052 J**	**0.006 J**	**0.0099**	**0.024**	0.0082 U	0.0082 U	**0.0013 J**	**0.0013 J**	**0.002 J**	**0.0012 J**	**0.0011 J**
Ethylbenzene	**0.093**	**0.1 J**	**0.087**	**0.098**	0.0082 U	**0.0013 J**	**0.0027 J**	**0.0014 J**	**0.0014 J**	0.0077 U	0.0071 U
m,p-Xylene	**0.022**	**0.031 J**	**0.058**	**0.11**	0.016 U	0.016 U	**0.0039 J**	**0.012 J**	**0.015 J**	**0.011 J**	**0.0089 J**
o-Xylene	**0.031**	**0.06 J**	**0.066**	**0.096**	0.0082 U	0.0082 U	0.0074 U	**0.017**	**0.017**	**0.021**	**0.012**
Total Xylene	**0.053**	**0.091 J**	**0.12**	**0.21**	0.025 U	0.025 U	**0.0039 J**	**0.029**	**0.032**	**0.032**	**0.021**
Total BTEX	**0.1576**	**0.2036**	**0.223**	**0.339**	0	**0.0013**	**0.0115**	**0.0348**	**0.038**	**0.0361**	**0.0235**
Other VOCs (mg/kg)											
Acetone	0.033 U	0.042 U	0.034 U	0.037 U	0.033 U	0.033 U	0.029 U	0.034 U	0.035 U	0.031 U	0.028 U
Bromochloromethane	0.0082 U	0.011 UJ	0.0085 U	0.0091 U	0.0082 U	0.0082 U	0.0074 U	0.0085 U	0.0087 U	0.0077 U	0.0071 U
Bromodichloromethane	0.0082 U	0.011 UJ	0.0085 U	0.0091 U	0.0082 U	0.0082 U	0.0074 U	0.0085 U	0.0087 U	0.0077 U	0.0071 U
Bromoform	0.0082 U	0.011 UJ	0.0085 U	0.0091 U	0.0082 U	0.0082 U	0.0074 U	0.0085 U	0.0087 U	0.0077 U	0.0071 U
Bromomethane	0.0082 U	0.011 UJ	0.0085 U	0.0091 U	0.0082 U	0.0082 U	0.0074 U	0.0085 U	0.0087 U	0.0077 U	0.0071 U
2-Butanone (Methyl ethyl ketone)	0.0082 U	0.011 UJ	0.0085 U	0.0091 U	0.0082 U	0.0082 U	0.0074 U	0.0085 U	0.0087 U	0.0077 U	0.0071 U
Carbon disulfide	**0.0046 J**	**0.0036 J**	**0.0021 J**	**0.0036 J**	0.0082 U	**0.0022 J**	**0.0029 J**	**0.0039 J**	**0.004 J**	**0.0026 J**	**0.0023 J**
Carbon tetrachloride	0.0082 U	0.011 UJ	0.0085 U	0.0091 U	0.0082 U	0.0082 U	0.0074 U	0.0085 U	0.0087 U	0.0077 U	0.0071 U
Chlorobenzene	**0.05**	**0.051**	**0.036**	**0.033**	0.0082 U	**0.0028 J**	**0.01**	**0.013**	**0.023**	**0.013**	**0.013**
Chloroethane	0.0082 U	0.011 UJ	0.0085 U	0.0091 U	0.0082 U	0.0082 U	0.0074 U	0.0085 U	0.0087 U	0.0077 U	0.0071 U
Chloroform	0.0082 U	0.011 UJ	0.0085 U	0.0091 U	0.0082 U	0.0082 U	0.0074 U	0.0085 U	0.0087 U	0.0077 U	0.0071 U
Chloromethane	0.0082 U	0.011 UJ	0.0085 U	0.0091 U	0.0082 U	0.0082 U	0.0074 U	0.0085 U	0.0087 U	0.0077 U	0.0071 U
Cyclohexane	0.0082 U	**0.0011 J**	**0.0015 J**	**0.0014 J**	0.0082 U	0.0082 U	0.0074 U	0.0085 U	0.0087 U	0.0077 U	0.0071 U
1,2-Dibromo-3-chloropropane	0.0082 U	0.011 UJ	0.0085 U	0.0091 U	0.0082 U	0.0082 U	0.0074 U	0.0085 U	0.0087 U	0.0077 UJ	0.0071 UJ
Dibromochloromethane	0.0082 U	0.011 UJ	0.0085 U	0.0091 U	0.0082 U	0.0082 U	0.0074 U	0.0085 U	0.0087 U	0.0077 U	0.0071 U
1,2-Dibromoethane	0.0082 U	0.011 UJ	0.0085 U	0.0091 U	0.0082 U	0.0082 U	0.0074 U	0.0085 U	0.0087 U	0.0077 U	0.0071 U
1,2-Dichlorobenzene	**0.0037 J**	**0.004 J**	**0.0063 J**	**0.011**	0.0082 U	**0.0018 J**	**0.0028 J**	**0.0018 J**	**0.003 J**	**0.0017 J**	**0.0012 J**
1,3-Dichlorobenzene	0.0082 U	0.011 UJ	0.0085 U	0.0091 U	0.0082 U	0.0082 U	**0.001 J**	**0.0011 J**	**0.002 J**	**0.0026 J**	**0.0012 J**
1,4-Dichlorobenzene	**0.047**	**0.051 J**	**0.055**	**0.07**	**0.0011 J**	**0.0081 J**	**0.014**	**0.017**	**0.028**	**0.022**	**0.014**
Dichlorodifluoromethane	0.0082 U	0.011 UJ	0.0085 U	0.0091 U	0.0082 U	0.0082 U	0.0074 U	0.0085 U	0.0087 U	0.0077 U	0.0071 U
1,1-Dichloroethane	0.0082 U	0.011 UJ	0.0085 U	0.0091 U	0.0082 U	0.0082 U	0.0074 U	0.0085 U	0.0087 U	0.0077 U	0.0071 U
1,2-Dichloroethane	0.0082 U	0.011 UJ	0.0085 U	0.0091 U	0.0082 U	0.0082 U	0.0074 U	0.0085 U	0.0087 U	0.0077 U	0.0071 U
cis-1,2-Dichloroethene	0.0082 U	0.011 UJ	0.0085 U	0.0091 U	0.0082 U	0.0082 U	0.0074 U	0.0085 U	0.0087 U	0.0077 U	0.0071 U
trans-1,2-Dichloroethene	0.0082 U	0.011 UJ	0.0085 U	0.0091 U	0.0082 U	0.0082 U	0.0074 U	0.0085 U	0.0087 U	0.0077 U	0.0071 U
1,1-Dichloroethene	0.0082 U	0.011 UJ	0.0085 U	0.0091 U	0.0082 U	0.0082 U	0.0074 U	0.0085 U	0.0087 U	0.0077 U	0.0071 U
1,2-Dichloropropane	0.0082 U	0.011 UJ	0.0085 U	0.0091 U	0.0082 U	0.0082 U	0.0074 U	0.0085 U	0.0087 U	0.0077 U	0.0071 U
cis-1,3-Dichloropropene	0.0082 U	0.011 UJ	0.0085 U	0.0091 U	0.0082 U	0.0082 U	0.0074 U	0.0085 U	0.0087 U	0.0077 U	0.0071 U
trans-1,3-Dichloropropene	0.0082 U	0.011 UJ	0.0085 U	0.0091 U	0.0082 U	0.0082 U	0.0074 U	0.0085 U	0.0087 U	0.0077 U	0.0071 U
1,4-Dioxane	R	2.1 UJ	R	R	R	R	R	R	R	R	R
2-Hexanone	0.0082 U	0.011 UJ	0.0085 U	0.0091 U	0.0082 U	0.0082 U	0.0074 U	0.0085 U	0.0087 U	0.0077 U	0.0071 U
Isopropyl benzene	**0.0097**	**0.011 J**	**0.011**	**0.016**	0.0082 U	**0.0019 J**	**0.003 J**	**0.0056 J**	**0.006 J**	**0.013**	**0.0037 J**
Methyl acetate	0.0082 U	0.011 UJ	0.0085 U	0.0091 U	0.0082 U	0.0082 U	0.0074 U	0.0085 U	0.0087 U	0.0077 U	0.0071 U
Methyl tert-butyl ether (MTBE)	0.0082 U	0.011 UJ	0.0085 U	0.0091 U	0.0082 U	0.0082 U	0.0074 U	0.0085 U	0.0087 U	0.0077 U	0.0071 U
4-Methyl-2-pentanone	0.0082 U	0.011 UJ	0.0085 U	0.0091 U	0.0082 U	0.0082 U	0.0074 U	0.0085 U	0.0087 U	0.0077 U	0.0071 U
Methylcyclohexane	**0.0049 J**	**0.0057 J**	**0.011**	**0.015**	0.0082 U	0.0082 U	0.0074 U	0.0085 U	**0.0014 J**	**0.0026 J**	0.0071 U
Methylene chloride	0.0082 U	0.011 UJ	0.0085 U	0.0091 U	0.0082 U	0.0082 U	0.0074 U	0.0085 U	0.0087 U	0.0077 U	0.0071 U
Styrene	0.0082 U	0.011 UJ	0.0085 U	0.0091 U	0.0082 U	0.0082 U	0.0074 U	0.0085 U	0.0087 U	0.0077 U	0.0071 U
1,1,2,2-Tetrachloroethane	0.0082 U	0.011 UJ	0.0085 U	0.0091 U	0.0082 U	0.0082 U	0.0074 U	0.0085 U	0.0087 U	0.0077 U	0.0071 U
Tetrachloroethene	0.0082 U	0.011 UJ	0.0085 U	0.0091 U	0.0082 U	0.0082 U	0.0074 U	0.0085 U	0.0087 U	0.0077 U	0.0071 U

Table 2
Summary of Sediment Analytical Results
Phase I Sediment Cores
Gowanus Canal
Brooklyn, New York

Sample Name:	GC-SED-521	GC-SED-521	GC-SED-521	GC-SED-521	GC-SED-522	GC-SED-522	GC-SED-522	GC-SED-522	GC-SED-522	GC-SED-522	GC-SED-522
Sample Depth (feet):	(2.0-2.5)	(2.5-3.0)	(3.0-3.5)	(3.5-4.0)	(0.0-0.5)	(0.5-1.0)	(1.0-1.5)	(1.5-2.0)	(2.0-2.5)	(2.5-3.0)	(3.0-3.5)
Sample Date:	8/3/2012	8/3/2012	8/3/2012	8/3/2012	8/3/2012	8/3/2012	8/3/2012	8/3/2012	8/3/2012	8/3/2012	8/3/2012
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	0.0082 U	0.011 UJ	0.0085 U	0.0091 U	0.0082 U	0.0082 U	0.0074 U	0.0085 U	0.0087 U	0.0077 U	0.0071 U
1,2,3-Trichlorobenzene	0.0082 U	0.011 UJ	0.0085 U	0.0091 U	0.0082 U	0.0082 U	0.0074 U	0.0085 U	0.0087 U	0.0077 U	0.0071 U
1,2,4-Trichlorobenzene	0.0082 U	0.011 UJ	0.0085 U	0.0091 U	0.0082 U	0.0082 U	0.0074 U	0.0085 U	0.0087 U	0.0077 U	0.0071 U
1,1,1-Trichloroethane	0.0082 U	0.011 UJ	0.0085 U	0.0091 U	0.0082 U	0.0082 U	0.0074 U	0.0085 U	0.0087 U	0.0077 U	0.0071 U
1,1,2-Trichloroethane	0.0082 U	0.011 UJ	0.0085 U	0.0091 U	0.0082 U	0.0082 U	0.0074 U	0.0085 U	0.0087 U	0.0077 U	0.0071 U
Trichloroethene	0.0082 U	0.011 UJ	0.0085 U	0.0091 U	0.0082 U	0.0082 U	0.0074 U	0.0085 U	0.0087 U	0.0077 U	0.0071 U
Trichlorofluoromethane	0.0082 U	0.011 UJ	0.0085 U	0.0091 U	0.0082 U	0.0082 U	0.0074 U	0.0085 U	0.0087 U	0.0077 U	0.0071 U
Vinyl chloride	0.0082 U	0.011 UJ	0.0085 U	0.0091 U	0.0082 U	0.0082 U	0.0074 U	0.0085 U	0.0087 U	0.0077 U	0.0071 U
PAHs (mg/kg)											
Acenaphthene	**6.2**	**17 J**	**29**	**33**	**4.1**	**2.1**	**3.9**	**7.9**	**13**	**11**	**10**
Acenaphthylene	**6.5**	**19 J**	**9.2**	**10**	**8.6**	**7.2**	**6.8**	**7.9**	**11**	**8.5**	**7.4**
Anthracene	**8.6**	**23 J**	**33**	**49**	**7.5**	**4.8**	**7.2**	**12**	**21**	**15**	**17**
Benz[a]anthracene	**11**	**49 J**	**53**	**67**	**15**	**10**	**10**	**18**	**27**	**18**	**23**
Benzo[a]pyrene	**9.9 J**	**54 J**	**48**	**61**	**15**	**9.5**	**9.1**	**15**	**25**	**21**	**19**
Benzo[b]fluoranthene	**7.5 J**	**59 J**	**49 J**	**46 J**	**9**	**6.2**	**6.5**	**11 J**	**19 J**	**15 J**	**18 J**
Benzo[g,h,i]perylene	**4.4 J**	**28 J**	**16**	**20**	**7.5**	**4.5**	**4.2**	**6.9**	**12**	**7.4**	**8.1**
Benzo[k]fluoranthene	**2.9 J**	**23 J**	**17**	**33**	**7.7**	**2.7**	**2.6**	**5.3**	**10**	**7.6**	**6**
Chrysene	**12**	**63 J**	**55**	**59**	**16**	**9.8**	**11**	**18**	**28**	**28**	**21**
Dibenz[a,h]anthracene	**1.7 J**	**12 J**	**5.3 J**	**7 J**	**2.5**	**1.2**	**1.3**	**2.1 J**	**3.5 J**	**3.3 J**	**2.5 J**
Fluoranthene	**22**	**210 J**	**120**	**140**	**28**	**16**	**19**	**32**	**49**	**38**	**48**
Fluorene	**3.5**	**26 J**	**25**	**34**	**3.6**	**1.6**	**3.5**	**8.8**	**15**	**12**	**11**
Indeno[1,2,3-cd]pyrene	**4.7 J**	**33 J**	**20**	**22**	**6.5**	**3.7**	**4.2**	**6.7**	**11**	**8**	**7.6**
2-Methylnaphthalene	**2.7**	**28 J**	**31**	**51**	**1.8**	**0.84**	**1.9**	**6.4**	**19**	**14**	**12**
Naphthalene	**7.2**	**67 J**	**73**	**87**	**5.5**	**1.4**	**2.4**	**5.7**	**11**	**8.8**	**7.5**
Phenanthrene	**26**	**210 J**	**120**	**120**	**12**	**3.8**	**14**	**35**	**60**	**45**	**52**
Pyrene	**17**	**99 J**	**83**	**78**	**21**	**15**	**16**	**29**	**44**	**41**	**37**
Total PAHs	**153.8**	**1020**	**786.5**	**917**	**171.3**	**100.3**	**123.6**	**227.7**	**378.5**	**301.6**	**307.1**
Alkylated PAHs (mg/kg)											
Acenaphthene	**7.84452**	**12.74201**	**14.33391**	**32.05345**	**2.31149**	**2.84873**	**7.6031**	**7.18487**	**8.50765**	**113.94044**	**12.69513**
Acenaphthylene	**6.03232**	**6.61085**	**7.61467**	**11.01071**	**5.91552**	**7.54973**	**7.01778**	**8.38642**	**8.21635**	**7.55275**	**10.47668**
Anthracene	**15.41491**	**17.10623**	**19.16258**	**42.28593**	**7.6205**	**6.29384**	**14.28293**	**15.32042**	**16.47661**	**167.59165**	**24.06937**
Benz[a]anthracene	**18.64011**	**20.19812**	**20.53643**	**66.35166**	**13.92634**	**12.73198**	**16.19138**	**19.89712**	**24.0248**	**252.92168**	**26.54857**
Benzo[a]pyrene	**14.91229**	**15.70083**	**15.56976**	**51.54135**	**11.01639**	**10.27654**	**12.88898**	**16.60826**	**18.52594**	**191.91033**	**20.57485**
Benzo[b]fluoranthene	**10.05703**	**10.49371**	**9.20424**	**41.84518**	**6.53862**	**5.7632**	**7.23317**	**10.63053**	**12.82619**	**182.92896**	**14.8923**
Benzo[e]pyrene	**7.70745**	**8.16189**	**7.98293**	**27.91079**	**5.53033**	**5.1632**	**6.33416**	**8.72203**	**9.59187**	**116.26694**	**12.76038**
Benzo[g,h,i]perylene	**6.28821**	**6.4792**	**6.21121**	**25.31938**	**4.38709**	**4.1457**	**4.6806**	**6.61235**	**7.11694**	**88.90868**	**8.58503**
Benzo[k]fluoranthene	**11.01607**	**11.71876**	**10.56959**	**48.93**	**8.22204**	**7.98424**	**8.55461**	**12.15905**	**14.27082**	**184.63701**	**14.75017**
1,1-Biphenyl	**0.90689**	**1.13823**	**1.32216**	**3.54082**	**0.18029**	**0.21338**	**0.74355**	**0.60503**	**0.73008**	**8.57533**	**0.87754**
Chrysene	**16.90827**	**18.61362**	**19.29483**	**64.57896**	**13.39176**	**12.01496**	**15.08866**	**18.9693**	**22.14382**	**217.14808**	**23.84123**
C1-Chrysenes	**16.09816**	**19.3862**	**22.36322**	**45.90704**	**16.03513**	**15.99562**	**17.86866**	**20.03953**	**20.91511**	**105.73851**	**32.64277**
C2-Chrysenes	**11.54766**	**13.29618**	**16.05794**	**29.83284**	**10.6338**	**10.65033**	**13.34863**	**14.06553**	**14.08473**	**44.64114**	**25.33158**
C3-Chrysenes	**6.1658**	**7.26288**	**8.1486**	**16.31635**	**5.34513**	**5.59314**	**7.41089**	**7.79388**	**6.44779**	**22.31378**	**11.93094**
C4-Chrysenes	**2.78322**	**3.28348**	**3.82335**	**6.91648**	**2.08632**	**2.28157**	**3.25605**	**3.27416**	**3.24653**	**13.66016**	**6.62321**
Dibenz[a,h]anthracene	**2.35352**	**2.36813**	**2.56832**	**9.85183**	**1.9297**	**1.7758**	**1.89922**	**2.62033**	**2.93591**	**28.32348**	**3.02176**
Dibenzofuran	**2.28801**	**3.18257**	**3.66649**	**13.76853**	**0.27414**	**0.25814**	**1.78245**	**1.5977**	**2.74115**	**62.3805**	**3.34227**
Dibenzothiophene	**4.40713**	**6.25177**	**7.12881**	**16.67456**	**1.25475**	**1.49055**	**4.39679**	**4.48341**	**5.11647**	**42.92968**	**7.78759**
C1-Dibenzothiophenes	**9.59136**	**12.8158**	**14.97352**	**25.54961**	**4.0514**	**4.70248**	**11.22789**	**10.99679**	**11.32002**	**31.41617**	**18.61846**
C2-Dibenzothiophenes	**12.22226**	**15.28301**	**18.37763**	**28.71064**	**7.21184**	**8.19036**	**14.68522**	**14.55714**	**14.63695**	**30.68881**	**24.416**

Table 2
Summary of Sediment Analytical Results
Phase I Sediment Cores
Gowanus Canal
Brooklyn, New York

Sample Name:	GC-SED-521	GC-SED-521	GC-SED-521	GC-SED-521	GC-SED-522	GC-SED-522	GC-SED-522	GC-SED-522	GC-SED-522	GC-SED-522	GC-SED-522
Sample Depth (feet):	(2.0-2.5)	(2.5-3.0)	(3.0-3.5)	(3.5-4.0)	(0.0-0.5)	(0.5-1.0)	(1.0-1.5)	(1.5-2.0)	(2.0-2.5)	(2.5-3.0)	(3.0-3.5)
Sample Date:	8/3/2012	8/3/2012	8/3/2012	8/3/2012	8/3/2012	8/3/2012	8/3/2012	8/3/2012	8/3/2012	8/3/2012	8/3/2012
C3-Dibenzothiophenes	**8.34969**	**9.55998**	**11.67075**	**17.42537**	**5.06718**	**5.80541**	**9.85089**	**9.57837**	**9.38419**	**19.77074**	**17.6001**
C4-Dibenzothiophenes	**3.47347**	**3.91832**	**4.69726**	**7.00217**	**2.07428**	**2.3464**	**4.20257**	**3.956**	**3.78762**	**7.91353**	**7.99253**
Fluoranthene	**29.85459**	**31.3162**	**31.1318**	**119.44824**	**14.68612**	**14.25773**	**21.08509**	**28.27664**	**32.70812**	**651.98973**	**40.86721**
C1-Fluoranthenes/pyrenes	**29.93576**	**36.37301**	**43.55242**	**82.20802**	**29.04141**	**29.84667**	**35.09593**	**38.35887**	**40.31684**	**220.66646**	**63.6019**
C2-Fluoranthenes/pyrenes	**17.49333**	**20.34581**	**25.42917**	**54.29018**	**16.35895**	**17.33443**	**20.26381**	**22.34979**	**24.31287**	**116.99608**	**42.84888**
C3-Fluoranthenes/pyrenes	**9.68957**	**11.31821**	**13.93047**	**25.428**	**8.20771**	**8.82579**	**11.94337**	**12.35911**	**11.95259**	**51.66236**	**26.45013**
C4-Fluoranthenes/pyrenes	**4.07159**	**4.33717**	**5.58005**	**10.54224**	**2.78666**	**3.37823**	**4.60168**	**4.82925**	**4.05831**	**20.25172**	**9.73419**
Fluorene	**3.63258**	**10.11671**	**11.75087**	**27.93153**	**0.61601**	**0.67445**	**7.1993**	**4.08393**	**5.27232**	**95.51832**	**10.74779**
C1-Fluorenes	**7.3877**	**11.89097**	**14.52685**	**23.69267**	**3.32759**	**3.60349**	**10.39828**	**8.72396**	**8.87251**	**32.18936**	**15.99615**
C2-Fluorenes	**12.85605**	**15.54142**	**18.82312**	**31.85362**	**6.58046**	**7.52653**	**16.06906**	**15.93751**	**12.87901**	**35.71113**	**23.52538**
C3-Fluorenes	**9.56288**	**10.86781**	**12.21825**	**25.00656**	**4.38552**	**5.39305**	**11.40774**	**11.90463**	**10.22126**	**49.71896**	**16.67041**
Indeno[1,2,3-cd]pyrene	**9.41411**	**9.10067**	**8.76213**	**39.46935**	**6.65399**	**6.12283**	**6.6481**	**10.07896**	**11.32626**	**122.76141**	**10.77109**
Naphthalene	**13.12433**	**68.96268**	**79.93985**	**112.7421**	**1.61674**	**1.9607**	**9.76439**	**5.13756**	**6.75632**	**84.97989**	**11.80635**
C1-Naphthalenes	**9.02281**	**30.17221**	**33.0152**	**58.5818**	**0.9924**	**1.1217**	**12.32828**	**6.09478**	**6.78587**	**53.73569**	**22.20233**
C2-Naphthalenes	**23.02086**	**39.11447**	**42.39024**	**75.70941**	**2.45842**	**2.99387**	**26.00839**	**18.40237**	**18.80574**	**66.41982**	**43.06467**
C3-Naphthalenes	**25.22355**	**33.20002**	**34.79865**	**58.31301**	**3.8842**	**5.39741**	**28.20156**	**23.90998**	**23.71297**	**55.96505**	**43.10339**
C4-Naphthalenes	**15.33207**	**18.62619**	**19.10281**	**31.16292**	**3.58415**	**4.63225**	**17.2633**	**15.5543**	**14.92433**	**32.64839**	**29.18017**
Perylene	**3.27833**	**3.14306**	**3.05947**	**13.42315**	**2.34144**	**2.21852**	**2.36129**	**3.46494**	**3.77855**	**52.90452**	**4.59954**
Phenanthrene	**33.5369**	**49.65004**	**52.3751**	**161.94304**	**3.92582**	**3.79999**	**33.42514**	**31.72396**	**39.85777**	**707.28966**	**62.03765**
C1-Phenanthrenes/anthracenes	**41.58513**	**56.25641**	**64.81919**	**118.93392**	**17.28579**	**19.04396**	**47.93535**	**47.30409**	**50.19076**	**247.5614**	**79.42925**
C2-Phenanthrenes/anthracenes	**34.43255**	**42.31991**	**50.79907**	**84.09711**	**21.7349**	**24.15585**	**41.05024**	**40.96772**	**41.66495**	**139.71095**	**69.60391**
C3-Phenanthrenes/anthracenes	**17.05149**	**19.44374**	**24.07174**	**38.91103**	**11.62298**	**12.87256**	**20.18978**	**20.21309**	**19.66095**	**59.85885**	**38.00525**
C4-Phenanthrenes/anthracenes	**5.74177**	**6.66849**	**7.7998**	**11.85365**	**3.99362**	**4.24435**	**6.80746**	**6.98295**	**6.70214**	**18.67298**	**13.99565**
Pyrene	**30.85305**	**31.31032**	**31.94853**	**99.22214**	**16.80644**	**17.13429**	**27.04754**	**33.14933**	**33.31104**	**482.43771**	**46.70711**
TPH (mg/kg)											
Total Petroleum Hydrocarbons	**10543.81**	**11982.15**	**11016.17**	**15454.75**	**3180.66**	**3667.76**	**12136.69**	**10339.09**	**9553.28**	**14960.85**	**6979.26**
Other SVOCs (mg/kg)											
Acetophenone	2.7 U	3.5 UJ	5.6 U	3 U	2.7 U	2.7 U	2.4 U	5.6 U	5.7 U	2.5 U	4.6 U
Atrazine	2.7 U	3.5 UJ	5.6 U	3 U	2.7 U	2.7 U	2.4 U	5.6 U	5.7 U	2.5 U	4.6 U
Benzaldehyde	**1.1 J**	3.5 UJ	5.6 U	3 U	**0.94 J**	2.7 UJ	**0.91 J**	**1.9 J**	5.7 U	2.5 U	4.6 U
1,1-Biphenyl	**0.81 J**	**4 J**	**2 J**	**4.1**	**0.43 J**	2.7 UJ	**0.29 J**	**0.55 J**	**0.61 J**	**0.5 J**	**0.69 J**
Bis(chloroisopropyl)ether	0.55 U	0.71 UJ	1.1 U	0.6 U	0.55 U	0.54 U	0.49 U	1.1 U	1.2 U	0.51 U	0.93 U
Bis(2-chloroethyl)ether	0.55 U	0.71 UJ	1.1 U	0.6 U	0.55 U	0.54 U	0.49 U	1.1 U	1.2 U	0.51 U	0.93 U
Bis(2-chloroethoxy)methane	2.7 U	3.5 UJ	5.6 U	3 U	2.7 U	2.7 U	2.4 U	5.6 U	5.7 U	2.5 U	4.6 U
Bis(2-ethylhexyl)phthalate	**78**	**52 J**	**35**	**65**	**16**	**9.7**	**25**	**70**	**73**	**240**	**31**

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Gowanus Canal
Brooklyn, New York

Sample Name:	GC-SED-521	GC-SED-521	GC-SED-521	GC-SED-521	GC-SED-522	GC-SED-522	GC-SED-522	GC-SED-522	GC-SED-522	GC-SED-522	GC-SED-522
Sample Depth (feet):	(2.0-2.5)	(2.5-3.0)	(3.0-3.5)	(3.5-4.0)	(0.0-0.5)	(0.5-1.0)	(1.0-1.5)	(1.5-2.0)	(2.0-2.5)	(2.5-3.0)	(3.0-3.5)
Sample Date:	8/3/2012	8/3/2012	8/3/2012	8/3/2012	8/3/2012	8/3/2012	8/3/2012	8/3/2012	8/3/2012	8/3/2012	8/3/2012
4-Bromophenyl phenyl ether	2.7 U	3.5 UJ	5.6 U	3 U	2.7 U	2.7 U	2.4 U	5.6 U	5.7 U	2.5 U	4.6 U
Butyl benzyl phthalate	**1.7 J**	**0.81 J**	5.6 U	3 U	2.7 U	2.7 U	**1.1 J**	**1.1 J**	**0.85 J**	**0.41 J**	**1.4 J**
Caprolactam	14 U	18 UJ	29 UJ	15 UJ	14 U	14 U	12 U	29 UJ	30 UJ	13 UJ	24 UJ
Carbazole	**1.6**	**18 J**	**15**	**22**	**1.7**	**0.34 J**	**0.55**	**1.6**	**2.9**	**2.7**	**2.9**
4-Chloro-3-methylphenol	2.7 U	3.5 UJ	5.6 U	3 U	2.7 U	2.7 U	2.4 U	5.6 U	5.7 U	2.5 U	4.6 U
4-Chloroaniline	**1.8 J**	**4.8 J**	**2.1 J**	**1.7 J**	**0.31 J**	**0.38 J**	**2.2 J**	**3.8 J**	**2.9 J**	**1.2 J**	**1.5 J**
Chlorophene	2.7 U	3.5 UJ	5.6 U	3 U	2.7 UJ	2.7 U	2.4 UJ	5.6 U	5.7 U	2.5 U	4.6 U
2-Chloronaphthalene	0.55 U	0.71 UJ	1.1 U	0.6 U	0.55 U	0.54 U	0.49 U	1.1 U	1.2 U	0.51 U	0.93 U
2-Chlorophenol	2.7 U	3.5 UJ	5.6 U	3 U	2.7 U	2.7 U	2.4 U	5.6 U	5.7 U	2.5 U	4.6 U
4-Chlorophenyl phenyl ether	2.7 U	3.5 UJ	5.6 U	3 U	2.7 U	2.7 U	2.4 U	5.6 U	5.7 U	2.5 U	4.6 U
Dibenzofuran	2.7 U	**17 J**	**12**	**17**	**1.7 J**	2.7 U	2.4 U	5.6 U	**3.5 J**	**2.8**	**3.3 J**
3,3-Dichlorobenzidine	2.7 U	3.5 UJ	5.6 U	3 U	2.7 U	2.7 U	2.4 U	5.6 U	5.7 U	2.5 U	4.6 U
2,4-Dichlorophenol	0.55 U	0.71 UJ	1.1 U	0.6 U	0.55 U	0.54 U	0.49 U	1.1 U	1.2 U	0.51 U	0.93 U
Diethyl phthalate	2.7 U	3.5 UJ	5.6 U	**8.7**	2.7 U	2.7 U	2.4 U	5.6 U	**0.78 J**	2.5 U	4.6 U
Dimethyl phthalate	2.7 U	3.5 UJ	5.6 U	3 U	2.7 U	2.7 U	2.4 U	5.6 U	5.7 U	2.5 U	4.6 U
2,4-Dimethylphenol	2.7 U	**0.91 J**	5.6 U	3 U	2.7 U	2.7 U	2.4 U	5.6 U	5.7 U	2.5 U	4.6 U
Di-n-butyl phthalate	2.7 U	3.5 UJ	5.6 U	**0.81 J**	2.7 U	**0.73 J**	**0.67 J**	5.6 U	5.7 U	**0.34 J**	4.6 U
4,6-Dinitro-2-methylphenol	14 U	18 UJ	29 UJ	15 UJ	14 U	14 U	12 U	29 UJ	30 UJ	13 UJ	24 UJ
2,4-Dinitrophenol	14 U	18 UJ	29 UJ	15 UJ	14 U	14 U	12 U	29 UJ	30 UJ	13 UJ	24 UJ
2,4-Dinitrotoluene	2.7 U	3.5 UJ	5.6 UJ	3 UJ	2.7 UJ	2.7 UJ	2.4 UJ	5.6 UJ	5.7 UJ	2.5 UJ	4.6 UJ
2,6-Dinitrotoluene	2.7 U	3.5 UJ	5.6 U	3 U	2.7 U	2.7 U	2.4 U	5.6 U	5.7 U	2.5 U	4.6 U
Di-n-octyl phthalate	**26 J**	**19 J**	**8.8**	**1.9 J**	**0.46 J**	**1.7 J**	**12**	**35**	**13**	**40**	**3.8 J**
Hexachlorobenzene	0.55 U	0.71 UJ	1.1 U	0.6 U	0.55 U	0.54 U	0.49 U	1.1 U	1.2 U	0.51 U	0.93 U
Hexachlorobutadiene	0.55 U	0.71 UJ	1.1 U	0.6 U	0.55 U	0.54 U	0.49 U	1.1 U	1.2 U	0.51 U	0.93 U
Hexachlorocyclopentadiene	2.7 U	3.5 UJ	5.6 U	3 U	2.7 U	2.7 U	2.4 U	5.6 U	5.7 U	2.5 U	4.6 U
Hexachloroethane	2.7 U	3.5 UJ	5.6 U	3 U	2.7 U	2.7 U	2.4 U	5.6 U	5.7 U	2.5 U	4.6 U
Isophorone	2.7 U	3.5 UJ	5.6 U	3 U	2.7 U	2.7 U	2.4 U	5.6 U	5.7 U	2.5 U	4.6 U
2-Methylphenol (o-Cresol)	2.7 U	**0.39 J**	5.6 U	**0.21 J**	2.7 U	2.7 U	2.4 U	5.6 U	5.7 U	2.5 U	4.6 U
3,4-Methylphenol (m,p-Cresol)	**0.29 J**	**1.7 J**	**0.75 J**	**1.4 J**	2.7 U	2.7 U	2.4 U	5.6 U	5.7 U	**0.42 J**	4.6 U
2-Nitroaniline	14 U	18 UJ	29 U	15 U	14 U	14 U	12 U	29 U	30 U	13 U	24 U
3-Nitroaniline	14 U	18 UJ	29 U	15 U	14 U	14 U	12 U	29 U	30 U	13 U	24 U
4-Nitroaniline	14 U	18 UJ	29 U	15 U	14 U	14 U	12 U	29 U	30 U	13 U	24 U
Nitrobenzene	5.5 U	7.1 UJ	11 U	6 U	5.5 U	5.4 U	4.9 U	11 U	12 U	5.1 U	9.3 U
2-Nitrophenol	2.7 U	3.5 UJ	5.6 U	3 U	2.7 U	2.7 U	2.4 U	5.6 U	5.7 U	2.5 U	4.6 U

Table 2
Summary of Sediment Analytical Results
Phase I Sediment Cores
Gowanus Canal
Brooklyn, New York

Sample Name:	GC-SED-521	GC-SED-521	GC-SED-521	GC-SED-521	GC-SED-522	GC-SED-522	GC-SED-522	GC-SED-522	GC-SED-522	GC-SED-522	GC-SED-522
Sample Depth (feet):	(2.0-2.5)	(2.5-3.0)	(3.0-3.5)	(3.5-4.0)	(0.0-0.5)	(0.5-1.0)	(1.0-1.5)	(1.5-2.0)	(2.0-2.5)	(2.5-3.0)	(3.0-3.5)
Sample Date:	8/3/2012	8/3/2012	8/3/2012	8/3/2012	8/3/2012	8/3/2012	8/3/2012	8/3/2012	8/3/2012	8/3/2012	8/3/2012
4-Nitrophenol	14 U	18 UJ	29 U	15 U	14 U	14 U	12 U	29 U	30 U	13 U	24 U
N-Nitrosodi-n-propylamine	0.55 U	0.71 UJ	1.1 U	0.6 U	0.55 U	0.54 U	0.49 U	1.1 U	1.2 U	0.51 U	0.93 U
N-Nitrosodiphenylamine	**45**	**28 J**	**23**	3 U	2.7 U	**2.3 J**	**16**	**46**	5.7 U	2.5 U	4.6 U
Pentachlorophenol	2.7 U	3.5 UJ	5.6 U	3 U	2.7 U	2.7 U	2.4 U	5.6 U	5.7 U	2.5 U	4.6 U
Phenol	**0.23 J**	**1.4 J**	**0.56 J**	**0.49 J**	**0.081 J**	0.54 U	**0.11 J**	**0.3 J**	1.2 U	**0.15 J**	0.93 U
1,2,4,5-Tetrachlorobenzene	2.7 U	3.5 UJ	5.6 U	3 U	2.7 U	2.7 U	2.4 U	5.6 U	5.7 U	2.5 U	4.6 U
2,3,4,6-Tetrachlorophenol	2.7 U	3.5 UJ	5.6 U	3 U	2.7 U	2.7 U	2.4 U	5.6 U	5.7 U	2.5 U	4.6 U
2,4,5-Trichlorophenol	2.7 U	3.5 UJ	5.6 U	3 U	2.7 U	2.7 U	2.4 U	5.6 U	5.7 U	2.5 U	4.6 U
2,4,6-Trichlorophenol	2.7 U	3.5 UJ	5.6 U	3 U	2.7 U	2.7 U	2.4 U	5.6 U	5.7 U	2.5 U	4.6 U
PCBs (mg/kg)											
Aroclor 1016	0.013 U	0.018 UJ	0.69 U	0.015 U	0.013 U	0.014 U	0.06 U	0.28 U	0.072 U	0.062 U	0.059 U
Aroclor 1221	0.013 U	0.018 UJ	0.69 U	0.015 U	0.013 U	0.014 U	0.06 U	0.28 U	0.072 U	0.062 U	0.059 U
Aroclor 1232	0.013 U	0.018 UJ	0.69 U	0.015 U	0.013 U	0.014 U	0.06 U	0.28 U	0.072 U	0.062 U	0.059 U
Aroclor 1242	**1.3 J**	**2.2 J**	0.69 U	**2.3 J**	**0.26 J**	**0.38 J**	0.06 U	**6.3 J**	**13 J**	**17 J**	**10 J**
Aroclor 1248	0.013 U	0.018 UJ	**19 J**	0.015 U	0.013 U	0.014 U	**1.7 J**	0.28 UJ	0.072 UJ	0.062 UJ	0.059 UJ
Aroclor 1254	0.013 U	0.018 UJ	**73 J**	**2 J**	**0.49 J**	**0.45 J**	**1.4 J**	0.28 UJ	0.072 UJ	0.062 UJ	0.059 UJ
Aroclor 1260	**0.83 J**	**1.2 J**	0.69 U	0.015 U	0.013 U	0.014 U	0.06 U	**1.8 J**	**2.1 J**	**2.1 J**	**3.4 J**
Aroclor 1262	0.013 U	0.018 UJ	0.69 U	0.015 U	0.013 U	0.014 U	0.06 U	0.28 UJ	0.072 UJ	0.062 UJ	0.059 UJ
Aroclor 1268	0.013 U	0.018 UJ	0.69 U	0.015 U	0.013 U	0.014 U	0.06 U	0.28 UJ	0.072 UJ	0.062 UJ	0.059 UJ
Total PCBs	**2.1 J**	**3.4 J**	**92 J**	**4.3 J**	**0.75 J**	**0.83 J**	**3.1 J**	**8.1 J**	**15 J**	**19 J**	**13 J**
Pesticides (mg/kg)											
Aldrin	**0.0097 J**	0.018 UJ	**0.055**	0.015 U	0.014 U	0.014 U	0.012 U	0.014 U	0.015 U	0.013 U	**0.016 JN**
alpha-BHC	0.014 U	0.018 UJ	0.014 U	0.015 U	**0.0032 J**	**0.0039 J**	0.012 U	0.014 U	0.015 U	0.013 U	0.012 U
beta-BHC	0.014 U	0.018 UJ	**0.015 J**	**0.024 J**	0.014 U	0.014 U	0.012 U	**0.019 JN**	**0.016 JN**	**0.023 JN**	**0.017 JN**
gamma-BHC	**0.0046 J**	**0.01 J**	**0.0075 J**	**0.0095 J**	0.014 U	0.014 U	0.012 U	0.014 U	0.015 U	0.013 U	**0.025 JN**
delta-BHC	**0.01 J**	0.018 UJ	0.014 U	**0.03 JN**	**0.0066 J**	**0.0049 J**	**0.012 JN**	**0.061 J**	0.015 U	**0.028 JN**	**0.02 JN**
alpha-chlordane	**0.094**	**0.075 J**	**0.066**	**0.11**	**0.048**	0.014 U	**0.021**	**0.06**	**0.062 J**	**0.057 JN**	**0.056 JN**
gamma-Chlordane	**0.13 J**	**0.17 J**	**0.16**	**0.13**	**0.092 J**	**0.043**	**0.089**	**0.25**	**0.14 J**	**0.22 J**	**0.056 JN**
4,4-DDD	**0.11**	**0.26 J**	**0.29**	**0.59**	**0.016 J**	**0.026 J**	**0.056**	**0.18 J**	**0.27**	**0.26**	**0.26**
4,4'-DDE	**0.053 J**	**0.085 J**	**0.076 JN**	**0.11 J**	**0.012 J**	**0.011 J**	**0.033**	**0.063 J**	**0.035 JN**	**0.09 J**	**0.1 JN**
4,4'-DDT	0.014 U	**0.026 JN**	**0.07 JN**	**0.064 J**	0.014 U	**0.013 J**	0.012 U	**0.021 JN**	0.015 U	**0.016 JN**	**0.061 JN**
Dieldrin	**0.014 JN**	**0.049 JN**	**0.047**	**0.073 JN**	0.014 U	0.014 U	0.012 U	**0.032 J**	**0.028 J**	**0.037 JN**	**0.053 JN**
Endosulfan I	0.014 U	0.018 UJ	**0.014**	0.015 U	**0.0088 J**	0.014 U	0.012 U	0.014 U	0.015 U	0.013 U	0.012 U
Endosulfan II	0.014 U	0.018 UJ	0.014 U	0.015 U	0.014 U	0.014 U	0.012 U	0.014 U	0.015 U	0.013 U	**0.017 JN**
Endosulfan sulfate	**0.0071 J**	0.018 UJ	**0.015 JN**	0.015 U	0.014 U	**0.0014 J**	0.012 U	**0.029**	**0.021**	**0.023**	**0.023 J**
Endrin	**0.034 J**	**0.06 J**	**0.18**	**0.047**	**0.014 J**	0.014 U	**0.029 J**	**0.11 J**	**0.11**	**0.13 J**	**0.1 J**
Endrin aldehyde	0.014 U	0.018 UJ	**0.017**	0.015 U	**0.0049 J**	0.014 U	0.012 U	0.014 U	0.015 U	0.013 U	0.012 U
Endrin ketone	**0.029**	**0.047 J**	**0.076**	**0.039**	**0.012 J**	**0.013 J**	**0.035 J**	**0.093**	**0.097**	**0.085**	0.012 U
Heptachlor	0.014 U	0.018 UJ	0.014 U	**0.019 JN**	0.014 U	0.014 U	0.012 U	0.014 U	0.015 U	0.013 U	**0.012 JN**
Heptachlor epoxide	**0.018 J**	**0.037 J**	**0.023 JN**	**0.026 JN**	**0.015 J**	**0.0064 J**	0.012 U	**0.061 J**	**0.1 J**	**0.23 J**	**0.099 J**
Methoxychlor	0.027 U	**0.044 JN**	**0.097 JN**	**0.048 JN**	0.027 U	0.026 U	0.024 U	**0.067 JN**	**0.047 JN**	**0.12 JN**	**1 JN**
Toxaphene	0.54 U	0.69 UJ	0.56 U	0.6 U	0.55 U	0.54 U	0.48 U	0.56 U	0.58 U	0.51 U	0.46 U
Herbicides (mg/kg)											
2,4-D	0.13 U	0.17 UJ	0.14 U	0.15 U	0.13 U	0.13 U	0.12 U	0.14 U	R	0.12 U	0.11 U
2,4-DB	0.13 U	0.17 UJ	**0.5 J**	0.15 UJ	0.13 UJ	0.13 UJ	0.12 UJ	0.14 U	R	0.12 UJ	0.11 UJ
Dicamba	0.065 U	0.085 UJ	0.068 U	**0.021 J**	0.065 U	0.065 U	0.059 U	0.068 U	R	0.061 U	0.057 U
Dichloroprop	0.13 U	0.17 UJ	**0.25 JN**	**0.24 JN**	0.13 U	0.13 U	**0.34 J**	0.14 U	0.14 UJ	**0.24 JN**	**0.12 JN**
2,2-Dichloropropionic acid	0.15 U	0.19 UJ	0.15 U	0.16 U	0.15 U	0.15 U	0.13 U	0.15 U	R	0.14 U	0.13 U
Dinoseb	0.02 U	0.025 UJ	0.02 U	0.022 U	0.02 U	0.02 U	0.018 U	0.02 U	R	0.018 U	0.017 U

Table 2
Summary of Sediment Analytical Results
Phase I Sediment Cores
Gowanus Canal
Brooklyn, New York

Sample Name:	GC-SED-521	GC-SED-521	GC-SED-521	GC-SED-521	GC-SED-522	GC-SED-522	GC-SED-522	GC-SED-522	GC-SED-522	GC-SED-522	GC-SED-522
Sample Depth (feet):	(2.0-2.5)	(2.5-3.0)	(3.0-3.5)	(3.5-4.0)	(0.0-0.5)	(0.5-1.0)	(1.0-1.5)	(1.5-2.0)	(2.0-2.5)	(2.5-3.0)	(3.0-3.5)
Sample Date:	8/3/2012	8/3/2012	8/3/2012	8/3/2012	8/3/2012	8/3/2012	8/3/2012	8/3/2012	8/3/2012	8/3/2012	8/3/2012
MCPP	13 U	17 UJ	14 U	15 U	13 U	13 U	12 U	14 U	**22 J**	**15**	11 U
Methylchlorophenoxyacetic acid	13 U	17 UJ	**19 JN**	15 U	13 U	13 U	12 U	14 U	14 UJ	12 U	11 U
Pentachlorophenol	0.018 U	0.023 UJ	0.019 U	0.02 U	**0.0028 J**	**0.0019 J**	0.016 U	**0.01 J**	**0.49**	0.017 U	0.016 U
Silvex	0.033 U	0.042 UJ	**0.04 J**	**0.048 JN**	0.033 U	0.033 U	0.029 U	**0.034 J**	R	0.031 U	0.028 U
2,4,5-Trichlorophenoxyacetic Acid	0.033 U	0.042 UJ	**0.034 JN**	0.037 UJ	0.033 UJ	0.033 U	0.029 U	0.034 U	R	**0.1 J**	**0.077 J**
Metals (mg/kg)											
Aluminum	**6000**	**5700 J**	**4700**	**4700**	**5500**	**5500**	**3900**	**5500**	**5100**	**6300**	**5500**
Antimony	**12 J**	**7.9 J**	**4.5 J**	**9 J**	**4 J**	**0.69 J**	**11 J**	**6.8 J**	**3 J**	**9 J**	**2.9 J**
Arsenic	**4.3 J**	**8 J**	**7.9 J**	**9.9 J**	**6 J**	**6.7 J**	**5 J**	**5.5 J**	**8.5 J**	**7.1 J**	**7.6 J**
Barium	**280 J**	**540 J**	**550 J**	**1200 J**	**84 J**	**120 J**	**280 J**	**470 J**	**430 J**	**1100 J**	**430 J**
Beryllium	**0.71 J**	**0.48 J**	**0.36 J**	**0.28 J**	**0.43 J**	**0.37 J**	**0.45 J**	**0.53 J**	**0.47 J**	**0.7 J**	**0.38 J**
Cadmium	**34 J**	**49 J**	**43 J**	**34 J**	**4.1 J**	**4.8 J**	**26 J**	**36 J**	**29 J**	**22 J**	**32 J**
Calcium	**21000 J**	**5500 J**	**4600 J**	**7200 J**	**5200 J**	**5200 J**	**5000 J**	**6800 J**	**5900 J**	**6300 J**	**5500 J**
Chromium	**290 J**	**530 J**	**420 J**	**490 J**	**41 J**	**52 J**	**180 J**	**170 J**	**200 J**	**200 J**	**220 J**
Cobalt	**7**	**6.8 J**	**6.2**	**10**	**5.6**	**5.3**	**6.9**	**6.5**	**5.8**	**8.3**	**6.1**
Copper	**460 J**	**1100 J**	**1200 J**	**820 J**	**180 J**	**140 J**	**390 J**	**490 J**	**540 J**	**420 J**	**660 J**
Iron	**17000**	**19000 J**	**17000**	**19000**	**14000**	**14000**	**15000**	**17000**	**19000**	**18000**	**16000**
Lead	**1000 J**	**1200 J**	**1300 J**	**2900 J**	**390 J**	**290 J**	**940 J**	**920 J**	**1300 J**	**2800 J**	**1200 J**
Magnesium	**4300**	**4200 J**	**3600**	**3600**	**5200**	**4800**	**3600**	**4500**	**4200**	**4300**	**3500**
Manganese	**220 J**	**84 J**	**81 J**	**91 J**	**98 J**	**100 J**	**73 J**	**100 J**	**71 J**	**79 J**	**73 J**
Mercury	**1.5 J**	**12 J**	**4.6 J**	**1.9 J**	**0.62 J**	**0.77 J**	**1.1 J**	**0.7 J**	**2 J**	**1.7 J**	**2.3 J**
Nickel	**120**	**170 J**	**130**	**150**	**30**	**30**	**91**	**100**	**98**	**120**	**94**
Potassium	**990**	**960 J**	**800**	**880**	**1300**	**1200**	**790**	**1000**	**990**	**1100**	**1100**
Selenium	**1.1 J**	**1.6 J**	**1.4 J**	**1.3 J**	**0.8 J**	**0.89 J**	**1 J**	**1.5 J**	**1.4 J**	**1.5 J**	**1.2 J**
Silver	**7.9 J**	**15 J**	**11 J**	**11 J**	**2.1 J**	**2.5 J**	**8 J**	**9.9 J**	**9.9 J**	**6.4 J**	**8.1 J**
Sodium	**3000**	**3500 J**	**2200**	**3000**	**5300**	**4400**	**3100**	**4000**	**3600**	**2900**	**2600**
Thallium	**0.14**	**0.36 J**	**0.28**	**0.34**	**0.16**	**0.17**	**0.11**	**0.13**	**0.14**	**0.17**	**0.18**
Vanadium	**31 J**	**44 J**	**39 J**	**49 J**	**19 J**	**19 J**	**22 J**	**33 J**	**33 J**	**39 J**	**40 J**
Zinc	**980**	**1700 J**	**1700**	**2200**	**440**	**430**	**870**	**1100**	**1200**	**1300**	**1300**
EDCs & PPCPs (Phenols) (mg/kg)											
Bisphenol A	0.75 U	0.84 UJ	0.68 U	0.68 U	0.68 U	0.6 UJ	0.69 U	0.75 U	0.66 U	0.64 U	0.6 UJ
Nonylphenol	**44**	**56 J**	**34 J**	**14**	**6.7**	**8.9 J**	**30**	**36**	**21**	**22**	**17 J**
Nonylphenol Diethoxylate	15 U	17 UJ	14 U	14 U	14 U	12 UJ	14 U	15 U	14 U	13 U	12 UJ
Nonylphenol Monoethoxylate	7.5 U	8.4 UJ	6.8 U	6.8 U	6.8 U	6 UJ	6.9 U	7.5 U	6.6 U	6.4 U	6 UJ
4-tert-Octylphenol	**4.6**	**3.8 J**	**4.1 J**	**4**	0.68 U	0.6 UJ	**0.94**	**2.3**	**2.6**	**2.7**	**2 J**
EDCs and PPCPs (mg/kg)											
Acetaminophen	0.04 U	0.039 U	0.039 U	0.038 U	0.039 U	0.038 U	0.037 U	0.039 U	0.037 U	0.037 U	0.037 U
alpha-Estradiol	0.04 UJ	0.039 UJ	0.039 UJ	0.038 UJ	0.039 UJ	0.038 UJ	0.037 UJ	0.039 UJ	0.037 UJ	0.037 UJ	0.037 UJ
Androstenedione	0.0079 U	0.0079 U	0.0078 U	0.0076 U	0.0078 U	0.0075 U	0.0075 U	0.0078 U	0.0075 U	0.0073 U	0.0074 U
Atrazine	0.0079 UJ	0.0079 UJ	0.0078 UJ	0.0076 UJ	0.0078 UJ	0.0075 UJ	0.0075 UJ	0.0078 UJ	0.0075 UJ	0.0073 UJ	0.0074 UJ
Bisphenol A	**0.22**	**0.29**	**0.28**	**0.26**	**0.056 J**	**0.16**	**0.094**	**0.3**	**0.25**	**0.096**	**0.19**
Carbamazepine	0.016 UJ	0.016 UJ	0.016 UJ	0.015 UJ	0.016 UJ	0.015 UJ	0.015 UJ	0.016 UJ	0.015 UJ	0.015 UJ	0.015 UJ
DEET (N,N-Diethyl-3-Methyl Benzamide)	0.04 UJ	0.039 UJ	0.039 UJ	0.038 UJ	0.039 UJ	0.038 UJ	0.037 UJ	0.039 UJ	0.037 UJ	0.037 UJ	0.037 UJ
Diazepam	0.016 U	0.016 U	0.016 U	0.015 U	0.016 U	0.015 U	0.015 U	0.016 U	0.015 U	0.015 U	0.015 U
Diclofenac	R	R	R	R	0.016 UJ	0.015 UJ	R	R	R	R	0.015 UJ
Diethylstilbestrol	R	R	R	R	R	**0.28 J**	R	R	R	R	R
Estradiol	0.04 UJ	0.039 UJ	0.039 UJ	0.038 UJ	0.039 UJ	0.038 UJ	0.037 UJ	0.039 UJ	0.037 UJ	0.037 UJ	0.037 UJ
Estriol	0.04 U	0.039 U	0.039 U	0.038 U	0.039 U	0.038 U	0.037 U	0.039 U	0.037 U	0.037 U	0.037 U

Table 2
Summary of Sediment Analytical Results
Phase I Sediment Cores
Gowanus Canal
Brooklyn, New York

Sample Name:	GC-SED-521	GC-SED-521	GC-SED-521	GC-SED-521	GC-SED-522	GC-SED-522	GC-SED-522	GC-SED-522	GC-SED-522	GC-SED-522	GC-SED-522
Sample Depth (feet):	(2.0-2.5)	(2.5-3.0)	(3.0-3.5)	(3.5-4.0)	(0.0-0.5)	(0.5-1.0)	(1.0-1.5)	(1.5-2.0)	(2.0-2.5)	(2.5-3.0)	(3.0-3.5)
Sample Date:	8/3/2012	8/3/2012	8/3/2012	8/3/2012	8/3/2012	8/3/2012	8/3/2012	8/3/2012	8/3/2012	8/3/2012	8/3/2012
Estrone	**0.22 J**	**0.024 J**	**0.026 J**	0.038 UJ	0.039 UJ	**0.066 J**	**0.27 J**	**0.19 J**	0.037 UJ	0.037 UJ	0.037 UJ
Ethinyl Estradiol	0.04 U	0.039 U	0.039 UJ	**0.036 J**	0.039 U	0.038 U	0.037 U	0.039 U	0.037 UJ	0.037 U	0.037 U
Gemfibrozil	0.016 UJ	R	R	R	0.016 UJ	0.015 UJ	R	R	R	R	0.015 UJ
Ibuprofen	0.04 U	0.039 UJ	0.039 U	0.038 UJ	0.039 UJ	0.038 UJ	0.037 UJ	0.039 UJ	0.037 UJ	0.037 UJ	0.037 UJ
Meprobamate	0.0079 UJ	0.0079 UJ	0.0078 UJ	0.0076 UJ	0.0078 UJ	0.0075 UJ	0.0075 UJ	0.0078 UJ	0.0075 UJ	0.0073 UJ	0.0074 UJ
Naproxen	0.016 U	0.016 UJ	0.016 UJ	0.015 UJ	0.016 U	0.015 U	0.015 U	0.016 UJ	0.015 UJ	0.015 U	0.015 U
Pentoxifylline	0.016 U	0.016 U	0.016 U	0.015 U	0.016 U	0.015 U	0.015 U	0.016 U	0.015 U	0.015 U	0.015 U
Phenytoin (5,5-Diphenylhydantion/ Dilantin)	**0.031 J**	**0.055**	**0.085**	**0.2 J**	**0.0028 J**	**0.008 J**	**0.049**	**0.12**	**0.099 J**	**0.032 J**	**0.039**
Progesterone	**0.0051 J**	0.016 UJ	0.016 U	0.015 UJ	**0.0029 J**	**0.0038 J**	**0.0043 J**	**0.0049 J**	0.015 UJ	**0.003 J**	**0.0029 J**
Sulfamethoxazole	0.016 U	0.016 U	0.016 U	0.015 U	0.016 U	0.015 U	0.015 U	0.016 U	0.015 U	0.015 U	0.015 U
Testosterone	0.016 U	0.016 U	0.016 U	0.015 U	0.016 U	0.015 U	0.015 U	0.016 U	0.015 U	0.015 U	0.015 U
Trimethoprim	0.04 UJ	0.039 UJ	0.039 UJ	0.038 UJ	0.039 UJ	0.038 UJ	0.037 UJ	0.039 UJ	0.037 UJ	0.037 UJ	0.037 UJ
Pathogen											
C. perfringens (cfu/g)	**36000**	**41000**	**400000**	**370000**	**17000**	**52000**	**270000**	**390000**	**29000**	**13000**	**2500**
Coliphage, Male Specific (pfu/10g)	0 U	0 U	0 U	0 U	0 U	0 U	0 U	0 U	0 U	0 U	0 U
Coliphage, Somatic (pfu/10g)	**16 J**	**2 J**	**5 J**	**2 J**	**46 J**	**24 J**	**9 J**	**21 J**	**2 J**	**2 J**	**9 J**
Cryptosporidium (Oocysts/g)	0 U	0 U	0 U	R	0 U	R	0 U	0 UJ	R	0 UJ	0 UJ
E.Coli (mpn/g)	**135.4**	**95.6**	**9.6**	**152.3**	**30 J**	**224.7**	**14.6**	**35.4**	**26.9**	**204.6**	**16.1**
Enterococci (mpn/g)	**61.8**	**74.3**	**29.4**	**102.2**	**146.2**	**73.8**	**72.8**	**44.3**	**122.2**	**74.6**	**71.7**
Fecal Coliform (mpn/g)	**410**	**410**	**178**	**1670 J**	**1480**	**121 J**	**42.8**	**211 J**	**365.4**	**290.9**	**63 J**
Giardia (Cysts/g)	0 U	0 U	0 U	0 U	0 U	0 UJ	0 U	0 U	0 UJ	**50**	**52**
Plaque forming virus (pfu/g)	0 U	0 U	0 U	0 U	0 U	0 U	0 U	0 U	0 U	0 U	0 U
Viruses (pos/neg)	neg	neg	neg	neg	neg	neg	neg	neg	neg	neg	neg
Other (%)											
Percent Solids	**61.42**	**54.61**	**57.05**	**57.94**	**66.41**	**63.76**	**56.01**	**70.18**	**58.13**	**52.78**	**69.99**
Total Solids	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Other (mg/kg)											
Total Organic Carbon	**74000**	**90000 J**	**74000**	**100000**	**21000 J**	**31000**	**20000**	**91000**	**78000**	**92000**	**75000**

Table 2
Summary of Sediment Analytical Results
Phase I Sediment Cores
Gowanus Canal
Brooklyn, New York

Sample Name:	GC-SED-522	GC-SED-523	GC-SED-523	GC-SED-523	GC-SED-523	GC-SED-523	Duplicate of GC-SED-523	GC-SED-523	GC-SED-523	GC-SED-523
Sample Depth (feet):	(3.5-4.0)	(0.0-0.5)	(0.5-1.0)	(1.0-1.5)	(1.5-2.0)	(2.0-2.5)	(2.0-2.5)	(2.5-3.0)	(3.0-3.5)	(3.5-4.0)
Sample Date:	8/3/2012	8/15/2012	8/15/2012	8/15/2012	8/15/2012	8/15/2012	8/15/2012	8/15/2012	8/15/2012	8/15/2012
BTEX (mg/kg)										
Benzene	**0.0017 J**	0.01 UJ	0.0091 U	**0.0019 J**	**0.0016 J**	**0.0019 J**	**0.36 J**	**0.34 J**	**0.13 J**	**0.0029 J**
Toluene	**0.0018 J**	0.01 UJ	0.0091 U	**0.002 J**	0.0089 U	**0.0021 J**	**0.28 J**	**0.41**	**0.17 J**	0.0069 U
Ethylbenzene	**0.0019 J**	0.01 UJ	0.0091 U	**0.0075 J**	**0.012**	**0.04 J**	**3.1 J**	**1.5**	**2.7**	**0.01**
m,p-Xylene	**0.013 J**	0.021 UJ	0.018 U	0.021 UJ	0.018 U	**0.007 J**	**0.63 J**	**0.49 J**	**0.49 J**	**0.0027 J**
o-Xylene	**0.013**	0.01 UJ	0.0091 U	**0.0016 J**	**0.004 J**	**0.01**	**0.92**	**0.26 J**	**0.82**	**0.0027 J**
Total Xylene	**0.026**	0.031 UJ	0.027 U	0.031 UJ	**0.004 J**	**0.017 J**	**1.6**	**0.75 J**	**1.3**	**0.0054 J**
Total BTEX	**0.0314**	0	0	**0.013**	**0.0176**	**0.061**	**5.34**	**3**	**4.3**	**0.0183**
Other VOCs (mg/kg)										
Acetone	0.029 U	0.042 UJ	0.037 UJ	0.042 UJ	0.036 UJ	0.037 UJ	1.9 U	1.5 U	1.3 U	**0.02 J**
Bromochloromethane	0.0072 U	0.01 UJ	0.0091 U	0.01 UJ	0.0089 U	0.0093 U	0.49 U	0.38 U	0.32 U	0.0069 U
Bromodichloromethane	0.0072 U	0.01 UJ	0.0091 U	0.01 UJ	0.0089 U	0.0093 U	0.49 U	0.38 U	0.32 U	0.0069 U
Bromoform	0.0072 U	0.01 UJ	0.0091 U	0.01 UJ	0.0089 U	0.0093 U	0.49 U	0.38 U	0.32 U	0.0069 U
Bromomethane	0.0072 U	0.01 UJ	0.0091 U	0.01 UJ	0.0089 U	0.0093 U	0.49 U	0.38 U	0.32 U	0.0069 U
2-Butanone (Methyl ethyl ketone)	0.0072 U	0.01 UJ	0.0091 UJ	0.01 UJ	0.0089 UJ	0.0093 UJ	0.49 U	0.38 U	**0.081 J**	**0.0064 J**
Carbon disulfide	**0.005 J**	0.01 UJ	0.0091 U	0.01 UJ	0.0089 U	**0.0025 J**	**0.25 J**	**0.16 J**	**0.11 J**	**0.003 J**
Carbon tetrachloride	0.0072 U	0.01 UJ	0.0091 UJ	0.01 UJ	0.0089 UJ	0.0093 UJ	0.49 U	0.38 U	0.32 U	0.0069 UJ
Chlorobenzene	**0.024**	0.01 UJ	0.0091 U	0.01 UJ	0.0089 U	0.0093 U	**0.079 J**	**0.089 J**	**0.084 J**	**0.0011 J**
Chloroethane	0.0072 U	0.01 UJ	0.0091 U	0.01 UJ	0.0089 U	0.0093 U	0.49 U	0.38 U	0.32 U	0.0069 U
Chloroform	0.0072 U	0.01 UJ	0.0091 U	0.01 UJ	0.0089 U	0.0093 U	0.49 U	0.38 U	0.32 U	0.0069 U
Chloromethane	0.0072 U	0.01 UJ	0.0091 U	0.01 UJ	0.0089 U	0.0093 U	0.49 U	0.38 U	0.32 U	0.0069 U
Cyclohexane	0.0072 U	0.01 UJ	0.0091 U	0.01 UJ	0.0089 U	0.0093 U	0.49 U	0.38 U	0.32 U	0.0069 U
1,2-Dibromo-3-chloropropane	0.0072 UJ	0.01 UJ	0.0091 UJ	0.01 UJ	0.0089 UJ	0.0093 UJ	0.49 U	0.38 U	0.32 U	0.0069 UJ
Dibromochloromethane	0.0072 U	0.01 UJ	0.0091 U	0.01 UJ	0.0089 U	0.0093 U	0.49 U	0.38 U	0.32 U	0.0069 U
1,2-Dibromoethane	0.0072 U	0.01 UJ	0.0091 U	0.01 UJ	0.0089 U	0.0093 U	0.49 U	0.38 U	0.32 U	0.0069 U
1,2-Dichlorobenzene	**0.0021 J**	0.01 UJ	0.0091 U	0.01 UJ	0.0089 U	0.0093 U	**0.068 J**	**0.096 J**	0.32 U	0.0069 U
1,3-Dichlorobenzene	**0.0052 J**	0.01 UJ	0.0091 U	0.01 UJ	0.0089 U	0.0093 U	0.49 U	**0.048 J**	**0.048 J**	0.0069 U
1,4-Dichlorobenzene	**0.014**	0.01 UJ	0.0091 U	0.01 UJ	0.0089 U	**0.0035 J**	**0.34 J**	**0.58**	**0.38**	**0.0024 J**
Dichlorodifluoromethane	0.0072 U	0.01 UJ	0.0091 U	0.01 UJ	0.0089 U	0.0093 U	0.49 U	0.38 U	0.32 U	0.0069 U
1,1-Dichloroethane	0.0072 U	0.01 UJ	0.0091 U	0.01 UJ	0.0089 U	0.0093 U	0.49 U	0.38 U	0.32 U	0.0069 U
1,2-Dichloroethane	0.0072 U	0.01 UJ	0.0091 U	0.01 UJ	0.0089 U	0.0093 U	0.49 U	0.38 U	0.32 U	0.0069 U
cis-1,2-Dichloroethene	0.0072 U	0.01 UJ	0.0091 U	0.01 UJ	0.0089 U	0.0093 U	0.49 U	0.38 U	0.32 U	0.0069 U
trans-1,2-Dichloroethene	0.0072 U	0.01 UJ	0.0091 U	0.01 UJ	0.0089 U	0.0093 U	0.49 U	0.38 U	0.32 U	0.0069 U
1,1-Dichloroethene	0.0072 U	0.01 UJ	0.0091 U	0.01 UJ	0.0089 U	0.0093 U	0.49 U	0.38 U	0.32 U	0.0069 U
1,2-Dichloropropane	0.0072 U	0.01 UJ	0.0091 U	0.01 UJ	0.0089 U	0.0093 U	0.49 U	0.38 U	0.32 U	0.0069 U
cis-1,3-Dichloropropene	0.0072 U	0.01 UJ	0.0091 U	0.01 UJ	0.0089 U	0.0093 U	0.49 U	0.38 U	0.32 U	0.0069 U
trans-1,3-Dichloropropene	0.0072 U	0.01 UJ	0.0091 U	0.01 UJ	0.0089 U	0.0093 U	0.49 U	0.38 U	0.32 U	0.0069 U
1,4-Dioxane	R	R	R	R	R	R	R	R	R	R
2-Hexanone	0.0072 U	0.01 UJ	0.0091 U	0.01 UJ	0.0089 U	0.0093 U	0.49 U	0.38 U	0.32 U	0.0069 U
Isopropyl benzene	**0.0025 J**	0.01 UJ	0.0091 U	0.01 UJ	0.0089 U	**0.019 J**	**2.7 J**	**4**	**2.3**	**0.0019 J**
Methyl acetate	0.0072 U	0.01 UJ	0.0091 U	0.01 UJ	0.0089 U	0.0093 U	**0.76**	**0.45**	**0.39**	0.0069 U
Methyl tert-butyl ether (MTBE)	0.0072 U	0.01 UJ	0.0091 U	0.01 UJ	0.0089 U	0.0093 U	0.49 U	0.38 U	0.32 U	0.0069 U
4-Methyl-2-pentanone	0.0072 U	0.01 UJ	0.0091 U	0.01 UJ	0.0089 U	0.0093 U	0.49 U	0.38 U	0.32 U	0.0069 U
Methylcyclohexane	0.0072 U	0.01 UJ	0.0091 U	0.01 UJ	0.0089 U	0.0093 U	**0.098 J**	**0.28 J**	**0.15 J**	0.0069 U
Methylene chloride	0.0072 U	0.01 UJ	0.0091 U	0.01 UJ	0.0089 U	0.0093 U	0.49 U	0.38 U	0.32 U	0.0069 U
Styrene	0.0072 U	0.01 UJ	0.0091 U	0.01 UJ	0.0089 U	0.0093 U	0.49 U	0.38 U	0.32 U	0.0069 U
1,1,2,2-Tetrachloroethane	0.0072 U	0.01 UJ	0.0091 U	0.01 UJ	0.0089 U	0.0093 U	0.49 U	0.38 U	0.32 U	0.0069 U
Tetrachloroethene	0.0072 U	0.01 UJ	0.0091 U	0.01 UJ	0.0089 U	0.0093 U	0.49 U	0.38 U	0.32 U	0.0069 U

Table 2
Summary of Sediment Analytical Results
Phase I Sediment Cores
Gowanus Canal
Brooklyn, New York

Sample Name:	GC-SED-522	GC-SED-523	GC-SED-523	GC-SED-523	GC-SED-523	GC-SED-523	Duplicate of GC-SED-523	GC-SED-523	GC-SED-523	GC-SED-523
Sample Depth (feet):	(3.5-4.0)	(0.0-0.5)	(0.5-1.0)	(1.0-1.5)	(1.5-2.0)	(2.0-2.5)	(2.0-2.5)	(2.5-3.0)	(3.0-3.5)	(3.5-4.0)
Sample Date:	8/3/2012	8/15/2012	8/15/2012	8/15/2012	8/15/2012	8/15/2012	8/15/2012	8/15/2012	8/15/2012	8/15/2012
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	0.0072 U	0.01 UJ	0.0091 U	0.01 UJ	0.0089 U	0.0093 U	0.49 U	0.38 U	0.32 U	0.0069 U
1,2,3-Trichlorobenzene	0.0072 U	0.01 UJ	0.0091 U	0.01 UJ	0.0089 U	0.0093 U	0.49 UJ	0.38 UJ	0.32 UJ	0.0069 U
1,2,4-Trichlorobenzene	0.0072 U	0.01 UJ	0.0091 U	0.01 UJ	0.0089 U	0.0093 U	0.49 UJ	**0.072 J**	0.32 UJ	0.0069 U
1,1,1-Trichloroethane	0.0072 U	0.01 UJ	0.0091 U	0.01 UJ	0.0089 U	0.0093 U	0.49 U	0.38 U	0.32 U	0.0069 U
1,1,2-Trichloroethane	0.0072 U	0.01 UJ	0.0091 U	0.01 UJ	0.0089 U	0.0093 U	0.49 U	0.38 U	0.32 U	0.0069 U
Trichloroethene	0.0072 U	0.01 UJ	0.0091 U	0.01 UJ	0.0089 U	0.0093 U	0.49 U	0.38 U	0.32 U	0.0069 U
Trichlorofluoromethane	0.0072 U	0.01 UJ	0.0091 U	0.01 UJ	0.0089 U	0.0093 U	0.49 U	0.38 U	0.32 U	0.0069 U
Vinyl chloride	0.0072 U	0.01 UJ	0.0091 U	0.01 UJ	0.0089 U	0.0093 U	0.49 U	0.38 U	0.32 U	0.0069 U
PAHs (mg/kg)										
Acenaphthene	**13**	**6.3 J**	**4.8**	**6.4 J**	**7.4**	**12**	**11**	**17**	**24**	**26**
Acenaphthylene	**4.9**	**13 J**	**12**	**18 J**	**16**	**17**	**16**	**11**	**11**	**11**
Anthracene	**15**	**13 J**	**11**	**15 J**	**14**	**16**	**16**	**15**	**22**	**37**
Benz[a]anthracene	**37**	**26 J**	**22**	**31 J**	**27**	**33**	**28**	**25**	**22**	**75**
Benzo[a]pyrene	**36**	**20 J**	**19**	**25 J**	**23**	**27**	**23 J**	**18**	**18**	**62**
Benzo[b]fluoranthene	**40 J**	**14 J**	**10**	**15 J**	**15**	**17**	**14 J**	**13**	**9**	**49**
Benzo[g,h,i]perylene	**16**	**11 J**	**11**	**14 J**	**11**	**14**	**12 J**	**10**	**9.8**	**38**
Benzo[k]fluoranthene	**11**	**5.2 J**	**8.4**	**9.8 J**	**7.5**	**11**	**6.7 J**	**4.9**	**8.3**	**28**
Chrysene	**41**	**27 J**	**24**	**29 J**	**28**	**31**	**28**	**23**	**25**	**74**
Dibenz[a,h]anthracene	**5 J**	**4.2 J**	**4.7**	**6.1 J**	**5.2**	**5.9**	**5.7 J**	**4.4**	**4.4**	**14**
Fluoranthene	**100**	**38 J**	**34**	**42 J**	**38**	**46**	**41**	**40**	**37**	**190**
Fluorene	**11**	**3.3 J**	**3.3**	**3.7 J**	**3.9**	**5.4**	**6.1**	**4.1**	**9**	**19**
Indeno[1,2,3-cd]pyrene	**16**	**8.3 J**	**8.3**	**11 J**	**8.9**	**11**	**9.9 J**	**8**	**7.4**	**29**
2-Methylnaphthalene	**13**	**1.5 J**	**1.5**	**1.7 J**	**1.6**	**2.8**	**2.5**	**3**	**5.5**	**4.7**
Naphthalene	**12**	**2.9 J**	**2.4**	**3.2 J**	**3.6**	**11**	**7.5**	**8.5**	**16**	**15**
Phenanthrene	**95**	**9.5 J**	**15**	**10 J**	**10**	**16**	**18**	**23**	**53**	**140**
Pyrene	**69**	**44 J**	**36**	**52 J**	**48**	**58**	**48**	**48**	**55**	**170**
Total PAHs	**534.9**	**247.2**	**227.4**	**292.9**	**268.1**	**334.1**	**293.4**	**275.9**	**336.4**	**981.7**
Alkylated PAHs (mg/kg)										
Acenaphthene	**12.04269**	**6.47185 J**	**5.20672**	**7.57505 J**	**10.29122**	**54.35521 J**	**7.54742 J**	**17.37014 J**	**18.76698**	**11.71744**
Acenaphthylene	**4.38582**	**13.47574 J**	**10.14228**	**13.98237 J**	**17.95157**	**17.50075 J**	**7.96797 J**	**7.28268 J**	**5.83286**	**7.71584**
Anthracene	**23.48068**	**14.48637 J**	**10.98556**	**18.57748 J**	**25.59363**	**44.47912 J**	**12.50516 J**	**15.59319 J**	**18.62261**	**16.50534**
Benz[a]anthracene	**36.40422**	**29.80056 J**	**19.88609**	**34.37115 J**	**48.50001**	**49.05126 J**	**26.5972 J**	**24.51415 J**	**20.85206**	**19.5492**
Benzo[a]pyrene	**28.24446**	**23.97881 J**	**15.63893**	**27.75813 J**	**36.98316**	**35.67542 J**	**19.45996 J**	**17.91146 J**	**15.42562**	**14.66922**
Benzo[b]fluoranthene	**28.96058**	**13.65917 J**	**9.80172**	**16.23702 J**	**21.74164**	**20.35005 J**	**10.61326 J**	**10.14135 J**	**7.37398**	**7.84281**
Benzo[e]pyrene	**18.53049**	**13.54622 J**	**10.08154**	**16.19256 J**	**21.30972**	**20.95275 J**	**10.07818 J**	**9.85816 J**	**7.56911**	**8.19877**
Benzo[g,h,i]perylene	**13.52635**	**11.31056 J**	**7.18526**	**10.95089 J**	**10.80204**	**9.20123**	**8.0129**	**8.51497 J**	**6.57295**	**6.95665**
Benzo[k]fluoranthene	**25.11713**	**16.20486 J**	**11.66325**	**18.89113 J**	**20.71804**	**17.79808**	**11.59611**	**11.57782 J**	**8.74536**	**9.06452**
1,1-Biphenyl	**1.30071**	**0.28838**	**0.43721**	**0.38002 J**	**0.48398**	**7.86766 J**	**0.62279 J**	**1.03192 J**	**1.73429**	**1.51004**
Chrysene	**31.57753**	**28.33898 J**	**18.78993**	**31.65355 J**	**43.29151**	**44.88279 J**	**25.40567 J**	**22.48055 J**	**20.46106**	**18.8991**
C1-Chrysenes	**19.14572**	**26.74632**	**22.17574**	**33.66889 J**	**34.64724**	**39.0014 J**	**19.58585 J**	**20.71209 J**	**18.5668**	**20.31967**
C2-Chrysenes	**9.92497**	**15.25908**	**13.06968**	**20.26953 J**	**19.15353**	**24.07649 J**	**10.81668 J**	**13.10703 J**	**11.91467**	**12.68521**
C3-Chrysenes	**4.38878**	**7.1964**	**6.3806**	**9.63441 J**	**9.00469**	**12.26721 J**	**5.3476 J**	**6.76464 J**	**5.92431**	**6.68559**
C4-Chrysenes	**2.67757**	**3.03944**	**2.52133**	**3.96069 J**	**3.78124**	**4.8678 J**	**2.17148 J**	**2.70609 J**	**2.56723**	**2.77967**
Dibenz[a,h]anthracene	**4.69179**	**4.01205 J**	**2.63031**	**4.15886 J**	**4.26112**	**3.84675**	**2.76582**	**2.89724 J**	**2.34671**	**2.54621**
Dibenzofuran	**6.86574**	**0.99022 J**	**0.60833**	**0.8528 J**	**1.58802**	**18.20771 J**	**1.36729 J**	**1.60324 J**	**1.65949**	**1.73293**
Dibenzothiophene	**7.1732**	**3.4485 J**	**2.62624**	**3.76841 J**	**4.9162**	**13.38871 J**	**2.84714 J**	**5.11732 J**	**5.84874**	**5.43013**
C1-Dibenzothiophenes	**9.4737**	**9.31564**	**7.49869**	**11.1451 J**	**13.1729**	**23.73764 J**	**8.23295 J**	**11.61109 J**	**11.95642**	**11.98166**
C2-Dibenzothiophenes	**9.78513**	**14.13307**	**11.8722**	**17.4349 J**	**18.81495**	**26.54621 J**	**11.59769 J**	**13.95058 J**	**13.89203**	**14.49945**

Table 2
Summary of Sediment Analytical Results
Phase I Sediment Cores
Gowanus Canal
Brooklyn, New York

Sample Name:	GC-SED-522	GC-SED-523	GC-SED-523	GC-SED-523	GC-SED-523	GC-SED-523	Duplicate of GC-SED-523	GC-SED-523	GC-SED-523	GC-SED-523
Sample Depth (feet):	(3.5-4.0)	(0.0-0.5)	(0.5-1.0)	(1.0-1.5)	(1.5-2.0)	(2.0-2.5)	(2.0-2.5)	(2.5-3.0)	(3.0-3.5)	(3.5-4.0)
Sample Date:	8/3/2012	8/15/2012	8/15/2012	8/15/2012	8/15/2012	8/15/2012	8/15/2012	8/15/2012	8/15/2012	8/15/2012
C3-Dibenzothiophenes	**6.01025**	**9.65182**	**8.45143**	**12.37765 J**	**12.70799**	**17.1243 J**	**7.7663 J**	**9.16864 J**	**9.0276**	**9.9009**
C4-Dibenzothiophenes	**2.60333**	**3.31565**	**3.03447**	**4.27021 J**	**4.37612**	**5.79917 J**	**2.67556 J**	**3.1904 J**	**3.16625**	**3.52306**
Fluoranthene	**79.71927**	**45.17895 J**	**29.26734**	**48.80421 J**	**83.84566**	**90.95708 J**	**46.64361 J**	**45.94927 J**	**33.21328**	**29.20628**
C1-Fluoranthenes/pyrenes	**40.40617**	**62.37998**	**48.89944**	**76.30964 J**	**77.39919**	**88.91095 J**	**47.59505 J**	**45.93144 J**	**39.72109**	**43.23222**
C2-Fluoranthenes/pyrenes	**26.97572**	**35.47374**	**29.32547**	**44.70654 J**	**44.53221**	**53.69008 J**	**25.60473 J**	**27.66124 J**	**25.04551**	**27.49839**
C3-Fluoranthenes/pyrenes	**12.25955**	**15.83822**	**14.07087**	**20.17459 J**	**19.56875**	**25.4356 J**	**11.27354 J**	**13.43636 J**	**11.80465**	**12.76866**
C4-Fluoranthenes/pyrenes	**4.61188**	**4.55283**	**4.34201**	**5.91231 J**	**5.68576**	**7.17605 J**	**3.37324 J**	**3.93133 J**	**3.53664**	**3.93927**
Fluorene	**12.77901**	**1.60673 J**	**1.71017**	**2.11634 J**	**2.97308**	**34.59791 J**	**2.87349 J**	**2.17403 J**	**2.59561**	**2.87695**
C1-Fluorenes	**7.89494**	**6.89804**	**5.6154**	**8.38644 J**	**9.96639**	**25.13485 J**	**6.16063 J**	**9.75115 J**	**10.39031**	**9.93886**
C2-Fluorenes	**10.36805**	**12.27226**	**10.57399**	**16.02485 J**	**17.38102**	**28.32282 J**	**10.23984 J**	**13.88687 J**	**13.92266**	**14.20047**
C3-Fluorenes	**11.66301**	**8.38102**	**7.02789**	**10.88753 J**	**11.90502**	**15.15195 J**	**6.92379 J**	**8.30494 J**	**8.63675**	**8.93386**
Indeno[1,2,3-cd]pyrene	**20.19502**	**12.85953 J**	**8.13487**	**13.19213 J**	**13.30463**	**11.29774**	**8.92731**	**9.25827 J**	**7.18863**	**7.61925**
Naphthalene	**15.20753**	**2.27036 J**	**3.46993**	**3.12925 J**	**5.44628**	**42.86392 J**	**4.71906 J**	**7.71166 J**	**11.92018**	**13.46199**
C1-Naphthalenes	**14.45245**	**1.36639**	**2.35816**	**1.92891 J**	**2.43086**	**26.73806 J**	**2.66917 J**	**9.43457 J**	**10.80235**	**8.21786**
C2-Naphthalenes	**20.46733**	**4.81075**	**4.59368**	**5.8406 J**	**7.68322**	**50.97136 J**	**5.80828 J**	**15.12886 J**	**17.95829**	**16.33131**
C3-Naphthalenes	**18.75669**	**7.81839**	**5.9774**	**9.29718 J**	**11.31414**	**35.53291 J**	**7.17534 J**	**15.40015 J**	**18.22957**	**17.45403**
C4-Naphthalenes	**11.45362**	**5.94344**	**4.85604**	**7.15397 J**	**8.54661**	**15.81589 J**	**5.37628 J**	**8.21584 J**	**9.58669**	**10.09315**
Perylene	**7.46487**	**4.50521 J**	**3.37467**	**5.43824 J**	**6.16814**	**5.83649 J**	**3.30614 J**	**3.48719 J**	**2.80466**	**2.96105**
Phenanthrene	**94.43332**	**11.23043 J**	**9.13171**	**13.89335 J**	**28.48146**	**114.82853 J**	**12.63564 J**	**28.24442 J**	**35.94826**	**30.58636**
C1-Phenanthrenes/anthracenes	**55.77632**	**40.1385**	**30.8954**	**47.72141 J**	**56.58481**	**94.51904 J**	**33.48441 J**	**44.59469 J**	**47.21889**	**48.41244**
C2-Phenanthrenes/anthracenes	**33.21906**	**43.60075**	**36.1672**	**53.73338 J**	**57.84803**	**79.1029 J**	**34.59646 J**	**40.48095 J**	**39.91341**	**41.75565**
C3-Phenanthrenes/anthracenes	**14.38091**	**23.02773**	**20.38292**	**29.74358 J**	**30.68135**	**41.92917 J**	**18.26195 J**	**21.36124 J**	**20.90512**	**22.16076**
C4-Phenanthrenes/anthracenes	**4.28474**	**7.19839**	**6.47473**	**9.53058 J**	**9.27651**	**12.3574 J**	**5.61869 J**	**6.63758 J**	**6.35166**	**6.98045**
Pyrene	**68.17305**	**52.27606 J**	**35.48717**	**58.00496 J**	**92.97035**	**98.68801 J**	**50.85657 J**	**49.17646 J**	**41.70368**	**37.738**
TPH (mg/kg)										
Total Petroleum Hydrocarbons	**6881.82**	**6628.72**	**6126.76**	**8065.54 J**	**9213.14**	**9228.13**	**7170.82**	**7350.66**	**6532.01**	**7427.17**
Other SVOCs (mg/kg)										
Acetophenone	4.7 U	3.4 UJ	3 U	3.4 UJ	2.9 U	**0.34 J**	3.2 U	**0.41 J**	**0.53 J**	**0.3 J**
Atrazine	4.7 U	3.4 UJ	3 UJ	3.4 UJ	2.9 UJ	3 UJ	3.2 UJ	2.5 UJ	2.1 UJ	2.3 UJ
Benzaldehyde	4.7 U	**2.2 J**	3 UJ	3.4 UJ	2.9 UJ	3 UJ	3.2 UJ	2.5 UJ	2.1 UJ	2.3 UJ
1,1-Biphenyl	**1.2 J**	**0.42 J**	**0.42 J**	**0.41 J**	**0.41 J**	**1.3 J**	**1.2 J**	**1.2 J**	**3.3**	**2.2 J**
Bis(chloroisopropyl)ether	0.95 U	0.7 UJ	0.61 U	0.7 UJ	0.59 U	0.62 U	0.65 U	0.51 U	0.42 U	0.46 U
Bis(2-chloroethyl)ether	0.95 U	0.7 UJ	0.61 U	0.7 UJ	0.59 U	0.62 U	0.65 U	0.51 U	0.42 U	0.46 U
Bis(2-chloroethoxy)methane	4.7 U	3.4 UJ	3 U	3.4 UJ	2.9 U	3 U	3.2 U	2.5 U	2.1 U	2.3 U
Bis(2-ethylhexyl)phthalate	**27**	**19 J**	**13**	**16 J**	**16**	**18**	**16**	**18**	**21**	**32**

Table 2
Summary of Sediment Analytical Results
Phase I Sediment Cores
Gowanus Canal
Brooklyn, New York

Sample Name:	GC-SED-522	GC-SED-523	GC-SED-523	GC-SED-523	GC-SED-523	GC-SED-523	Duplicate of GC-SED-523	GC-SED-523	GC-SED-523	GC-SED-523
Sample Depth (feet):	(3.5-4.0)	(0.0-0.5)	(0.5-1.0)	(1.0-1.5)	(1.5-2.0)	(2.0-2.5)	(2.0-2.5)	(2.5-3.0)	(3.0-3.5)	(3.5-4.0)
Sample Date:	8/3/2012	8/15/2012	8/15/2012	8/15/2012	8/15/2012	8/15/2012	8/15/2012	8/15/2012	8/15/2012	8/15/2012
4-Bromophenyl phenyl ether	4.7 U	3.4 UJ	3 U	3.4 UJ	2.9 U	3 U	3.2 U	2.5 U	2.1 U	2.3 U
Butyl benzyl phthalate	4.7 U	**0.51 J**	**0.65 J**	**0.8 J**	2.9 U	**1.7 J**	3.2 U	**0.37 J**	2.1 U	**0.6 J**
Caprolactam	24 UJ	18 UJ	15 U	18 UJ	15 U	16 U	17 U	13 U	11 U	12 U
Carbazole	**7.1**	**0.79 J**	**1.5**	**0.68 J**	**0.64**	**1.1**	**0.91**	**0.9**	**1.9**	**9.2**
4-Chloro-3-methylphenol	4.7 U	3.4 UJ	3 U	3.4 UJ	2.9 U	3 U	3.2 U	2.5 U	2.1 U	2.3 U
4-Chloroaniline	**1.6 J**	**0.48 J**	**0.34 J**	**0.51 J**	**0.42 J**	**0.41 J**	**0.47 J**	**0.7 J**	**0.68 J**	**1.2 J**
Chlorophene	4.7 U	3.4 UJ	3 U	3.4 UJ	2.9 U	3 U	3.2 U	2.5 U	2.1 U	2.3 U
2-Chloronaphthalene	0.95 U	0.7 UJ	0.61 U	0.7 UJ	0.59 U	0.62 U	0.65 U	0.51 U	0.42 U	0.46 U
2-Chlorophenol	4.7 U	3.4 UJ	3 U	3.4 UJ	2.9 U	3 U	3.2 U	2.5 U	2.1 U	2.3 U
4-Chlorophenyl phenyl ether	4.7 U	3.4 UJ	3 U	3.4 UJ	2.9 U	3 U	3.2 U	2.5 U	2.1 U	2.3 U
Dibenzofuran	**6.7**	**1.2 J**	**1.1 J**	**0.82 J**	**1 J**	**2.1 J**	**2 J**	**1.8 J**	**3.7**	**8.5**
3,3-Dichlorobenzidine	4.7 U	3.4 UJ	3 U	3.4 UJ	2.9 U	3 U	3.2 U	2.5 U	2.1 U	2.3 U
2,4-Dichlorophenol	0.95 U	0.7 UJ	0.61 U	0.7 UJ	0.59 U	0.62 U	0.65 U	0.51 U	0.42 U	0.46 U
Diethyl phthalate	4.7 U	3.4 UJ	3 U	3.4 UJ	2.9 U	3 U	3.2 U	2.5 U	2.1 U	2.3 U
Dimethyl phthalate	4.7 U	3.4 UJ	3 U	3.4 UJ	2.9 U	3 U	3.2 U	2.5 U	2.1 U	2.3 U
2,4-Dimethylphenol	4.7 U	3.4 UJ	3 U	3.4 UJ	2.9 U	3 U	3.2 U	2.5 U	2.1 U	2.3 U
Di-n-butyl phthalate	4.7 U	3.4 UJ	3 U	3.4 UJ	2.9 U	3 U	3.2 U	2.5 U	**0.54 J**	**2.7**
4,6-Dinitro-2-methylphenol	24 UJ	18 UJ	15 U	18 UJ	15 U	16 U	17 U	13 U	11 U	12 U
2,4-Dinitrophenol	24 UJ	18 UJ	15 U	18 UJ	15 U	16 U	17 U	13 U	11 U	12 U
2,4-Dinitrotoluene	4.7 UJ	3.4 UJ	3 U	3.4 UJ	2.9 U	3 U	3.2 U	2.5 U	2.1 U	2.3 U
2,6-Dinitrotoluene	4.7 U	3.4 UJ	3 U	3.4 UJ	2.9 U	3 U	3.2 U	2.5 U	2.1 U	2.3 U
Di-n-octyl phthalate	**1.2 J**	**0.55 J**	**0.54 J**	3.4 UJ	**0.37 J**	**0.73 J**	**0.48 J**	**0.94 J**	**1.3 J**	**1.8 J**
Hexachlorobenzene	0.95 U	0.7 UJ	0.61 U	0.7 UJ	0.59 U	0.62 U	0.65 U	0.51 U	0.42 U	0.46 U
Hexachlorobutadiene	0.95 U	0.7 UJ	0.61 U	0.7 UJ	0.59 U	0.62 U	0.65 U	0.51 U	0.42 U	0.46 U
Hexachlorocyclopentadiene	4.7 U	3.4 UJ	3 U	3.4 UJ	2.9 U	3 U	3.2 U	2.5 U	2.1 U	2.3 U
Hexachloroethane	4.7 U	3.4 UJ	3 U	3.4 UJ	2.9 U	3 U	3.2 U	2.5 U	2.1 U	2.3 U
Isophorone	4.7 U	3.4 UJ	3 U	3.4 UJ	2.9 U	3 U	3.2 U	2.5 U	2.1 U	2.3 U
2-Methylphenol (o-Cresol)	4.7 U	3.4 UJ	3 U	3.4 UJ	2.9 U	3 U	3.2 U	2.5 U	2.1 U	2.3 U
3,4-Methylphenol (m,p-Cresol)	**1 J**	3.4 UJ	3 U	3.4 UJ	2.9 U	3 U	3.2 U	2.5 U	2.1 U	**0.32 J**
2-Nitroaniline	24 U	18 UJ	15 U	18 UJ	15 U	16 U	17 U	13 U	11 U	12 U
3-Nitroaniline	24 U	18 UJ	15 U	18 UJ	15 U	16 U	17 U	13 U	11 U	12 U
4-Nitroaniline	24 U	18 UJ	15 U	18 UJ	15 U	16 U	17 U	13 U	11 U	12 U
Nitrobenzene	9.5 U	7 UJ	6.1 U	7 UJ	5.9 U	6.2 U	6.5 U	5.1 U	4.2 U	4.6 U
2-Nitrophenol	4.7 U	3.4 UJ	3 U	3.4 UJ	2.9 U	3 U	3.2 U	2.5 U	2.1 U	2.3 U

Table 2
Summary of Sediment Analytical Results
Phase I Sediment Cores
Gowanus Canal
Brooklyn, New York

Sample Name:	GC-SED-522	GC-SED-523	GC-SED-523	GC-SED-523	GC-SED-523	GC-SED-523	Duplicate of GC-SED-523	GC-SED-523	GC-SED-523	GC-SED-523
Sample Depth (feet):	(3.5-4.0)	(0.0-0.5)	(0.5-1.0)	(1.0-1.5)	(1.5-2.0)	(2.0-2.5)	(2.0-2.5)	(2.5-3.0)	(3.0-3.5)	(3.5-4.0)
Sample Date:	8/3/2012	8/15/2012	8/15/2012	8/15/2012	8/15/2012	8/15/2012	8/15/2012	8/15/2012	8/15/2012	8/15/2012
4-Nitrophenol	24 U	18 UJ	15 U	18 UJ	15 U	16 U	17 U	13 U	11 U	12 U
N-Nitrosodi-n-propylamine	0.95 U	0.7 UJ	0.61 U	0.7 UJ	0.59 U	0.62 U	0.65 U	0.51 U	0.42 U	0.46 U
N-Nitrosodiphenylamine	4.7 U	3.4 UJ	3 U	3.4 UJ	2.9 U	3 U	3.2 U	2.5 U	2.1 U	2.3 U
Pentachlorophenol	4.7 U	3.4 UJ	3 U	3.4 UJ	2.9 U	3 U	3.2 U	2.5 U	2.1 U	2.3 U
Phenol	**0.85 J**	0.7 UJ	0.61 U	0.7 UJ	0.59 U	0.62 U	0.65 U	0.51 U	0.42 U	**0.35 J**
1,2,4,5-Tetrachlorobenzene	4.7 U	3.4 UJ	3 U	3.4 UJ	2.9 U	3 U	3.2 U	2.5 U	2.1 U	2.3 U
2,3,4,6-Tetrachlorophenol	4.7 U	3.4 UJ	3 U	3.4 UJ	2.9 U	3 U	3.2 U	2.5 U	2.1 U	2.3 U
2,4,5-Trichlorophenol	4.7 U	3.4 UJ	3 U	3.4 UJ	2.9 U	3 U	3.2 U	2.5 U	2.1 U	2.3 U
2,4,6-Trichlorophenol	4.7 U	3.4 UJ	3 U	3.4 UJ	2.9 U	3 U	3.2 U	2.5 U	2.1 U	2.3 U
PCBs (mg/kg)										
Aroclor 1016	0.059 U	0.087 UJ	0.015 U	0.017 UJ	0.015 U	0.077 U	0.08 U	0.064 U	0.052 UJ	0.057 U
Aroclor 1221	0.059 U	0.087 UJ	0.015 U	0.017 UJ	0.015 U	0.077 U	0.08 U	0.064 U	0.052 UJ	0.057 U
Aroclor 1232	0.059 U	0.087 UJ	0.015 U	0.017 UJ	0.015 U	0.077 U	0.08 U	0.064 U	0.052 UJ	0.057 U
Aroclor 1242	**6.4 J**	0.087 UJ	**0.38 J**	**0.96 J**	**0.36 J**	0.077 U	0.08 U	0.064 U	0.052 UJ	0.057 U
Aroclor 1248	0.059 UJ	**0.76 J**	0.015 U	0.017 UJ	0.015 U	**0.87 J**	**1 J**	**1.8 J**	0.052 UJ	0.057 U
Aroclor 1254	0.059 UJ	0.087 UJ	0.015 U	**0.74 J**	**0.39 J**	**0.51 J**	**0.44 J**	**0.65 J**	**0.63 J**	**0.91**
Aroclor 1260	**6.5 J**	**0.43 J**	**0.28 J**	0.017 UJ	0.015 U	0.077 U	0.08 U	0.064 U	0.052 UJ	0.057 U
Aroclor 1262	0.059 UJ	0.087 UJ	0.015 U	0.017 UJ	0.015 U	0.077 U	0.08 U	0.064 U	0.052 UJ	0.057 U
Aroclor 1268	0.059 UJ	0.087 UJ	0.015 U	0.017 UJ	0.015 U	0.077 U	0.08 U	0.064 U	0.052 UJ	0.057 U
Total PCBs	**13 J**	**1.2 J**	**0.66 J**	**1.7 J**	**0.75 J**	**1.4 J**	**1.4 J**	**2.5 J**	**0.63 J**	**0.91**
Pesticides (mg/kg)										
Aldrin	**0.059 J**	0.018 UJ	0.015 U	0.017 UJ	0.015 U	0.016 U	0.016 U	0.013 U	0.011 U	0.012 U
alpha-BHC	0.012 U	0.018 UJ	0.015 U	0.017 UJ	0.015 U	0.016 U	0.016 U	0.013 U	0.011 U	0.012 U
beta-BHC	0.012 U	0.018 UJ	0.015 U	0.017 UJ	0.015 U	0.016 U	0.016 U	0.013 U	0.011 U	0.012 U
gamma-BHC	**0.013**	**0.0059 J**	**0.004 J**	0.017 UJ	0.015 U	0.016 U	0.016 U	**0.0049 J**	**0.0045 J**	**0.0061 J**
delta-BHC	**0.032 J**	**0.018 JN**	0.015 UJ	**0.018 JN**	0.015 UJ	0.016 UJ	**0.017 JN**	**0.014 JN**	**0.017 JN**	**0.023 JN**
alpha-chlordane	**0.057 J**	**0.025 J**	**0.0096 J**	**0.01 J**	**0.011 J**	**0.0099 J**	**0.0094 J**	**0.015 J**	**0.023 J**	**0.014 J**
gamma-Chlordane	**0.1 J**	**0.04 J**	**0.048 J**	**0.07 J**	0.015 U	**0.076 J**	**0.025 JN**	**0.027 J**	**0.044 J**	**0.051**
4,4-DDD	**0.37 J**	**0.074 J**	**0.028 J**	**0.024 J**	**0.037**	**0.039 J**	**0.021 J**	**0.05 J**	**0.063**	**0.035 J**
4,4'-DDE	**0.13 J**	**0.052 J**	**0.02**	**0.024 J**	**0.019**	**0.021**	**0.026 J**	**0.025**	**0.029**	**0.034**
4,4'-DDT	**1 J**	0.018 UJ	0.015 UJ	0.017 UJ	0.015 UJ	0.016 UJ	0.016 UJ	0.013 UJ	0.011 UJ	0.012 UJ
Dieldrin	**0.11**	0.018 UJ	0.015 U	0.017 UJ	0.015 U	0.016 U	0.016 U	**0.0067 J**	0.011 U	0.012 U
Endosulfan I	0.012 U	0.018 UJ	0.015 U	0.017 UJ	0.015 U	0.016 U	0.016 U	0.013 U	0.011 U	0.012 U
Endosulfan II	**0.07 J**	0.018 UJ	0.015 U	0.017 UJ	0.015 U	0.016 U	0.016 U	0.013 U	0.011 U	0.012 U
Endosulfan sulfate	**0.05 JN**	0.018 UJ	**0.005 J**	0.017 UJ	**0.0073 J**	**0.0047 J**	0.016 U	0.013 U	0.011 U	**0.0088 J**
Endrin	**0.099 JN**	**0.018 JN**	0.015 U	**0.017 JN**	0.015 U	**0.016 JN**	**0.018 JN**	**0.024 J**	**0.033 J**	**0.029 J**
Endrin aldehyde	0.012 U	0.018 UJ	0.015 U	0.017 UJ	0.015 U	0.016 U	**0.0085 J**	**0.0051 J**	0.011 U	0.012 U
Endrin ketone	**0.38**	**0.036 J**	**0.024**	**0.029 J**	**0.025**	**0.028**	**0.032**	**0.021**	**0.018**	**0.029**
Heptachlor	0.012 U	0.018 UJ	0.015 U	0.017 UJ	0.015 U	0.016 U	0.016 U	0.013 U	0.011 U	**0.019 J**
Heptachlor epoxide	**0.047 JN**	**0.022 J**	0.015 U	**0.017 JN**	0.015 U	0.016 U	**0.016 JN**	**0.024 J**	**0.028 JN**	**0.042 JN**
Methoxychlor	**0.12 JN**	0.034 UJ	0.03 UJ	0.034 UJ	0.029 UJ	**0.013 J**	0.032 UJ	0.025 UJ	0.021 UJ	0.023 UJ
Toxaphene	0.48 U	0.7 UJ	0.6 U	0.69 UJ	0.59 U	0.62 U	0.64 U	0.51 U	0.42 U	0.46 U
Herbicides (mg/kg)										
2,4-D	0.11 U	0.17 UJ	0.15 U	0.17 UJ	0.14 U	0.15 U	0.16 U	0.12 U	0.1 U	0.11 U
2,4-DB	0.11 UJ	0.17 UJ	0.15 U	0.17 UJ	0.14 U	0.15 U	0.16 UJ	**0.14 J**	0.1 U	0.11 UJ
Dicamba	0.057 U	0.084 UJ	0.073 U	0.083 UJ	0.071 U	0.074 U	0.078 U	0.061 U	**0.0093 J**	0.055 U
Dichloroprop	0.11 U	0.17 UJ	0.15 U	0.17 UJ	**0.23 J**	0.15 U	0.16 U	0.12 U	**0.14 JN**	0.11 U
2,2-Dichloropropionic acid	0.13 U	0.19 UJ	0.16 U	0.19 UJ	0.16 U	0.17 U	0.17 U	0.14 U	0.11 U	0.12 U
Dinoseb	0.017 U	R	0.022 U	0.025 UJ	0.021 U	0.022 U	0.023 U	0.018 U	0.015 U	0.017 U

Table 2
Summary of Sediment Analytical Results
Phase I Sediment Cores
Gowanus Canal
Brooklyn, New York

Sample Name:	GC-SED-522	GC-SED-523	GC-SED-523	GC-SED-523	GC-SED-523	GC-SED-523	Duplicate of GC-SED-523	GC-SED-523	GC-SED-523	GC-SED-523
Sample Depth (feet):	(3.5-4.0)	(0.0-0.5)	(0.5-1.0)	(1.0-1.5)	(1.5-2.0)	(2.0-2.5)	(2.0-2.5)	(2.5-3.0)	(3.0-3.5)	(3.5-4.0)
Sample Date:	8/3/2012	8/15/2012	8/15/2012	8/15/2012	8/15/2012	8/15/2012	8/15/2012	8/15/2012	8/15/2012	8/15/2012
MCPP	11 U	17 UJ	15 U	17 UJ	14 U	15 U	16 U	12 U	10 U	11 U
Methylchlorophenoxyacetic acid	11 U	17 UJ	**5.2 J**	**19 J**	**38 J**	**29**	16 U	**39 J**	**38 JN**	**28 JN**
Pentachlorophenol	0.016 U	0.023 UJ	0.02 U	0.023 UJ	0.02 U	0.02 U	0.021 U	0.017 U	0.014 U	0.015 U
Silvex	**0.025 J**	0.042 UJ	0.037 U	0.042 UJ	0.036 U	0.037 U	0.039 U	0.031 U	0.025 U	0.028 U
2,4,5-Trichlorophenoxyacetic Acid	0.029 U	0.042 UJ	0.037 U	0.042 UJ	**0.046 J**	0.037 U	0.039 U	0.031 U	**0.025 J**	**0.033**
Metals (mg/kg)										
Aluminum	**4700**	**6300 J**	**5900 J**	**7000 J**	**6600 J**	**6700 J**	**6900 J**	**4700 J**	**3500 J**	**3600 J**
Antimony	**5.3 J**	**1.4 J**	**1.3 J**	**1.5 J**	**1.2 J**	**1.2 J**	**1.4 J**	**4.6 J**	**4.8 J**	**36 J**
Arsenic	**8.6 J**	**8.7 J**	**7.3**	**9.3 J**	**11**	**7.9**	**8.2**	**6.2**	**4.2**	**8.3**
Barium	**540 J**	**140 J**	**100**	**130 J**	**130**	**190**	**290**	**390**	**210**	**240**
Beryllium	**0.42 J**	**0.48 J**	**0.43**	**0.46 J**	**0.47**	**0.52**	**0.5**	**0.91**	**1.4**	**0.68**
Cadmium	**24 J**	**5.2 J**	**8.2**	**4.2 J**	**3.6**	**5.6**	**4.4**	**15**	**13**	**18**
Calcium	**5600 J**	**7100 J**	**5700**	**7100 J**	**6500**	**7300**	**7500**	**6400**	**5900**	**6000**
Chromium	**330 J**	**59 J**	**51 J**	**58 J**	**50 J**	**67 J**	**64 J**	**75 J**	**120 J**	**97 J**
Cobalt	**5.9**	**6.2 J**	**5.4 J**	**6.4 J**	**5.9 J**	**6.6 J**	**6.1 J**	**10 J**	**11 J**	**7 J**
Copper	**750 J**	**300 J**	**160**	**180 J**	**160**	**210**	**240**	**270**	**320**	**450**
Iron	**18000**	**17000 J**	**14000 J**	**18000 J**	**16000 J**	**17000 J**	**17000 J**	**18000 J**	**24000 J**	**15000 J**
Lead	**1300 J**	**330 J**	**320**	**280 J**	**270**	**430**	**380**	**1900**	**750**	**910**
Magnesium	**3900**	**5800 J**	**5200 J**	**6300 J**	**5800 J**	**5900 J**	**6400 J**	**4500 J**	**3300 J**	**3600 J**
Manganese	**77 J**	**130 J**	**110 J**	**140 J**	**130 J**	**130 J**	**130 J**	**110 J**	**130 J**	**88 J**
Mercury	**5 J**	**1.3 J**	**1**	**1.2 J**	**1.2**	**1.3**	**1.5**	**3.1**	**0.79**	**1.6**
Nickel	**100**	**30 J**	**29 J**	**29 J**	**27 J**	**34 J**	**31 J**	**74 J**	**77 J**	**73 J**
Potassium	**820**	**1700 J**	**1400**	**1800 J**	**1600**	**1600**	**1700**	**1000**	**660**	**800**
Selenium	**1.2 J**	**1.8 J**	**1.6**	**1.9 J**	**1.8**	**1.8**	**1.7**	**1.5**	**1.3**	**1.3**
Silver	**11 J**	**4.7 J**	**2.5 J**	**3 J**	**3.2 J**	**5.1 J**	**4.4 J**	**4.4 J**	**39 J**	**6.1 J**
Sodium	**2700**	**7400 J**	**5800**	**7200 J**	**5600**	**5000**	**5500**	**3500**	**2400**	**2900**
Thallium	**0.21**	**0.26 J**	**0.23**	**0.29 J**	**0.25**	**0.26**	**0.27**	**0.21**	**0.11**	**0.16**
Vanadium	**50 J**	**25 J**	**22 J**	**26 J**	**24 J**	**25 J**	**30 J**	**20 J**	**13 J**	**15 J**
Zinc	**2600**	**600 J**	**480**	**530 J**	**470**	**690**	**620**	**840**	**950**	**780**
EDCs & PPCPs (Phenols) (mg/kg)										
Bisphenol A	0.53 U	0.78 UJ	0.66 UJ	0.87 UJ	0.75 UJ	0.67 UJ	0.65 UJ	0.55 UJ	0.49 UJ	0.55 UJ
Nonylphenol	**18**	**11 J**	**8.3**	**11 J**	**16**	**20**	**29**	**18**	**18**	**23**
Nonylphenol Diethoxylate	11 U	16 UJ	14 U	18 UJ	15 U	14 U	13 U	11 U	9.8 U	11 U
Nonylphenol Monoethoxylate	5.3 U	7.8 UJ	6.6 U	8.7 UJ	7.5 U	6.7 U	6.5 U	5.5 U	4.9 U	5.5 U
4-tert-Octylphenol	**3**	0.78 UJ	0.66 U	0.87 UJ	0.75 U	0.67 U	0.65 U	0.55 U	0.49 U	0.55 U
EDCs and PPCPs (mg/kg)										
Acetaminophen	0.038 U	0.038 U	0.037 U	0.038 U	0.038 U	0.037 U	0.039 U	0.038 U	0.038 U	0.037 U
alpha-Estradiol	0.038 UJ	0.038 UJ	0.037 UJ	0.038 UJ	0.038 UJ	0.037 UJ	0.039 UJ	0.038 UJ	0.038 UJ	0.037 UJ
Androstenedione	0.0076 U	**0.0019 J**	0.0074 UJ	0.0076 UJ	0.0076 UJ	0.0074 UJ	0.0078 UJ	0.0076 UJ	0.0077 UJ	0.0075 UJ
Atrazine	0.0076 UJ	0.0075 UJ	0.0074 UJ	0.0076 UJ	0.0076 UJ	0.0074 UJ	0.0078 UJ	0.0076 UJ	0.0077 UJ	0.0075 UJ
Bisphenol A	**0.12**	**0.32 J**	**0.18**	**0.26**	**0.61**	**0.27**	**0.24**	**0.2**	**0.3**	**0.27**
Carbamazepine	0.015 UJ	0.015 UJ	0.015 UJ	0.015 UJ	0.015 UJ	0.015 UJ	0.016 UJ	0.015 UJ	0.015 UJ	0.015 UJ
DEET (N,N-Diethyl-3-Methyl Benzamide)	0.038 UJ	0.038 UJ	0.037 UJ	0.038 UJ	0.038 UJ	0.037 UJ	0.039 UJ	0.038 UJ	0.038 UJ	0.037 UJ
Diazepam	0.015 U	0.015 U	0.015 U	0.015 U	0.015 U	0.015 U	0.016 U	0.015 U	0.015 U	0.015 U
Diclofenac	R	0.015 UJ	0.015 UJ	0.015 UJ	0.015 UJ	0.015 UJ	0.016 UJ	0.015 UJ	0.015 UJ	0.015 UJ
Diethylstilbestrol	R	0.038 UJ	0.037 UJ	0.038 UJ	0.038 UJ	0.037 UJ	R	0.038 UJ	0.038 UJ	0.037 UJ
Estradiol	0.038 UJ	0.038 UJ	0.037 UJ	0.038 UJ	0.038 UJ	0.037 UJ	0.039 UJ	0.038 UJ	0.038 UJ	0.037 UJ
Estriol	0.038 U	0.038 U	0.037 U	0.038 U	0.038 U	0.037 U	0.039 U	0.038 U	0.038 U	0.037 U

Table 2
Summary of Sediment Analytical Results
Phase I Sediment Cores
Gowanus Canal
Brooklyn, New York

Sample Name:	GC-SED-522	GC-SED-523	GC-SED-523	GC-SED-523	GC-SED-523	GC-SED-523	Duplicate of GC-SED-523	GC-SED-523	GC-SED-523	GC-SED-523
Sample Depth (feet):	(3.5-4.0)	(0.0-0.5)	(0.5-1.0)	(1.0-1.5)	(1.5-2.0)	(2.0-2.5)	(2.0-2.5)	(2.5-3.0)	(3.0-3.5)	(3.5-4.0)
Sample Date:	8/3/2012	8/15/2012	8/15/2012	8/15/2012	8/15/2012	8/15/2012	8/15/2012	8/15/2012	8/15/2012	8/15/2012
Estrone	0.038 UJ	0.038 UJ	0.037 UJ	0.038 UJ	0.038 UJ	0.037 UJ	0.039 UJ	0.038 UJ	**0.021 J**	**0.038 J**
Ethinyl Estradiol	0.038 U	0.038 U	0.037 U	0.038 U	0.038 U	0.037 U	0.039 U	0.038 U	0.038 U	0.037 U
Gemfibrozil	0.015 UJ	0.015 UJ	0.015 UJ	0.015 UJ	0.015 UJ	0.015 UJ	0.016 UJ	0.015 UJ	0.015 U	0.015 UJ
Ibuprofen	0.038 UJ	0.038 UJ	0.037 UJ	0.038 UJ	0.038 U	0.037 U	0.039 U	0.038 U	0.038 U	0.037 U
Meprobamate	0.0076 UJ	0.0075 UJ	0.0074 UJ	0.0076 UJ	0.0076 UJ	0.0074 UJ	0.0078 UJ	0.0076 UJ	0.0077 UJ	0.0075 UJ
Naproxen	0.015 U	0.015 U	0.015 U	0.015 U	0.015 U	0.015 U	0.016 U	0.015 U	0.015 U	0.015 U
Pentoxifylline	0.015 U	0.015 U	0.015 U	0.015 U	0.015 U	0.015 U	0.016 U	**0.0021 J**	0.015 U	0.015 U
Phenytoin (5,5-Diphenylhydantion/ Dilantin)	**0.038 J**	0.038 U	0.037 U	0.038 U	0.038 U	0.037 U	0.039 U	0.038 U	0.038 U	0.037 U
Progesterone	0.015 UJ	**0.0065 J**	**0.0054 J**	**0.0065 J**	**0.0024 J**	0.015 U	**0.0023 J**	**0.002 J**	0.015 U	0.015 U
Sulfamethoxazole	0.015 U	0.015 U	0.015 U	0.015 U	0.015 U	0.015 U	0.016 U	0.015 U	0.015 U	0.015 U
Testosterone	0.015 U	0.015 U	0.015 U	0.015 U	0.015 U	0.015 U	0.016 U	0.015 U	0.015 U	0.015 U
Trimethoprim	0.038 UJ	0.038 UJ	0.037 UJ	0.038 UJ	0.038 UJ	0.037 UJ	0.039 UJ	0.038 UJ	0.038 UJ	0.037 UJ
Pathogen										
C. perfringens (cfu/g)	**8000**	**25000**	**28000**	**39000**	**52000**	**73000**	NA	**30000**	**54000**	**72000**
Coliphage, Male Specific (pfu/10g)	0 U	0 U	0 U	0 U	0 U	0 U	NA	0 U	0 U	0 U
Coliphage, Somatic (pfu/10g)	**2 J**	**35 J**	**56 J**	**9 J**	**4 J**	**4 J**	NA	0 UJ	0 UJ	**1 J**
Cryptosporidium (Oocysts/g)	0 UJ	0 UJ	0 UJ	0 U	0 UJ	0 UJ	NA	0 UJ	0 UJ	0 U
E.Coli (mpn/g)	**4.1**	**11.8**	**173.3**	**82.6**	**26.9**	**35.4**	NA	**689.3**	**2010**	**43.9**
Enterococci (mpn/g)	**35.9**	**342.8**	**158.5**	**80.8**	**91**	**113**	NA	**17.3**	**34.1**	**38.4**
Fecal Coliform (mpn/g)	**23.5**	**410**	**630**	**1600**	**620**	**840**	NA	**410**	**2690**	**202.9**
Giardia (Cysts/g)	**60**	0 UJ	0 U	0 U	0 U	0 U	NA	0 UJ	0 U	0 UJ
Plaque forming virus (pfu/g)	0 U	0 U	0 U	0 U	0 U	0 U	NA	0 U	0 U	0 U
Viruses (pos/neg)	neg	neg	neg	neg	neg	neg	NA	neg	neg	neg
Other (%)										
Percent Solids	**66.79**	**46.43**	**56.9**	**44.58**	**52.21**	**58.93**	NA	**72.76**	**78.89**	**73.74**
Total Solids	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Other (mg/kg)										
Total Organic Carbon	**28000 J**	**42000**	**74000 J**	**54000**	**50000**	**53000**	**31000 J**	**32000**	**25000**	**81000**

Table 2
Summary of Sediment Analytical Results
Phase I Sediment Cores
Gowanus Canal
Brooklyn, New York

Notes:

mg/kg - milligrams/kilogram or parts per million (ppm)
cfu/g - colony forming units per gram
pfu/g - plaque forming units per gram
Oocysts/g - Oocysts per gram
mpn/g - most probable number per gram
BTEX - benzene, toluene, ethylbenzene, and xylenes
VOCs - volatile organic compounds
PAHs - polycyclic aromatic hydrocarbons
SVOCs - semi-volatile organic compounds
PCBs - polychlorinated biphenyls
EDCs - endocrine disruptor compounds
PPCPs - pharmaceuticals and personal care products
Total BTEX and Total PAHs are calculated using detects only
Total PAHs are calculated using the EPA16 list of analytes (Acenaphthene, Acenaphthylene, Anthracene, Benz[a]anthracene, Benzo[a]pyrene, Benzo[b]fluoranthene, Benzo[g,h,i]perylene, Benzo[k]fluoranthene, Chrysene, Dibenz[a,h]anthracene, Fluoranthene, Fluorene, Indeno[1,2,3-cd]pyrene, Naphthalene, Phenanthrene, and Pyrene) plus 2-Methylnaphthalene

ND - not detected; total concentrations are listed as ND because no analytes are detected in the group
NA - not analyzed

Bolding indicates a detected concentration
Analytes in blue are not detected in any sample

Validation Qualifiers:

J - estimated value
JN - analyte is presumptively present at an approximated quantity
R - rejected
U - indicates not detected to the reporting limit
UJ - not detected at or above the reporting limit shown and the reporting limit is estimated

Validated

Table 3
Summary of Analytical Fractionated Results
Phase I Sediment Cores
Gowanus Canal
Brooklyn, New York

Sample Name:	GC-SED-501			GC-SED-501			GC-SED-501			GC-SED-501		
Sample Depth (feet):	(0.0-0.5)			(0.5-1.0)			(1.0-1.5)			(1.5-2.0)		
Sample Date:	8/6/2012			8/6/2012			8/6/2012			8/6/2012		
Sieve Number:	Bottom	10	200	Bottom	10	200	Bottom	10	200	Bottom	10	200
Alkylated PAHs (mg/kg)												
Acenaphthene	**3.54375**	**0.88066**	**0.44261**	**4.70453**	**0.70091**	**1.9064**	**3.34198**	**1.2349**	**0.69466**	**7.35518**	**24.84237**	**4.06688**
Acenaphthylene	**1.49281**	**0.07252**	**0.13349**	**1.22957**	**0.02387**	**0.35707**	**1.19902**	**0.03954**	**0.26955**	**3.50271**	**4.68386**	**1.90122**
Anthracene	**3.57119**	**0.90969**	**0.44649**	**4.70376**	**0.50971**	**2.16405**	**3.84559**	**0.80953**	**0.77318**	**10.29323**	**26.02281**	**7.09966**
Benz[a]anthracene	**4.5395**	**1.49981**	**0.69408**	**4.13939**	**0.24588**	**4.0053**	**4.42581**	**0.3235**	**1.11242**	**9.72179**	**16.39484**	**13.40905**
Benzo[a]pyrene	**4.00441**	**1.22541**	**0.5727**	**3.13431**	**0.12269**	**3.29657**	**3.34844**	**0.13693**	**0.92705**	**7.35003**	**10.10759**	**10.52019**
Benzo[b]fluoranthene	**3.01097**	**1.15324**	**0.49821**	**2.52781**	**0.1177**	**3.08793**	**2.8353**	**0.13685**	**0.7522**	**4.98807**	**7.47834**	**9.22853**
Benzo[e]pyrene	**3.07368**	**0.82891**	**0.44393**	**2.39621**	**0.11075**	**2.41949**	**2.63829**	**0.12709**	**0.69151**	**5.10247**	**7.75816**	**7.26029**
Benzo[g,h,i]perylene	**1.63146**	**0.69297**	**0.23789**	**1.84051**	**0.07949**	**1.90781**	**2.11152**	**0.07494**	**0.58172**	**3.96178**	**4.66791**	**5.8445**
Benzo[k]fluoranthene	**3.69472**	**1.17587**	**0.52484**	**2.72266**	**0.11158**	**3.08037**	**3.44092**	**0.14473**	**0.86578**	**5.92083**	**8.77338**	**9.10655**
1,1-Biphenyl	**0.17164**	**0.07164**	**0.02697**	**0.15765**	**0.00551 J**	**0.11053**	**0.14756**	**0.00764**	**0.0578**	**0.26909**	**0.88384**	**0.30504**
Chrysene	**4.81277**	**1.3476**	**0.73108**	**4.30279**	**0.28129**	**3.84477**	**4.95765**	**0.37048**	**1.20037**	**10.08845**	**17.04884**	**12.66739**
C1-Chrysenes	**3.38903**	**0.46014**	**0.49709**	**3.03351**	**0.19483**	**1.74892**	**3.76283**	**0.21833**	**0.87024**	**7.26176**	**11.22154**	**7.54304**
C2-Chrysenes	**1.92686**	**0.26428**	**0.28571**	**1.82928**	**0.15396**	**0.83605**	**2.38715**	**0.1675**	**0.53536**	**4.23009**	**5.69124**	**3.60832**
C3-Chrysenes	**1.19168**	**0.24802**	**0.19585**	**1.1101**	**0.12884**	**0.45478**	**1.68137**	**0.08476**	**0.36142**	**2.58373**	**2.89319**	**1.97348**
C4-Chrysenes	**0.9925**	**0.19839**	**0.14885**	**0.95514**	**0.10732**	**0.32795**	**1.03202**	**0.05474**	**0.2697**	**1.55751**	**1.8407**	**1.30721**
Dibenz[a,h]anthracene	**0.40948**	**0.17122**	**0.05534**	**0.45699**	**0.01575**	**0.54944**	**0.49421**	**0.01876**	**0.1397**	**0.92752**	**1.26735**	**1.6694**
Dibenzofuran	**0.23168**	**0.26784**	**0.033**	**0.49459**	**0.03726**	**0.37319**	**0.37574**	**0.10867**	**0.09935**	**0.90136**	**3.23107**	**0.78232**
Dibenzothiophene	**0.68551**	**0.22611**	**0.0991**	**1.11643**	**0.09518**	**0.57867**	**1.05749**	**0.3012**	**0.23448**	**4.26674**	**11.28725**	**2.62187**
C1-Dibenzothiophenes	**2.65876**	**0.26126**	**0.39394**	**4.0059**	**0.54295**	**1.33427**	**3.7478**	**0.6863**	**0.81659**	**8.26172**	**18.01403**	**5.0032**
C2-Dibenzothiophenes	**4.77861**	**0.39993**	**0.67662**	**6.32553**	**0.83608**	**1.87672**	**6.14427**	**0.80306**	**1.29213**	**10.12082**	**17.94185**	**6.09788**
C3-Dibenzothiophenes	**3.75386**	**0.34694**	**0.59961**	**5.36966**	**0.66713**	**1.49038**	**4.95705**	**0.52071**	**1.08183**	**8.03453**	**11.73702**	**4.61739**
C4-Dibenzothiophenes	**1.50953**	**0.21971**	**0.30273**	**2.47746**	**0.313**	**0.6945**	**2.50483**	**0.22659**	**0.52685**	**3.80234**	**4.61189**	**2.33319**
Fluoranthene	**9.16627**	**4.28434**	**1.88885**	**10.2815**	**0.85834**	**9.89968**	**9.33937**	**1.36407**	**2.28299**	**20.79435**	**38.82849**	**30.82546**
C1-Fluoranthenes/pyrenes	**7.5769**	**1.33717**	**1.48192**	**8.48627**	**0.66472**	**3.9568**	**8.47502**	**0.93481**	**1.93454**	**19.95129**	**35.20618**	**20.38356**
C2-Fluoranthenes/pyrenes	**3.65187**	**0.82355**	**0.98876**	**4.3219**	**0.35555**	**2.5043**	**4.67176**	**0.33839**	**1.10673**	**8.90801**	**14.27009**	**8.66376**
C3-Fluoranthenes/pyrenes	**2.3926**	**0.37657**	**0.57164**	**2.28315**	**0.19932**	**0.98961**	**3.00438**	**0.16849**	**0.6917**	**4.68066**	**6.94588**	**4.3514**
C4-Fluoranthenes/Pyrenes	**0.91625**	**0.18239**	**0.28246**	**1.08264**	**0.12459**	**0.44465**	**1.46308**	**0.08869**	**0.31716**	**2.33286**	**2.9737**	**2.24512**
Fluorene	**0.77507**	**0.49793**	**0.10831**	**0.28583**	**0.01369**	**0.49421**	**0.31567**	**0.0217**	**0.10188**	**4.17644**	**15.1751**	**2.60778**
C1-Fluorenes	**2.37963**	**0.27151**	**0.32433**	**3.59698**	**0.54904**	**1.15526**	**2.66129**	**0.69757**	**0.56848**	**7.24281**	**19.32448**	**4.0533**
C2-Fluorenes	**5.60318**	**0.50543**	**0.85198**	**9.22042**	**1.50614**	**2.78504**	**6.6115**	**1.33332**	**1.4469**	**11.1606**	**22.73406**	**6.39426**
C3-Fluorenes	**6.5309**	**0.59243**	**0.89412**	**8.04136**	**1.16543**	**2.6394**	**6.97011**	**0.98392**	**1.43353**	**9.08481**	**15.65061**	**5.53645**
Indeno[1,2,3-cd]pyrene	**1.78195**	**0.86644**	**0.26801**	**1.94884**	**0.06414**	**2.37018**	**2.01633**	**0.06913**	**0.58004**	**3.96456**	**5.31632**	**6.80085**
Naphthalene	**0.56356**	**0.58587**	**0.08118**	**0.98847**	**0.02056**	**0.84846**	**1.33032**	**0.0555**	**0.5638**	**2.42768**	**35.01719**	**2.61474**
C1-Naphthalenes	**0.69096**	**0.30764**	**0.10849**	**0.67422**	**0.03558**	**0.48995**	**0.86741**	**0.08626**	**0.30266**	**3.39245**	**24.51803**	**2.62995**
C2-Naphthalenes	**3.03768**	**0.56426**	**0.42351**	**5.47326**	**0.73931**	**2.02373**	**5.26731**	**1.53574**	**1.24522**	**15.2611**	**66.54885**	**8.8259**
C3-Naphthalenes	**9.57387**	**1.04068**	**1.29322**	**15.64426**	**2.80054**	**4.81287**	**12.27996**	**3.19703**	**2.98828**	**21.9354**	**62.42934**	**11.73289**
C4-Naphthalenes	**8.91383**	**0.81323**	**1.17184**	**12.89504**	**2.33084**	**3.72295**	**9.78948**	**1.85009**	**2.38467**	**15.00508**	**33.11002**	**7.99593**
Perylene	**0.80909**	**0.39568**	**0.14656**	**0.74596**	**0.0228**	**0.84644**	**0.85244**	**0.02521**	**0.2057**	**1.57122**	**1.62624**	**2.64135**
Phenanthrene	**5.07312**	**3.5094**	**0.80837**	**7.61859**	**0.46254**	**6.6506**	**6.00758**	**0.95745**	**1.48766**	**35.46338**	**95.91069**	**30.89763**
C1-Phenanthrenes/anthracenes	**11.61892**	**1.48163**	**1.77248**	**15.97017**	**1.85139**	**5.87014**	**13.42887**	**2.6069**	**2.87119**	**35.21013**	**77.65418**	**23.22559**
C2-Phenanthrenes/anthracenes	**13.34595**	**1.21152**	**2.08328**	**17.55975**	**2.19907**	**5.42485**	**14.63584**	**2.24122**	**3.19012**	**25.34444**	**45.37831**	**17.14343**
C3-Phenanthrenes/anthracenes	**6.27456**	**0.63365**	**1.19422**	**9.98518**	**1.15359**	**2.85127**	**8.39737**	**0.95452**	**1.81081**	**13.63879**	**21.35963**	**11.94669**
C4-Phenanthrenes/anthracenes	**2.47866**	**0.30295**	**0.47733**	**3.6109**	**0.42352**	**1.03227**	**3.87952**	**0.39924**	**0.8401**	**6.20127**	**9.37265**	**5.35582**
Pyrene	**10.44619**	**3.58681**	**2.26713**	**12.1913**	**1.03538**	**9.11576**	**11.19057**	**1.55261**	**2.63663**	**27.37656**	**51.49948**	**32.28311**

Validated

Table 3
Summary of Analytical Fractionated Results
Phase I Sediment Cores
Gowanus Canal
Brooklyn, New York

Sample Name:	GC-SED-501			GC-SED-501			GC-SED-501		GC-SED-502		GC-SED-502			Duplicate of GC-SED-502	
Sample Depth (feet):	(2.0-2.5)			(2.5-3.0)			(3.0-3.5)		(0.5-1.0)		(1.0-1.5)			(1.0-1.5)	
Sample Date:	8/6/2012			8/6/2012			8/6/2012		8/6/2012		8/6/2012			8/6/2012	
Sieve Number:	Bottom	10	200	Bottom	10	200	Bottom	200	Bottom	200	Bottom	10	200	Bottom	200
Alkylated PAHs (mg/kg)															
Acenaphthene	**9.56827**	**40.57374**	**5.52736**	**4.71253**	**13.74548**	**3.81531**	**4.11128**	**4.52314**	**4.81748**	**1.85673**	**87.46504 J**	**105.0215**	**26.29967**	**184.20986 J**	**39.61716**
Acenaphthylene	**2.52106**	**3.12788**	**1.10949**	**0.80634**	**1.55178**	**0.77324**	**0.7695**	**0.60774**	**2.36296**	**0.82678**	**28.75709**	**17.13488**	**8.2268**	**38.0383**	**9.86035**
Anthracene	**8.5451**	**57.60669**	**5.41092**	**4.47103**	**28.91528**	**4.50106**	**4.54716**	**9.58342**	**5.72311**	**2.44752**	**89.64395 J**	**97.73747**	**28.66693**	**151.54184 J**	**38.85826**
Benz[a]anthracene	**6.67485**	**91.69402**	**5.72043**	**4.05851**	**33.46039**	**6.90348**	**4.17579**	**16.62379**	**6.53823**	**3.44648**	**66.9521**	**58.26138**	**24.74451**	**97.33468**	**27.02324**
Benzo[a]pyrene	**4.82932**	**73.90866**	**4.23589**	**2.95149**	**24.88657**	**5.69472**	**3.00632**	**13.85153**	**5.24669**	**3.07335**	**48.44127**	**39.58308**	**17.49004**	**69.63089**	**19.6403**
Benzo[b]fluoranthene	**3.80637**	**65.53311**	**3.69333**	**2.6543**	**28.25282**	**5.43684**	**2.98984**	**12.57461**	**3.51183**	**2.47165**	**26.09127**	**20.53632**	**10.27548**	**28.69903**	**10.46258**
Benzo[e]pyrene	**3.60404**	**39.02909**	**3.12305**	**2.45717**	**27.48782**	**4.26985**	**2.72858**	**9.88699**	**3.64946**	**2.1082**	**28.49209**	**21.88649**	**10.56902**	**32.67335**	**10.69937**
Benzo[g,h,i]perylene	**2.49691**	**29.30954**	**2.1659**	**1.76872**	**17.62569**	**3.483**	**2.02652**	**8.33436**	**2.55789**	**1.55243**	**21.18885**	**12.43492**	**7.87043**	**25.82479**	**6.59903**
Benzo[k]fluoranthene	**4.15037**	**54.73203**	**3.75691**	**2.80913**	**32.66877**	**5.54317**	**3.16593**	**12.96712**	**4.22001**	**2.70855**	**32.61901**	**25.90573**	**13.47414**	**38.52718**	**13.18578**
1,1-Biphenyl	**0.2601**	**5.27109**	**0.23333**	**0.16015**	**0.86586**	**0.25314**	**0.20164**	**0.32037**	**0.1464**	**0.05975**	**7.90116 J**	**16.10671**	**2.77213 J**	**17.49446 J**	**5.20341 J**
Chrysene	**7.14462**	**88.66634**	**5.99729**	**4.63782**	**31.99063**	**7.05722**	**4.95982**	**15.36979**	**6.41646**	**3.63484**	**59.74716**	**51.67574**	**22.12382**	**89.38703**	**24.56048**
C1-Chrysenes	**5.00773**	**29.77084**	**3.44229**	**3.46581**	**66.19676**	**3.41721**	**3.53936**	**7.08793**	**4.3904**	**2.03061**	**45.49258**	**36.22216**	**15.37436**	**49.81911**	**15.25129**
C2-Chrysenes	**3.05128**	**10.12465**	**1.92189**	**2.33202**	**28.71207**	**1.92702**	**2.5918**	**3.55491**	**1.65839**	**0.6841**	**15.86175**	**11.33567**	**5.10164**	**18.39734**	**4.96177**
C3-Chrysenes	**1.87819**	**4.81305**	**1.23561**	**1.61642**	**10.44329**	**1.41579**	**1.96317**	**2.25955**	**0.66427**	**0.26701**	**5.10592**	**3.18968**	**1.67624**	**5.12072**	**1.60546**
C4-Chrysenes	**1.41857**	**2.95762**	**0.87167**	**1.11412**	**4.7169**	**0.927**	**1.26477**	**1.47833**	**0.4175**	**0.15515**	**2.328**	**1.6576**	**0.80654**	**2.32257**	**0.87832**
Dibenz[a,h]anthracene	**0.62944**	**9.81598**	**0.57591**	**0.44725**	**7.25524**	**0.87571**	**0.51043**	**2.41054**	**0.71007**	**0.45697**	**6.74969**	**4.00271**	**2.52393**	**7.03436**	**2.07777**
Dibenzofuran	**1.15714**	**25.67912**	**0.93284**	**0.7593**	**2.0316**	**1.15231**	**0.79474**	**1.66363**	**0.39543**	**0.25554**	**6.94035**	**9.85346**	**2.44889**	**10.57925**	**3.25784**
Dibenzothiophene	**3.95361**	**17.33368**	**2.45914**	**2.18015**	**7.42658**	**1.85635**	**2.25449**	**2.62428**	**1.29563**	**0.59252**	**32.96928 J**	**36.4041**	**10.82405**	**55.93898 J**	**12.96375**
C1-Dibenzothiophenes	**6.12752**	**12.75853**	**3.61141**	**4.07639**	**14.86955**	**2.92416**	**4.48197**	**3.75366**	**2.60195**	**0.95839**	**38.79143**	**35.27075**	**12.90165**	**47.09522**	**13.91814**
C2-Dibenzothiophenes	**7.08069**	**11.18483**	**4.13852**	**5.19297**	**14.85313**	**3.65793**	**6.12523**	**4.88674**	**2.72657**	**0.97989**	**30.9398**	**24.57733**	**10.31929**	**33.84285**	**9.81965**
C3-Dibenzothiophenes	**5.72448**	**6.62268**	**3.31598**	**4.27217**	**8.99523**	**2.98768**	**4.53138**	**3.49727**	**1.58709**	**0.55358**	**12.90579**	**10.9596**	**4.22986**	**15.8328**	**4.6484**
C4-Dibenzothiophenes	**2.72833**	**2.49566**	**1.52277**	**2.05946**	**3.21919**	**1.43732**	**2.13185**	**1.63527**	**0.60504**	**0.20465**	**3.835**	**2.94063**	**1.27706**	**4.63391**	**1.3399**
Fluoranthene	**16.17532**	**219.63251**	**16.21724**	**9.82918**	**36.05591**	**16.38954**	**12.03793**	**32.80055**	**11.53093**	**6.44599**	**125.14452**	**113.06948**	**46.59278**	**186.78588**	**53.80742**
C1-Fluoranthenes/pyrenes	**14.41231**	**65.39912**	**9.34101**	**8.32833**	**97.91407**	**7.33802**	**9.41381**	**16.43309**	**11.34323**	**4.78539**	**144.40968**	**110.76623**	**49.46754**	**151.44901**	**47.54605**
C2-Fluoranthenes/pyrenes	**6.52288**	**36.14629**	**4.71208**	**4.36214**	**47.89435**	**5.13461**	**4.87736**	**8.31558**	**4.33907**	**1.81355**	**46.99298**	**37.21816**	**15.70555**	**49.35348**	**16.39921**
C3-Fluoranthenes/pyrenes	**3.62996**	**13.34593**	**2.38785**	**2.61518**	**18.62642**	**2.52179**	**3.14176**	**4.20621**	**1.61376**	**0.68318**	**14.75159**	**10.47129**	**5.13369**	**16.80844**	**4.97954**
C4-Fluoranthenes/Pyrenes	**1.83865**	**5.27561**	**1.14039**	**1.40107**	**6.09964**	**1.15399**	**1.69556**	**1.79801**	**0.55878**	**0.22989**	**3.75662**	**2.51123**	**1.25711**	**3.99579**	**1.30218**
Fluorene	**7.26699**	**52.07137**	**4.44991**	**3.7645**	**12.92425**	**3.137**	**3.6675**	**4.69655**	**0.44741**	**0.46204**	**46.81878 J**	**68.95222**	**15.56723**	**94.15073 J**	**22.37566**
C1-Fluorenes	**6.39073**	**14.55139**	**3.72549**	**4.2928**	**15.72033**	**2.94258**	**5.05427**	**4.10383**	**2.02842**	**0.75363**	**45.31025**	**45.13205**	**15.23181**	**59.87925**	**16.53654**
C2-Fluorenes	**8.16977**	**13.89204**	**4.84698**	**6.467**	**16.64225**	**4.55803**	**8.5319**	**6.37714**	**2.62229**	**0.89194**	**34.82629**	**27.13685**	**11.59418**	**39.58172**	**11.09412**
C3-Fluorenes	**7.00975**	**19.72212**	**4.27343**	**5.41079**	**11.88406**	**4.33953**	**7.93444**	**6.51664**	**1.91852**	**0.68089**	**20.5108**	**12.10981**	**6.92042**	**17.90053**	**5.5552**
Indeno[1,2,3-cd]pyrene	**2.51534**	**38.446**	**2.35325**	**1.78354**	**20.40652**	**3.97349**	**2.04218**	**9.64827**	**2.66956**	**1.83956**	**21.96322**	**13.53928**	**8.70874**	**25.31336**	**7.4983**
Naphthalene	**4.40629**	**82.44597**	**3.73079**	**2.49161**	**17.03375**	**3.58452**	**3.26957**	**3.72943**	**0.85803**	**0.32413**	**13.13197 J**	**82.61699**	**5.94461 J**	**61.16616 J**	**18.50752 J**
C1-Naphthalenes	**7.62416**	**46.37322**	**5.34026**	**3.78799**	**17.59653**	**3.65447**	**4.14018**	**3.61939**	**1.15077**	**0.41717**	**25.79756 J**	**80.1558**	**9.11468 J**	**84.38952 J**	**24.41779 J**
C2-Naphthalenes	**16.55993**	**42.39625**	**9.96073**	**9.85817**	**29.75757**	**7.50816**	**10.73039**	**7.99147**	**4.01544**	**1.34829**	**82.93128 J**	**141.45542**	**27.37799 J**	**178.69732 J**	**48.9352 J**
C3-Naphthalenes	**16.95787**	**27.67321**	**9.78254**	**12.64272**	**28.64843**	**8.87132**	**14.59992**	**10.25587**	**4.38473**	**1.43771**	**54.82507**	**60.48533**	**17.75163**	**88.24081**	**23.55512**
C4-Naphthalenes	**10.97587**	**13.55721**	**6.22053**	**8.79691**	**15.36677**	**5.9228**	**10.78278**	**7.5645**	**2.36392**	**0.75445**	**22.93669**	**19.53121**	**7.44254**	**30.78741**	**8.34788**
Perylene	**1.12124**	**14.93607**	**0.97872**	**0.79564**	**9.51367**	**1.57646**	**1.00283**	**4.24083**	**1.13476**	**0.75997**	**9.07192**	**6.10725**	**3.65193**	**9.4839**	**3.33499**
Phenanthrene	**37.26873**	**310.18277**	**27.77687**	**19.3031**	**52.92846**	**16.4533**	**19.24325**	**28.839**	**6.77232**	**4.54339**	**275.63822 J**	**329.9635**	**93.2025**	**508.22366 J**	**128.92047**
C1-Phenanthrenes/anthracenes	**27.26561**	**90.55672**	**16.4901**	**17.33971**	**116.08351**	**13.76173**	**20.57246**	**21.03544**	**12.20127**	**4.78715**	**206.16348**	**184.13075**	**71.38353**	**251.02502**	**75.0947**
C2-Phenanthrenes/anthracenes	**18.89141**	**45.50593**	**11.16788**	**13.87311**	**70.85269**	**10.26756**	**18.57214**	**16.25774**	**8.42052**	**3.05962**	**106.27293**	**78.51966**	**35.80802**	**110.20429**	**32.98207**
C3-Phenanthrenes/anthracenes	**10.42006**	**18.29223**	**6.09954**	**8.2616**	**27.9389**	**5.89226**	**10.00552**	**8.3218**	**3.47888**	**1.20179**	**31.32138**	**24.6194**	**10.39387**	**36.08086**	**10.56185**
C4-Phenanthrenes/anthracenes	**5.42063**	**5.92185**	**3.25943**	**4.43232**	**7.90773**	**3.02125**	**5.87293**	**4.36541**	**1.01917**	**0.33323**	**7.38**	**4.98834**	**2.29891**	**7.8685**	**2.36274**
Pyrene	**20.3724**	**182.68773**	**17.96164**	**11.74986**	**58.38354**	**15.20595**	**13.89809**	**29.88322**	**15.18984**	**6.99031**	**177.22776**	**160.6733**	**61.18966**	**264.30297**	**72.01475**

Validated

Table 3
Summary of Analytical Fractionated Results
Phase I Sediment Cores
Gowanus Canal
Brooklyn, New York

Sample Name:	GC-SED-502			GC-SED-502			GC-SED-502			GC-SED-502		GC-SED-502		GC-SED-503	
Sample Depth (feet):	(1.5-2.0)			(2.0-2.5)			(2.5-3.0)			(3.0-3.5)		(3.5-4.0)		(0.0-0.5)	
Sample Date:	8/6/2012			8/6/2012			8/6/2012			8/6/2012		8/6/2012		8/12/2012	
Sieve Number:	Bottom	10	200	Bottom	10	200	Bottom	10	200	Bottom	200	Bottom	200	Bottom	200
Alkylated PAHs (mg/kg)															
Acenaphthene	**30.19915**	**12.77257**	**11.65754**	**12.7748**	**2.44984**	**6.11617**	**12.47446**	**3.45909**	**2.04095**	**3.41729**	**0.40359**	**2.27265**	**0.4969**	**2.29805**	**1.05982**
Acenaphthylene	**3.11748**	**0.71775**	**1.66293**	**4.06427**	**0.16766**	**1.43935**	**3.55571**	**0.21714**	**0.39724**	**1.08117**	**0.14456**	**1.08671**	**0.12932**	**0.69678**	**0.6729**
Anthracene	**16.693**	**10.40296**	**7.79672**	**12.7721**	**2.61269**	**6.95704**	**13.15637**	**1.95284**	**1.92665**	**4.36686**	**0.48789**	**4.14845**	**0.77338**	**3.0053**	**1.61774**
Benz[a]anthracene	**10.79679**	**12.90966**	**5.98377**	**11.71729**	**1.21841**	**12.31287**	**9.86952**	**0.82197**	**1.80891**	**4.71744**	**0.62519**	**4.56344**	**1.03442**	**3.15177**	**2.55388**
Benzo[a]pyrene	**6.92104**	**9.26675**	**4.36959**	**8.65882**	**0.56995**	**10.57306**	**7.12478**	**0.45336**	**1.3772**	**3.76505**	**0.51445**	**3.58478**	**0.63615**	**1.94515**	**1.80757**
Benzo[b]fluoranthene	**4.9049**	**6.90948**	**2.95616**	**6.44004**	**0.42317**	**9.49203**	**5.08564**	**0.34561**	**1.06227**	**3.62862**	**0.43569**	**3.14634**	**0.59291**	**1.52977**	**1.18009**
Benzo[e]pyrene	**4.74389**	**5.10639**	**2.84709**	**6.16943**	**0.40685**	**7.22586**	**4.96846**	**0.35643**	**0.96588**	**2.97579**	**0.39634**	**2.76712**	**0.49613**	**1.43916**	**1.14722**
Benzo[g,h,i]perylene	**2.88957**	**3.51799**	**1.9086**	**5.08545**	**0.24996**	**6.50736**	**4.06985**	**0.2685**	**0.81858**	**2.49734**	**0.33942**	**2.40855**	**0.3682**	**0.67656**	**0.66841**
Benzo[k]fluoranthene	**5.55032**	**7.22499**	**3.44524**	**7.50288**	**0.48847**	**10.16424**	**6.38611**	**0.40798**	**1.1915**	**3.94527**	**0.50141**	**3.70728**	**0.63757**	**1.74026**	**1.36166**
1,1-Biphenyl	**1.02232**	**0.65415**	**0.59221**	**0.5297**	**0.07255**	**0.46476**	**0.4678**	**0.03475**	**0.1821**	**0.16669**	**0.02291**	**0.17771**	**0.02134**	**0.09263**	**0.02552**
Chrysene	**10.66125**	**11.38157**	**5.75464**	**12.14012**	**1.2599**	**11.72784**	**10.18566**	**0.87834**	**1.83352**	**5.47984**	**0.69068**	**5.14897**	**0.99082**	**3.03189**	**2.40904**
C1-Chrysenes	**6.93193**	**5.15123**	**3.75581**	**8.19097**	**0.70664**	**5.19224**	**7.08488**	**0.61791**	**1.17924**	**3.342**	**0.43922**	**3.20357**	**0.5682**	**2.12829**	**1.844**
C2-Chrysenes	**2.65303**	**1.77994**	**1.55994**	**3.8166**	**0.33165**	**1.90293**	**3.71846**	**0.44462**	**0.62357**	**2.10247**	**0.27638**	**2.07227**	**0.35586**	**0.86755**	**0.80165**
C3-Chrysenes	**1.25575**	**0.75635**	**0.69156**	**2.302**	**0.19918**	**1.17531**	**2.37952**	**0.34389**	**0.34795**	**1.54097**	**0.19328**	**1.42571**	**0.26564**	**0.40532**	**0.36315**
C4-Chrysenes	**0.80962**	**0.43973**	**0.43374**	**1.34067**	**0.10651**	**0.61888**	**1.6333**	**0.24864**	**0.27704**	**1.23069**	**0.13353**	**1.03126**	**0.19669**	**0.24988**	**0.21333**
Dibenz[a,h]anthracene	**0.79932**	**1.20811**	**0.54636**	**1.23205**	**0.06473**	**1.87117**	**1.00885**	**0.05643**	**0.19485**	**0.59549**	**0.07953**	**0.57505**	**0.09565**	**0.21036**	**0.21872**
Dibenzofuran	**2.07483**	**2.40092**	**1.01925**	**1.68303**	**0.46124**	**1.98421**	**1.59199**	**0.41547**	**0.29098**	**0.56778**	**0.07397**	**0.51123**	**0.12669**	**0.18172**	**0.10051**
Dibenzothiophene	**7.14619**	**3.47043**	**3.25551**	**5.53384**	**1.26526**	**2.58285**	**5.78926**	**1.07631**	**0.89593**	**2.10172**	**0.23511**	**1.85948**	**0.33188**	**0.91565**	**0.47861**
C1-Dibenzothiophenes	**8.28938**	**3.77894**	**3.70245**	**9.46208**	**1.76305**	**3.34778**	**10.5383**	**1.631**	**1.54896**	**4.52118**	**0.49853**	**3.72644**	**0.59501**	**1.39937**	**0.79839**
C2-Dibenzothiophenes	**7.08682**	**3.5517**	**3.29635**	**11.55233**	**1.847**	**3.91968**	**12.78323**	**1.7234**	**1.88606**	**6.70069**	**0.73793**	**5.86236**	**0.8802**	**1.32506**	**0.88913**
C3-Dibenzothiophenes	**4.35741**	**2.42031**	**2.05106**	**7.45731**	**1.1316**	**2.59764**	**8.00394**	**1.20544**	**1.27546**	**4.46714**	**0.58859**	**3.56944**	**0.82077**	**0.73211**	**0.49855**
C4-Dibenzothiophenes	**1.76451**	**1.02438**	**0.79826**	**3.41551**	**0.46479**	**1.09793**	**3.55904**	**0.57444**	**0.55101**	**2.11152**	**0.33209**	**1.81229**	**0.45843**	**0.3015**	**0.1934**
Fluoranthene	**29.59589**	**27.19409**	**13.51808**	**24.98352**	**3.96738**	**23.28476**	**22.58307**	**2.88428**	**3.88029**	**11.71169**	**1.37714**	**11.73001**	**2.83253**	**6.93721**	**3.97412**
C1-Fluoranthenes/pyrenes	**22.67**	**13.18631**	**11.12575**	**20.59139**	**2.79758**	**10.88279**	**18.88153**	**2.19818**	**2.74856**	**7.29219**	**1.04303**	**6.88499**	**1.59432**	**5.84046**	**4.13718**
C2-Fluoranthenes/pyrenes	**8.34532**	**6.90985**	**4.4995**	**8.59238**	**0.91025**	**5.30724**	**8.14599**	**0.83421**	**1.22509**	**3.6586**	**0.55176**	**3.39857**	**0.79834**	**2.24505**	**1.7727**
C3-Fluoranthenes/pyrenes	**3.19353**	**2.44227**	**1.76066**	**4.22872**	**0.4117**	**2.25767**	**4.44384**	**0.52345**	**0.67667**	**2.18263**	**0.33473**	**1.89253**	**0.50397**	**1.07477**	**0.75517**
C4-Fluoranthenes/Pyrenes	**1.14014**	**0.72731**	**0.57502**	**1.68434**	**0.15634**	**0.85831**	**1.95498**	**0.25762**	**0.30477**	**1.15999**	**0.16896**	**1.02209**	**0.25126**	**0.4592**	**0.24992**
Fluorene	**15.04591**	**8.19023**	**6.94079**	**8.63431**	**2.0019**	**5.02093**	**7.96613**	**2.14126**	**1.39466**	**2.64499**	**0.32797**	**2.21849**	**0.48961**	**0.51552**	**0.26709**
C1-Fluorenes	**9.55444**	**4.40397**	**4.23864**	**10.41587**	**2.08246**	**3.73599**	**10.36005**	**2.40934**	**1.67628**	**4.61895**	**0.57006**	**3.41346**	**0.6446**	**1.4503**	**0.77998**
C2-Fluorenes	**8.56705**	**4.72937**	**3.78962**	**15.03719**	**2.77146**	**5.1285**	**14.57008**	**3.04692**	**2.36971**	**7.97337**	**1.01641**	**5.56262**	**1.12614**	**1.41682**	**0.84501**
C3-Fluorenes	**5.78005**	**4.38518**	**2.63641**	**13.69447**	**2.06687**	**5.53539**	**15.83777**	**2.21754**	**2.40295**	**10.16233**	**1.03495**	**7.79108**	**1.18059**	**1.00841**	**0.56971**
Indeno[1,2,3-cd]pyrene	**3.08697**	**4.53984**	**2.10265**	**5.09812**	**0.22816**	**7.60977**	**4.05837**	**0.22036**	**0.83264**	**2.60961**	**0.343**	**2.46831**	**0.38073**	**0.8374**	**0.74978**
Naphthalene	**25.14776**	**22.36629**	**12.19795**	**6.43857**	**2.23905**	**6.05692**	**6.27724**	**1.423**	**2.94846**	**1.42423**	**0.20882**	**1.66045**	**0.31719**	**0.35281**	**0.12418**
C1-Naphthalenes	**16.11704**	**8.59038**	**7.42397**	**6.09979**	**1.72303**	**3.33095**	**8.26479**	**2.50461**	**1.69099**	**1.51063**	**0.20901**	**1.38551**	**0.36056**	**0.35583**	**0.11517**
C2-Naphthalenes	**29.67902**	**12.4186**	**13.06656**	**20.32389**	**4.96819**	**7.8238**	**25.02667**	**9.16169**	**4.34618**	**7.87852**	**1.04361**	**5.56836**	**1.3737**	**1.90231**	**0.87507**
C3-Naphthalenes	**17.75078**	**7.79669**	**7.57083**	**27.03276**	**5.78968**	**9.53046**	**28.73714**	**10.06062**	**5.09788**	**13.68716**	**1.86627**	**9.28745**	**2.04332**	**2.56738**	**1.29375**
C4-Naphthalenes	**8.87102**	**5.04862**	**3.74979**	**20.37401**	**3.87379**	**6.83052**	**20.41981**	**5.83997**	**3.61553**	**12.12462**	**1.55911**	**8.0526**	**1.60128**	**1.24728**	**0.66917**
Perylene	**1.35188**	**1.88356**	**0.87689**	**1.96783**	**0.0804**	**2.84221**	**1.74958**	**0.07196**	**0.3152**	**1.01574**	**0.12317**	**0.94023**	**0.15338**	**0.57474**	**0.3758**
Phenanthrene	**74.42519**	**43.41088**	**32.48223**	**50.26345**	**10.43341**	**30.18748**	**47.73866**	**9.0423**	**7.75439**	**19.31872**	**2.10965**	**18.34684**	**3.46128**	**3.0387**	**1.91186**
C1-Phenanthrenes/anthracenes	**42.94261**	**21.28206**	**19.31373**	**46.17032**	**8.68924**	**17.80648**	**47.81794**	**7.22838**	**7.4311**	**18.87133**	**2.29262**	**14.54581**	**2.93825**	**6.96175**	**4.28624**
C2-Phenanthrenes/anthracenes	**22.50029**	**12.70719**	**10.48119**	**33.29364**	**5.29275**	**12.01387**	**32.85011**	**4.5996**	**4.97739**	**17.71552**	**2.12799**	**15.55816**	**2.59877**	**4.45985**	**3.12136**
C3-Phenanthrenes/anthracenes	**9.487**	**5.73308**	**4.54631**	**14.64669**	**2.04726**	**5.12337**	**13.93442**	**2.09969**	**2.18352**	**8.56857**	**1.16822**	**7.47687**	**1.60087**	**1.64185**	**1.24298**
C4-Phenanthrenes/anthracenes	**3.30557**	**1.78502**	**1.48398**	**5.12899**	**0.56263**	**1.61565**	**4.99653**	**0.82896**	**0.75712**	**4.05189**	**0.62079**	**3.44342**	**0.80528**	**0.51118**	**0.41488**
Pyrene	**38.7617**	**26.33383**	**16.97236**	**30.69503**	**4.71911**	**20.87257**	**27.0366**	**3.33678**	**4.32602**	**11.94809**	**1.54187**	**11.65522**	**2.85525**	**8.97562**	**5.39668**

Validated

Table 3
Summary of Analytical Fractionated Results
Phase I Sediment Cores
Gowanus Canal
Brooklyn, New York

Sample Name:	GC-SED-503		GC-SED-503		GC-SED-503		GC-SED-503		GC-SED-503			GC-SED-503		GC-SED-503		GC-SED-504	
Sample Depth (feet):	(0.5-1.0)		(1.0-1.5)		(1.5-2.0)		(2.0-2.5)		(2.5-3.0)			(3.0-3.5)		(3.5-4.0)		(0.0-0.5)	
Sample Date:	8/8/2012		8/8/2012		8/8/2012		8/8/2012		8/8/2012			8/8/2012		8/8/2012		8/8/2012	
Sieve Number:	Bottom	200	Bottom	200	Bottom	200	Bottom	200	Bottom	10	200	Bottom	200	Bottom	200	Bottom	200
Alkylated PAHs (mg/kg)																	
Acenaphthene	**1.22422**	**1.23678**	**2.12549**	**0.12541**	**1.42145**	**0.94023**	**0.99081**	**0.95712**	**1.16152**	**4.00829**	**2.49798**	**5.52418**	**5.38825**	**1.31951**	**2.40899**	**96.13578**	**53.09059 J**
Acenaphthylene	**0.86804**	**0.60349**	**0.63358**	**0.05786**	**0.67692**	**0.56316**	**1.0767**	**1.29495**	**1.22762**	**0.47975**	**1.80419**	**2.22728**	**2.91811**	**1.53803**	**2.14529**	**29.79669**	**16.78065 J**
Anthracene	**1.44106**	**2.0959**	**3.12942**	**0.1362**	**2.15197**	**1.5672**	**2.52083**	**2.20299**	**2.59159**	**5.56632**	**4.56431**	**7.01799**	**8.0946**	**3.01163**	**5.01928**	**78.21081**	**39.61526 J**
Benz[a]anthracene	**2.94112**	**4.24916**	**4.40679**	**0.42333**	**3.01012**	**3.12351**	**3.66358**	**3.82235**	**3.65517**	**4.31378 J**	**7.82559**	**5.86342**	**9.99347**	**4.51229**	**9.9774**	**60.92225**	**31.25476 J**
Benzo[a]pyrene	**2.5585**	**3.4228**	**3.2685**	**0.34873**	**2.47186**	**2.66867**	**3.12102**	**3.45801**	**3.21357**	**2.40161**	**6.82847**	**4.85096**	**9.01722**	**3.64972**	**7.36693**	**45.19306**	**26.30007 J**
Benzo[b]fluoranthene	**1.89203**	**2.46472**	**2.47924**	**0.28648**	**2.02594**	**2.19994**	**2.26555**	**2.38253**	**2.33198**	**2.88401**	**5.23011**	**3.33961**	**5.62085**	**2.6034**	**5.6454**	**20.82735**	**12.61495 J**
Benzo[e]pyrene	**1.68308**	**2.13768**	**2.17539**	**0.22983**	**1.724**	**1.69543**	**2.07713**	**2.12784**	**2.15787**	**2.24232 J**	**4.47441**	**3.32552**	**5.46726**	**2.51777**	**4.82561**	**23.6477**	**14.29248 J**
Benzo[g,h,i]perylene	**1.41851**	**1.887**	**1.78025**	**0.21108**	**1.35095**	**1.37231**	**1.64366**	**1.68536**	**1.66358**	**1.75219**	**3.5787**	**1.96246**	**3.0382**	**1.47952**	**2.92914**	**15.25625**	**10.9254 J**
Benzo[k]fluoranthene	**2.22071**	**2.74653**	**2.64408**	**0.33096**	**2.30202**	**2.32172**	**2.65015**	**2.58752**	**2.65266**	**2.85012 J**	**5.91415**	**3.90604**	**6.75542**	**3.13906**	**6.43363**	**28.87914**	**17.11043 J**
1,1-Biphenyl	**0.0712**	**0.06174**	**0.12585**	**0.00452 J**	**0.21529**	**0.10436**	**0.22462**	**0.18783**	**0.18453**	**0.23953**	**0.329**	**0.41872**	**0.41348**	**0.31772**	**0.41497**	**11.82266**	**8.50824 J**
Chrysene	**3.1566**	**3.7915**	**3.98566**	**0.38193**	**2.85072**	**2.77716**	**3.50402**	**3.49947**	**3.5901**	**6.37123**	**7.49011**	**5.99703**	**10.28044**	**4.54782**	**9.36668**	**56.51443**	**29.08991 J**
C1-Chrysenes	**1.65752**	**2.1177**	**2.30586**	**0.17001**	**1.60946**	**1.40391**	**2.06576**	**2.26233**	**2.30049**	**2.16564**	**4.12116**	**4.2219**	**6.01501**	**3.20705**	**5.01493**	**39.11172**	**22.75767 J**
C2-Chrysenes	**0.7243**	**0.76442**	**0.8911**	**0.07651**	**0.79456**	**0.59792**	**0.95179**	**0.98835**	**1.05546**	**1.49395**	**1.84866**	**1.8653**	**2.65909**	**1.3979**	**1.93827**	**13.08021**	**8.34217 J**
C3-Chrysenes	**0.34164**	**0.28211**	**0.36583**	**0.05198**	**0.39224**	**0.28726**	**0.50067**	**0.4537**	**0.50129**	**1.4222**	**0.85685**	**0.92749**	**1.15341**	**0.61947**	**0.93078**	**4.29355**	**3.04352 J**
C4-Chrysenes	**0.20196**	**0.16067**	**0.20496**	0.00507 U	**0.24918**	**0.17833**	**0.24182**	**0.26338**	**0.30748**	**1.12213**	**0.58395**	**0.56972**	**0.68994**	**0.37566**	**0.61551**	**1.9258**	**1.34378 J**
Dibenz[a,h]anthracene	**0.40796**	**0.53431**	**0.49775**	**0.05317**	**0.40261**	**0.44694**	**0.47559**	**0.51344**	**0.47343**	**0.35357 J**	**1.08625**	**0.46033**	**0.70751**	**0.43609**	**0.86985**	**4.57512**	**3.12763 J**
Dibenzofuran	**0.11109**	**0.3489**	**0.37373**	**0.01541**	**0.29808**	**0.28591**	**0.20654**	**0.18615**	**0.24846**	**0.59761**	**1.04632**	**0.62346**	**0.84854**	**0.32191**	**0.81832**	**5.48977**	**3.76674 J**
Dibenzothiophene	**0.28941**	**0.51873**	**0.85134**	**0.02979**	**0.66008**	**0.40577**	**0.73111**	**0.61114**	**0.75858**	**1.99205**	**1.43657**	**2.20957**	**2.0817**	**0.86802**	**1.39192**	**29.15832**	**15.63017 J**
C1-Dibenzothiophenes	**0.69947**	**0.79404**	**1.46308**	**0.07567**	**0.91847**	**0.48114**	**1.07078**	**0.90418**	**1.16545**	**2.29623**	**1.81621**	**3.3063**	**3.41178**	**1.42933**	**1.94032**	**37.78505**	**18.15499 J**
C2-Dibenzothiophenes	**0.79136**	**0.79854**	**1.29314**	**0.09025**	**0.88011**	**0.4912**	**1.04369**	**0.94199**	**1.22621**	**2.31741**	**1.83406**	**3.82871**	**3.89432**	**1.71017**	**2.20917**	**31.5874**	**15.14862 J**
C3-Dibenzothiophenes	**0.52023**	**0.44336**	**0.64465**	**0.06578**	**0.62688**	**0.36093**	**0.72366**	**0.64523**	**0.86652**	**1.97465**	**1.29632**	**3.01434**	**2.95933**	**1.05844**	**1.49852**	**11.15722**	**6.74066 J**
C4-Dibenzothiophenes	**0.23096**	**0.14579**	**0.23991**	**0.03783**	**0.30019**	**0.16763**	**0.3103**	**0.27896**	**0.39017**	**0.8263**	**0.57517**	**1.58272**	**1.43743**	**0.50959**	**0.70337**	**3.12085**	**1.94325 J**
Fluoranthene	**6.51977**	**8.30762**	**10.51645**	**0.87659**	**6.29666**	**5.71588**	**7.0078**	**6.46589**	**6.88934**	**9.11233**	**15.68781**	**12.65277**	**16.48337**	**7.27204**	**14.86754**	**105.8602**	**51.89767 J**
C1-Fluoranthenes/pyrenes	**4.28383**	**4.96579**	**6.18593**	**0.45173**	**4.12232**	**3.11585**	**5.41363**	**5.24476**	**5.90314**	**7.54054**	**9.78835**	**21.71338**	**27.26174**	**7.28916**	**11.50842**	**94.62409**	**57.38591 J**
C2-Fluoranthenes/pyrenes	**1.94894**	**2.5927**	**2.7391**	**0.22726**	**2.01797**	**1.63731**	**2.46485**	**2.42744**	**2.65644**	**2.33697**	**5.10812**	**7.91928**	**10.96356**	**3.07393**	**5.21046**	**29.35321**	**19.30847 J**
C3-Fluoranthenes/pyrenes	**0.74603**	**0.90929**	**1.03553**	**0.08852**	**0.81662**	**0.63784**	**0.99093**	**0.92013**	**1.03226**	**1.20819**	**1.89474**	**3.56228**	**4.46428**	**1.35303**	**2.25825**	**10.44044**	**7.27942 J**
C4-Fluoranthenes/Pyrenes	**0.27448**	**0.28768**	**0.33042**	**0.04338**	**0.35342**	**0.23853**	**0.38427**	**0.34604**	**0.42459**	**0.83842**	**0.79412**	**1.47536**	**1.71378**	**0.57075**	**0.8776**	**2.72661**	**1.94525 J**
Fluorene	**0.19722**	**0.68572**	**0.76134**	**0.02523**	**1.12077**	**0.78314**	**0.94886**	**0.85467**	**1.08181**	**3.45097**	**2.45276**	**3.7467**	**3.93521**	**1.29276**	**2.38008**	**58.78349**	**33.28701 J**
C1-Fluorenes	**0.51851**	**0.57293**	**1.11375**	**0.05326**	**0.83921**	**0.46134**	**0.81503**	**0.71219**	**0.92562**	**2.8552**	**1.49545**	**3.2728**	**3.09427**	**1.30124**	**1.753**	**38.73059**	**22.49573 J**
C2-Fluorenes	**0.72524**	**0.72779**	**1.29669**	**0.0846**	**0.92703**	**0.50656**	**0.94973**	**0.83335**	**1.17957**	**3.23394**	**1.77567**	**4.05521**	**3.97875**	**1.57024**	**2.16568**	**30.97436**	**15.75408 J**
C3-Fluorenes	**0.64471**	**0.80464**	**1.09277**	**0.08078**	**0.79656**	**0.46773**	**0.79202**	**0.68672**	**1.00063**	**3.04404**	**1.95148**	**3.5976**	**3.4628**	**1.51057**	**1.99922**	**20.32001**	**9.59498 J**
Indeno[1,2,3-cd]pyrene	**1.72145**	**2.25128**	**2.13302**	**0.25767**	**1.67709**	**1.80185**	**1.97959**	**2.0081**	**2.00418**	**1.43288 J**	**4.31543**	**2.12659**	**3.15703**	**1.71083**	**3.4812**	**16.30782**	**11.16202 J**
Naphthalene	**0.31508**	**0.31214**	**0.48119**	**0.01997**	**0.8257**	**0.46785**	**0.9321**	**1.09993**	**1.44806**	**4.59159**	**2.43781**	**2.93542**	**3.07174**	**1.43211**	**1.9366**	**36.73149**	**40.58198 J**
C1-Naphthalenes	**0.20974**	**0.21446**	**0.40252**	**0.01744**	**0.85658**	**0.45416**	**0.77363**	**0.86988**	**0.77126**	**2.88162**	**1.52269**	**4.43946**	**4.56905**	**1.31592**	**1.81295**	**70.84434**	**55.52945 J**
C2-Naphthalenes	**0.39767**	**0.44983**	**0.94558**	**0.03469**	**1.56057**	**0.81509**	**0.9016**	**0.89519**	**1.19471**	**5.3472**	**2.11309**	**7.53187**	**7.16978**	**1.84277**	**2.66448**	**92.63392**	**59.36515 J**
C3-Naphthalenes	**0.56117**	**0.57147**	**1.18049**	**0.06473**	**1.36415**	**0.71968**	**0.78505**	**0.74266**	**1.16344**	**4.57393**	**1.92902**	**6.58944**	**6.14384**	**1.91333**	**2.66919**	**53.55988**	**31.68397 J**
C4-Naphthalenes	**0.39319**	**0.33296**	**0.65254**	**0.05089**	**0.72488**	**0.37305**	**0.48171**	**0.43026**	**0.75306**	**3.20104**	**1.14051**	**4.04552**	**3.76511**	**1.42659**	**1.85404**	**22.58872**	**12.19751 J**
Perylene	**0.76188**	**0.8452**	**1.0662**	**0.1105**	**0.80516**	**0.69645**	**0.94433**	**0.82485**	**0.94228**	**0.58298**	**1.69255**	**1.14557**	**1.82158**	**1.03662**	**1.84265**	**6.70364**	**4.28205 J**
Phenanthrene	**1.50273**	**7.11667**	**7.31105**	**0.24306**	**6.95163**	**4.95587**	**7.53152**	**7.14674**	**7.61389**	**18.64836**	**17.57789**	**21.41744**	**23.09169**	**8.93159**	**16.47542**	**265.58742**	**138.14732 J**
C1-Phenanthrenes/anthracenes	**3.16271**	**5.44598**	**7.82286**	**0.34909**	**5.22134**	**3.08366**	**6.36078**	**5.43291**	**6.61908**	**13.15801**	**11.45309**	**20.07905**	**20.39997**	**8.00534**	**11.63525**	**247.41854**	**108.12753 J**
C2-Phenanthrenes/anthracenes	**2.65872**	**3.31553**	**4.72334**	**0.30237**	**2.95447**	**1.82202**	**3.54468**	**3.25057**	**4.08908**	**8.64585**	**6.49545**	**13.43064**	**13.56731**	**5.40497**	**7.63619**	**87.92864**	**47.27764 J**
C3-Phenanthrenes/anthracenes	**1.24081**	**1.24419**	**1.66781**	**0.15015**	**1.72246**	**0.98786**	**1.87191**	**1.66582**	**2.16773**	**3.99928**	**3.23914**	**7.79698**	**6.67926**	**2.59341**	**3.67739**	**24.23448**	**14.51577 J**
C4-Phenanthrenes/anthracenes	**0.43481**	**0.33582**	**0.46785**	**0.0679**	**1.51519**	**0.74669**	**1.43609**	**1.1241**	**1.41697**	**2.26518**	**1.89594**	**3.90497**	**4.42253**	**1.39172**	**1.83065**	**5.53791**	**3.22417 J**
Pyrene	**7.4211**	**9.02931**	**12.54617**	**0.91278**	**6.75372**	**4.96803**	**7.99066**	**7.41761**	**8.10231**	**10.62087**	**15.82139**	**15.76629**	**19.12435**	**8.8668**	**15.23756**	**144.82096**	**71.19701 J**

Validated

Table 3
Summary of Analytical Fractionated Results
Phase I Sediment Cores
Gowanus Canal
Brooklyn, New York

Sample Name:	GC-SED-504		GC-SED-504		GC-SED-504		GC-SED-504		GC-SED-504		GC-SED-504		Duplicate of GC-SED-504		GC-SED-504	
Sample Depth (feet):	(0.5-1.0)		(1.0-1.5)		(1.5-2.0)		(2.0-2.5)		(2.5-3.0)		(3.0-3.5)		(3.0-3.5)		(3.5-4.0)	
Sample Date:	8/8/2012		8/8/2012		8/8/2012		8/8/2012		8/8/2012		8/8/2012		8/8/2012		8/8/2012	
Sieve Number:	Bottom	200	Bottom	200	Bottom	200	Bottom	200	Bottom	200	Bottom	200	Bottom	200	Bottom	200
Alkylated PAHs (mg/kg)																
Acenaphthene	**20.97741**	**17.97762**	**20.99507**	**21.57988**	**25.04053**	**34.50504**	**9.4927**	**12.83687**	**23.3663**	**26.63888**	**29.11527 J**	**31.74943**	**16.28304 J**	**18.94499**	**38.10543**	**41.07939**
Acenaphthylene	**3.11973**	**3.8344**	**6.54821**	**9.80187**	**4.77061**	**8.74517**	**5.6348**	**8.79355**	**3.99729**	**5.83823**	**10.73394 J**	**12.59928**	**5.60922 J**	**7.57516**	**21.61917**	**20.57748**
Anthracene	**14.57433**	**11.65231**	**29.24202**	**29.17645**	**16.30864**	**23.74866**	**16.52835**	**19.52075**	**17.08329**	**19.39794**	**37.37053**	**38.10282**	**22.48091**	**24.3718**	**77.44987**	**80.03676**
Benz[a]anthracene	**8.93669**	**9.24454**	**22.44535**	**25.60273**	**12.13108**	**21.83952**	**15.49477**	**19.58692**	**11.62356**	**14.91292**	**27.59515**	**30.69258**	**16.86657**	**21.08465**	**58.37684**	**60.082**
Benzo[a]pyrene	**5.94168**	**7.53908**	**13.62292**	**18.95727**	**7.52023**	**16.19894**	**9.65794**	**14.36933**	**7.71614**	**11.82673**	**18.24246 J**	**21.76658**	**10.45021 J**	**15.62679**	**36.79362**	**40.21056**
Benzo[b]fluoranthene	**2.89705**	**3.87971**	**6.89415**	**9.00372**	**5.39291**	**8.69773**	**5.90856**	**7.38292**	**3.65161**	**5.6726**	**8.83899**	**11.48971**	**5.96149**	**7.93357**	**18.39631**	**19.52095**
Benzo[e]pyrene	**3.59809**	**4.27666**	**7.84841**	**9.88753**	**5.18187**	**8.83625**	**5.82139**	**8.35672**	**4.4422**	**6.58661**	**9.63096**	**12.72826**	**5.95781**	**8.68428**	**20.64503**	**22.13562**
Benzo[g,h,i]perylene	**2.68498**	**3.54762**	**4.53633**	**7.6218**	**3.55166**	**6.74803**	**3.95808**	**5.83673**	**2.76886 J**	**5.52231 J**	**6.41604**	**8.98414**	**3.98769**	**6.26024**	**14.33219**	**16.25165**
Benzo[k]fluoranthene	**4.40828**	**5.04362**	**7.9689**	**12.2362**	**6.61451**	**11.0952**	**7.3542**	**9.91711**	**5.4238**	**8.05583**	**11.94874**	**16.00694**	**7.19782**	**10.25999**	**23.92849**	**28.28735**
1,1-Biphenyl	**1.98923**	**1.82196**	**0.87485**	**0.98633**	**1.00777**	**1.06753**	**0.69291**	**0.79884**	**1.7197**	**1.52621**	**1.54973 J**	**1.75295 J**	**0.70461 J**	**0.743 J**	**2.84495**	**3.33653**
Chrysene	**8.39882**	**8.59676**	**20.10562**	**22.85543**	**11.09967**	**19.75119**	**14.3049**	**18.01924**	**10.55844**	**13.66962**	**24.4591**	**27.2551**	**14.96677**	**18.91452**	**51.84385**	**52.86026**
C1-Chrysenes	**8.028**	**7.87768**	**10.97082**	**15.01327**	**7.73731**	**12.53616**	**9.24938**	**12.40504**	**11.89093**	**11.56566**	**15.58722**	**19.82281**	**10.5353**	**14.86508**	**35.06448**	**39.09653**
C2-Chrysenes	**3.19071**	**3.12768**	**3.78064**	**5.56947**	**2.69229**	**4.60428**	**3.14104**	**4.52031**	**2.76299**	**3.25389**	**5.315**	**7.19998**	**3.40969**	**5.1395**	**11.20467**	**12.63847**
C3-Chrysenes	**0.9998**	**1.00587**	**1.04396**	**1.58679**	**0.84649**	**1.45277**	**0.98101**	**1.39766**	**0.94856**	**1.10177**	**1.595**	**2.05333**	**0.99587**	**1.52566**	**3.02815**	**3.38563**
C4-Chrysenes	**0.4667**	**0.44973**	**0.47127**	**0.68333**	**0.36879**	**0.59141**	**0.39298**	**0.56154**	**0.36117**	**0.42803**	**0.58263**	**0.74078**	**0.45079**	**0.73117**	**1.35142**	**1.57072**
Dibenz[a,h]anthracene	**1.02461**	**0.86798**	**1.51598**	**2.50237**	**1.21856**	**2.1644**	**1.36814**	**2.06562**	**0.76295 J**	**1.06201 J**	**2.16136 J**	**3.07965**	**1.2058 J**	**1.98248**	**4.1092**	**4.81852**
Dibenzofuran	**1.65243**	**1.41911**	**1.29118**	**1.4382**	**2.14784**	**2.36307**	**0.87134**	**1.11202**	**2.06633**	**1.96585**	**2.16166**	**2.46795**	**1.40135**	**1.59028**	**3.17847**	**3.61383**
Dibenzothiophene	**5.77135**	**4.63976**	**10.96216**	**9.7653**	**7.69507**	**9.34465**	**6.48793**	**7.45285**	**6.84069**	**7.5309**	**13.4431**	**14.73838**	**8.50849**	**8.84066**	**26.91473**	**27.67682**
C1-Dibenzothiophenes	**10.80942**	**7.4765**	**11.26144**	**12.13604**	**9.03117**	**10.27264**	**8.64396**	**9.57137**	**12.79131**	**11.50011**	**15.69477**	**17.24877**	**9.98373**	**10.74532**	**29.41497**	**32.41493**
C2-Dibenzothiophenes	**8.58019**	**5.81285**	**8.07033**	**8.90158**	**5.9076**	**7.22639**	**6.56887**	**7.41425**	**9.00134**	**8.5888**	**11.04423**	**12.4525**	**7.39986**	**8.41699**	**22.03104**	**23.98945**
C3-Dibenzothiophenes	**4.10402**	**3.31033**	**3.45408**	**4.09878**	**2.41181**	**3.39523**	**2.90136**	**3.48194**	**4.53173**	**4.61425**	**4.77568**	**5.60537**	**3.27061**	**4.01052**	**9.70202**	**10.75259**
C4-Dibenzothiophenes	**1.18708**	**1.14655**	**0.84608**	**1.09683**	**0.61553**	**0.96437**	**0.75698**	**0.95624**	**1.19368**	**1.34858**	**1.17395**	**1.42011**	**0.83796**	**1.11851**	**2.41497**	**2.76646**
Fluoranthene	**20.67108**	**15.69549**	**45.09321**	**42.86767**	**25.37318**	**36.56006**	**30.44245**	**33.23174**	**22.76539**	**25.35472**	**50.77781**	**52.64938**	**32.39682**	**34.84539**	**109.06879**	**110.02874**
C1-Fluoranthenes/pyrenes	**37.92383**	**34.77411**	**35.82807**	**45.03632**	**25.51564**	**36.65377**	**30.00038**	**35.40021**	**51.42719**	**52.79577**	**53.62563**	**61.13514**	**34.70019**	**41.78833**	**100.22609**	**114.17212**
C2-Fluoranthenes/pyrenes	**13.25224**	**12.80756**	**12.14854**	**16.12695**	**8.68878**	**13.87356**	**10.47819**	**13.28181**	**14.76877**	**18.39713**	**18.01984**	**21.92266**	**11.30014**	**14.57099**	**31.86449**	**37.08747**
C3-Fluoranthenes/pyrenes	**4.23916**	**4.61879**	**3.53797**	**5.13316**	**2.553**	**4.40704**	**3.12085**	**4.1301**	**4.74325**	**6.14159**	**5.31137**	**6.43724**	**3.1839**	**4.72876**	**9.35196**	**10.98541**
C4-Fluoranthenes/Pyrenes	**1.13058**	**1.28719**	**0.82262**	**1.17572**	**0.59178**	**1.12332**	**0.76212**	**1.02706**	**1.3177**	**1.65792**	**1.08287**	**1.55861**	**0.79459**	**1.15283**	**2.21378**	**2.55004**
Fluorene	**10.89965**	**9.41423**	**15.44417**	**14.29956**	**16.46062**	**21.66593**	**7.42043**	**9.04861**	**12.30824**	**14.09311**	**23.11044 J**	**24.11511 J**	**12.72231 J**	**13.95331 J**	**36.96296**	**38.41925**
C1-Fluorenes	**12.54693**	**8.92814**	**10.23453**	**11.18835**	**9.58249**	**10.97182**	**6.89469**	**8.03709**	**15.99232**	**14.30805**	**15.28199**	**17.16637**	**10.59345**	**11.78565**	**30.78528**	**35.00908**
C2-Fluorenes	**9.0937**	**6.79668**	**8.6401**	**9.22394**	**6.73584**	**7.70706**	**6.27186**	**7.22624**	**10.1753**	**9.047**	**11.76882**	**13.27578**	**7.48443**	**8.73193**	**23.01304**	**25.64237**
C3-Fluorenes	**6.4338**	**4.17115**	**5.07058**	**5.07695**	**4.47126**	**4.92344**	**4.57807**	**4.76051**	**6.73972**	**5.8345**	**6.5771**	**7.09187**	**4.79825**	**4.92231**	**13.12114**	**14.47093**
Indeno[1,2,3-cd]pyrene	**2.65507**	**3.48277**	**5.61181**	**8.73173**	**4.30498**	**7.97182**	**4.92493**	**6.87371**	**3.05174 J**	**5.56249 J**	**7.87101 J**	**10.76137**	**4.18559 J**	**6.44239**	**14.32052**	**16.70154**
Naphthalene	**10.60994**	**21.01695**	**6.6818**	**7.54081**	**8.81777**	**12.14937**	**4.44379**	**7.1575**	**5.32061**	**7.39742**	**5.79864**	**6.55152**	**4.67114**	**4.56569**	**6.58967**	**7.38375**
C1-Naphthalenes	**21.01607**	**23.81514**	**4.69836**	**7.28238**	**19.66241**	**26.05941**	**3.84865**	**5.86239**	**23.45479**	**23.59946**	**10.65459**	**13.27003**	**7.07966**	**9.47649**	**11.10166**	**13.80474**
C2-Naphthalenes	**30.35248**	**24.57625**	**9.13532**	**11.89702**	**22.52372**	**26.45974**	**5.40524**	**7.9173**	**34.41311**	**31.16501**	**17.29176**	**20.68207**	**12.28158**	**15.70885**	**23.91176**	**28.27831**
C3-Naphthalenes	**17.35125**	**12.24477**	**8.50425**	**9.77004**	**13.44964**	**14.88168**	**4.84471**	**6.40862**	**20.37417**	**18.01883**	**14.27383**	**16.48419**	**9.47865**	**11.35961**	**21.8139**	**25.24445**
C4-Naphthalenes	**6.39922**	**4.46561**	**3.59945**	**3.87619**	**4.14463**	**4.46532**	**2.31132**	**2.84171**	**7.72647**	**6.69916**	**5.33078**	**6.08405**	**4.28611**	**4.95522**	**10.79716**	**12.20577**
Perylene	**1.71409**	**1.67921**	**2.46657**	**3.4378**	**2.10646**	**3.21006**	**2.17525**	**2.94966**	**1.77852**	**2.319**	**3.17606 J**	**4.46472**	**1.78644 J**	**2.98462**	**5.46071**	**7.06826**
Phenanthrene	**54.3993**	**41.92105**	**104.3135**	**101.45975**	**70.60904**	**94.56292**	**63.42003**	**71.33719**	**63.73682**	**70.54051**	**131.05941**	**135.40928**	**79.07565**	**82.88942**	**257.3895**	**271.43745**
C1-Phenanthrenes/anthracenes	**59.17087**	**46.79996**	**55.47932**	**65.67124**	**42.77392**	**54.08286**	**43.18446**	**47.64184**	**82.12366**	**74.06062**	**83.77745**	**90.79766 J**	**50.43277**	**52.74897 J**	**141.8566**	**162.45758**
C2-Phenanthrenes/anthracenes	**29.33849**	**22.99852**	**25.76271**	**29.50245**	**18.42009**	**23.60098**	**20.76657**	**23.54236**	**34.74015**	**34.8395**	**36.54578**	**40.94253**	**24.70942**	**27.91903**	**72.00061**	**79.12483**
C3-Phenanthrenes/anthracenes	**9.46928**	**8.04573**	**7.81858**	**9.59552**	**5.53474**	**7.5522**	**6.50019**	**7.92355**	**9.20252**	**9.52641**	**10.87149**	**12.83382**	**7.52253**	**9.19233**	**21.73207**	**23.93043**
C4-Phenanthrenes/anthracenes	**2.18842**	**2.34599**	**1.63933**	**2.11741**	**1.28862**	**1.92015**	**1.4396**	**1.84364**	**2.21938**	**2.49536**	**2.25871**	**2.70977**	**1.57493**	**2.20096**	**4.55951**	**5.2556**
Pyrene	**28.4714**	**21.51748**	**63.07561**	**60.88477**	**34.44625**	**48.82144**	**41.7638**	**45.47171**	**32.68442**	**35.44427**	**72.04687**	**75.0915**	**45.87754**	**48.75337**	**154.62597**	**157.04537**

Table 3
Summary of Analytical Fractionated Results
Phase I Sediment Cores
Gowanus Canal
Brooklyn, New York

Sample Name:	GC-SED-505			GC-SED-505			GC-SED-505		GC-SED-505		GC-SED-505		GC-SED-505		GC-SED-505	
Sample Depth (feet):	(0.0-0.5)			(0.5-1.0)			(1.0-1.5)		(1.5-2.0)		(2.0-2.5)		(2.5-3.0)		(3.0-3.5)	
Sample Date:	8/8/2012			8/8/2012			8/8/2012		8/8/2012		8/8/2012		8/8/2012		8/8/2012	
Sieve Number:	Bottom	10	200	Bottom	10	200	Bottom	200	Bottom	200	Bottom	200	Bottom	200	Bottom	200
Alkylated PAHs (mg/kg)																
Acenaphthene	**2.70864**	**4.13554**	**2.56047**	**2.11113**	**4.23682**	**3.1111**	**2.09263**	**4.05687**	**1.38355**	**2.3692**	**1.19625**	**2.10138**	**0.82101**	**1.16541**	**1.04047**	**1.24769**
Acenaphthylene	**1.77522**	**0.26878**	**1.34803**	**1.149**	**0.59637**	**1.51734**	**1.06446**	**3.12783**	**1.30933**	**2.7243**	**0.79668**	**2.26261**	**0.98862**	**1.92002**	**0.69069**	**0.96234**
Anthracene	**3.55338**	**2.92164**	**3.3347**	**3.53196**	**4.41751**	**4.95772**	**3.65204**	**7.02156**	**2.87746**	**4.89035**	**2.24454**	**3.87649**	**1.92085**	**2.72128**	**2.07939**	**2.36997**
Benz[a]anthracene	**5.53154**	**1.70807 J**	**5.6621**	**4.49614**	**3.10395 J**	**6.58443**	**3.52955**	**9.40514**	**3.81248**	**7.95165**	**2.72161**	**6.10928**	**2.80406**	**6.09172**	**2.60855**	**3.90769**
Benzo[a]pyrene	**4.63827**	**0.68808**	**4.5893**	**3.50856**	**1.72592**	**5.13721**	**2.54481**	**7.7693**	**3.0454**	**6.68812**	**2.00957**	**5.38725**	**2.27288**	**5.81699**	**2.0745**	**3.37136**
Benzo[b]fluoranthene	**3.41286**	**0.55384**	**3.21814**	**2.78484**	**1.31835**	**3.7656**	**1.59343**	**4.76001**	**1.91819**	**4.07532**	**1.28047**	**3.38369**	**1.49771**	**3.85426**	**1.65581**	**2.79947**
Benzo[e]pyrene	**3.18777**	**0.57631 J**	**2.9546**	**2.44794**	**1.28825 J**	**3.27058**	**1.55941**	**4.52046**	**1.85509**	**3.95876**	**1.22384**	**3.34079**	**1.4449**	**3.38127**	**1.40371**	**2.26114**
Benzo[g,h,i]perylene	**2.57755**	**0.3464**	**2.37017**	**1.76231**	**0.98994**	**2.48835**	**1.07145**	**3.49898**	**1.28394**	**2.89297**	**0.75286 J**	**1.72144 J**	**1.01141**	**2.48693**	**0.9656**	**1.62077**
Benzo[k]fluoranthene	**3.95639**	**0.6602 J**	**3.80207**	**2.96145**	**1.43575 J**	**4.09573**	**1.98239**	**5.73636**	**2.30754**	**5.01568**	**1.47651**	**4.38975**	**1.82967**	**4.33956**	**1.71112**	**2.87031**
1,1-Biphenyl	**0.17719**	**0.48433**	**0.20421**	**0.20931**	**0.51289**	**0.31188**	**0.24205**	**0.47395**	**0.12739**	**0.18854**	**0.18505**	**0.2651**	**0.08503**	**0.09826**	**0.12666**	**0.11323**
Chrysene	**5.64559**	**1.81539**	**5.47051**	**4.42354**	**2.99539**	**6.10341**	**3.23425**	**8.40089**	**3.49236**	**7.10452**	**2.61468**	**5.77523**	**2.62295**	**5.92359**	**2.48333**	**3.70866**
C1-Chrysenes	**3.16328**	**0.85168**	**2.96129**	**2.41866**	**1.58458**	**3.349**	**1.92451**	**5.05709**	**2.24832**	**4.59799**	**1.47588**	**4.52917**	**1.72032**	**3.36429**	**1.43438**	**2.07934**
C2-Chrysenes	**1.34904**	**0.3525**	**1.19113**	**1.01659**	**0.60966**	**1.39365**	**0.7158**	**1.90341**	**0.82581**	**1.65356**	**0.55834**	**1.62022**	**0.65404**	**1.32124**	**0.6105**	**0.87613**
C3-Chrysenes	**0.76916**	**0.18943**	**0.6849**	**0.5843**	**0.28389**	**0.77006**	**0.33802**	**0.84391**	**0.36224**	**0.72748**	**0.26486**	**0.69829**	**0.31437**	**0.63129**	**0.32913**	**0.4844**
C4-Chrysenes	**0.57793**	0.05517 U	**0.48705**	**0.40529**	**0.16829**	**0.51387**	**0.1994**	**0.5307**	**0.21034**	**0.4452**	**0.17701**	**0.39708**	**0.20231**	**0.34985**	**0.21048**	**0.30661**
Dibenz[a,h]anthracene	**0.67933**	**0.08319 J**	**0.65425**	**0.49952**	**0.21138 J**	**0.7121**	**0.31157**	**0.98768**	**0.38323**	**0.83545**	**0.20852 J**	**0.461 J**	**0.30821**	**0.77342**	**0.29179**	**0.50723**
Dibenzofuran	**0.25279**	**0.35107**	**0.30727**	**0.23703**	**0.42086**	**0.41441**	**0.23105**	**0.64014**	**0.20348**	**0.41125**	**0.15696**	**0.3013**	**0.12169**	**0.26971**	**0.19014**	**0.26429**
Dibenzothiophene	**1.21275**	**1.44904**	**1.17887**	**1.14997**	**1.81448**	**1.68037**	**1.24975**	**2.36264**	**1.12206**	**1.74029**	**0.72824**	**1.25604**	**0.75462**	**0.9594**	**0.69875**	**0.73995**
C1-Dibenzothiophenes	**1.98245**	**1.52729**	**1.75346**	**1.65211**	**1.80381**	**2.13061**	**1.7389**	**3.00092**	**1.54861**	**2.30982**	**1.06691**	**1.92767**	**0.98842**	**1.17327**	**0.93347**	**0.92058**
C2-Dibenzothiophenes	**1.99685**	**1.13874**	**1.72225**	**1.46179**	**1.30275**	**1.81368**	**1.38218**	**2.52503**	**1.36909**	**2.19808**	**1.11687**	**2.13215**	**1.03564**	**1.37262**	**0.83688**	**0.87906**
C3-Dibenzothiophenes	**1.34235**	**0.58958**	**1.09463**	**0.88241**	**0.62934 J**	**1.13128**	**0.66053**	**1.36906**	**0.70048**	**1.25593**	**0.53269**	**1.43135**	**0.57044**	**0.89026**	**0.50768**	**0.60331**
C4-Dibenzothiophenes	**0.57763**	**0.25503**	**0.45943**	**0.38229**	**0.24476**	**0.45087**	**0.22548**	**0.46713**	**0.24011**	**0.43223**	**0.18933**	**0.58612**	**0.20864**	**0.33023**	**0.21725**	**0.26967**
Fluoranthene	**11.41803**	**5.98878**	**10.76799**	**9.69719**	**6.98469**	**12.59025**	**7.91654**	**17.41541**	**8.26701**	**12.92059**	**5.02898**	**8.77023**	**5.77609**	**10.5851**	**6.2298**	**8.28598**
C1-Fluoranthenes/pyrenes	**8.59424**	**3.74099**	**7.79158**	**6.87958**	**5.02722**	**9.17033**	**6.5686**	**14.01911**	**6.72632**	**12.35078**	**4.10805**	**13.44355**	**4.95892**	**7.7307**	**4.04996**	**4.98051**
C2-Fluoranthenes/pyrenes	**3.74385**	**1.04844**	**3.42146**	**2.80674**	**1.5164**	**3.71044**	**2.13586**	**5.41118**	**2.4368**	**5.02444**	**1.68274**	**5.78812**	**1.8391**	**3.76562**	**1.60005**	**2.3872**
C3-Fluoranthenes/pyrenes	**1.41051**	**0.31135**	**1.30623**	**1.02809**	**0.57626**	**1.33374**	**0.68402**	**1.8145**	**0.83754**	**1.7155**	**0.64681**	**2.6777**	**0.6609**	**1.27335**	**0.60448**	**0.92796**
C4-Fluoranthenes/Pyrenes	**0.58047**	**0.22585**	**0.4994**	**0.41603**	**0.21036**	**0.60107**	**0.22883**	**0.60941**	**0.27492**	**0.52009**	**0.21107**	**0.91947**	**0.23718**	**0.46684**	**0.25072**	**0.37871**
Fluorene	**1.40891**	**2.11332**	**1.45327**	**1.47442**	**2.62251**	**2.26886**	**1.36947**	**2.94498**	**0.75076**	**1.3115**	**0.76082**	**1.35966**	**0.2938**	**0.48311**	**0.79311**	**0.93296**
C1-Fluorenes	**1.57382**	**1.88595**	**1.37121**	**1.3289**	**2.10187**	**1.78723**	**1.45992**	**2.64093**	**1.20689**	**1.83865**	**0.96274**	**1.77808**	**0.7503**	**0.90925**	**0.73718**	**0.75896**
C2-Fluorenes	**1.91568**	**1.68444**	**1.62043**	**1.40454**	**1.43455**	**1.81253**	**1.36185**	**2.61496**	**1.24988**	**1.94591**	**0.86251**	**1.892**	**0.95598**	**1.20622**	**0.76201**	**0.80439**
C3-Fluorenes	**1.75377**	**1.08298**	**1.42488**	**1.22245**	**0.97699**	**1.39828**	**0.91017**	**1.7593**	**0.99121**	**1.5826**	**0.70454**	**1.44682**	**0.758**	**1.13398**	**0.66293**	**0.76421**
Indeno[1,2,3-cd]pyrene	**2.93409**	**0.30585 J**	**2.68549**	**2.10119**	**0.87235 J**	**2.90692**	**1.2654**	**4.05275**	**1.55708**	**3.45994**	**0.85776 J**	**1.95337 J**	**1.18224**	**3.06711**	**1.17193**	**2.00867**
Naphthalene	**0.54992**	**2.12326**	**0.61775**	**0.54696**	**1.45142**	**0.79337**	**0.47484**	**1.0687**	**0.33218**	**0.49236**	**0.47026**	**0.6899**	**0.26574**	**0.37164**	**0.45582**	**0.54981**
C1-Naphthalenes	**0.60155**	**2.40304**	**0.76953**	**0.6651**	**1.93205**	**1.19734**	**0.68069**	**1.7128**	**0.38004**	**0.62865**	**0.68915**	**1.1564**	**0.2274**	**0.29145**	**0.40573**	**0.46248**
C2-Naphthalenes	**1.54406**	**3.70957**	**1.61725**	**1.27371**	**3.48232**	**2.16914**	**1.64312**	**3.32778**	**1.24312**	**2.03447**	**1.68178**	**2.98955**	**0.70848**	**0.90776**	**0.91102**	**1.02929**
C3-Naphthalenes	**1.90784**	**2.56311**	**1.75603**	**1.36358**	**2.5665**	**1.88076**	**1.58993**	**2.83847**	**1.28745**	**2.03048**	**1.59413**	**2.83934**	**0.85795**	**1.07469**	**0.77084**	**0.83306**
C4-Naphthalenes	**1.24796**	**1.2278**	**1.03249**	**0.78629**	**1.12488**	**0.9448**	**0.75861**	**1.27974**	**0.6504**	**0.99091**	**0.86239**	**1.49271**	**0.51367**	**0.63557**	**0.41816**	**0.43739**
Perylene	**1.03665**	**0.13431**	**1.02006**	**0.89464**	**0.40105**	**1.20437**	**0.73214**	**1.74324**	**0.8427**	**1.56925**	**0.51742**	**1.2326**	**0.72976**	**1.39065**	**0.68802**	**0.93809**
Phenanthrene	**10.88256**	**10.95801**	**10.89587**	**11.19519**	**11.91968**	**16.49537**	**10.07446**	**22.16906**	**7.27627**	**11.8512**	**6.10118**	**10.11269**	**2.62218**	**5.63364**	**6.41434**	**7.54061**
C1-Phenanthrenes/anthracenes	**10.71874**	**7.82521**	**9.41836**	**9.5535**	**9.46722**	**12.11416**	**9.24839**	**17.12321**	**7.78137**	**12.50615**	**5.6112**	**11.78122**	**4.24982**	**5.60897**	**5.07703**	**5.30331**
C2-Phenanthrenes/anthracenes	**6.35959**	**3.73832**	**5.60708**	**4.91081**	**4.44533**	**6.12629**	**4.65127**	**8.85884**	**4.45896**	**7.56885**	**3.24878**	**7.41477**	**3.23873**	**4.52405**	**2.79462**	**3.0878**
C3-Phenanthrenes/anthracenes	**3.07603**	**1.10729**	**2.37196**	**2.06642**	**1.34722**	**2.53728**	**1.58595**	**3.35492**	**1.7072**	**3.18514**	**1.1014**	**3.22541**	**1.3451**	**2.07153**	**1.26659**	**1.42149**
C4-Phenanthrenes/anthracenes	**0.98422**	**0.29837**	**0.77941**	**0.73003**	**0.42068**	**0.80967**	**0.46367**	**1.02366**	**0.65306**	**1.10041**	**0.49793**	**1.47601**	**0.43179**	**0.69462**	**0.52555**	**0.60284**
Pyrene	**13.44436**	**7.28243**	**11.90511**	**11.19162**	**8.66043**	**13.96513**	**10.44547**	**20.65585**	**10.61185**	**16.65387**	**6.20339**	**10.80307**	**7.52301**	**11.56403**	**7.08814**	**8.50469**

Validated

Table 3
Summary of Analytical Fractionated Results
Phase I Sediment Cores
Gowanus Canal
Brooklyn, New York

Sample Name:	GC-SED-505		GC-SED-506		GC-SED-506			GC-SED-506		GC-SED-506		GC-SED-506		GC-SED-506		GC-SED-506	
Sample Depth (feet):	(3.5-4.0)		(0.0-0.5)		(0.5-1.0)			(1.0-1.5)		(1.5-2.0)		(2.0-2.5)		(2.5-3.0)		(3.0-3.5)	
Sample Date:	8/8/2012		8/7/2012		8/7/2012			8/7/2012		8/7/2012		8/7/2012		8/7/2012		8/7/2012	
Sieve Number:	Bottom	200	Bottom	200	Bottom	10	200	Bottom	200	Bottom	200	Bottom	200	Bottom	200	Bottom	200
Alkylated PAHs (mg/kg)																	
Acenaphthene	**0.82404**	**0.94621**	**1.49571**	**1.96928**	**1.38147**	**1.5072**	**1.77527**	**2.38995**	**3.49024**	**4.09737**	**4.9458**	**17.82796**	**18.33944**	**20.09545**	**19.63745**	**33.67791**	**39.21002**
Acenaphthylene	**1.15865**	**1.41564**	**1.25463**	**2.76401**	**1.4111**	**1.71806**	**2.7643**	**1.54443**	**2.40994**	**1.4733**	**2.56835**	**9.77321**	**10.11756**	**8.88491**	**7.80887**	**7.97191**	**11.44567**
Anthracene	**2.60604**	**2.94673**	**2.84894**	**4.3322**	**2.81987**	**2.94861**	**3.74858**	**2.5033**	**3.84004**	**3.7059**	**4.98529**	**27.14302**	**27.91379**	**27.09408**	**26.67951**	**33.0317**	**40.78735**
Benz[a]anthracene	**3.70307**	**4.6477**	**3.71977**	**7.61039**	**3.87585**	**4.83211**	**7.07533**	**4.38257**	**8.15378**	**4.50439**	**7.72029**	**27.26621**	**31.34457**	**25.9432**	**29.81553**	**27.56025**	**34.20373**
Benzo[a]pyrene	**3.03843**	**3.94946**	**2.79321**	**6.20269**	**3.20557**	**4.13846**	**6.4477**	**3.56388**	**7.04381**	**3.51293**	**6.50124**	**20.2133**	**24.34549**	**18.56611**	**23.29971**	**20.13583**	**26.86693**
Benzo[b]fluoranthene	**2.10306**	**2.6578**	**2.17601**	**4.33631**	**2.21572**	**2.74065**	**4.12221**	**2.46195**	**5.01319**	**2.52984**	**4.6909**	**11.66687**	**13.99316**	**11.18588**	**15.70946**	**11.51744**	**14.80115**
Benzo[e]pyrene	**1.97404**	**2.48411**	**1.96805**	**3.99644**	**2.23224**	**2.74997**	**4.17854**	**2.41781**	**4.71592**	**2.45648**	**4.24576**	**12.24181**	**14.12868**	**11.37728**	**14.36176**	**11.77141**	**15.36049**
Benzo[g,h,i]perylene	**1.65245**	**2.12609**	**1.26448**	**2.58028**	**1.88518**	**2.3135**	**3.66365**	**1.81892**	**3.58044**	**1.83023**	**3.22355**	**8.90492**	**10.12071**	**8.18951**	**10.67498**	**10.12208**	**11.19887**
Benzo[k]fluoranthene	**2.42269**	**3.20915**	**2.45569**	**4.93045**	**2.63864**	**3.30184**	**5.06666**	**2.92609**	**5.52528**	**2.92197**	**5.11577**	**14.59416**	**17.57149**	**13.93419**	**17.26166**	**14.94513**	**19.28252**
1,1-Biphenyl	**0.11529**	**0.11074**	**0.12543**	**0.13594**	**0.10454**	**0.09998**	**0.10066**	**0.1112**	**0.15539**	**0.14036**	**0.14987**	**0.23218**	**0.27875**	**0.34893**	**0.42557**	**0.47373**	**0.62975**
Chrysene	**3.52039**	**4.38988**	**3.54337**	**6.85539**	**3.68202**	**4.49936**	**6.52388**	**4.25205**	**7.69513**	**4.2567**	**7.26229**	**25.52854**	**29.01176**	**24.35938**	**27.8517**	**25.26788**	**31.05389**
C1-Chrysenes	**2.28923**	**2.78767**	**2.5724**	**5.51018**	**2.84849**	**3.497**	**5.1862**	**2.88739**	**5.094**	**2.99257**	**5.06984**	**16.19925**	**18.04156**	**15.18182**	**16.86504**	**15.76206**	**20.35548**
C2-Chrysenes	**1.0147**	**1.16914**	**1.1445**	**2.33551**	**1.16343**	**1.39719**	**2.07442**	**1.17282**	**2.15875**	**1.30238**	**2.28844**	**6.31743**	**7.05284**	**6.16435**	**6.8257**	**6.76008**	**8.62562**
C3-Chrysenes	**0.44763**	**0.53833**	**0.49858**	**0.9209**	**0.52624**	**0.64079**	**0.89442**	**0.53693**	**0.96356**	**0.60635**	**0.99698**	**2.97282**	**3.18636**	**3.25074**	**3.6984**	**3.55264**	**4.3852**
C4-Chrysenes	**0.23614**	**0.29565**	**0.3099**	**0.50472**	**0.30751**	**0.36261**	**0.51409**	**0.40307**	**0.59065**	**0.45052**	**0.60957**	**1.87209**	**1.66472**	**2.06494**	**2.1033**	**2.19178**	**2.51434**
Dibenz[a,h]anthracene	**0.46433**	**0.60389**	**0.39158**	**0.84739**	**0.53495**	**0.62914**	**0.98252**	**0.4913**	**0.9609**	**0.48741**	**0.93414**	**2.50906**	**2.93057**	**2.37971**	**3.22036**	**2.65331**	**3.37082**
Dibenzofuran	**0.19027**	**0.21106**	**0.19248**	**0.27495**	**0.21752**	**0.22422**	**0.25779**	**0.17803**	**0.36235**	**0.30282**	**0.46429**	**1.53049**	**1.89715**	**1.92333**	**2.15491**	**3.06072**	**3.72343**
Dibenzothiophene	**0.89627**	**0.9603**	**0.94125**	**1.28766**	**0.92006**	**0.925**	**1.05004**	**0.63912**	**0.99341**	**1.13595**	**1.42602**	**9.6289**	**10.11087**	**10.06036**	**9.96652**	**13.00365**	**15.50728**
C1-Dibenzothiophenes	**1.2647**	**1.3491**	**1.61964**	**2.31725**	**1.46662**	**1.48**	**1.66489**	**1.49695**	**1.96291**	**1.98747**	**2.44041**	**16.12697**	**16.08418**	**16.83787**	**16.43714**	**19.79182**	**24.11963**
C2-Dibenzothiophenes	**1.3363**	**1.44031**	**1.80237**	**2.81704**	**1.84763**	**1.95696**	**2.35203**	**1.76794**	**2.43852**	**2.24443**	**2.92622**	**15.90587**	**15.91473**	**17.18232**	**16.76429**	**18.56359**	**23.74874**
C3-Dibenzothiophenes	**0.79988**	**0.88287**	**1.0294**	**1.69083**	**1.05248**	**1.18538**	**1.45782**	**1.17333**	**1.67154**	**1.52668**	**2.00088**	**9.91326**	**9.86574**	**11.38395**	**11.51737**	**12.72298**	**15.56026**
C4-Dibenzothiophenes	**0.33171**	**0.36274**	**0.47308**	**0.70485**	**0.45199**	**0.48455**	**0.61205**	**0.4901**	**0.68753**	**0.65781**	**0.84368**	**3.78168**	**3.74233**	**4.52648**	**4.55344**	**4.78261**	**6.08789**
Fluoranthene	**7.76566**	**9.40674**	**7.01653**	**10.79087**	**7.07716**	**7.6951**	**10.25546**	**7.5609**	**12.47349**	**9.11566**	**13.07962**	**52.09858**	**68.15989**	**47.80536**	**53.18918**	**48.79617**	**62.91011**
C1-Fluoranthenes/pyrenes	**6.26191**	**7.08002**	**7.23943**	**13.39549**	**7.65744**	**8.76588**	**12.16037**	**7.44815**	**11.77511**	**8.25872**	**12.15302**	**51.8669**	**54.81146**	**44.18761**	**47.79684**	**43.43933**	**57.95731**
C2-Fluoranthenes/pyrenes	**2.60089**	**3.01349**	**2.72466**	**5.40513**	**2.93793**	**3.485**	**5.19528**	**3.10567**	**5.08374**	**3.21389**	**5.29399**	**18.37417**	**20.18028**	**16.06515**	**18.62959**	**15.74619**	**21.72594**
C3-Fluoranthenes/pyrenes	**0.99656**	**1.12896**	**1.14428**	**2.2061**	**1.22436**	**1.40037**	**2.12216**	**1.1326**	**1.99378**	**1.32533**	**2.06327**	**7.47403**	**7.17703**	**6.16512**	**7.22115**	**5.96587**	**8.7075**
C4-Fluoranthenes/Pyrenes	**0.37252**	**0.3827**	**0.50118**	**0.75721**	**0.47872**	**0.54891**	**0.718**	**0.48018**	**0.79737**	**0.52487**	**0.75451**	**2.23828**	**2.2709**	**2.3453**	**2.4997**	**2.17637**	**2.92924**
Fluorene	**0.38153**	**0.42552**	**0.8167**	**1.11059**	**0.66734**	**0.68538**	**0.8189**	**0.58231**	**1.09125**	**0.80578**	**1.11817**	**8.68583**	**9.24181**	**11.78368**	**12.01986**	**17.15804**	**20.58867**
C1-Fluorenes	**0.77166**	**0.82148**	**1.37701**	**1.85782**	**1.29975**	**1.31489**	**1.53276**	**1.13277**	**1.54027**	**1.67982**	**2.09423**	**12.63692**	**12.63315**	**14.37514**	**13.90323**	**18.4261**	**22.33371**
C2-Fluorenes	**1.05936**	**1.16204**	**1.78115**	**2.51766**	**1.78521**	**1.78834**	**2.13107**	**1.65721**	**2.25591**	**2.46967**	**2.9474**	**17.29657**	**17.38901**	**20.59656**	**20.05512**	**23.69089**	**29.59606**
C3-Fluorenes	**0.96781**	**1.0037**	**1.48576**	**2.11005**	**1.52457**	**1.51603**	**1.81712**	**1.31652**	**1.80423**	**1.87551**	**2.37884**	**12.92214**	**12.70686**	**15.5517**	**15.5711**	**17.22107**	**22.42989**
Indeno[1,2,3-cd]pyrene	**1.90906**	**2.58391**	**1.62592**	**3.29207**	**1.93085**	**2.38496**	**3.73787**	**1.96426**	**3.91028**	**2.03315**	**3.74332**	**9.81496**	**11.29506**	**9.27767**	**12.33714**	**10.50701**	**12.65469**
Naphthalene	**0.54025**	**0.53029**	**0.46253**	**0.50646**	**0.45174**	**0.35207**	**0.50004**	**0.74708**	**1.10532**	**0.97206**	**1.11542**	**2.09716**	**2.68409**	**3.06357**	**3.62186**	**4.24578**	**5.98354**
C1-Naphthalenes	**0.40483**	**0.40002**	**0.51415**	**0.6167**	**0.42075**	**0.42199**	**0.47844**	**0.65399**	**1.07339**	**1.11041**	**1.33067**	**3.75473**	**4.67666**	**5.59801**	**6.68282**	**17.45029**	**21.75561**
C2-Naphthalenes	**0.73744**	**0.80456**	**1.75721**	**2.2284**	**1.7528**	**1.87922**	**2.05452**	**1.76843**	**2.5587**	**3.25246**	**3.87424**	**14.80368**	**15.98**	**19.04354**	**19.88136**	**40.48379**	**47.59303**
C3-Naphthalenes	**0.67745**	**0.78798**	**2.02163**	**2.61784**	**2.22067**	**2.28544**	**2.55538**	**2.25143**	**3.02903**	**3.85277**	**4.47115**	**20.63227**	**20.70841**	**26.91996**	**26.44311**	**46.09554**	**52.80845**
C4-Naphthalenes	**0.4465**	**0.48835**	**1.44066**	**1.8127**	**1.4531**	**1.49295**	**1.66228**	**1.57064**	**1.96728**	**2.51402**	**2.83733**	**14.22105**	**13.77869**	**19.33254**	**18.39188**	**28.02843**	**32.42814**
Perylene	**0.92455**	**1.11758**	**0.78404**	**1.40266**	**0.98925**	**1.1227**	**1.61011**	**0.89935**	**1.64655**	**0.88562**	**1.49025**	**3.6889**	**4.35105**	**3.61069**	**4.56983**	**4.13417**	**4.8793**
Phenanthrene	**3.85444**	**4.43478**	**5.00963**	**7.68725**	**2.9945**	**3.09281**	**4.33986**	**4.01994**	**8.1731**	**6.77442**	**9.84783**	**81.99329**	**95.09665**	**92.60646**	**88.73003**	**115.81758**	**114.23689**
C1-Phenanthrenes/anthracenes	**6.26132**	**6.7587**	**7.21543**	**10.94906**	**6.88199**	**7.2557**	**8.66675**	**6.71458**	**9.95429**	**8.91172**	**11.61864**	**81.0656**	**80.35092**	**81.41137**	**80.78281**	**87.84929**	**111.47734**
C2-Phenanthrenes/anthracenes	**4.26143**	**4.7487**	**5.54873**	**8.93823**	**5.96458**	**6.52987**	**8.08616**	**5.45746**	**7.7515**	**6.99179**	**9.05546**	**50.51809**	**49.76288**	**52.41777**	**52.33839**	**55.0053**	**69.72196**
C3-Phenanthrenes/anthracenes	**1.80826**	**1.99924**	**2.17956**	**3.67099**	**2.24703**	**2.5279**	**3.30299**	**2.49729**	**3.52196**	**3.18529**	**4.32615**	**21.33244**	**21.72205**	**23.37711**	**25.11357**	**24.5172**	**31.33039**
C4-Phenanthrenes/anthracenes	**0.57138**	**0.63032**	**0.83418**	**1.31061**	**0.83145**	**0.95291**	**1.1985**	**1.07131**	**1.36745**	**1.43916**	**1.87264**	**6.15253**	**6.14481**	**6.93962**	**7.1358**	**7.19015**	**9.56404**
Pyrene	**9.60565**	**11.34762**	**8.7662**	**16.39721**	**10.14218**	**10.23925**	**13.19438**	**9.71741**	**14.98679**	**11.33333**	**15.43775**	**78.85268**	**88.40392**	**75.47737**	**75.53775**	**83.28339**	**84.53275**

Validated

Table 3
Summary of Analytical Fractionated Results
Phase I Sediment Cores
Gowanus Canal
Brooklyn, New York

Sample Name:	GC-SED-506		GC-SED-507		GC-SED-507			GC-SED-507			GC-SED-507			GC-SED-507		
Sample Depth (feet):	(3.5-4.0)		(0.0-0.5)		(0.5-1.0)			(1.0-1.5)			(1.5-2.0)			(2.0-2.5)		
Sample Date:	8/7/2012		8/6/2012		8/6/2012			8/6/2012			8/6/2012			8/6/2012		
Sieve Number:	Bottom	200	Bottom	200	Bottom	10	200	Bottom	10	200	Bottom	10	200	Bottom	10	200
Alkylated PAHs (mg/kg)																
Acenaphthene	**31.64408**	**39.51267**	**24.9775**	**33.09519 J**	**25.48476**	**46.57141**	**29.12332**	**21.45956**	**26.51252**	**31.89926**	**25.68978**	**22.05425**	**34.60689**	**35.53945**	**116.9452**	**37.87097**
Acenaphthylene	**11.28092**	**14.93089**	**7.10593**	**9.85406 J**	**7.17011**	**3.07858**	**13.04844**	**6.43328**	**6.79055**	**8.63631**	**8.68784**	**1.98289**	**15.38602**	**7.13912**	**10.63857**	**12.76952**
Anthracene	**46.24036**	**56.50406**	**15.47745**	**20.50917 J**	**19.81362**	**19.2978**	**29.65744**	**16.84625**	**20.947**	**24.51653**	**26.69752**	**13.39749**	**30.94228**	**25.61515**	**72.36439**	**30.99116**
Benz[a]anthracene	**38.74572**	**52.61196**	**15.89817**	**26.74212 J**	**17.92771**	**6.23682**	**41.80217**	**16.13815**	**21.97784**	**26.28883**	**21.7048**	**6.52584**	**31.04921**	**20.28248**	**22.92094**	**34.66762**
Benzo[a]pyrene	**29.31056**	**43.61264**	**13.09625**	**20.34811 J**	**14.27262**	**2.44722**	**35.45238**	**11.88586**	**18.79416**	**21.66287**	**16.30112**	**3.31459**	**25.47714**	**14.20657**	**9.59885**	**25.89818**
Benzo[b]fluoranthene	**15.09036**	**23.71217**	**7.65148**	**11.02335 J**	**8.13827**	**1.4216**	**23.49795**	**7.26724**	**13.45083**	**15.97108**	**9.60904**	**1.8293**	**14.99505**	**8.02353**	**6.06034**	**13.57994**
Benzo[e]pyrene	**16.13125**	**24.02232**	**7.98546**	**11.61536 J**	**8.70867**	**1.6106**	**21.82703**	**7.61118**	**11.6487**	**13.35065**	**10.25565**	**2.10921**	**16.2136**	**8.57209**	**6.56663**	**14.21241**
Benzo[g,h,i]perylene	**13.81853**	**21.12878**	**6.41305**	**8.6732 J**	**4.0392**	**0.69971**	**14.29713**	**4.73604**	**8.15366**	**8.00312**	**7.49635**	**1.05918**	**9.1953**	**6.19209**	**3.79234**	**10.52008**
Benzo[k]fluoranthene	**21.19419**	**29.61312**	**9.48016**	**13.75299 J**	**10.3732**	**1.91395**	**28.09893**	**9.54922**	**15.66572**	**16.87664**	**12.35004**	**2.43864**	**19.92973**	**10.52601**	**7.42735**	**16.64306**
1,1-Biphenyl	**0.59076**	**1.06927**	**0.88915**	**1.26703 J**	**1.95423**	**7.36445**	**3.33118**	**1.3879**	**3.28956**	**2.91228**	**2.18344**	**3.40126**	**3.89305**	**2.88633**	**12.76094**	**3.04021**
Chrysene	**34.6341**	**45.84544**	**15.65285**	**24.52675 J**	**17.81143**	**5.89445**	**39.96059**	**15.78406**	**20.13137**	**25.2981**	**20.21208**	**6.33584**	**29.69157**	**19.52612**	**22.7951**	**32.02245**
C1-Chrysenes	**21.92221**	**30.09324**	**11.50606**	**18.31764 J**	**12.66562**	**3.26518**	**29.74121**	**11.10366**	**12.26761**	**17.60849**	**14.70009**	**3.99445**	**25.45263**	**13.03396**	**12.11116**	**20.90445**
C2-Chrysenes	**9.21464**	**12.80758**	**4.58791**	**7.18069 J**	**5.30244**	**3.29657**	**12.24873**	**4.48528**	**4.13624**	**6.8002**	**5.2789**	**1.6579**	**9.64361**	**4.78034**	**4.00956**	**7.51357**
C3-Chrysenes	**4.9707**	**6.61843**	**1.78441**	**3.02924 J**	**2.20957**	0.14859 U	**5.6264**	**1.83813**	**1.62461**	**2.87959**	**1.87545**	**0.89978**	**3.73093**	**1.7145**	**2.17928**	**2.5467**
C4-Chrysenes	**3.20785**	**3.55283**	**1.09418**	**1.58333 J**	**1.22591**	0.14859 U	**2.42153**	**1.15596**	**0.97762**	**1.50978**	**0.96164**	**0.5918**	**1.73318**	**1.01893**	**0.61571**	**1.18504**
Dibenz[a,h]anthracene	**3.73227**	**5.98758**	**1.73582**	**2.38704 J**	**1.08008**	**0.21199**	**3.83877**	**1.36964**	**2.57026**	**2.46709**	**2.2338**	**0.29343**	**2.93393**	**1.69889**	**0.92822**	**2.98598**
Dibenzofuran	**2.9419**	**4.18395**	**1.29218**	**1.68041 J**	**1.45612**	**2.81536**	**3.89797**	**1.39682**	**2.42365**	**2.86708**	**1.82307**	**2.0012**	**2.81523**	**2.11482**	**7.06064**	**2.32911**
Dibenzothiophene	**16.21099**	**19.78179**	**5.72073**	**7.18843 J**	**6.46922**	**8.73273**	**11.1232**	**6.55**	**8.39567**	**10.37535**	**9.95544**	**6.97596**	**13.02987**	**10.19706**	**32.24681**	**10.52077**
C1-Dibenzothiophenes	**26.21159**	**31.52447**	**9.15719**	**11.47684 J**	**9.46433**	**8.24785**	**15.54776**	**8.44701**	**9.84868**	**12.05279**	**11.69403**	**6.5379**	**16.61963**	**13.59529**	**31.37878**	**14.86483**
C2-Dibenzothiophenes	**25.73017**	**29.75751**	**9.31937**	**11.78824 J**	**8.84667**	**6.17286**	**15.16163**	**7.81991**	**8.00288**	**10.65226**	**9.82097**	**4.32074**	**15.07259**	**11.4574**	**18.61449**	**13.45316**
C3-Dibenzothiophenes	**17.21208**	**19.82117**	**4.27822**	**6.01517 J**	**4.89578**	**4.91127**	**9.43818**	**4.41108**	**3.99283**	**6.15822**	**4.47121 J**	**1.78377**	**8.48004**	**4.66556**	**7.92683**	**5.70198**
C4-Dibenzothiophenes	**6.41485**	**7.69323**	**1.44921**	**1.9584 J**	**2.16201**	**1.95628**	**4.03448**	**1.55648**	**1.57512**	**2.16964**	**1.49951**	**0.64618**	**2.73685**	**1.42995**	**2.76794**	**1.76857**
Fluoranthene	**68.5584**	**85.64929**	**26.37659**	**38.51603 J**	**33.87558**	**21.53105**	**80.32026**	**27.89734**	**41.17169**	**47.73706**	**34.69666**	**15.27951**	**50.71608**	**41.23395**	**83.90604**	**51.62334**
C1-Fluoranthenes/pyrenes	**63.23432**	**77.76857**	**26.92724**	**41.9629 J**	**41.4661**	**16.90903**	**104.17328**	**29.95435**	**33.75572**	**46.61115**	**43.19019**	**13.75622**	**68.81643**	**36.44094**	**59.16535**	**47.78093**
C2-Fluoranthenes/pyrenes	**21.88372**	**28.93846**	**10.0739**	**16.37109 J**	**16.02335**	**4.13302**	**39.38811**	**11.09695**	**12.70722**	**17.62043**	**14.17167**	**3.93128**	**24.91689**	**11.90332**	**14.48459**	**16.88119**
C3-Fluoranthenes/pyrenes	**8.85682**	**11.71724**	**3.72286**	**6.64184 J**	**8.3767**	**1.38221**	**17.57677**	**4.51142**	**4.4418**	**7.52552**	**4.82512**	**1.32627**	**9.81333**	**4.30419**	**4.97104**	**6.23643**
C4-Fluoranthenes/Pyrenes	**3.24389**	**3.94816**	**1.26492**	**1.92702 J**	**2.97395**	**0.52735**	**7.12354**	**1.34054**	**1.20856**	**2.02572**	**1.41961**	**0.50268**	**2.45593**	**1.3748**	**2.13183**	**1.69627**
Fluorene	**19.37951**	**24.59484**	**6.6183**	**8.58936 J**	**9.54503**	**18.50558**	**17.32877**	**7.97444**	**13.34152**	**14.31765**	**13.62536**	**12.82455**	**18.98581**	**12.16354**	**52.60547**	**12.22313**
C1-Fluorenes	**21.66054**	**26.7214**	**8.39336**	**10.58269 J**	**10.01919**	**11.68982**	**15.09666**	**8.99918**	**11.17606**	**13.38275**	**12.66596**	**8.33503**	**18.3634**	**14.31624**	**42.44967**	**14.5184**
C2-Fluorenes	**29.17921**	**35.98749**	**7.59779**	**10.78371 J**	**9.78324**	**8.36236**	**16.28086**	**8.25782**	**8.84688**	**11.2132**	**9.57484**	**5.33563**	**15.83554**	**11.18581**	**24.64141**	**12.48294**
C3-Fluorenes	**22.07776**	**26.46811**	**7.20991**	**8.27731 J**	**6.82659**	**4.70946**	**11.779**	**6.05796**	**5.56558**	**8.38018**	**6.69695**	**3.139**	**9.83432**	**8.29064**	**12.78888**	**8.65283**
Indeno[1,2,3-cd]pyrene	**14.64827**	**22.64627**	**6.52795**	**8.85582 J**	**4.42479**	**0.66523**	**20.4892**	**5.2422**	**9.85936**	**9.38353**	**7.94395**	**1.03279**	**10.42489**	**6.5031**	**3.66493**	**11.14844**
Naphthalene	**5.072**	**8.23166**	**4.68741**	**9.02182 J**	**6.34949**	**70.39497**	**16.69896**	**4.71168**	**16.1121**	**12.13852**	**5.02468**	**12.10998**	**14.13263**	**10.04184**	**84.18845**	**15.5934**
C1-Naphthalenes	**10.93349**	**16.64975**	**9.74265**	**14.00585 J**	**12.99955**	**60.7138**	**22.28208**	**6.03072**	**19.42787**	**15.20029**	**7.77145**	**17.54125**	**19.50736**	**17.83091**	**100.86533**	**20.22253**
C2-Naphthalenes	**32.34662**	**42.47217**	**17.06391**	**21.63727 J**	**22.37489**	**49.38994**	**31.83434**	**13.459**	**25.38017**	**24.87214**	**17.67639**	**23.37398**	**33.07238**	**32.90619**	**132.85935**	**32.61596**
C3-Naphthalenes	**46.71043**	**57.85729**	**14.7805**	**17.54599 J**	**18.18145**	**24.81288**	**23.62747**	**13.95649**	**17.71969**	**21.03434**	**14.77486**	**13.48793**	**25.09206**	**24.51749**	**73.78305**	**23.42259**
C4-Naphthalenes	**31.26728**	**39.07525**	**8.03387**	**9.52759 J**	**9.16265**	**9.28946**	**12.13571**	**7.2232**	**7.58217**	**9.92482**	**6.99339**	**4.97781**	**11.8308**	**10.64822**	**25.09253**	**10.2003**
Perylene	**5.6124**	**7.72698**	**2.48965**	**3.47398 J**	**2.72795**	**0.36689**	**9.07416**	**2.37271**	**4.32499**	**4.32187**	**3.31309**	**0.52788**	**4.8396**	**2.74372**	**1.46733**	**4.3568**
Phenanthrene	**141.0616**	**148.28963**	**37.92952**	**58.37497 J**	**52.13882**	**66.41746**	**92.5279**	**44.39273**	**64.61203**	**75.41001**	**58.69471**	**47.923**	**93.60405**	**85.43188**	**312.69205**	**95.53821**
C1-Phenanthrenes/anthracenes	**121.6316**	**141.02477**	**47.05348**	**61.87956 J**	**54.64539**	**39.6059**	**109.98708**	**45.35389**	**55.57655**	**67.31898**	**60.75075**	**33.39399**	**97.93914**	**73.55124**	**166.43626**	**83.68806**
C2-Phenanthrenes/anthracenes	**73.43447**	**87.42498**	**25.83157**	**34.91822 J**	**28.24482**	**16.76286**	**52.69992**	**24.4571**	**25.90722**	**34.39615**	**34.10769**	**12.97642**	**48.58612**	**32.83857**	**57.74004**	**39.20581**
C3-Phenanthrenes/anthracenes	**33.06125**	**39.14889**	**9.07333**	**13.04861 J**	**12.17404**	**5.24111**	**22.54152**	**9.40877**	**7.9766**	**12.83113**	**10.68678**	**3.7048**	**18.12245**	**9.85381**	**15.72135**	**12.20937**
C4-Phenanthrenes/anthracenes	**9.69889**	**11.7535**	**2.44721**	**3.64728 J**	**3.44556**	**3.65877**	**7.01915**	**2.79979**	**1.74475**	**3.45695**	**2.6916**	**0.86264**	**4.84648**	**2.58922**	**3.88229**	**2.88874**
Pyrene	**90.58579**	**112.51678**	**34.73477**	**50.49323 J**	**45.23742**	**28.20534**	**86.76667**	**36.70424**	**46.94798**	**57.07583**	**47.45881**	**19.89435**	**67.31718**	**54.1**	**119.09435**	**66.25966**

Table 3
Summary of Analytical Fractionated Results
Phase I Sediment Cores
Gowanus Canal
Brooklyn, New York

Sample Name:	GC-SED-507			GC-SED-507			GC-SED-508			GC-SED-508		GC-SED-508		GC-SED-508	
Sample Depth (feet):	(2.5-3.0)			(3.0-3.5)			(0.5-1.0)			(1.0-1.5)		(1.5-2.0)		(2.0-2.5)	
Sample Date:	8/6/2012			8/6/2012			8/7/2012			8/7/2012		8/7/2012		8/7/2012	
Sieve Number:	Bottom	10	200	Bottom	10	200	Bottom	10	200	Bottom	200	Bottom	200	Bottom	200
Alkylated PAHs (mg/kg)															
Acenaphthene	**63.03229**	**59.92646**	**48.68831**	**99.82359**	**61.62776**	**22.70846**	**12.23775**	**25.11366**	**17.58314**	**35.19377**	**43.86971**	**30.52113**	**32.23929**	**28.17229**	**26.73284**
Acenaphthylene	**6.96641**	**1.6962**	**9.55901**	**10.30073**	**1.56344**	**4.26617**	**8.40585**	**7.14909**	**17.76932**	**10.31721**	**15.39915**	**9.74313**	**15.2856**	**9.58018**	**15.83161**
Anthracene	**22.77232**	**17.09536**	**18.35746**	**34.43019**	**12.56666**	**8.47447**	**12.32901**	**21.35983**	**20.50867**	**14.87273**	**22.97466**	**14.88261**	**21.05579**	**14.77979**	**21.20355**
Benz[a]anthracene	**20.17041**	**6.40001**	**23.34449**	**26.38273**	**3.78872**	**8.79962**	**24.08477**	**35.00515**	**41.30688**	**34.09713**	**49.82561**	**26.77645**	**40.63318**	**34.82117**	**50.04264**
Benzo[a]pyrene	**14.27311**	**2.62275**	**19.81995**	**20.98035**	**1.74999**	**7.77383**	**16.03531**	**17.13838**	**31.00051**	**25.42477**	**40.0722**	**20.55904**	**34.15895**	**20.4742**	**38.21522**
Benzo[b]fluoranthene	**9.02083**	**1.62532**	**12.34674**	**11.47915**	**1.06804**	**5.01816**	**8.58786**	**9.56525**	**17.38102**	**10.58182**	**18.33789**	**11.89865**	**21.27542**	**13.05798**	**19.75982**
Benzo[e]pyrene	**9.08131**	**1.66413**	**12.45341**	**12.60918**	**1.20826**	**5.26533**	**9.71486**	**10.28285**	**19.00845**	**11.55857**	**18.88174**	**12.34648**	**21.31978**	**12.839**	**19.3395**
Benzo[g,h,i]perylene	**6.7668**	**1.01724**	**9.22475**	**10.9776**	**0.57023**	**4.94826**	**7.8942**	**6.74041**	**15.99279**	**9.06057**	**15.00399**	**8.6038**	**15.27211**	**8.73382**	**13.41641**
Benzo[k]fluoranthene	**11.06503**	**2.00469**	**14.777**	**15.81168**	**1.36202**	**6.41778**	**11.97579**	**10.88563**	**22.00917**	**13.76696**	**21.7113**	**15.24339**	**25.90404**	**15.76946**	**22.81982**
1,1-Biphenyl	**1.42541**	**4.77392**	**1.19655**	**0.98239**	**2.85687**	**0.3486**	**0.24255**	**0.25179**	**0.33903**	**0.4025**	**0.68018**	**0.5067**	**0.72019**	**0.64344**	**0.69956**
Chrysene	**19.73029**	**6.21724**	**21.95156**	**24.43433**	**3.66338**	**7.88087**	**21.66177**	**30.87589**	**36.50679**	**31.53176**	**45.32856**	**31.43402**	**37.17949**	**31.31089**	**44.5898**
C1-Chrysenes	**12.79316**	**3.00705**	**17.61092**	**17.57362**	**2.33269**	**7.31376**	**15.29994**	**18.27335**	**30.03381**	**16.52182**	**26.64573**	**19.33102**	**28.70609**	**20.3721**	**30.99262**
C2-Chrysenes	**4.6754**	**0.92581**	**6.33366**	**6.11612**	**1.30505**	**2.72231**	**5.20045**	**5.17139**	**10.48173**	**5.76344**	**10.24798**	**6.95415**	**10.45524**	**8.86595**	**12.76199**
C3-Chrysenes	**1.72689**	**0.32072**	**2.38165**	**2.36687**	**1.07846**	**0.95076**	**1.81451**	**1.83595**	**3.28811**	**2.11522**	**3.27823**	**2.66329**	**3.927**	**2.93548**	**4.00084**
C4-Chrysenes	**1.08204**	**0.25866**	**1.16728**	**1.1306**	**0.77731**	**0.43957**	**0.90894**	**0.95507**	**1.70205**	**1.12589**	**1.61825**	**1.37618**	**2.00882**	**1.49593**	**1.79785**
Dibenz[a,h]anthracene	**1.83785**	**0.27657**	**2.58593**	**3.13793**	**0.18803**	**1.48863**	**2.27746**	**1.93134**	**4.60895**	**2.5317**	**4.15716**	**2.3021**	**4.39823**	**2.86565**	**4.53518**
Dibenzofuran	**3.53834**	**4.33431**	**3.01157**	**5.65088**	**4.06991**	**1.58405**	**0.67952**	**1.40757**	**1.0096**	**1.30426**	**1.89799**	**1.4483**	**2.3806**	**1.43227**	**1.47263**
Dibenzothiophene	**12.10573**	**10.24752**	**9.30183**	**24.04095**	**8.81468**	**5.46235**	**5.98322**	**12.5495**	**8.67974**	**8.00565**	**10.9347**	**9.6674**	**10.72633**	**7.85762**	**9.12415**
C1-Dibenzothiophenes	**13.59869**	**8.74128**	**11.12756**	**14.39919**	**4.35546**	**4.25208**	**16.61818**	**31.08124**	**23.71847**	**17.26732**	**22.97343**	**23.25253**	**25.0486**	**26.93082**	**27.58842**
C2-Dibenzothiophenes	**11.35319**	**5.34781**	**10.49528**	**11.61493**	**2.60522**	**3.6527**	**13.79648**	**22.24012**	**20.83501**	**13.16977**	**18.3187**	**18.36748**	**20.47737**	**20.73038**	**23.21628**
C3-Dibenzothiophenes	**4.39824**	**1.55831**	**4.87701**	**5.58475**	**1.21051**	**1.88623**	**5.26989**	**6.93629**	**8.95697**	**6.67975**	**9.59566**	**8.835**	**10.70051**	**9.49808**	**10.73394**
C4-Dibenzothiophenes	**1.4257**	**0.44718**	**1.57176**	**1.95541**	**0.6956**	**0.68595**	**1.67217**	**1.98056**	**2.81088**	**2.18369**	**3.1915**	**3.09305**	**3.64422**	**3.6465**	**3.94459**
Fluoranthene	**38.47972**	**19.04358**	**35.50495**	**48.88146**	**10.94041**	**12.91337**	**70.95006**	**107.10718**	**95.74432**	**90.48356**	**111.19394**	**78.96614**	**91.08334**	**121.56131**	**118.80327**
C1-Fluoranthenes/pyrenes	**34.45617**	**13.60182**	**41.1152**	**53.14296**	**8.54207**	**18.03668**	**58.16973**	**85.59639**	**95.07225**	**52.82113**	**78.76062**	**61.37226**	**76.27698**	**64.822**	**86.81772**
C2-Fluoranthenes/pyrenes	**11.8513**	**3.19601**	**15.644**	**17.09771**	**2.4059**	**6.52016**	**16.49036**	**20.55224**	**31.05616**	**16.87906**	**28.36553**	**19.44624**	**27.03074**	**19.12715**	**29.43621**
C3-Fluoranthenes/pyrenes	**4.16809**	**0.90034**	**5.83805**	**5.9201**	**1.28525**	**2.33187**	**5.20996**	**5.09371**	**10.40382**	**5.54884**	**9.44553**	**7.23452**	**10.78652**	**7.05598**	**10.33539**
C4-Fluoranthenes/Pyrenes	**1.34724**	**0.29986**	**1.58588**	**1.67467**	**0.90399**	**0.63966**	**1.44523**	**2.52945**	**2.58779**	**1.69457**	**2.63602**	**2.32656**	**3.43058**	**2.30389**	**2.87633**
Fluorene	**9.79947**	**14.6728**	**8.20913**	**5.08986**	**6.44994**	**1.54363**	**1.7226**	**3.09835**	**2.60116**	**2.22224**	**3.26591**	**3.208**	**4.78643**	**4.13413**	**5.21496**
C1-Fluorenes	**13.69987**	**10.59516**	**10.8525**	**21.0175**	**8.02997**	**6.1741**	**7.9788**	**15.46544**	**12.43132**	**9.2097**	**12.30124**	**10.06995**	**11.11713**	**9.00409**	**11.90936**
C2-Fluorenes	**10.68423**	**6.20027**	**9.15568**	**11.94354**	**3.51816**	**3.64202**	**15.8098**	**26.49371**	**23.12866**	**15.66666**	**21.26835**	**22.69269**	**24.44683**	**25.45017**	**25.59102**
C3-Fluorenes	**8.85074**	**3.36683**	**7.51603**	**8.82412**	**1.80775**	**2.55171**	**8.19573**	**13.389**	**13.18888**	**7.78156**	**10.59618**	**13.55753**	**15.16709**	**15.16198**	**14.80706**
Indeno[1,2,3-cd]pyrene	**7.15029**	**1.02943**	**9.77325**	**11.15674**	**0.6125**	**5.08384**	**7.77091**	**6.5435**	**15.98571**	**9.25519**	**15.35436**	**9.19379**	**16.32108**	**10.61099**	**16.58214**
Naphthalene	**6.02843**	**33.81622**	**6.37901**	**4.22878**	**18.65945**	**1.63598**	**5.90113**	**14.32323**	**10.31168**	**10.81602**	**17.61267**	**14.43036**	**20.49578**	**18.14884**	**23.49603**
C1-Naphthalenes	**14.49767**	**39.6111**	**12.46027**	**3.37677**	**12.64735**	**1.34006**	**4.42583**	**12.78279**	**7.15438**	**18.31502**	**26.60602**	**18.69024**	**21.91579**	**13.60877**	**13.39632**
C2-Naphthalenes	**27.31849**	**37.94285**	**21.57231**	**18.993**	**21.30808**	**5.57172**	**3.83432**	**8.24271**	**6.07543**	**9.52864**	**13.51041**	**11.35106**	**13.03268**	**10.40234**	**10.68762**
C3-Naphthalenes	**22.8255**	**18.72576**	**17.49848**	**32.49544**	**14.88481**	**8.9782**	**7.70292**	**15.2828**	**11.56187**	**14.17156**	**18.84983**	**14.89381**	**16.3632**	**10.75589**	**11.22466**
C4-Naphthalenes	**9.5193**	**5.88503**	**7.60099**	**9.61079**	**3.38399**	**2.70796**	**6.4981**	**11.09736**	**9.35512**	**10.36119**	**13.34944**	**13.33758**	**14.30042**	**9.70168**	**9.53024**
Perylene	**2.86447**	**0.41961**	**3.81218**	**4.34946**	**0.31352**	**1.89098**	**3.22203**	**2.78502**	**6.26598**	**3.5677**	**5.89728**	**3.80677**	**6.26975**	**4.13913**	**5.92564**
Phenanthrene	**68.84317**	**62.98352**	**58.28985**	**61.21876**	**29.37357**	**15.10366**	**21.61724**	**41.81994**	**31.97039**	**26.22076**	**36.6678**	**32.61429**	**38.64062**	**34.32166**	**57.25785**
C1-Phenanthrenes/anthracenes	**73.83154**	**45.13632**	**65.7332**	**66.79437**	**19.95385**	**19.64462**	**45.77411**	**88.24412**	**69.39551**	**46.69492**	**65.75572**	**56.20689**	**67.25829**	**39.00754**	**62.94547**
C2-Phenanthrenes/anthracenes	**31.20382**	**14.76384**	**31.32962**	**38.30922**	**7.61757**	**12.11913**	**37.80289**	**61.38765**	**59.57381**	**35.83767**	**51.00062**	**43.94708**	**52.59266**	**41.1709**	**53.99117**
C3-Phenanthrenes/anthracenes	**9.79493**	**3.23815**	**11.11243**	**12.46424**	**2.12157**	**4.47145**	**11.6311**	**16.07214**	**20.56333**	**13.34796**	**20.38854**	**17.73795**	**21.79399**	**17.87713**	**21.63697**
C4-Phenanthrenes/anthracenes	**2.7802**	**0.63976**	**3.01642**	**3.3264**	**0.78404**	**1.20819**	**2.81011**	**3.63539**	**5.0487**	**3.47995**	**5.14572**	**5.0382**	**6.03182**	**5.54635**	**6.21636**
Pyrene	**47.97088**	**24.29114**	**44.92874**	**66.64894**	**14.12839**	**17.18901**	**98.96156**	**145.14993**	**133.77976**	**126.00328**	**153.11619**	**105.1531**	**116.91184**	**156.58303**	**155.736**

Validated

Table 3
Summary of Analytical Fractionated Results
Phase I Sediment Cores
Gowanus Canal
Brooklyn, New York

Sample Name:	GC-SED-508			GC-SED-508			GC-SED-508			Duplicate of GC-SED-508			GC-SED-509	
Sample Depth (feet):	(2.5-3.0)			(3.0-3.5)			(3.5-4.0)			(3.5-4.0)			(0.0-0.5)	
Sample Date:	8/7/2012			8/7/2012			8/7/2012			8/7/2012			8/16/2012	
Sieve Number:	Bottom	10	200	Bottom	10	200	Bottom	10	200	Bottom	10	200	Bottom	200
Alkylated PAHs (mg/kg)														
Acenaphthene	**45.53056**	**37.16594**	**42.47414**	**28.17189**	**19.16426**	**26.03645**	**26.27484**	**16.62525 J**	**24.22811**	**27.49301**	**46.15935 J**	**27.23934**	**3.09087**	**4.10415**
Acenaphthylene	**15.99177**	**2.48921**	**20.49116**	**10.73266**	**3.17278**	**13.72255**	**11.29308**	**3.33229 J**	**13.96714**	**15.72172**	**31.3546 J**	**21.77767**	**3.48912**	**4.44413**
Anthracene	**26.04115**	**22.42473**	**28.73308**	**12.27028**	**5.83612**	**15.59828**	**13.5391**	**8.69217 J**	**14.3438 J**	**20.43025**	**53.38288 J**	**27.89406 J**	**4.24835**	**5.82358**
Benz[a]anthracene	**49.31299**	**31.97283**	**53.02246**	**35.01398**	**12.17367**	**31.53501**	**30.79594**	**16.9234 J**	**36.63034 J**	**45.13545**	**91.38201 J**	**61.24087 J**	**7.50858**	**11.25052**
Benzo[a]pyrene	**30.8406**	**13.8198**	**43.06875**	**22.07119**	**6.05432**	**29.43686**	**20.28258**	**8.76616 J**	**27.06617 J**	**33.62552**	**67.78424 J**	**50.53942 J**	**7.02688**	**10.28357**
Benzo[b]fluoranthene	**17.41017**	**7.53702**	**22.8084**	**12.90424**	**2.99481**	**19.97026**	**12.18251**	**4.81535 J**	**16.05672 J**	**19.80631**	**34.95484 J**	**28.62233 J**	**5.02483**	**6.9737**
Benzo[e]pyrene	**18.66627**	**7.73086**	**24.30524**	**13.32755**	**3.40179**	**19.27074**	**13.39624**	**5.30358 J**	**16.94196 J**	**21.76008**	**40.05873 J**	**30.31032 J**	**4.9178**	**6.94361**
Benzo[g,h,i]perylene	**12.50955**	**3.26467**	**18.19202**	**7.85348**	**1.93409**	**14.15526**	**11.4485**	**3.63708 J**	**14.61822 J**	**18.93403**	**33.4553 J**	**26.92465 J**	**4.04635**	**4.91248**
Benzo[k]fluoranthene	**23.96709**	**9.25206**	**28.60027**	**16.67418**	**4.16524**	**22.83635**	**16.157**	**6.84708 J**	**19.97348**	**24.82937**	**47.16052 J**	**33.30491**	**5.76977**	**8.3743**
1,1-Biphenyl	**0.80025**	**1.04636**	**0.96819**	**0.5769**	**1.24858**	**0.87251**	**0.71915**	**0.9001 J**	**0.84551**	**0.96047**	**3.69635 J**	**1.25342**	**0.16822**	**0.20108**
Chrysene	**45.63056**	**28.71106**	**48.30079**	**33.74168**	**10.9877**	**31.51426**	**28.21752**	**15.17702 J**	**32.39673 J**	**41.83846**	**84.76321 J**	**56.43753 J**	**8.05415**	**11.60003**
C1-Chrysenes	**29.85465**	**15.26048**	**33.77731**	**20.78994**	**6.30697**	**24.33815**	**19.58109**	**8.81924 J**	**24.37978 J**	**31.55986**	**64.24567 J**	**44.22709 J**	**5.90662**	**8.70382**
C2-Chrysenes	**11.10096**	**4.42353**	**13.38755**	**7.68807**	**2.08224**	**9.32367**	**7.37985**	**2.97446 J**	**9.25584 J**	**11.78881**	**21.31731 J**	**16.61695 J**	**2.68191**	**3.73255**
C3-Chrysenes	**4.77852**	**1.48458**	**5.46368**	**2.99889**	**0.65682**	**3.62947**	**2.9889**	**1.09814 J**	**3.28183 J**	**4.48537**	**6.05572 J**	**5.7513 J**	**1.31182**	**1.65669**
C4-Chrysenes	**2.44109**	**0.77465**	**2.76692**	**1.57844**	**0.26183**	**1.89213**	**1.44309**	**0.61661 J**	**1.59268**	**2.07991**	**2.77955 J**	**2.52255**	**0.78474**	**1.06839**
Dibenz[a,h]anthracene	**3.54963**	**1.05843**	**5.00595**	**2.26444**	**0.55809**	**4.28492**	**3.18465**	**1.02461 J**	**4.11545 J**	**5.24255**	**9.67641 J**	**7.95462 J**	**1.0113**	**1.31091**
Dibenzofuran	**2.25932**	**2.52657**	**2.2657**	**1.32679**	**1.16012**	**1.41624**	**1.42834**	**1.07031 J**	**1.43278**	**1.57928**	**2.55662 J**	**1.632**	**0.29527**	**0.39169**
Dibenzothiophene	**14.3183**	**12.9618**	**13.20503**	**10.0754**	**7.0104**	**8.78345**	**12.26591**	**7.69966 J**	**11.16442**	**15.22356**	**25.30957 J**	**16.06595**	**1.43218**	**1.89144**
C1-Dibenzothiophenes	**46.54594**	**36.40166**	**38.58833**	**34.56357**	**18.85118**	**27.8985**	**29.95482**	**15.80015 J**	**27.21944**	**34.72439**	**54.07747 J**	**35.39399**	**2.56697**	**3.39625**
C2-Dibenzothiophenes	**33.96711**	**25.81923**	**29.79182**	**24.28885**	**10.5566**	**20.28089**	**22.3782**	**10.94538 J**	**21.1722**	**27.08668**	**43.36365 J**	**29.42968**	**3.13007**	**4.3259**
C3-Dibenzothiophenes	**17.68698**	**13.35319**	**15.64134**	**13.67695**	**4.06754**	**10.35901**	**9.35924**	**4.4271 J**	**8.94709**	**11.82081**	**17.80063 J**	**13.4184**	**2.09213**	**2.7221**
C4-Dibenzothiophenes	**6.54163**	**3.95594**	**5.81806**	**4.70196**	**1.217**	**3.49366**	**3.37468**	**1.50738 J**	**3.35127**	**4.20018**	**5.18294 J**	**4.59741**	**0.929**	**1.12972**
Fluoranthene	**154.43475**	**122.48889**	**126.05915**	**155.0739**	**54.49888**	**99.86864**	**135.36701**	**65.5621 J**	**123.37621**	**152.23239**	**201.08282 J**	**156.46376**	**13.26289**	**17.00217**
C1-Fluoranthenes/pyrenes	**101.26462**	**77.88543**	**95.20353**	**88.62101**	**28.56893**	**69.91253**	**80.78195**	**39.85649 J**	**86.34493**	**106.05585**	**204.09285 J**	**130.00225**	**13.59107**	**17.6476**
C2-Fluoranthenes/pyrenes	**30.63147**	**18.1872**	**31.32337**	**25.34407**	**7.14806**	**22.5709**	**22.2655**	**9.72048 J**	**26.31889**	**31.68649**	**63.04851 J**	**42.63223**	**5.98884**	**7.82635**
C3-Fluoranthenes/pyrenes	**11.81013**	**6.68108**	**12.06187**	**10.1463**	**2.06544**	**9.12687**	**7.77998**	**3.06938 J**	**9.14319 J**	**10.90827**	**19.23834 J**	**15.35158 J**	**2.62012**	**3.46271**
C4-Fluoranthenes/Pyrenes	**3.74737**	**2.41196**	**3.80685**	**3.21626**	**0.55848**	**3.00405**	**2.41517**	**1.02957 J**	**2.60002 J**	**3.31239**	**5.46528 J**	**4.36772 J**	**1.02501**	**1.30414**
Fluorene	**7.93433**	**7.92174**	**8.18636**	**2.91825**	**2.07039**	**2.90794**	**3.44207**	**2.46688 J**	**3.36288**	**3.97154**	**7.63669 J**	**4.58067**	**1.41953**	**1.88975**
C1-Fluorenes	**15.43875**	**12.14171**	**14.88913**	**7.95697**	**5.0373**	**7.38178**	**8.74479**	**5.12331 J**	**8.30411 J**	**11.78312**	**28.67393 J**	**14.70828 J**	**2.16083**	**2.84617**
C2-Fluorenes	**40.4336**	**29.64944**	**34.73065**	**30.32414**	**16.28236**	**24.36913**	**27.10284**	**13.46788 J**	**25.24587**	**32.18983**	**48.17044 J**	**32.85677**	**2.70809**	**3.37652**
C3-Fluorenes	**26.70079**	**17.29298**	**22.59578**	**17.92329**	**7.25585**	**14.12691**	**15.31232**	**7.04605 J**	**14.15073**	**17.99772**	**24.1751 J**	**18.80826**	**2.58806**	**3.42697**
Indeno[1,2,3-cd]pyrene	**13.34201**	**3.5693**	**19.20365**	**8.60547**	**1.96331**	**15.74493**	**11.20084 J**	**3.6202 J**	**14.58624 J**	**18.77055 J**	**33.10167 J**	**27.2712 J**	**3.896**	**5.16766**
Naphthalene	**19.45551**	**26.93245**	**23.21238**	**15.85805**	**45.81103**	**21.88959**	**17.47325**	**28.61592 J**	**21.54597 J**	**25.70634**	**142.43512 J**	**44.07841 J**	**1.21649**	**1.37128**
C1-Naphthalenes	**21.84487**	**24.65908**	**22.04381**	**16.87553**	**22.54334**	**17.35998**	**14.67023**	**12.10934 J**	**14.62018**	**15.53832**	**40.80833 J**	**16.85535**	**1.20265**	**1.46638**
C2-Naphthalenes	**22.03313**	**20.86885**	**22.20997**	**9.77007**	**7.67885**	**10.13411**	**8.67286**	**6.14096 J**	**8.30099**	**9.5615**	**18.51459 J**	**10.40388**	**3.53627**	**4.69756**
C3-Naphthalenes	**25.21197**	**18.17207**	**24.30222**	**10.90726**	**7.95749**	**10.15282**	**9.45032**	**6.46442 J**	**8.62513**	**11.94464**	**23.07305 J**	**13.963**	**3.9363**	**5.22165**
C4-Naphthalenes	**21.14604**	**13.56269**	**18.9922**	**10.99947**	**7.30557**	**9.54093**	**8.65777**	**4.90045 J**	**7.85009**	**10.29759**	**17.75743 J**	**11.50116**	**2.79798**	**3.84711**
Perylene	**5.49061**	**1.40757**	**7.17283**	**3.76286**	**0.81317**	**5.6248**	**4.13673**	**1.36462 J**	**5.29565 J**	**6.80448**	**11.81159 J**	**9.56268 J**	**1.56866**	**2.20807**
Phenanthrene	**62.61014**	**51.97055**	**64.65792**	**20.16253**	**6.85284**	**22.76929**	**20.98622**	**15.70566 J**	**20.93629 J**	**32.45759**	**80.50657 J**	**45.62202 J**	**10.55162**	**14.10117**
C1-Phenanthrenes/anthracenes	**77.67245**	**67.40717**	**74.51673**	**40.15461**	**18.2174**	**38.29206**	**38.11154**	**25.89474 J**	**40.0271 J**	**56.65939**	**173.20619 J**	**77.92258 J**	**12.05333**	**16.09914**
C2-Phenanthrenes/anthracenes	**66.82213**	**54.95059**	**61.70539**	**47.36898**	**21.27697**	**40.70357**	**47.24886**	**25.23941 J**	**48.385**	**62.14099**	**127.61293 J**	**74.87231**	**9.57878**	**12.68401**
C3-Phenanthrenes/anthracenes	**31.56167**	**22.53838**	**28.69348**	**23.47536**	**8.12991**	**19.27995**	**19.11383**	**8.94122 J**	**19.34677**	**24.53161**	**40.08393 J**	**29.14739**	**4.57249**	**5.96161**
C4-Phenanthrenes/anthracenes	**9.69993**	**5.47822**	**9.14417**	**7.32858**	**1.70433**	**5.80663**	**5.68756**	**2.37882 J**	**5.67417**	**7.34114**	**9.33294 J**	**8.26672**	**1.58603**	**1.98953**
Pyrene	**203.41287**	**165.91627**	**167.12378**	**210.14017**	**66.24522**	**129.17628**	**182.89371**	**86.37851 J**	**164.98969**	**206.23447**	**268.8151 J**	**213.03254**	**16.9794**	**22.33931**

Validated

Table 3
Summary of Analytical Fractionated Results
Phase I Sediment Cores
Gowanus Canal
Brooklyn, New York

Sample Name:	GC-SED-509		GC-SED-509		GC-SED-509		GC-SED-509		GC-SED-509			GC-SED-509		GC-SED-509		GC-SED-510	
Sample Depth (feet):	(0.5-1.0)		(1.0-1.5)		(1.5-2.0)		(2.0-2.5)		(2.5-3.0)			(3.0-3.5)		(3.5-4.0)		(0.0-0.5)	
Sample Date:	8/16/2012		8/16/2012		8/16/2012		8/16/2012		8/16/2012			8/16/2012		8/16/2012		8/13/2012	
Sieve Number:	Bottom	200	Bottom	200	Bottom	200	Bottom	200	Bottom	10	200	Bottom	200	Bottom	200	Bottom	200
Alkylated PAHs (mg/kg)																	
Acenaphthene	**1.32073**	**1.80622**	**1.73866**	**2.29482**	**1.72239**	**2.05279**	**1.27313**	**1.45317**	**2.14765**	**4.00445**	**2.63435**	**3.04516**	**3.11712**	**4.63498 J**	**5.27638**	**6.90586**	**6.58369**
Acenaphthylene	**1.63449**	**2.91417**	**1.68931**	**2.46097**	**1.97587**	**2.24065**	**1.46338**	**1.80963**	**1.94603**	**1.7012**	**2.18696**	**2.36382**	**2.14518**	**2.94956 J**	**2.86086**	**8.64422**	**9.01358**
Anthracene	**2.44045**	**3.60067**	**2.76453**	**3.5419**	**2.96493**	**3.48424**	**2.16903**	**2.55879**	**3.01474**	**3.54217**	**4.00249**	**3.53615**	**3.57208**	**4.3123 J**	**5.13921**	**19.28744**	**20.49731**
Benz[a]anthracene	**4.13268**	**7.20138**	**4.23042**	**6.07262**	**4.63576**	**5.85863**	**3.5966**	**4.62101**	**4.81751**	**4.65912**	**6.86021**	**5.5819**	**5.71052**	**6.63152 J**	**8.06443**	**26.36273**	**28.64025**
Benzo[a]pyrene	**3.56982**	**6.31943**	**3.6715**	**5.2517**	**3.94525**	**4.97088**	**3.10385**	**4.04771**	**4.07316**	**3.84337**	**5.76657**	**4.7031**	**4.71217**	**5.55995 J**	**6.28619**	**20.1905**	**24.86235**
Benzo[b]fluoranthene	**2.40232**	**3.87556**	**2.7112**	**3.45708**	**2.65393**	**3.35696**	**2.37913**	**2.9257**	**2.94961**	**2.60502**	**4.11765**	**3.28536**	**3.22941**	**3.72996 J**	**4.30592**	**12.34788**	**14.99415**
Benzo[e]pyrene	**2.41922**	**3.99864**	**2.5417**	**3.48439**	**2.70764**	**3.32627**	**2.25933**	**2.80784**	**2.79818**	**2.69036**	**3.90447**	**3.21275**	**3.20404**	**3.76819 J**	**4.17671**	**12.75509**	**14.80321**
Benzo[g,h,i]perylene	**1.99467**	**3.08701**	**1.99903**	**2.75358**	**2.11264**	**2.451**	**1.70611**	**2.07683**	**2.10056**	**2.17957**	**2.86172**	**2.29794**	**2.26684**	**2.86132 J**	**2.78195**	**8.57457**	**10.01549**
Benzo[k]fluoranthene	**2.87288**	**4.87878**	**3.01226**	**4.25132**	**3.32008**	**3.91141**	**2.61419**	**3.21572**	**3.32628**	**3.28452**	**4.71695**	**3.95602**	**3.88824**	**4.46813 J**	**4.95615**	**15.12576**	**18.25143**
1,1-Biphenyl	**0.10852**	**0.13401**	**0.14014**	**0.15493**	**0.13566**	**0.14257**	**0.13522**	**0.14304**	**0.13688**	**0.12117**	**0.19077**	**0.16435**	**0.17574**	**0.1579 J**	**0.17043**	**0.78718**	**1.00379**
Chrysene	**4.19298**	**6.97036**	**4.45229**	**6.14249**	**4.8331**	**6.00335**	**3.85676**	**4.73464**	**4.89386**	**4.82042**	**6.82462**	**5.67705**	**5.76171**	**6.74689 J**	**7.95952**	**26.44127**	**29.55821**
C1-Chrysenes	**3.05323**	**5.38228**	**3.23728**	**4.65484**	**3.61172**	**4.51768**	**2.8106**	**3.66461**	**3.58469**	**3.40757**	**4.77772**	**4.32467**	**4.34638**	**5.06578 J**	**5.98701**	**27.09945**	**28.34491**
C2-Chrysenes	**1.27634**	**2.14776**	**1.36776**	**2.00316**	**1.4774**	**1.84637**	**1.19213**	**1.55663**	**1.51058**	**1.52039**	**1.93258**	**1.83269**	**1.80936**	**2.08307 J**	**2.45414**	**14.79**	**15.51137**
C3-Chrysenes	**0.56273**	**0.87298**	**0.68387**	**0.87082**	**0.67986**	**0.80496**	**0.56404**	**0.6992**	**0.70821**	**0.71454**	**0.88236**	**0.82028**	**0.80866**	**0.87787 J**	**0.98046**	**7.18162**	**7.5989**
C4-Chrysenes	**0.36317**	**0.58013**	**0.43611**	**0.56159**	**0.48541**	**0.55145**	**0.41919**	**0.48967**	**0.43963**	**0.51161**	**0.52058**	**0.46811**	**0.46883**	**0.56345 J**	**0.56429**	**3.6898**	**3.34996**
Dibenz[a,h]anthracene	**0.50785**	**0.79285**	**0.48121**	**0.7006**	**0.51973**	**0.63816**	**0.43291**	**0.53335**	**0.55125**	**0.54645**	**0.7648**	**0.60053**	**0.58797**	**0.75761 J**	**0.76938**	**2.72718**	**3.33269**
Dibenzofuran	**0.16485**	**0.21987**	**0.23506**	**0.30704**	**0.21946**	**0.25329**	**0.18596**	**0.20436**	**0.26601**	**0.3145**	**0.51836**	**0.31865**	**0.30576**	**0.39781 J**	**0.45567**	**0.90477**	**1.12896**
Dibenzothiophene	**0.82797**	**1.11525**	**1.00355**	**1.26534**	**1.07049**	**1.25023**	**0.80185**	**0.93149**	**1.00155**	**1.24366**	**1.29315**	**1.30363**	**1.31135**	**1.74638 J**	**2.01054**	**5.44411**	**5.29803**
C1-Dibenzothiophenes	**1.44535**	**2.04456**	**1.74484**	**2.2507**	**1.909**	**2.23876**	**1.48665**	**1.72287**	**1.89563**	**2.3528**	**2.25222**	**2.13444**	**2.12567**	**2.62522 J**	**3.13047**	**16.46547**	**15.11154**
C2-Dibenzothiophenes	**1.67598**	**2.62787**	**1.93065**	**2.65486**	**2.18686**	**2.62889**	**1.76884**	**2.1342**	**2.38719**	**2.76391**	**2.82198**	**2.75764**	**2.72685**	**3.19929 J**	**3.96599**	**23.61161**	**21.50259**
C3-Dibenzothiophenes	**1.00361**	**1.75333**	**1.2226**	**1.7491**	**1.40674**	**1.67775**	**1.18388**	**1.4776**	**1.70948**	**1.76014**	**1.99652**	**1.96708**	**1.98664**	**2.15405 J**	**2.72617**	**15.67537**	**13.28311**
C4-Dibenzothiophenes	**0.42118**	**0.6899**	**0.54155**	**0.77666**	**0.61658**	**0.77296**	**0.54399**	**0.67577**	**0.77672**	**0.78689**	**0.83467**	**0.91065**	**0.85996**	**0.93644 J**	**1.16205**	**6.07148**	**5.24916**
Fluoranthene	**6.74586**	**10.31268**	**7.67162**	**10.14213**	**8.20292**	**9.80367**	**6.41364**	**7.52729**	**8.96577**	**8.68235**	**12.38765**	**10.2083**	**10.08389**	**11.41123 J**	**14.75742**	**37.56822**	**38.46322**
C1-Fluoranthenes/pyrenes	**7.12269**	**12.72672**	**7.9283**	**11.38879**	**9.02933**	**11.33465**	**6.97705**	**8.77433**	**9.43274**	**8.99581**	**11.59426**	**11.18803**	**11.36387**	**12.69 J**	**16.54761**	**56.19421**	**55.42102**
C2-Fluoranthenes/pyrenes	**2.90305**	**5.30066**	**3.27317**	**4.75066**	**3.68901**	**4.68162**	**2.76623**	**3.80108**	**3.87077**	**3.5787**	**4.92322**	**4.79557**	**4.79815**	**5.19141 J**	**6.75293**	**28.81724**	**28.2155**
C3-Fluoranthenes/pyrenes	**1.17974**	**2.17803**	**1.44101**	**2.04718**	**1.5135**	**2.01013**	**1.27519**	**1.71955**	**1.73987**	**1.50552**	**2.20933**	**2.16502**	**2.26392**	**2.20851 J**	**2.91543**	**14.58786**	**14.81683**
C4-Fluoranthenes/Pyrenes	**0.4239**	**0.75849**	**0.52072**	**0.72706**	**0.60479**	**0.78285**	**0.54072**	**0.68426**	**0.68229**	**0.65013**	**0.86874**	**0.81969**	**0.85211**	**0.79461 J**	**1.12695**	**4.72488**	**4.89027**
Fluorene	**0.67932**	**0.92123**	**1.14295**	**1.45722**	**1.21878**	**1.45038**	**0.87735**	**1.0427**	**0.90415**	**1.26326**	**1.31647**	**1.32256**	**1.33119**	**1.75452 J**	**2.03747**	**5.67446**	**5.63374**
C1-Fluorenes	**1.13204**	**1.59277**	**1.53126**	**1.97226**	**1.6151**	**1.94004**	**1.29242**	**1.50806**	**1.61253**	**2.0931**	**1.89044**	**1.80886**	**1.79457**	**2.26629 J**	**2.53757**	**12.16011**	**10.64301**
C2-Fluorenes	**1.4844**	**2.15447**	**1.83517**	**2.43778**	**1.95277**	**2.30155**	**1.80654**	**2.05774**	**2.44622**	**2.96295**	**2.75012**	**2.56205**	**2.5334**	**3.15838 J**	**3.67798**	**21.17048**	**17.48384**
C3-Fluorenes	**1.29704**	**1.95535**	**1.59057**	**2.12797**	**1.75396**	**2.01928**	**1.69652**	**1.90084**	**2.2835**	**2.60415**	**2.67511**	**2.56131**	**2.52579**	**2.8733 J**	**3.50629**	**19.70784**	**17.21837**
Indeno[1,2,3-cd]pyrene	**1.99012**	**3.12456**	**1.99939**	**2.74355**	**2.12849**	**2.51659**	**1.76342**	**2.14404**	**2.19814**	**2.21106**	**3.11624**	**2.43714**	**2.39414**	**3.05875 J**	**2.90499**	**9.20788**	**10.92932**
Naphthalene	**0.57265**	**0.68063**	**0.68481**	**0.79267**	**0.84111**	**0.86288**	**0.77335**	**0.80334**	**1.37416**	**1.71467**	**1.81453**	**2.18148**	**2.43534**	**1.87811 J**	**2.17061**	**3.74672**	**5.2513**
C1-Naphthalenes	**0.58706**	**0.75892**	**0.79555**	**1.0097**	**0.92013**	**1.00771**	**0.82098**	**0.91141**	**1.11359**	**2.13494**	**1.37297**	**1.6809**	**1.75524**	**2.17923 J**	**2.47398**	**3.88554**	**5.23208**
C2-Naphthalenes	**1.78627**	**2.46661**	**2.65978**	**3.50958**	**3.01715**	**3.50859**	**2.73613**	**3.16383**	**3.14256**	**6.58282**	**3.75779**	**3.74876**	**3.82866**	**4.99283 J**	**5.68656**	**14.70742**	**14.13046**
C3-Naphthalenes	**2.20089**	**3.02371**	**3.117**	**4.03858**	**3.13283**	**3.70261**	**3.22041**	**3.76679**	**4.03823**	**7.18431**	**4.76125**	**3.98218**	**4.0835**	**4.87522 J**	**5.53746**	**28.84494**	**23.50561**
C4-Naphthalenes	**1.47488**	**2.02819**	**2.07844**	**2.73853**	**1.99306**	**2.36904**	**2.24231**	**2.61047**	**2.95552**	**4.81126**	**3.46034**	**3.00417**	**2.99346**	**3.6607 J**	**4.06925**	**28.39191**	**21.68326**
Perylene	**0.93837**	**1.45887**	**0.96746**	**1.26995**	**1.01883**	**1.17821**	**0.88356**	**1.07508**	**1.07668**	**1.03319**	**1.45096**	**1.20466**	**1.16947**	**1.32074 J**	**1.40548**	**4.10111**	**4.75181**
Phenanthrene	**5.71386**	**8.04508**	**8.92396**	**11.50288**	**9.82953**	**11.68286**	**6.85061**	**8.01875**	**7.17975**	**8.37302**	**10.68254**	**8.47882**	**8.63151**	**10.75253 J**	**14.13268**	**41.14086**	**41.90689**
C1-Phenanthrenes/anthracenes	**7.32011**	**10.42321**	**9.13853**	**11.9517**	**9.97918**	**11.72137**	**7.64934**	**8.97336**	**9.16928**	**10.85883**	**11.23483**	**10.19922**	**10.32472**	**12.45958 J**	**15.1046**	**70.70328**	**71.03972**
C2-Phenanthrenes/anthracenes	**5.29901**	**8.64786**	**6.26723**	**8.81532**	**7.00191**	**8.55759**	**5.82342**	**7.07117**	**7.58275**	**8.37611**	**9.23177**	**8.66213**	**8.82156**	**9.9782 J**	**12.62545**	**63.80872**	**57.72044**
C3-Phenanthrenes/anthracenes	**2.19799**	**3.9093**	**2.76048**	**3.92072**	**2.97351**	**3.71433**	**2.67765**	**3.36524**	**3.69196**	**3.65644**	**4.32935**	**4.18661**	**4.23706**	**4.70027 J**	**5.94863**	**33.11564**	**27.94721**
C4-Phenanthrenes/anthracenes	**0.73695**	**1.18477**	**0.90761**	**1.28677**	**0.95497**	**1.13122**	**0.91494**	**1.12376**	**1.30264**	**1.21207**	**1.41505**	**1.45894**	**1.51951**	**1.43794 J**	**1.96845**	**11.68815**	**9.79861**
Pyrene	**9.10449**	**15.70231**	**10.52223**	**14.03023**	**11.63353**	**14.13654**	**8.95094**	**10.66584**	**12.56195**	**11.64945**	**16.26976**	**13.33417**	**13.83454**	**15.93327 J**	**19.43924**	**54.93144**	**47.957**

Validated

Table 3
Summary of Analytical Fractionated Results
Phase I Sediment Cores
Gowanus Canal
Brooklyn, New York

Sample Name:	GC-SED-510		GC-SED-510		Duplicate of GC-SED-510		GC-SED-510		GC-SED-510		GC-SED-510		GC-SED-510		GC-SED-510	
Sample Depth (feet):	(0.5-1.0)		(1.0-1.5)		(1.0-1.5)		(1.5-2.0)		(2.0-2.5)		(2.5-3.0)		(3.0-3.5)		(3.5-4.0)	
Sample Date:	8/13/2012		8/13/2012		8/13/2012		8/13/2012		8/13/2012		8/13/2012		8/13/2012		8/13/2012	
Sieve Number:	Bottom	200	Bottom	200	Bottom	200	Bottom	200	Bottom	200	Bottom	200	Bottom	200	Bottom	200
Alkylated PAHs (mg/kg)																
Acenaphthene	**12.04812**	**15.67608**	**13.54361**	**16.67005**	**11.9327**	**11.48835**	**14.87259**	**13.39385**	**16.60599**	**16.64757**	**23.8733**	**25.4858**	**18.91199**	**23.75719**	**15.55225**	**18.59867**
Acenaphthylene	**7.23115**	**11.24789**	**7.94213**	**13.05457**	**8.57496**	**10.71613**	**8.82596**	**9.64218**	**9.37165**	**12.09605**	**9.02258**	**12.27847**	**8.15123**	**12.44177**	**9.05728**	**13.97659**
Anthracene	**21.1677**	**30.96089**	**25.51305**	**33.46985**	**28.29084**	**27.45612**	**28.91952**	**27.18222**	**29.7548**	**30.49219**	**32.23608**	**37.70546**	**28.27301**	**38.70177**	**32.20537**	**38.94742**
Benz[a]anthracene	**21.85858**	**34.13117**	**28.50721**	**42.84619**	**29.90015**	**30.79165**	**31.15546**	**31.21737**	**30.62833**	**34.69669**	**31.58195**	**39.55489**	**27.2795**	**38.9724**	**32.77595**	**40.5675**
Benzo[a]pyrene	**16.35652**	**26.89687**	**18.54679**	**31.72**	**21.52495**	**25.36835**	**22.9616**	**25.59169**	**22.94988**	**29.01575**	**22.79735**	**31.16436**	**20.44033**	**30.79925**	**23.41939**	**32.16315**
Benzo[b]fluoranthene	**9.21867**	**15.58742**	**11.13225**	**19.08986**	**14.03854**	**16.50596**	**13.16121**	**15.24841**	**13.49584**	**18.17159**	**13.35565**	**18.91679**	**12.01302**	**17.58363**	**14.527**	**20.49519**
Benzo[e]pyrene	**9.88174**	**16.40792**	**11.34741**	**18.50141**	**13.72411**	**16.05895**	**14.17759**	**15.63427**	**14.26687**	**18.01052**	**13.85359**	**19.29559**	**12.46906**	**18.58505**	**14.71097**	**20.18893**
Benzo[g,h,i]perylene	**5.93825**	**10.59536**	**5.84794**	**10.93441**	**9.31345**	**12.44884**	**10.75981**	**12.77633**	**9.15058**	**13.03927**	**8.84853**	**13.54821**	**9.53135**	**12.77795**	**10.20986**	**15.59009**
Benzo[k]fluoranthene	**12.62676**	**20.01157**	**14.93597**	**23.24543**	**17.03878**	**19.71163**	**17.66889**	**18.99599**	**16.91773**	**20.67237**	**16.98228**	**22.91687**	**14.7246**	**22.7583**	**18.73913**	**24.31222**
1,1-Biphenyl	**1.78309**	**2.47746**	**2.10061**	**2.8152**	**1.76002**	**1.93485**	**2.14995**	**2.08638**	**2.48269**	**2.80829**	**3.65277**	**4.27665**	**2.94073**	**3.83884**	**2.09703**	**2.79812**
Chrysene	**21.78354**	**34.01658**	**28.33965**	**42.92843**	**28.06956**	**29.44825**	**29.8367**	**30.1321**	**29.72568**	**33.94311**	**30.2857**	**38.09512**	**26.04907**	**37.39735**	**30.38811**	**37.8147**
C1-Chrysenes	**21.83145**	**32.85028**	**27.25007**	**37.34756**	**28.98428**	**29.88524**	**27.56307**	**28.60849**	**27.83855**	**30.47114**	**28.44179**	**36.38722**	**24.53137**	**35.54101**	**30.73707**	**37.95159**
C2-Chrysenes	**11.89526**	**17.66166**	**13.03619**	**19.54189**	**16.20435**	**17.8563**	**14.42897**	**14.94862**	**14.07958**	**15.76279**	**14.46148**	**18.83559**	**13.23422**	**18.21248**	**16.42358**	**22.00869**
C3-Chrysenes	**5.82932**	**9.22741**	**6.4086**	**9.82181**	**7.1368**	**7.59592**	**6.75681**	**7.26647**	**6.79664**	**7.30325**	**6.74356**	**9.03492**	**5.63163**	**8.509**	**6.85791**	**9.18263**
C4-Chrysenes	**2.93424**	**4.57159**	**3.18046**	**4.5235**	**3.38312**	**3.69457**	**3.90675**	**3.91906**	**3.42117**	**3.65131**	**3.71563**	**4.50972**	**3.07754**	**4.60681**	**3.28851**	**4.44406**
Dibenz[a,h]anthracene	**1.97259**	**3.41991**	**1.9305**	**3.59954**	**3.24284**	**4.22757**	**3.17804**	**3.83163**	**2.86064**	**4.20501**	**2.81443**	**4.4604**	**2.80321**	**4.04804**	**3.50377**	**5.13758**
Dibenzofuran	**1.43074**	**2.15131**	**1.76533**	**2.61875**	**1.60194**	**1.75283**	**1.75966**	**1.77763**	**2.07201**	**2.63944**	**4.78748**	**5.40549**	**2.63793**	**3.39402**	**2.01258**	**2.554**
Dibenzothiophene	**6.15163**	**8.66369**	**7.33076**	**9.31782**	**8.43612**	**8.03246**	**8.654**	**7.73839**	**8.75089**	**8.92947**	**9.7756**	**10.92532**	**8.64076**	**11.31982**	**9.87035**	**11.53145**
C1-Dibenzothiophenes	**15.77983**	**21.6052**	**20.15704**	**23.50268**	**22.23603**	**20.12445**	**20.54247**	**18.02254**	**20.69183**	**19.79824**	**21.44358**	**23.38104**	**19.27882**	**23.58704**	**24.14963**	**27.35245**
C2-Dibenzothiophenes	**20.28141**	**27.26363**	**25.48302**	**29.0363**	**27.65692**	**24.80709**	**23.94036**	**21.26109**	**24.22326**	**22.73154**	**25.1203**	**26.55623**	**22.87509**	**27.67933**	**29.29409**	**32.95445**
C3-Dibenzothiophenes	**12.46629**	**18.67935**	**17.53628**	**19.51012**	**17.02489**	**15.323**	**16.18474**	**14.49216**	**16.4476**	**15.50729**	**16.85327**	**17.77677**	**15.26774**	**18.00944**	**17.81176**	**19.57603**
C4-Dibenzothiophenes	**5.33725**	**7.38443**	**7.15775**	**7.83365**	**6.9069**	**6.15414**	**6.12421**	**5.41496**	**6.2992**	**6.07338**	**6.79342**	**6.56098**	**5.93074**	**7.00447**	**7.01837**	**7.80369**
Fluoranthene	**31.8163**	**53.77674**	**46.2569**	**58.54665**	**44.62753**	**45.70743**	**46.95504**	**45.44342**	**51.27235**	**59.28726**	**49.71433**	**58.43688**	**57.4591 J**	**59.40308**	**49.76787**	**71.62926**
C1-Fluoranthenes/pyrenes	**47.68653**	**78.39733**	**68.61002**	**79.62301**	**71.40016**	**72.11745**	**66.7065**	**64.64165**	**64.68495**	**69.48967**	**69.35789**	**81.72909**	**62.04812**	**84.07545**	**78.49151**	**93.35285**
C2-Fluoranthenes/pyrenes	**24.37436**	**38.97679**	**33.96891**	**41.01776**	**32.53584**	**33.18326**	**31.04056**	**30.23378**	**31.18046**	**34.27399**	**32.67188**	**39.5557**	**30.59472**	**38.98924**	**33.98586**	**41.00996**
C3-Fluoranthenes/pyrenes	**11.95101**	**20.21255**	**18.5854**	**22.154**	**15.75971**	**16.6091**	**15.25578**	**13.99882**	**14.45127**	**15.44282**	**14.18807**	**18.42952**	**13.81907**	**17.81377**	**16.12694**	**19.73156**
C4-Fluoranthenes/Pyrenes	**3.89124**	**6.1059**	**5.6142**	**6.94076**	**5.50823**	**5.63551**	**4.99454**	**4.85723**	**4.73536**	**5.13435**	**4.86916**	**6.08171**	**4.63566**	**6.09643**	**5.52871**	**6.91862**
Fluorene	**8.56666**	**11.95607**	**9.72235**	**12.83013**	**9.89037**	**9.72296**	**11.01802**	**10.27654**	**11.73878**	**12.10255**	**15.56282**	**17.09262**	**12.65579**	**16.32179**	**12.49966**	**14.90495**
C1-Fluorenes	**14.51479**	**19.22942**	**17.12986**	**20.90323**	**18.05028**	**16.92532**	**17.15046**	**15.89815**	**17.77485**	**16.87261**	**19.7139**	**21.0723**	**17.6814**	**21.60197**	**20.40045**	**23.48327**
C2-Fluorenes	**20.52151**	**27.50934**	**26.68667**	**30.18194**	**27.90638**	**25.25259**	**24.06394**	**20.90592**	**24.56986**	**22.88724**	**26.28426**	**26.56922**	**23.22671**	**26.72949**	**29.91089**	**33.75976**
C3-Fluorenes	**17.02405**	**22.26221**	**21.52748**	**23.88321**	**22.61357**	**20.09812**	**16.87696**	**15.16559**	**18.01953**	**16.26488**	**18.44718**	**18.86548**	**17.57828**	**19.59689**	**23.47715**	**26.40027**
Indeno[1,2,3-cd]pyrene	**6.46289**	**11.68429**	**6.58676 J**	**12.57096**	**11.33672 J**	**15.17702**	**11.2607**	**13.26682**	**9.68858**	**13.82878**	**9.67047**	**15.06727**	**9.94654**	**14.10041**	**12.41838**	**18.73153**
Naphthalene	**5.7675**	**10.98163**	**6.89543**	**12.31354 J**	**4.84392**	**7.25794 J**	**5.28947**	**6.7762**	**7.21006**	**10.77278**	**9.13274**	**14.01691**	**9.33221**	**13.2663**	**5.41647**	**9.2432**
C1-Naphthalenes	**9.88699**	**14.37292**	**11.82288**	**16.6149 J**	**6.99746**	**8.39387 J**	**10.44164**	**10.53631**	**14.15871**	**15.5935**	**18.08049**	**21.56116**	**16.71373**	**20.68569**	**8.0209**	**11.50545**
C2-Naphthalenes	**30.30561**	**37.21782**	**35.93924**	**43.23397 J**	**23.32285**	**21.76303 J**	**31.10456**	**27.43892**	**37.10043**	**34.58358**	**40.05193**	**42.02808**	**38.0557**	**43.72838**	**25.86886**	**31.32438**
C3-Naphthalenes	**40.79355**	**48.31503**	**50.14951**	**56.80196 J**	**35.04302**	**30.30621 J**	**40.16657**	**33.86904**	**44.61823**	**39.85317**	**45.61705**	**45.89427**	**42.77335**	**47.60905**	**37.19184**	**41.92562**
C4-Naphthalenes	**31.82132**	**37.54615**	**39.83868**	**44.05086 J**	**30.60584**	**25.852 J**	**30.22687**	**24.44385**	**32.03677**	**28.02633**	**32.2379**	**32.0546**	**30.1561**	**32.35163**	**31.62452**	**34.64572**
Perylene	**3.44542**	**5.30879**	**3.85235**	**5.75706**	**4.67157**	**5.23708**	**4.40536**	**4.93642**	**4.63966**	**5.7908**	**4.3292**	**5.93789**	**4.26047**	**5.77715**	**4.96698**	**6.54237**
Phenanthrene	**49.44116**	**77.64878**	**59.86456**	**80.94078**	**65.79022**	**65.17264**	**67.42416**	**62.56815**	**74.76281**	**81.20292**	**70.31049**	**82.53924**	**88.60319**	**79.32334**	**81.4973**	**97.38766**
C1-Phenanthrenes/anthracenes	**69.27858**	**100.26349**	**91.44683**	**108.74457**	**87.86782**	**81.45752**	**90.23847**	**81.27611**	**90.16857**	**89.60632**	**95.90575**	**106.09256**	**85.97765**	**109.0699**	**97.86192**	**110.22701**
C2-Phenanthrenes/anthracenes	**56.16715**	**79.24428**	**74.11249**	**83.47315**	**74.87807**	**68.26826**	**69.31041**	**59.59118**	**68.28446**	**66.3203**	**71.29145**	**77.32346**	**63.3859**	**78.91681**	**80.07174**	**89.78668**
C3-Phenanthrenes/anthracenes	**27.10552**	**38.5756**	**37.37502**	**41.41717**	**34.56698**	**31.74376**	**33.30653**	**29.68629**	**34.2897**	**32.29159**	**33.03291**	**38.24197**	**30.86127**	**37.53782**	**35.8**	**40.21258**
C4-Phenanthrenes/anthracenes	**9.34517**	**12.80764**	**12.96094**	**14.51756**	**12.31405**	**10.97807**	**11.06608**	**10.08344**	**10.93093**	**10.31503**	**11.49452**	**12.65107**	**9.97187**	**13.84557**	**12.83364**	**14.09506**
Pyrene	**46.52742**	**71.18003**	**59.30544**	**75.95403**	**68.93525**	**67.77896**	**63.67114**	**59.6712**	**71.21602**	**77.29732**	**66.44198**	**72.99091**	**80.62802**	**77.78242**	**80.21742**	**94.43004**

Table 3
Summary of Analytical Fractionated Results
Phase I Sediment Cores
Gowanus Canal
Brooklyn, New York

Sample Name:	GC-SED-511			GC-SED-511			GC-SED-511			GC-SED-512			GC-SED-512		
Sample Depth (feet):	(0.0-0.5)			(0.5-1.0)			(1.0-1.5)			(0.5-1.0)			(1.0-1.5)		
Sample Date:	8/13/2012			8/13/2012			8/13/2012			8/9/2012			8/9/2012		
Sieve Number:	Bottom	10	200	Bottom	10	200	Bottom	10	200	Bottom	10	200	Bottom	10	200
Alkylated PAHs (mg/kg)															
Acenaphthene	**8.8617**	**6.83183**	**6.98902**	**7.72614**	**0.81567**	**1.64325**	**5.23491**	**1.68944**	**2.5494**	**17.41582**	**23.64194**	**12.88756**	**14.30343 J**	**22.78222 J**	**12.21068**
Acenaphthylene	**7.02465**	**0.99154**	**5.36717**	**4.62609**	**0.12151**	**1.15769**	**5.34638**	**0.41989**	**2.24116**	**8.5943**	**1.96262**	**8**	**6.61783 J**	**2.58401 J**	**8.20479**
Anthracene	**22.06006**	**5.86506**	**18.17755**	**16.36705**	**1.75915**	**3.99897**	**15.78606**	**2.96519**	**6.30115**	**29.28914**	**25.96877**	**24.32545**	**21.86226 J**	**35.132 J**	**21.62205**
Benz[a]anthracene	**24.95225**	**15.39312**	**31.46901**	**19.06852**	**0.93356**	**5.32529**	**19.53859**	**2.47642**	**7.34429**	**29.01546**	**10.21241**	**27.93644**	**21.22151 J**	**21.60477 J**	**23.25372**
Benzo[a]pyrene	**18.39887**	**15.89301**	**22.38911**	**14.62087**	**0.47346**	**4.13068**	**14.5166**	**1.6357**	**6.30612**	**20.47529**	**4.92683**	**24.48388**	**16.52674 J**	**11.01808 J**	**19.99985**
Benzo[b]fluoranthene	**12.20104**	**15.43185**	**19.1803**	**9.28539**	**0.29823**	**2.78352**	**9.86417**	**1.05639**	**4.08129**	**11.87272**	**2.96625**	**16.12151**	**9.66571 J**	**7.31117 J**	**11.3198**
Benzo[e]pyrene	**11.80103**	**9.49293**	**15.5352**	**9.36559**	**0.3143**	**2.6929**	**9.75359**	**1.19968**	**4.1458**	**12.40705**	**3.24546**	**15.41147**	**9.9498 J**	**6.40416 J**	**12.32891**
Benzo[g,h,i]perylene	**8.52165**	**9.00601**	**12.72808**	**7.00505**	**0.18781**	**2.23503**	**7.06814**	**0.94655**	**3.64697**	**6.88807**	**1.8635**	**14.12467**	**7.98378 J**	**3.48622 J**	**11.29314 J**
Benzo[k]fluoranthene	**14.34689**	**12.21346**	**19.53762**	**11.59194**	**0.36884**	**3.28856**	**11.68329**	**1.23127**	**4.6024**	**15.85043**	**3.66729**	**18.23011**	**11.97916 J**	**8.3558 J**	**15.13144**
1,1-Biphenyl	**1.18769**	**1.15151**	**1.2111**	**0.93456**	**0.111**	**0.19257**	**0.81341**	**0.37358**	**0.36693**	**2.52433**	**3.53606**	**2.12556**	**2.0195 J**	**3.22223 J**	**1.98829**
Chrysene	**23.53317**	**18.02977**	**30.39066**	**18.63759**	**0.94639**	**5.17908**	**18.6689**	**2.43283**	**6.9412**	**28.41074**	**10.39064**	**26.71485**	**20.86836 J**	**19.77056 J**	**22.39876**
C1-Chrysenes	**24.78661**	**6.38671**	**21.69591**	**17.17432**	**0.74545**	**4.36419**	**18.85745**	**2.405**	**6.65261**	**28.03377**	**7.90146**	**25.34177**	**20.89834 J**	**11.82232 J**	**22.90346**
C2-Chrysenes	**14.8444**	**2.74619**	**12.17234**	**9.11131**	**0.34342**	**2.42284**	**10.74045**	**1.42605**	**3.85546**	**14.82163**	**4.75131**	**13.42846**	**11.28856 J**	**5.38634 J**	**12.01982**
C3-Chrysenes	**6.52855**	**1.21943**	**5.21455**	**4.31975**	**0.17425**	**1.09072**	**5.25372**	**0.71085**	**2.02461**	**7.24566**	**3.40386**	**6.44826**	**5.84994 J**	**2.71157 J**	**5.74746**
C4-Chrysenes	**2.87914**	**0.75499**	**2.51252**	**2.47285**	**0.11027**	**0.62943**	**2.73566**	**0.40259**	**1.2033**	**3.49658**	**2.2408**	**2.94455**	**2.76537 J**	**1.63832 J**	**2.57296**
Dibenz[a,h]anthracene	**2.84365**	**2.13193**	**4.28292**	**2.11418**	**0.05372**	**0.64342**	**2.2392**	**0.23354**	**0.93753**	**2.33045**	**0.55125**	**4.41183**	**2.31549 J**	**1.04975 J**	**3.42586 J**
Dibenzofuran	**1.24964**	**4.8327**	**2.08355**	**1.01662**	**0.13908**	**0.24618**	**0.81692**	**0.20018**	**0.3858**	**2.08627**	**2.36811**	**1.96517**	**1.63931 J**	**2.69861 J**	**1.63756**
Dibenzothiophene	**6.5458**	**3.71257**	**5.92073**	**4.77746**	**0.49332**	**1.1075**	**4.61609**	**1.04173**	**1.86465**	**8.50536**	**9.51614**	**7.1778**	**6.51166 J**	**11.0066 J**	**6.2563**
C1-Dibenzothiophenes	**17.67688**	**3.28476**	**12.38333**	**10.92013**	**1.00416**	**2.48897**	**11.7127**	**2.56606**	**4.16254**	**21.57769**	**18.30933**	**14.95391**	**16.10412 J**	**20.83215 J**	**13.00782**
C2-Dibenzothiophenes	**22.55247**	**3.33599**	**14.91264**	**13.12781**	**0.97677**	**3.01531**	**14.67495**	**2.90391**	**4.97615**	**27.15813**	**16.39606**	**18.51074**	**20.1064 J**	**19.88101 J**	**16.19613**
C3-Dibenzothiophenes	**13.99276**	**1.81951**	**8.67589**	**8.74381**	**0.57088**	**2.01086**	**9.18781**	**1.67484**	**3.15796**	**17.48016**	**8.64074**	**11.17644**	**12.69366 J**	**11.89312 J**	**9.91009**
C4-Dibenzothiophenes	**5.69604**	**0.70471**	**3.51584**	**3.38836**	**0.20378**	**0.80326**	**3.84461**	**0.67849**	**1.4212**	**7.10204**	**3.7031**	**4.38535**	**5.16296 J**	**5.01938 J**	**3.6614**
Fluoranthene	**37.21821**	**62.66904**	**57.62189**	**29.07628**	**2.26261**	**8.75337**	**28.70165**	**4.62963**	**11.29436**	**43.23142**	**28.33232**	**54.20962**	**32.87529 J**	**51.96408 J**	**33.89452**
C1-Fluoranthenes/pyrenes	**58.94087**	**15.44521**	**45.65108**	**38.28255**	**2.44607**	**9.86663**	**43.83658**	**7.07546**	**15.81447**	**64.22768**	**29.17798**	**60.22619**	**48.48294 J**	**47.94517 J**	**53.76618**
C2-Fluoranthenes/pyrenes	**27.06944**	**9.27813**	**25.58957**	**19.05256**	**0.97632**	**4.84238**	**20.1194**	**3.13125**	**7.32366**	**32.66828**	**10.18295**	**28.51616**	**24.04579 J**	**18.90237 J**	**24.74114**
C3-Fluoranthenes/pyrenes	**13.51217**	**3.57768**	**11.65071**	**8.44001**	**0.40633**	**2.16325**	**10.13613**	**1.52104**	**3.62986**	**16.49235**	**4.91333**	**13.13491**	**11.52311 J**	**7.28002 J**	**11.31453 J**
C4-Fluoranthenes/Pyrenes	**4.6766**	**1.71609**	**3.81244**	**3.11273**	**0.14308**	**0.77099**	**3.67131**	**0.57436**	**1.37577**	**5.19789**	**2.08139**	**4.2899**	**3.73045 J**	**2.19057 J**	**3.63663 J**
Fluorene	**7.24338**	**4.83182**	**6.55511**	**5.20919**	**0.54214**	**1.21101**	**4.53001**	**1.3673**	**2.15927**	**12.23379**	**8.10365**	**9.86843**	**9.60603 J**	**16.61083 J**	**8.86007**
C1-Fluorenes	**14.07848**	**2.78385**	**9.07292**	**8.9641**	**0.92141**	**2.00493**	**8.76766**	**2.24176**	**3.3108**	**19.86287**	**16.5071**	**14.60416**	**14.46594 J**	**21.39471 J**	**12.75562**
C2-Fluorenes	**22.33012**	**3.85024**	**14.31734**	**12.2863**	**1.04161**	**2.67616**	**14.03067**	**2.93903**	**4.95768**	**28.14866**	**21.61074**	**19.32569**	**21.06872 J**	**21.80227 J**	**16.68926**
C3-Fluorenes	**18.27004**	**7.40673**	**13.20316**	**9.99332**	**0.67646**	**2.25545**	**11.71911**	**2.05288**	**3.88334**	**22.92107**	**12.89293**	**14.38809**	**16.91776 J**	**12.8807 J**	**12.55372**
Indeno[1,2,3-cd]pyrene	**10.32169**	**11.68761**	**16.51032**	**7.59855**	**0.19201**	**2.35822**	**8.21565**	**0.99901**	**3.79188**	**7.68333**	**1.76307**	**14.7817**	**8.14071 J**	**4.28772 J**	**11.15563 J**
Naphthalene	**4.40093**	**7.83298**	**5.50078**	**4.40242**	**0.62442**	**0.91846**	**5.09647**	**7.24308**	**2.20391**	**8.86841**	**13.80995**	**7.97583**	**7.65173 J**	**11.76757 J**	**8.06949**
C1-Naphthalenes	**4.80231**	**3.87052**	**5.84434**	**3.90337**	**0.50377**	**0.8369**	**3.50559**	**1.98152**	**1.72434**	**16.1651**	**21.83364**	**11.18328**	**13.42098 J**	**25.75977 J**	**10.68087**
C2-Naphthalenes	**16.95669**	**5.23679**	**13.16109**	**11.07735**	**1.30695**	**2.42136**	**7.31135**	**3.22331**	**3.93132**	**42.50291**	**53.41812**	**24.72936**	**32.65334 J**	**53.95129 J**	**22.30001**
C3-Naphthalenes	**26.97522**	**5.34274**	**17.26972**	**17.33066**	**1.85706**	**3.74534**	**11.81381**	**4.0029**	**5.09503**	**56.71171**	**57.99579**	**28.60828**	**41.36974 J**	**51.34275 J**	**24.67019**
C4-Naphthalenes	**23.6677**	**3.8356**	**13.95723**	**13.63637**	**1.20043**	**2.94776**	**11.19922**	**3.07602**	**4.03715**	**44.24787**	**35.69454**	**20.88449**	**31.61767 J**	**28.55512 J**	**17.64316**
Perylene	**4.05958**	**3.31928**	**5.87226**	**3.13814**	**0.08679**	**0.92126**	**3.2378**	**0.30401**	**1.30161**	**4.23263**	**0.74043**	**5.81423**	**3.44781 J**	**2.13316 J**	**4.27396**
Phenanthrene	**41.47216**	**70.51885**	**58.09229**	**29.15411**	**3.54042**	**7.8269**	**27.02898**	**6.91282**	**12.15377**	**78.46167**	**86.6028**	**65.04333**	**55.41177 J**	**100.1541 J**	**49.4989**
C1-Phenanthrenes/anthracenes	**68.68223**	**17.061**	**52.97956**	**46.30461**	**4.24319**	**11.19061**	**47.14533**	**9.9753**	**17.0256**	**96.36699**	**77.98822**	**71.48324**	**71.60677 J**	**104.62773 J**	**62.35813**
C2-Phenanthrenes/anthracenes	**60.80437**	**11.24985**	**42.6421**	**36.92455**	**2.61121**	**8.6351**	**41.41942**	**7.57192**	**13.54161**	**75.21653**	**42.14188**	**56.71196**	**55.59888 J**	**53.91369 J**	**49.26258**
C3-Phenanthrenes/anthracenes	**28.73353**	**4.48592**	**19.25943**	**17.75867**	**1.03359**	**4.17014**	**19.05618**	**3.24854**	**6.06106**	**37.1642**	**15.75845**	**24.68911**	**26.83702 J**	**19.80615 J**	**21.06471**
C4-Phenanthrenes/anthracenes	**10.02168**	**1.46732**	**6.96374**	**6.19087**	**0.36085**	**1.42407**	**6.8204**	**1.23834**	**2.25593**	**12.90243**	**5.62948**	**8.17501**	**9.25828 J**	**7.49003 J**	**7.00779**
Pyrene	**48.9895**	**55.78144**	**58.82635**	**42.33238**	**2.95358**	**10.73999**	**50.87676**	**6.46563**	**14.64494**	**68.60185**	**38.6382**	**68.85409**	**46.59297 J**	**61.94724 J**	**51.04515**

Validated

Table 3
Summary of Analytical Fractionated Results
Phase I Sediment Cores
Gowanus Canal
Brooklyn, New York

Sample Name:	Duplicate of GC-SED-512		GC-SED-512			GC-SED-512			GC-SED-512		GC-SED-512			GC-SED-512		
Sample Depth (feet):	(1.0-1.5)		(1.5-2.0)			(2.0-2.5)			(2.5-3.0)		(3.0-3.5)			(3.5-4.0)		
Sample Date:	8/9/2012		8/9/2012			8/9/2012			8/9/2012		8/9/2012			8/9/2012		
Sieve Number:	Bottom	200	Bottom	10	200	Bottom	10	200	Bottom	200	Bottom	10	200	Bottom	10	200
Alkylated PAHs (mg/kg)																
Acenaphthene	**14.96893**	**9.71262**	**11.99175**	**3.25824**	**8.56499**	**6.83983**	**29.4428**	**22.7355**	**2.04549**	**2.54447**	**1.18351**	**0.80679**	**2.111**	**3.09916**	**1.92741**	**2.49829**
Acenaphthylene	**8.58766**	**6.87057**	**5.45127**	**0.38334**	**5.13348**	**4.2131**	**3.0325**	**5.19354**	**1.70382**	**1.97807**	**2.46107**	**0.11006**	**3.21086**	**4.00099**	**0.33265**	**2.57897**
Anthracene	**29.98552**	**23.2291**	**19.34497**	**4.27105**	**17.48509**	**15.03559**	**36.27087**	**50.99844**	**3.33273**	**4.32546**	**3.83626**	**1.14573**	**7.37494**	**5.84031**	**1.90628**	**4.65091**
Benz[a]anthracene	**25.45947**	**23.39249**	**19.33203**	**2.90555**	**19.35223**	**19.13507**	**17.9963 J**	**79.29619**	**4.81654**	**6.83098**	**8.02896**	**0.7822**	**17.07608 J**	**11.21515**	**2.51677**	**9.79271**
Benzo[a]pyrene	**19.39547**	**21.19234**	**15.39159**	**2.03444**	**16.93849**	**14.96522**	**9.14891**	**64.55734**	**4.272**	**5.79746**	**6.22712**	**0.36264**	**12.42429 J**	**9.17438**	**1.24606**	**7.72245**
Benzo[b]fluoranthene	**11.65846**	**11.80475**	**9.0916**	**1.13102**	**9.77637**	**10.79976**	**5.79606**	**55.08894**	**3.26606**	**4.40525**	**4.65324**	**0.26431**	**9.69574**	**6.31111**	**0.89107**	**5.3694**
Benzo[e]pyrene	**11.6228**	**11.57075**	**9.46338**	**1.48377**	**9.77151**	**9.72644**	**6.00305 J**	**41.14883**	**3.11026**	**4.05001**	**4.47235**	**0.28319**	**7.65499**	**6.30993**	**0.88163**	**5.15411**
Benzo[g,h,i]perylene	**4.44607 J**	**4.8474 J**	**6.9021**	**0.78971**	**4.84955**	**6.57239**	**4.68294**	**27.58565**	**1.83924**	**2.35435**	**2.84858**	**0.17865**	**5.35288**	**4.49727**	**0.4679**	**3.69784**
Benzo[k]fluoranthene	**15.52052**	**14.10184**	**10.96193**	**1.18544**	**11.31143**	**11.64781**	**7.03254 J**	**48.11331**	**3.80571**	**5.17853**	**5.57017**	**0.33244**	**10.35696**	**7.28914**	**1.05133**	**6.32018**
1,1-Biphenyl	**2.17167**	**1.63052**	**1.41493**	**0.63073**	**1.19598**	**0.69497**	**4.97546**	**2.17873**	**0.2645**	**0.34882**	**0.14664**	**0.00973 J**	**0.17298**	**0.28945**	**0.23091**	**0.24294**
Chrysene	**25.30912**	**23.55005**	**19.22038**	**2.87567**	**18.91764**	**18.6155**	**17.18186**	**70.72452**	**4.83591**	**7.03471**	**7.86922**	**0.81181**	**15.02699 J**	**9.95361**	**2.25422**	**8.73126**
C1-Chrysenes	**26.80331**	**20.3836**	**18.22434**	**2.72396**	**17.81079**	**14.68708**	**12.34944**	**31.26003**	**4.65107**	**6.01467**	**6.43437**	**0.54244**	**8.06886**	**9.06385**	**1.71453**	**7.47374**
C2-Chrysenes	**12.22095**	**10.09205**	**10.8252**	**1.38906**	**10.70623**	**7.60961**	**5.75529**	**13.35972**	**2.44729**	**3.18538**	**3.13655**	**0.34454**	**3.57764**	**4.45377**	**0.81097**	**3.62453**
C3-Chrysenes	**5.41434**	**4.59365**	**5.44445**	**0.55161**	**5.23827**	**3.71092**	**3.01011**	**6.46637**	**1.23572**	**1.64689**	**1.57778**	**0.33349**	**1.82986**	**2.18513**	**0.46827**	**1.81872**
C4-Chrysenes	**2.67273**	**2.1585**	**2.74945**	**0.29316**	**2.60635**	**2.05112**	**1.88912**	**3.62174**	**0.68168**	**0.9012**	**0.90643**	**0.29273**	**0.98155**	**1.3505**	**0.35398**	**1.13281**
Dibenz[a,h]anthracene	**1.45615 J**	**1.47423 J**	**1.76492**	**0.33748**	**1.59968**	**2.02496**	**1.18137 J**	**9.53883**	**0.53493**	**0.73619**	**0.81763**	**0.04003**	**1.55786**	**1.29853**	**0.13701**	**1.08896**
Dibenzofuran	**1.87126**	**1.38944**	**1.19521**	**0.37255**	**0.97324**	**1.38946**	**3.00136**	**11.74599**	**0.29876**	**0.53606**	**0.21374**	**0.06852**	**0.65568**	**0.42185**	**0.24864**	**0.38539**
Dibenzothiophene	**8.17808**	**5.67533**	**6.27879**	**1.36464**	**4.64611**	**4.06367**	**12.78937**	**12.18729**	**0.88765**	**1.22572**	**0.42315**	**0.10951**	**1.08937**	**1.17445**	**0.67563**	**0.99768**
C1-Dibenzothiophenes	**21.64636**	**14.12888**	**16.43802**	**3.27221**	**10.89365**	**8.54859**	**18.48584**	**12.25376**	**2.01436**	**2.58774**	**2.05895**	**0.78548**	**2.48043**	**3.85878**	**1.7935**	**2.79001**
C2-Dibenzothiophenes	**28.27754**	**18.1748**	**21.26956**	**3.68372**	**14.61152**	**10.81038**	**16.08025**	**12.93501**	**3.0358**	**3.52681**	**4.20005**	**0.99775**	**4.13383**	**6.23956**	**2.61488**	**4.65196**
C3-Dibenzothiophenes	**21.8241 J**	**13.63585**	**15.94918**	**2.10726**	**11.22132**	**8.22536**	**9.90808**	**8.75303**	**2.38352**	**2.81089**	**3.47254**	**0.62585**	**3.45914**	**5.21385**	**1.7822**	**3.72545**
C4-Dibenzothiophenes	**8.85759 J**	**5.65914**	**7.33064**	**0.87772**	**5.27398**	**3.12039**	**4.79298**	**3.54895**	**1.13023**	**1.28375**	**1.54361**	**0.25462**	**1.51209**	**2.35007**	**0.67716**	**1.66122**
Fluoranthene	**43.41825**	**36.17459**	**32.74297**	**6.77949**	**28.75781**	**32.97584**	**43.07036**	**155.82538**	**8.75379**	**12.55864**	**14.06275**	**2.62426**	**35.42805 J**	**19.05454**	**6.88711**	**16.59305**
C1-Fluoranthenes/pyrenes	**91.75234 J**	**71.19178**	**75.1028**	**10.92814**	**62.68144**	**36.06184**	**46.26054**	**78.41244**	**10.71207**	**13.1108**	**15.33125**	**2.03531**	**20.5097**	**22.35562**	**5.7212**	**17.36407**
C2-Fluoranthenes/pyrenes	**48.38305 J**	**35.43395**	**35.93786**	**4.15542**	**30.4227**	**16.92833**	**16.4569**	**32.37265**	**5.69649**	**7.07301**	**7.51598**	**0.69705**	**9.3467**	**10.82984**	**2.13682**	**8.08664**
C3-Fluoranthenes/pyrenes	**27.32575 J**	**20.66863 J**	**18.72843**	**2.12987**	**16.72353**	**7.74542**	**6.98365**	**14.11154**	**2.94073**	**3.62055**	**3.74635**	**0.3237**	**4.87192**	**4.60694**	**0.8682**	**3.68316**
C4-Fluoranthenes/Pyrenes	**8.84888 J**	**7.23982 J**	**6.74387**	**0.82737**	**6.23114**	**2.60298**	**2.3899**	**4.90491**	**1.0097**	**1.2451**	**1.26078**	**0.14858**	**1.68102**	**1.62612**	**0.37146**	**1.34533**
Fluorene	**10.85042**	**7.47201**	**6.9395**	**1.67807**	**5.36438**	**4.9006**	**20.39273**	**23.71743**	**1.08953**	**1.44084**	**0.37765**	**0.05798**	**1.46224**	**1.26201**	**0.92346**	**1.15651**
C1-Fluorenes	**17.93054**	**11.41438**	**12.61581**	**2.30528**	**9.06256**	**6.79671**	**21.04332**	**11.23392**	**1.85361**	**2.27374**	**1.58594**	**0.70652**	**2.20241**	**3.44258**	**2.02021**	**2.41659**
C2-Fluorenes	**27.38904**	**17.167**	**22.59959**	**3.57967**	**13.92634**	**10.3614**	**22.33248**	**12.73176**	**3.10513**	**3.75509**	**4.20318**	**1.53789**	**4.60191**	**6.56941**	**3.64049**	**4.71525**
C3-Fluorenes	**23.8186**	**15.05871**	**20.04658**	**2.88847**	**13.19035**	**9.02215**	**16.95302**	**12.41314**	**3.26224**	**3.81678**	**4.76522**	**1.25123**	**4.81164**	**6.17244**	**3.05991**	**4.88229**
Indeno[1,2,3-cd]pyrene	**5.12467 J**	**5.58282 J**	**7.01128**	**0.60338**	**5.52362**	**7.45014**	**3.86259 J**	**41.3683**	**2.0569**	**2.71994**	**3.10928**	**0.14956**	**6.48707**	**4.87875**	**0.482**	**4.25857**
Naphthalene	**7.28202**	**7.88372**	**4.91307**	**4.30198**	**5.19472**	**2.63599**	**42.51647**	**12.36367**	**1.09499**	**1.55253**	**0.85725**	**0.05812**	**1.01491**	**1.06739**	**0.562**	**1.03192**
C1-Naphthalenes	**11.77472**	**9.29599**	**8.43995**	**3.65618**	**7.42654**	**2.79411**	**28.53887**	**8.77701**	**1.50562**	**2.00862**	**0.55106**	**0.04196**	**0.80169**	**1.36209**	**1.42924**	**1.18465**
C2-Naphthalenes	**32.09913**	**20.47703**	**22.81446**	**5.46289**	**16.45317**	**7.43793**	**44.03424**	**13.5443**	**3.76739**	**4.64981**	**1.09505**	**0.36251**	**1.93547**	**5.11675**	**5.65327**	**3.8835**
C3-Naphthalenes	**44.7553**	**26.83145**	**30.53962**	**6.10103**	**20.37381**	**11.52603**	**37.13141**	**15.07342**	**5.13498**	**6.09253**	**2.44502**	**1.55378**	**3.65798**	**8.10537**	**6.90704**	**5.8542**
C4-Naphthalenes	**36.75218**	**21.21136**	**26.23481**	**4.37685**	**16.34394**	**10.19458**	**21.3799**	**11.29443**	**4.32053**	**4.9022**	**3.87651**	**1.94859**	**4.13452**	**7.49289**	**5.11461**	**5.21634**
Perylene	**3.33591**	**3.72352**	**3.2187**	**0.1894**	**3.27334**	**3.20052**	**1.53757**	**15.55905**	**1.0982**	**1.39224**	**1.5017**	**0.09236**	**2.94863**	**1.83729**	**0.19975**	**1.621**
Phenanthrene	**65.60726**	**47.93138**	**44.90421**	**8.59654**	**36.12338**	**34.696**	**81.70943**	**155.23222**	**6.90514**	**10.98683**	**2.89095**	**0.33958**	**14.36807 J**	**7.96817**	**4.9026**	**8.16776**
C1-Phenanthrenes/anthracenes	**109.96769**	**77.57973**	**82.27972**	**14.66819**	**58.40384**	**40.42418**	**87.253**	**71.91702**	**9.56475**	**12.41391**	**9.49553**	**3.21367**	**14.50864**	**17.3373**	**7.73416**	**13.36361**
C2-Phenanthrenes/anthracenes	**87.03783**	**57.926**	**65.45112**	**9.72754**	**46.71951**	**31.95716**	**51.38535**	**43.9432**	**9.14176**	**11.0859**	**13.21976**	**2.99939**	**15.06969**	**18.92448**	**7.45158**	**14.04033**
C3-Phenanthrenes/anthracenes	**43.46956**	**28.48518**	**33.87419**	**3.94714**	**24.21994**	**16.94369**	**21.67723**	**21.68633**	**5.42944**	**6.46614**	**8.04374**	**1.2956**	**8.44984**	**11.35169**	**3.69295**	**7.85197**
C4-Phenanthrenes/anthracenes	**15.96321 J**	**10.53667**	**14.88962**	**1.68007**	**11.44577**	**5.89109**	**9.77745**	**7.40916**	**2.46043**	**3.02918**	**3.04741**	**0.42146**	**3.06969**	**5.52885**	**1.5319**	**3.68134**
Pyrene	**59.65616**	**46.45377**	**46.02065**	**8.93056**	**37.72897**	**41.71695**	**55.0453**	**130.50822**	**11.55697**	**14.11349**	**18.10588**	**3.00376**	**36.37658 J**	**23.55727**	**8.01445**	**19.40468**

Table 3
Summary of Analytical Fractionated Results
Phase I Sediment Cores
Gowanus Canal
Brooklyn, New York

Sample Name:	GC-SED-513			GC-SED-513		GC-SED-513			GC-SED-513			GC-SED-513			GC-SED-513		
Sample Depth (feet):	(0.0-0.5)			(0.5-1.0)		(1.0-1.5)			(1.5-2.0)			(2.0-2.5)			(2.5-3.0)		
Sample Date:	8/9/2012			8/9/2012		8/9/2012			8/9/2012			8/9/2012			8/9/2012		
Sieve Number:	Bottom	10	200	Bottom	200	Bottom	10	200	Bottom	10	200	Bottom	10	200	Bottom	10	200
Alkylated PAHs (mg/kg)																	
Acenaphthene	**3.75607**	**1.66047**	**1.93617**	**5.71497**	**5.37659**	**6.32349**	**0.33743**	**3.54036**	**3.54033**	**0.11207**	**0.62094**	**0.56908**	**0.09574**	**0.76601**	**0.61811**	**0.12797**	**0.34238**
Acenaphthylene	**3.73295**	**0.32306**	**2.0302**	**6.6389**	**5.67006**	**4.82574**	**0.0745**	**3.66484**	**3.94757**	**0.02408**	**0.55235**	**1.07751**	**0.01865**	**0.43769**	**0.8619**	**0.03411**	**0.63109**
Anthracene	**11.03749**	**3.18762**	**5.32893**	**15.50572**	**13.75335**	**14.5025**	**0.60801**	**8.51534**	**9.41233**	**0.16932**	**1.51986**	**1.74749**	**0.18463**	**1.6022**	**1.70201**	**0.17937**	**0.92348**
Benz[a]anthracene	**13.18159**	**4.4085**	**8.25228**	**20.50294**	**19.36951**	**18.95184**	**0.91105**	**11.66317**	**14.22435**	**0.1843**	**2.36468**	**3.38621**	**0.30506**	**2.95763**	**3.84516**	**0.25577**	**2.00341**
Benzo[a]pyrene	**10.08315**	**1.36453**	**5.59089**	**16.08048**	**17.79601**	**14.23104**	**0.5667**	**9.58895**	**11.33099**	**0.10119**	**2.07227**	**3.4197**	**0.20492**	**2.33876**	**3.41001**	**0.14508**	**1.69776**
Benzo[b]fluoranthene	**6.1466**	**1.03369**	**3.33288**	**10.18548**	**12.45067**	**8.45245**	**0.47762**	**5.90875**	**8.27266**	**0.09591**	**1.34184**	**2.49773**	**0.23381**	**2.11117**	**3.22613**	**0.17219**	**1.60529**
Benzo[e]pyrene	**6.49625**	**1.25559**	**3.3212**	**10.43393**	**11.57248**	**9.19157**	**0.38464**	**5.88154**	**7.65573**	**0.0887**	**1.34382**	**2.48233**	**0.18888**	**1.63535**	**2.79161**	**0.15137**	**1.39947**
Benzo[g,h,i]perylene	**2.38161 J**	**0.42025 J**	**1.74693 J**	**6.65318**	**7.69355**	**7.11126**	**0.20849**	**5.04918**	**4.70979**	**0.04708**	**1.18394**	**1.54216**	**0.09863**	**0.94175**	**2.33812**	**0.09855**	**1.13718**
Benzo[k]fluoranthene	**8.08073**	**0.92659**	**4.40735**	**12.22793**	**14.34204**	**10.7629**	**0.56**	**6.97761**	**9.18283**	**0.09318**	**1.51784**	**2.85102**	**0.22903**	**2.05909**	**3.46926**	**0.17458**	**1.81295**
1,1-Biphenyl	**0.52152**	**0.197**	**0.35993**	**0.7798**	**0.81684**	**0.73338**	**0.03046**	**0.51434**	**0.48452**	**0.0112**	**0.08199**	**0.08607**	**0.00805**	**0.09428**	**0.09313**	**0.0352**	**0.05339**
Chrysene	**13.67908**	**6.31283**	**8.09843**	**20.28531**	**19.27655**	**18.58463**	**0.81408**	**11.48846**	**13.83041**	**0.1695**	**2.37794**	**3.42939**	**0.33253**	**2.72702**	**3.86643**	**0.27728**	**1.99775**
C1-Chrysenes	**12.77061**	**2.71436**	**6.91653**	**18.85963**	**17.19258**	**16.8715**	**0.5968**	**10.50639**	**11.9156**	**0.15936**	**2.77868**	**3.0372**	**0.21014**	**1.72034**	**2.38958**	**0.17496**	**1.19715**
C2-Chrysenes	**7.14406**	**1.08503**	**3.03067**	**9.85627**	**8.80753**	**9.00506**	**0.2779**	**5.79368**	**6.03578**	**0.09765**	**1.88895**	**1.55822**	**0.13433**	**0.81545**	**1.2149**	**0.12548**	**0.62313**
C3-Chrysenes	**3.72348**	**0.4984**	**1.88592**	**4.96289**	**4.13371**	**3.83564**	**0.13949**	**2.78048**	**2.95559**	**0.0767**	**1.03938**	**0.88995**	**0.11688**	**0.4207**	**0.75304**	**0.12993**	**0.44741**
C4-Chrysenes	**1.77228**	**0.38158**	**0.74619**	**2.58772**	**2.17676**	**2.273**	**0.09161**	**1.60978**	**1.57799**	**0.05761**	**0.4903**	**0.60552**	**0.08611**	**0.26892**	**0.48626**	**0.07129**	**0.31436**
Dibenz[a,h]anthracene	**0.77201 J**	**0.23978 J**	**0.5548 J**	**2.08263**	**2.57473**	**2.04572**	**0.08366**	**1.36361**	**1.48574**	**0.01257**	**0.33457**	**0.3429**	**0.03122**	**0.29733**	**0.62497**	**0.02658**	**0.32505**
Dibenzofuran	**0.55548**	**0.27912**	**0.3555**	**0.78279**	**1.11107**	**0.81012**	**0.04042**	**0.53333**	**0.60616**	**0.01401**	**0.09941**	**0.15671**	**0.02083**	**0.30045**	**0.30075**	**0.03997**	**0.13496**
Dibenzothiophene	**2.71359**	**2.77497**	**1.42024**	**4.36692**	**3.89253**	**4.18503**	**0.18854**	**2.39234**	**2.51536**	**0.06063**	**0.45205**	**0.43401**	**0.06889**	**0.39348**	**0.52728**	**0.0912**	**0.27765**
C1-Dibenzothiophenes	**8.65368**	**4.71194**	**3.83273**	**11.54386**	**9.11322**	**10.65842**	**0.44518**	**5.905**	**6.17127**	**0.13748**	**1.18196**	**1.26806**	**0.20889**	**0.66985**	**1.10212**	**0.22822**	**0.5756**
C2-Dibenzothiophenes	**12.31633**	**4.03432**	**5.34612**	**14.94109**	**11.42042**	**13.33386**	**0.51218**	**7.48487**	**8.04636**	**0.17056**	**1.62436**	**2.33534**	**0.34119**	**0.99784**	**2.2847**	**0.4516**	**1.22795**
C3-Dibenzothiophenes	**9.99153**	**2.13191**	**4.06774**	**10.6324**	**8.23459**	**9.33607**	**0.33082**	**5.39132**	**6.03789**	**0.16149**	**1.24579**	**2.13054**	**0.30129**	**0.91392**	**2.08487**	**0.36627**	**1.15**
C4-Dibenzothiophenes	**4.47821**	**0.93318**	**1.71979**	**4.29876**	**3.19278**	**3.6847**	**0.165**	**2.14611**	**2.54639**	**0.09898**	**0.51277**	**1.16539**	**0.14228**	**0.43848**	**1.07346**	**0.16541**	**0.6028**
Fluoranthene	**21.33082**	**6.10713**	**14.53192**	**30.04417**	**31.49086**	**28.35519**	**1.63436**	**17.35375**	**21.87233**	**0.38662**	**3.35917**	**7.00023**	**0.67627**	**5.18038**	**8.21469**	**0.90967**	**4.49026**
C1-Fluoranthenes/pyrenes	**45.77542**	**7.26392**	**18.03282**	**43.1605**	**38.04442**	**38.50409**	**1.48688**	**24.64474**	**26.32754**	**0.43843**	**4.97676**	**7.5248**	**0.62422**	**3.83746**	**5.9991**	**0.64941**	**3.21868**
C2-Fluoranthenes/pyrenes	**26.68319**	**3.72956**	**10.48563**	**20.96178**	**20.25949**	**18.81485**	**0.71123**	**12.18015**	**13.30831**	**0.22437**	**3.00362**	**4.58429**	**0.3334**	**1.98374**	**3.40157**	**0.31836**	**1.74459**
C3-Fluoranthenes/pyrenes	**13.17233**	**1.90319**	**5.13736**	**10.01863**	**9.13777**	**8.37094**	**0.34316**	**5.68769**	**6.30335**	**0.10577**	**1.73749**	**2.44382**	**0.17349**	**0.9185**	**1.60914**	**0.16491**	**0.8438**
C4-Fluoranthenes/Pyrenes	**4.49656**	**0.62105**	**1.58504**	**3.35169**	**3.06571**	**2.9379**	**0.1288**	**2.04284**	**2.14833**	**0.05666**	**0.61217**	**1.0629**	**0.08348**	**0.35394**	**0.63574**	**0.09699**	**0.37952**
Fluorene	**2.97593**	**1.28334**	**1.63356**	**4.60312**	**4.56365**	**4.65656**	**0.2298**	**2.70807**	**2.79736**	**0.06918**	**0.53352**	**0.4503**	**0.07163**	**0.65764**	**0.53218**	**0.09497**	**0.29929**
C1-Fluorenes	**6.54991**	**2.29928**	**3.01981**	**8.59259**	**7.02603**	**8.54997**	**0.40955**	**4.62305**	**4.71569**	**0.11796**	**1.00218**	**1.20557**	**0.27674**	**0.66351**	**1.43431**	**0.43383**	**0.78243**
C2-Fluorenes	**11.83985**	**3.91646**	**5.21144**	**14.15568**	**10.69175**	**12.30979**	**0.58929**	**6.78183**	**7.17518**	**0.17771**	**1.49876**	**3.18706**	**0.65241**	**1.24996**	**4.32036**	**1.13342**	**2.28009**
C3-Fluorenes	**11.39344**	**3.29651**	**4.78901**	**11.30983**	**9.30548**	**10.05504**	**0.51021**	**6.00318**	**6.58027**	**0.19837**	**1.35905**	**3.79955**	**0.70648**	**1.4352**	**5.44162**	**1.19441**	**3.02606**
Indeno[1,2,3-cd]pyrene	**2.75275 J**	**0.44255 J**	**1.98475 J**	**7.12718**	**8.78307**	**7.24903**	**0.29732**	**5.04289**	**5.32786**	**0.04443**	**1.17877**	**1.63975**	**0.11977**	**1.15021**	**2.48929**	**0.09107**	**1.22554**
Naphthalene	**2.29303**	**0.71097**	**3.05284**	**2.88478**	**4.03402**	**2.33355**	**0.05814**	**2.19136**	**2.04154**	**0.02689**	**0.39783**	**0.38437**	**0.01635**	**0.55457**	**0.40283**	**0.06305**	**0.16376**
C1-Naphthalenes	**2.42275**	**1.12516**	**1.82176**	**3.22464**	**3.73261**	**2.97754**	**0.12428**	**2.30294**	**1.99744**	**0.04149**	**0.4172**	**0.34168**	**0.03537**	**0.39331**	**0.32182**	**0.07884**	**0.15052**
C2-Naphthalenes	**8.82003**	**4.50278**	**4.59667**	**11.30487**	**9.29748**	**11.05976**	**0.66959**	**6.22881**	**5.60527**	**0.17242**	**1.23667**	**1.78037**	**0.57635**	**1.08324**	**2.132**	**0.75584**	**1.2075**
C3-Naphthalenes	**16.05411**	**7.30149**	**7.43481**	**19.11841**	**14.10108**	**17.17929**	**1.00033**	**9.02222**	**8.63991**	**0.2738**	**2.07644**	**4.11162**	**1.07251**	**1.87372**	**5.38327**	**1.66013**	**3.09994**
C4-Naphthalenes	**15.45036**	**5.95906**	**6.68719**	**16.6182**	**11.95828**	**14.63756**	**0.81986**	**7.41342**	**7.42145**	**0.22763**	**1.79525**	**4.22522**	**0.88384**	**1.63031**	**5.8911**	**1.52246**	**3.37672**
Perylene	**2.365**	**0.18157**	**1.09171**	**3.33588**	**3.90424**	**2.7474**	**0.11349**	**1.83415**	**2.52596**	**0.02153**	**0.46199**	**0.78497**	**0.0563**	**0.62056**	**1.1381**	**0.04659**	**0.54807**
Phenanthrene	**22.44398**	**11.70925**	**12.49852**	**33.09784**	**30.88436**	**31.68715**	**1.42472**	**18.3061**	**20.06047**	**0.37362**	**3.70418**	**3.27281**	**0.41729**	**4.47256**	**4.38448**	**0.474**	**2.52199**
C1-Phenanthrenes/anthracenes	**43.18173**	**13.42803**	**18.66051**	**50.97427**	**41.66453**	**46.73862**	**1.90595**	**25.8703**	**27.56864**	**0.53975**	**5.32759**	**6.1792**	**1.20915**	**3.58297**	**6.18361**	**1.16298**	**3.23424**
C2-Phenanthrenes/anthracenes	**38.36123**	**9.45645**	**16.40943**	**43.29664**	**34.17586**	**38.30759**	**1.49214**	**22.0548**	**23.25302**	**0.45526**	**4.62297**	**7.6722**	**1.60634**	**3.41652**	**10.05935**	**1.6369**	**5.3456**
C3-Phenanthrenes/anthracenes	**21.94261**	**4.25132**	**8.94918**	**22.68078**	**18.07899**	**19.57139**	**0.69093**	**11.4774**	**12.27186**	**0.29003**	**2.6282**	**5.09302**	**0.95725**	**2.17287**	**6.20008**	**0.9139**	**3.34627**
C4-Phenanthrenes/anthracenes	**9.20625**	**1.46808**	**3.28375**	**7.79596**	**6.02354**	**6.75919**	**0.25678**	**3.96849**	**4.39447**	**0.1317**	**0.96224**	**2.35797**	**0.31004**	**0.81987**	**2.45106**	**1.18938**	**1.33084**
Pyrene	**29.03044**	**9.82151**	**13.91843**	**41.58034**	**37.0059**	**38.15868**	**1.90595**	**22.66412**	**27.58367**	**0.58967**	**4.34383**	**9.92666**	**0.86559**	**5.25578**	**8.4703**	**1.06142**	**4.54227**

Table 3
Summary of Analytical Fractionated Results
Phase I Sediment Cores
Gowanus Canal
Brooklyn, New York

Sample Name:	GC-SED-513			GC-SED-513			GC-SED-514		GC-SED-514		GC-SED-514		GC-SED-514		GC-SED-514	
Sample Depth (feet):	(3.0-3.5)			(3.5-4.0)			(0.0-0.5)		(0.5-1.0)		(1.0-1.5)		(1.5-2.0)		(2.0-2.5)	
Sample Date:	8/9/2012			8/9/2012			8/14/2012		8/14/2012		8/14/2012		8/14/2012		8/14/2012	
Sieve Number:	Bottom	10	200	Bottom	10	200	Bottom	200	Bottom	200	Bottom	200	Bottom	200	Bottom	200
Alkylated PAHs (mg/kg)																
Acenaphthene	**0.79523**	**0.02712**	**1.40015**	**0.41926**	**0.00578**	**0.15021**	**5.07104**	**3.16502**	**4.79857**	**3.67909**	**10.5385**	**6.30136**	**10.85505**	**8.68291**	**10.87823**	**10.81758**
Acenaphthylene	**2.90456**	**0.0972**	**0.92453**	**1.96592**	**0.01252**	**0.43003**	**4.92276**	**3.32524**	**4.73673**	**2.35725**	**6.13851**	**4.92336**	**8.45587**	**7.06484**	**6.49813**	**7.4122**
Anthracene	**3.65404**	**1.39223**	**4.35072**	**1.63618**	**0.02453**	**0.4984**	**14.17246**	**8.40753**	**13.89087**	**9.18261**	**21.35029**	**13.80119**	**29.03254**	**19.50221**	**23.79167**	**24.40673**
Benz[a]anthracene	**11.24162**	**2.2697**	**10.10316**	**5.70752**	**0.15368**	**1.60326**	**17.79674**	**11.79261**	**16.40635**	**12.03723**	**23.40725**	**16.53607**	**32.34887**	**23.25452**	**25.01204**	**26.54068**
Benzo[a]pyrene	**9.65674**	**0.91532**	**8.23253**	**5.77017**	**0.08794**	**1.61006**	**14.78186**	**8.81987**	**12.67089**	**10.01127**	**16.85021**	**13.24739**	**27.18307**	**20.07924**	**17.69936**	**20.7388**
Benzo[b]fluoranthene	**7.59868**	**1.24254**	**6.95324**	**4.29829**	**0.08185**	**1.22224**	**9.59673**	**5.53922**	**8.40718**	**7.72144**	**9.72749**	**7.84105**	**16.00023**	**11.95835**	**10.67804**	**13.23951**
Benzo[e]pyrene	**6.98053**	**0.77748**	**5.63524**	**4.2912**	**0.0802**	**1.13524**	**9.03882**	**5.52192**	**7.32352**	**6.32081**	**10.3686**	**8.13066**	**16.23339**	**12.29064**	**10.92284**	**12.84198**
Benzo[g,h,i]perylene	**5.81181**	**0.3532**	**4.73959**	**3.46197**	**0.04578**	**0.98039**	**6.06568**	**3.84459**	**4.11136**	**5.00354**	**6.77188**	**5.65316**	**8.96044 J**	**10.76542**	**6.69204**	**8.1676**
Benzo[k]fluoranthene	**8.89728**	**1.32007**	**7.93865**	**4.7527**	**0.08262**	**1.27392**	**11.46729**	**6.91632**	**10.51302**	**8.41408**	**13.07837**	**10.30399**	**21.12586**	**14.95089**	**13.42047**	**15.36859**
1,1-Biphenyl	**0.11641**	**0.00383**	**0.09235**	**0.10348**	**0.00203 J**	**0.04131**	**0.74299**	**0.50371**	**0.66483**	**0.62062**	**1.46219**	**0.99323**	**1.45694**	**1.24061**	**1.38309**	**1.58203**
Chrysene	**8.33787**	**2.61624**	**8.47564**	**4.13602**	**0.11054**	**1.31068**	**18.09702**	**11.88834**	**16.78597**	**14.21076**	**22.74347**	**16.40231**	**31.44096**	**23.24712**	**24.16478**	**25.88595**
C1-Chrysenes	**7.36206**	**0.75286**	**4.61289**	**4.95204**	**0.15053**	**1.27373**	**19.21454**	**10.32866**	**18.35583**	**9.2102**	**20.51223**	**14.36078**	**30.81798**	**23.02556**	**21.77396**	**23.44404**
C2-Chrysenes	**3.39525**	**0.23824**	**1.94488**	**2.45988**	**0.10491**	**0.6524**	**9.18182**	**5.50638**	**8.10691**	**4.98965**	**10.694**	**7.60041**	**15.56547**	**13.99107**	**11.26705**	**12.27698**
C3-Chrysenes	**1.70662**	**0.14874**	**1.02232**	**1.25192**	**0.09897**	**0.36945**	**4.5532**	**2.74712**	**3.49008**	**2.54138**	**4.94598**	**3.53038**	**7.96464**	**7.11203**	**5.14773**	**5.61535**
C4-Chrysenes	**0.97435**	**0.11575**	**0.59398**	**0.7707**	**0.08886**	**0.23711**	**2.17184**	**1.34461**	**1.62043**	**1.23681**	**2.79752**	**1.93303**	**3.83943**	**3.68288**	**2.91727**	**2.98223**
Dibenz[a,h]anthracene	**1.61808**	**0.13973**	**1.44292**	**0.87256**	**0.01134**	**0.24489**	**1.7333**	**1.20539**	**1.21579**	**1.53082**	**2.04898**	**1.75488**	**2.46279 J**	**3.18019**	**2.06791**	**2.60776**
Dibenzofuran	**0.30893**	**0.01266**	**0.68766**	**0.17297**	**0.00334**	**0.10747**	**0.82475**	**0.569**	**0.72326**	**2.08655**	**1.26955**	**0.89409**	**1.42617**	**1.36571**	**1.36867**	**1.55149**
Dibenzothiophene	**0.51459**	**0.02317**	**0.86867**	**0.23724**	**0.00466**	**0.09755**	**4.0471**	**2.35578**	**3.88019**	**2.61042**	**6.10421**	**3.82225**	**7.44538**	**7.0063**	**6.78447**	**6.92724**
C1-Dibenzothiophenes	**1.02405**	**0.07495**	**0.69805**	**0.47129**	**0.01805**	**0.14237**	**11.554**	**6.29771**	**11.28445**	**4.72203**	**15.11743**	**8.81049**	**21.60118**	**20.88373**	**16.23063**	**15.75354**
C2-Dibenzothiophenes	**2.86587**	**0.26842**	**1.4774**	**1.22725**	**0.08411**	**0.33043**	**16.14758**	**8.35203**	**15.5314**	**6.04061**	**18.85956**	**10.64276**	**26.85162**	**27.39853**	**20.01868**	**18.70703**
C3-Dibenzothiophenes	**3.3598**	**0.29861**	**1.45702**	**2.1177**	**0.17608**	**0.49632**	**10.2947**	**5.93009**	**12.14337**	**4.40022**	**12.67789**	**7.09714**	**20.28913**	**18.85651**	**13.61538**	**12.64188**
C4-Dibenzothiophenes	**1.70093**	**0.14446**	**0.71505**	**1.2751**	**0.10468**	**0.29881**	**4.44029**	**2.43126**	**5.06417**	**1.68995**	**4.84912**	**2.72523**	**8.47283**	**7.91673**	**5.20291**	**4.93019**
Fluoranthene	**21.12998**	**2.75623**	**21.11105**	**10.62777**	**0.46592**	**2.71375**	**26.91084**	**18.60078 J**	**25.61162**	**22.95635**	**37.43516**	**25.4484**	**45.39564**	**35.77567**	**40.84295**	**47.41712**
C1-Fluoranthenes/pyrenes	**17.73961**	**2.18943**	**11.13205**	**11.14058**	**0.46095**	**2.55513**	**39.62504**	**23.63739**	**52.86716**	**19.86483**	**52.36287**	**33.80759**	**81.18503**	**78.09062**	**57.32232**	**57.61846**
C2-Fluoranthenes/pyrenes	**8.67139**	**0.81308**	**5.74632**	**5.59167**	**0.21763**	**1.43834**	**20.44695**	**12.06627**	**29.15399**	**11.0661**	**24.18055**	**16.51319**	**40.26481**	**37.34184**	**25.91509**	**27.027**
C3-Fluoranthenes/pyrenes	**4.0214**	**0.4212**	**2.36288**	**2.54353**	**0.14778**	**0.66582**	**11.04332**	**6.3165**	**15.54588**	**5.77364**	**10.79146**	**7.51343**	**20.72764**	**20.27783**	**11.49891**	**12.28447**
C4-Fluoranthenes/Pyrenes	**1.36605**	**0.16764**	**0.81416**	**1.05627**	**0.10287**	**0.28891**	**3.57801**	**2.0532**	**5.13289**	**1.72735**	**3.67588**	**2.57237**	**7.70923**	**7.30715**	**4.02285**	**4.103**
Fluorene	**0.62925**	**0.02971**	**1.3396**	**0.3237**	**0.00556**	**0.15145**	**4.38032**	**2.78517**	**4.13025**	**4.12364**	**7.61059**	**4.77963**	**8.66342**	**7.26649**	**8.40548**	**8.60908**
C1-Fluorenes	**1.01222**	**0.09321**	**0.6835**	**0.48431**	**0.01876**	**0.15252**	**8.58161**	**5.09839**	**8.55166**	**3.85539**	**12.76993**	**7.35636**	**16.61365**	**13.43419**	**13.43825**	**13.06099**
C2-Fluorenes	**3.57561**	**0.43491**	**1.78432**	**1.16602**	**0.07516**	**0.31559**	**14.58054**	**8.11693**	**14.69662**	**6.03478**	**17.81523**	**9.34714**	**28.03184**	**25.08938**	**18.9728**	**18.03602**
C3-Fluorenes	**5.77756**	**0.69079**	**3.05327**	**2.48661**	**0.23023**	**0.57945**	**13.80839**	**7.19376**	**13.26745**	**5.68403**	**14.46425**	**8.15522**	**24.1498**	**24.97174**	**15.73658**	**14.74366**
Indeno[1,2,3-cd]pyrene	**6.24706**	**0.49056**	**5.65232**	**3.61468**	**0.03991**	**1.0897**	**6.44844**	**4.14243**	**4.27384**	**5.68077**	**7.24359**	**6.26086**	**9.50008 J**	**11.44931**	**7.325**	**9.16544**
Naphthalene	**0.7251**	**0.01617**	**0.78008**	**0.5448**	**0.00746**	**1.0501**	**3.18747**	**2.95812**	**3.13604**	**3.65096**	**3.77476**	**3.55095**	**5.14322**	**5.4892**	**3.37492**	**5.31855**
C1-Naphthalenes	**0.43185**	**0.013**	**0.34773**	**0.36847**	**0.00746**	**0.32499**	**2.96267**	**2.48027**	**2.8417**	**3.00448**	**6.86118**	**4.78416**	**6.77727**	**6.14424**	**5.65847**	**7.10595**
C2-Naphthalenes	**0.76584**	**0.03767**	**0.48357**	**0.59066**	**0.01809**	**0.21078**	**10.49537**	**6.63039**	**9.8192**	**5.51662**	**21.59468**	**12.29717**	**23.59214**	**17.23482**	**18.7592**	**18.73698**
C3-Naphthalenes	**1.16467**	**0.13657**	**0.64314**	**0.65965**	**0.02531**	**0.20376**	**20.24407**	**11.40447**	**19.15131**	**8.27487**	**28.824**	**15.50237**	**40.68559**	**28.54745**	**27.56193**	**25.19681**
C4-Naphthalenes	**2.25995**	**0.38157**	**1.07714**	**0.78574**	**0.0453**	**0.203**	**19.52465**	**10.4252**	**18.16689**	**7.12826**	**22.27218**	**11.61882**	**36.84209**	**26.75561**	**22.20117**	**19.87057**
Perylene	**2.74227**	**0.28814**	**2.46928**	**1.28598**	**0.01887**	**0.34983**	**2.97894**	**1.85329**	**2.26457**	**2.31926**	**3.386**	**2.59681**	**4.99827**	**4.51291**	**3.51037**	**4.12848**
Phenanthrene	**6.68073**	**0.24422**	**13.24014**	**2.62353**	**0.02956**	**1.18972**	**31.89296**	**20.41848 J**	**29.66675**	**28.42256**	**49.282**	**32.92146**	**60.38357**	**46.87168**	**54.94233**	**60.87344**
C1-Phenanthrenes/anthracenes	**6.118**	**0.44931**	**5.8136**	**3.18839**	**0.09678**	**0.95262**	**52.11397**	**28.78471**	**54.27892**	**23.55401**	**68.60889**	**40.42631**	**105.79903**	**93.45462**	**75.04855**	**71.70703**
C2-Phenanthrenes/anthracenes	**8.16857**	**0.66431**	**5.16343**	**3.67924**	**0.15133**	**1.00257**	**44.78726**	**24.12801**	**46.74544**	**18.46685**	**52.85749**	**30.84416**	**82.49259**	**79.30928**	**57.20397**	**54.41833**
C3-Phenanthrenes/anthracenes	**6.24549**	**0.53952**	**3.19745**	**3.1922**	**0.17708**	**0.75776**	**22.06371**	**12.52196**	**24.52926**	**9.40194**	**26.35648**	**15.0872**	**42.01729**	**39.2482**	**28.34214**	**26.84578**
C4-Phenanthrenes/anthracenes	**2.89044**	**0.2192**	**1.48755**	**2.0378**	**0.13222**	**0.45293**	**8.26516**	**4.33024**	**9.23093**	**3.2054**	**8.68187**	**4.91494**	**15.21778**	**14.77193**	**9.62367**	**9.04609**
Pyrene	**23.42269**	**2.50918**	**19.05484**	**14.23049**	**0.70261**	**3.28824**	**36.59586**	**27.62537 J**	**35.45203**	**22.4796**	**51.59972**	**34.85527**	**62.47749**	**46.82436**	**55.628**	**62.15673**

Validated

Table 3
Summary of Analytical Fractionated Results
Phase I Sediment Cores
Gowanus Canal
Brooklyn, New York

Sample Name:	GC-SED-514			GC-SED-514			GC-SED-515		GC-SED-515		GC-SED-515		GC-SED-515		GC-SED-515	
Sample Depth (feet):	(2.5-3.0)			(3.0-3.5)			(0.0-0.5)		(0.5-1.0)		(1.0-1.5)		(1.5-2.0)		(2.0-2.5)	
Sample Date:	8/14/2012			8/14/2012			8/14/2012		8/14/2012		8/14/2012		8/14/2012		8/14/2012	
Sieve Number:	Bottom	10	200	Bottom	10	200	Bottom	200	Bottom	200	Bottom	200	Bottom	200	Bottom	200
Alkylated PAHs (mg/kg)																
Acenaphthene	**5.15863**	**0.51801**	**3.45818**	**0.91941**	**0.08476**	**0.68374**	**1.83719**	**2.05477**	**1.31986**	**1.58161**	**4.1967**	**3.8285**	**6.25885**	**5.27593**	**6.79001**	**5.56523**
Acenaphthylene	**2.75998**	**0.20176**	**1.88198**	**1.6326**	**0.03363**	**0.83231**	**2.46847**	**2.60883**	**2.43311**	**2.6547**	**5.28657**	**6.32695**	**6.05453**	**7.27907**	**5.26594**	**6.18672**
Anthracene	**8.56509**	**0.54643**	**6.36646**	**2.6983**	**0.10417**	**2.25757**	**3.8062**	**4.86853**	**3.23237**	**3.9648**	**9.67494**	**9.74989**	**13.33894**	**12.49624**	**16.30057**	**16.26305**
Benz[a]anthracene	**9.6755**	**0.53709 J**	**7.90325**	**3.77888**	**0.09852**	**3.70467**	**6.57027**	**8.44889**	**6.16228**	**8.54564**	**16.03661**	**18.72661**	**18.75575**	**22.4132**	**17.39396**	**19.25366**
Benzo[a]pyrene	**7.39886**	**0.45007**	**6.37671**	**4.21511**	**0.08132**	**3.63222**	**6.16061**	**7.25225**	**5.47002**	**7.60536**	**11.9479**	**15.93093**	**13.31327**	**17.67374**	**13.90027**	**17.01222**
Benzo[b]fluoranthene	**4.86198**	**0.33995**	**4.29271**	**3.1813**	**0.07176**	**2.78682**	**4.50164**	**5.49603**	**4.02635**	**5.53269**	**8.35525**	**10.90302**	**8.39093**	**11.62993**	**8.56641**	**9.48709**
Benzo[e]pyrene	**4.82245**	**0.55383 J**	**4.05717**	**3.39509**	**0.0822**	**2.75174**	**4.43469**	**5.09272**	**4.01631**	**5.19191**	**8.17644**	**10.02857**	**8.83279**	**10.83267**	**8.90097**	**9.9324**
Benzo[g,h,i]perylene	**3.40057**	**0.63445**	**2.92675**	**4.59687**	**0.09455**	**3.53577**	**4.02132**	**3.92953**	**2.99479**	**4.06328**	**5.53644**	**7.00557**	**5.62005**	**7.07183**	**4.96525 J**	**7.37967 J**
Benzo[k]fluoranthene	**5.76911**	**0.32618 J**	**5.19126**	**3.5616**	**0.07771**	**2.6116**	**5.19373**	**6.12915**	**4.85646**	**6.41046**	**9.50657**	**11.83026**	**11.08036**	**13.15231**	**10.68019**	**11.62735**
1,1-Biphenyl	**0.67321**	**0.16649**	**0.48877**	**0.14254**	**0.01399**	**0.11683**	**0.21617**	**0.22695**	**0.12976**	**0.14332**	**0.26525**	**0.37744**	**0.4158**	**0.46929**	**0.70925**	**0.71073**
Chrysene	**9.36147**	**0.60878**	**7.63751**	**4.03865**	**0.11012**	**3.76118**	**6.88054**	**8.21968**	**6.02204**	**8.15444**	**16.20899**	**18.4251**	**19.22849**	**22.1746**	**17.98048**	**19.7066**
C1-Chrysenes	**8.17767**	**0.6594**	**6.04696**	**3.72579**	**0.09817**	**2.61504**	**6.32127**	**7.35703**	**5.95933**	**7.46125**	**15.17487**	**17.7497**	**18.00684**	**20.07246**	**17.38493**	**18.02206**
C2-Chrysenes	**4.22576**	**0.41718**	**3.08616**	**2.18616**	**0.05847**	**1.56798**	**3.42456**	**3.67547**	**3.1862**	**3.99953**	**8.04799**	**10.01347**	**9.4293**	**11.17875**	**9.39908**	**10.97036**
C3-Chrysenes	**1.9554**	**0.39567**	**1.43537**	**1.24399**	**0.03477**	**0.92358**	**1.71024**	**1.79517**	**1.5769**	**2.07477**	**4.05048**	**5.30967**	**4.79476**	**5.78545**	**4.7442**	**5.64158**
C4-Chrysenes	**1.11762**	**0.28793**	**0.82834**	**0.83758**	0.00335 U	**0.49712**	**1.00215**	**0.9352**	**0.90758**	**1.13365**	**2.06785**	**2.42358**	**2.37492**	**2.70815**	**2.56178**	**2.75373**
Dibenz[a,h]anthracene	**0.96416**	**0.10607 J**	**0.86573**	**0.71993**	**0.01367**	**0.57753**	**0.99653**	**1.17898**	**0.80257**	**1.15088**	**1.65463**	**2.24065**	**1.77364**	**2.34591**	**1.40492 J**	**1.97376 J**
Dibenzofuran	**0.60244**	**0.08369**	**0.48876**	**0.21057**	**0.01446**	**0.22541**	**0.32597**	**0.5742**	**0.15733**	**0.34966**	**0.43542**	**0.55651**	**0.67835**	**0.83336**	**0.91763**	**0.86008**
Dibenzothiophene	**2.48346**	**0.2151**	**1.79035**	**0.66583**	**0.03946**	**0.53018**	**1.1064**	**1.28939**	**0.38136**	**0.57127**	**1.9317**	**1.84073**	**2.9918**	**2.69114**	**4.40421**	**3.80809**
C1-Dibenzothiophenes	**5.34656**	**0.29243**	**3.57663**	**1.86227**	**0.07534**	**1.07208**	**2.89055**	**2.75054**	**2.36517**	**2.54475**	**8.45663**	**7.09544**	**11.52486**	**8.73194**	**13.75583**	**11.96974**
C2-Dibenzothiophenes	**6.46638**	**0.33429**	**4.15023**	**2.87585**	**0.10271**	**1.67488**	**4.34229**	**4.05076**	**4.17561**	**4.39863**	**13.0553**	**11.48313**	**17.56952**	**13.18779**	**20.51182**	**16.71292**
C3-Dibenzothiophenes	**4.52922**	**0.20227**	**2.80356**	**3.25218**	**0.07985**	**1.72884**	**3.24003**	**2.7702**	**3.4864**	**3.44907**	**9.78612**	**8.33652**	**12.46883**	**10.16283**	**17.55358**	**14.14507**
C4-Dibenzothiophenes	**1.79334**	**0.09146**	**1.08414**	**1.58855**	**0.04078**	**0.9862**	**1.37972**	**1.17834**	**1.63784**	**1.60303**	**4.21122**	**3.5352**	**5.11649**	**4.15487**	**9.04411**	**7.00383**
Fluoranthene	**16.15018**	**1.01955**	**13.16209**	**11.39192**	**0.27954**	**7.07635**	**11.47731**	**14.30688**	**10.6167**	**14.41459**	**25.79128**	**26.09999**	**31.10177**	**30.35798**	**47.00667**	**28.86898**
C1-Fluoranthenes/pyrenes	**20.24322**	**1.27076**	**14.43907**	**14.05186**	**0.27341**	**9.18114**	**14.34811**	**16.61416**	**13.50641**	**15.71287**	**34.68481**	**32.59448**	**42.64226**	**39.23816**	**75.17587**	**63.9475**
C2-Fluoranthenes/pyrenes	**9.33067**	**0.70883**	**6.7023**	**7.47926**	**0.13815**	**5.09988**	**7.30844**	**7.93892**	**7.17507**	**8.66335**	**17.53996**	**18.38159**	**20.98001**	**22.13712**	**37.39904**	**34.81424**
C3-Fluoranthenes/pyrenes	**4.25919**	**0.45824**	**3.00862**	**4.43245**	**0.09899**	**2.9861**	**3.75229**	**3.73203**	**3.75549**	**4.43167**	**8.7013**	**10.29218**	**10.2496**	**12.80352**	**19.21304**	**18.53442**
C4-Fluoranthenes/Pyrenes	**1.47924**	**0.28087**	**1.04816**	**2.02295**	**0.05171**	**1.34878**	**1.34205**	**1.26297**	**1.35225**	**1.50352**	**2.98589**	**3.48911**	**3.49039**	**4.05238**	**6.14326**	**6.40515**
Fluorene	**3.27267**	**0.34022**	**2.42572**	**1.09401**	**0.0504**	**0.61562**	**1.16521**	**1.53645**	**0.25712**	**0.63726**	**1.25883**	**1.6347**	**2.10889**	**2.47446**	**4.76344**	**4.11549**
C1-Fluorenes	**4.65118**	**0.36866**	**3.14987**	**1.22301**	**0.08466**	**0.7829**	**2.26858**	**2.30355**	**1.53762**	**1.74499**	**6.2296**	**5.26365**	**8.40545**	**6.75483**	**10.10167**	**8.47097**
C2-Fluorenes	**6.35601**	**0.46763**	**3.98695**	**2.74**	**0.14974**	**1.64138**	**4.17251**	**3.88145**	**4.04782**	**4.15455**	**13.47285**	**11.14375**	**17.02898**	**13.03724**	**19.83369**	**16.45561**
C3-Fluorenes	**5.28065**	**0.43046**	**3.34363**	**3.05667**	**0.15033**	**1.98458**	**4.04704**	**3.77367**	**4.39458**	**4.43438**	**12.81371**	**11.11372**	**16.38247**	**12.60905**	**20.31967**	**16.33598**
Indeno[1,2,3-cd]pyrene	**3.53968**	**0.42074 J**	**3.27528**	**3.68867**	**0.06961**	**3.13446**	**3.91777**	**4.21049**	**3.11052**	**4.32403**	**5.86999**	**7.64207**	**5.83633**	**8.0263**	**5.21867 J**	**8.18057 J**
Naphthalene	**1.93547**	**1.24237**	**1.79812**	**0.60236**	**0.03752**	**0.65804**	**1.20229**	**1.17112**	**0.7767**	**1.10003**	**1.46718**	**3.04621**	**2.0588**	**2.76087**	**2.76367**	**3.52571**
C1-Naphthalenes	**3.25936**	**0.89396**	**2.44992**	**0.56878**	**0.05845**	**0.52543**	**1.09367**	**1.02189**	**0.50566**	**0.71324**	**1.21616**	**2.09933**	**1.97717**	**2.49206**	**4.00031**	**3.99206**
C2-Naphthalenes	**8.38767**	**0.95005**	**5.41381**	**1.48389**	**0.17834**	**1.02359**	**3.06**	**2.53985**	**1.13552**	**1.44242**	**5.68716**	**5.60852**	**9.79003**	**8.55335**	**14.05599**	**11.53172**
C3-Naphthalenes	**10.11852**	**0.78645**	**6.18554**	**2.67752**	**0.25953**	**1.63945**	**5.13243**	**3.86113**	**2.91393**	**3.0909**	**14.4282**	**11.84856**	**22.84508**	**17.29767**	**25.55517**	**19.40032**
C4-Naphthalenes	**7.59938**	**0.52042**	**4.55501**	**2.92077**	**0.22696**	**1.66978**	**5.0857**	**3.5785**	**4.28625**	**4.16504**	**16.39997**	**12.89342**	**22.74129**	**16.63257**	**24.75242**	**18.73822**
Perylene	**1.63268**	**0.14231**	**1.43115**	**1.19741**	**0.02217**	**0.92479**	**1.52892**	**1.85767**	**1.37322**	**1.81844**	**2.51847**	**3.30971**	**2.75501**	**3.4845**	**3.01998**	**3.44843**
Phenanthrene	**19.2276**	**1.47439**	**14.87198**	**6.30444**	**0.24878**	**6.01071**	**7.98853**	**10.28568**	**1.80724**	**5.10832**	**12.01599**	**14.18195**	**17.87996**	**20.57569**	**40.5666**	**30.57097**
C1-Phenanthrenes/anthracenes	**24.50706**	**1.70441**	**16.78463**	**8.96722**	**0.32829**	**6.0967**	**12.71101**	**13.38122**	**8.61353**	**10.14305**	**35.5051**	**31.85648**	**49.16277**	**40.17335**	**70.33883**	**65.37549**
C2-Phenanthrenes/anthracenes	**19.05866**	**1.38386**	**12.32233**	**10.24055**	**0.33053**	**5.95803**	**13.02189**	**13.24411**	**12.53593**	**13.5216**	**39.56147**	**34.14019**	**52.05064**	**40.67398**	**68.53371**	**56.63341**
C3-Phenanthrenes/anthracenes	**9.75489**	**0.59401**	**6.05901**	**7.45627**	**0.1788**	**4.54499**	**7.28247**	**6.91253**	**7.71564**	**8.25156**	**21.58384**	**19.31468**	**26.68551**	**22.52431**	**44.2909**	**36.86844**
C4-Phenanthrenes/anthracenes	**3.26946**	**0.20341**	**2.05512**	**3.20206**	**0.08741**	**1.99115**	**2.71945**	**2.54222**	**2.92384**	**3.05281**	**7.39989**	**6.719**	**9.3536**	**8.07223**	**17.51006**	**13.8204**
Pyrene	**21.31528**	**1.54484**	**15.75639**	**9.39245**	**0.36611**	**7.50107**	**14.33888**	**16.86475**	**13.8173**	**17.00929**	**34.62054**	**28.55821**	**42.07484**	**35.89583**	**41.64183**	**37.15849**

Validated

Table 3
Summary of Analytical Fractionated Results
Phase I Sediment Cores
Gowanus Canal
Brooklyn, New York

Sample Name:	GC-SED-515		GC-SED-515		Duplicate of GC-SED-515		GC-SED-515		GC-SED-516		GC-SED-516			GC-SED-516		
Sample Depth (feet):	(2.5-3.0)		(3.0-3.5)		(3.0-3.5)		(3.5-4.0)		(0.0-0.5)		(0.5-1.0)			(1.0-1.5)		
Sample Date:	8/14/2012		8/14/2012		8/14/2012		8/14/2012		8/14/2012		8/14/2012			8/14/2012		
Sieve Number:	Bottom	200	Bottom	200	Bottom	200	Bottom	200	Bottom	200	Bottom	10	200	Bottom	10	200
Alkylated PAHs (mg/kg)																
Acenaphthene	**8.03425**	**7.44208**	**8.34311**	**10.1411**	**7.99216**	**10.3098**	**9.96595**	**10.62702**	**3.69897**	**4.60296**	**2.33096**	**44.62641**	**2.23563 J**	**2.07529**	**0.04232**	**1.31653**
Acenaphthylene	**6.34102**	**8.96894**	**6.96825**	**14.70189**	**7.20808**	**16.45511**	**9.92715**	**14.10894**	**5.89977**	**7.7096**	**4.5188**	**32.01127**	**5.25832 J**	**3.89892**	**0.01883**	**2.92394**
Anthracene	**21.38954**	**18.63083**	**18.53243**	**24.2256**	**17.03009**	**23.471**	**25.17347**	**26.13677**	**11.65376**	**13.93857**	**6.21429**	**82.90524**	**6.31451 J**	**5.94782**	**0.10903**	**4.02802**
Benz[a]anthracene	**21.14213**	**24.79652**	**23.70834**	**35.44795**	**24.27092**	**36.89865**	**34.37901**	**40.00299**	**14.7687**	**22.10139**	**10.78145**	**71.42681**	**12.43336**	**12.59788**	**0.14088**	**8.00488**
Benzo[a]pyrene	**16.51546**	**21.75094**	**15.30634**	**29.03273**	**16.62991**	**32.42882**	**19.50082**	**29.95053**	**11.4617**	**15.77693**	**9.47719**	**51.85274**	**10.67719**	**10.11642**	**0.06245**	**6.97944**
Benzo[b]fluoranthene	**9.78823**	**13.11381**	**9.86979**	**18.16216**	**11.1613**	**20.07901**	**12.75042**	**18.97225**	**7.75616**	**9.81315**	**6.35772**	**21.31505**	**6.62649**	**6.96833**	**0.04531**	**4.38175**
Benzo[e]pyrene	**10.4738**	**13.37415**	**9.98184**	**17.87807**	**10.91492**	**20.24964**	**12.40074**	**18.65855**	**7.97826**	**10.09354**	**6.66721**	**24.55391**	**6.88934**	**7.10354**	**0.04658**	**4.61283**
Benzo[g,h,i]perylene	**6.51408 J**	**10.56688 J**	**5.81122**	**11.71674**	**8.22642**	**17.19481**	**6.35196**	**11.55585**	**5.60161**	**5.46202**	**4.46812**	**15.61411**	**4.56249**	**5.88788**	**0.02149**	**3.11913**
Benzo[k]fluoranthene	**12.80235**	**15.19221**	**12.36363**	**20.9369**	**13.29269**	**23.69726**	**15.62163**	**22.88103**	**9.40421**	**12.46428**	**8.04915**	**29.4278**	**8.01161**	**8.16677**	**0.06161**	**5.73885**
1,1-Biphenyl	**1.00526**	**1.07197**	**0.94335**	**1.40822**	**0.98552**	**1.53256**	**1.19745**	**1.50571**	**0.41083**	**0.40518**	**0.40326**	**5.89229**	**0.29448 J**	**0.25158**	**0.0039 J**	**0.16666**
Chrysene	**21.07703**	**25.33154**	**23.86557**	**35.30831**	**24.56146**	**37.25741**	**33.90016**	**40.23752**	**14.7575**	**22.49668**	**8.856**	**68.74271**	**11.14469**	**9.44514**	**0.0918**	**6.55543**
C1-Chrysenes	**21.33579**	**25.6377**	**22.15824**	**35.77373**	**23.57524**	**38.54098**	**30.81954**	**37.35065**	**14.96742**	**22.50787**	**12.32444**	**74.20564**	**15.07214**	**13.15472**	**0.12229**	**8.68311**
C2-Chrysenes	**12.00514**	**15.68085**	**11.35198**	**20.53465**	**12.41222**	**22.58347**	**14.91228**	**21.01594**	**7.70595**	**12.3847**	**6.41065**	**42.0948**	**8.69663**	**6.655**	**0.05371**	**4.9756**
C3-Chrysenes	**5.80446**	**8.10164**	**5.64432**	**10.37412**	**5.89103**	**11.65866**	**6.77692**	**10.51416**	**3.5577**	**5.87793**	**2.87593**	**19.20496**	**4.02338**	**3.0496**	**0.01992**	**2.40336**
C4-Chrysenes	**2.9062**	**3.99116**	**2.74653**	**4.79304**	**2.95442**	**5.51892**	**3.39582**	**4.85135**	**1.71285**	**2.615**	**1.2783**	**7.72911**	**1.69481**	**1.35378**	0.00462 U	**1.09282**
Dibenz[a,h]anthracene	**1.7916 J**	**3.29821 J**	**1.80146**	**3.87748**	**2.36235**	**5.04379**	**2.09491**	**3.77863**	**1.82842**	**1.91832**	**1.44503**	**6.30457**	**1.61055**	**1.7237**	**0.0067**	**1.08462**
Dibenzofuran	**1.09441**	**1.16457**	**1.10074**	**1.51718**	**1.13621**	**1.61433**	**1.38603**	**2.15162**	**0.5261**	**0.56818**	**0.32426**	**3.78408**	**0.26484 J**	**0.28144**	**0.00559**	**0.19332**
Dibenzothiophene	**5.6718**	**5.96105**	**5.51392**	**6.51138**	**5.71331**	**6.85475**	**7.42201**	**7.55464**	**3.32621**	**3.80041**	**1.61958**	**24.29797**	**1.51858 J**	**1.59728**	**0.03181**	**0.90342**
C1-Dibenzothiophenes	**18.4888**	**18.14056**	**16.27759**	**18.3595**	**16.77445**	**19.54269**	**22.24872**	**20.66743**	**7.7041**	**10.67021**	**3.90702**	**44.47101**	**4.57443 J**	**3.89792**	**0.07735**	**2.18839**
C2-Dibenzothiophenes	**26.16167**	**30.34117**	**22.71315**	**27.14662**	**24.47204**	**29.38479**	**31.47953**	**29.23656**	**10.71391**	**14.98661**	**6.33385**	**49.55255**	**7.48141 J**	**7.10382**	**0.12497**	**3.95985**
C3-Dibenzothiophenes	**24.91107**	**21.69921**	**16.54723**	**18.59132**	**17.7544**	**22.40335**	**23.47518**	**21.8289**	**6.56832**	**9.35879**	**4.78728**	**26.13139**	**5.04089 J**	**5.87963**	**0.08212**	**3.07261**
C4-Dibenzothiophenes	**10.29469**	**9.42315**	**6.93386**	**7.94625**	**7.15206**	**9.093**	**9.62801**	**8.6653**	**2.54855**	**3.68508**	**2.14418**	**8.61716**	**2.1515 J**	**2.54563**	**0.03695**	**1.3393**
Fluoranthene	**37.66116**	**36.71828**	**39.67042**	**48.87117**	**41.33193**	**56.09305**	**49.41238**	**57.31777**	**24.17765**	**27.95644**	**17.05874**	**98.1122**	**17.25757 J**	**20.77095**	**0.36007**	**11.48555**
C1-Fluoranthenes/pyrenes	**92.48022**	**92.20362**	**57.5087**	**68.51478**	**62.1132**	**86.6498**	**81.89038**	**81.66167**	**35.97685**	**42.76163**	**28.28898**	**189.98341**	**32.02804 J**	**32.31257**	**0.43004**	**17.32488**
C2-Fluoranthenes/pyrenes	**47.11588**	**51.26147**	**28.73602**	**37.87644**	**31.61515**	**49.20002**	**41.9756**	**44.78279**	**16.85844**	**23.04154**	**13.31995**	**96.64153**	**16.53455 J**	**15.0609**	**0.16351**	**8.87386**
C3-Fluoranthenes/pyrenes	**23.5487**	**26.99534**	**14.45507**	**20.61169**	**15.86937**	**26.62427**	**21.64379**	**24.03818**	**7.63754**	**11.74351**	**6.0782**	**43.88291**	**8.11385 J**	**6.72401**	**0.06436**	**4.34227**
C4-Fluoranthenes/Pyrenes	**7.57158**	**8.73673**	**4.50638**	**6.87957**	**5.07552**	**8.45817**	**6.47028**	**8.02692**	**2.4177**	**3.67394**	**1.88858**	**12.34982**	**2.46391 J**	**2.12068**	**0.02266**	**1.4097**
Fluorene	**6.17913**	**6.23543**	**6.42519**	**8.00788**	**6.43959**	**8.06472**	**8.49285**	**8.79699**	**2.82678**	**3.50608**	**1.58754**	**33.23938**	**1.35472 J**	**1.06645**	**0.02172**	**0.76671**
C1-Fluorenes	**13.38974**	**12.95756**	**13.45206**	**15.01815**	**14.09166**	**16.53382**	**19.02613**	**17.51276**	**6.30436**	**8.36562**	**3.13633**	**53.41062**	**3.6714 J**	**3.15188**	**0.06426**	**1.82418**
C2-Fluorenes	**25.12463**	**24.79459**	**23.90082**	**26.13619**	**24.78451**	**29.00394**	**31.99765**	**30.36917**	**8.57555**	**11.88844**	**4.54408**	**49.61124**	**5.66043 J**	**5.35027**	**0.1271**	**2.46193**
C3-Fluorenes	**24.93958**	**26.34391**	**21.6645**	**24.95107**	**22.78483**	**26.53012**	**28.84098**	**28.08394**	**8.62577**	**11.12264**	**5.56335**	**27.25271**	**5.49095 J**	**6.6537**	**0.12915**	**3.56631**
Indeno[1,2,3-cd]pyrene	**7.31442 J**	**11.21179 J**	**6.32699**	**12.75577**	**8.14788**	**17.05354**	**7.10942**	**13.04329**	**5.88628**	**6.13322**	**4.76733**	**16.4709**	**4.93028**	**5.80005**	**0.02042**	**3.48708**
Naphthalene	**3.22783**	**4.54491**	**2.97908**	**6.15248**	**3.46584**	**8.78081**	**3.78425**	**7.52043**	**2.24957**	**2.26863**	**1.53416**	**8.63014**	**1.35847 J**	**1.61973**	**0.02249**	**1.09514**
C1-Naphthalenes	**5.24849**	**5.64894**	**5.01469**	**7.48891**	**4.71162**	**8.19394**	**5.28781**	**7.60681**	**1.6336**	**2.14081**	**1.35439**	**27.46611**	**1.23137 J**	**1.03728**	**0.0214**	**0.80336**
C2-Naphthalenes	**17.92948**	**16.46074**	**18.45236**	**22.25206**	**17.64264**	**22.40038**	**21.19885**	**22.65044**	**4.74409**	**7.8147**	**3.31733**	**73.11146**	**2.95248 J**	**2.80717**	**0.06496**	**1.77868**
C3-Naphthalenes	**31.33749**	**26.8119**	**33.06293**	**36.44162**	**33.05921**	**37.87704**	**41.52241**	**39.59331**	**7.76061**	**12.90638**	**4.66646**	**56.44132**	**4.66097 J**	**5.03928**	**0.11901**	**2.85935**
C4-Naphthalenes	**30.59135**	**25.67395**	**31.88699**	**34.12667**	**32.40957**	**35.56268**	**40.73405**	**37.26098**	**7.35637**	**11.71701**	**4.84625**	**28.13969**	**4.7925 J**	**5.79057**	**0.13211**	**3.082**
Perylene	**3.6329**	**4.62153**	**3.09256**	**5.7045**	**3.49863**	**6.32716**	**3.73916**	**5.81195**	**2.73087**	**3.14607**	**2.24694**	**8.76941**	**2.35815**	**2.45897**	**0.01396**	**1.59338**
Phenanthrene	**44.06217**	**40.92228**	**44.76879**	**54.56074**	**46.10974**	**60.93341**	**59.74071**	**66.49639**	**18.55371**	**25.38887**	**9.52874**	**170.82757**	**8.10407 J**	**6.78616**	**0.1169**	**4.92258**
C1-Phenanthrenes/anthracenes	**98.25216**	**97.77228**	**75.78885**	**88.42846**	**77.10439**	**93.54547**	**106.26805**	**100.76969**	**32.23244**	**47.82803**	**15.91056**	**207.00057**	**21.00332 J**	**18.52652**	**0.3836**	**9.87211**
C2-Phenanthrenes/anthracenes	**97.34417**	**92.82146**	**68.70654**	**79.02562**	**73.26543**	**90.68922**	**94.58306**	**89.8178**	**34.21892**	**41.94626**	**20.76754**	**160.75793**	**25.21296 J**	**23.99124**	**0.40645**	**13.56901**
C3-Phenanthrenes/anthracenes	**56.7496**	**50.61621**	**37.28142**	**42.05009**	**38.84143**	**50.00709**	**51.20784**	**48.86477**	**15.30546**	**21.50348**	**11.36937**	**69.30458**	**12.75012 J**	**13.07149**	**0.18335**	**7.42501**
C4-Phenanthrenes/anthracenes	**20.48035**	**19.14069**	**13.23846**	**15.50617**	**14.23644**	**19.25654**	**19.08352**	**18.67359**	**5.09269**	**7.4964**	**4.1408**	**21.09024**	**4.76907 J**	**4.92241**	**0.05865**	**2.69734**
Pyrene	**50.59899**	**47.90522**	**50.58338**	**57.44581**	**57.73897**	**73.36696**	**66.57604**	**70.79344**	**33.39092**	**36.76758**	**27.72074**	**143.66719**	**25.94696 J**	**43.78571**	**0.52189**	**16.21067**

Table 3
Summary of Analytical Fractionated Results
Phase I Sediment Cores
Gowanus Canal
Brooklyn, New York

Sample Name:	GC-SED-516			GC-SED-516			GC-SED-516			GC-SED-516			GC-SED-516		
Sample Depth (feet):	(1.5-2.0)			(2.0-2.5)			(2.5-3.0)			(3.0-3.5)			(3.5-4.0)		
Sample Date:	8/14/2012			8/14/2012			8/14/2012			8/14/2012			8/14/2012		
Sieve Number:	Bottom	10	200	Bottom	10	200	Bottom	10	200	Bottom	10	200	Bottom	10	200
Alkylated PAHs (mg/kg)															
Acenaphthene	**3.32366**	**0.33011**	**1.05214**	**7.30819**	**0.13617**	**3.53964**	**19.04221**	**2.84065**	**9.62837**	**9.47725**	**0.26754**	**5.93878**	**13.77415**	**11.56782**	**12.6764**
Acenaphthylene	**4.60353**	**0.28954**	**1.96745**	**8.66776**	**0.04608**	**5.93811**	**12.27576**	**0.68875**	**9.74904**	**7.39298**	**0.05729**	**6.18787**	**13.81445**	**14.94887**	**15.54432**
Anthracene	**8.46145**	**0.76724**	**2.84175**	**20.36325**	**0.25326**	**10.08604**	**38.42438**	**4.86102**	**20.01855**	**23.47508**	**0.79842**	**14.75243**	**40.69758**	**37.82656**	**35.71796**
Benz[a]anthracene	**18.23834**	**1.14974**	**7.07476**	**31.58938**	**0.35629**	**16.40827**	**41.51621**	**4.72406**	**23.74518**	**30.56755**	**0.60495**	**19.22059**	**42.94466**	**47.01086**	**39.59286**
Benzo[a]pyrene	**12.78495**	**0.79866**	**5.81647**	**20.60977**	**0.16875**	**13.79753**	**26.87553**	**2.33774**	**19.16817**	**19.67174**	**0.22856**	**14.86046**	**30.57084**	**29.86807**	**30.85069**
Benzo[b]fluoranthene	**8.8776**	**0.55084**	**3.24824**	**12.00556**	**0.11098**	**8.23525**	**15.72615**	**2.42056**	**11.14183**	**12.33959**	**0.15783**	**9.06201**	**17.34502**	**15.09975**	**18.21973**
Benzo[e]pyrene	**8.71513**	**0.54351**	**3.1168**	**13.48893**	**0.11734**	**8.85975**	**17.33834**	**1.9137**	**12.26535**	**13.57193**	**0.15596**	**9.57035**	**19.29637**	**17.76592**	**19.49316**
Benzo[g,h,i]perylene	**5.49948**	**0.35533**	**2.23133**	**8.97688**	**0.07269**	**7.52088**	**11.23506**	**1.09042**	**10.44892**	**8.55764**	**0.07297**	**6.81335**	**14.14536**	**13.28945**	**14.85692**
Benzo[k]fluoranthene	**10.52752**	**0.63939**	**3.71868**	**16.83262**	**0.15147**	**10.05645**	**21.35345**	**2.81162**	**14.6268**	**16.64986**	**0.21246**	**11.77211**	**23.29116**	**20.29968**	**22.1373**
1,1-Biphenyl	**0.38349**	**0.04334**	**0.1456**	**0.61405**	**0.01109**	**0.41307**	**1.09984**	**0.17017**	**0.70802**	**0.74814**	**0.01029**	**0.48292**	**1.79203**	**1.13579**	**1.68111**
Chrysene	**16.26466**	**1.10304**	**6.42308**	**31.06308**	**0.35114**	**16.2599**	**40.43951**	**4.74653**	**24.31334**	**30.16544**	**0.60541**	**18.85744**	**41.85504**	**45.86684**	**39.12357**
C1-Chrysenes	**19.06363**	**1.25118**	**6.7308**	**32.19011**	**0.33088**	**18.9665**	**44.2484**	**3.6337**	**26.95171**	**31.10347**	**0.46273**	**20.16923**	**45.76362**	**55.13287**	**45.58423**
C2-Chrysenes	**11.11447**	**0.77336**	**4.40559**	**16.71615**	**0.16389**	**11.75867**	**23.4691**	**1.70807**	**16.17289**	**16.25784**	**0.20303**	**11.49356**	**24.79919**	**34.84208**	**27.07644**
C3-Chrysenes	**4.70262**	**0.33556**	**2.04969**	**7.53423**	**0.08147**	**5.74682**	**10.72767**	**0.81847**	**7.72514**	**7.34268**	**0.08031**	**5.60053**	**11.71945**	**17.39006**	**12.9117**
C4-Chrysenes	**2.07382**	**0.14986**	**0.94427**	**3.2661**	**0.04089**	**2.64722**	**4.82863**	**0.48982**	**3.71046**	**3.26551**	**0.02152**	**2.38786**	**5.21085**	**7.05753**	**5.68331**
Dibenz[a,h]anthracene	**1.96336**	**0.12249**	**0.84937**	**2.96984**	**0.02373**	**2.43916**	**3.81448**	**0.38783**	**3.35075**	**2.94678**	**0.02394**	**2.31458**	**4.58229**	**4.79188**	**5.07675**
Dibenzofuran	**0.35437**	**0.05104**	**0.15592**	**0.85119**	**0.01402**	**0.60931**	**2.07746**	**0.31201**	**1.3178**	**1.17738**	**0.03575**	**0.78793**	**1.87359**	**1.20716**	**1.6316**
Dibenzothiophene	**1.75388**	**0.26467**	**0.63466**	**5.75198**	**0.09936**	**2.52771**	**13.08558**	**1.68705**	**6.40352**	**7.8974**	**0.27861**	**4.63423**	**12.68253**	**10.79896**	**10.70453**
C1-Dibenzothiophenes	**7.62579**	**0.80366**	**2.26318**	**16.52971**	**0.2561**	**6.87819**	**30.33811**	**3.65268**	**14.43701**	**19.04344**	**0.65122**	**10.57516**	**30.34995**	**29.13347**	**25.24025**
C2-Dibenzothiophenes	**14.02874**	**1.16129**	**3.93469**	**26.66362**	**0.39245**	**11.16913**	**41.10915**	**4.11169**	**18.83178**	**26.84264**	**0.79078**	**14.68954**	**40.2391**	**37.6547**	**34.4831**
C3-Dibenzothiophenes	**10.26062**	**0.75192**	**2.81177**	**17.80716**	**0.24622**	**7.54506**	**25.5997**	**2.17059**	**11.7048**	**17.26324**	**0.41797**	**9.1971**	**25.45648**	**22.91472**	**22.34689**
C4-Dibenzothiophenes	**4.38933**	**0.30029**	**1.22983**	**6.81607**	**0.09223**	**2.97838**	**9.68495**	**0.72027**	**4.42564**	**6.53896**	**0.14011**	**3.4609**	**9.90454**	**8.00746**	**8.57227**
Fluoranthene	**32.80832**	**1.7472**	**9.91468**	**51.44168**	**0.70537**	**23.3421**	**63.71182**	**7.63337**	**35.4958**	**46.78704**	**1.48157**	**29.10044**	**64.48821**	**58.88299**	**56.21271**
C1-Fluoranthenes/pyrenes	**45.97192**	**2.96235**	**13.73861**	**82.0536**	**0.96189**	**37.5828**	**112.13919**	**11.06603**	**58.3176**	**74.20371**	**1.78973**	**42.94021**	**110.42866**	**118.71978**	**101.22248**
C2-Fluoranthenes/pyrenes	**22.47413**	**1.48296**	**7.31439**	**38.77148**	**0.41755**	**20.01188**	**54.48438**	**4.47704**	**30.32739**	**35.95224**	**0.66853**	**21.49734**	**54.16863**	**71.74575**	**52.86133**
C3-Fluoranthenes/pyrenes	**10.80685**	**0.74077**	**3.99931**	**17.30303**	**0.18886**	**10.62975**	**24.49459**	**1.84459**	**15.10587**	**16.38977**	**0.2427**	**10.98085**	**25.68098**	**33.85644**	**25.91118**
C4-Fluoranthenes/Pyrenes	**3.56334**	**0.25844**	**1.41175**	**5.22014**	**0.06189**	**3.39292**	**7.49635**	**0.60706**	**4.95163**	**5.23177**	**0.07023**	**3.45842**	**8.15613**	**10.36311**	**8.31401**
Fluorene	**1.2183**	**0.2248**	**0.53389**	**4.20984**	**0.09101**	**2.2139**	**12.79546**	**2.1925**	**6.72089**	**4.03074**	**0.12803**	**2.73955**	**11.86276**	**8.81008**	**10.52279**
C1-Fluorenes	**5.32991**	**0.61019**	**1.62814**	**13.54834**	**0.24229**	**5.68593**	**27.83077**	**3.92313**	**13.89823**	**13.61323**	**0.55196**	**8.10613**	**25.18982**	**27.27624**	**22.74593**
C2-Fluorenes	**12.69449**	**1.1005**	**3.50389**	**24.13179**	**0.3989**	**9.9928**	**41.32221**	**4.98363**	**19.53764**	**23.51954**	**0.91175**	**12.67708**	**38.1995**	**36.23551**	**32.21681**
C3-Fluorenes	**12.51318**	**0.99502**	**3.51353**	**21.93475**	**0.38183**	**9.17408**	**32.96644**	**3.42503**	**15.69572**	**21.77235**	**0.69938**	**11.92569**	**30.67717**	**23.97486**	**26.11312**
Indeno[1,2,3-cd]pyrene	**6.86112**	**0.44692**	**2.8258**	**9.16342**	**0.07522**	**7.45986**	**11.41197**	**1.4223**	**10.43983**	**9.0313**	**0.07631**	**7.27661**	**14.49869**	**13.00015**	**14.97357**
Naphthalene	**2.19743**	**0.19892**	**0.85517**	**3.26946**	**0.03137**	**2.64044**	**3.89947**	**0.34236**	**3.38286**	**3.87947**	**0.01593**	**2.88643**	**6.92682**	**4.28922**	**8.36309**
C1-Naphthalenes	**1.51045**	**0.18759**	**0.63688**	**2.50219**	**0.04625**	**1.9608**	**4.22196**	**0.68214**	**3.4099**	**2.36729**	**0.01726**	**1.89088**	**5.47917**	**3.43311**	**5.97309**
C2-Naphthalenes	**4.08207**	**0.61543**	**1.50769**	**11.12156**	**0.25503**	**5.56398**	**27.23893**	**4.76268**	**14.85962**	**10.23971**	**0.42243**	**7.24848**	**22.91754**	**20.52801**	**21.95013**
C3-Naphthalenes	**10.72974**	**1.08318**	**3.04311**	**23.14683**	**0.48069**	**9.93054**	**52.49604**	**7.41763**	**24.5662**	**22.34755**	**1.17965**	**13.77646**	**40.14486**	**36.97314**	**34.65604**
C4-Naphthalenes	**12.70378**	**1.07699**	**3.21235**	**23.34324**	**0.44301**	**9.37319**	**41.80203**	**5.11642**	**18.30818**	**20.93501**	**0.97358**	**11.95506**	**35.32182**	**26.5108**	**29.26873**
Perylene	**2.8157**	**0.16665**	**1.05664**	**4.43139**	**0.03406**	**2.92142**	**5.76809**	**0.54593**	**3.95813**	**4.56079**	**0.04413**	**3.22694**	**6.66707**	**6.07728**	**6.51268**
Phenanthrene	**8.5733**	**1.39266**	**3.54059**	**36.2285**	**0.5932**	**17.54308**	**72.06625**	**11.63189**	**40.02286**	**42.99741**	**1.84484**	**26.3377**	**101.12127**	**87.59559**	**75.69452**
C1-Phenanthrenes/anthracenes	**36.4763**	**3.0854**	**10.24878**	**81.76354**	**1.21997**	**35.04189**	**135.22368**	**17.67181**	**68.94011**	**85.58792**	**3.09697**	**49.40394**	**139.24401**	**136.95536**	**118.95638**
C2-Phenanthrenes/anthracenes	**44.88579**	**3.2135**	**12.24506**	**87.60316**	**1.21887**	**37.70328**	**127.75272**	**13.0278**	**60.85373**	**85.84453**	**2.42736**	**46.75375**	**125.48909**	**122.88621**	**107.53121**
C3-Phenanthrenes/anthracenes	**22.1244**	**1.5409**	**6.50065**	**40.69161**	**0.52612**	**17.94129**	**58.72065**	**5.01092**	**27.80074**	**39.02998**	**0.91534**	**21.41105**	**57.64392**	**58.71555**	**50.31502**
C4-Phenanthrenes/anthracenes	**7.53317**	**0.53934**	**2.30079**	**12.82853**	**0.17209**	**5.93701**	**18.19914**	**1.43474**	**8.60569**	**11.9666**	**0.2549**	**7.09576**	**18.86716**	**19.30646**	**17.50679**
Pyrene	**46.43678**	**2.92901**	**13.10906**	**73.14528**	**0.99685**	**31.69786**	**106.96417**	**10.72385**	**48.98554**	**67.10854**	**1.98779**	**39.64929**	**108.65973**	**87.97217**	**84.06247**

Table 3
Summary of Analytical Fractionated Results
Phase I Sediment Cores
Gowanus Canal
Brooklyn, New York

Sample Name:	GC-SED-517		GC-SED-517		GC-SED-517			GC-SED-517		GC-SED-518		GC-SED-518		Duplicate of GC-SED-518	
Sample Depth (feet):	(0.0-0.5)		(0.5-1.0)		(1.0-1.5)			(1.5-2.0)		(0.0-0.5)		(0.5-1.0)		(0.5-1.0)	
Sample Date:	8/13/2012		8/13/2012		8/13/2012			8/13/2012		8/2/2012		8/2/2012		8/2/2012	
Sieve Number:	Bottom	200	Bottom	200	Bottom	10	200	Bottom	200	Bottom	200	Bottom	200	Bottom	200
Alkylated PAHs (mg/kg)															
Acenaphthene	**1.6313**	**2.21052**	**2.40522**	**2.04545**	**0.28256**	**0.0866**	**0.57675**	**0.57264**	**0.17067**	**5.83459**	**7.86251**	**7.0043 J**	**7.58064 J**	**2.78095 J**	**3.8637 J**
Acenaphthylene	**3.73644**	**3.48064**	**3.99022**	**3.78398**	**1.89431**	**0.1574**	**2.35476**	**2.29749**	**0.37958**	**5.68424**	**9.52894**	**6.54299**	**8.9233**	**5.0599**	**7.30017**
Anthracene	**6.8497**	**6.9011**	**7.14198**	**6.55776**	**1.36859**	**0.21317**	**2.25486**	**2.34939**	**0.45877**	**14.40421**	**20.70544**	**16.05148**	**18.68216**	**10.63897**	**14.60848**
Benz[a]anthracene	**9.99226**	**14.16524**	**10.27171**	**11.60783**	**4.75116**	**0.96929**	**6.82938**	**5.07668**	**1.14744**	**16.46604 J**	**24.59472 J**	**17.24944 J**	**22.33854 J**	**14.10718**	**22.16806**
Benzo[a]pyrene	**9.62014**	**13.13603**	**8.34727**	**8.43354**	**4.48618**	**0.46764**	**6.42991**	**5.48633**	**1.1145**	**12.64536**	**19.9038**	**13.08244**	**18.15641**	**10.28775**	**17.01189**
Benzo[b]fluoranthene	**6.71212**	**9.63012**	**5.51041**	**5.5548**	**3.09378**	**0.34322**	**4.00218**	**4.20775**	**0.85115**	**7.92584**	**12.53909**	**8.35932**	**10.7871**	**6.92736**	**10.54754**
Benzo[e]pyrene	**6.73345**	**8.91604**	**5.68559**	**5.34224**	**3.12577**	**0.34773**	**4.01991**	**4.17347**	**0.78701**	**8.48171 J**	**12.71823 J**	**8.83744 J**	**11.60326 J**	**6.97679**	**10.53311**
Benzo[g,h,i]perylene	**5.31377**	**6.39873**	**4.56716**	**3.54189**	**2.55329 J**	**0.15895 J**	**1.89042 J**	**2.36162**	**0.4738**	**5.92331**	**9.46717**	**6.24563**	**8.35713**	**4.36968**	**6.57345**
Benzo[k]fluoranthene	**7.6071**	**9.81643**	**6.92484**	**6.31459**	**3.53111**	**0.40971**	**4.47051**	**4.97998**	**0.98802**	**10.31149 J**	**15.07142 J**	**10.42734 J**	**14.04874 J**	**8.44255**	**12.98367**
1,1-Biphenyl	**0.19931**	**0.21691**	**0.26678**	**0.19897**	**0.07338**	**0.02262**	**0.08066**	**0.12829**	**0.01649**	**0.56221**	**0.7722**	**0.68891 J**	**0.7445**	**0.3803 J**	**0.4755**
Chrysene	**10.24559**	**14.82817**	**10.55087**	**11.40926**	**3.00519**	**0.59947**	**5.525**	**4.635**	**1.0948**	**15.99807**	**23.90621**	**16.92038**	**21.69356**	**14.5538**	**22.32446**
C1-Chrysenes	**11.31617**	**12.35194**	**10.75577**	**10.77659**	**5.34142**	**0.79358**	**7.42804**	**6.9469**	**1.31558**	**15.82185**	**25.5551**	**16.98169**	**23.51857**	**14.28119**	**22.39495**
C2-Chrysenes	**6.72622**	**7.88474**	**5.8015**	**5.83251**	**2.91767**	**0.43622**	**4.5504**	**3.68373**	**0.72653**	**8.09816**	**13.67356**	**8.66715**	**12.58683**	**7.58353**	**12.23668**
C3-Chrysenes	**3.50572**	**4.1468**	**2.76114**	**2.91217**	**1.45919**	**0.33301**	**2.35987**	**1.82694**	**0.3859**	**3.84667**	**6.54369**	**4.11154**	**6.14885**	**3.52549**	**5.95093**
C4-Chrysenes	**1.68187**	**2.00131**	**1.44543**	**1.4105**	**0.75184**	0.01634 U	**1.16222**	**0.84499**	**0.20283**	**1.76411**	**2.90915**	**1.90508**	**2.68159**	**1.73099**	**2.74412**
Dibenz[a,h]anthracene	**1.33532**	**1.7108**	**1.27571**	**1.11557**	**0.68312 J**	**0.04898 J**	**0.5691 J**	**0.69097**	**0.15287**	**1.94525 J**	**3.21019 J**	**2.00257 J**	**2.84534 J**	**1.3446**	**2.14532**
Dibenzofuran	**0.29778**	**0.70664**	**0.31893**	**0.28184**	**0.06626**	**0.00645 J**	**0.12324**	**0.12831**	**0.02887**	**0.79451**	**1.09648**	**0.79919 J**	**0.96349**	**0.40432 J**	**0.62609**
Dibenzothiophene	**1.7471**	**1.67301**	**2.04297**	**1.74449**	**0.16664**	**0.04033**	**0.26403**	**0.37491**	**0.09335**	**4.08532**	**5.52469**	**4.63605**	**5.03028**	**3.04846**	**3.90736**
C1-Dibenzothiophenes	**5.17767**	**4.41925**	**5.48592**	**4.65917**	**0.66977**	**0.23484**	**0.93416**	**1.21778**	**0.2792**	**9.24391**	**12.63016**	**10.39331**	**11.56366**	**8.84249**	**11.27193**
C2-Dibenzothiophenes	**9.2275**	**8.26247**	**8.37751**	**7.01557**	**1.90065**	**0.61821**	**2.77523**	**2.73266**	**0.57123**	**12.15358**	**16.92763**	**13.00471**	**15.3991**	**12.22011**	**15.56805**
C3-Dibenzothiophenes	**9.51323**	**8.8315**	**6.13618**	**5.11178**	**2.50965**	**0.7393**	**3.63341**	**3.11136**	**0.55601**	**7.11739**	**10.30504**	**7.65956**	**9.30552**	**6.87152**	**9.19819**
C4-Dibenzothiophenes	**4.63905**	**3.90676**	**2.45673**	**2.17206**	**1.29888**	**0.32944**	**1.91214**	**1.54115**	**0.25008**	**2.87122**	**4.02628**	**3.01616**	**3.61187**	**2.76796**	**3.68251**
Fluoranthene	**17.28662**	**23.55028**	**17.09661**	**16.77788**	**5.36481**	**2.12644**	**7.57916**	**9.54049**	**1.96212**	**27.74584**	**36.28911**	**28.31342**	**30.0347**	**20.94526**	**28.89542**
C1-Fluoranthenes/pyrenes	**45.29215**	**44.19624**	**25.99754**	**24.25353**	**13.01296**	**3.2047**	**26.04074**	**16.68331**	**2.69741**	**41.26334**	**61.36386**	**42.82759**	**57.81165**	**30.37121**	**42.99335**
C2-Fluoranthenes/pyrenes	**24.12011**	**26.68836**	**13.30573**	**13.08928**	**6.87005**	**1.18171**	**16.66243**	**8.97157**	**1.55374**	**18.6881**	**29.83875**	**19.43222**	**28.28201**	**15.3303**	**23.00286**
C3-Fluoranthenes/pyrenes	**12.9805**	**14.62518**	**6.57809**	**6.89143**	**3.3199**	**0.52723**	**8.59985**	**4.48907**	**0.8572**	**8.58126**	**14.05404**	**8.83629**	**13.39633**	**7.83241**	**12.58803**
C4-Fluoranthenes/Pyrenes	**5.00742**	**5.09071**	**2.08743**	**2.25179**	**1.10562**	**0.2421**	**2.70537**	**1.47369**	**0.27026**	**2.57096**	**4.26545**	**2.73714**	**3.81678**	**2.54018**	**4.03848**
Fluorene	**0.82954**	**1.32135**	**1.20397**	**1.13186**	**0.12921**	**0.02577**	**0.34064**	**0.28345**	**0.08077**	**3.88734**	**5.48882**	**4.81637 J**	**5.29903**	**2.47093 J**	**3.35077**
C1-Fluorenes	**3.27903**	**2.77052**	**4.24116**	**3.60905**	**0.66693**	**0.23336**	**0.72701**	**0.98389**	**0.24074**	**8.10029**	**11.2361**	**9.2307**	**10.53195**	**5.64737**	**7.14967**
C2-Fluorenes	**7.2074**	**6.24044**	**7.30063**	**6.11203**	**1.43461**	**0.53172**	**1.95339**	**2.15036**	**0.46879**	**11.53741**	**15.51991**	**12.14381**	**14.08629**	**8.25473**	**11.58364**
C3-Fluorenes	**8.42037**	**7.67774**	**6.91643**	**5.59901**	**2.39846**	**0.82095**	**2.77166**	**3.25478**	**0.59675**	**9.33543**	**12.31341**	**9.90502**	**11.19907**	**10.1706**	**13.63443**
Indeno[1,2,3-cd]pyrene	**5.54569**	**7.19902**	**4.53835**	**3.89275**	**2.53257 J**	**0.16022 J**	**2.37025 J**	**2.71031**	**0.56319**	**6.63649 J**	**10.21575 J**	**6.50153 J**	**8.98184 J**	**4.73942**	**7.22451**
Naphthalene	**1.35565**	**1.48211**	**2.00251**	**1.42777**	**0.62177**	**0.05239**	**0.6033**	**1.05361**	**0.12873**	**2.57513**	**3.62141**	**2.73245**	**3.35275**	**2.42865**	**3.0409**
C1-Naphthalenes	**0.9779**	**1.13294**	**1.4173**	**1.09896**	**0.33996**	**0.04089**	**0.38264**	**0.60017**	**0.09416**	**2.70192**	**3.85372**	**3.3449 J**	**3.86821**	**1.75423 J**	**2.50286**
C2-Naphthalenes	**1.98612**	**2.14309**	**3.81112**	**3.3099**	**0.59712**	**0.14558**	**0.69556**	**0.97214**	**0.25493**	**9.04126**	**12.4667**	**11.09301 J**	**11.80527 J**	**4.32117 J**	**6.34855 J**
C3-Naphthalenes	**4.46602**	**3.99459**	**7.79915**	**6.40563**	**1.62322**	**0.42375**	**1.55448**	**1.78857**	**0.45247**	**12.5619**	**16.59581**	**14.36331 J**	**14.8182**	**8.098 J**	**10.65372**
C4-Naphthalenes	**6.18598**	**4.86347**	**7.98236**	**6.35743**	**2.48428**	**0.93443**	**2.15739**	**2.53535**	**0.5281**	**10.72404**	**13.89549**	**11.80427**	**12.00871**	**8.5932**	**10.95147**
Perylene	**2.23981**	**2.85641**	**1.99306**	**1.76357**	**0.95254**	**0.09461**	**1.35066**	**1.33101**	**0.27537**	**2.98596**	**4.54218**	**3.03768**	**4.03761**	**2.2667**	**3.34216**
Phenanthrene	**8.15868**	**14.0439**	**8.65581**	**8.8498**	**0.89956**	**0.1358**	**2.81231**	**2.06089**	**0.68939**	**23.7663**	**31.13635**	**28.91128**	**28.62553**	**21.49676**	**29.80917**
C1-Phenanthrenes/anthracenes	**23.43042**	**23.19692**	**23.42642**	**20.58016**	**4.164**	**1.03012**	**6.57197**	**6.08254**	**1.41391**	**41.06217**	**56.69127**	**44.47396**	**53.49504**	**39.93869**	**53.51878**
C2-Phenanthrenes/anthracenes	**32.11193**	**31.61221**	**25.09731**	**21.37153**	**6.4656**	**1.5676**	**10.92124**	**8.65436**	**1.75262**	**38.31421**	**54.64643**	**41.2553**	**49.43599**	**31.29839**	**41.61108**
C3-Phenanthrenes/anthracenes	**22.67392**	**20.5855**	**13.48018**	**11.84778**	**5.07398**	**1.07075**	**8.57383**	**6.52331**	**1.22644**	**17.60168**	**25.67054**	**18.84134**	**23.0543**	**15.86523**	**21.52374**
C4-Phenanthrenes/anthracenes	**9.20718**	**7.95181**	**4.897**	**4.16088**	**2.28895**	**0.50363**	**4.09271**	**3.43652**	**0.5785**	**5.75294**	**8.4771**	**6.00878**	**7.61498**	**5.48245**	**7.45304**
Pyrene	**23.39966**	**26.98529**	**24.455**	**23.10172**	**12.87911**	**4.15933**	**12.0967**	**15.5878**	**2.8996**	**35.04835**	**49.1552**	**35.62651**	**41.23846**	**28.79826**	**37.1322**

Validated

Table 3
Summary of Analytical Fractionated Results
Phase I Sediment Cores
Gowanus Canal
Brooklyn, New York

Sample Name:	GC-SED-518		GC-SED-518		GC-SED-518		GC-SED-518		GC-SED-518		GC-SED-518		GC-SED-519		GC-SED-519	
Sample Depth (feet):	(1.0-1.5)		(1.5-2.0)		(2.0-2.5)		(2.5-3.0)		(3.0-3.5)		(3.5-4.0)		(0.0-0.5)		(0.5-1.0)	
Sample Date:	8/2/2012		8/2/2012		8/2/2012		8/2/2012		8/2/2012		8/2/2012		8/2/2012		8/2/2012	
Sieve Number:	Bottom	200	Bottom	200	Bottom	200	Bottom	200	Bottom	200	Bottom	200	Bottom	200	Bottom	200
Alkylated PAHs (mg/kg)																
Acenaphthene	**4.81205**	**6.96911**	**4.0696**	**10.54486**	**3.65818**	**5.04128**	**2.70536**	**3.74957**	**4.34975**	**6.0159**	**3.03214**	**3.80897**	**1.85441**	**1.53573**	**5.57305**	**4.41019**
Acenaphthylene	**4.21728**	**8.35189**	**3.15843**	**6.23408**	**3.2932**	**5.81756**	**2.42328**	**4.25012**	**3.57255**	**7.36618**	**3.12513**	**4.66869**	**2.51655**	**1.74958**	**4.27131**	**5.62048**
Anthracene	**11.13682**	**17.63073**	**8.2344**	**23.46559**	**7.43422**	**11.14029**	**5.42947**	**7.91756**	**8.70686**	**13.81653**	**6.46854**	**8.21078**	**4.68951**	**3.82731**	**10.46812**	**9.13018**
Benz[a]anthracene	**12.56825**	**21.66766 J**	**10.61528**	**29.47534**	**9.10031**	**15.49173**	**6.8578**	**11.4516**	**10.34436**	**18.51305**	**9.2777**	**12.97907**	**7.34469**	**6.79109**	**17.76373**	**17.11227**
Benzo[a]pyrene	**9.60061**	**17.60915**	**6.88814**	**23.28054**	**7.33515**	**12.94251**	**5.68661**	**9.69438**	**7.98137**	**16.57024**	**7.44984**	**11.40683**	**5.87643**	**5.64973**	**10.5433**	**13.29628**
Benzo[b]fluoranthene	**6.2828**	**10.82346**	**4.87106**	**16.89472**	**4.97038**	**8.33951**	**4.14828**	**6.77302**	**5.18628**	**10.54917**	**5.3635**	**7.72034**	**4.33918**	**4.31462**	**7.09824**	**8.20879**
Benzo[e]pyrene	**6.36612**	**11.38215 J**	**4.66515**	**13.42995**	**5.04509**	**8.24169**	**4.00166**	**6.46618**	**5.38696**	**10.27241**	**5.17161**	**7.38452**	**4.25908**	**3.82636**	**6.97288**	**8.25258**
Benzo[g,h,i]perylene	**4.71575**	**8.29234**	**3.09894**	**7.92838**	**3.77674**	**6.24301**	**3.05282**	**4.79936**	**3.82371**	**7.21839**	**3.57015**	**5.41824**	**2.81321**	**2.84279**	**4.11565**	**5.63051**
Benzo[k]fluoranthene	**7.73535**	**13.84835 J**	**5.77196**	**18.83035**	**6.06085**	**9.73367**	**4.73147**	**7.66006**	**6.50848**	**12.35324**	**6.07634**	**8.7367**	**5.20887**	**4.76422**	**8.87219**	**9.95881**
1,1-Biphenyl	**0.47395**	**0.68424**	**0.41001**	**0.774**	**0.33783**	**0.46735**	**0.31161**	**0.42079**	**0.47991**	**0.66399**	**0.26884**	**0.343**	**0.16913**	**0.12894**	**0.25006**	**0.24512**
Chrysene	**12.72983**	**21.03384**	**10.51331**	**28.42539**	**9.27528**	**15.44225**	**7.04958**	**11.42697**	**10.59911**	**20.95643**	**9.4975**	**13.00726**	**7.26392**	**6.57147**	**16.84907**	**16.75986**
C1-Chrysenes	**12.50834**	**21.9911**	**9.33866**	**22.5063**	**9.21098**	**15.84314**	**6.84779**	**11.33056**	**10.4865**	**20.48985**	**9.38364**	**12.81397**	**7.26073**	**5.73773**	**15.29891**	**17.28107**
C2-Chrysenes	**6.55142**	**11.77913**	**4.51236**	**10.70312**	**4.85622**	**8.88681**	**3.76041**	**6.30774**	**5.58381**	**11.41986**	**5.11307**	**7.28749**	**3.84997**	**3.10767**	**7.51217**	**10.35736**
C3-Chrysenes	**3.14558**	**5.60814**	**2.16304**	**5.24046**	**2.43718**	**4.29117**	**1.94351**	**3.11408**	**2.69797**	**5.60918**	**2.41845**	**3.71653**	**1.91195**	**1.6109**	**3.47162**	**5.18364**
C4-Chrysenes	**1.74054**	**2.53379**	**1.12025**	**2.58876**	**1.29299**	**2.07229**	**1.10232**	**1.58735**	**1.26489**	**2.77397**	**1.24405**	**1.78886**	**1.00923**	**0.94835**	**1.66812**	**2.44631**
Dibenz[a,h]anthracene	**1.32465**	**2.79846 J**	**0.92067**	**2.63312**	**1.06737**	**1.88072**	**0.85733**	**1.43543**	**1.11052**	**2.21023**	**1.03263**	**1.60052**	**0.83013**	**0.86004**	**1.26652**	**1.85051**
Dibenzofuran	**0.57675**	**0.93356**	**0.50653**	**2.05972**	**0.41894**	**0.59559**	**0.33657**	**0.54693**	**0.49519**	**0.82347**	**0.36263**	**0.59516**	**0.24208**	**0.36496**	**0.56856**	**0.55789**
Dibenzothiophene	**3.18408**	**4.67437**	**2.54717**	**6.14352**	**2.15825**	**2.98022**	**1.50669**	**2.14564**	**2.37227**	**3.37524**	**1.54579**	**1.87241**	**1.33199**	**1.02538**	**2.53049**	**2.06835**
C1-Dibenzothiophenes	**8.22763**	**10.79977**	**6.09262**	**11.77417**	**5.45873**	**7.65942**	**3.91136**	**5.43989**	**6.40534**	**9.15607**	**4.63779**	**5.26925**	**3.23176**	**2.1104**	**8.56933**	**6.67558**
C2-Dibenzothiophenes	**10.86319**	**14.59485**	**7.56608**	**13.85138**	**7.27876**	**10.50868**	**5.3096**	**7.37229**	**8.95899**	**12.91762**	**7.19273**	**8.18291**	**5.12692**	**3.24339**	**13.58279**	**10.70014**
C3-Dibenzothiophenes	**7.35742**	**8.95192**	**5.38202**	**9.47582**	**4.9818**	**7.22363**	**3.81501**	**5.27864**	**6.25656**	**9.43627**	**5.64266**	**6.17491**	**3.76461**	**2.35049**	**10.10798**	**8.14145**
C4-Dibenzothiophenes	**2.99126**	**3.45206**	**2.09736**	**3.61252**	**2.00158**	**2.88466**	**1.65986**	**2.21277**	**2.5897**	**3.68461**	**2.47153**	**2.6856**	**1.63139**	**0.97917**	**4.21996**	**3.13956**
Fluoranthene	**22.43407**	**16.41828**	**18.0728**	**49.36253**	**15.5523**	**23.28774**	**11.62973**	**17.90429**	**17.42608**	**26.94387**	**15.03671**	**19.81637**	**12.78437**	**11.8603**	**24.59986**	**21.35611**
C1-Fluoranthenes/pyrenes	**32.55331**	**54.62082**	**23.7821**	**55.95587**	**22.10144**	**35.34115**	**16.00968**	**24.93253**	**25.39133**	**44.55944**	**21.8652**	**27.45932**	**16.89172**	**11.69324**	**40.66468**	**36.44926**
C2-Fluoranthenes/pyrenes	**16.32919**	**26.33408**	**12.17885**	**27.07158**	**10.73252**	**18.40933**	**7.94728**	**13.06293**	**12.78625**	**24.2902**	**11.32737**	**14.50374**	**8.63216**	**6.61485**	**20.44253**	**20.71076**
C3-Fluoranthenes/pyrenes	**7.76332**	**12.66891**	**6.15162**	**14.76354**	**5.38532**	**9.39124**	**4.07788**	**6.87243**	**6.38258**	**13.26069**	**5.996**	**8.09073**	**4.71274**	**3.25414**	**10.98427**	**11.39385**
C4-Fluoranthenes/Pyrenes	**2.49558**	**3.74625**	**1.83806**	**4.40827**	**1.76158**	**3.12918**	**1.38101**	**2.24492**	**2.02892**	**4.01205**	**1.99736**	**2.62557**	**1.59297**	**1.1099**	**3.36402**	**3.52696**
Fluorene	**3.25927**	**4.87413**	**3.03558**	**8.99067**	**2.31058**	**3.22455**	**1.68253**	**2.43435**	**2.58541**	**3.91104**	**0.83693**	**1.40348**	**0.58864**	**0.71277**	**0.53644**	**0.73472**
C1-Fluorenes	**6.94274**	**9.57465**	**5.2617**	**11.03342**	**4.61436**	**6.51759**	**3.34602**	**4.60386**	**5.3945**	**7.98039**	**3.33232**	**4.06684**	**2.46289**	**1.66479**	**5.8265**	**4.85956**
C2-Fluorenes	**10.36577**	**13.78124**	**7.33545**	**13.51329**	**6.85877**	**9.82465**	**5.26672**	**7.18374**	**8.8296**	**12.46215**	**6.97152**	**7.81439**	**4.50228**	**2.98832**	**13.06248**	**10.06463**
C3-Fluorenes	**9.05021**	**11.25102**	**6.2382**	**10.37598**	**5.97262**	**8.18843**	**4.83382**	**6.58451**	**7.81077**	**10.44541**	**7.12884**	**7.67043**	**4.47513**	**2.80223**	**12.23411**	**9.05943**
Indeno[1,2,3-cd]pyrene	**4.85234**	**9.0206 J**	**3.30479**	**9.4069**	**3.9197**	**6.60246**	**3.16406**	**5.17433**	**4.05705**	**7.79441**	**3.85076**	**5.91146**	**3.01**	**3.24854**	**4.44075**	**6.11613**
Naphthalene	**2.1212**	**2.91307**	**1.63898**	**2.82843**	**1.72991**	**2.41446**	**1.39489**	**2.02878**	**1.82465**	**3.11069**	**1.42237**	**2.16931**	**1.14074**	**0.77382**	**1.77151**	**2.09031**
C1-Naphthalenes	**2.41713**	**3.16091**	**1.82997**	**3.45493**	**1.92474**	**2.72552**	**1.59071**	**2.28878**	**2.34013**	**3.63952**	**1.38374**	**1.94605**	**0.82001**	**0.61945**	**1.52398**	**1.65793**
C2-Naphthalenes	**8.86699**	**10.35323**	**6.61061**	**12.8718**	**6.81073**	**9.40399**	**5.03009**	**6.87708**	**8.05344**	**10.85436**	**5.18419**	**6.19793**	**2.19839**	**1.69127**	**7.4263**	**6.0466**
C3-Naphthalenes	**13.54134**	**14.12084**	**9.54211**	**16.43282**	**9.29035**	**12.66769**	**6.95877**	**9.39234**	**11.95955**	**15.51666**	**8.9475**	**9.86976**	**4.41749**	**2.98786**	**12.98125**	**9.71956**
C4-Naphthalenes	**11.90587**	**11.74155**	**7.92478**	**12.07442**	**7.89042**	**10.53797**	**6.25637**	**8.08784**	**10.58172**	**13.15739**	**8.68855**	**9.29069**	**4.72805**	**2.99891**	**13.83571**	**9.72635**
Perylene	**2.17567**	**4.08857**	**1.54007**	**4.55266**	**1.7805**	**2.84074**	**1.41996**	**2.24441**	**1.84772**	**3.46036**	**1.7555**	**2.55399**	**1.46931**	**1.41626**	**2.2583**	**2.7494**
Phenanthrene	**22.07807**	**30.60998**	**18.72871**	**58.74275**	**15.06159**	**22.07044**	**10.80217**	**16.59954**	**16.37328**	**25.27861**	**7.95553**	**12.19025**	**4.07671**	**6.65835**	**8.17381**	**8.86744**
C1-Phenanthrenes/anthracenes	**36.33248**	**50.68676**	**26.75019**	**61.05726**	**23.872**	**34.90612**	**17.11828**	**24.95058**	**28.44663**	**43.85001**	**20.31568**	**23.94435**	**13.18922**	**9.84503**	**36.9473**	**30.3697**
C2-Phenanthrenes/anthracenes	**32.63142**	**47.36045**	**22.65033**	**45.10462**	**21.66524**	**31.92502**	**15.99706**	**23.04686**	**26.73831**	**40.53045**	**22.266**	**25.32613**	**15.25986**	**10.37177**	**42.16171**	**33.56687**
C3-Phenanthrenes/anthracenes	**16.92374**	**22.03972**	**11.8539**	**23.54561**	**11.41019**	**17.02759**	**8.62398**	**12.77724**	**13.8351**	**21.86575**	**12.77258**	**14.29679**	**8.81124**	**5.6143**	**22.90428**	**18.71324**
C4-Phenanthrenes/anthracenes	**5.76031**	**7.62343**	**4.11219**	**7.5184**	**3.88485**	**6.15984**	**3.24495**	**7.54044**	**4.70867**	**7.49602**	**4.57319**	**5.38478**	**3.31401**	**2.02645**	**7.75619**	**6.6294**
Pyrene	**26.1062**	**21.96278**	**25.58787**	**52.91605**	**21.50043**	**28.15646**	**15.69114**	**23.89775**	**24.23825**	**34.16332**	**21.38217**	**21.62934**	**14.8214**	**13.46705**	**32.13554**	**26.77548**

Validated

Table 3
Summary of Analytical Fractionated Results
Phase I Sediment Cores
Gowanus Canal
Brooklyn, New York

Sample Name:	GC-SED-519		GC-SED-519		GC-SED-519		GC-SED-519		GC-SED-519			GC-SED-520		GC-SED-520	
Sample Depth (feet):	(1.0-1.5)		(1.5-2.0)		(2.0-2.5)		(2.5-3.0)		(3.0-3.5)			(0.0-0.5)		(0.5-1.0)	
Sample Date:	8/2/2012		8/2/2012		8/2/2012		8/2/2012		8/2/2012			8/3/2012		8/3/2012	
Sieve Number:	Bottom	200	Bottom	200	Bottom	200	Bottom	200	Bottom	10	200	Bottom	200	Bottom	200
Alkylated PAHs (mg/kg)															
Acenaphthene	**4.4626**	**3.39927**	**4.38026**	**3.90553**	**10.02975**	**10.24875**	**12.30188**	**13.90593**	**16.68547**	**2.71003**	**17.29685**	**4.52024**	**4.17328**	**10.47111**	**6.0122**
Acenaphthylene	**2.82949**	**3.51357**	**4.09706**	**4.51447**	**6.81974**	**12.24484**	**8.35302**	**17.7824**	**11.16767**	**0.65154**	**21.99916**	**11.37059**	**12.17448**	**8.47791**	**8.72469**
Anthracene	**8.29219**	**6.72963**	**9.14242**	**8.81311**	**21.00571**	**22.71838**	**30.15496**	**32.82047**	**35.69101**	**4.272**	**38.19838**	**14.8803**	**13.62171**	**25.03396**	**14.68033**
Benz[a]anthracene	**10.64722**	**9.66578**	**12.62806**	**14.25522**	**26.61638**	**33.45784**	**36.97948**	**46.91329**	**43.49416**	**2.81038**	**57.14937**	**30.28219**	**34.68593**	**33.51521**	**26.59678**
Benzo[a]pyrene	**7.54269**	**8.03814**	**9.22581**	**11.73131**	**17.48024**	**27.7311**	**20.99517**	**36.77285**	**26.6961**	**1.51168**	**43.86825**	**24.51293**	**30.64501**	**24.21794**	**22.08304**
Benzo[b]fluoranthene	**6.07967**	**6.17386**	**6.49727**	**8.03984**	**11.23926**	**17.42568**	**12.84049**	**21.07395**	**16.05581**	**0.95203**	**26.10202**	**16.10872**	**15.86208**	**15.05954**	**11.86698**
Benzo[e]pyrene	**5.51989**	**5.58909**	**6.35491**	**7.62696**	**11.34629**	**17.11045**	**13.22589**	**21.83563**	**16.32303**	**1.00642**	**26.07085**	**16.30793**	**16.17429**	**15.88133**	**11.99989**
Benzo[g,h,i]perylene	**3.67466**	**3.9067**	**4.08502**	**5.16716**	**7.34022**	**13.08811**	**7.15129**	**15.79986**	**9.426**	**0.66122**	**18.73971**	**12.38633**	**9.97747**	**5.2188**	**7.78452**
Benzo[k]fluoranthene	**6.31554**	**6.64308**	**7.57481**	**9.3324**	**14.22369**	**20.51691**	**17.09262**	**25.95456**	**20.09829**	**1.23181**	**29.1016**	**17.70271**	**18.5088**	**19.36926**	**14.95482**
1,1-Biphenyl	**0.18024**	**0.16278**	**0.17785**	**0.17928**	**0.62589**	**0.80194**	**1.15181**	**1.541**	**1.88631**	**0.41477**	**2.28998**	**0.40422**	**0.37981**	**1.10225**	**0.68387**
Chrysene	**10.45903**	**9.50614**	**12.76578**	**14.42297**	**27.01792**	**33.44953**	**37.41579**	**46.66021**	**43.3064**	**2.77096**	**57.79181**	**30.47228**	**34.38453**	**34.8106**	**27.26195**
C1-Chrysenes	**9.90564**	**9.94836**	**11.76614**	**13.60388**	**26.09865**	**33.1995**	**34.97617**	**51.02763**	**43.11915**	**2.51391**	**57.86916**	**35.18317**	**37.33272**	**35.55564**	**27.62597**
C2-Chrysenes	**5.83459**	**6.44236**	**5.84411**	**7.55837**	**13.54354**	**19.66873**	**17.6419**	**30.08177**	**22.607**	**1.33565**	**35.02179**	**20.59947**	**21.69395**	**16.59674**	**14.8852**
C3-Chrysenes	**2.74663**	**2.91556**	**2.79069**	**3.69592**	**6.24762**	**9.8753**	**7.99212**	**15.70228**	**10.48023**	**0.66737**	**18.96614**	**10.27299**	**10.50026**	**7.4037**	**7.48626**
C4-Chrysenes	**1.38874**	**1.48288**	**1.39303**	**1.80049**	**3.11202**	**4.46438**	**3.87909**	**7.4397**	**4.958**	**0.33632**	**8.24296**	**4.51668**	**4.72009**	**3.00495**	**3.21188**
Dibenz[a,h]anthracene	**1.1815**	**1.32049**	**1.22523**	**1.67987**	**2.25271**	**4.12774**	**2.35826**	**5.12321**	**3.04062**	**0.20137**	**6.30985**	**3.79711**	**3.50668**	**1.74538**	**2.712**
Dibenzofuran	**0.57219**	**0.5191**	**0.40484**	**0.50607**	**1.00527**	**1.59172**	**1.47177**	**1.78115**	**1.90815**	**0.33608**	**2.162**	**0.61156**	**0.57571**	**1.70196**	**0.98414**
Dibenzothiophene	**2.04127**	**1.58341**	**1.48764**	**1.47478**	**5.498**	**5.40652**	**8.63163**	**8.7468**	**11.35205**	**1.85516**	**11.25423**	**3.59138**	**2.76552**	**5.94733**	**3.59781**
C1-Dibenzothiophenes	**6.47221**	**4.67194**	**6.26935**	**5.5621**	**17.2754**	**15.41391**	**25.11019**	**23.95784**	**30.74389**	**4.06561**	**28.20499**	**11.55899**	**9.43482**	**17.03022**	**10.04574**
C2-Dibenzothiophenes	**8.64286**	**6.40983**	**9.34716**	**8.2057**	**23.9312**	**21.37**	**33.64668**	**33.32525**	**40.18546**	**4.42932**	**37.78442**	**20.98032**	**17.56646**	**23.888**	**14.32494**
C3-Dibenzothiophenes	**5.8934**	**4.37207**	**6.63869**	**5.7352**	**16.60119**	**15.07552**	**23.92971**	**23.85448**	**27.41049**	**2.05107**	**26.2851**	**13.84758**	**13.54839**	**18.10293**	**10.75879**
C4-Dibenzothiophenes	**2.69306**	**1.95975**	**2.61439**	**2.35064**	**6.41797**	**5.82571**	**9.26894**	**9.19255**	**10.49425**	**0.65764**	**10.13143**	**5.27517**	**5.19485**	**7.3646**	**4.17755**
Fluoranthene	**17.58016**	**15.14125**	**22.09661**	**22.57671**	**42.55398**	**49.28845**	**57.57337**	**59.7206**	**64.32331**	**5.73894**	**73.60386**	**44.96954**	**40.09975**	**56.88372**	**37.31877**
C1-Fluoranthenes/pyrenes	**24.95171**	**21.79004**	**29.41481**	**28.59449**	**64.11745**	**67.15501**	**90.25111**	**105.07899**	**104.92739**	**6.65689**	**115.63471**	**66.70487**	**73.2134**	**107.55152**	**59.53589**
C2-Fluoranthenes/pyrenes	**11.75114**	**11.64371**	**14.25487**	**15.22786**	**31.95271**	**37.07574**	**46.77693**	**59.91973**	**54.44593**	**2.83084**	**64.95987**	**37.37507**	**41.55453**	**60.51029**	**33.97843**
C3-Fluoranthenes/pyrenes	**5.73126**	**6.18504**	**6.95254**	**7.77825**	**16.01798**	**19.94482**	**24.65415**	**33.14755**	**28.72461**	**1.27137**	**36.53397**	**18.78047**	**22.86664**	**30.99179**	**18.19702**
C4-Fluoranthenes/Pyrenes	**2.07896**	**2.19628**	**2.27843**	**2.56006**	**4.93274**	**6.58835**	**7.29126**	**10.71307**	**8.33211**	**0.41562**	**11.18737**	**6.05661**	**6.84306**	**10.41836**	**5.32398**
Fluorene	**0.35131**	**0.53176**	**0.55122**	**0.77994**	**4.35508**	**5.25852**	**9.05433**	**9.65151**	**11.56189**	**2.20648**	**12.09098**	**1.752**	**1.57145**	**4.52999**	**3.04716**
C1-Fluorenes	**4.38909**	**3.32915**	**4.67063**	**4.11772**	**13.23638**	**12.38916**	**20.1833**	**20.18922**	**24.66068**	**3.51041**	**24.80202**	**7.29857**	**7.22731**	**12.42194**	**8.48962**
C2-Fluorenes	**8.5125**	**6.39161**	**8.99312**	**7.68977**	**23.10682**	**20.53462**	**33.112**	**32.75431**	**39.91806**	**4.42396**	**36.93682**	**14.21253**	**13.30997**	**20.78936**	**12.8451**
C3-Fluorenes	**7.96062**	**5.74437**	**8.29108**	**6.9685**	**20.52572**	**17.55683**	**29.26866**	**26.73343**	**33.16558**	**3.98771**	**30.16196**	**13.16935**	**10.79772**	**16.40618**	**9.75863**
Indeno[1,2,3-cd]pyrene	**4.4778**	**4.98396**	**4.4683**	**5.88878**	**7.72777**	**14.16807**	**8.03219**	**16.88462**	**10.37422**	**0.69752**	**20.67491**	**12.76981**	**11.22143**	**5.67089**	**8.35521**
Naphthalene	**1.05329**	**1.04361**	**1.49285**	**1.51252**	**3.45266**	**5.65024**	**5.62199**	**9.96773**	**7.13772**	**1.47458**	**12.86631**	**3.39712**	**4.04421**	**3.71555**	**3.06498**
C1-Naphthalenes	**1.00942**	**0.94404**	**0.92732**	**1.00359**	**3.13182**	**4.64457**	**4.46204**	**7.93254**	**8.5485**	**1.99446**	**12.23431**	**2.15599**	**2.35038**	**3.93743**	**3.07197**
C2-Naphthalenes	**5.91387**	**4.42805**	**4.75749**	**4.35095**	**14.32876**	**14.65256**	**20.14206**	**24.73153**	**34.23959**	**6.33946**	**35.88484**	**5.25854**	**5.07593**	**15.46606**	**9.80782**
C3-Naphthalenes	**9.75543**	**6.7243**	**9.92756**	**8.48074**	**26.21457**	**23.15289**	**39.34025**	**38.71669**	**53.43918**	**7.76287**	**48.82949**	**9.37396**	**8.66322**	**26.9143**	**14.89829**
C4-Naphthalenes	**8.60082**	**5.75578**	**9.46922**	**7.6635**	**26.11678**	**21.29619**	**37.57799**	**33.21712**	**45.42845**	**5.72848**	**38.62691**	**10.38765**	**8.93432**	**22.43598**	**11.18659**
Perylene	**1.75816**	**1.86034**	**2.06767**	**2.61592**	**3.74756**	**5.69963**	**4.40848**	**7.16296**	**5.54446**	**0.29135**	**8.32388**	**5.19307**	**5.08921**	**3.90788**	**3.67686**
Phenanthrene	**5.19951**	**6.04508**	**3.36204**	**6.51696**	**33.59888**	**41.4621**	**69.88948**	**67.77498**	**93.78325**	**12.65621**	**97.33711**	**9.96043**	**10.32272**	**38.97994**	**27.13429**
C1-Phenanthrenes/anthracenes	**24.06867**	**18.62032**	**26.46829**	**24.43641**	**78.18247**	**72.16856**	**120.44198**	**120.16239**	**144.97729**	**17.5953**	**137.72947**	**47.00174**	**42.9142**	**88.52192**	**48.65311**
C2-Phenanthrenes/anthracenes	**25.36831**	**19.52709**	**29.34381**	**26.4865**	**72.65198**	**67.34177**	**104.43661**	**105.61579**	**120.20644**	**11.49801**	**115.13991**	**58.46578**	**55.26426**	**78.41846**	**46.88921**
C3-Phenanthrenes/anthracenes	**12.53497**	**10.18501**	**15.41635**	**13.96725**	**37.46156**	**35.08398**	**53.55941**	**56.12568**	**60.5738**	**4.2146**	**60.29279**	**31.45772**	**32.24629**	**41.77659**	**25.51436**
C4-Phenanthrenes/anthracenes	**4.58616**	**3.62521**	**5.1937**	**4.67449**	**11.99255**	**11.69426**	**17.6804**	**18.94668**	**19.78816**	**1.19377**	**20.41285**	**10.6316**	**11.08561**	**16.3029**	**8.50164**
Pyrene	**27.63809**	**17.74475**	**24.77912**	**24.3671**	**58.77021**	**59.46954**	**80.89427**	**78.76343**	**92.19851**	**7.10344**	**96.59993**	**54.2423**	**50.04892**	**70.30187**	**44.38181**

Validated

Table 3
Summary of Analytical Fractionated Results
Phase I Sediment Cores
Gowanus Canal
Brooklyn, New York

Sample Name:	GC-SED-520			GC-SED-520		GC-SED-520			GC-SED-520		GC-SED-520		GC-SED-520		
Sample Depth (feet):	(1.0-1.5)			(1.5-2.0)		(2.0-2.5)			(2.5-3.0)		(3.0-3.5)		(3.5-4.0)		
Sample Date:	8/3/2012			8/3/2012		8/3/2012			8/3/2012		8/3/2012		8/3/2012		
Sieve Number:	Bottom	10	200	Bottom	200	Bottom	10	200	Bottom	200	Bottom	200	Bottom	10	200
Alkylated PAHs (mg/kg)															
Acenaphthene	**11.82412**	**8.95444**	**3.22947**	**14.57833**	**6.67465**	**21.46943**	**57.5186**	**10.05519**	**13.54886**	**6.93025**	**21.35828**	**12.86103**	**15.06615**	**43.47845**	**7.46683**
Acenaphthylene	**7.55363**	**1.16045**	**3.52637**	**8.96111**	**5.30935**	**14.02879**	**12.8604**	**6.71062**	**11.82508**	**6.65651**	**12.485**	**8.4004**	**5.35128**	**3.77371**	**3.65528**
Anthracene	**17.60348**	**11.96384**	**5.69993**	**23.69624**	**13.12766**	**48.74371**	**149.24257**	**22.88777**	**28.8551**	**15.76884**	**42.39704**	**27.38905**	**19.22476**	**65.09952**	**11.51957**
Benz[a]anthracene	**26.08521**	**7.35716**	**9.57029**	**30.16268**	**20.07767**	**55.38575**	**227.75543 J**	**32.40816 J**	**32.53454**	**21.35375**	**45.62013**	**33.04541**	**22.07791**	**107.9311**	**16.98275**
Benzo[a]pyrene	**18.97777**	**3.1702**	**8.1018**	**21.67386**	**16.18961**	**37.40901**	**164.60069**	**24.76365 J**	**26.61011**	**16.27205**	**35.499**	**26.49947**	**14.88398**	**83.4354**	**14.18452**
Benzo[b]fluoranthene	**12.54299**	**1.99612**	**4.69777**	**13.1051**	**10.95601**	**21.33299**	**123.58728**	**16.47309**	**15.01452**	**9.49972**	**21.9005**	**17.71205**	**9.217**	**72.26003**	**10.40987**
Benzo[e]pyrene	**12.65294**	**1.99472**	**4.91657**	**14.33102**	**10.42923**	**22.59864**	**105.84256 J**	**15.5534**	**16.31767**	**10.16902**	**21.72284**	**16.29623**	**9.68108**	**55.23808**	**9.3512**
Benzo[g,h,i]perylene	**10.19551**	**0.95053**	**3.95374**	**11.32665**	**9.35389**	**17.98185**	**93.59161**	**14.10895**	**13.19826**	**9.07621**	**17.39927**	**14.28368**	**6.92707**	**50.88462**	**7.88736**
Benzo[k]fluoranthene	**15.27922**	**2.44465**	**5.8017**	**17.73511**	**13.51209**	**28.43961**	**127.21344 J**	**18.69458**	**19.22846**	**12.00634**	**27.57575**	**19.59372**	**11.70873**	**74.40833**	**12.13928**
1,1-Biphenyl	**0.78304**	**0.79841**	**0.29161**	**0.60685**	**0.47939**	**1.8527**	**7.15118**	**1.06589**	**0.76382**	**0.55569**	**2.65493**	**1.82335**	**0.82479**	**4.41935**	**0.61586**
Chrysene	**25.61366**	**7.46051**	**9.42257**	**29.74729**	**19.15528**	**52.80039**	**206.88805**	**30.56266 J**	**32.35578**	**21.48286**	**43.64008**	**31.16388**	**22.37665**	**103.13563**	**16.67372**
C1-Chrysenes	**28.93838**	**6.39515**	**11.41545**	**34.53264**	**18.06137**	**52.07362**	**134.1894**	**27.09294**	**38.97614**	**22.05574**	**45.31045**	**29.82923**	**24.73738**	**44.98942**	**15.90557**
C2-Chrysenes	**16.53835**	**3.10951**	**7.33973**	**20.08431**	**10.2824**	**30.7019**	**52.50743**	**14.73007**	**25.19441**	**14.8097**	**26.88734**	**19.13662**	**16.08795**	**20.37357**	**10.40378**
C3-Chrysenes	**8.29336**	**1.61386**	**3.81332**	**9.90457**	**5.00847**	**13.53837**	**18.32861**	**7.04039**	**12.15277**	**7.81271**	**12.4272**	**9.42629**	**7.6736**	**10.57189**	**4.91816**
C4-Chrysenes	**3.63509**	**0.84803**	**1.76283**	**4.53809**	**2.30917**	**6.24585**	**8.12784**	**3.17477**	**5.81841**	**3.5781**	**5.39579**	**4.16495**	**3.19276**	**6.02361**	**2.27783**
Dibenz[a,h]anthracene	**3.27051**	**0.3053**	**1.23262**	**3.619**	**2.90549**	**5.7158**	**28.37204 J**	**4.57737**	**4.40235**	**2.85236**	**5.63404**	**4.66691**	**2.31661**	**15.39288**	**2.64014**
Dibenzofuran	**1.96568**	**1.69772**	**0.59834**	**3.1065**	**2.48183**	**4.04423**	**27.35052**	**2.73457 J**	**2.53762**	**1.39787**	**4.86209**	**3.63824**	**2.14235**	**27.62598**	**1.53675**
Dibenzothiophene	**5.53008**	**4.96401**	**1.58839**	**8.52816**	**4.23277**	**15.24795**	**45.16361**	**7.19022**	**9.43574**	**4.9159**	**13.24648**	**8.08455**	**7.26227**	**18.95233**	**3.90967**
C1-Dibenzothiophenes	**13.65302**	**10.7814**	**4.62734**	**18.67547**	**7.61219**	**33.22308**	**57.99142**	**14.27379**	**21.24669**	**11.42469**	**27.91241**	**16.52188**	**17.07434**	**23.9042**	**8.34424**
C2-Dibenzothiophenes	**20.7547**	**12.09517**	**7.4918**	**25.67908**	**10.24163**	**40.77241**	**62.46735**	**17.92536**	**26.55387**	**15.35063**	**34.15854**	**21.57409**	**22.23582**	**31.90105**	**10.97007**
C3-Dibenzothiophenes	**13.64043**	**6.06547**	**5.40676**	**16.31822**	**6.73025**	**24.31165**	**32.07954**	**10.90849**	**17.42265**	**9.51041**	**22.31062**	**13.15334**	**13.06119**	**21.79266**	**6.67606**
C4-Dibenzothiophenes	**5.23208**	**2.00316**	**2.15768**	**6.55275**	**2.57768**	**9.38375**	**10.46257**	**4.03055**	**6.74535**	**3.94233**	**8.26765**	**5.40607**	**5.30763**	**10.20355**	**2.79004**
Fluoranthene	**55.22196**	**20.4704**	**15.37069**	**51.71692**	**41.57008**	**89.43105**	**456.57071**	**53.10114 J**	**51.10203**	**32.32763**	**76.61903**	**56.00745**	**38.08169**	**280.82083**	**33.77023**
C1-Fluoranthenes/pyrenes	**66.59034**	**22.32552**	**23.05997**	**77.71893**	**38.15207**	**122.11481**	**309.13547**	**61.2741**	**77.48864**	**46.70372**	**100.73688**	**68.0536**	**56.13066**	**112.51148**	**33.2288**
C2-Fluoranthenes/pyrenes	**33.40162**	**10.13694**	**13.67331**	**41.02298**	**22.98272**	**59.93981**	**127.57838**	**30.01451**	**41.53491**	**26.09275**	**47.18851**	**34.94868**	**29.85943**	**71.9653**	**18.60977**
C3-Fluoranthenes/pyrenes	**15.9001**	**6.22463**	**8.03448**	**19.76897**	**10.83496**	**29.30822**	**50.18981**	**14.13932**	**20.76319**	**13.80711**	**23.41722**	**18.44661**	**15.6216**	**27.93451**	**9.82838**
C4-Fluoranthenes/Pyrenes	**4.93293**	**1.07017**	**2.20914**	**6.54367**	**3.28622**	**8.9285**	**14.53147**	**4.51969**	**7.19392**	**4.91067**	**8.00153**	**6.00763**	**5.34826**	**11.10157**	**3.35216**
Fluorene	**3.73878**	**1.83196**	**1.20786**	**8.21975**	**5.27434**	**21.09523**	**68.41107**	**10.74238**	**11.88241**	**6.3009**	**20.42029**	**12.91083**	**9.36807**	**42.54913**	**5.35247**
C1-Fluorenes	**10.37905**	**7.87035**	**3.51716**	**15.53991**	**6.73249**	**28.83885**	**52.74262**	**12.78576**	**18.62397**	**10.24089**	**24.97876**	**15.6432**	**14.75365**	**23.65272**	**7.28903**
C2-Fluorenes	**18.43965**	**13.8234**	**6.66778**	**23.37032**	**9.80725**	**40.74567**	**53.86416**	**15.9726**	**27.91904**	**15.2315**	**33.33634**	**21.49651**	**21.24816**	**32.79387**	**10.9063**
C3-Fluorenes	**14.75898**	**9.21615**	**5.44229**	**18.59602**	**8.75031**	**28.81202**	**48.93922**	**12.58406**	**19.78209**	**12.19743**	**24.6548**	**16.49852**	**15.53979**	**49.71464**	**8.64557**
Indeno[1,2,3-cd]pyrene	**10.19236**	**0.95**	**4.00199**	**11.28223**	**9.79554**	**18.67867**	**99.78222 J**	**15.1381**	**13.47512**	**9.36841**	**19.13936**	**15.52717**	**7.45538**	**59.5757**	**9.04139**
Naphthalene	**3.25578**	**1.9081**	**1.58943**	**3.47025**	**4.02102**	**8.49457**	**34.32103**	**6.10705**	**6.79639**	**5.26453**	**10.44793**	**9.86457**	**6.70445**	**39.7412**	**5.23713**
C1-Naphthalenes	**3.64232**	**2.59936**	**1.58114**	**6.55784**	**3.84903**	**15.04566**	**38.14026**	**7.90519**	**11.71737**	**6.89783**	**17.36517**	**11.65551**	**7.81233**	**22.41875**	**4.95331**
C2-Naphthalenes	**12.19566**	**16.07298**	**4.69368**	**23.35721**	**9.78495**	**40.07609**	**57.9491**	**17.31915**	**30.49929**	**16.20485**	**40.95289**	**24.129**	**19.78732**	**33.9279**	**10.25414**
C3-Naphthalenes	**22.06221**	**29.42105**	**8.78186**	**29.97345**	**11.7102**	**48.73832**	**48.01406**	**19.6448**	**35.97096**	**19.2897**	**46.52204**	**27.05996**	**25.8386**	**38.00401**	**12.68933**
C4-Naphthalenes	**17.48817**	**19.62954**	**7.30159**	**21.87273**	**8.0894**	**37.63032**	**27.53163**	**14.15182**	**25.85903**	**14.44884**	**34.37363**	**20.01337**	**20.14341**	**29.24401**	**9.76275**
Perylene	**5.22303**	**0.48616**	**1.67763**	**5.72284**	**4.0518**	**9.55583**	**47.13281**	**6.18005**	**6.75135**	**3.81768**	**9.23715**	**6.46036**	**4.39634**	**22.10021**	**3.91186**
Phenanthrene	**25.88886**	**20.93576**	**8.43924**	**58.5188**	**43.72476**	**126.52406**	**563.70434**	**66.651 J**	**71.56422**	**42.37467**	**105.20293**	**73.31153**	**53.87382**	**298.97101**	**36.14105**
C1-Phenanthrenes/anthracenes	**58.79151**	**42.30563**	**20.35111**	**84.16295**	**40.03161**	**150.43587**	**388.82746**	**70.26165**	**92.88172**	**52.60293**	**122.3071**	**77.9301**	**72.86142**	**135.52693**	**38.21781**
C2-Phenanthrenes/anthracenes	**64.25425**	**32.54575**	**21.40517**	**78.94789**	**33.88459**	**121.93189**	**247.27109**	**54.99823**	**82.89758**	**46.56726**	**103.46804**	**64.04278**	**62.31674**	**89.27686**	**32.43088**
C3-Phenanthrenes/anthracenes	**30.63666**	**12.88493**	**12.20217**	**37.38671**	**16.05856**	**54.27557**	**87.26006**	**24.03072**	**38.81726**	**22.47213**	**46.37527**	**29.41366**	**28.74802**	**37.36184**	**14.90712**
C4-Phenanthrenes/anthracenes	**10.10732**	**3.64534**	**4.3192**	**13.08244**	**5.1618**	**18.15429**	**22.813**	**7.68462**	**14.20427**	**7.79228**	**15.47453**	**10.15343**	**9.79199**	**11.79096**	**5.37727**
Pyrene	**70.11879**	**24.79425**	**18.55165**	**65.87538**	**44.83206**	**121.06299**	**474.78061**	**63.0777 J**	**72.49827**	**42.35296**	**97.00006**	**64.79955**	**51.21739**	**232.0999**	**35.99962**

Table 3
Summary of Analytical Fractionated Results
Phase I Sediment Cores
Gowanus Canal
Brooklyn, New York

Sample Name:	GC-SED-521		GC-SED-521		GC-SED-521			GC-SED-521			Duplicate of GC-SED-521			GC-SED-521		
Sample Depth (feet):	(0.0-0.5)		(0.5-1.0)		(1.0-1.5)			(1.5-2.0)			(1.5-2.0)			(2.0-2.5)		
Sample Date:	8/3/2012		8/3/2012		8/3/2012			8/3/2012			8/3/2012			8/3/2012		
Sieve Number:	Bottom	200	Bottom	200	Bottom	10	200	Bottom	10	200	Bottom	10	200	Bottom	10	200
Alkylated PAHs (mg/kg)																
Acenaphthene	**5.0492**	**1.51459**	**3.37005**	**0.75954**	**6.0928**	**7.85166**	**3.67828**	**13.56811**	**28.03743 J**	**5.13434**	**16.20518**	**15.75784 J**	**5.37926**	**8.32481**	**10.61025**	**3.74534**
Acenaphthylene	**5.09147**	**1.34603**	**4.67708**	**1.61759**	**5.13795**	**0.77691**	**4.48741**	**10.29122**	**6.96173**	**5.2603**	**12.21418**	**5.66792**	**6.60745**	**7.99526**	**2.17663**	**3.93827**
Anthracene	**10.80416**	**3.02182**	**7.87263**	**1.95173**	**12.16747**	**7.86108**	**7.64506**	**26.38826**	**56.26435 J**	**11.08159 J**	**31.51112**	**23.87193 J**	**11.8998**	**19.49589**	**27.89778**	**8.60174**
Benz[a]anthracene	**17.67994**	**5.63722**	**13.1546**	**3.63705**	**15.97327**	**6.52429**	**14.70646**	**31.66127**	**98.40585 J**	**13.62712 J**	**37.07947**	**25.02492 J**	**16.53425**	**23.8368**	**40.10342**	**11.16146**
Benzo[a]pyrene	**14.02393**	**4.84386**	**10.52419**	**3.26171**	**12.18577**	**2.99998**	**12.92347**	**23.05264**	**76.25039 J**	**10.94838 J**	**27.60242**	**14.14724 J**	**13.91231**	**17.28252**	**25.11149**	**9.20602**
Benzo[b]fluoranthene	**10.80428**	**3.66847**	**7.01792**	**2.12363**	**8.32042**	**1.96045**	**7.11725**	**14.28489**	**65.48245 J**	**6.36663 J**	**15.84735**	**10.20337 J**	**7.96698**	**9.68546**	**21.05655**	**5.98942**
Benzo[e]pyrene	**9.99316**	**3.26896**	**7.37648**	**2.15833**	**8.23937**	**1.98284**	**7.09884**	**14.8843**	**51.55998 J**	**6.92442 J**	**17.85631**	**9.42948 J**	**8.65943**	**11.041**	**18.15299**	**5.9483**
Benzo[g,h,i]perylene	**7.67252**	**2.84751**	**5.38661**	**1.70744**	**5.85405**	**1.04383**	**5.56977**	**9.95173**	**48.88864 J**	**5.13372 J**	**12.23108**	**5.43699 J**	**6.64283**	**7.41436**	**10.67886**	**4.48694**
Benzo[k]fluoranthene	**12.14801**	**3.98645**	**8.71725**	**2.44129**	**9.01456**	**2.45162**	**7.9821**	**16.98892**	**65.24327 J**	**7.67478 J**	**21.34062**	**11.87778 J**	**10.11043**	**13.1458**	**24.64834**	**7.07963**
1,1-Biphenyl	**0.42325**	**0.12078**	**0.26993**	**0.06423**	**0.53076**	**0.65046**	**0.39159**	**1.6698**	**3.74793 J**	**0.6923 J**	**1.76229**	**1.8848 J**	**0.7722**	**0.82767**	**0.90562**	**0.42231**
Chrysene	**17.31357**	**5.53151**	**13.33564**	**3.7311**	**15.98575**	**6.11942**	**14.45326**	**31.02639**	**91.1742 J**	**13.33753**	**37.13961**	**24.70759 J**	**16.07254**	**23.86353**	**36.5745**	**10.81005**
C1-Chrysenes	**17.14907**	**4.99766**	**14.9683**	**4.51664**	**17.38143**	**5.44473**	**14.16839**	**37.13188**	**50.07705 J**	**17.6574**	**45.67414**	**25.10875 J**	**20.44573**	**28.58477**	**23.26964**	**12.09766**
C2-Chrysenes	**10.41687**	**3.14502**	**9.26995**	**3.01441**	**10.86333**	**2.77196**	**9.14844**	**22.28286**	**24.46342 J**	**12.06274**	**27.93876**	**13.81069 J**	**12.82705**	**17.49304**	**10.16814**	**7.78656**
C3-Chrysenes	**4.84536**	**1.44114**	**4.3301**	**1.42699**	**4.77988**	**1.20498**	**4.26543**	**11.24584**	**11.24041 J**	**6.12234**	**13.54754**	**6.30448 J**	**6.265**	**9.0951**	**4.6957**	**4.12955**
C4-Chrysenes	**2.1935**	**0.68223**	**1.93668**	**0.62893**	**2.31307**	**0.69733**	**1.97961**	**4.76954**	**5.56796 J**	**2.64259**	**6.18506**	**2.75923 J**	**2.78078**	**4.00474**	**2.27106**	**1.93694**
Dibenz[a,h]anthracene	**2.58129**	**0.89357**	**1.72204**	**0.56503**	**1.87106**	**0.32284**	**1.82138**	**3.54407**	**14.73979 J**	**1.84159 J**	**4.35309**	**1.99598 J**	**2.31149**	**2.5259**	**4.55189**	**1.5831**
Dibenzofuran	**0.77213**	**0.41699**	**0.53507**	**0.10599**	**1.04226**	**1.10506**	**0.65889**	**2.44544**	**15.00416 J**	**0.88958 J**	**2.90824**	**2.74829 J**	**0.99652**	**2.14575**	**3.52583**	**1.22111**
Dibenzothiophene	**3.43718**	**0.91388**	**2.31398**	**0.51394**	**3.49134**	**3.10472**	**2.15173**	**9.16955**	**18.35208 J**	**3.51621**	**11.09979**	**8.90654 J**	**3.67988**	**7.1303**	**8.40621**	**2.74571**
C1-Dibenzothiophenes	**7.4665**	**1.74851**	**5.34927**	**1.28158**	**8.30295**	**6.65259**	**5.17445**	**19.9642**	**22.17732**	**8.37847**	**24.94506**	**18.80133**	**8.86646**	**15.9484**	**15.11722**	**6.07904**
C2-Dibenzothiophenes	**11.03377**	**2.58414**	**8.46252**	**2.23868**	**12.1054**	**7.58642**	**7.76277**	**26.7243**	**24.51659**	**12.04953**	**35.21008**	**23.60036**	**12.92708**	**21.94682**	**18.11282**	**8.54918**
C3-Dibenzothiophenes	**7.12848**	**1.70335**	**5.62693**	**1.55352**	**8.82962**	**4.24376**	**5.77986**	**18.8093**	**13.18655**	**7.78149**	**22.96524**	**13.31267**	**8.45905**	**15.62209**	**9.97593**	**5.93206**
C4-Dibenzothiophenes	**2.83329**	**0.69562**	**2.32921**	**0.65401**	**3.42106**	**1.55681**	**2.25528**	**6.83758**	**4.8429**	**3.23667**	**9.1766**	**4.67949**	**3.45202**	**6.17018**	**3.60808**	**2.31091**
Fluoranthene	**36.47361**	**10.99259**	**23.24155**	**6.5917**	**31.54916**	**22.66543**	**20.4399**	**46.95325**	**220.8704 J**	**19.48678 J**	**58.1069**	**37.26467 J**	**21.84743**	**35.56372**	**87.38084**	**17.64895**
C1-Fluoranthenes/pyrenes	**41.09912**	**10.72024**	**32.94054**	**9.54365**	**38.64344**	**18.05524**	**28.15563**	**74.48948**	**104.27689**	**36.44261**	**102.29281**	**64.27285**	**41.2252**	**57.57784**	**55.59447**	**23.74918**
C2-Fluoranthenes/pyrenes	**20.92353**	**6.22559**	**16.64486**	**5.49305**	**22.66647**	**7.98383**	**17.41009**	**40.34168**	**70.72496 J**	**20.88735**	**56.60755**	**32.71631 J**	**23.43675**	**31.55279**	**32.16609**	**13.92571**
C3-Fluoranthenes/pyrenes	**10.62093**	**3.15954**	**8.32014**	**2.88263**	**11.18672**	**3.25729**	**9.03204**	**21.15236**	**30.60168 J**	**11.73032**	**29.21713**	**15.46667 J**	**12.35263**	**17.06357**	**14.11875**	**7.0516**
C4-Fluoranthenes/Pyrenes	**3.35072**	**1.058**	**2.83631**	**0.93614**	**3.71699**	**1.03793**	**2.97854**	**6.45645**	**10.67676 J**	**3.96228**	**9.23623**	**4.52209 J**	**3.75414**	**5.38042**	**4.08908**	**2.43054**
Fluorene	**1.14301**	**0.60695**	**0.93195**	**0.23041**	**2.45604**	**2.92274**	**1.69533**	**4.08695**	**22.44572 J**	**1.62012 J**	**4.82303**	**4.71176 J**	**1.87085**	**3.6889**	**9.68909**	**2.37872**
C1-Fluorenes	**5.73077**	**1.35271**	**4.1168**	**1.04385**	**6.48163**	**6.07809**	**4.23604**	**14.87768**	**18.26024**	**6.02129**	**18.90082**	**16.28631**	**6.6696**	**11.41408**	**13.66803**	**4.60796**
C2-Fluorenes	**9.96433**	**2.46941**	**7.61514**	**1.94293**	**10.67213**	**8.60917**	**6.78839**	**24.59477**	**27.77112**	**12.16736**	**32.39462**	**26.20389**	**12.00723**	**18.67433**	**21.04628**	**8.03065**
C3-Fluorenes	**8.05568**	**2.22**	**6.41256**	**1.74365**	**8.36851**	**5.31856**	**5.19816**	**18.90216**	**30.27229 J**	**9.67958**	**25.5436**	**17.32372 J**	**9.04136**	**16.60622**	**18.3136**	**6.76253**
Indeno[1,2,3-cd]pyrene	**8.52982**	**3.16949**	**5.5961**	**1.8072**	**6.1514**	**1.04788**	**5.93537**	**10.2865**	**54.35627 J**	**5.33265 J**	**12.63428**	**5.94122 J**	**6.93909**	**7.51648**	**13.00664**	**4.73489**
Naphthalene	**1.95142**	**0.68582**	**1.64269**	**0.46093**	**2.64777**	**2.82055**	**2.43029**	**4.23887**	**22.08452 J**	**2.18829 J**	**4.86591**	**6.81962 J**	**2.82471**	**5.96538**	**11.31352**	**3.18334**
C1-Naphthalenes	**1.53835**	**0.47687**	**1.02754**	**0.29131**	**2.81991**	**4.53646**	**2.21317**	**4.17711**	**15.85115 J**	**2.02586 J**	**4.64079**	**7.15873 J**	**2.2398**	**4.81424**	**7.03354**	**2.25513**
C2-Naphthalenes	**5.51485**	**1.24301**	**3.6188**	**0.84993**	**10.01655**	**11.22158**	**6.03113**	**21.26552**	**31.32523**	**8.71681**	**24.54201**	**30.99283**	**8.54701**	**17.52816**	**24.73551**	**6.84664**
C3-Naphthalenes	**9.32389**	**1.96049**	**6.40535**	**1.40854**	**14.64955**	**12.5058**	**8.08511**	**33.96944**	**36.30066**	**14.06563**	**41.01409**	**43.14542**	**14.27356**	**25.69774**	**33.7718**	**10.13362**
C4-Naphthalenes	**7.5212**	**1.56881**	**5.72827**	**1.27721**	**10.66117**	**8.69084**	**5.8163**	**24.68416**	**22.7027**	**10.50704**	**30.58431**	**28.66707**	**10.75885**	**19.90955**	**25.00567**	**7.93994**
Perylene	**4.19909**	**1.31711**	**2.7561**	**0.74234**	**2.86552**	**0.53562**	**2.50144**	**5.89403**	**22.64198 J**	**2.55268 J**	**6.94991**	**3.00891 J**	**3.25847**	**4.55771**	**5.9868**	**2.23841**
Phenanthrene	**16.18619**	**6.69604**	**8.58902**	**2.17711**	**16.08693**	**13.69271**	**10.85775**	**40.97837**	**214.80534 J**	**16.326 J**	**48.52836**	**45.27243 J**	**16.62703**	**47.67853**	**92.51396**	**21.45527**
C1-Phenanthrenes/anthracenes	**33.68895**	**8.15013**	**23.57418**	**5.96101**	**34.0444**	**24.46849**	**22.32977**	**78.36583**	**131.26168**	**36.43112**	**105.75858**	**80.20466**	**38.07826**	**64.79727**	**78.19121**	**27.32436**
C2-Phenanthrenes/anthracenes	**35.60822**	**8.68923**	**27.71073**	**7.45524**	**34.67548**	**20.30667**	**22.88483**	**84.19755**	**92.8692**	**37.41998**	**107.71437**	**71.62192**	**40.2841**	**67.37945**	**59.92654**	**25.99799**
C3-Phenanthrenes/anthracenes	**17.84997**	**4.47592**	**14.28667**	**3.94299**	**19.39688**	**8.84102**	**12.92312**	**41.07135**	**38.09713**	**19.10153**	**52.64008**	**31.78154**	**20.27667**	**34.93898**	**23.53455**	**12.75878**
C4-Phenanthrenes/anthracenes	**6.56853**	**1.51325**	**5.11111**	**1.45461**	**6.47486**	**2.59983**	**4.46316**	**14.24886**	**10.83723**	**6.77565**	**18.66198**	**9.4489**	**6.97654**	**12.57055**	**7.19748**	**4.73261**
Pyrene	**42.35604**	**11.56219**	**30.28882**	**7.84685**	**38.99188**	**25.23976**	**24.91883**	**69.27719**	**196.94307 J**	**28.33933 J**	**83.51722**	**47.80648 J**	**29.15472**	**49.13873**	**80.4064**	**20.68861**

Table 3
Summary of Analytical Fractionated Results
Phase I Sediment Cores
Gowanus Canal
Brooklyn, New York

Sample Name:	GC-SED-521			GC-SED-521			GC-SED-521			GC-SED-522		GC-SED-522	
Sample Depth (feet):	(2.5-3.0)			(3.0-3.5)			(3.5-4.0)			(0.0-0.5)		(0.5-1.0)	
Sample Date:	8/3/2012			8/3/2012			8/3/2012			8/3/2012		8/3/2012	
Sieve Number:	Bottom	10	200	Bottom	10	200	Bottom	10	200	Bottom	200	Bottom	200
Alkylated PAHs (mg/kg)													
Acenaphthene	**14.09462**	**29.92675**	**4.25583**	**18.55764**	**66.72197**	**5.56891**	**27.15618**	**40.64695**	**10.74791**	**3.48742**	**1.79968**	**2.57798**	**1.47517**
Acenaphthylene	**9.93716**	**9.90894**	**3.93361**	**11.91105**	**13.51308**	**4.24354**	**13.61**	**10.13283**	**7.06876**	**8.41385**	**5.64283**	**4.22802**	**3.99702**
Anthracene	**27.65671**	**49.0145**	**8.97304**	**36.27878**	**99.44034**	**11.02097**	**48.81875**	**57.39392**	**20.44922**	**11.01468**	**6.91046**	**6.7917**	**4.39689**
Benz[a]anthracene	**32.36448 J**	**88.2824**	**11.08785**	**41.58029 J**	**218.43804 J**	**14.93785 J**	**51.24974 J**	**89.98548 J**	**24.61039 J**	**21.45869 J**	**13.56898 J**	**14.48452**	**10.39638**
Benzo[a]pyrene	**24.23411**	**69.78213**	**9.02989**	**31.00779**	**178.37412**	**12.34753**	**37.83188**	**83.9177**	**19.99846**	**17.67034**	**11.51554**	**10.36093**	**8.80929**
Benzo[b]fluoranthene	**14.5911**	**62.98703**	**5.61549**	**19.05097**	**175.4529**	**8.24352**	**23.75863**	**62.67484**	**13.4763**	**12.06865**	**6.66463**	**7.00639**	**5.36072**
Benzo[e]pyrene	**16.03317 J**	**48.8276**	**5.88851**	**20.72749 J**	**123.16669 J**	**8.28693 J**	**25.62347 J**	**55.01136 J**	**13.44404 J**	**12.40777 J**	**7.11177 J**	**7.20972**	**5.39206**
Benzo[g,h,i]perylene	**12.32963**	**37.76426**	**4.38853**	**15.52381**	**119.39407**	**7.21231**	**17.97236**	**58.31172**	**10.65326**	**9.06659**	**5.34238**	**5.00462**	**4.06158**
Benzo[k]fluoranthene	**18.65382 J**	**57.82077**	**7.15604**	**23.91616 J**	**176.13156 J**	**9.90488 J**	**30.87305 J**	**70.30369 J**	**16.36453 J**	**13.96392 J**	**8.15561 J**	**8.05873**	**6.0356**
1,1-Biphenyl	**1.22554**	**3.01173**	**0.46322**	**1.53228**	**8.44017**	**0.68679**	**2.3399**	**5.44129**	**1.13433**	**0.33229**	**0.13492**	**0.21611**	**0.12243**
Chrysene	**32.51775**	**81.19979**	**10.89847**	**42.06385**	**205.1999**	**14.96895**	**52.74226**	**80.9336**	**25.24557**	**20.73715**	**12.92992**	**14.14915**	**9.96252**
C1-Chrysenes	**37.86778**	**36.79044**	**12.09221**	**50.57737**	**87.85412**	**16.62595**	**66.74548**	**63.90013**	**30.39012**	**25.62819**	**16.33931**	**14.57627**	**11.45568**
C2-Chrysenes	**23.77146**	**17.77114**	**7.51992**	**31.04203**	**34.94144**	**10.45517**	**41.62214**	**32.93192**	**19.37786**	**14.76061**	**9.41546**	**8.63767**	**7.04798**
C3-Chrysenes	**11.92618**	**9.23733**	**3.90942**	**15.50536**	**20.21827**	**5.25986**	**20.98373**	**15.77678**	**9.8705**	**6.772**	**4.36807**	**3.65148**	**3.11766**
C4-Chrysenes	**5.37268**	**4.59671**	**1.85064**	**6.67938**	**11.36894**	**2.38187**	**9.0149**	**7.60916**	**4.37139**	**2.73567**	**1.75429**	**1.70033**	**1.4962**
Dibenz[a,h]anthracene	**3.86854 J**	**12.05373**	**1.46024**	**5.04785 J**	**40.97446 J**	**2.2178 J**	**6.54845 J**	**19.49377 J**	**3.77379 J**	**2.94483 J**	**1.87278 J**	**1.66925**	**1.41219**
Dibenzofuran	**3.57063**	**17.52266**	**1.23774**	**5.13944**	**49.9818**	**1.57509**	**7.08282**	**18.35666**	**3.24117**	**0.39993**	**0.21741**	**0.23819**	**0.15605**
Dibenzothiophene	**10.71501**	**17.07158**	**3.2798**	**14.99346**	**38.23396**	**4.27057**	**20.41919**	**19.46298**	**8.29518**	**2.63473**	**1.31804**	**1.74093**	**0.96871**
C1-Dibenzothiophenes	**22.66486**	**18.39946**	**6.89274**	**30.69085**	**26.29616**	**9.06473**	**41.73354**	**29.12033**	**16.68922**	**6.95986**	**4.01508**	**5.18453**	**3.3011**
C2-Dibenzothiophenes	**28.36714**	**20.51553**	**9.2706**	**40.48554**	**24.96037**	**12.18823**	**52.37347**	**34.84926**	**21.29782**	**12.9906**	**7.43602**	**8.59813**	**5.65674**
C3-Dibenzothiophenes	**18.72021**	**11.9753**	**5.89847**	**25.3428**	**13.00527**	**7.72665**	**32.64593**	**20.45802**	**13.14466**	**8.51671**	**4.99062**	**6.11893**	**4.11637**
C4-Dibenzothiophenes	**7.63232**	**4.61109**	**2.41622**	**9.98834**	**4.39163**	**2.97311**	**11.97577**	**7.38218**	**4.92293**	**3.23949**	**1.835**	**2.28412**	**1.56088**
Fluoranthene	**51.35324**	**198.87353**	**18.48566**	**63.12472**	**498.56235**	**23.81828**	**89.02376**	**145.16883**	**37.46308**	**32.60944**	**17.22509**	**24.12775**	**16.49349**
C1-Fluoranthenes/pyrenes	**80.99446**	**82.55769**	**25.73308**	**109.20591**	**157.47132**	**34.60739**	**149.08303**	**126.82732**	**59.88296**	**54.62002**	**34.07653**	**32.19177**	**23.73231**
C2-Fluoranthenes/pyrenes	**43.55255**	**52.96479**	**14.84874**	**60.76378**	**153.09121**	**19.90298**	**88.41992**	**76.715**	**38.14402**	**29.22381**	**18.75088**	**18.41177**	**14.41204**
C3-Fluoranthenes/pyrenes	**23.07611**	**22.43007**	**7.29793**	**31.54936**	**54.84736**	**10.29235**	**45.83971**	**35.45324**	**19.37474**	**13.30329**	**9.50301**	**8.88084**	**7.24851**
C4-Fluoranthenes/Pyrenes	**7.43389**	**7.13273**	**2.42647**	**9.84654**	**20.88811**	**3.17442**	**13.38997**	**10.97448**	**5.88087**	**4.09465**	**2.60575**	**2.75321**	**2.18609**
Fluorene	**13.67556**	**32.16384**	**4.44367**	**19.18208**	**57.03949**	**5.76974**	**27.53484**	**38.26732**	**11.65223**	**0.97997**	**0.60928**	**0.56804**	**0.40185**
C1-Fluorenes	**18.71136**	**18.85717**	**6.1971**	**25.73871**	**24.87464**	**7.89569**	**38.42176**	**30.25666**	**15.46124**	**5.58885**	**3.14789**	**3.4555**	**2.28939**
C2-Fluorenes	**26.85804**	**21.80952**	**8.66273**	**34.67791**	**30.26552**	**10.74801**	**47.97617**	**34.49172**	**19.72607**	**9.51473**	**5.65255**	**6.74765**	**4.47032**
C3-Fluorenes	**20.80718**	**23.90705**	**6.90431**	**27.50281**	**60.05525**	**8.60721**	**35.89968**	**29.01435**	**15.45038**	**8.07044**	**4.56997**	**5.24635**	**3.38069**
Indeno[1,2,3-cd]pyrene	**11.92366 J**	**51.57672**	**4.64076**	**15.51748 J**	**140.67855 J**	**7.43356 J**	**19.16541 J**	**67.21414 J**	**11.53468 J**	**9.29089 J**	**5.47292 J**	**5.57093**	**4.58301**
Naphthalene	**18.66287**	**64.56542**	**7.69223**	**25.22875**	**119.26721**	**12.77013**	**32.94522**	**83.2259**	**16.19369**	**2.67608**	**1.15815**	**1.55144**	**0.96877**
C1-Naphthalenes	**13.61668**	**29.20553**	**4.77607**	**14.08117**	**42.42936**	**6.60762**	**19.89994**	**40.4228**	**9.32967**	**1.48939**	**0.72681**	**0.93137**	**0.59608**
C2-Naphthalenes	**29.70072**	**42.64778**	**9.45919**	**31.1115**	**46.72596**	**10.23866**	**46.62259**	**58.29055**	**19.56952**	**3.29753**	**1.85161**	**2.54289**	**1.62097**
C3-Naphthalenes	**34.87222**	**37.59584**	**11.13677**	**40.98458**	**40.14935**	**12.28004**	**56.2864**	**51.17847**	**23.11583**	**5.58907**	**3.0532**	**5.13335**	**2.92093**
C4-Naphthalenes	**25.61232**	**22.36132**	**8.23422**	**30.73366**	**22.85381**	**9.17227**	**40.6306**	**30.69371**	**16.82011**	**5.90107**	**3.03847**	**4.95358**	**2.85437**
Perylene	**6.51021**	**19.89852**	**2.26242**	**8.35834**	**58.84901**	**3.20742**	**10.37143**	**24.61464**	**5.22556**	**4.559**	**2.50411**	**2.48615**	**1.85273**
Phenanthrene	**78.46453**	**211.5111**	**29.21533**	**100.7705**	**485.18468**	**31.65783**	**143.22404**	**176.79665**	**53.51653**	**5.34655**	**4.62262 J**	**3.50228**	**3.00858**
C1-Phenanthrenes/anthracenes	**98.97481**	**96.93137**	**31.81923**	**132.07527**	**183.28047**	**41.17915**	**179.43342**	**142.56178**	**72.19795**	**28.04382**	**19.24608 J**	**19.53562**	**14.21006**
C2-Phenanthrenes/anthracenes	**87.57868**	**69.78487**	**27.97969**	**121.27659**	**111.16015**	**36.3741**	**158.43878**	**113.87986**	**64.42004**	**40.63174**	**24.52832**	**24.82983**	**17.13901**
C3-Phenanthrenes/anthracenes	**42.70894**	**30.90697**	**13.7378**	**58.84654**	**43.5509**	**17.62962**	**76.67767**	**51.17564**	**31.23657**	**21.18145**	**12.66628**	**13.96659**	**9.66389**
C4-Phenanthrenes/anthracenes	**15.12795**	**9.91226**	**5.06731**	**20.03497**	**12.41038**	**5.88828**	**25.71062**	**15.47962**	**10.37859**	**7.43802**	**4.24959**	**4.59262**	**3.21708**
Pyrene	**71.99138**	**170.16578**	**27.14171**	**88.7976**	**390.90501**	**29.3705**	**113.25013**	**138.69481**	**43.27226**	**41.01578**	**21.10143**	**31.14228**	**21.07386**

Table 3
Summary of Analytical Fractionated Results
Phase I Sediment Cores
Gowanus Canal
Brooklyn, New York

Sample Name:	GC-SED-522			GC-SED-522			GC-SED-522		GC-SED-522			GC-SED-522	
Sample Depth (feet):	(1.0-1.5)			(1.5-2.0)			(2.0-2.5)		(2.5-3.0)			(3.0-3.5)	
Sample Date:	8/3/2012			8/3/2012			8/3/2012		8/3/2012			8/3/2012	
Sieve Number:	Bottom	10	200	Bottom	10	200	Bottom	200	Bottom	10	200	Bottom	200
Alkylated PAHs (mg/kg)													
Acenaphthene	**9.707**	**15.33875**	**4.56181**	**12.78143**	**32.11757**	**5.53432**	**10.51514**	**4.43248**	**9.02183**	**20.04252**	**3.4658**	**10.50236 J**	**3.04515**
Acenaphthylene	**9.01348**	**5.07997**	**5.88086**	**14.06467**	**9.42897**	**5.78103**	**10.62119**	**4.96902**	**14.21607**	**3.32901**	**6.97025**	**9.25457 J**	**3.17439**
Anthracene	**22.89061**	**26.06231**	**12.15116**	**30.0325**	**68.70302**	**13.69046**	**28.1869**	**11.83012**	**29.10517**	**29.28543**	**13.1088**	**22.60911 J**	**7.55393**
Benz[a]anthracene	**28.00846**	**53.01554**	**15.20146**	**35.7334**	**72.36924**	**21.29712**	**35.33859**	**17.9534**	**52.09983**	**71.25389**	**20.34521**	**29.87456 J**	**11.98759**
Benzo[a]pyrene	**20.77734**	**46.34345**	**12.646**	**27.55016**	**49.1466**	**18.09397**	**25.81205**	**15.1492**	**39.36039**	**65.12794**	**17.95006**	**22.95793 J**	**9.21463**
Benzo[b]fluoranthene	**11.93458**	**45.54724**	**7.6708**	**16.45025**	**39.31653**	**12.70519**	**15.4275**	**10.37971**	**23.95926**	**59.3349**	**10.86203**	**14.15985 J**	**6.13918**
Benzo[e]pyrene	**13.40418**	**34.90996**	**8.17293**	**17.6139**	**31.93053**	**11.91828**	**16.78212**	**9.82686**	**25.45089**	**44.75135**	**11.43956**	**14.53611 J**	**5.83602**
Benzo[g,h,i]perylene	**10.13913**	**33.00886**	**6.89154**	**13.24518**	**24.50642**	**10.2375**	**11.32089**	**8.38721**	**16.39507**	**47.89728**	**8.83991**	**10.6261 J**	**3.67596**
Benzo[k]fluoranthene	**16.08521**	**47.60277**	**8.89418**	**20.31112**	**42.04451**	**14.67955**	**19.70358**	**11.65841**	**30.47708**	**65.09122**	**12.66674**	**18.3196 J**	**6.98445**
1,1-Biphenyl	**0.65386**	**1.43615**	**0.56983**	**0.85749**	**2.86053**	**0.6886**	**0.65454**	**0.43221**	**0.75212**	**2.64691**	**0.39277**	**0.6483 J**	**0.25872**
Chrysene	**28.38214**	**55.3196**	**15.28575**	**35.41719**	**66.11128**	**20.57093**	**37.53089**	**18.43725**	**54.94553**	**69.24838**	**21.08709**	**31.45265 J**	**12.56427**
C1-Chrysenes	**33.98227**	**29.23824**	**19.11911**	**44.03182**	**39.69198**	**20.30795**	**45.88269**	**18.98618**	**61.62209**	**22.85933**	**25.41302**	**36.50203 J**	**12.60854**
C2-Chrysenes	**20.70802**	**13.92041**	**12.64389**	**26.84483**	**16.74039**	**12.30869**	**27.95495**	**12.32455**	**37.19187**	**8.39837**	**16.68665**	**22.33397 J**	**8.01071**
C3-Chrysenes	**10.7027**	**7.81858**	**6.47414**	**14.04082**	**7.67871**	**6.32065**	**14.12248**	**7.00495**	**19.12378**	**6.22327**	**8.99373**	**11.25195 J**	**4.2193**
C4-Chrysenes	**4.95043**	**4.41321**	**2.9596**	**5.98223**	**3.84912**	**2.78113**	**6.724**	**3.43456**	**8.95981**	**3.11803**	**4.14267**	**5.4632 J**	**2.04895**
Dibenz[a,h]anthracene	**3.35451**	**10.11916**	**2.24987**	**4.51777**	**7.98606**	**3.40307**	**3.5127**	**2.45122**	**5.37267**	**11.39829**	**2.81704**	**3.30447 J**	**1.28756**
Dibenzofuran	**2.12682**	**7.83771**	**1.13032**	**2.19702**	**12.60314**	**2.00941**	**2.35611**	**1.46872**	**2.10941**	**15.98767**	**0.95624**	**2.45645 J**	**0.90885**
Dibenzothiophene	**7.94084**	**10.38848**	**3.97752**	**10.07271**	**23.01344**	**4.33298**	**10.53516**	**3.92027**	**10.11242**	**12.67102**	**4.13614**	**8.17942 J**	**2.51188**
C1-Dibenzothiophenes	**19.66774**	**13.88607**	**9.88628**	**24.01792**	**37.45297**	**8.66654**	**30.61772**	**10.39936**	**29.06445**	**10.75571**	**12.84031**	**21.58757 J**	**6.6446**
C2-Dibenzothiophenes	**28.16547**	**16.09677**	**13.96399**	**34.2653**	**41.50534**	**12.07885**	**41.46639**	**14.41599**	**42.40479**	**10.57797**	**18.53073**	**30.09115 J**	**9.21383**
C3-Dibenzothiophenes	**19.22676**	**9.30995**	**9.09954**	**22.67982**	**21.59634**	**7.87535**	**24.57249**	**9.18994**	**29.69651**	**6.40297**	**12.64356**	**20.88153 J**	**6.64593**
C4-Dibenzothiophenes	**8.16963**	**3.54573**	**3.66357**	**8.81032**	**7.40028**	**3.06357**	**9.72422**	**3.66333**	**11.69091**	**1.8282**	**4.83834**	**8.24698 J**	**2.62759**
Fluoranthene	**43.11575**	**122.61336**	**21.15642**	**56.21386**	**156.85842**	**37.62199**	**50.32705**	**26.94826**	**67.52499**	**174.00797**	**25.929**	**49.26898 J**	**18.46736**
C1-Fluoranthenes/pyrenes	**79.95901**	**57.12131**	**38.07585**	**103.24257**	**123.62215**	**40.26398**	**83.15807**	**31.11962**	**109.83936**	**52.24191**	**42.27127**	**81.60689 J**	**25.52005**
C2-Fluoranthenes/pyrenes	**43.13176**	**46.0875**	**21.99777**	**54.79229**	**48.87068**	**24.11858**	**49.28464**	**20.29592**	**67.34045**	**40.64555**	**26.48218**	**46.38833 J**	**15.89233**
C3-Fluoranthenes/pyrenes	**22.10974**	**17.34408**	**12.02879**	**28.33969**	**20.12081**	**12.33906**	**28.11321**	**11.50503**	**38.36807**	**16.15029**	**15.54934**	**26.40667 J**	**8.90689**
C4-Fluoranthenes/Pyrenes	**6.81141**	**6.86205**	**3.94367**	**8.98153**	**5.97206**	**3.84238**	**9.26966**	**3.83363**	**12.91686**	**6.07563**	**5.08684**	**8.30498 J**	**2.70122**
Fluorene	**11.07989**	**15.46279**	**5.72412**	**7.89808**	**32.26613**	**4.12908**	**11.52464**	**4.94455**	**9.82975**	**19.52392**	**4.54133**	**9.81423 J**	**3.09102**
C1-Fluorenes	**18.14043**	**12.58048**	**9.19796**	**20.20092**	**37.52081**	**7.24499**	**19.6661**	**7.94206**	**18.88956**	**10.01487**	**8.95103**	**17.5897 J**	**5.43631**
C2-Fluorenes	**27.36166**	**17.84901**	**13.28984**	**32.60659**	**48.06273**	**11.70908**	**30.19014**	**12.45861**	**31.44013**	**14.26066**	**14.93738**	**26.30999 J**	**8.31536**
C3-Fluorenes	**21.71469**	**23.33637**	**10.66184**	**25.5467**	**34.06393**	**10.54009**	**32.76891**	**12.10255**	**29.46633**	**24.31525**	**14.04825**	**22.12804 J**	**6.95394**
Indeno[1,2,3-cd]pyrene	**10.1086**	**38.35992**	**6.75622**	**13.59069**	**29.18479**	**11.13498**	**11.47844**	**8.87565**	**17.90618**	**54.98586**	**9.192**	**10.77627 J**	**4.21359**
Naphthalene	**4.51357**	**10.70104**	**4.35495**	**4.98958**	**14.68836**	**3.31809**	**6.77964**	**4.14532**	**8.29388**	**27.51199**	**4.24872**	**7.12821 J**	**2.54288**
C1-Naphthalenes	**6.5748**	**8.38447**	**4.98238**	**5.89529**	**16.33326**	**3.12076**	**9.6377**	**4.82294**	**7.84821**	**12.76454**	**4.48943**	**8.52377 J**	**3.22348**
C2-Naphthalenes	**22.65856**	**19.68105**	**12.05456**	**24.82677**	**52.3883**	**9.39519**	**26.68218**	**10.91655**	**16.40181**	**16.26801**	**9.04311**	**23.76158 J**	**7.93351**
C3-Naphthalenes	**33.64343**	**24.77398**	**16.49138**	**40.4055**	**72.97947**	**13.85877**	**42.46503**	**16.74945**	**30.80167**	**20.8872**	**15.80919**	**36.64777 J**	**11.78158**
C4-Naphthalenes	**27.21368**	**18.26502**	**13.39212**	**31.48679**	**51.29535**	**10.59536**	**37.39216**	**14.75085**	**30.60001**	**16.56906**	**15.70709**	**30.36188 J**	**9.63781**
Perylene	**5.50388**	**12.856**	**2.89182**	**7.13357**	**12.80195**	**4.66754**	**6.30679**	**3.53242**	**9.42981**	**18.32403**	**3.64557**	**6.15959 J**	**2.00476**
Phenanthrene	**56.51195**	**122.31322**	**28.12693**	**57.16798**	**193.6211**	**35.30183**	**73.25898**	**33.22692**	**72.75809**	**179.87395**	**30.37507**	**80.43285 J**	**23.98561**
C1-Phenanthrenes/anthracenes	**92.27033**	**73.72555**	**43.85208**	**107.55611**	**184.08649**	**41.05559**	**133.96031**	**46.88883**	**131.53883**	**78.85592**	**58.3836**	**96.62987 J**	**30.45806**
C2-Phenanthrenes/anthracenes	**87.97086**	**53.72175**	**43.02595**	**106.38359**	**131.30122**	**38.66378**	**105.02819**	**38.45907**	**117.96055**	**40.86526**	**48.76269**	**86.50867 J**	**26.63218**
C3-Phenanthrenes/anthracenes	**47.46351**	**22.77677**	**21.23377**	**53.01017**	**50.12732**	**19.13059**	**54.86546**	**19.38343**	**64.64716**	**17.05402**	**25.76239**	**46.46247 J**	**14.33326**
C4-Phenanthrenes/anthracenes	**18.36021**	**7.19455**	**7.44771**	**18.47026**	**13.78877**	**6.34389**	**19.29397**	**7.14241**	**23.77727**	**4.75756**	**9.15089**	**15.51654 J**	**5.02526**
Pyrene	**60.78372**	**106.74215**	**28.7181**	**81.77695**	**153.20563**	**40.95488**	**58.42766**	**27.42366**	**73.87853**	**139.61082**	**28.06227**	**75.67807 J**	**21.94401**

Validated

Table 3
Summary of Analytical Fractionated Results
Phase I Sediment Cores
Gowanus Canal
Brooklyn, New York

Sample Name:	GC-SED-522			GC-SED-523		GC-SED-523		GC-SED-523		GC-SED-523		GC-SED-523		Duplicate of GC-SED-523	
Sample Depth (feet):	(3.5-4.0)			(0.0-0.5)		(0.5-1.0)		(1.0-1.5)		(1.5-2.0)		(2.0-2.5)		(2.0-2.5)	
Sample Date:	8/3/2012			8/15/2012		8/15/2012		8/15/2012		8/15/2012		8/15/2012		8/15/2012	
Sieve Number:	Bottom	10	200	Bottom	200	Bottom	200	Bottom	200	Bottom	200	Bottom	200	Bottom	200
Alkylated PAHs (mg/kg)															
Acenaphthene	**7.69136**	**102.44108**	**5.7249**	**5.75518**	**4.35621**	**4.99198**	**2.97817**	**4.41301**	**5.43507**	**9.93299**	**7.05804 J**	**60.13153 J**	**33.76806 J**	**10.21292 J**	**5.31803 J**
Acenaphthylene	**3.9288**	**27.97993**	**1.4937**	**9.26138**	**9.58776**	**8.69099**	**7.01873**	**7.48016**	**13.13529**	**10.49397**	**11.07536 J**	**14.104**	**11.88804 J**	**10.12796**	**7.06231 J**
Anthracene	**13.60167**	**194.83024**	**10.06128**	**12.49479**	**10.33399**	**11.26704**	**7.95681**	**11.72016**	**18.21746**	**19.97159**	**14.90178 J**	**39.90909 J**	**26.78554 J**	**16.32343 J**	**9.13165 J**
Benz[a]anthracene	**18.61212**	**409.17301**	**19.7381**	**24.63794**	**24.2222**	**22.24056**	**18.30428**	**20.36932**	**29.0459**	**32.95188**	**28.96296 J**	**42.42337**	**34.15584 J**	**29.65411**	**20.33939 J**
Benzo[a]pyrene	**13.48046**	**346.47458**	**15.8703**	**19.44937**	**21.04454**	**17.97616**	**16.23021**	**17.13402**	**24.31134**	**24.94768**	**24.55063 J**	**29.69346**	**27.25125**	**21.071**	**17.18266**
Benzo[b]fluoranthene	**10.53915**	**340.64245**	**14.13773**	**12.41076**	**11.75964**	**12.13501**	**9.06026**	**10.35492**	**14.23559**	**14.08372**	**13.64756 J**	**20.0798**	**16.91135 J**	**14.35821**	**9.95144 J**
Benzo[e]pyrene	**9.4325**	**238.45503**	**10.90921**	**12.81174**	**11.72299**	**12.1689**	**9.38363**	**10.70021**	**14.77579**	**14.48664**	**13.9604 J**	**19.44034**	**16.01145**	**14.32682**	**10.13849**
Benzo[g,h,i]perylene	**5.11905**	**234.94245**	**6.46406**	**9.24707**	**8.49184**	**9.09814**	**6.67303**	**6.56429 J**	**7.67518 J**	**9.4051**	**10.25338 J**	**11.9734**	**11.25221 J**	**8.72071**	**6.41649 J**
Benzo[k]fluoranthene	**12.2999**	**349.27793**	**15.60415**	**14.91899**	**13.48629**	**13.24188**	**10.64135**	**12.08058**	**18.38527**	**17.27571**	**16.21702 J**	**22.08876**	**18.07729**	**16.92135**	**12.27784**
1,1-Biphenyl	**0.44175**	**11.62619**	**1.15651**	**0.31821**	**0.25392**	**0.35212**	**0.20858**	**0.28401**	**0.35245**	**0.4841**	**0.34585 J**	**7.04852 J**	**4.06 J**	**0.78501 J**	**0.43833 J**
Chrysene	**20.05639**	**378.2322**	**19.60972**	**26.00118**	**24.06557**	**22.57584**	**18.35956**	**21.04456**	**29.02758**	**32.40166**	**28.17106 J**	**42.04485**	**33.80848 J**	**29.35932**	**19.93847 J**
C1-Chrysenes	**18.094**	**118.58395**	**11.61223**	**26.90746**	**26.44023**	**25.41844**	**21.89121**	**20.58368**	**35.02508**	**32.32838**	**31.72656 J**	**53.5484 J**	**37.12122 J**	**29.49016 J**	**21.30091 J**
C2-Chrysenes	**10.15986**	**32.77684**	**5.2635**	**15.1331**	**15.14115**	**14.77938**	**12.62078**	**11.65604**	**16.71205**	**17.49911**	**18.01038 J**	**29.83746 J**	**21.61529 J**	**15.65327 J**	**11.55941 J**
C3-Chrysenes	**4.92755**	**20.22548**	**2.71574**	**7.43343**	**7.49429**	**7.50546**	**6.35382**	**5.72834**	**8.0103**	**8.45061**	**8.82444 J**	**14.60131 J**	**11.07973 J**	**7.71575 J**	**5.61568 J**
C4-Chrysenes	**2.48486**	**10.88382**	**1.58249**	**3.43671**	**3.3032**	**3.29471**	**2.66397**	**2.63757**	**3.45954**	**3.8424**	**3.76576 J**	**6.54016 J**	**4.93635 J**	**3.34198 J**	**2.48284 J**
Dibenz[a,h]anthracene	**1.86051**	**44.14587**	**2.52284**	**2.7471**	**2.74004**	**2.73927**	**2.09743**	**2.01224 J**	**2.44019 J**	**2.90389**	**3.19312 J**	**4.03595**	**3.74975 J**	**2.83552**	**2.15555 J**
Dibenzofuran	**1.94248**	**72.89243**	**5.39384**	**0.88657**	**0.77972**	**0.6734**	**0.38951**	**0.4282**	**0.56117**	**1.31092**	**0.92308 J**	**18.87612 J**	**10.18177 J**	**1.8511 J**	**0.95402 J**
Dibenzothiophene	**5.33278**	**56.02842**	**3.93471**	**3.31572**	**2.3679**	**2.8995**	**1.82955**	**2.42838**	**3.17296**	**4.41505**	**3.27703 J**	**17.48278 J**	**9.93793 J**	**3.77188 J**	**2.08341 J**
C1-Dibenzothiophenes	**11.65156**	**33.69686**	**4.8339**	**9.06573**	**6.77208**	**8.28683**	**5.75332**	**7.67031**	**10.54292**	**14.06477**	**10.45992 J**	**31.63615 J**	**18.37132 J**	**11.67366 J**	**6.50193 J**
C2-Dibenzothiophenes	**13.95547**	**25.64951**	**5.29953**	**15.45958**	**12.41593**	**14.00618**	**10.56936**	**13.08062**	**18.90454**	**22.8905**	**17.47007 J**	**38.64106 J**	**23.94755 J**	**18.94618 J**	**10.97088 J**
C3-Dibenzothiophenes	**8.85837**	**12.95072**	**3.42906**	**11.10084**	**9.96111**	**9.89864**	**8.17076**	**9.29847**	**14.9476**	**16.48965**	**12.88871 J**	**26.12337 J**	**16.60897 J**	**13.71162 J**	**8.48228 J**
C4-Dibenzothiophenes	**3.33638**	**3.7818**	**1.35947**	**4.24416**	**3.80497**	**3.64749**	**3.19133**	**3.6011**	**6.69317**	**6.36892**	**4.78661 J**	**8.88626 J**	**5.74033 J**	**5.2492 J**	**3.101 J**
Fluoranthene	**32.68028**	**1005.12471**	**42.15851**	**39.75416**	**31.64074**	**34.72208**	**23.00987**	**33.1852**	**41.68574**	**55.8843**	**39.14382 J**	**83.09917**	**62.51958 J**	**54.50657**	**30.10193 J**
C1-Fluoranthenes/pyrenes	**33.65654**	**239.4635**	**21.86026**	**61.13442**	**55.42853**	**49.86045**	**43.36265**	**53.05528**	**119.23478**	**82.35121**	**67.03842 J**	**130.12523 J**	**84.44381 J**	**75.64261 J**	**46.27411 J**
C2-Fluoranthenes/pyrenes	**19.20172**	**178.86488**	**17.14146**	**32.06854**	**32.07524**	**27.90407**	**25.8931**	**28.35073**	**65.25512**	**42.99848**	**37.1524 J**	**69.33464 J**	**47.22818 J**	**37.93938 J**	**25.14052 J**
C3-Fluoranthenes/pyrenes	**9.31084**	**55.29757**	**7.42798**	**17.07943**	**17.24186**	**14.36345**	**13.96536**	**14.78393**	**34.55832**	**22.65651**	**19.36455 J**	**36.39409 J**	**24.83062 J**	**19.78681 J**	**13.21439 J**
C4-Fluoranthenes/Pyrenes	**3.27723**	**21.10075**	**3.12401**	**5.00444**	**5.0694**	**4.60175**	**4.21549**	**4.20532**	**10.68221**	**6.99896**	**6.01214 J**	**10.85593 J**	**7.12139 J**	**5.98704 J**	**3.94236 J**
Fluorene	**7.12604**	**110.58923**	**6.18321**	**1.3589**	**1.47724**	**1.7202**	**1.08152**	**1.08555**	**1.86917**	**2.57905**	**2.14084 J**	**37.96991 J**	**20.53084 J**	**3.84403 J**	**2.05298 J**
C1-Fluorenes	**8.91611**	**34.9428**	**3.68837**	**6.88187**	**5.52638**	**6.30487**	**4.54656**	**5.85093**	**7.96695**	**10.95166**	**8.74926 J**	**35.51136 J**	**20.03151 J**	**9.24802 J**	**5.33395 J**
C2-Fluorenes	**11.88239**	**32.89297**	**5.15832**	**11.79795**	**9.60136**	**10.36739**	**7.9328**	**10.56459**	**14.4644**	**18.97212**	**14.0056 J**	**37.72663 J**	**22.40689 J**	**14.9649 J**	**8.55901 J**
C3-Fluorenes	**9.38756**	**63.44464**	**5.67379**	**10.28832**	**8.06819**	**9.11052**	**6.77246**	**8.18202**	**12.17046**	**15.87104**	**11.11375 J**	**26.43841 J**	**16.56153 J**	**12.46697 J**	**7.00875 J**
Indeno[1,2,3-cd]pyrene	**6.30009**	**273.37647**	**8.64351**	**9.4316**	**8.98646**	**9.06356**	**6.99514**	**6.96882 J**	**8.39056 J**	**9.91022**	**10.66447 J**	**12.54516**	**12.16702 J**	**9.40625**	**7.11835 J**
Naphthalene	**3.92152**	**118.34973**	**14.44448**	**3.03129**	**2.37881**	**2.77626**	**1.80317**	**2.43093**	**3.2416**	**5.12237**	**3.82414 J**	**22.47535 J**	**16.66675 J**	**5.24537 J**	**3.42988 J**
C1-Naphthalenes	**5.62148**	**62.00288**	**7.16703**	**1.87183**	**1.57609**	**2.1065**	**1.36581**	**1.5719**	**2.19103**	**2.99653**	**2.32911 J**	**31.76915 J**	**18.27849 J**	**3.86463 J**	**2.24292 J**
C2-Naphthalenes	**13.83867**	**69.21624**	**7.73433**	**5.82047**	**4.58915**	**6.04393**	**3.75632**	**4.73001**	**6.04478**	**9.67466**	**7.69451 J**	**81.78549 J**	**44.05337 J**	**10.41706 J**	**5.65113 J**
C3-Naphthalenes	**18.4323**	**54.36559**	**7.37383**	**9.90274**	**7.32055**	**9.35937**	**6.17255**	**8.26555**	**10.21746**	**15.02405**	**11.51719 J**	**60.77126 J**	**33.79025 J**	**13.24695 J**	**7.27899 J**
C4-Naphthalenes	**13.84382**	**27.1855**	**4.8575**	**9.05352**	**6.80173**	**8.60312**	**5.87443**	**8.08732**	**9.57407**	**14.84518**	**10.6428 J**	**32.29733 J**	**18.20153 J**	**11.87872 J**	**6.45556 J**
Perylene	**3.9066**	**102.80296**	**4.0827**	**4.15137**	**3.75429**	**3.94747**	**2.98208**	**3.18365**	**4.38883**	**4.56271**	**4.57926 J**	**6.63184**	**5.59304 J**	**4.40985**	**3.20053 J**
Phenanthrene	**40.49963**	**965.7738**	**47.54054**	**7.01194**	**8.82413**	**8.77739**	**7.01421**	**6.11508**	**15.30471**	**14.77605**	**13.65988 J**	**120.19576 J**	**79.89528 J**	**16.92838 J**	**9.90051 J**
C1-Phenanthrenes/anthracenes	**48.98537**	**258.13213**	**26.83766**	**37.01421**	**30.79151**	**33.00391**	**25.63039**	**32.06561**	**56.4245**	**57.49404**	**46.12222 J**	**149.3464 J**	**85.32299 J**	**49.32654 J**	**28.73531 J**
C2-Phenanthrenes/anthracenes	**37.59734**	**117.90403**	**17.26752**	**46.71877**	**39.54081**	**40.64445**	**33.31306**	**40.31412**	**70.19341**	**68.3277**	**53.71316 J**	**122.44781 J**	**74.91306 J**	**57.58015 J**	**34.67985 J**
C3-Phenanthrenes/anthracenes	**18.39058**	**43.89539**	**10.03161**	**26.33302**	**23.01002**	**23.09414**	**19.6946**	**22.27349**	**36.96271**	**37.84523**	**29.94688 J**	**61.13012 J**	**38.8303 J**	**30.9192 J**	**19.75977 J**
C4-Phenanthrenes/anthracenes	**5.94773**	**10.54066**	**1.81403**	**9.20237**	**8.3652**	**7.8186**	**6.79016**	**7.46479**	**14.91612**	**12.39184**	**10.28831 J**	**19.65471 J**	**12.82544 J**	**10.77044 J**	**6.67066 J**
Pyrene	**37.29317**	**766.27113**	**35.72516**	**46.39453**	**36.79483**	**41.49444**	**28.40368**	**39.90199**	**47.51914**	**66.67623**	**47.56238 J**	**91.48259**	**67.12342 J**	**59.22686**	**33.38319 J**

Table 3
Summary of Analytical Fractionated Results
Phase I Sediment Cores
Gowanus Canal
Brooklyn, New York

Sample Name:	GC-SED-523		GC-SED-523		GC-SED-523	
Sample Depth (feet):	(2.5-3.0)		(3.0-3.5)		(3.5-4.0)	
Sample Date:	8/15/2012		8/15/2012		8/15/2012	
Sieve Number:	Bottom	200	Bottom	200	Bottom	200
Alkylated PAHs (mg/kg)						
Acenaphthene	**36.45342**	**13.18275**	**29.44848**	**7.19006**	**17.75497**	**5.00079**
Acenaphthylene	**14.94764**	**5.88365**	**12.04182**	**3.72832**	**9.99924**	**3.69217**
Anthracene	**28.88039**	**11.96095**	**30.60083**	**8.27268**	**25.445**	**8.11656**
Benz[a]anthracene	**45.75038**	**21.42213**	**38.60639**	**11.58846**	**33.87533**	**13.47959**
Benzo[a]pyrene	**32.03031**	**17.21133**	**26.32397**	**8.85409**	**23.23011**	**9.19695**
Benzo[b]fluoranthene	**21.10014**	**10.9411**	**16.08242**	**5.18756**	**14.14995**	**5.12058**
Benzo[e]pyrene	**21.02007**	**10.61576**	**17.1126**	**5.53036**	**15.12984**	**5.73831**
Benzo[g,h,i]perylene	**14.33752**	**7.05767**	**11.39226**	**3.98752**	**9.57107**	**3.95921**
Benzo[k]fluoranthene	**22.86706**	**12.65902**	**19.5957**	**6.03335**	**17.81982**	**6.28523**
1,1-Biphenyl	**1.84803**	**0.71942**	**2.12356**	**0.61757**	**1.77856**	**0.57761**
Chrysene	**44.88717**	**21.47026**	**40.47034**	**12.09766**	**35.36746**	**14.1425**
C1-Chrysenes	**51.88949**	**23.99898**	**48.13849**	**14.8436**	**41.10259**	**15.62627**
C2-Chrysenes	**31.56078**	**14.2318**	**29.14501**	**9.40046**	**24.39185**	**9.82638**
C3-Chrysenes	**16.15924**	**7.45898**	**14.1929**	**4.8594**	**11.96073**	**5.17055**
C4-Chrysenes	**7.20541**	**3.30009**	**6.33024**	**2.20625**	**5.39631**	**2.20741**
Dibenz[a,h]anthracene	**4.63076**	**2.31746**	**3.64306**	**1.37473**	**3.05976**	**1.30349**
Dibenzofuran	**3.41657**	**1.49424**	**2.75137**	**0.69889**	**2.74838**	**0.74415**
Dibenzothiophene	**11.89954**	**4.71036**	**12.8943**	**3.34596**	**9.89409**	**2.96596**
C1-Dibenzothiophenes	**28.21397**	**11.06489**	**28.77124**	**7.80086**	**23.84964**	**7.80078**
C2-Dibenzothiophenes	**37.8701**	**15.0211**	**39.28564**	**10.46479**	**34.92101**	**11.20888**
C3-Dibenzothiophenes	**26.30418**	**10.6851**	**28.16698**	**7.51028**	**25.56097**	**8.08998**
C4-Dibenzothiophenes	**9.53692**	**4.1252**	**10.56493**	**2.82921**	**9.88917**	**3.04699**
Fluoranthene	**81.61469**	**36.1304**	**70.84164**	**15.96728**	**55.60956**	**18.00314**
C1-Fluoranthenes/pyrenes	**115.92973**	**52.83762**	**109.29046**	**30.51625**	**95.68289**	**32.27018**
C2-Fluoranthenes/pyrenes	**64.94489**	**30.88439**	**63.781**	**18.41416**	**54.93024**	**19.51789**
C3-Fluoranthenes/pyrenes	**35.39671**	**16.80743**	**33.54699**	**9.90536**	**29.42517**	**10.90911**
C4-Fluoranthenes/Pyrenes	**9.91759**	**5.09174**	**10.00934**	**3.00155**	**8.54536**	**3.31322**
Fluorene	**3.89953**	**1.83149**	**4.82438**	**1.27649**	**4.55018**	**1.38904**
C1-Fluorenes	**24.81165**	**9.60526**	**23.79797**	**6.59827**	**19.71428**	**6.38317**
C2-Fluorenes	**34.34308**	**13.58902**	**34.79724**	**9.55965**	**29.97925**	**9.89296**
C3-Fluorenes	**25.15268**	**9.96828**	**27.9414**	**7.22064**	**24.91697**	**7.54345**
Indeno[1,2,3-cd]pyrene	**14.89944**	**7.80933**	**11.37829**	**4.12239**	**10.11128**	**4.15991**
Naphthalene	**14.39749**	**5.82413**	**9.20225**	**2.96171**	**9.03884**	**3.38903**
C1-Naphthalenes	**20.6158**	**7.40874**	**12.65124**	**3.67094**	**8.68828**	**3.10604**
C2-Naphthalenes	**43.92612**	**15.67725**	**34.20641**	**9.48458**	**27.67683**	**9.05911**
C3-Naphthalenes	**48.10662**	**17.92182**	**44.70082**	**12.69592**	**38.81532**	**12.46148**
C4-Naphthalenes	**30.38836**	**11.49833**	**32.04051**	**8.79392**	**30.37333**	**9.3554**
Perylene	**6.92137**	**3.57625**	**6.49003**	**1.88594**	**5.73761**	**1.95901**
Phenanthrene	**59.57612**	**26.396**	**74.29257**	**16.97609**	**51.65082**	**19.46592**
C1-Phenanthrenes/anthracenes	**115.62662**	**48.39534**	**124.61117**	**33.88362**	**103.34754**	**34.81742**
C2-Phenanthrenes/anthracenes	**112.90248**	**46.74697**	**117.79265**	**31.80324**	**102.79326**	**33.64165**
C3-Phenanthrenes/anthracenes	**58.94462**	**24.88496**	**63.5932**	**16.82072**	**55.87441**	**18.12063**
C4-Phenanthrenes/anthracenes	**19.75127**	**8.56664**	**21.19839**	**5.77919**	**19.72959**	**6.16495**
Pyrene	**92.35429**	**39.61833**	**94.10313**	**20.81425**	**70.80677**	**24.29492**

Table 3
Summary of Analytical Fractionated Results
Phase I Sediment Cores
Gowanus Canal
Brooklyn, New York

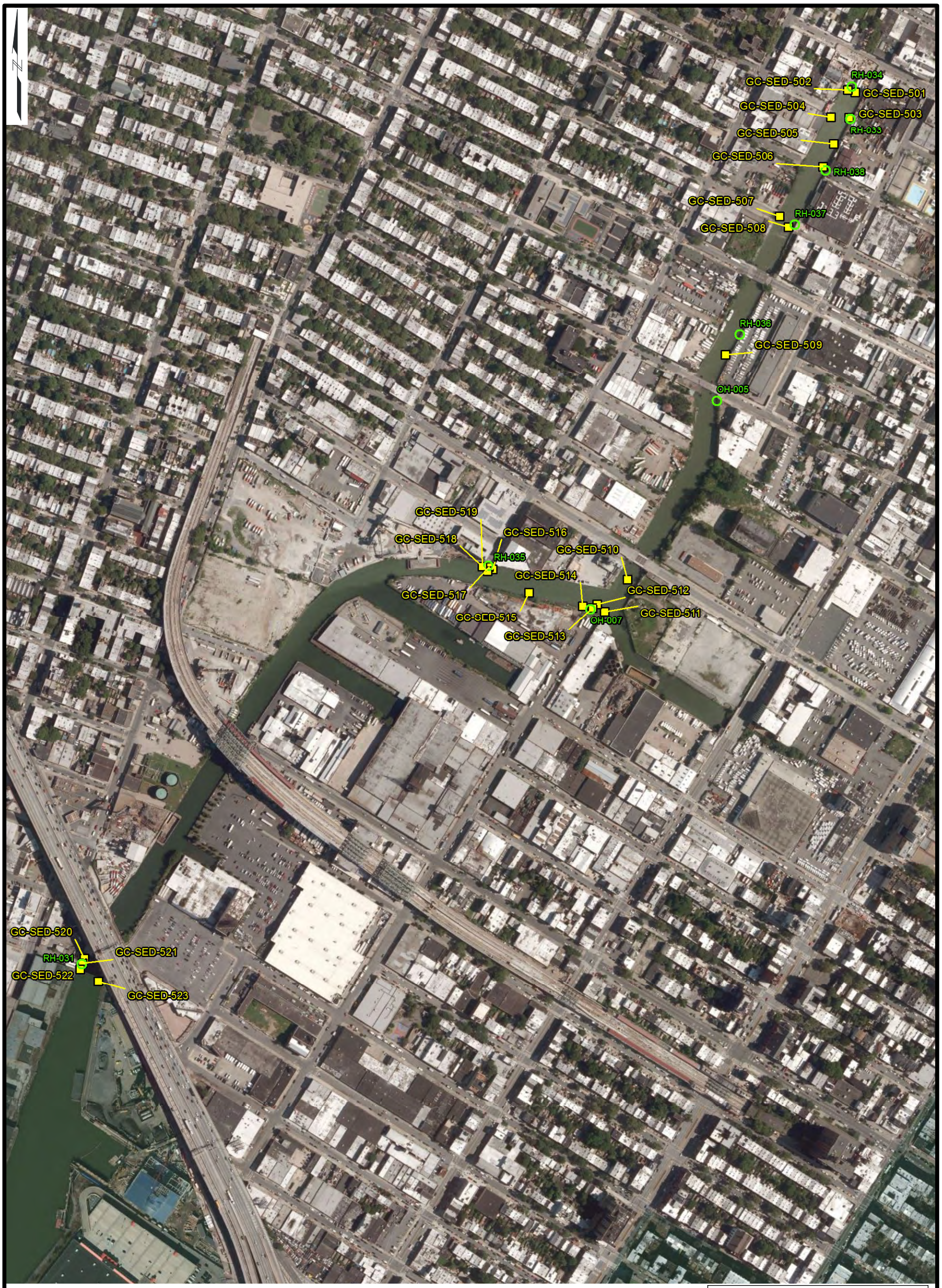
Notes:

mg/kg - milligrams/kilogram or parts per million (ppm)
PAHs - polycyclic aromatic hydrocarbons

Bolding indicates a detected concentration

Validation Qualifiers:
J - estimated value
U - indicates not detected to the reporting limit

Figure



NOTES:

1. MULTIPLE SEDIMENT CORES WERE COLLECTED FROM EACH SAMPLE LOCATION TO FUFILL VOLUME REQUIREMENTS. CORES WERE COLLECTED WITHIN A 6' RADIUS OF LOCATIONS SHOWN.

SOURCES:

1. AERIAL PHOTOGRAPH BING MAPS © 2010 MICROSOFT CORP. AND ITS SUPPLIERS ACCESSED VIA ARCGIS ONLINE: (http://www.arcgis.com)

LEGEND

- SEDIMENT CORE SAMPLE
- CSO OUTFALLS

0 200 400 800

SCALE, FEET

CSO INVESTIGATION – SEDIMENT CORES AND ANALYTICAL RESULTS
GOWANUS CANAL
BROOKLYN, NEW YORK

nationalgrid

GEI Consultants

SEDIMENT SAMPLE LOCATIONS

Project 093010-6-1608 | April 2013 | Figure 1

J:\Projects\National_Grid\Gowanus\CSO_Sampling\2012\Sediment_Core_Locations.mxd

Appendix A

Sediment Core Logs

Table A-1
CSO Sediment Cores PID Data Summary

Core Sample Location	Core ID	Date	Recovery (ft)	PID measurements (ppm) by depth							
				0-0.5'	0.5-1.0'	1.0-1.5'	1.5-2.0'	2.0-2.5'	2.5-3.0'	3.0-3.5'	3.5-4.0'
GC-SED-501	A-3	8/6/2012	3.3	1.8	5.6	15.5	39.4	1.7	0.6	0.6	--
	A-4	8/6/2012	3.2	12.5	3.7	6.2	16.9	1.8	**1.4**	**1.3**	--
	A-5	8/6/2012	2.3	**79.1**	**11.9**	**44.1**	**46.5**	**2.6**	--	--	--
GC-SED-502	A-3A[a]	8/6/2012	2.5	10.4	0.6	1.0	0.9	--	--	--	--
	A-3B[a]	8/6/2012	3.0	--	--	--	--	1.8	2.5	**7.2**	1.0
	A-4	8/6/2012	4.3	**21.7**	**15.2**	6.0	1.8	**3.6**	1.2	2.6	1.7
	A-5	8/6/2012	4.2	1.9	2.2	**11.1**	**2.0**	2.4	1.8	2.6	**3.6**
	A-6	8/6/2012	4.5	16.4	1.8	3.2	1.8	1.8	**4.1**	2.0	2.8
GC-SED-503	A-3	8/8/2012	4.5	2.8	0.6	0.5	0.5	0.7	0.7	1.5	**1.2**
	A-4	8/8/2012	4.1	1.0	0.7	**0.7**	0.7	0.5	2.1	0.7	0.4
	A-5	8/8/2012	5.4	**4.7**	**0.7**	0.3	**1.3**	**1.8**	**5.7**	**2.1**	1.1
GC-SED-504	A-1	8/8/2012	4.5	3.4	**3.4**	**1.2**	**1.8**	0.6	0.6	**0.7**	0.6
	A-2	8/8/2012	5.1	**18.8**	0.6	1.2	0.9	0.7	0.7	0.6	0.7
	A-3	8/8/2012	4.5	1.3	1.6	0.7	0.8	**0.9**	**0.8**	0.6	**1.8**
	A-4	8/8/2012	5.1	0.7	1.3	0.8	0.8	0.7	0.8	0.6	1.5
GC-SED-505	A-1	8/8/2012	4.6	1.4	1.9	0.2	0.5	0.2	**0.4**	**0.4**	0.2
	A-2	8/8/2012	5.1	1.3	2.8	0.4	0.2	0.2	0.2	0.2	0.2
	A-3	8/8/2012	4.5	**12.9**	**7.8**	**1.0**	**1.0**	**0.2**	0.3	0.2	**0.4**
GC-SED-506	A-1	8/7/2012	4.1	0.7	0.0	0.5	0.4	0.8	2.4	3.2	7.2
	A-3	8/7/2012	5.0	1.8	0.3	0.2	0.3	**2.5**	**7.6**	4.2	**13.0**
	A-4	8/7/2012	5.2	**9.1**	**0.8**	**0.5**	**0.5**	1.9	2.9	**5.6**	6.4
GC-SED-507	A-4	8/6/2012	3.2	**12.8**	12.7	3.0	1.0	1.4	0.0	**0.1**	--
	A-6	8/6/2012	2.6	6.8	11.2	13.8	18.1	**19.9**	--	--	--
	A-7	8/6/2012	3.1	8.1	**81.2**	**33.5**	**29.9**	6.8	**2.5**	--	--
GC-SED-508	A-4	8/7/2012	4.6	1.2	**6.0**	3.0	3.5	**5.3**	1.8	**4.7**	**9.6**
	A-5	8/7/2012	4.8	**3.4**	0.8	0.5	0.7	5.0	**4.2**	2.0	1.6
	A-6	8/7/2012	4.3	1.0	1.8	**6.7**	**3.7**	1.9	1.7	3.3	3.3
GC-SED-509	A-1	8/16/2012	5.0	93.2	17.2	12.9	18.1	21.5	13.7	17.2	18.1
	A-2	8/16/2012	5.3	22.6	26.6	13.7	**52.8**	18.1	19.8	15.5	23.2
	A-3	8/16/2012	5.3	**3681**	**326**	**92.2**	46	**27.5**	**40.1**	**40.1**	**61.2**
GC-SED-510	A-2	8/13/2012	5.0	23.6	8.2	9.7	6.7	4.1	6.3	6.5	6.5
	A-3	8/13/2012	4.2	27.4	23.6	13.6	7.9	8.2	**10.0**	6.1	6.3
	A-4	8/13/2012	5.1	**104**	**35.4**	**32.2**	**7.9**	**9.1**	6.3	6.5	5.7
	A-6	8/13/2012	5.0	21.7	21.4	3.0	2.8	3.9	3.3	**7.0**	**8.0**
GC-SED-511	A-2	8/13/2012	1.1	**94.3**	27.3	--	--	--	--	--	--
	A-3	8/13/2012	2.0	36.6	**91.6**	**59.5**	**45.2**	--	--	--	--
GC-SED-512	A-1	8/9/2012	4.7	**37.2**	0.0	1.5	3.2	4.4	4.1	1.2	2.7
	A-2	8/9/2012	3.9	7.9	3.7	6.8	**9.8**	2.1	1.6	2.4	**50.7**
	A-3	8/9/2012	4.2	22.8	7.6	**9.3**	9.2	**10.8**	**6.5**	0.8	2.5
	A-4	8/9/2012	3.9	32	**9.5**	8.6	4.1	4.9	2.5	**8.3**	19.5
GC-SED-513	A-2	8/9/2012	3.5	10.6	1.2	0.0	0.0	0.6	**0.8**	0.5	--
	A-4	8/9/2012	4.3	**30.1**	**7.0**	**4.2**	0.3	0.7	0.0	**8.0**	**1.3**
	A-5	8/9/2012	2.5	6.7	0.9	2.7	**2.6**	**3.8**	--	--	--
GC-SED-514	A-2	8/14/2012	3.6	**7.5**	0	1.9	2.9	**0.8**	0.0	0.0	--
	A-3	8/14/2012	3.4	6.9	**3.1**	**3.7**	**4.5**	0.5	**0.1**	**0.0**	--
GC-SED-515	A-1	8/14/2012	5.4	0.6	**4.4**	**11.3**	10.4	**11.9**	9.2	**12.8**	12.3
	A-2	8/14/2012	5.4	4.7	2.0	7.6	**11**	9.8	10.0	11.6	7.7
	A-3	8/14/2012	5.4	**27.3**	1.8	8.3	10.3	10.9	**10.4**	12.6	**13.0**
GC-SED-516	A-5	8/9/2012	4.3	32.0	7.3	0.0	4.6	**8.8**	**29.0**	**31.9**	**14.6**
	A-7	8/9/2012	2.7	**48.4**	0.0	2.6	0.8	7.7	11.6	--	--
	A-8	8/9/2012	2.3	13.3	**9.5**	**14.1**	**12.3**	8.2	--	--	--
GC-SED-517	A-1	8/2/2012	1.0	**3.8, 4.4**	**9.7**	--	--	--	--	--	--
	A-3	8/2/2012	2.0	1.5	5.4	1	0.3	--	--	--	--
	A-4	8/13/2012	2.2	81.1[b]	70.6[b]	**18.1**	**49**				

Table A-1
CSO Sediment Cores PID Data Summary

GC-SED-518	A-1	8/2/2012	3.5	3.9	2.7	**3.3**	0.0	0.7	2.6	0.8	0.1
	A-2	8/2/2012	4.0	**7.1**	2.0	0.9	0.4	**6.5**	1.7	0.0	**3.6**
	A-3	8/2/2012	4.0	6.4	**5.4**	2.6	**3.5**	4.5	**8.3**	**2.9**	0.8
	A-4[c]	8/16/2012	NA	NA	NA	NA	NA	NA	NA	NA	NA
GC-SED-519	A-1	8/2/2012	3.3	3.6	**44.2**	**10.3**	**8.2**	**19.9**	**9.2**	**3.4**	--
	A-2	8/2/2012	3.5	**27.9**	9.5	4.2	1.5	1.9	2.2	0.0	--
GC-SED-520	A-1	8/3/2012	4.1	1.1	0.4	0.3	0.0	0.0	0.6	0.6	0.3
	A-2	8/3/2012	4.1	**1.5**	0.0	0.0	0.0	1.1	**1.8**	0.0	**0.5**
	A-3	8/3/2012	4.2	1.0	**5.5**	**34.4**	**13.1**	**1.3**	1.2	**0.9**	0.4
GC-SED-521	A-1	8/3/2012	4.2	3.0	3.3	3.5	0.8	1.3	0.7	3.9	0.5
	A-2	8/3/2012	3.0	3.3	**5.6**	3.9	**4.9**	1.7	0.8	--	--
	A-3	8/3/2012	3.9	**3.6**	1.6	1.5	1.1	0.5	1.3	0.9	0.3
	A-6	8/3/2012	4.7	3.0	4.1	**4.9**	3.3	**5.1**	**4.2**	**4.4**	**7.9**
GC-SED-522	A-1	8/3/2012	3.5	1.6	3.5	**3.7**	5.0	0.1	1.6	0.0	--
	A-4	8/3/2012	3.6	3.2	2.6	1.1	0.2	**3.7**	3.1	**1.6**	0.2
	A-5	8/3/2012	3.7	**4.6**	**4.7**	0.5	**7.3**	3.3	**7.4**	0.9	**7.0**
GC-SED-523	A-1	8/15/2012	4.8	12.3	27.4	2	0.7	0.2	0.2	4.3	1.0
	A-2	8/15/2012	5.0	**14.1**	**76.4**	2.3	0.4	1.3	**10.0**	**6.5**	0.3
	A-3	8/15/2012	4.6	10.2	11	**3.1**	**2.2**	**3.6**	9.4	1.4	**3.5**

Notes.
ft - feet
PID - Photoionization Detector
ppm - parts per million
PID measurements were collected from cores to a maximum depth of 4 feet.
-- no recovery, no measurement
NA - not available

Bolding indicates the highest PID measurement and the core from which the VOC samples were collected at that interval.

a. GC-SED-502 A-3 was cut into two sections prior to receiving it from the boat.

b. There was not enough volume for the full suite of analyses from cores GC-SED-517 A-1 and A-3 collected on 8/2/2012. Therefore, the A-4 core was collected on 8/13/2012 and sampled for the remaining analyses. The VOC samples were collected from the initial cores even though the PID measurements were higher in the A-4 core on 8/13/2012.

c. There was not enough volume for the full suite of analyses from cores GC-SED-518 A-1, A-2, and A-3 collected on 8/2/2012. Therefore, the A-4 core was collected on 8/16/2012 and sampled for the remaining analyses. The VOC samples were collected from the initial cores.

GEI Consultants, Inc.
455 Winding Brook Road
Glastonbury, CT 06033
(860) 368-5300

CLIENT: National Grid
PROJECT: Phase I - CSO Sediment Cores
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 093010-6-1608

BORING LOG
PAGE 1 of 1
GC-SED-501

GROUND SURFACE ELEVATION (FT): -3.51 **LOCATION:** Gowanus Canal
NORTHING (FT): 673628 **EASTING (FT):** 634435 **TOTAL DEPTH (FT):** 3.3
DRILLED BY: Ocean Surveys, Inc. / J. DeLorenzo **DATUM VERT. / HORZ.:** NAVD 88 / NAD 83
LOGGED BY: A. Malsbary **DATE START / END:** 8/3/2012 - 8/3/2012
DRILLING DETAILS:
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	STRATA	VISUAL IMPACTS	ODOR	SOIL / BEDROCK DESCRIPTION
	0					NLO	(0'- 1.2') SANDY ORGANIC SOIL (OL); ~60% fines, ~40% sand, fine to coarse; moderate naphthalene-like odor, wet, black, soft, leaf and organic fragments, sheen, tar staining.
-5						NLO	(1.2'- 1.5') NARROWLY GRADED SAND (SP); ~95% sand, medium to coarse, ~5% fines; moderate naphthalene-like odor, wet, black.
						NLO	(1.5'- 2.5') SANDY ORGANIC SOIL (OL); ~60% fines, ~40% sand, fine to coarse; moderate naphthalene-like odor, wet, black, soft, leaf and organic fragments, sheen, tar staining.
						NLO	(2.5'- 3.3') SANDY ORGANIC SOIL (OL); ~60% fines, ~40% sand, fine to coarse; moderate naphthalene-like odor, wet, black, soft, leaf and organic fragments, sheen.
							End of Boring at 3.3 feet.

NOTES:

PEN = PENETRATION LENGTH OF SAMPLER OR CORE BARREL
REC = RECOVERY LENGTH OF SAMPLE
PID = PHOTOIONIZATION DETECTOR READING (PPM)
JHS = JAR HEADSPACE PID READING (PPM)

NA = NOT APPLICABLE
NM = NOT MEASURED
Q_P = POCKET PENETROMETER
S_V = TORVANE PEAK

ppm = PARTS PER MILLION
IN. = INCHES
FT. = FEET

NLO = NAPHTHALENE LIKE ODOR
PLO = PETROLEUM LIKE ODOR
TLO = TAR LIKE ODOR
CLO = CHEMICAL LIKE ODOR
ALO = ASPHALT LIKE ODOR

CrLO= CREOSOTE LIKE ODOR
OLO = ORGANIC LIKE ODOR
SLO = SULFUR LIKE ODOR
MLO = MUSTY LIKE ODOR

ENVIRONMENTAL BORING LOG PHASE I - CSO SEDIMENT CORES.GPJ FULTON DATA TEMPLATE.GDT 12/13/12

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PROJECT: Phase I - CSO Sediment Cores
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 093010-6-1608

BORING LOG
PAGE 1 of 1
GC-SED-502

GROUND SURFACE ELEVATION (FT): -3.78 **LOCATION:** Gowanus Canal
NORTHING (FT): 673639 **EASTING (FT):** 634404 **TOTAL DEPTH (FT):** 4.0
DRILLED BY: Ocean Surveys, Inc. / J. DeLorenzo **DATUM VERT. / HORZ.:** NAVD 88 / NAD 83
LOGGED BY: A. Malsbary **DATE START / END:** 8/6/2012 - 8/6/2012
DRILLING DETAILS:
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	STRATA	VISUAL IMPACTS	ODOR	SOIL / BEDROCK DESCRIPTION
	0					OLO	(0'- 0.5') SILTY SAND (SM); ~60% sand, fine to coarse, ~40% fines; strong organic-like odor, saturated, black, very soft, leaves, organic fragments, hair-like fibers, plastic.
						NLO	(0.5'- 1.5') SILTY SAND (SM); ~60% sand, fine to coarse, ~40% fines; slight naphthalene-like odor, wet, black, soft, leaves, organic fragments, hair-like fibers, plastic.
-5						NLO	(1.5'- 2.5') SILTY SAND (SM); ~60% sand, fine to coarse, ~40% fines; slight naphthalene-like odor, wet, black, soft, leaves, organic fragments, hair-like fibers, plastic, tar staining.
						NLO	(2.5'- 2.9') SILTY SAND (SM); ~60% sand, fine to coarse, ~40% fines; slight naphthalene-like odor, wet, black, soft, leaves, organic fragments, hair-like fibers, plastic.
						NLO	(2.9'- 4') WIDELY GRADED SAND (SW); ~95% sand, fine to coarse, ~5% fines; slight naphthalene-like odor, wet, black, plastic fragments, lenses of organic soil.
							End of Boring at 4 feet.

NOTES:

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TLO = TAR LIKE ODOR
CLO = CHEMICAL LIKE ODOR
ALO = ASPHALT LIKE ODOR

CrLO= CREOSOTE LIKE ODOR
OLO = ORGANIC LIKE ODOR
SLO = SULFUR LIKE ODOR
MLO = MUSTY LIKE ODOR

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PROJECT: Phase I - CSO Sediment Cores
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 093010-6-1608

BORING LOG
PAGE 1 of 1
GC-SED-503

GROUND SURFACE ELEVATION (FT): -2.39 **LOCATION:** Gowanus Canal
NORTHING (FT): 673522 **EASTING (FT):** 634408 **TOTAL DEPTH (FT):** 4.0
DRILLED BY: Ocean Surveys, Inc. / J. DeLorenzo **DATUM VERT. / HORZ.:** NAVD 88 / NAD 83
LOGGED BY: A. Malsbary **DATE START / END:** 8/8/2012 - 8/8/2012
DRILLING DETAILS:
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	STRATA	VISUAL IMPACTS	ODOR	SOIL / BEDROCK DESCRIPTION
	0					NLO	(0'- 1') SILTY SAND (SM); ~75% sand, fine to coarse, ~25% fines; moderate naphthalene-like odor, wet, black, very soft, leaves and organic fragments, slight sheen.
						NLO	(1'- 1.8') NARROWLY GRADED SAND (SP); ~95% sand, fine to medium, ~5% fines; slight naphthalene-like odor, wet, black.
						NLO	(1.8'- 2') NARROWLY GRADED SAND (SP); ~95% sand, medium to coarse, ~5% fines; slight naphthalene-like odor, wet, black.
	-5					NLO	(2'- 4') ORGANIC SOIL (OL); ~90% fines, ~10% sand, fine; moderate naphthalene-like odor, wet, black, leaf and organic fragments.
							End of Boring at 4 feet.

NOTES:

PEN = PENETRATION LENGTH OF SAMPLER OR CORE BARREL
REC = RECOVERY LENGTH OF SAMPLE
PID = PHOTOIONIZATION DETECTOR READING (PPM)
JHS = JAR HEADSPACE PID READING (PPM)

NA = NOT APPLICABLE
NM = NOT MEASURED
Q_P = POCKET PENETROMETER
S_V = TORVANE PEAK

ppm = PARTS PER MILLION
IN. = INCHES
FT. = FEET

NLO = NAPHTHALENE LIKE ODOR
PLO = PETROLEUM LIKE ODOR
TLO = TAR LIKE ODOR
CLO = CHEMICAL LIKE ODOR
ALO = ASPHALT LIKE ODOR

CrLO= CREOSOTE LIKE ODOR
OLO = ORGANIC LIKE ODOR
SLO = SULFUR LIKE ODOR
MLO = MUSTY LIKE ODOR

ENVIRONMENTAL BORING LOG PHASE I - CSO SEDIMENT CORES.GPJ FULTON DATA TEMPLATE.GDT 12/13/12

GEI Consultants, Inc.
455 Winding Brook Road
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CLIENT: National Grid
PROJECT: Phase I - CSO Sediment Cores
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 093010-6-1608

BORING LOG
PAGE 1 of 1
GC-SED-504

GROUND SURFACE ELEVATION (FT): -6.80 **LOCATION:** Gowanus Canal
NORTHING (FT): 673524 **EASTING (FT):** 634331 **TOTAL DEPTH (FT):** 4.0
DRILLED BY: Ocean Surveys, Inc. / J. DeLorenzo **DATUM VERT. / HORZ.:** NAVD 88 / NAD 83
LOGGED BY: A. Malsbary **DATE START / END:** 8/8/2012 - 8/8/2012
DRILLING DETAILS:
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	STRATA	VISUAL IMPACTS	ODOR	SOIL / BEDROCK DESCRIPTION
	0					NLO	(0'- 1.4') ORGANIC SOIL (OL); ~90% fines, ~10% sand, fine; moderate naphthalene-like odor, saturated, black, very soft, leaves, plastic, organics, sheen.
						NLO	(1.4'- 2.8') ELASTIC SILT (MH); ~95% fines, low plasticity, ~5% sand, fine; strong naphthalene-like odor, wet, olive gray, very soft.
-10						NLO	(2.8'- 3.5') ELASTIC SILT (MH); ~95% fines, low plasticity, ~5% sand, fine; strong naphthalene-like odor, wet, olive gray, very soft, occassional sandy lenses with tar staining and blebs.
						NLO	(3.5'- 4') SILTY SAND (SM); ~65% sand, fine to coarse, ~35% fines; moderate naphthalene-like odor, wet, black, very soft, sheen, tar staining.
							End of Boring at 4 feet.

NOTES:

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JHS = JAR HEADSPACE PID READING (PPM)

NA = NOT APPLICABLE
NM = NOT MEASURED
Q_P = POCKET PENETROMETER
S_V = TORVANE PEAK

ppm = PARTS PER MILLION
IN. = INCHES
FT. = FEET

NLO = NAPHTHALENE LIKE ODOR
PLO = PETROLEUM LIKE ODOR
TLO = TAR LIKE ODOR
CLO = CHEMICAL LIKE ODOR
ALO = ASPHALT LIKE ODOR

CrLO= CREOSOTE LIKE ODOR
OLO = ORGANIC LIKE ODOR
SLO = SULFUR LIKE ODOR
MLO = MUSTY LIKE ODOR

ENVIRONMENTAL BORING LOG PHASE I - CSO SEDIMENT CORES.GPJ FULTON DATA TEMPLATE.GDT 12/13/12

GEI Consultants, Inc.
455 Winding Brook Road
Glastonbury, CT 06033
(860) 368-5300

CLIENT: National Grid
PROJECT: Phase I - CSO Sediment Cores
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 093010-6-1608

BORING LOG
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GC-SED-505

GROUND SURFACE ELEVATION (FT): -3.37 **LOCATION:** Gowanus Canal
NORTHING (FT): 673407 **EASTING (FT):** 634343 **TOTAL DEPTH (FT):** 4.0
DRILLED BY: Ocean Surveys, Inc. / J. DeLorenzo **DATUM VERT. / HORZ.:** NAVD 88 / NAD 83
LOGGED BY: A. Malsbary **DATE START / END:** 8/8/2012 - 8/8/2012
DRILLING DETAILS:
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	STRATA	VISUAL IMPACTS	ODOR	SOIL / BEDROCK DESCRIPTION
	0					NLO	(0'- 1.2') ORGANIC SOIL WITH SAND (OL); ~80% fines, ~20% sand, fine to coarse; slight naphthalene-like odor, saturated, black, very soft, many leaves and organics, sheen.
-5						NLO	(1.2'- 4') ORGANIC SOIL (OL); ~90% fines, ~10% sand, fine; slight naphthalene-like odor, wet, black, hair-like fibers, leaves and organics, fragment of aluminium.
							End of Boring at 4 feet.

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IN. = INCHES
FT. = FEET

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ALO = ASPHALT LIKE ODOR

CrLO= CREOSOTE LIKE ODOR
OLO = ORGANIC LIKE ODOR
SLO = SULFUR LIKE ODOR
MLO = MUSTY LIKE ODOR

ENVIRONMENTAL BORING LOG PHASE I - CSO SEDIMENT CORES.GPJ FULTON DATA TEMPLATE.GDT 12/13/12

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BORING LOG
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GC-SED-506

GROUND SURFACE ELEVATION (FT): -3.04 **LOCATION:** Gowanus Canal
NORTHING (FT): 673310 **EASTING (FT):** 634298 **TOTAL DEPTH (FT):** 4.0
DRILLED BY: Ocean Surveys, Inc. / J. DeLorenzo **DATUM VERT. / HORZ.:** NAVD 88 / NAD 83
LOGGED BY: A. Malsbary **DATE START / END:** 8/7/2012 - 8/7/2012
DRILLING DETAILS:
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	STRATA	VISUAL IMPACTS	ODOR	SOIL / BEDROCK DESCRIPTION
	0					NLO	(0'- 2') ORGANIC SOIL (OL); ~90% fines, ~10% sand, fine; moderate naphthalene-like odor, saturated, black, very soft, leaves, organics, and hair-like fibers, plastic fragments, sheen.
-5						NLO	(2'- 4') ORGANIC SOIL (OL); ~90% fines, ~10% sand, fine; moderate naphthalene-like odor, wet, black, soft, leaves, organics, and hair-like fibers, plastic fragments.
							End of Boring at 4 feet.

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Q_P = POCKET PENETROMETER
S_V = TORVANE PEAK

ppm = PARTS PER MILLION
IN. = INCHES
FT. = FEET

NLO = NAPHTHALENE LIKE ODOR
PLO = PETROLEUM LIKE ODOR
TLO = TAR LIKE ODOR
CLO = CHEMICAL LIKE ODOR
ALO = ASPHALT LIKE ODOR

CrLO= CREOSOTE LIKE ODOR
OLO = ORGANIC LIKE ODOR
SLO = SULFUR LIKE ODOR
MLO = MUSTY LIKE ODOR

ENVIRONMENTAL BORING LOG PHASE I - CSO SEDIMENT CORES.GPJ FULTON DATA TEMPLATE.GDT 12/13/12

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GEI PROJECT NUMBER: 093010-6-1608

BORING LOG
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GC-SED-507

GROUND SURFACE ELEVATION (FT): -9.47 **LOCATION:** Gowanus Canal
NORTHING (FT): 673097 **EASTING (FT):** 634111 **TOTAL DEPTH (FT):** 3.2
DRILLED BY: Ocean Surveys, Inc. / J. DeLorenzo **DATUM VERT. / HORZ.:** NAVD 88 / NAD 83
LOGGED BY: A. Malsbary **DATE START / END:** 8/6/2012 - 8/6/2012
DRILLING DETAILS:
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	STRATA	VISUAL IMPACTS	ODOR	SOIL / BEDROCK DESCRIPTION
	0						
-10						NLO	(0'- 2.2') ORGANIC SOIL WITH SAND (OL); ~75% fines, ~25% sand, fine to coarse; slight naphthalene-like odor, saturated, black, slight organic-like odor, very soft, leaves and organic fragments, sheen.
						NLO	(2.2'- 2.9') ORGANIC SOIL (OL); ~95% fines, ~5% sand, fine; slight naphthalene-like odor, wet, black, soft, sheen.
						NLO	(2.9'- 3.2') WIDELY GRADED SAND (SW); ~95% sand, fine to coarse, ~5% fines; slight naphthalene-like odor, wet, dark gray.
							End of Boring at 3.2 feet.

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Q_P = POCKET PENETROMETER
S_V = TORVANE PEAK

ppm = PARTS PER MILLION
IN. = INCHES
FT. = FEET

NLO = NAPHTHALENE LIKE ODOR
PLO = PETROLEUM LIKE ODOR
TLO = TAR LIKE ODOR
CLO = CHEMICAL LIKE ODOR
ALO = ASPHALT LIKE ODOR

CrLO= CREOSOTE LIKE ODOR
OLO = ORGANIC LIKE ODOR
SLO = SULFUR LIKE ODOR
MLO = MUSTY LIKE ODOR

ENVIRONMENTAL BORING LOG PHASE I - CSO SEDIMENT CORES.GPJ FULTON DATA TEMPLATE.GDT 12/13/12

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BORING LOG
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GC-SED-508

GROUND SURFACE ELEVATION (FT): -8.41 **LOCATION:** Gowanus Canal
NORTHING (FT): 673051 **EASTING (FT):** 634148 **TOTAL DEPTH (FT):** 4.0
DRILLED BY: Ocean Surveys, Inc. / J. DeLorenzo **DATUM VERT. / HORZ.:** NAVD 88 / NAD 83
LOGGED BY: A. Malsbary **DATE START / END:** 8/7/2012 - 8/7/2012
DRILLING DETAILS:
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	STRATA	VISUAL IMPACTS	ODOR	SOIL / BEDROCK DESCRIPTION
	0					OLO	(0'- 1') ORGANIC SOIL (OL); ~90% fines, ~10% sand, fine; slight organic-like odor, saturated, black, very soft, leaves, hair, organic fragments, sheen.
-10						NLO	(1'- 4') ORGANIC SOIL (OL); ~90% fines, ~10% sand, fine; slight naphthalene-like odor, saturated, black, slight organic-like odor, very soft, leaves, hair, organic fragments, sheen.
							End of Boring at 4 feet.

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S_V = TORVANE PEAK

ppm = PARTS PER MILLION
IN. = INCHES
FT. = FEET

NLO = NAPHTHALENE LIKE ODOR
PLO = PETROLEUM LIKE ODOR
TLO = TAR LIKE ODOR
CLO = CHEMICAL LIKE ODOR
ALO = ASPHALT LIKE ODOR

CrLO= CREOSOTE LIKE ODOR
OLO = ORGANIC LIKE ODOR
SLO = SULFUR LIKE ODOR
MLO = MUSTY LIKE ODOR

ENVIRONMENTAL BORING LOG PHASE I - CSO SEDIMENT CORES.GPJ FULTON DATA TEMPLATE.GDT 12/13/12

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PROJECT: Phase I - CSO Sediment Cores
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GEI PROJECT NUMBER: 093010-6-1608

BORING LOG
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GC-SED-509

GROUND SURFACE ELEVATION (FT): -7.98 **LOCATION:** Gowanus Canal
NORTHING (FT): 672506 **EASTING (FT):** 633878 **TOTAL DEPTH (FT):** 4.0
DRILLED BY: Ocean Surveys, Inc. / J. DeLorenzo **DATUM VERT. / HORZ.:** NAVD 88 / NAD 83
LOGGED BY: A. Malsbary **DATE START / END:** 8/16/2012 - 8/16/2012
DRILLING DETAILS:
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	STRATA	VISUAL IMPACTS	ODOR	SOIL / BEDROCK DESCRIPTION
	0					OLO	(0'- 2') ORGANIC SOIL (OL); ~95% fines, ~5% sand, fine; strong organic-like odor, saturated, black, very soft, spots of sheen.
-10						PLO	(2'- 5.3') ORGANIC SOIL (OL); ~90% fines, ~10% sand, fine; slight petroleum-like odor, wet, black, soft, leaves, organic fragments, hair-like fibers, plastic fragments.
							End of Boring at 4 feet.

NOTES:

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Q_P = POCKET PENETROMETER
S_V = TORVANE PEAK

ppm = PARTS PER MILLION
IN. = INCHES
FT. = FEET

NLO = NAPHTHALENE LIKE ODOR
PLO = PETROLEUM LIKE ODOR
TLO = TAR LIKE ODOR
CLO = CHEMICAL LIKE ODOR
ALO = ASPHALT LIKE ODOR

CrLO= CREOSOTE LIKE ODOR
OLO = ORGANIC LIKE ODOR
SLO = SULFUR LIKE ODOR
MLO = MUSTY LIKE ODOR

ENVIRONMENTAL BORING LOG PHASE I - CSO SEDIMENT CORES.GPJ FULTON DATA TEMPLATE.GDT 12/13/12

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GEI PROJECT NUMBER: 093010-6-1608

BORING LOG
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GC-SED-510

GROUND SURFACE ELEVATION (FT): -7.35 **LOCATION:** Gowanus Canal
NORTHING (FT): 671541 **EASTING (FT):** 633459 **TOTAL DEPTH (FT):** 4.0
DRILLED BY: Ocean Surveys, Inc. / J. DeLorenzo **DATUM VERT. / HORZ.:** NAVD 88 / NAD 83
LOGGED BY: A. Malsbary **DATE START / END:** 8/13/2012 - 8/13/2012
DRILLING DETAILS:
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	STRATA	VISUAL IMPACTS	ODOR	SOIL / BEDROCK DESCRIPTION
	0					OLO	(0'- 1') ORGANIC SOIL WITH SAND (OL); ~80% fines, ~20% sand, fine to coarse; strong organic-like odor, saturated, black, very soft, leaves, twigs, organic fragments, hair-like fibers.
						OLO	(1'- 2') ORGANIC SOIL WITH SAND (OL); ~80% fines, ~20% sand, fine to coarse; strong organic-like odor, wet, black, soft, leaves, twigs, organic fragments, hair-like fibers.
-10						PLO	(2'- 4') ORGANIC SOIL WITH SAND (OL); ~80% fines, ~20% sand, fine to coarse; slight petroleum-like odor, wet, black, strong organic-like odor, soft, leaves, twigs, organic fragments, hair-like fibers.
							End of Boring at 4 feet.

NOTES:

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Q_P = POCKET PENETROMETER
S_V = TORVANE PEAK

ppm = PARTS PER MILLION
IN. = INCHES
FT. = FEET

NLO = NAPHTHALENE LIKE ODOR
PLO = PETROLEUM LIKE ODOR
TLO = TAR LIKE ODOR
CLO = CHEMICAL LIKE ODOR
ALO = ASPHALT LIKE ODOR

CrLO= CREOSOTE LIKE ODOR
OLO = ORGANIC LIKE ODOR
SLO = SULFUR LIKE ODOR
MLO = MUSTY LIKE ODOR

ENVIRONMENTAL BORING LOG PHASE I - CSO SEDIMENT CORES.GPJ FULTON DATA TEMPLATE.GDT 12/13/12

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BORING LOG
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GC-SED-511

GROUND SURFACE ELEVATION (FT): -10.68 **LOCATION:** Gowanus Canal
NORTHING (FT): 671404 **EASTING (FT):** 633360 **TOTAL DEPTH (FT):** 2.0
DRILLED BY: Ocean Surveys, Inc. / J. DeLorenzo **DATUM VERT. / HORZ.:** NAVD 88 / NAD 83
LOGGED BY: A. Malsbary **DATE START / END:** 8/13/2012 - 8/13/2012
DRILLING DETAILS:
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	STRATA	VISUAL IMPACTS	ODOR	SOIL / BEDROCK DESCRIPTION
	0					NLO	(0'- 2') SILTY GRAVEL WITH SAND (GM); ~40% gravel, fine to coarse, ~35% sand, fine to coarse, ~25% fines; slight naphthalene-like odor, wet, black, slight petroleum-like odor, slight organic-like odor, sheen.
							End of Boring at 2 feet.

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IN. = INCHES
FT. = FEET

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PLO = PETROLEUM LIKE ODOR
TLO = TAR LIKE ODOR
CLO = CHEMICAL LIKE ODOR
ALO = ASPHALT LIKE ODOR

CrLO= CREOSOTE LIKE ODOR
OLO = ORGANIC LIKE ODOR
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ENVIRONMENTAL BORING LOG PHASE I - CSO SEDIMENT CORES.GPJ FULTON DATA TEMPLATE.GDT 12/13/12

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CLIENT: National Grid
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BORING LOG
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GC-SED-512

GROUND SURFACE ELEVATION (FT): -9.74 **LOCATION:** Gowanus Canal
NORTHING (FT): 671436 **EASTING (FT):** 633328 **TOTAL DEPTH (FT):** 4.0
DRILLED BY: Ocean Surveys, Inc. / J. DeLorenzo **DATUM VERT. / HORZ.:** NAVD 88 / NAD 83
LOGGED BY: A. Malsbary **DATE START / END:** 8/9/2012 - 8/9/2012
DRILLING DETAILS:
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	STRATA	VISUAL IMPACTS	ODOR	SOIL / BEDROCK DESCRIPTION
-10	0					NLO	(0'- 1.5') SANDY ORGANIC SOIL (OL); ~60% fines, ~40% sand, fine to coarse; moderate naphthalene-like odor, saturated, black, moderate organic-like odor, very soft, leaves, organic, and twig fragments, sheen.
						NLO	(1.5'- 2.5') SANDY ORGANIC SOIL (OL); ~60% fines, ~40% sand, fine to coarse; moderate naphthalene-like odor, wet, black, moderate organic-like odor, soft, leaves, organic, and twig fragments, sheen.
						NLO	(2.5'- 3.5') ORGANIC SOIL (OL); ~90% fines, ~10% sand, fine; slight naphthalene-like odor, wet, black, slight organic-like odor, soft.
						NLO	(3.5'- 4') SANDY ORGANIC SOIL (OL); ~60% fines, ~40% sand, fine to coarse; moderate naphthalene-like odor, wet, black, moderate organic-like odor, soft, leaves, organic, and twig fragments, sheen.
							End of Boring at 4 feet.

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S_V = TORVANE PEAK

ppm = PARTS PER MILLION
IN. = INCHES
FT. = FEET

NLO = NAPHTHALENE LIKE ODOR
PLO = PETROLEUM LIKE ODOR
TLO = TAR LIKE ODOR
CLO = CHEMICAL LIKE ODOR
ALO = ASPHALT LIKE ODOR

CrLO= CREOSOTE LIKE ODOR
OLO = ORGANIC LIKE ODOR
SLO = SULFUR LIKE ODOR
MLO = MUSTY LIKE ODOR

ENVIRONMENTAL BORING LOG PHASE I - CSO SEDIMENT CORES.GPJ FULTON DATA TEMPLATE.GDT 12/13/12

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BORING LOG
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GC-SED-513

GROUND SURFACE ELEVATION (FT): -9.21 **LOCATION:** Gowanus Canal
NORTHING (FT): 671420 **EASTING (FT):** 633308 **TOTAL DEPTH (FT):** 4.0
DRILLED BY: Ocean Surveys, Inc. / J. DeLorenzo **DATUM VERT. / HORZ.:** NAVD 88 / NAD 83
LOGGED BY: A. Malsbary **DATE START / END:** 8/9/2012 - 8/9/2012
DRILLING DETAILS:
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	STRATA	VISUAL IMPACTS	ODOR	SOIL / BEDROCK DESCRIPTION
	0					NLO	(0'- 1.4') SANDY ORGANIC SOIL (OL); ~70% fines, ~30% sand, fine to coarse; slight naphthalene-like odor, saturated, black, strong organic-like odor, leaves, twigs, organic fragments, sheen.
-10						NLO	(1.4'- 2.5') NARROWLY GRADED SAND WITH GRAVEL (SP); ~75% sand, mostly coarse, ~25% gravel, fine to coarse, subrounded; max. size 1.5, slight naphthalene-like odor, wet, black.
						NLO	(2.5'- 3.4') SANDY ORGANIC SOIL (OL); ~70% fines, ~25% sand, mostly coarse, ~5% gravel, fine to coarse; moderate naphthalene-like odor, wet, black, soft, slight sheen.
						NLO	(3.4'- 4') WIDELY GRADED SAND (SW); ~95% sand, fine to coarse, ~5% fines; moderate naphthalene-like odor, wet, black.
							End of Boring at 4 feet.

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ppm = PARTS PER MILLION
IN. = INCHES
FT. = FEET

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TLO = TAR LIKE ODOR
CLO = CHEMICAL LIKE ODOR
ALO = ASPHALT LIKE ODOR
CrLO= CREOSOTE LIKE ODOR
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MLO = MUSTY LIKE ODOR

ENVIRONMENTAL BORING LOG PHASE I - CSO SEDIMENT CORES.GPJ FULTON DATA TEMPLATE.GDT 12/13/12

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BORING LOG
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GC-SED-514

GROUND SURFACE ELEVATION (FT): -5.08 **LOCATION:** Gowanus Canal
NORTHING (FT): 671428 **EASTING (FT):** 633268 **TOTAL DEPTH (FT):** 3.5
DRILLED BY: Ocean Surveys, Inc. / J. DeLorenzo **DATUM VERT. / HORZ.:** NAVD 88 / NAD 83
LOGGED BY: A. Malsbary **DATE START / END:** 8/14/2012 - 8/14/2012
DRILLING DETAILS:
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	STRATA	VISUAL IMPACTS	ODOR	SOIL / BEDROCK DESCRIPTION
	0					OLO	(0'- 1') SANDY ORGANIC SOIL (OL); ~60% fines, ~40% sand, fine to coarse; moderate organic-like odor, saturated, black, very soft, leaf and organic fragments, slight sheen.
						PLO	(1'- 2.7') ORGANIC SOIL (OL); ~90% fines, ~10% sand, fine to medium; slight petroleum-like odor, wet, black, slight organic-like odor, soft, leaf and organic fragments.
						PLO	(2.7'- 3.5') SILTY SAND WITH GRAVEL (SM); ~60% sand, fine to coarse, ~35% gravel, fine to coarse, ~15% fines; slight petroleum-like odor, wet, black.
							End of Boring at 3.5 feet.

NOTES:

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NM = NOT MEASURED
Q_P = POCKET PENETROMETER
S_V = TORVANE PEAK

ppm = PARTS PER MILLION
IN. = INCHES
FT. = FEET

NLO = NAPHTHALENE LIKE ODOR
PLO = PETROLEUM LIKE ODOR
TLO = TAR LIKE ODOR
CLO = CHEMICAL LIKE ODOR
ALO = ASPHALT LIKE ODOR

CrLO= CREOSOTE LIKE ODOR
OLO = ORGANIC LIKE ODOR
SLO = SULFUR LIKE ODOR
MLO = MUSTY LIKE ODOR

ENVIRONMENTAL BORING LOG PHASE I - CSO SEDIMENT CORES.GPJ FULTON DATA TEMPLATE.GDT 12/13/12

GEI Consultants, Inc.
455 Winding Brook Road
Glastonbury, CT 06033
(860) 368-5300

CLIENT: National Grid
PROJECT: Phase I - CSO Sediment Cores
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 093010-6-1608

BORING LOG
PAGE 1 of 1
GC-SED-515

GROUND SURFACE ELEVATION (FT): -5.03 **LOCATION:** Gowanus Canal
NORTHING (FT): 671485 **EASTING (FT):** 633037 **TOTAL DEPTH (FT):** 4.0
DRILLED BY: Ocean Surveys, Inc. / J. DeLorenzo **DATUM VERT. / HORZ.:** NAVD 88 / NAD 83
LOGGED BY: A. Malsbary **DATE START / END:** 8/14/2012 - 8/14/2012
DRILLING DETAILS:
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	STRATA	VISUAL IMPACTS	ODOR	SOIL / BEDROCK DESCRIPTION
	0					NLO	(0'- 4') ORGANIC SOIL (OL); ~90% fines, ~10% sand, fine to medium; moderate naphthalene-like odor, wet, black, soft, leaves, twigs, organic fragments, plastic fragment near bottom, sheen.
							End of Boring at 4 feet.

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BORING LOG
PAGE 1 of 1
GC-SED-516

GROUND SURFACE ELEVATION (FT): -5.05 **LOCATION:** Gowanus Canal
NORTHING (FT): 671586 **EASTING (FT):** 632881 **TOTAL DEPTH (FT):** 4.0
DRILLED BY: Ocean Surveys, Inc. / J. DeLorenzo **DATUM VERT. / HORZ.:** NAVD 88 / NAD 83
LOGGED BY: A. Malsbary **DATE START / END:** 8/14/2012 - 8/14/2012
DRILLING DETAILS:
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	STRATA	VISUAL IMPACTS	ODOR	SOIL / BEDROCK DESCRIPTION
	0					PLO	(0'- 1.5') ORGANIC SOIL WITH GRAVEL (OL); ~70% fines, ~20% gravel, coarse, ~10% sand, fine to coarse; slight petroleum-like odor, saturated, black, moderate organic-like odor, very soft, slight sheen.
						PLO	(1.5'- 3.3') NARROWLY GRADED GRAVEL WITH SAND (GP); ~70% gravel, coarse, angular, ~20% sand, fine to coarse, ~10% fines; slight petroleum-like odor, wet, black, soft, loose, slight sheen.
						PLO	(3.3'- 4') ORGANIC SOIL (OL); ~90% fines, ~10% sand, fine; slight petroleum-like odor, wet, black, moderate organic-like odor, soft, leaves and organics, slight sheen.
							End of Boring at 4 feet.

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ENVIRONMENTAL BORING LOG PHASE I - CSO SEDIMENT CORES.GPJ FULTON DATA TEMPLATE.GDT 12/13/12

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BORING LOG
PAGE 1 of 1
GC-SED-517

GROUND SURFACE ELEVATION (FT): -4.22 **LOCATION:** Gowanus Canal
NORTHING (FT): 671594 **EASTING (FT):** 632865 **TOTAL DEPTH (FT):** 2.0
DRILLED BY: Ocean Surveys, Inc. / J. DeLorenzo **DATUM VERT. / HORZ.:** NAVD 88 / NAD 83
LOGGED BY: A. Malsbary **DATE START / END:** 8/2/2012 - 8/2/2012
DRILLING DETAILS:
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	STRATA	VISUAL IMPACTS	ODOR	SOIL / BEDROCK DESCRIPTION
	0						
-5						OLO	(0'- 1.4') ORGANIC SOIL (OL); ~90% fines, ~10% sand, fine to coarse; strong organic-like odor, wet, black, soft, leaf fragments, spotty sheen.
						PLO	(1.4'- 2') WIDELY GRADED SAND WITH SILT (SW-SM); ~85% sand, fine to coarse, ~10% fines, ~5% gravel; slight petroleum-like odor, wet, black, slight sewage-like odor, leaves and organic fragments, small bone fragment.
							End of Boring at 2 feet.

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BORING LOG
PAGE 1 of 1
GC-SED-518

GROUND SURFACE ELEVATION (FT): -7.90 **LOCATION:** Gowanus Canal
NORTHING (FT): 671578 **EASTING (FT):** 632859 **TOTAL DEPTH (FT):** 4.0
DRILLED BY: Ocean Surveys, Inc. / J. DeLorenzo **DATUM VERT. / HORZ.:** NAVD 88 / NAD 83
LOGGED BY: A. Malsbary **DATE START / END:** 8/2/2012 - 8/2/2012
DRILLING DETAILS:
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	STRATA	VISUAL IMPACTS	ODOR	SOIL / BEDROCK DESCRIPTION
	0					OLO	(0'- 1') ORGANIC SOIL (OL); ~90% fines, ~10% sand, fine to coarse; strong organic-like odor, wet, black, very soft, hair-like fibers, leaf and organic fragments, sheen.
-10						OLO	(1'- 4') ORGANIC SOIL (OL); ~90% fines, ~10% sand, fine to coarse; strong organic-like odor, wet, black, soft, hair-like fibers, leaf and organic fragments, sheen.
							End of Boring at 4 feet.

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BORING LOG
PAGE 1 of 1
GC-SED-519

GROUND SURFACE ELEVATION (FT): -4.86 **LOCATION:** Gowanus Canal
NORTHING (FT): 671597 **EASTING (FT):** 632836 **TOTAL DEPTH (FT):** 3.5
DRILLED BY: Ocean Surveys, Inc. / J. DeLorenzo **DATUM VERT. / HORZ.:** NAVD 88 / NAD 83
LOGGED BY: A. Malsbary **DATE START / END:** 8/2/2012 - 8/2/2012
DRILLING DETAILS:
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	STRATA	VISUAL IMPACTS	ODOR	SOIL / BEDROCK DESCRIPTION
-5	0					OLO	(0'- 1.8') ORGANIC SOIL WITH SAND (OL); ~80% fines, ~20% sand, fine to coarse; strong organic-like odor, saturated, black, very soft, leaf fragments, slight sheen.
						NLO	(1.8'- 3') ORGANIC SOIL WITH SAND (OL); ~80% fines, ~20% sand, fine to coarse; slight naphthalene-like odor, saturated, black, strong organic-like odor, soft, leaf fragments, slight sheen.
						NLO	(3'- 3.5') SANDY ORGANIC SOIL (OL); ~70% fines, ~30% sand, fine to coarse; moderate naphthalene-like odor, wet, black, slight organic-like odor.
							End of Boring at 3.5 feet.

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BORING LOG
PAGE 1 of 1
GC-SED-520

GROUND SURFACE ELEVATION (FT): -4.17 **LOCATION:** Gowanus Canal
NORTHING (FT): 669918 **EASTING (FT):** 631132 **TOTAL DEPTH (FT):** 4.0
DRILLED BY: Ocean Surveys, Inc. / J. DeLorenzo **DATUM VERT. / HORZ.:** NAVD 88 / NAD 83
LOGGED BY: A. Malsbary **DATE START / END:** 8/3/2012 - 8/3/2012
DRILLING DETAILS:
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	STRATA	VISUAL IMPACTS	ODOR	SOIL / BEDROCK DESCRIPTION
	0					PLO	(0'- 1') ORGANIC SOIL WITH SAND (OL); ~80% fines, ~20% sand, fine to medium; slight petroleum-like odor, saturated, black, slight organic-like odor, very soft, leaves, organic fracments, hair-like fibers, slight sheen.
-5						NLO	(1'- 3') SILTY SAND (SM); ~60% sand, fine to coarse, ~40% fines; slight naphthalene-like odor, wet, black, slight petroleum-like odor, slight organic-like odor, soft, tar stained with blebs.
						NLO	(3'- 4') SANDY ORGANIC SOIL (OL); ~60% fines, ~40% sand, fine to medium; slight naphthalene-like odor, wet, black, soft.
							End of Boring at 4 feet.

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CrLO= CREOSOTE LIKE ODOR
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(860) 368-5300

CLIENT: National Grid
PROJECT: Phase I - CSO Sediment Cores
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 093010-6-1608

BORING LOG
PAGE 1 of 1
GC-SED-521

GROUND SURFACE ELEVATION (FT): -9.26 **LOCATION:** Gowanus Canal
NORTHING (FT): 669897 **EASTING (FT):** 631123 **TOTAL DEPTH (FT):** 4.7
DRILLED BY: Ocean Surveys, Inc. / J. DeLorenzo **DATUM VERT. / HORZ.:** NAVD 88 / NAD 83
LOGGED BY: A. Malsbary **DATE START / END:** 8/3/2012 - 8/3/2012
DRILLING DETAILS:
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	STRATA	VISUAL IMPACTS	ODOR	SOIL / BEDROCK DESCRIPTION
	0					OLO	(0'- 1') WIDELY GRADED SAND (SW); ~95% sand, fine to coarse, ~5% fines; moderate organic-like odor, wet, black.
-10						NLO	(1'- 1.5') SANDY ORGANIC SOIL (OL); ~70% fines, ~30% sand, fine to coarse; moderate naphthalene-like odor, wet, black, moderate petroleum-like odor, twigs, leaves, organic fragments, hair-like fibers.
						NLO	(1.5'- 3.5') SANDY ORGANIC SOIL (OL); ~70% fines, ~30% sand, fine to coarse; moderate naphthalene-like odor, wet, black, moderate petroleum-like odor to 3', twigs, leaves, organic fragments, hair-like fibers, light tar staining.
						NLO	(3.5'- 4') SANDY ORGANIC SOIL (OL); ~70% fines, ~30% sand, fine to coarse; moderate naphthalene-like odor, wet, black, twigs, leaves, organic fragments, hair-like fibers, gravel lens at 4.4'.
							End of Boring at 4.7 feet.

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ENVIRONMENTAL BORING LOG PHASE I - CSO SEDIMENT CORES.GPJ FULTON DATA TEMPLATE.GDT 12/13/12

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BORING LOG
PAGE 1 of 1
GC-SED-522

GROUND SURFACE ELEVATION (FT): -8.51 **LOCATION:** Gowanus Canal
NORTHING (FT): 669871 **EASTING (FT):** 631113 **TOTAL DEPTH (FT):** 3.7
DRILLED BY: Ocean Surveys, Inc. / J. DeLorenzo **DATUM VERT. / HORZ.:** NAVD 88 / NAD 83
LOGGED BY: A. Malsbary **DATE START / END:** 8/3/2012 - 8/3/2012
DRILLING DETAILS:
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	STRATA	VISUAL IMPACTS	ODOR	SOIL / BEDROCK DESCRIPTION
	0					NLO	(0'- 0.8') WIDELY GRADED SAND WITH SILT (SW-SM); ~90% sand, fine to coarse, ~10% fines; slight naphthalene-like odor, wet, black, slight petroleum-like odor, slight organic-like odor.
-10						NLO	(0.8'- 3.3') SANDY ORGANIC SOIL (OL); ~60% fines, ~40% sand, fine to coarse; moderate naphthalene-like odor, wet, black, peat, leaves, organic fragments, tar staining and light coating.
						NLO	(3.3'- 3.7') SILTY SAND (SM); ~70% sand, fine to coarse, ~30% fines; slight naphthalene-like odor, wet, black, tar staining.
							End of Boring at 3.7 feet.

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BORING LOG
PAGE 1 of 1
GC-SED-523

GROUND SURFACE ELEVATION (FT): -4.30 **LOCATION:** Gowanus Canal
NORTHING (FT): 669820 **EASTING (FT):** 631191 **TOTAL DEPTH (FT):** 4.0
DRILLED BY: Ocean Surveys, Inc. / J. DeLorenzo **DATUM VERT. / HORZ.:** NAVD 88 / NAD 83
LOGGED BY: A. Malsbary **DATE START / END:** 8/15/2012 - 8/15/2012
DRILLING DETAILS:
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	STRATA	VISUAL IMPACTS	ODOR	SOIL / BEDROCK DESCRIPTION
	0						(0'- 2') SANDY ORGANIC SOIL (OL); ~70% fines, ~30% sand, fine to medium; slight petroleum-like odor, saturated, black, moderate organic-like odor, very soft, leaf and organic fragments.
-5						PLO	
							(2'- 4') SANDY ORGANIC SOIL (OL); ~70% fines, ~30% sand, fine to medium; slight petroleum-like odor, wet, black, moderate organic-like odor, soft, leaf and organic fragments.
						PLO	
							End of Boring at 4 feet.

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ENVIRONMENTAL BORING LOG PHASE I - CSO SEDIMENT CORES.GPJ FULTON DATA TEMPLATE.GDT 12/13/12

Appendix J

CSO Investigation – CSO Samples and Analytical Results, prepared for National Grid by GEI Consultants Inc.

GEI Consultants

Geotechnical
Environmental and
Water Resources
Engineering

Data Report

CSO Investigation – CSO Samples and Analytical Results

Gowanus Canal
Brooklyn, New York

Submitted to:
National Grid
287 Maspeth Avenue
Brooklyn, New York 11211

Submitted by:
GEI Consultants, Inc. P.C.
455 Winding Brook Drive, Suite 201
Glastonbury, CT 06033

April 2013
Project 093010-6-1608

Melissa Felter
Project Manager

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1. Introduction 1

2. Sampling Methods 2

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Table 1 – CSO Water Sample Collection Description
Table 2 – CSO Water Target Analytes
Table 3 – Summary of Storm Water Analytical Results
Table 4 – Summary of Storm Water Total Suspended Solids Results

Figure

1 – CSO Water Sampling Locations

MF H:\WPROC\Project\NationalGrid\Gowanus - Confidential\Source Control Program\CSO\CSO 2012 and 2013\Gowanus Canal CSO Water Data Report.docx

1. Introduction

This Data Report contains validated analytical results for water samples collected in September 2012 and from combined-sewer overflows (CSOs) that discharge during storm events into the Gowanus Canal in Brooklyn, New York.

The CSO Investigation Work Plan, which describes CSO sampling, was developed by Woodard and Curran and is dated June 5, 2012. It was approved by the United States Environmental Protection Agency (USEPA) on July 6, 2012.

2. Sampling Methods

Water samples were collected during storm events from four CSO locations (RH-031, RH-034, RH-035, and OH-007), as shown in Figure 1. The first sampling event was attempted on September 18, 2012; however, rain was light or intermittent and did not produce the required conditions for a full suite of sampling. A baseline sample was collected at OH-007. A full sampling event took place on September 28, 2012. Samples were collected from RH-031, RH-034, RH-035, and OH-007. A portion of the sample collected at RH-035 was collected after the rain began, but before overflow conditions occurred.

Samples were collected at select locations during the second and third events on January 11 and 16, 2013. Samples were collected at RH-035 and OH-007 during the second event and OH-007 and the Owl's Head Treatment Plant during the third event. During the third event, total suspended solid (TSS) samples were collected every 15 minutes during overflow conditions at RH-035.

The fourth sampling event was a full sampling event on January 21, 2013. Samples were collected from RH-031, RH-034, RH-035, OH-007, and the Owl's Head and Red Hook Treatment Plants. TSS samples were collected every 15 minutes during overflow conditions at RH-035 and OH-007.

The samples from locations RH-031, RH-035, and OH-007 were collected by lowering two sets of polyethylene tubing into the designated manholes and pumping through peristaltic pumps. RH-034 is located within an active construction site with limited access and space constraints. Four in-situ chemical oxidation (ISCO) automated samplers were used to collect samples at this location. The ISCO samplers were programmed prior to each sampling event to reflect expected storm conditions. Installation of tubing was performed by Louis Berger Group at all four locations. Tubing was dedicated to each location and was removed and replaced between each event.

Four types of samples were collected from the CSOs:

- Baseline whole water
- Baseline lab filtered
- Discharge whole water
- Discharge lab filtered

A baseline sample was collected at the start of rain. Baseline samples were not collected from the RH-034 location due to space and access limitations. A discharge sample was collected after the CSOs began to overflow and was composited in intervals representing conditions over the duration of the storm event. Unfiltered CSO discharge water (storm water with suspended particulates) and filtered CSO discharge water (storm water that was passed through a 1.2 micrometer (µm) filter in the laboratory to remove settleable solids) were submitted for both baseline and discharge samples. Filtered and unfiltered samples were collected simultaneously. A description of sample collection including sample IDs, sample type, times collected, and CSO overflow times are included in Table 1.

Sample volume was limited in some cases due to storm duration and flow patterns. Priority of analysis was assigned to samples with limited volume in the following order:

Contaminants:

1. Polycyclic Aromatic Hydrocarbon (PAH) 34 list
2. Total Petroleum Hydrocarbon (TPH)
3. Metals
4. Semivolatile Organic Compounds (SVOCs) and Volatile Organic Compounds (VOCs)
5. Polychlorinated Biphenyls (PCBs)
6. Pesticides and herbicides
7. Pathogens, Endocrine Disrupting Compounds (EDCs), Pharmaceutical and Personal Care Products (PPCPs)

Conventional parameters – aqueous samples

1. Total Suspended Solids (TSS), Total Dissolved Solids (TDS), Suspended Sediment Concentration (SSC), turbidity
2. Total Organic Carbon (TOC), Dissolved Organic Carbon (DOC)
3. Hardness, pH, conductivity, free cyanide, ammonia

3. Analytical Regime

Table 2 summarizes the complete list of analytical parameters applied to each water sample. The analytical results are presented in Tables 3 and 4.

Tables

Table 1
CSO Water Sample Collection Description
Gowanus Canal
Brooklyn, New York

Sample Name	Sample Type	Time Collected	Overflow Conditions
Event 1A (9/18/12)			
MH-OH-007-WWB1A	Baseline	7:25 - 9:00	None
MH-OH-007-LFB1A			
Event 1 (9/28/12)			
MH-RH-034-LFB1	Baseline	Programmed to collect 1 L every 12 minutes	Trigger set to collect sample when both of the following conditions are met: 1. water rises above the weir 2. tide gate is open
MH-RH-034-WWB1			
MH-RH-035-LFB1	Baseline	3:50 - 4:50	4:20 - 5:10 9:45 - End
MH-RH-035-WWB1			
MH-RH-035-LFD1	Discharge	5:40 *, 8:00 *, 12:30, 13:16	
MH-RH-035-WWD1			
MH-RH-031-LFB1	Baseline	3:51 - 4:50	3:51 - 5:05 9:36 - End
MH-RH-031-WWB1			
MH-RH-031-LFD1	Discharge	4:50, 9:57, 11:40, 13:40	
MH-RH-031-WWD1			
MH-OH-007-LFB1	Baseline	3:50 - 4:15	4:00 - 5:08 9:28 - 11:00 Rain picks up at 11:15
MH-OH-007-WWB1			
MH-OH-007-LFD1	Discharge	4:30, 9:30, 12:15	
MH-OH-007-WWD1			
Event 2 (1/11/13)			
MH-RH-035-LFB2	Baseline	18:15 - 19:45	21:45 - Still flowing at completion of sample collection
MH-RH-035-WWB2			
MH-RH-035-LFD2	Discharge	21:45, 22:15, 22:45, 23:15	
MH-RH-035-WWD2			
MH-OH-007-LFB2	Baseline	18:35 - 19:39	19:34 - 21:20
MH-OH-007-WWB2			
MH-OH-007-LFD2	Discharge	19:50, 20:35, 21:20	
MH-OH-007-WWD2			
Event 3 (1/16/13)			
MH-OH-007-LFD3	Discharge	5:45, 6:25, 7:05, 7:45	4:50 - 8:48
MH-OH-007-WWD3			
WTP-OH-LFD3	Discharge	7:10, 8:30, 9:50, 11:10	Collection start time based on overflow at OH-007
WTP-OH-WWD3			
MH-RH-035A	Grab	5:00	4:40 - 8:00 8:15 - 8:45
MH-RH-035B	Grab	5:15	
MH-RH-035C	Grab	5:30	
MH-RH-035D	Grab	5:45	
MH-RH-035E	Grab	6:00	
MH-RH-035F	Grab	6:15	
MH-RH-035G	Grab	6:30	
MH-RH-035H	Grab	6:45	
MH-RH-035I	Grab	7:15	
MH-RH-035J	Grab	7:45	
MH-RH-035K	Grab	8:15	
Event 4 (1/31/13)			
MH-RH-031-LFB4	Baseline	2:05 - 2:50	1:50 - Still flowing at completion of sample collection
MH-RH-031-WWB4			
MH-RH-031-LFD4	Discharge	2:50, 4:00	
MH-RH-031-WWD4			
MH-RH-031A	Grab	2:05	
MH-RH-031B	Grab	2:20	
MH-RH-031C	Grab	2:50	

Table 1
CSO Water Sample Collection Description
Gowanus Canal
Brooklyn, New York

Sample Name	Sample Type	Time Collected	Overflow Conditions
MH-RH-031D	Grab	3:05	1:50 - Still flowing at completion of sample collection
MH-RH-031E	Grab	3:20	
MH-RH-031F	Grab	3:35	
MH-RH-031G	Grab	3:50	
MH-RH-031H	Grab	4:05	
MH-RH-031I	Grab	4:35	
MH-RH-031J	Grab	5:05	
MH-RH-031K	Grab	5:35	
MH-RH-035-LFB4	Baseline	24:20 - 1:05	1:05 - Overflow begins 4:30 - Heavy rain, water to top of manhole
MH-RH-035-WWB4			
MH-RH-035-LFD4	Discharge	1:10, 2:10, 3:10, 4:10	
MH-RH-035-WWD4			
MH-RH-035A	Grab	1:10	
MH-RH-035B	Grab	1:25	
MH-RH-035C	Grab	1:40	
MH-RH-035D	Grab	1:55	
MH-RH-035E	Grab	2:10	
MH-RH-035F	Grab	2:25	
MH-RH-035G	Grab	2:40	
MH-RH-035H	Grab	2:55	
MH-RH-035I	Grab	3:10	
MH-RH-035J	Grab	3:40	
MH-RH-035K	Grab	4:10	
MH-OH-007-LFB4	Baseline	1:00 - 1:40	2:30 - Still flowing at completion of sample collection
MH-OH-007-WWB4			
MH-OH-007-LFD4	Discharge	2:30, 3:30, 4:30, 5:30	
MH-OH-007-WWD4			
MH-OH-007A	Grab	2:30	
MH-OH-007B	Grab	2:45	
MH-OH-007C	Grab	3:00	
MH-OH-007D	Grab	3:15	
MH-OH-007E	Grab	3:30	
MH-OH-007F	Grab	3:45	
MH-OH-007G	Grab	4:00	
MH-OH-007H	Grab	4:15	
MH-OH-007I	Grab	4:30	
MH-OH-007J	Grab	5:00	
MH-OH-007K	Grab	5:30	
MH-OH-007L	Grab	6:00	
MH-RH-034-LFD4	Discharge	Programmed to collect 2.5 L every hour	Trigger set to collect sample when both of the following conditions are met: 1. water rises above the weir 2. tide gate is open
MH-RH-034-WWD4			
WTP-OH-LFD4	Discharge	2:40, 3:40, 4:40, 5:40	Collection start time based on overflow at OH-007
WTP-OH-WWD4			
WTP-RH-LFD4	Discharge	2:45, 3:45, 4:45, 5:45	Collection start time begins 2 hours after the beginning of the rain event
WTP-RH-WWD4			

Notes:
* Sample was collected after rainfall began, but before overflow conditions were observed.
L - Liter

Table 2
CSO Water Target Analytes
Gowanus Canal
Brooklyn, New York

Conventional Parameters	EDC/PPCP *
Total Suspended Solids (TSS)	Bisphenol A
Total Dissolved Solids (TDS)	Nonylphenol
Suspended Sediment Concentration (SSC) Turbidity	Nonylphenol Diethoxylate
Total Organic Carbon (TOC)	Nonylphenol Monoethoxylate
pH Hardness Conductivity Free Cyanide Ammonia	4-tert-Octylphenol
Total Organic Carbon (TOC)	Acetominophen alpha-Estradiol
Dissolved organic carbon (DOC	Androstenedione
	Atrazine
Organics	Bisphenol A
Volatile Organic Compounds (VOCs)	Caffeine
Semivolatile Organic Compounds (SVOCs)	Carbamazepine
Total Petroleum Hydrocarbons (TPH)	Diazepam
PAH Fingerprint Analysis	Diclofenac
Pesticides/Herbicides	Diethylstilbestro
Total PCBs	l Phenytoin
PCB Congeners	Estradiol
	Estriol
Pathogens	Estrone
Clostridium perfringens	Ethinyl
Coliphages Enterococcus	Estradiol
Fecal coliforms	Fluoxetine
E. coli	Gemfibrozil
Enteroviruses Giardia	Hydrocodone
Cryptosporidium	Ibuprofen
	Iopromide
Metals, Total and Dissolved	Meprobamate
Antimony (Sb)	Methadone
Arsenic (As)	Naproxen
Barium (Ba)	DEET
Beryllium (Be)	Oxybenzone
Cadmium (Cd)	Pentoxifylline
Chromium (Cr)	Progesterone
Cobalt (Co)	Salicylic Acid
Copper (Cu)	Sulfamethoxazole
Lead (Pb)	Testosterone
Mercury (Hg)	Triclosan
Molybdenum (Mo)	Trimethoprim
Nickel (Ni)	
Selenium (Se)	
Thallium (Tl)	
Vanadium (V)	
Zinc (Zn)	

*EDC = endocrine disrupting compounds

PPCP = pharmaceutical and personal care products

Table 3
Summary of Storm Water Analytical Results
Gowanus Canal
Brooklyn, New York

Sample Location:	OH-007			OH-007			
Sample Type:	Baseline, Lab Filtered	Baseline, Unfiltered	Baseline, Unfiltered	Baseline, Lab Filtered	Baseline, Unfiltered	Discharge, Lab Filtered	Discharge, Unfiltered
Sample Event:	Event 1A	Event 1A	Event 1A	Event 1	Event 1	Event 1	Event 1
Sample Name:	MH-OH-007-LFB1	MH-OH-007-WWB1	Duplicate of MH-OH-007-WWB1	MH-OH-007-LFB1A	MH-OH-007-WWB1A	MH-OH-007-LFD1	MH-OH-007-WWD1
Sample Date:	9/18/2012	9/18/2012	9/18/2012	9/28/2012	9/28/2012	9/28/2012	9/28/2012
BTEX (ug/L)							
Benzene	1 UJ	1 U	1 U	1 UJ	2 U	1 UJ	1 U
Toluene	**2.3 J**	**2.8 J**	**4.3 J**	**3.9 J**	**1.8 J**	**2.1 J**	**4.2**
Ethylbenzene	**0.52 J**	**0.58 J**	**0.73 J**	1 UJ	2 U	1 UJ	1 U
m,p-Xylene	**1.6 J**	**1.9 J**	**2.5**	**0.46 J**	4 U	2 UJ	2 U
o-Xylene	**0.69 J**	**0.73 J**	**0.89 J**	**0.23 J**	**0.44 J**	1 UJ	1 U
Total Xylene	**2.3 J**	**2.6 J**	**3.3**	**0.69 J**	**1.2 J**	3 UJ	3 U
Total BTEX	**5.12**	**5.98**	**8.33**	**4.59**	**3.44**	**2.1**	**4.2**
Other VOCs (ug/L)							
Acetone	**52 J**	**46 J**	**71 J**	**10 J**	**51 J**	**79 J**	**56 J**
Bromochloromethane	1 UJ	1 U	1 U	1 UJ	2 U	1 UJ	1 U
Bromodichloromethane	1 UJ	1 U	1 U	1 UJ	2 U	1 UJ	1 U
Bromoform	1 UJ	1 U	1 U	1 UJ	2 U	1 UJ	1 U
Bromomethane	1 UJ	1 U	1 U	1 UJ	2 U	1 UJ	1 U
2-Butanone (Methyl ethyl ketone)	**8.1 J**	**7.5**	**9.2**	5 UJ	10 U	5 UJ	5 U
Carbon disulfide	**0.22 J**	1 UJ	1 UJ	**0.35 J**	**0.54 J**	1 UJ	1 U
Carbon tetrachloride	1 UJ	1 U	1 U	1 UJ	2 U	1 UJ	1 U
Chlorobenzene	1 UJ	1 U	1 U	1 UJ	2 U	1 UJ	1 U
Chloroethane	1 UJ	1 U	1 U	1 UJ	2 U	1 UJ	1 U
Chloroform	**1.8 J**	**1.8**	**2.4**	1 UJ	2 U	**1.6 J**	**1.6**
Chloromethane	1 UJ	1 U	1 U	1 UJ	2 U	1 UJ	1 U
Cyclohexane	1 UJ	1 U	1 U	1 UJ	2 U	1 UJ	1 U
1,2-Dibromo-3-chloropropane	1 UJ	1 UJ	1 UJ	1 UJ	2 U	1 UJ	1 U
Dibromochloromethane	1 UJ	1 U	1 U	1 UJ	2 U	1 UJ	1 U
1,2-Dibromoethane (EDB)	1 UJ	1 U	1 U	1 UJ	2 U	1 UJ	1 U
1,2-Dichlorobenzene	1 UJ	1 U	1 U	1 UJ	2 U	1 UJ	1 U
1,3-Dichlorobenzene	1 UJ	1 U	1 U	1 UJ	2 U	1 UJ	1 U
1,4-Dichlorobenzene	1 UJ	1 U	1 U	**0.22 J**	2 U	1 UJ	1 U
Dichlorodifluoromethane (Freon 12)	1 UJ	1 U	1 U	1 UJ	2 U	1 UJ	1 UJ
1,1-Dichloroethane	1 UJ	1 U	1 U	1 UJ	2 U	1 UJ	1 U
1,2-Dichloroethane	1 UJ	1 U	1 U	1 UJ	2 U	1 UJ	1 U
1,1-Dichloroethene	1 UJ	1 U	1 U	1 UJ	2 U	1 UJ	1 U
cis-1,2-Dichloroethene	**3.2 J**	**3.7 J**	**6.6 J**	1 UJ	2 U	1 UJ	1 U
trans-1,2-Dichloroethene	1 UJ	1 U	1 U	1 UJ	2 U	1 UJ	1 U
1,2-Dichloropropane	1 UJ	1 U	1 U	1 UJ	2 U	1 UJ	1 U
cis-1,3-Dichloropropene	1 UJ	1 UJ	1 UJ	1 UJ	2 U	1 UJ	1 U
trans-1,3-Dichloropropene	1 UJ	1 UJ	1 UJ	1 UJ	2 U	1 UJ	1 U
1,4-Dioxane	R	R	R	R	R	R	R
2-Hexanone	5 UJ	5 UJ	5 UJ	5 UJ	10 U	5 UJ	5 U
Isopropyl benzene	1 UJ	1 U	1 U	1 UJ	2 U	1 UJ	1 U
Methyl acetate	1 UJ	1 U	1 U	1 UJ	2 U	1 UJ	1 U
Methyl tert-butyl ether (MTBE)	1 UJ	1 UJ	1 UJ	1 UJ	2 U	1 UJ	1 U
4-Methyl-2-pentanone (MIBK)	**1 J**	**0.99 J**	**0.98 J**	**1.1 J**	**1.4 J**	5 UJ	5 U
Methylcyclohexane	1 UJ	1 U	1 U	1 UJ	2 U	1 UJ	1 U
Methylene chloride	1 UJ	1 U	1 U	1 UJ	2 U	**5.6 J**	1 UJ
Styrene	1 UJ	1 U	1 U	1 UJ	2 U	1 UJ	1 U
1,1,2,2-Tetrachloroethane	1 UJ	1 U	1 U	1 UJ	2 U	1 UJ	1 U
Tetrachloroethene (PCE)	**3.6 J**	**4.6 J**	**8 J**	**12 J**	2 U	**2.7 J**	**4.1**
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	1 UJ	1 U	1 U	1 UJ	2 U	1 UJ	1 U
1,2,3-Trichlorobenzene	1 UJ	1 UJ	1 UJ	1 UJ	2 U	1 UJ	1 UJ

Table 3
Summary of Storm Water Analytical Results
Gowanus Canal
Brooklyn, New York

Sample Location:	OH-007			OH-007			
Sample Type:	Baseline, Lab Filtered	Baseline, Unfiltered	Baseline, Unfiltered	Baseline, Lab Filtered	Baseline, Unfiltered	Discharge, Lab Filtered	Discharge, Unfiltered
Sample Event:	Event 1A	Event 1A	Event 1A	Event 1	Event 1	Event 1	Event 1
Sample Name:	MH-OH-007-LFB1	MH-OH-007-WWB1	Duplicate of MH-OH-007-WWB1	MH-OH-007-LFB1A	MH-OH-007-WWB1A	MH-OH-007-LFD1	MH-OH-007-WWD1
Sample Date:	9/18/2012	9/18/2012	9/18/2012	9/28/2012	9/28/2012	9/28/2012	9/28/2012
1,2,4-Trichlorobenzene	1 UJ	1 UJ	1 UJ	1 UJ	2 U	1 UJ	1 UJ
1,1,1-Trichloroethane	1 UJ	1 U	1 U	1 UJ	2 U	1 UJ	1 U
1,1,2-Trichloroethane	1 UJ	1 U	1 U	1 UJ	2 U	1 UJ	1 U
Trichloroethene (TCE)	**1.5 J**	**1.5 J**	**3.2 J**	**0.76 J**	2 U	1 UJ	1 U
Trichlorofluoromethane (Freon 11)	1 UJ	1 U	1 U	1 UJ	2 U	1 UJ	1 U
Vinyl chloride	1 UJ	1 U	1 U	1 UJ	2 U	1 UJ	1 U
Total VOCs	**78.83**	**74.7**	**113.1**	**29.71**	**56.38**	**91**	**65.9**
PAHs (ug/L)							
Acenaphthene	2 UJ	2 U	1.9 U	NA	NA	2.7 UJ	2.5 U
Acenaphthylene	2 UJ	2 U	1.9 U	NA	NA	2.7 UJ	2.5 U
Anthracene	2 UJ	2 U	1.9 U	NA	NA	2.7 UJ	2.5 U
Benz[a]anthracene	2 UJ	2 U	1.9 U	NA	NA	2.7 UJ	2.5 U
Benzo[a]pyrene	2 UJ	2 U	1.9 U	NA	NA	2.7 UJ	2.5 U
Benzo[b]fluoranthene	2 UJ	2 U	1.9 U	NA	NA	2.7 UJ	2.5 U
Benzo[g,h,i]perylene	2 UJ	2 U	1.9 U	NA	NA	2.7 UJ	2.5 U
Benzo[k]fluoranthene	2 UJ	2 U	1.9 U	NA	NA	2.7 UJ	2.5 U
Chrysene	2 UJ	2 U	1.9 U	NA	NA	2.7 UJ	2.5 U
Dibenz[a,h]anthracene	2 UJ	2 U	1.9 U	NA	NA	2.7 UJ	2.5 U
Fluoranthene	2 UJ	2 U	1.9 U	NA	NA	2.7 UJ	**0.28 J**
Fluorene	2 UJ	2 U	1.9 U	NA	NA	2.7 UJ	2.5 U
Indeno[1,2,3-cd]pyrene	2 UJ	2 U	1.9 U	NA	NA	2.7 UJ	2.5 U
2-Methylnaphthalene	2 UJ	**0.12 J**	1.9 U	NA	NA	2.7 UJ	2.5 U
Naphthalene	2 UJ	2 U	1.9 U	NA	NA	2.7 UJ	2.5 U
Phenanthrene	2 UJ	2 U	1.9 U	NA	NA	2.7 UJ	2.5 U
Pyrene	2 UJ	2 U	1.9 U	NA	NA	2.7 UJ	**0.37 J**
Total PAH 17	ND	**0.12**	ND	NA	NA	ND	**0.65**
Other SVOCs (ug/L)							
Acetophenone	9.9 UJ	9.8 U	9.6 U	NA	NA	14 UJ	13 U
Atrazine	9.9 UJ	9.8 U	9.6 U	NA	NA	14 UJ	13 U
Benzaldehyde	9.9 UJ	9.8 U	**5.3 J**	NA	NA	14 UJ	13 U
1,1-Biphenyl	9.9 UJ	9.8 U	9.6 U	NA	NA	14 UJ	13 U
Bis(chloroisopropyl)ether	2 UJ	2 U	1.9 U	NA	NA	2.7 UJ	2.5 U
Bis(2-chloroethyl)ether	2 UJ	2 U	1.9 U	NA	NA	2.7 UJ	2.5 U
Bis(2-chloroethoxy)methane	9.9 UJ	9.8 U	9.6 U	NA	NA	14 UJ	13 U
Bis(2-ethylhexyl)phthalate	20 UJ	20 U	19 U	NA	NA	27 UJ	25 U
4-Bromophenyl phenyl ether	9.9 UJ	9.8 U	9.6 U	NA	NA	14 UJ	13 U
Butyl benzyl phthalate	9.9 UJ	9.8 U	9.6 U	NA	NA	**2.7 J**	**3.8 J**
Caprolactam	50 UJ	49 U	48 U	NA	NA	68 UJ	63 U
Carbazole	2 UJ	2 U	1.9 U	NA	NA	2.7 UJ	2.5 U
4-Chloro-3-methylphenol	9.9 UJ	9.8 U	9.6 U	NA	NA	14 UJ	13 U
4-Chloroaniline	9.9 UJ	9.8 U	9.6 U	NA	NA	14 UJ	13 U
2-Chloronaphthalene	2 UJ	2 U	1.9 U	NA	NA	2.7 UJ	2.5 U
2-Chlorophenol	9.9 UJ	9.8 U	9.6 U	NA	NA	14 UJ	13 U
4-Chlorophenyl phenyl ether	9.9 UJ	9.8 U	9.6 U	NA	NA	14 UJ	13 U
Dibenzofuran	**0.72 J**	9.8 U	9.6 U	NA	NA	14 UJ	13 U
3,3-Dichlorobenzidine	9.9 UJ	9.8 U	9.6 U	NA	NA	14 UJ	13 U
2,4-Dichlorophenol	2 UJ	2 U	1.9 U	NA	NA	2.7 UJ	2.5 U
Diethyl phthalate	**1.9 J**	**1.9 J**	**1.7 J**	NA	NA	14 UJ	13 U
Dimethyl phthalate	9.9 UJ	9.8 U	9.6 U	NA	NA	14 UJ	13 U
2,4-Dimethylphenol	9.9 UJ	9.8 U	9.6 U	NA	NA	14 UJ	13 U

Table 3
Summary of Storm Water Analytical Results
Gowanus Canal
Brooklyn, New York

Sample Location:	OH-007			OH-007			
Sample Type:	Baseline, Lab Filtered	Baseline, Unfiltered	Baseline, Unfiltered	Baseline, Lab Filtered	Baseline, Unfiltered	Discharge, Lab Filtered	Discharge, Unfiltered
Sample Event:	Event 1A	Event 1A	Event 1A	Event 1	Event 1	Event 1	Event 1
Sample Name:	MH-OH-007-LFB1	MH-OH-007-WWB1	Duplicate of MH-OH-007-WWB1	MH-OH-007-LFB1A	MH-OH-007-WWB1A	MH-OH-007-LFD1	MH-OH-007-WWD1
Sample Date:	9/18/2012	9/18/2012	9/18/2012	9/28/2012	9/28/2012	9/28/2012	9/28/2012
Di-n-butyl phthalate	9.9 UJ	9.8 U	9.6 U	NA	NA	14 UJ	13 U
4,6-Dinitro-2-methylphenol	50 UJ	49 U	48 U	NA	NA	68 UJ	63 U
2,4-Dinitrophenol	50 UJ	49 U	48 U	NA	NA	68 UJ	63 U
2,4-Dinitrotoluene	9.9 UJ	9.8 U	9.6 U	NA	NA	14 UJ	13 U
2,6-Dinitrotoluene	9.9 UJ	9.8 U	9.6 U	NA	NA	14 UJ	13 U
Di-n-octyl phthalate	9.9 UJ	9.8 U	9.6 U	NA	NA	14 UJ	13 U
Hexachlorobenzene	2 UJ	2 U	1.9 U	NA	NA	2.7 UJ	2.5 U
Hexachlorobutadiene	2 UJ	2 U	1.9 U	NA	NA	2.7 UJ	2.5 U
Hexachlorocyclopentadiene	9.9 UJ	9.8 U	9.6 U	NA	NA	14 UJ	13 U
Hexachloroethane	9.9 UJ	9.8 U	9.6 U	NA	NA	14 UJ	13 U
Isophorone	9.9 UJ	9.8 U	9.6 U	NA	NA	14 UJ	13 U
2-Methylphenol (o-Cresol)	9.9 UJ	9.8 U	9.6 U	NA	NA	14 UJ	13 U
3,4-Methylphenol (m,p-Cresol)	**6.2 J**	**6.4 J**	**48 J**	NA	NA	14 UJ	13 U
2-Nitroaniline	50 UJ	49 U	48 U	NA	NA	68 UJ	63 U
3-Nitroaniline	50 UJ	49 U	48 U	NA	NA	68 UJ	63 U
4-Nitroaniline	50 UJ	49 U	48 U	NA	NA	68 UJ	63 U
Nitrobenzene	20 UJ	20 U	19 U	NA	NA	27 UJ	25 U
2-Nitrophenol	9.9 UJ	9.8 U	9.6 U	NA	NA	14 UJ	13 U
4-Nitrophenol	50 UJ	49 U	48 U	NA	NA	68 UJ	63 U
N-Nitrosodi-n-propylamine	2 UJ	2 U	1.9 U	NA	NA	2.7 UJ	2.5 U
N-Nitrosodiphenylamine	9.9 UJ	9.8 U	9.6 U	NA	NA	14 UJ	13 U
Pentachlorophenol	9.9 UJ	9.8 U	9.6 U	NA	NA	14 UJ	13 U
Phenol	**6.1 J**	**4.9 J**	**18 J**	NA	NA	2.7 UJ	2.5 U
1,2,4,5-Tetrachlorobenzene	9.9 UJ	9.8 U	9.6 U	NA	NA	14 UJ	13 U
2,3,4,6-Tetrachlorophenol	9.9 UJ	9.8 U	9.6 U	NA	NA	14 UJ	13 U
2,4,5-Trichlorophenol	9.9 UJ	9.8 U	9.6 U	NA	NA	14 UJ	13 U
2,4,6-Trichlorophenol	9.9 UJ	9.8 U	9.6 U	NA	NA	14 UJ	13 U
Total SVOCs	**14.92**	**13.32**	**73**	NA	NA	**2.7**	**4.45**
Alkylated PAHs (ug/L)							
Acenaphthene	**0.06468 J**	**0.09023**	**0.08023**	0.0116 UJ	0.01051 U	0.01535 UJ	0.0116 U
Acenaphthylene	**0.00891 J**	**0.01889**	**0.01486**	0.01156 UJ	0.01046 U	0.01529 UJ	0.01156 U
Anthracene	**0.0262 J**	**0.02877**	**0.03056**	0.01158 UJ	**0.11712**	0.01532 UJ	**0.08989**
Benz[a]anthracene	**0.00952 J**	**0.03744**	**0.04019**	**0.00442 J**	**0.48348**	**0.00493 J**	**0.23495**
Benzo[a]pyrene	**0.00434 J**	**0.03339**	**0.03586**	**0.00233 J**	**0.48371**	**0.00314 J**	**0.23217**
Benzo[b]fluoranthene	**0.00577 J**	**0.04566**	**0.05002**	**0.00356 J**	**0.56883**	**0.00588 J**	**0.3**
Benzo[e]pyrene	**0.00553 J**	**0.03802**	**0.03939**	**0.00364 J**	**0.46776**	**0.00542 J**	**0.25091**
Benzo[g,h,i]perylene	**0.00335 J**	**0.02847**	**0.02906**	**0.00314 J**	**0.47287 J**	**0.0033 J**	**0.25637 J**
Benzo[k]fluoranthene	**0.00539 J**	**0.04168**	**0.04541**	**0.00303 J**	**0.54044**	**0.00566 J**	**0.27511**
1,1-Biphenyl	**0.02567 J**	**0.04092**	**0.03431**	0.01172 UJ	0.01061 U	0.01551 UJ	0.01172 U
Chrysene	**0.01082 J**	**0.06472**	**0.06924**	**0.0101 J**	**0.67124**	**0.01003 J**	**0.37434**
C1-Chrysenes	**0.01376 J**	**0.05129**	**0.06058**	**0.01344 J**	**0.36891**	**0.01107 J**	**0.22015**
C2-Chrysenes	0.01045 UJ	**0.11606**	**0.09159**	**0.0203 J**	**0.33165**	0.01543 UJ	**0.21194**
C3-Chrysenes	0.01045 UJ	0.00946 U	0.00946 U	0.01166 UJ	**0.27638**	0.01543 UJ	**0.16222**
C4-Chrysenes	0.01045 UJ	0.00946 U	0.00946 U	0.01166 UJ	**0.18441**	0.01543 UJ	**0.15724**
Dibenz[a,h]anthracene	0.01031 UJ	**0.00752 J**	**0.00765 J**	0.01151 UJ	**0.09832 J**	0.01523 UJ	**0.05127 J**
Dibenzofuran	**0.02124 J**	**0.03864**	**0.03374**	0.01163 UJ	0.01053 U	0.01538 UJ	0.01163 U
Dibenzothiophene	**0.15637 J**	**0.28609**	**0.25706**	0.01164 UJ	**0.06448**	0.0154 UJ	**0.06806**
C1-Dibenzothiophenes	**0.20846 J**	**0.40605**	**0.37441**	0.01164 UJ	0.01054 U	0.0154 UJ	0.01164 U
C2-Dibenzothiophenes	**0.3462 J**	**0.54463 J**	**0.4752 J**	**0.13687 J**	**0.22544**	**0.08141 J**	**0.27967**
C3-Dibenzothiophenes	**0.62012 J**	**1.67465 J**	**1.41674 J**	**0.09606 J**	**0.33101**	**0.08247 J**	**0.30279**

Table 3
Summary of Storm Water Analytical Results
Gowanus Canal
Brooklyn, New York

Sample Location:	OH-007			OH-007			
Sample Type:	Baseline, Lab Filtered	Baseline, Unfiltered	Baseline, Unfiltered	Baseline, Lab Filtered	Baseline, Unfiltered	Discharge, Lab Filtered	Discharge, Unfiltered
Sample Event:	Event 1A	Event 1A	Event 1A	Event 1	Event 1	Event 1	Event 1
Sample Name:	MH-OH-007-LFB1	MH-OH-007-WWB1	Duplicate of MH-OH-007-WWB1	MH-OH-007-LFB1A	MH-OH-007-WWB1A	MH-OH-007-LFD1	MH-OH-007-WWD1
Sample Date:	9/18/2012	9/18/2012	9/18/2012	9/28/2012	9/28/2012	9/28/2012	9/28/2012
C4-Dibenzothiophenes	**0.37841 J**	**0.25741 J**	**0.24059 J**	**0.11869 J**	**0.27997**	**0.14544 J**	**0.21862**
Fluoranthene	**0.02505 J**	**0.12373**	**0.12801**	**0.02721 J**	**1.00899**	**0.03119 J**	**0.61227**
C1-Fluoranthenes/pyrenes	**0.06691 J**	**0.19268 J**	**0.16429 J**	**0.03661 J**	**0.40257**	**0.02014 J**	**0.3297**
C2-Fluoranthenes/pyrenes	**0.02652 J**	**0.10007 J**	**0.10739 J**	**0.0354 J**	**0.42244**	**0.02606 J**	**0.28859**
C3-Fluoranthenes/pyrenes	0.01047 UJ	0.00948 U	0.00948 U	**0.02548 J**	**0.28485**	0.01546 UJ	**0.18918**
C4-Fluoranthenes/pyrenes	0.01047 UJ	0.00948 U	0.00948 U	0.01169 UJ	**0.19835**	0.01546 UJ	**0.13159**
Fluorene	**0.03039 J**	**0.05384**	**0.04288**	0.01165 UJ	0.01055 U	0.01542 UJ	0.01165 U
C1-Fluorenes	**0.06006 J**	**0.13964**	**0.11937**	**0.24333 J**	**0.08068**	**0.07313 J**	**0.29029**
C2-Fluorenes	**0.20201 J**	**0.45558**	**0.40786**	**0.30356 J**	**0.28251**	0.01542 UJ	**0.77386**
C3-Fluorenes	**0.34775 J**	**1.20579 J**	**1.11933 J**	**0.30245 J**	**0.39957**	**0.17644 J**	**0.80215**
Indeno[1,2,3-cd]pyrene	**0.00312 J**	**0.02698**	**0.0297**	**0.00265 J**	**0.45579 J**	**0.003 J**	**0.24151 J**
Naphthalene	**0.11735 J**	**0.15147**	**0.12271**	0.01166 UJ	0.01056 U	0.01543 UJ	0.01166 U
C1-Naphthalenes	**0.126 J**	**0.21072**	**0.16701**	0.01166 UJ	0.01056 U	0.01543 UJ	0.01166 U
C2-Naphthalenes	**0.21933 J**	**0.52728**	**0.44437**	**2.47179 J**	0.01056 U	0.01543 UJ	**1.44217**
C3-Naphthalenes	**0.29991 J**	**0.54607**	**0.44912**	**1.37815 J**	0.01056 U	0.01543 UJ	**1.86521**
C4-Naphthalenes	**0.23826 J**	**0.52042**	**0.4283**	**0.48455 J**	0.01056 U	0.01543 UJ	**1.17819**
Perylene	0.01045 UJ	**0.00584 J**	**0.00763 J**	0.01166 UJ	**0.15428**	0.01543 UJ	**0.07487**
Phenanthrene	**0.05859 J**	**0.14348**	**0.13224**	**0.23801 J**	**0.63229**	0.01534 UJ	**0.52139**
C1-Phenanthrenes/anthracenes	**0.33995 J**	**0.58339 J**	**0.57255 J**	**0.27324 J**	**0.4302**	0.01534 UJ	**0.664**
C2-Phenanthrenes/anthracenes	**0.33802 J**	**0.34705**	**0.31442**	0.01159 UJ	**0.49004**	0.01534 UJ	**0.88446**
C3-Phenanthrenes/anthracenes	**0.13348 J**	**0.50104 J**	**0.52928 J**	0.01159 UJ	**0.31774**	**0.04976 J**	**0.52011**
C4-Phenanthrenes/anthracenes	**0.20683 J**	**0.29102 J**	**0.21911 J**	**0.08321 J**	**0.22805**	0.01534 UJ	**0.23425**
Pyrene	**0.0238 J**	**0.24975**	**0.24403**	**0.03754 J**	**0.85831**	**0.0287 J**	**0.56396**
Total PAH44	**4.77807**	**10.22637**	**9.17629**	**6.35876**	**12.61268**	**0.76717**	**15.29345**
PCBs (ug/L)							
Aroclor 1016	0.38 UJ	0.38 U	0.38 U	NA	NA	0.4 UJ	0.4 U
Aroclor 1221	0.38 UJ	0.38 U	0.38 U	NA	NA	0.4 UJ	0.4 U
Aroclor 1232	0.38 UJ	0.38 U	0.38 U	NA	NA	0.4 UJ	0.4 U
Aroclor 1242	0.38 UJ	0.38 U	0.38 U	NA	NA	0.4 UJ	0.4 U
Aroclor 1248	0.38 UJ	0.38 U	0.38 U	NA	NA	0.4 UJ	0.4 U
Aroclor 1254	0.38 UJ	0.38 U	0.38 U	NA	NA	0.4 UJ	0.4 U
Aroclor 1260	0.38 UJ	0.38 U	0.38 U	NA	NA	0.4 UJ	0.4 U
Aroclor 1262	0.38 UJ	0.38 U	0.38 U	NA	NA	0.4 UJ	0.4 U
Aroclor 1268	0.38 UJ	0.38 U	0.38 U	NA	NA	0.4 UJ	0.4 U
Total PCB Aroclors	ND	ND	ND	NA	NA	ND	ND
Pesticides (ug/L)							
Aldrin	0.048 UJ	0.048 U	0.048 U	NA	NA	0.05 UJ	0.05 U
alpha-BHC	0.048 UJ	0.048 U	0.048 U	NA	NA	0.05 UJ	0.05 U
beta-BHC	0.048 UJ	0.048 U	0.048 U	NA	NA	0.05 UJ	0.05 U
gamma-BHC	0.048 UJ	0.048 U	0.048 U	NA	NA	0.05 UJ	0.05 U
delta-BHC	0.048 UJ	0.048 U	0.048 U	NA	NA	0.05 UJ	0.05 U
alpha-chlordane	0.048 UJ	0.048 U	0.048 U	NA	NA	0.05 UJ	0.05 U
gamma-Chlordane	**0.12 J**	**0.34**	**0.27**	NA	NA	**0.072 J**	**0.22 J**
4,4-DDD	0.048 UJ	0.048 U	0.048 U	NA	NA	0.05 UJ	0.05 U
4,4'-DDE	0.048 UJ	0.048 U	0.048 U	NA	NA	0.05 UJ	0.05 U
4,4'-DDT	0.048 UJ	0.048 UJ	0.048 UJ	NA	NA	0.05 UJ	0.05 U
Dieldrin	0.048 UJ	0.048 U	0.048 U	NA	NA	0.05 UJ	0.05 U
Endosulfan I	0.048 UJ	0.048 U	0.048 U	NA	NA	0.05 UJ	0.05 U
Endosulfan II	0.048 UJ	0.048 U	0.048 U	NA	NA	0.05 UJ	0.05 U
Endosulfan sulfate	0.048 UJ	0.048 U	0.048 U	NA	NA	0.05 UJ	0.05 U

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Brooklyn, New York

Sample Location:	OH-007			OH-007			
Sample Type:	Baseline, Lab Filtered	Baseline, Unfiltered	Baseline, Unfiltered	Baseline, Lab Filtered	Baseline, Unfiltered	Discharge, Lab Filtered	Discharge, Unfiltered
Sample Event:	Event 1A	Event 1A	Event 1A	Event 1	Event 1	Event 1	Event 1
Sample Name:	MH-OH-007-LFB1	MH-OH-007-WWB1	Duplicate of MH-OH-007-WWB1	MH-OH-007-LFB1A	MH-OH-007-WWB1A	MH-OH-007-LFD1	MH-OH-007-WWD1
Sample Date:	9/18/2012	9/18/2012	9/18/2012	9/28/2012	9/28/2012	9/28/2012	9/28/2012
Endrin	0.048 UJ	0.048 U	0.048 U	NA	NA	0.05 UJ	0.05 U
Endrin aldehyde	0.048 UJ	0.048 U	0.048 U	NA	NA	0.05 UJ	0.05 U
Endrin ketone	0.048 UJ	0.048 UJ	0.048 UJ	NA	NA	0.05 UJ	0.05 U
Heptachlor	0.048 UJ	0.048 UJ	0.048 UJ	NA	NA	0.05 UJ	0.05 U
Heptachlor epoxide	0.048 UJ	0.048 U	0.048 U	NA	NA	0.05 UJ	0.05 U
Methoxychlor	0.095 UJ	0.095 U	0.095 U	NA	NA	0.1 UJ	0.1 U
Toxaphene	3.8 UJ	3.8 U	3.8 U	NA	NA	4 UJ	4 U
Herbicides (ug/L)							
2,4-D	3.8 UJ	3.8 U	3.8 U	NA	NA	4 UJ	4 UJ
2,4-DB	3.8 UJ	3.8 U	3.8 U	NA	NA	4 UJ	4 UJ
Dicamba	1.9 UJ	1.9 U	1.9 U	NA	NA	2 UJ	2 U
Dichloroprop	3.8 UJ	3.8 U	3.8 U	NA	NA	4 UJ	4 UJ
2,2-Dichloropropionic acid	4.8 UJ	4.7 U	4.8 U	NA	NA	**1.3 J**	5 U
Dinoseb	0.86 UJ	0.85 U	0.86 U	NA	NA	0.9 UJ	0.9 UJ
MCPP	380 UJ	380 U	380 U	NA	NA	400 UJ	400 U
Methylchlorophenoxyacetic acid	380 UJ	380 U	380 U	NA	NA	400 UJ	400 U
Silvex	0.95 UJ	0.94 U	0.95 U	NA	NA	1 UJ	1 UJ
2,4,5-Trichlorophenoxyacetic Acid	0.95 UJ	0.94 U	0.95 U	NA	NA	1 UJ	1 UJ
Dissolved Metals (ug/L)							
Antimony	**2.9 J**	2 UJ	2 UJ	NA	NA	2 UJ	2 UJ
Aluminum	**250 J**	**350 J**	**360 J**	NA	NA	**170 J**	30 UJ
Arsenic	**1.6 J**	**1.7 J**	**1 J**	NA	NA	**4.5 J**	**2.9 J**
Barium	**24 J**	**29 J**	**30 J**	NA	NA	**22 J**	**13 J**
Beryllium	**0.039 J**	1 UJ	1 UJ	NA	NA	1 UJ	1 U
Cadmium	**0.25 J**	1 UJ	1 UJ	NA	NA	1 UJ	1 U
Calcium	**15000 J**	**15000 J**	**15000 J**	NA	NA	**8800 J**	**9000**
Chromium	**6.4 J**	**4.2 J**	**4.1 J**	NA	NA	**3.1 J**	**2.8**
Cobalt	**0.84 J**	**0.98 J**	**1.2 J**	NA	NA	0.5 UJ	0.5 U
Copper	**40 J**	**67 J**	**68 J**	NA	NA	**11 J**	**9**
Iron	**750 J**	**1300 J**	**1300 J**	NA	NA	**430 J**	**250 J**
Lead	**8.9 J**	**15 J**	**16 J**	NA	NA	**5.7 J**	**3.6**
Magnesium	**3300 J**	**2900 J**	**2900 J**	NA	NA	**1400 J**	**1200**
Manganese	**75 J**	**82 J**	**84 J**	NA	NA	**49 J**	**42**
Mercury	0.2 UJ	0.2 UJ	0.2 UJ	NA	NA	0.2 UJ	0.2 U
Nickel	**6.7 J**	**7 J**	**6.6 J**	NA	NA	**2.3 J**	**1.9**
Potassium	**6700 J**	**7200 J**	**7300 J**	NA	NA	**3600 J**	**3500**
Selenium	5 UJ	5 UJ	5 UJ	NA	NA	5 UJ	5 U
Silver	**1.4 J**	**4.3 J**	**4.4 J**	NA	NA	**0.089 J**	1 U
Sodium	**29000 J**	**32000 J**	**32000 J**	NA	NA	**14000 J**	**13000**
Thallium	1 UJ	1 UJ	1 UJ	NA	NA	1 UJ	1 U
Vanadium	**4.9 J**	**3.5 J**	**3.3 J**	NA	NA	**6.5 J**	**4.7 J**
Zinc	**69 J**	**130 J**	**140 J**	NA	NA	**39 J**	**38 J**
Total Metals (ug/L)							
Antimony	NA	2 U	2 U	NA	NA	NA	2 UJ
Aluminum	NA	**470**	**490**	NA	NA	NA	**600 J**
Arsenic	NA	**1.6**	**1.1**	NA	NA	NA	**3.8**
Barium	NA	**34**	**36**	NA	NA	NA	**40 J**
Beryllium	NA	**0.055 J**	1 U	NA	NA	NA	1 U
Cadmium	NA	R	R	NA	NA	NA	**0.11 J**
Calcium	NA	**14000**	**15000**	NA	NA	NA	**9500**

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Gowanus Canal
Brooklyn, New York

Sample Location:	OH-007			OH-007			
Sample Type:	Baseline, Lab Filtered	Baseline, Unfiltered	Baseline, Unfiltered	Baseline, Lab Filtered	Baseline, Unfiltered	Discharge, Lab Filtered	Discharge, Unfiltered
Sample Event:	Event 1A	Event 1A	Event 1A	Event 1	Event 1	Event 1	Event 1
Sample Name:	MH-OH-007-LFB1	MH-OH-007-WWB1	Duplicate of MH-OH-007-WWB1	MH-OH-007-LFB1A	MH-OH-007-WWB1A	MH-OH-007-LFD1	MH-OH-007-WWD1
Sample Date:	9/18/2012	9/18/2012	9/18/2012	9/28/2012	9/28/2012	9/28/2012	9/28/2012
Chromium	NA	**2.8**	**3**	NA	NA	NA	**7.5**
Cobalt	NA	**1**	**1.2**	NA	NA	NA	**0.98**
Copper	NA	**78**	**78**	NA	NA	NA	**52**
Iron	NA	**1600**	**1700**	NA	NA	NA	**2100 J**
Lead	NA	**22**	**23**	NA	NA	NA	**46**
Magnesium	NA	**2700**	**2800**	NA	NA	NA	**1800**
Manganese	NA	**81**	**87**	NA	NA	NA	**64**
Mercury	NA	**0.077 J**	**0.089 J**	NA	NA	NA	**0.077 J**
Nickel	NA	**5.3**	**6.4**	NA	NA	NA	**4.5**
Potassium	NA	**6800**	**6900**	NA	NA	NA	**3800**
Selenium	NA	5 U	5 U	NA	NA	NA	5 U
Silver	NA	**7.2 J**	**11 J**	NA	NA	NA	**0.46 J**
Sodium	NA	**27000**	**28000**	NA	NA	NA	**13000**
Thallium	NA	1 U	1 U	NA	NA	NA	1 U
Vanadium	NA	**4.3**	**5.1**	NA	NA	NA	**8.9 J**
Zinc	NA	**160**	**170**	NA	NA	NA	**160 J**
Cyanides (ug/L)							
Free Cyanide	**1.8 J**	**1.1 J**	**1.2 J**	NA	NA	**9.1 J**	**5.7**
EDCs and PPCPs (Phenols) (ug/L)							
Bisphenol A	**3 J**	**3.5**	**3**	NA	NA	**0.6 J**	**1.1**
Nonylphenol	**5.5 J**	**14 J**	**9.8 J**	NA	NA	2.5 UJ	**12**
Nonylphenol Diethoxylate	16 UJ	16 U	8 U	NA	NA	9.7 UJ	10 U
Nonylphenol Monoethoxylate	7.6 UJ	**11**	**13**	NA	NA	4.9 UJ	**12**
4-tert-Octylphenol	0.76 UJ	0.8 U	**0.44**	NA	NA	0.49 UJ	0.5 U
EDCs and PPCPs (ug/L)							
Acetaminophen	**47 J**	**51**	**60**	NA	NA	**14 J**	**16**
alpha-Estradiol	0.048 UJ	**0.015 J**	**0.3 J**	NA	NA	0.0074 UJ	0.06 U
Androstenedione	0.0095 UJ	**0.028**	**0.028**	NA	NA	**0.021 J**	0.012 U
Atrazine	0.0095 UJ	0.0098 U	0.0096 U	NA	NA	0.015 UJ	0.012 U
Bisphenol A	0.095 UJ	0.098 U	0.096 U	NA	NA	**1.5 J**	**2.4 J**
Caffeine	**49 J**	**56 J**	**54 J**	NA	NA	**20 J**	**21 J**
Carbamazepine	**0.13 J**	**0.18**	**0.15**	NA	NA	**0.033 J**	**0.026**
DEET (N,N-Diethyl-3-Methyl Benzamide)	**1.4 J**	**3.2**	**2.8**	NA	NA	0.074 UJ	0.06 U
Diazepam	0.0095 UJ	0.0098 U	0.0096 U	NA	NA	0.015 UJ	0.012 U
Diclofenac	**0.15 J**	**0.097 J**	**0.081 J**	NA	NA	R	0.024 UJ
Diethylstilbestrol	0.019 UJ	0.02 UJ	0.019 UJ	NA	NA	0.0029 UJ	0.024 UJ
Estradiol	0.019 UJ	0.02 UJ	0.019 UJ	NA	NA	0.0029 UJ	0.024 U
Estriol	**0.1 J**	**0.11**	**0.097 J**	NA	NA	**0.094 J**	**0.1**
Estrone	0.048 UJ	**0.035 J**	0.048 UJ	NA	NA	**0.023 J**	0.06 UJ
Ethinyl Estradiol	0.048 UJ	0.049 UJ	0.048 UJ	NA	NA	0.0074 UJ	0.06 UJ
Fluoxetine	0.0095 UJ	0.0098 UJ	0.0096 UJ	NA	NA	R	0.012 UJ
Gemfibrozil	**1.2 J**	**1.2 J**	**1.2 J**	NA	NA	**0.26 J**	**0.3 J**
Hydrocodone	0.048 UJ	**0.028 J**	0.048 U	NA	NA	0.074 UJ	0.06 U
Ibuprofen	**6 J**	**10 J**	**7.3 J**	NA	NA	**4.6 J**	**4.8 J**
Iopromide	**0.94 J**	**0.8**	**0.7**	NA	NA	**0.97 J**	**0.35**
Meprobamate	**0.039 J**	**0.091**	**0.076**	NA	NA	0.015 UJ	**0.014**
Methadone	**0.049 J**	**0.047 J**	**0.038 J**	NA	NA	0.074 UJ	0.06 U
Naproxen	0.0095 UJ	0.0098 UJ	0.0096 UJ	NA	NA	**2.9 J**	**3.7 J**
Oxybenzone	**1.8 J**	**1.7 J**	**2.4 J**	NA	NA	**0.94 J**	**1.1 J**
Pentoxifylline	0.0095 UJ	0.0098 U	0.0096 U	NA	NA	0.015 UJ	0.012 U

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Brooklyn, New York

Sample Location:	OH-007			OH-007			
Sample Type:	Baseline, Lab Filtered	Baseline, Unfiltered	Baseline, Unfiltered	Baseline, Lab Filtered	Baseline, Unfiltered	Discharge, Lab Filtered	Discharge, Unfiltered
Sample Event:	Event 1A	Event 1A	Event 1A	Event 1	Event 1	Event 1	Event 1
Sample Name:	MH-OH-007-LFB1	MH-OH-007-WWB1	Duplicate of MH-OH-007-WWB1	MH-OH-007-LFB1A	MH-OH-007-WWB1A	MH-OH-007-LFD1	MH-OH-007-WWD1
Sample Date:	9/18/2012	9/18/2012	9/18/2012	9/28/2012	9/28/2012	9/28/2012	9/28/2012
Phenytoin (5,5-Diphenylhydantion / Dilantin)	0.019 UJ	0.02 UJ	0.019 UJ	NA	NA	0.0029 UJ	0.024 U
Progesterone	0.019 UJ	0.02 U	0.019 UJ	NA	NA	**0.037 J**	0.024 U
Salicylic Acid	**26 J**	**25**	**29 J**	NA	NA	**0.24 J**	0.24 U
Sulfamethoxazole	**0.12 J**	**0.11 J**	**0.23 J**	NA	NA	**0.12 J**	**0.13**
Testosterone	**0.13 J**	**0.098**	**0.096**	NA	NA	0.029 UJ	**0.02 J**
Triclosan	0.48 UJ	0.49 UJ	0.48 UJ	NA	NA	R	0.6 UJ
Trimethoprim	**0.27 J**	**0.16 J**	**0.18 J**	NA	NA	**0.046 J**	**0.071 J**
Pathogen							
C. perfringens (cfu/100mL)	**1000**	**77000**	NA	NA	NA	**25000**	**31000**
Coliphage, Male Specific (pfu/100mL)	**86000 J**	**90800 J**	NA	NA	NA	**56300**	**62600**
Coliphage, Somatic (pfu/100mL)	**96700 J**	**52400 J**	NA	NA	NA	**15700 J**	**14100 J**
Cryptosporidium (oocysts/L)	R	R	NA	NA	NA	0 UJ	0 U
E.Coli (mpn/100mL)	**4140000**	**2590000**	NA	NA	NA	**3230000**	**3990000**
Enterococci (mpn/100mL)	**1046200**	**866400**	NA	NA	NA	**488000**	**411000**
Enterovirus (pos/neg)	NA	NA	NA	NA	NA	**pos**	NA
Fecal Coliform (mpn/100mL)	**4800000**	**3010000**	NA	NA	NA	**3010000**	**5650000**
Giardia (cysts/L)	**28.15 J**	**146.63 J**	NA	NA	NA	**120 J**	**180**
Plaque forming virus (pfu//1 mL)	0 U	0 U	NA	NA	NA	NA	NA
Plaque forming virus (pfu/125 mL)	NA	NA	NA	NA	NA	NA	NA
Plaque forming virus (pfu/165.5 mL)	NA	NA	NA	NA	NA	NA	NA
Plaque forming virus (pfu/182.5 mL)	NA	NA	NA	NA	NA	NA	NA
Plaque forming virus (pfu/185.5 mL)	NA	NA	NA	NA	NA	NA	NA
Plaque forming virus (pfu/187.5 mL)	NA	NA	NA	NA	NA	NA	NA
Plaque forming virus (pfu/197.5 mL)	NA	NA	NA	NA	NA	NA	NA
Plaque forming virus (pfu/199.5 mL)	NA	NA	NA	NA	NA	NA	NA
Plaque forming virus (pfu/200 mL)	NA	NA	NA	NA	NA	NA	NA
Plaque forming virus (pfu/200.5 mL)	NA	NA	NA	NA	NA	NA	0 U
Plaque forming virus (pfu/201 mL)	NA	NA	NA	NA	NA	NA	NA
Plaque forming virus (pfu/201.5 mL)	NA	NA	NA	NA	NA	NA	NA
Plaque forming virus (pfu/202 mL)	NA	NA	NA	NA	NA	NA	NA
Plaque forming virus (pfu/203 mL)	NA	NA	NA	NA	NA	NA	NA
Plaque forming virus (pfu/204 mL)	NA	NA	NA	NA	NA	NA	NA
Plaque forming virus (pfu/205 mL)	NA	NA	NA	NA	NA	NA	NA
Viruses (pos/neg)	neg	neg	NA	NA	NA	NA	neg
Other (ug/L)							
Ammonia	**17000 J**	**17000**	**17000**	NA	NA	**4900 J**	**3900**
Calcium hardness as calcium carbonate	**38000 J**	**35000**	**36000**	NA	NA	NA	**24000**
Dissolved Organic Carbon	**51000 J**	**55000 J**	**57000 J**	**28000 J**	**28000 J**	**12000 J**	**10000**
Hardness as calcium carbonate	**52000 J**	**46000**	**48000**	NA	NA	**28000 J**	**31000**
Magnesium hardness as calcium carbonate	**14000 J**	**11000**	**11000**	NA	NA	NA	**7500**
pH (s.u.)	**7.05 J**	**6.98 J**	**6.95 J**	NA	NA	**6.65 J**	**6.37 J**
Sediment Concentration	NA	**56000 J**	**79000 J**	NA	NA	NA	**94000**
Specific Conductance (umhos/cm)	**370 J**	**420**	**440**	NA	NA	**190 J**	**200**
Total Dissolved Solids	NA	**210000**	**220000**	NA	NA	NA	**170000**
Total Organic Carbon	**54000 J**	**32000 J**	**32000 J**	**29000 J**	**20000 J**	**13000 J**	**20000**
Total Petroleum Hydrocarbons	**2577.53 J**	**7938.5**	**7845.1**	NA	NA	1.56 UJ	**4908.89**
Total Suspended Solids	NA	**70000**	**62000**	NA	NA	NA	**120000**
Turbidity (ntu)	NA	**56 J**	**59 J**	NA	NA	NA	**71**

Table 3
Summary of Storm Water Analytical Results
Gowanus Canal
Brooklyn, New York

Sample Location:	RH-031				RH-034	
Sample Type:	Baseline, Lab Filtered	Baseline, Unfiltered	Discharge, Lab Filtered	Discharge, Unfiltered	Discharge, Lab Filtered	Discharge, Unfiltered
Sample Event:	Event 1	Event 1	Event 1	Event 1	Event 1	Event 1
Sample Name:	MH-RH-031-LFB1	MH-RH-031-WWB1	MH-RH-031-LFD1	MH-RH-031-WWD1	MH-RH-034-LFD1	MH-RH-034-WWD1
Sample Date:	9/28/2012	9/28/2012	9/28/2012	9/28/2012	9/28/2012	9/28/2012
BTEX (ug/L)						
Benzene	**1.7 J**	**2.4**	**0.96 J**	**1.2**	NA	NA
Toluene	**5.8 J**	**4.5**	**3.7 J**	**2.6**	NA	NA
Ethylbenzene	**0.39 J**	**0.43 J**	1 UJ	**0.26 J**	NA	NA
m,p-Xylene	2 UJ	2 U	2 UJ	2 U	NA	NA
o-Xylene	**0.14 J**	**0.17 J**	1 UJ	**0.13 J**	NA	NA
Total Xylene	3 UJ	**0.5 J**	3 UJ	3 U	NA	NA
Total BTEX	**8.03**	**8**	**4.66**	**4.19**	NA	NA
Other VOCs (ug/L)						
Acetone	**16 J**	**24 J**	**24 J**	**44 J**	NA	NA
Bromochloromethane	1 UJ	1 U	1 UJ	1 U	NA	NA
Bromodichloromethane	1 UJ	1 U	1 UJ	1 U	NA	NA
Bromoform	1 UJ	1 UJ	1 UJ	1 UJ	NA	NA
Bromomethane	1 UJ	1 UJ	1 UJ	1 UJ	NA	NA
2-Butanone (Methyl ethyl ketone)	5 UJ	5 U	5 UJ	5 U	NA	NA
Carbon disulfide	**0.28 J**	**0.34 J**	1 UJ	1 U	NA	NA
Carbon tetrachloride	1 UJ	1 UJ	1 UJ	1 UJ	NA	NA
Chlorobenzene	1 UJ	1 U	1 UJ	1 U	NA	NA
Chloroethane	1 UJ	1 UJ	1 UJ	1 UJ	NA	NA
Chloroform	**1.4 J**	**1.7**	**2 J**	**2.8**	NA	NA
Chloromethane	1 UJ	1 UJ	1 UJ	1 UJ	NA	NA
Cyclohexane	1 UJ	1 U	1 UJ	1 U	NA	NA
1,2-Dibromo-3-chloropropane	1 UJ	1 U	1 UJ	1 U	NA	NA
Dibromochloromethane	1 UJ	1 U	1 UJ	1 U	NA	NA
1,2-Dibromoethane (EDB)	1 UJ	1 U	1 UJ	1 U	NA	NA
1,2-Dichlorobenzene	1 UJ	1 U	1 UJ	1 U	NA	NA
1,3-Dichlorobenzene	1 UJ	1 U	1 UJ	1 U	NA	NA
1,4-Dichlorobenzene	1 UJ	1 U	**0.22 J**	1 U	NA	NA
Dichlorodifluoromethane (Freon 12)	1 UJ	1 UJ	1 UJ	1 UJ	NA	NA
1,1-Dichloroethane	1 UJ	1 U	1 UJ	1 U	NA	NA
1,2-Dichloroethane	1 UJ	1 U	1 UJ	1 U	NA	NA
1,1-Dichloroethene	1 UJ	1 U	1 UJ	1 U	NA	NA
cis-1,2-Dichloroethene	**1.6 J**	**0.25 J**	**0.74 J**	**0.55 J**	NA	NA
trans-1,2-Dichloroethene	1 UJ	1 U	1 UJ	1 U	NA	NA
1,2-Dichloropropane	1 UJ	1 U	1 UJ	1 U	NA	NA
cis-1,3-Dichloropropene	1 UJ	1 U	1 UJ	1 U	NA	NA
trans-1,3-Dichloropropene	1 UJ	1 U	1 UJ	1 U	NA	NA
1,4-Dioxane	R	R	R	R	NA	NA
2-Hexanone	5 UJ	5 UJ	5 UJ	5 UJ	NA	NA
Isopropyl benzene	1 UJ	1 U	1 UJ	1 U	NA	NA
Methyl acetate	1 UJ	1 U	1 UJ	1 U	NA	NA
Methyl tert-butyl ether (MTBE)	1 UJ	1 U	1 UJ	1 U	NA	NA
4-Methyl-2-pentanone (MIBK)	**1 J**	**2.1 J**	5 UJ	**0.79 J**	NA	NA
Methylcyclohexane	1 UJ	1 U	1 UJ	1 U	NA	NA
Methylene chloride	1 UJ	1 U	1 UJ	1 U	NA	NA
Styrene	1 UJ	1 U	1 UJ	1 U	NA	NA
1,1,2,2-Tetrachloroethane	1 UJ	1 U	1 UJ	1 U	NA	NA
Tetrachloroethene (PCE)	**0.34 J**	**0.67 J**	**1.8 J**	**2**	NA	NA
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	1 UJ	1 U	1 UJ	1 U	NA	NA
1,2,3-Trichlorobenzene	1 UJ	1 UJ	1 UJ	1 UJ	NA	NA

Table 3
Summary of Storm Water Analytical Results
Gowanus Canal
Brooklyn, New York

Sample Location:	RH-031				RH-034	
Sample Type:	Baseline, Lab Filtered	Baseline, Unfiltered	Discharge, Lab Filtered	Discharge, Unfiltered	Discharge, Lab Filtered	Discharge, Unfiltered
Sample Event:	Event 1	Event 1	Event 1	Event 1	Event 1	Event 1
Sample Name:	MH-RH-031-LFB1	MH-RH-031-WWB1	MH-RH-031-LFD1	MH-RH-031-WWD1	MH-RH-034-LFD1	MH-RH-034-WWD1
Sample Date:	9/28/2012	9/28/2012	9/28/2012	9/28/2012	9/28/2012	9/28/2012
1,2,4-Trichlorobenzene	1 UJ	1 U	1 UJ	1 U	NA	NA
1,1,1-Trichloroethane	1 UJ	1 U	1 UJ	1 U	NA	NA
1,1,2-Trichloroethane	1 UJ	1 U	1 UJ	1 U	NA	NA
Trichloroethene (TCE)	1 UJ	1 U	1 UJ	**0.14 J**	NA	NA
Trichlorofluoromethane (Freon 11)	1 UJ	1 U	1 UJ	1 U	NA	NA
Vinyl chloride	**0.31 J**	1 U	1 UJ	1 U	NA	NA
Total VOCs	**28.96**	**37.06**	**33.42**	**54.47**	NA	NA
PAHs (ug/L)						
Acenaphthene	2.2 UJ	**0.39 J**	2.1 UJ	1.9 U	NA	NA
Acenaphthylene	2.2 UJ	2.1 U	2.1 UJ	1.9 U	NA	NA
Anthracene	2.2 UJ	**0.2 J**	2.1 UJ	1.9 U	NA	NA
Benz[a]anthracene	2.2 UJ	**0.5 J**	2.1 UJ	1.9 U	NA	NA
Benzo[a]pyrene	2.2 UJ	**0.57 J**	2.1 UJ	1.9 U	NA	NA
Benzo[b]fluoranthene	2.2 UJ	**0.31 J**	2.1 UJ	1.9 U	NA	NA
Benzo[g,h,i]perylene	2.2 UJ	2.1 U	2.1 UJ	1.9 U	NA	NA
Benzo[k]fluoranthene	2.2 UJ	2.1 U	2.1 UJ	1.9 U	NA	NA
Chrysene	2.2 UJ	**0.59 J**	2.1 UJ	1.9 U	NA	NA
Dibenz[a,h]anthracene	2.2 UJ	2.1 U	2.1 UJ	1.9 U	NA	NA
Fluoranthene	2.2 UJ	**0.87 J**	2.1 UJ	1.9 U	NA	NA
Fluorene	2.2 UJ	2.1 U	2.1 UJ	1.9 U	NA	NA
Indeno[1,2,3-cd]pyrene	2.2 UJ	2.1 U	2.1 UJ	1.9 U	NA	NA
2-Methylnaphthalene	2.2 UJ	2.1 U	2.1 UJ	1.9 U	NA	NA
Naphthalene	2.2 UJ	2.1 U	2.1 UJ	1.9 U	NA	NA
Phenanthrene	2.2 UJ	**0.88 J**	2.1 UJ	1.9 U	NA	NA
Pyrene	2.2 UJ	**0.98 J**	2.1 UJ	1.9 U	NA	NA
Total PAH 17	ND	**5.29**	ND	ND	NA	NA
Other SVOCs (ug/L)						
Acetophenone	11 UJ	11 U	10 UJ	9.6 U	NA	NA
Atrazine	11 UJ	11 U	10 UJ	9.6 U	NA	NA
Benzaldehyde	11 UJ	11 U	10 UJ	9.6 U	NA	NA
1,1-Biphenyl	11 UJ	11 U	10 UJ	9.6 U	NA	NA
Bis(chloroisopropyl)ether	2.2 UJ	2.1 U	2.1 UJ	1.9 U	NA	NA
Bis(2-chloroethyl)ether	2.2 UJ	2.1 U	2.1 UJ	1.9 U	NA	NA
Bis(2-chloroethoxy)methane	11 UJ	11 U	10 UJ	9.6 U	NA	NA
Bis(2-ethylhexyl)phthalate	22 UJ	21 U	21 UJ	19 U	NA	NA
4-Bromophenyl phenyl ether	11 UJ	11 U	10 UJ	9.6 U	NA	NA
Butyl benzyl phthalate	11 UJ	11 U	10 UJ	9.6 U	NA	NA
Caprolactam	54 UJ	53 U	52 UJ	48 U	NA	NA
Carbazole	2.2 UJ	2.1 U	2.1 UJ	1.9 U	NA	NA
4-Chloro-3-methylphenol	11 UJ	11 U	10 UJ	9.6 U	NA	NA
4-Chloroaniline	11 UJ	11 U	10 UJ	9.6 U	NA	NA
2-Chloronaphthalene	2.2 UJ	2.1 U	2.1 UJ	1.9 U	NA	NA
2-Chlorophenol	11 UJ	11 U	10 UJ	9.6 U	NA	NA
4-Chlorophenyl phenyl ether	11 UJ	11 U	10 UJ	9.6 U	NA	NA
Dibenzofuran	11 UJ	11 U	10 UJ	9.6 U	NA	NA
3,3-Dichlorobenzidine	11 UJ	11 U	10 UJ	9.6 U	NA	NA
2,4-Dichlorophenol	2.2 UJ	2.1 U	2.1 UJ	1.9 U	NA	NA
Diethyl phthalate	11 UJ	11 U	10 UJ	9.6 U	NA	NA
Dimethyl phthalate	11 UJ	11 U	10 UJ	9.6 U	NA	NA
2,4-Dimethylphenol	11 UJ	11 U	10 UJ	9.6 U	NA	NA

Table 3
Summary of Storm Water Analytical Results
Gowanus Canal
Brooklyn, New York

Sample Location:	RH-031				RH-034	
Sample Type:	Baseline, Lab Filtered	Baseline, Unfiltered	Discharge, Lab Filtered	Discharge, Unfiltered	Discharge, Lab Filtered	Discharge, Unfiltered
Sample Event:	Event 1	Event 1	Event 1	Event 1	Event 1	Event 1
Sample Name:	MH-RH-031-LFB1	MH-RH-031-WWB1	MH-RH-031-LFD1	MH-RH-031-WWD1	MH-RH-034-LFD1	MH-RH-034-WWD1
Sample Date:	9/28/2012	9/28/2012	9/28/2012	9/28/2012	9/28/2012	9/28/2012
Di-n-butyl phthalate	11 UJ	11 U	10 UJ	9.6 U	NA	NA
4,6-Dinitro-2-methylphenol	54 UJ	53 U	52 UJ	48 U	NA	NA
2,4-Dinitrophenol	54 UJ	53 U	52 UJ	48 U	NA	NA
2,4-Dinitrotoluene	11 UJ	11 U	10 UJ	9.6 U	NA	NA
2,6-Dinitrotoluene	11 UJ	11 U	10 UJ	9.6 U	NA	NA
Di-n-octyl phthalate	11 UJ	11 U	10 UJ	9.6 U	NA	NA
Hexachlorobenzene	2.2 UJ	2.1 U	2.1 UJ	1.9 U	NA	NA
Hexachlorobutadiene	2.2 UJ	2.1 U	2.1 UJ	1.9 U	NA	NA
Hexachlorocyclopentadiene	11 UJ	11 U	10 UJ	9.6 U	NA	NA
Hexachloroethane	11 UJ	11 U	10 UJ	9.6 U	NA	NA
Isophorone	11 UJ	11 U	10 UJ	9.6 U	NA	NA
2-Methylphenol (o-Cresol)	11 UJ	11 U	10 UJ	9.6 U	NA	NA
3,4-Methylphenol (m,p-Cresol)	11 UJ	**8.8 J**	**7.4 J**	**13**	NA	NA
2-Nitroaniline	54 UJ	53 U	52 UJ	48 U	NA	NA
3-Nitroaniline	54 UJ	53 U	52 UJ	48 U	NA	NA
4-Nitroaniline	54 UJ	53 U	52 UJ	48 U	NA	NA
Nitrobenzene	22 UJ	21 U	21 UJ	19 U	NA	NA
2-Nitrophenol	11 UJ	11 U	10 UJ	9.6 U	NA	NA
4-Nitrophenol	54 UJ	53 U	52 UJ	48 U	NA	NA
N-Nitrosodi-n-propylamine	2.2 UJ	2.1 U	2.1 UJ	1.9 U	NA	NA
N-Nitrosodiphenylamine	11 UJ	11 U	10 UJ	9.6 U	NA	NA
Pentachlorophenol	11 UJ	11 U	10 UJ	9.6 U	NA	NA
Phenol	2.2 UJ	2.1 U	2.1 UJ	**4.6**	NA	NA
1,2,4,5-Tetrachlorobenzene	11 UJ	11 U	10 UJ	9.6 U	NA	NA
2,3,4,6-Tetrachlorophenol	11 UJ	11 U	10 UJ	9.6 U	NA	NA
2,4,5-Trichlorophenol	11 UJ	11 U	10 UJ	9.6 U	NA	NA
2,4,6-Trichlorophenol	11 UJ	11 U	10 UJ	9.6 U	NA	NA
Total SVOCs	ND	**14.09**	**7.4**	**17.6**	NA	NA
Alkylated PAHs (ug/L)						
Acenaphthene	0.01029 UJ	**0.4211**	0.01073 UJ	0.00942 U	0.0116 UJ	**1.90163**
Acenaphthylene	0.01025 UJ	0.00938 U	0.01069 UJ	**0.03662**	0.01156 UJ	0.00956 U
Anthracene	**0.02719 J**	**0.40866**	0.01071 UJ	**0.08306**	**0.04647 J**	**1.34991**
Benz[a]anthracene	**0.01311 J**	**2.12352**	**0.00279 J**	**0.23078**	**0.01412 J**	**1.76835**
Benzo[a]pyrene	**0.00608 J**	**1.66638**	**0.00195 J**	**0.2422**	**0.00921 J**	**1.62754**
Benzo[b]fluoranthene	**0.01051 J**	**2.16343**	**0.00259 J**	**0.27871**	**0.00587 J**	**1.17385**
Benzo[e]pyrene	**0.00863 J**	**1.61349**	**0.00248 J**	**0.22741**	**0.00666 J**	**1.09789**
Benzo[g,h,i]perylene	**0.00386 J**	**1.25155 J**	**0.00201 J**	**0.22392 J**	**0.00528 J**	**0.91746 J**
Benzo[k]fluoranthene	**0.01021 J**	**1.99962**	**0.00246 J**	**0.26016**	**0.00709 J**	**1.31337**
1,1-Biphenyl	0.01039 UJ	0.00951 U	0.01084 UJ	**0.04186**	0.01172 UJ	**0.28713**
Chrysene	**0.02194 J**	**2.81142**	**0.00459 J**	**0.31943**	**0.01537 J**	**1.77378**
C1-Chrysenes	**0.00852 J**	**0.92928**	**0.00325 J**	**0.18934**	**0.01166 J**	**1.02011**
C2-Chrysenes	**0.00561 J**	**0.6421**	0.01078 UJ	**0.20091**	**0.01713 J**	**0.73385**
C3-Chrysenes	0.01034 UJ	**0.51911**	0.01078 UJ	**0.26164**	0.01166 UJ	**0.47719**
C4-Chrysenes	0.01034 UJ	**0.3725**	0.01078 UJ	0.00946 U	0.01166 UJ	**0.51739**
Dibenz[a,h]anthracene	**0.00106 J**	**0.30338 J**	0.01065 UJ	**0.05476 J**	0.01151 UJ	**0.22963 J**
Dibenzofuran	0.01031 UJ	0.00943 U	0.01075 UJ	0.00943 U	0.01163 UJ	**0.16411**
Dibenzothiophene	0.01032 UJ	**0.14974**	0.01076 UJ	**0.05392**	0.01164 UJ	**0.44597**
C1-Dibenzothiophenes	**0.03028 J**	0.00944 U	0.01076 UJ	0.00944 U	0.01164 UJ	**0.54333**
C2-Dibenzothiophenes	0.01032 UJ	**0.33229**	**0.04189 J**	**0.1755**	**0.05693 J**	**0.53737**
C3-Dibenzothiophenes	**0.0348 J**	**0.37288**	**0.04069 J**	**0.22232**	**0.05469 J**	**0.56222**

Table 3
Summary of Storm Water Analytical Results
Gowanus Canal
Brooklyn, New York

Sample Location:	RH-031				RH-034	
Sample Type:	Baseline, Lab Filtered	Baseline, Unfiltered	Discharge, Lab Filtered	Discharge, Unfiltered	Discharge, Lab Filtered	Discharge, Unfiltered
Sample Event:	Event 1	Event 1	Event 1	Event 1	Event 1	Event 1
Sample Name:	MH-RH-031-LFB1	MH-RH-031-WWB1	MH-RH-031-LFD1	MH-RH-031-WWD1	MH-RH-034-LFD1	MH-RH-034-WWD1
Sample Date:	9/28/2012	9/28/2012	9/28/2012	9/28/2012	9/28/2012	9/28/2012
C4-Dibenzothiophenes	**0.10398 J**	**0.28895**	**0.11319 J**	**0.24265**	**0.16922 J**	**0.5818**
Fluoranthene	**0.05318 J**	**3.61519**	**0.0196 J**	**0.4775**	**0.04268 J**	**2.90899**
C1-Fluoranthenes/pyrenes	**0.02518 J**	**1.27085**	**0.0095 J**	**0.24824**	**0.03405 J**	**1.96713**
C2-Fluoranthenes/pyrenes	**0.01711 J**	**1.01801**	**0.01068 J**	**0.19839**	**0.01892 J**	**0.93531**
C3-Fluoranthenes/pyrenes	**0.01284 J**	**0.50213**	0.01081 UJ	**0.2149**	0.01169 UJ	**0.4283**
C4-Fluoranthenes/pyrenes	**0.00788 J**	**0.34152**	0.01081 UJ	**0.05611 J**	0.01169 UJ	**0.26961**
Fluorene	0.01033 UJ	0.00945 U	0.01077 UJ	**0.09983**	0.01165 UJ	**0.95293**
C1-Fluorenes	**0.05407 J**	**0.23431**	0.01077 UJ	**0.06164**	0.01165 UJ	**0.57224**
C2-Fluorenes	0.01033 UJ	**0.46097**	0.01077 UJ	**0.9328**	**0.1595 J**	**3.37059**
C3-Fluorenes	**0.12808 J**	**0.69384**	**0.08793 J**	**0.35413**	**0.1522 J**	**1.47166**
Indeno[1,2,3-cd]pyrene	**0.00291 J**	**1.2674 J**	**0.0018 J**	**0.2097 J**	**0.00455 J**	**0.96657 J**
Naphthalene	0.01034 UJ	0.00946 U	0.01078 UJ	0.00946 U	0.01166 UJ	0.00964 U
C1-Naphthalenes	0.01034 UJ	0.00946 U	0.01078 UJ	0.00946 U	0.01166 UJ	0.00964 U
C2-Naphthalenes	0.01034 UJ	**0.78756**	0.01078 UJ	0.00946 U	0.01166 UJ	**2.29465**
C3-Naphthalenes	0.01034 UJ	**0.63532**	0.01078 UJ	0.00946 U	0.01166 UJ	**1.42817**
C4-Naphthalenes	0.01034 UJ	**0.40341**	0.01078 UJ	0.00946 U	0.01166 UJ	**0.7446**
Perylene	**0.0016 J**	**0.50379**	0.01078 UJ	**0.07557**	0.01166 UJ	**0.3884**
Phenanthrene	0.01028 UJ	**1.65291**	0.01072 UJ	**0.38586**	0.01159 UJ	**4.12606**
C1-Phenanthrenes/anthracenes	**0.09384 J**	**0.99967**	0.01072 UJ	**0.23757**	0.01159 UJ	**2.43844**
C2-Phenanthrenes/anthracenes	0.01028 UJ	**0.90055**	0.01072 UJ	**0.28691**	0.01159 UJ	**1.38244**
C3-Phenanthrenes/anthracenes	0.01028 UJ	**0.57691**	0.01072 UJ	**0.20065**	0.01159 UJ	**0.69148**
C4-Phenanthrenes/anthracenes	**0.01754 J**	**0.29068**	**0.01321 J**	**0.41054 J**	**0.06219 J**	**0.33985**
Pyrene	**0.04972 J**	**3.23291**	**0.01631 J**	**0.44091**	**0.05541 J**	**3.42467**
Total PAH44	**0.74973**	**37.75733**	**0.37692**	**8.23644**	**0.9492**	**50.12597**
PCBs (ug/L)						
Aroclor 1016	0.4 UJ	0.4 U	0.4 UJ	0.4 U	NA	NA
Aroclor 1221	0.4 UJ	0.4 U	0.4 UJ	0.4 U	NA	NA
Aroclor 1232	0.4 UJ	0.4 U	0.4 UJ	0.4 U	NA	NA
Aroclor 1242	0.4 UJ	**0.13 J**	0.4 UJ	0.4 U	NA	NA
Aroclor 1248	0.4 UJ	0.4 U	0.4 UJ	0.4 U	NA	NA
Aroclor 1254	0.4 UJ	0.4 U	0.4 UJ	0.4 U	NA	NA
Aroclor 1260	0.4 UJ	0.4 U	0.4 UJ	0.4 U	NA	NA
Aroclor 1262	0.4 UJ	0.4 U	0.4 UJ	0.4 U	NA	NA
Aroclor 1268	0.4 UJ	0.4 U	0.4 UJ	0.4 U	NA	NA
Total PCB Aroclors	ND	**0.13**	ND	ND	NA	NA
Pesticides (ug/L)						
Aldrin	0.05 UJ	0.05 U	0.05 UJ	0.05 U	NA	NA
alpha-BHC	0.05 UJ	0.05 U	0.05 UJ	0.05 U	NA	NA
beta-BHC	0.05 UJ	0.05 U	0.05 UJ	0.05 U	NA	NA
gamma-BHC	0.05 UJ	0.05 U	0.05 UJ	0.05 U	NA	NA
delta-BHC	0.05 UJ	0.05 U	0.05 UJ	0.05 U	NA	NA
alpha-chlordane	0.05 UJ	0.05 U	0.05 UJ	0.05 U	NA	NA
gamma-Chlordane	**0.063 J**	**0.21 J**	**0.079 J**	**0.15 J**	NA	NA
4,4-DDD	0.05 UJ	0.05 U	0.05 UJ	0.05 U	NA	NA
4,4'-DDE	0.05 UJ	0.05 U	0.05 UJ	0.05 U	NA	NA
4,4'-DDT	0.05 UJ	0.05 U	0.05 UJ	0.05 U	NA	NA
Dieldrin	0.05 UJ	0.05 U	0.05 UJ	0.05 U	NA	NA
Endosulfan I	0.05 UJ	0.05 U	0.05 UJ	0.05 U	NA	NA
Endosulfan II	0.05 UJ	0.05 U	0.05 UJ	0.05 U	NA	NA
Endosulfan sulfate	0.05 UJ	0.05 U	0.05 UJ	0.05 U	NA	NA

Table 3
Summary of Storm Water Analytical Results
Gowanus Canal
Brooklyn, New York

Sample Location:	RH-031				RH-034	
Sample Type:	Baseline, Lab Filtered	Baseline, Unfiltered	Discharge, Lab Filtered	Discharge, Unfiltered	Discharge, Lab Filtered	Discharge, Unfiltered
Sample Event:	Event 1	Event 1	Event 1	Event 1	Event 1	Event 1
Sample Name:	MH-RH-031-LFB1	MH-RH-031-WWB1	MH-RH-031-LFD1	MH-RH-031-WWD1	MH-RH-034-LFD1	MH-RH-034-WWD1
Sample Date:	9/28/2012	9/28/2012	9/28/2012	9/28/2012	9/28/2012	9/28/2012
Endrin	0.05 UJ	0.05 U	0.05 UJ	0.05 U	NA	NA
Endrin aldehyde	0.05 UJ	0.05 U	0.05 UJ	0.05 U	NA	NA
Endrin ketone	0.05 UJ	0.05 U	0.05 UJ	0.05 U	NA	NA
Heptachlor	0.05 UJ	0.05 U	0.05 UJ	0.05 U	NA	NA
Heptachlor epoxide	0.05 UJ	0.05 U	0.05 UJ	0.05 U	NA	NA
Methoxychlor	0.1 UJ	0.1 U	0.1 UJ	0.1 U	NA	NA
Toxaphene	4 UJ	4 U	4 UJ	4 U	NA	NA
Herbicides (ug/L)						
2,4-D	4 UJ	4.1 U	4 UJ	3.8 UJ	NA	NA
2,4-DB	4 UJ	4.1 UJ	4 UJ	3.8 UJ	NA	NA
Dicamba	2 UJ	2 U	2 UJ	1.9 UJ	NA	NA
Dichloroprop	4 UJ	4.1 U	4 UJ	3.8 UJ	NA	NA
2,2-Dichloropropionic acid	**4.6 J**	5.1 U	**2.4 J**	4.8 UJ	NA	NA
Dinoseb	0.9 UJ	0.92 U	0.9 UJ	0.86 UJ	NA	NA
MCPP	400 UJ	410 U	400 UJ	380 UJ	NA	NA
Methylchlorophenoxyacetic acid	400 UJ	410 U	400 UJ	380 UJ	NA	NA
Silvex	1 UJ	1 U	1 UJ	0.95 UJ	NA	NA
2,4,5-Trichlorophenoxyacetic Acid	1 UJ	1 U	1 UJ	0.95 UJ	NA	NA
Dissolved Metals (ug/L)						
Antimony	2 UJ	2 UJ	2 UJ	2 UJ	NA	NA
Aluminum	**150 J**	**80 J**	**220 J**	**140 J**	NA	NA
Arsenic	**5 J**	**1.9 J**	**12 J**	**4 J**	NA	NA
Barium	**26 J**	**19 J**	**22 J**	**19 J**	NA	NA
Beryllium	1 UJ	1 U	1 UJ	1 U	NA	NA
Cadmium	1 UJ	1 U	**0.86 J**	1 U	NA	NA
Calcium	**21000 J**	**19000 J**	**60000 J**	**20000**	NA	NA
Chromium	2 UJ	2 U	**3.6 J**	**4.3**	NA	NA
Cobalt	**0.98 J**	**1**	**0.6 J**	**0.53**	NA	NA
Copper	**14 J**	**10**	**4.8 J**	**27**	NA	NA
Iron	**900 J**	**500 J**	**440 J**	**480 J**	NA	NA
Lead	**6.4 J**	**6.1**	**3.8 J**	**9.4**	NA	NA
Magnesium	**3500 J**	**2900**	**150000 J**	**30000**	NA	NA
Manganese	**97 J**	**67**	**47 J**	**38**	NA	NA
Mercury	0.2 UJ	0.2 U	0.2 UJ	0.2 U	NA	NA
Nickel	**2.5 J**	**3**	**2.5 J**	**2.5**	NA	NA
Potassium	**4700 J**	**4100**	**52000 J**	**15000**	NA	NA
Selenium	5 UJ	5 U	**22 J**	**3.4 J**	NA	NA
Silver	1 UJ	1 U	1 UJ	1 U	NA	NA
Sodium	**26000 J**	**23000 J**	**1300000 J**	**250000**	NA	NA
Thallium	1 UJ	1 U	1 UJ	1 U	NA	NA
Vanadium	**3.8 J**	**5 J**	**4.4 J**	**4.7 J**	NA	NA
Zinc	**31 J**	**49 J**	**41 J**	**81 J**	NA	NA
Total Metals (ug/L)						
Antimony	NA	**4.5 J**	NA	2 UJ	NA	NA
Aluminum	NA	**2000 J**	NA	**300 J**	NA	NA
Arsenic	NA	**2.7**	NA	**5.8**	NA	NA
Barium	NA	**64 J**	NA	**23 J**	NA	NA
Beryllium	NA	1 U	NA	1 U	NA	NA
Cadmium	NA	**0.38 J**	NA	1 U	NA	NA
Calcium	NA	**14000 J**	NA	**45000**	NA	NA

Table 3
Summary of Storm Water Analytical Results
Gowanus Canal
Brooklyn, New York

Sample Location:	RH-031				RH-034	
Sample Type:	Baseline, Lab Filtered	Baseline, Unfiltered	Discharge, Lab Filtered	Discharge, Unfiltered	Discharge, Lab Filtered	Discharge, Unfiltered
Sample Event:	Event 1	Event 1	Event 1	Event 1	Event 1	Event 1
Sample Name:	MH-RH-031-LFB1	MH-RH-031-WWB1	MH-RH-031-LFD1	MH-RH-031-WWD1	MH-RH-034-LFD1	MH-RH-034-WWD1
Sample Date:	9/28/2012	9/28/2012	9/28/2012	9/28/2012	9/28/2012	9/28/2012
Chromium	NA	**10**	NA	**4.7**	NA	NA
Cobalt	NA	**2.4**	NA	**0.7**	NA	NA
Copper	NA	**110**	NA	**31**	NA	NA
Iron	NA	**4800 J**	NA	**970 J**	NA	NA
Lead	NA	**98**	NA	**13**	NA	NA
Magnesium	NA	**3200**	NA	**110000**	NA	NA
Manganese	NA	**92**	NA	**42**	NA	NA
Mercury	NA	**0.17 J**	NA	0.2 U	NA	NA
Nickel	NA	**8.9**	NA	**2.9**	NA	NA
Potassium	NA	**3600**	NA	**39000**	NA	NA
Selenium	NA	5 U	NA	**13**	NA	NA
Silver	NA	**2**	NA	**0.13 J**	NA	NA
Sodium	NA	**9000 J**	NA	**930000**	NA	NA
Thallium	NA	1 U	NA	1 U	NA	NA
Vanadium	NA	**8.9 J**	NA	**5.2 J**	NA	NA
Zinc	NA	**320 J**	NA	**96 J**	NA	NA
Cyanides (ug/L)						
Free Cyanide	5 UJ	5 U	5 UJ	5 U	NA	NA
EDCs and PPCPs (Phenols) (ug/L)						
Bisphenol A	**1 J**	**1.2 J**	**0.59 J**	**1.2**	NA	NA
Nonylphenol	**4.9 J**	**28 J**	**3.8 J**	**17**	NA	NA
Nonylphenol Diethoxylate	9.1 UJ	12 UJ	8.6 UJ	**11**	NA	NA
Nonylphenol Monoethoxylate	4.6 UJ	**11 J**	**6.7 J**	**19**	NA	NA
4-tert-Octylphenol	0.46 UJ	0.58 UJ	0.43 UJ	0.4 U	NA	NA
EDCs and PPCPs (ug/L)						
Acetaminophen	**27 J**	**10**	**13 J**	**18**	NA	NA
alpha-Estradiol	0.005 UJ	**0.0013 J**	0.051 UJ	0.0048 U	NA	NA
Androstenedione	**0.019 J**	**0.021**	**0.0071 J**	**0.013**	NA	NA
Atrazine	0.0099 UJ	0.011 U	0.001 UJ	0.0095 U	NA	NA
Bisphenol A	**1.5 J**	**1.1 J**	**1 J**	**1.3 J**	NA	NA
Caffeine	**14 J**	**7.2 J**	**24 J**	**30 J**	NA	NA
Carbamazepine	**0.11 J**	**0.15**	**0.043 J**	**0.051**	NA	NA
DEET (N,N-Diethyl-3-Methyl Benzamide)	0.05 UJ	0.056 U	0.051 UJ	0.048 U	NA	NA
Diazepam	0.0099 UJ	0.011 U	**0.002 J**	0.0095 U	NA	NA
Diclofenac	**0.037 J**	**0.0056 J**	**0.062 J**	**0.067 J**	NA	NA
Diethylstilbestrol	R	R	0.021 UJ	R	NA	NA
Estradiol	0.002 UJ	0.0023 U	0.021 UJ	**0.019 J**	NA	NA
Estriol	**0.063 J**	**0.051**	**0.046 J**	**0.059**	NA	NA
Estrone	**0.012 J**	**0.01 J**	0.051 UJ	0.0048 UJ	NA	NA
Ethinyl Estradiol	R	0.0056 U	0.051 UJ	R	NA	NA
Fluoxetine	R	R	R	0.00095 UJ	NA	NA
Gemfibrozil	**1.4 J**	**0.2 J**	**0.35 J**	**0.34 J**	NA	NA
Hydrocodone	0.05 UJ	0.056 U	**0.052 J**	0.048 U	NA	NA
Ibuprofen	**5.4 J**	**2.8 J**	**3.2 J**	**3.5 J**	NA	NA
Iopromide	**0.026 J**	**0.021 J**	0.01 UJ	**0.012 J**	NA	NA
Meprobamate	**0.02 J**	**0.033**	**0.012 J**	**0.014**	NA	NA
Methadone	**0.05 J**	0.056 U	R	0.048 U	NA	NA
Naproxen	**6.6 J**	**2.2 J**	**2.8 J**	**4.8 J**	NA	NA
Oxybenzone	**3.2 J**	**0.95 J**	**1 J**	**1.4 J**	NA	NA
Pentoxifylline	0.0099 UJ	0.011 U	0.001 UJ	0.0095 U	NA	NA

Table 3
Summary of Storm Water Analytical Results
Gowanus Canal
Brooklyn, New York

Sample Location:	RH-031				RH-034	
Sample Type:	Baseline, Lab Filtered	Baseline, Unfiltered	Discharge, Lab Filtered	Discharge, Unfiltered	Discharge, Lab Filtered	Discharge, Unfiltered
Sample Event:	Event 1	Event 1	Event 1	Event 1	Event 1	Event 1
Sample Name:	MH-RH-031-LFB1	MH-RH-031-WWB1	MH-RH-031-LFD1	MH-RH-031-WWD1	MH-RH-034-LFD1	MH-RH-034-WWD1
Sample Date:	9/28/2012	9/28/2012	9/28/2012	9/28/2012	9/28/2012	9/28/2012
Phenytoin (5,5-Diphenylhydantion / Dilantin)	**0.071 J**	**0.058 J**	0.0021 UJ	**0.041 J**	NA	NA
Progesterone	0.02 UJ	0.023 U	0.0021 UJ	0.019 UJ	NA	NA
Salicylic Acid	**19 J**	**0.8 J**	**10 J**	**13**	NA	NA
Sulfamethoxazole	**0.47 J**	**0.19**	**0.11 J**	**0.13**	NA	NA
Testosterone	**0.075 J**	**0.064**	**0.027 J**	**0.046**	NA	NA
Triclosan	R	R	R	R	NA	NA
Trimethoprim	**0.15 J**	**0.079 J**	**0.09 J**	**0.11 J**	NA	NA
Pathogen						
C. perfringens (cfu/100mL)	NA	**63000**	**40000**	**43000**	NA	NA
Coliphage, Male Specific (pfu/100mL)	NA	**22900**	**46300**	**84600**	NA	NA
Coliphage, Somatic (pfu/100mL)	NA	**13600 J**	**21700 J**	**27400 J**	NA	NA
Cryptosporidium (oocysts/L)	NA	0 U	0 U	0 U	NA	NA
E.Coli (mpn/100mL)	NA	**1210000**	**1730000**	**3990000**	NA	NA
Enterococci (mpn/100mL)	NA	**345000**	**365000**	**980000**	NA	NA
Enterovirus (pos/neg)	NA	**pos**	**pos**	NA	NA	NA
Fecal Coliform (mpn/100mL)	NA	**2790000**	**2750000**	**7760000**	NA	NA
Giardia (cysts/L)	NA	**1000**	**58.6**	**310**	NA	NA
Plaque forming virus (pfu//1 mL)	NA	NA	NA	NA	NA	NA
Plaque forming virus (pfu/125 mL)	NA	NA	0 U	NA	NA	NA
Plaque forming virus (pfu/165.5 mL)	NA	NA	NA	NA	NA	NA
Plaque forming virus (pfu/182.5 mL)	NA	NA	NA	NA	NA	NA
Plaque forming virus (pfu/185.5 mL)	NA	NA	NA	NA	NA	NA
Plaque forming virus (pfu/187.5 mL)	NA	NA	NA	NA	NA	NA
Plaque forming virus (pfu/197.5 mL)	NA	NA	NA	NA	NA	NA
Plaque forming virus (pfu/199.5 mL)	NA	NA	NA	NA	NA	NA
Plaque forming virus (pfu/200 mL)	NA	0 U	NA	NA	NA	NA
Plaque forming virus (pfu/200.5 mL)	NA	NA	NA	NA	NA	NA
Plaque forming virus (pfu/201 mL)	NA	NA	NA	NA	NA	NA
Plaque forming virus (pfu/201.5 mL)	NA	NA	NA	NA	NA	NA
Plaque forming virus (pfu/202 mL)	NA	NA	NA	0 U	NA	NA
Plaque forming virus (pfu/203 mL)	NA	NA	NA	NA	NA	NA
Plaque forming virus (pfu/204 mL)	NA	NA	NA	NA	NA	NA
Plaque forming virus (pfu/205 mL)	NA	NA	NA	NA	NA	NA
Viruses (pos/neg)	NA	NA	NA	neg	NA	NA
Other (ug/L)						
Ammonia	**5300 J**	**3300**	**4500 J**	**4200**	NA	NA
Calcium hardness as calcium carbonate	NA	**36000**	NA	**110000**	NA	NA
Dissolved Organic Carbon	**25000 J**	**13000**	**14000 J**	**8100**	NA	NA
Hardness as calcium carbonate	**66000 J**	**49000**	**780000 J**	**570000**	NA	NA
Magnesium hardness as calcium carbonate	NA	**13000**	NA	**460000**	NA	NA
pH (s.u.)	**6.27 J**	**6.22 J**	**6.5 J**	**6.41 J**	NA	NA
Sediment Concentration	NA	**900000**	NA	**110000**	NA	NA
Specific Conductance (umhos/cm)	**270 J**	**320**	**10000 J**	**13000**	NA	NA
Total Dissolved Solids	NA	**150000**	NA	**6000000**	NA	NA
Total Organic Carbon	**26000 J**	**28000**	**15000 J**	**23000**	NA	NA
Total Petroleum Hydrocarbons	1.04 UJ	**6196.19**	1.09 UJ	**5092.4**	NA	NA
Total Suspended Solids	NA	**640000**	NA	**170000**	NA	NA
Turbidity (ntu)	NA	**77**	NA	**40**	NA	NA

Table 3
Summary of Storm Water Analytical Results
Gowanus Canal
Brooklyn, New York

Sample Location:	RH-035				OH-007					
Sample Type:	Baseline, Lab Filtered	Baseline, Unfiltered	Discharge, Lab Filtered	Discharge, Unfiltered	Baseline, Lab Filtered	Baseline, Unfiltered	Discharge, Lab Filtered			
Sample Event:	Event 1	Event 1	Event 1	Event 1	Event 2	Event 2	Event 2			
Sample Name:	MH-RH-035-LFB1	MH-RH-035-WWB1	MH-RH-035-LFD1	MH-RH-035-WWD1	MH-OH-007-LFB2	MH-OH-007-WWB2	MH-OH-007-LFD2			
Sample Date:	9/28/2012	9/28/2012	9/28/2012	9/28/2012	1/11/2013	1/11/2013	1/11/2013			
BTEX (ug/L)										
Benzene	**0.46 J**	NA	**0.44 J**	**0.64 J**	1 UJ	**0.22 J**	1 UJ	1 UJ	1 UJ	1 UJ
Toluene	**8.5 J**	NA	**1.7 J**	**2.6**	**4.8 J**	**5.7**	**2.7 J**	**6.6 J**	**4.4**	**3.5 J**
Ethylbenzene	1 UJ	NA	1 UJ	1 U	**0.59 J**	**0.74 J**	**0.35 J**	**0.32 J**	1 UJ	**0.4 J**
m,p-Xylene	**0.51 J**	NA	2 UJ	2 U	**2.3 J**	**2.9 J**	**1.3 J**	**0.94 J**	**0.85 J**	**1.5 J**
o-Xylene	**0.22 J**	NA	1 UJ	1 U	**0.98 J**	**1.2**	**0.53 J**	**0.45 J**	**0.43 J**	**0.65 J**
Total Xylene	**0.73 J**	NA	3 UJ	3 U	**3.3 J**	**4.1**	**1.8 J**	**1.4 J**	**1.3 J**	**2.1 J**
Total BTEX	**9.69**	NA	**2.14**	**3.24**	**8.69**	**10.76**	**4.85**	**8.32**	**5.7**	**6**
Other VOCs (ug/L)										
Acetone	**23 J**	NA	**48 J**	**24 J**	**61 J**	**36 J**	**26 J**	**25 J**	**36 J**	**34 J**
Bromochloromethane	1 UJ	NA	1 UJ	1 U	1 UJ	1 U	1 UJ	1 UJ	1 UJ	1 UJ
Bromodichloromethane	1 UJ	NA	1 UJ	1 U	1 UJ	1 U	1 UJ	1 UJ	1 UJ	1 UJ
Bromoform	1 UJ	NA	1 UJ	1 UJ	1 UJ	1 U	1 UJ	1 UJ	1 UJ	1 UJ
Bromomethane	1 UJ	NA	1 UJ	1 UJ	1 UJ	1 U	1 UJ	1 UJ	1 UJ	1 UJ
2-Butanone (Methyl ethyl ketone)	5 UJ	NA	5 UJ	5 U	**7.9 J**	**7.3 J**	**2.6 J**	**2.7 J**	**2.5 J**	**3.1 J**
Carbon disulfide	**0.36 J**	NA	1 UJ	1 U	1 UJ	1 U	1 UJ	1 UJ	1 UJ	1 UJ
Carbon tetrachloride	1 UJ	NA	1 UJ	1 UJ	1 UJ	1 U	1 UJ	1 UJ	1 UJ	1 UJ
Chlorobenzene	1 UJ	NA	1 UJ	1 U	1 UJ	1 U	1 UJ	1 UJ	1 UJ	1 UJ
Chloroethane	1 UJ	NA	1 UJ	1 UJ	1 UJ	1 U	1 UJ	1 UJ	1 UJ	1 UJ
Chloroform	**2.3 J**	NA	**3 J**	**2.5**	**1.5 J**	**1.5**	1 UJ	**1 J**	1 UJ	**1.2 J**
Chloromethane	1 UJ	NA	1 UJ	1 UJ	1 UJ	1 U	1 UJ	1 UJ	1 UJ	1 UJ
Cyclohexane	1 UJ	NA	1 UJ	1 U	1 UJ	1 U	1 UJ	1 UJ	1 UJ	1 UJ
1,2-Dibromo-3-chloropropane	1 UJ	NA	1 UJ	1 U	1 UJ	1 U	1 UJ	1 UJ	1 UJ	1 UJ
Dibromochloromethane	1 UJ	NA	1 UJ	1 U	**0.67 J**	1 U	1 UJ	1 UJ	1 UJ	1 UJ
1,2-Dibromoethane (EDB)	1 UJ	NA	1 UJ	1 U	1 UJ	1 U	1 UJ	1 UJ	1 UJ	1 UJ
1,2-Dichlorobenzene	1 UJ	NA	1 UJ	1 U	1 UJ	1 U	1 UJ	1 UJ	**0.26 J**	1 UJ
1,3-Dichlorobenzene	1 UJ	NA	1 UJ	1 U	1 UJ	1 U	1 UJ	1 UJ	1 UJ	1 UJ
1,4-Dichlorobenzene	1 UJ	NA	1 UJ	1 U	1 UJ	1 U	1 UJ	1 UJ	1 UJ	1 UJ
Dichlorodifluoromethane (Freon 12)	1 UJ	NA	1 UJ	1 UJ	1 UJ	1 U	1 UJ	1 UJ	1 UJ	1 UJ
1,1-Dichloroethane	1 UJ	NA	1 UJ	1 U	1 UJ	1 U	1 UJ	1 UJ	1 UJ	1 UJ
1,2-Dichloroethane	1 UJ	NA	1 UJ	1 U	1 UJ	1 U	1 UJ	1 UJ	1 UJ	1 UJ
1,1-Dichloroethene	1 UJ	NA	1 UJ	1 U	1 UJ	1 U	1 UJ	1 UJ	1 UJ	1 UJ
cis-1,2-Dichloroethene	1 UJ	NA	1 UJ	**0.45 J**	1 UJ	1 U	1 UJ	1 UJ	1 UJ	1 UJ
trans-1,2-Dichloroethene	1 UJ	NA	1 UJ	1 U	1 UJ	1 U	1 UJ	1 UJ	1 UJ	1 UJ
1,2-Dichloropropane	1 UJ	NA	1 UJ	1 U	1 UJ	1 U	1 UJ	1 UJ	1 UJ	1 UJ
cis-1,3-Dichloropropene	1 UJ	NA	1 UJ	1 U	1 UJ	1 U	1 UJ	1 UJ	1 UJ	1 UJ
trans-1,3-Dichloropropene	1 UJ	NA	1 UJ	1 U	1 UJ	1 U	1 UJ	1 UJ	1 UJ	1 UJ
1,4-Dioxane	R	NA	R	R	R	R	R	R	R	R
2-Hexanone	**0.53 J**	NA	5 UJ	5 UJ	5 UJ	**0.47 J**	5 UJ	5 UJ	5 UJ	5 UJ
Isopropyl benzene	1 UJ	NA	1 UJ	1 U	**0.21 J**	**0.24 J**	1 UJ	1 UJ	1 UJ	1 UJ
Methyl acetate	1 UJ	NA	1 UJ	1 U	**2.9 J**	1 U	**1.1 J**	1 UJ	1 UJ	1 UJ
Methyl tert-butyl ether (MTBE)	1 UJ	NA	1 UJ	1 U	1 UJ	1 U	1 UJ	1 UJ	1 UJ	1 UJ
4-Methyl-2-pentanone (MIBK)	**0.55 J**	NA	5 UJ	**0.68 J**	**1.8 J**	**1.6 J**	**1.6 J**	**1 J**	**0.81 J**	**1.4 J**
Methylcyclohexane	**0.51 J**	NA	1 UJ	1 U	1 UJ	1 U	1 UJ	1 UJ	1 UJ	1 UJ
Methylene chloride	**3.8 J**	NA	1 UJ	1 U	**19 J**	1 UJ	**14 J**	**38 J**	**40 J**	**29 J**
Styrene	1 UJ	NA	1 UJ	1 U	1 UJ	1 U	1 UJ	1 UJ	1 UJ	1 UJ
1,1,2,2-Tetrachloroethane	1 UJ	NA	1 UJ	1 U	1 U	1 U	1 UJ	1 UJ	1 UJ	1 UJ
Tetrachloroethene (PCE)	**0.43 J**	NA	**1.6 J**	**4.7**	**0.56 J**	**0.69 J**	**1.8 J**	**2.4 J**	**1.7 J**	**2.7 J**
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	1 UJ	NA	1 UJ	1 U	1 U	1 U	1 UJ	1 UJ	1 UJ	1 UJ
1,2,3-Trichlorobenzene	1 UJ	NA	1 UJ	1 UJ	1 UJ	1 U	1 UJ	1 UJ	1 UJ	1 UJ

Table 3
Summary of Storm Water Analytical Results
Gowanus Canal
Brooklyn, New York

Sample Location:	RH-035				OH-007					
Sample Type:	Baseline, Lab Filtered	Baseline, Unfiltered	Discharge, Lab Filtered	Discharge, Unfiltered	Baseline, Lab Filtered	Baseline, Unfiltered	Discharge, Lab Filtered			
Sample Event:	Event 1	Event 1	Event 1	Event 1	Event 2	Event 2	Event 2			
Sample Name:	MH-RH-035-LFB1	MH-RH-035-WWB1	MH-RH-035-LFD1	MH-RH-035-WWD1	MH-OH-007-LFB2	MH-OH-007-WWB2	MH-OH-007-LFD2			
Sample Date:	9/28/2012	9/28/2012	9/28/2012	9/28/2012	1/11/2013	1/11/2013	1/11/2013			
1,2,4-Trichlorobenzene	1 UJ	NA	1 UJ	1 U	1 UJ	1 U	1 UJ	1 UJ	1 UJ	1 UJ
1,1,1-Trichloroethane	1 UJ	NA	1 UJ	1 U	1 U	1 U	1 UJ	1 UJ	1 UJ	1 UJ
1,1,2-Trichloroethane	1 UJ	NA	1 UJ	1 U	1 UJ	1 U	1 UJ	1 UJ	1 UJ	1 UJ
Trichloroethene (TCE)	1 UJ	NA	**0.18 J**	**0.34 J**	**0.23 J**	1 U	**0.26 J**	1 U	1 UJ	**0.4 J**
Trichlorofluoromethane (Freon 11)	1 UJ	NA	1 UJ	1 U	1 UJ	1 U	1 UJ	1 UJ	1 UJ	1 UJ
Vinyl chloride	1 UJ	NA	1 UJ	1 U	1 UJ	1 U	1 UJ	1 UJ	1 UJ	1 UJ
Total VOCs	**41.9**	NA	**54.92**	**35.91**	**107.74**	**62.66**	**54.04**	**79.81**	**88.25**	**79.95**
PAHs (ug/L)										
Acenaphthene	1.9 UJ	1.9 U	2.4 UJ	**0.19 J**	2.5 UJ	2.1 U	2.1 UJ			
Acenaphthylene	1.9 UJ	1.9 U	2.4 UJ	1.9 U	2.5 UJ	2.1 U	2.1 UJ			
Anthracene	1.9 UJ	1.9 U	2.4 UJ	1.9 U	2.5 UJ	**2.9**	2.1 UJ			
Benz[a]anthracene	1.9 UJ	1.9 U	2.4 UJ	1.9 U	2.5 UJ	2.1 U	2.1 UJ			
Benzo[a]pyrene	1.9 UJ	1.9 U	2.4 UJ	1.9 U	2.5 UJ	2.1 U	2.1 UJ			
Benzo[b]fluoranthene	1.9 UJ	1.9 U	2.4 UJ	1.9 U	2.5 UJ	2.1 U	2.1 UJ			
Benzo[g,h,i]perylene	1.9 UJ	1.9 U	2.4 UJ	1.9 U	2.5 UJ	2.1 U	2.1 UJ			
Benzo[k]fluoranthene	1.9 UJ	1.9 U	2.4 UJ	1.9 U	2.5 UJ	2.1 U	2.1 UJ			
Chrysene	1.9 UJ	1.9 U	2.4 UJ	1.9 U	2.5 UJ	2.1 U	2.1 UJ			
Dibenz[a,h]anthracene	1.9 UJ	1.9 U	2.4 UJ	1.9 U	2.5 UJ	2.1 U	2.1 UJ			
Fluoranthene	1.9 UJ	**0.43 J**	2.4 UJ	1.9 U	2.5 UJ	**0.28 J**	2.1 UJ			
Fluorene	1.9 UJ	1.9 U	2.4 UJ	1.9 U	2.5 UJ	2.1 U	2.1 UJ			
Indeno[1,2,3-cd]pyrene	1.9 UJ	1.9 U	2.4 UJ	1.9 U	2.5 UJ	2.1 U	2.1 UJ			
2-Methylnaphthalene	1.9 UJ	1.9 U	2.4 UJ	1.9 U	2.5 UJ	**0.26 J**	**0.89 J**			
Naphthalene	1.9 UJ	1.9 U	2.4 UJ	1.9 U	2.5 UJ	**0.37 J**	**0.57 J**			
Phenanthrene	1.9 UJ	1.9 U	2.4 UJ	1.9 U	2.5 UJ	2.1 U	2.1 UJ			
Pyrene	1.9 UJ	**0.47 J**	2.4 UJ	1.9 U	2.5 UJ	**0.37 J**	2.1 UJ			
Total PAH 17	ND	**0.9**	ND	**0.19**	ND	**4.18**	**1.46**			
Other SVOCs (ug/L)										
Acetophenone	9.7 UJ	9.5 U	12 UJ	9.6 U	**1.1 J**	**1.4 J**	**1.4 J**			
Atrazine	9.7 UJ	9.5 U	12 UJ	9.6 U	12 UJ	10 U	10 UJ			
Benzaldehyde	9.7 UJ	9.5 U	12 UJ	9.6 U	12 UJ	**2.5 J**	10 UJ			
1,1-Biphenyl	9.7 UJ	9.5 U	12 UJ	9.6 U	12 UJ	10 U	10 UJ			
Bis(chloroisopropyl)ether	1.9 UJ	1.9 U	2.4 UJ	1.9 U	2.5 UJ	2.1 U	2.1 UJ			
Bis(2-chloroethyl)ether	1.9 UJ	1.9 U	2.4 UJ	1.9 U	2.5 UJ	2.1 U	2.1 UJ			
Bis(2-chloroethoxy)methane	9.7 UJ	9.5 U	12 UJ	9.6 U	12 UJ	10 U	10 UJ			
Bis(2-ethylhexyl)phthalate	19 UJ	19 U	24 UJ	19 U	25 UJ	21 U	21 UJ			
4-Bromophenyl phenyl ether	9.7 UJ	9.5 U	12 UJ	9.6 U	12 UJ	10 U	10 UJ			
Butyl benzyl phthalate	9.7 UJ	9.5 U	12 UJ	9.6 U	12 UJ	10 U	10 UJ			
Caprolactam	49 UJ	48 U	59 UJ	48 U	62 UJ	52 U	52 UJ			
Carbazole	1.9 UJ	1.9 U	2.4 UJ	1.9 U	2.5 UJ	2.1 U	2.1 UJ			
4-Chloro-3-methylphenol	9.7 UJ	9.5 U	12 UJ	9.6 U	12 UJ	10 U	10 UJ			
4-Chloroaniline	9.7 UJ	9.5 U	12 UJ	9.6 U	12 UJ	10 U	10 UJ			
2-Chloronaphthalene	1.9 UJ	1.9 U	2.4 UJ	1.9 U	2.5 UJ	2.1 U	2.1 UJ			
2-Chlorophenol	9.7 UJ	9.5 U	12 UJ	9.6 U	12 UJ	10 U	10 UJ			
4-Chlorophenyl phenyl ether	9.7 UJ	9.5 U	12 UJ	9.6 U	12 UJ	10 U	10 UJ			
Dibenzofuran	9.7 UJ	9.5 U	12 UJ	9.6 U	12 UJ	10 U	10 UJ			
3,3-Dichlorobenzidine	9.7 UJ	9.5 U	12 UJ	9.6 U	12 UJ	10 U	10 UJ			
2,4-Dichlorophenol	1.9 UJ	1.9 U	2.4 UJ	1.9 U	2.5 UJ	2.1 U	2.1 UJ			
Diethyl phthalate	9.7 UJ	9.5 U	12 UJ	9.6 U	**5.1 J**	**5.8 J**	**2 J**			
Dimethyl phthalate	9.7 UJ	9.5 U	12 UJ	9.6 U	12 UJ	10 U	10 UJ			
2,4-Dimethylphenol	9.7 UJ	9.5 U	12 UJ	9.6 U	12 UJ	10 U	10 UJ			

Table 3
Summary of Storm Water Analytical Results
Gowanus Canal
Brooklyn, New York

Sample Location:	RH-035				OH-007		
Sample Type:	Baseline, Lab Filtered	Baseline, Unfiltered	Discharge, Lab Filtered	Discharge, Unfiltered	Baseline, Lab Filtered	Baseline, Unfiltered	Discharge, Lab Filtered
Sample Event:	Event 1	Event 1	Event 1	Event 1	Event 2	Event 2	Event 2
Sample Name:	MH-RH-035-LFB1	MH-RH-035-WWB1	MH-RH-035-LFD1	MH-RH-035-WWD1	MH-OH-007-LFB2	MH-OH-007-WWB2	MH-OH-007-LFD2
Sample Date:	9/28/2012	9/28/2012	9/28/2012	9/28/2012	1/11/2013	1/11/2013	1/11/2013
Di-n-butyl phthalate	9.7 UJ	9.5 U	12 UJ	9.6 U	12 UJ	10 U	10 UJ
4,6-Dinitro-2-methylphenol	49 UJ	48 U	59 UJ	48 U	62 UJ	52 U	52 UJ
2,4-Dinitrophenol	49 UJ	48 U	59 UJ	48 U	62 UJ	52 U	52 UJ
2,4-Dinitrotoluene	9.7 UJ	9.5 U	12 UJ	9.6 U	12 UJ	10 U	10 UJ
2,6-Dinitrotoluene	9.7 UJ	9.5 U	12 UJ	9.6 U	12 UJ	10 U	10 UJ
Di-n-octyl phthalate	9.7 UJ	9.5 U	12 UJ	9.6 U	12 UJ	10 U	10 UJ
Hexachlorobenzene	1.9 UJ	1.9 U	2.4 UJ	1.9 U	2.5 UJ	2.1 U	2.1 UJ
Hexachlorobutadiene	1.9 UJ	1.9 U	2.4 UJ	1.9 U	2.5 UJ	2.1 U	2.1 UJ
Hexachlorocyclopentadiene	9.7 UJ	9.5 U	12 UJ	9.6 U	12 UJ	10 U	10 UJ
Hexachloroethane	9.7 UJ	9.5 U	12 UJ	9.6 U	12 UJ	10 U	10 UJ
Isophorone	9.7 UJ	9.5 U	12 UJ	9.6 U	12 UJ	10 U	10 UJ
2-Methylphenol (o-Cresol)	9.7 UJ	9.5 U	12 UJ	9.6 U	12 UJ	10 U	10 UJ
3,4-Methylphenol (m,p-Cresol)	**52 J**	**28**	12 UJ	**17**	**34 J**	**56**	10 UJ
2-Nitroaniline	49 UJ	48 U	59 UJ	48 U	62 UJ	52 U	52 UJ
3-Nitroaniline	49 UJ	48 U	59 UJ	48 U	62 UJ	52 U	52 UJ
4-Nitroaniline	49 UJ	48 U	59 UJ	48 U	62 UJ	52 U	52 UJ
Nitrobenzene	19 UJ	19 U	24 UJ	19 U	25 UJ	21 U	21 UJ
2-Nitrophenol	9.7 UJ	9.5 U	12 UJ	9.6 U	12 UJ	10 U	10 UJ
4-Nitrophenol	49 UJ	48 U	59 UJ	48 U	62 UJ	52 U	52 UJ
N-Nitrosodi-n-propylamine	1.9 UJ	1.9 U	2.4 UJ	1.9 U	2.5 UJ	2.1 U	2.1 UJ
N-Nitrosodiphenylamine	9.7 UJ	9.5 U	12 UJ	9.6 U	12 UJ	10 U	10 UJ
Pentachlorophenol	9.7 UJ	9.5 U	12 UJ	9.6 U	12 UJ	10 U	10 UJ
Phenol	**4.1 J**	**4**	2.4 UJ	**3.4**	**9.8 J**	**15**	2.1 UJ
1,2,4,5-Tetrachlorobenzene	9.7 UJ	9.5 U	12 UJ	9.6 U	12 UJ	10 U	10 UJ
2,3,4,6-Tetrachlorophenol	9.7 UJ	9.5 U	12 UJ	9.6 U	12 UJ	10 U	10 UJ
2,4,5-Trichlorophenol	9.7 UJ	9.5 U	12 UJ	9.6 U	12 UJ	10 U	10 UJ
2,4,6-Trichlorophenol	9.7 UJ	9.5 U	12 UJ	9.6 U	12 UJ	10 U	10 UJ
Total SVOCs	**56.1**	**32.9**	ND	**20.59**	**50**	**84.88**	**4.86**
Alkylated PAHs (ug/L)							
Acenaphthene	0.01085 UJ	**0.77517**	0.01147 UJ	0.00942 U	**0.05672 J**	**0.17122**	**0.06456 J**
Acenaphthylene	0.0108 UJ	0.00938 U	0.01143 UJ	0.00938 U	**0.01603 J**	**0.03159**	**0.02113 J**
Anthracene	0.01083 UJ	**0.53875**	0.01145 UJ	**0.05973**	**0.0114 J**	**0.071**	**0.01423 J**
Benz[a]anthracene	**0.0019 J**	**1.19558**	**0.0056 J**	**0.09863**	**0.00534 J**	**0.17631**	**0.00638 J**
Benzo[a]pyrene	**0.00121 J**	**1.19018**	**0.00262 J**	**0.11473**	**0.00403 J**	**0.16532**	**0.00492 J**
Benzo[b]fluoranthene	**0.00228 J**	**1.07013**	**0.00396 J**	**0.10075**	**0.00675 J**	**0.23099**	**0.00918 J**
Benzo[e]pyrene	**0.00249 J**	**0.90192**	**0.00403 J**	**0.08691**	**0.00609 J**	**0.18405**	**0.00719 J**
Benzo[g,h,i]perylene	**0.00163 J**	**0.87054 J**	**0.00267 J**	**0.0878**	**0.0062 J**	**0.1668**	**0.00602 J**
Benzo[k]fluoranthene	**0.00215 J**	**1.11022**	**0.00338 J**	**0.10262**	**0.00628 J**	**0.20429**	**0.00642 J**
1,1-Biphenyl	0.01096 UJ	0.00951 U	0.01159 UJ	0.00951 U	**0.03273 J**	**0.06461**	**0.12227 J**
Chrysene	**0.00471 J**	**1.32484**	**0.00905 J**	**0.1298**	**0.01083 J**	**0.29068**	**0.01527 J**
C1-Chrysenes	**0.00457 J**	**0.69675**	**0.00792 J**	**0.06191**	**0.00742 J**	**0.19082**	**0.01739 J**
C2-Chrysenes	0.0109 UJ	**0.63957**	**0.00892 J**	**0.0541**	**0.01043 J**	**0.22803**	0.01102 UJ
C3-Chrysenes	0.0109 UJ	**0.41014**	0.01153 UJ	**0.05007**	0.01045 UJ	**0.16851**	0.01102 UJ
C4-Chrysenes	0.0109 UJ	**0.38996**	0.01153 UJ	0.00946 U	0.01045 UJ	**0.12151**	0.01102 UJ
Dibenz[a,h]anthracene	0.01076 UJ	**0.19253 J**	0.01138 UJ	**0.01707**	**0.00137 J**	**0.03427**	**0.00127 J**
Dibenzofuran	0.01087 UJ	**0.14645**	0.01149 UJ	0.00943 U	**0.01722 J**	**0.0479**	**0.03079 J**
Dibenzothiophene	0.01088 UJ	**0.21058**	0.01151 UJ	0.00944 U	**0.04603 J**	**0.1052**	**0.03438 J**
C1-Dibenzothiophenes	0.01088 UJ	0.00944 U	0.01151 UJ	0.00944 U	**0.10733 J**	**0.24201**	**0.08907 J**
C2-Dibenzothiophenes	**0.04686 J**	**0.33611**	**0.07261 J**	**0.25471**	**0.14177 J**	**0.36148**	**0.13261 J**
C3-Dibenzothiophenes	**0.04365 J**	**0.46518**	**0.07007 J**	**0.09804**	**0.10095 J**	**0.36323**	**0.11056 J**

Table 3
Summary of Storm Water Analytical Results
Gowanus Canal
Brooklyn, New York

Sample Location:	RH-035				OH-007		
Sample Type:	Baseline, Lab Filtered	Baseline, Unfiltered	Discharge, Lab Filtered	Discharge, Unfiltered	Baseline, Lab Filtered	Baseline, Unfiltered	Discharge, Lab Filtered
Sample Event:	Event 1	Event 1	Event 1	Event 1	Event 2	Event 2	Event 2
Sample Name:	MH-RH-035-LFB1	MH-RH-035-WWB1	MH-RH-035-LFD1	MH-RH-035-WWD1	MH-OH-007-LFB2	MH-OH-007-WWB2	MH-OH-007-LFD2
Sample Date:	9/28/2012	9/28/2012	9/28/2012	9/28/2012	1/11/2013	1/11/2013	1/11/2013
C4-Dibenzothiophenes	**0.12232 J**	**0.5291**	**0.1351 J**	**0.07644**	**0.06406 J**	**0.20302**	**0.0719 J**
Fluoranthene	**0.01306 J**	**2.30892**	**0.02628 J**	**0.21816**	**0.03631 J**	**0.53273**	**0.04288 J**
C1-Fluoranthenes/pyrenes	**0.00884 J**	**0.97449**	**0.01871 J**	**0.11215**	**0.02294 J**	**0.29525**	**0.04433 J**
C2-Fluoranthenes/pyrenes	**0.00983 J**	**0.72219**	**0.01727 J**	**0.06931**	**0.0238 J**	**0.3127**	0.01104 UJ
C3-Fluoranthenes/pyrenes	**0.00872 J**	**0.38891**	**0.01973 J**	**0.04978**	0.01047 UJ	**0.23534**	0.01104 UJ
C4-Fluoranthenes/pyrenes	**0.00561 J**	**0.28839**	0.01155 UJ	**0.02961**	0.01047 UJ	**0.14205**	0.01104 UJ
Fluorene	0.01089 UJ	**0.41314**	0.01152 UJ	0.00945 U	**0.04038 J**	**0.09978**	**0.089 J**
C1-Fluorenes	0.01089 UJ	**0.21021**	0.01152 UJ	0.00945 U	**0.06467 J**	**0.21217**	**0.13884 J**
C2-Fluorenes	0.01089 UJ	**1.61837**	0.01152 UJ	**0.2503**	**0.08271 J**	**0.36891**	**0.14254 J**
C3-Fluorenes	**0.09549 J**	**0.73953**	**0.10276 J**	**0.17138**	**0.1905 J**	**0.64172**	**0.18777 J**
Indeno[1,2,3-cd]pyrene	**0.0013 J**	**0.84143 J**	**0.00224 J**	**0.08475 J**	**0.00449 J**	**0.16632**	**0.00487 J**
Naphthalene	0.0109 UJ	0.00946 U	0.01153 UJ	0.00946 U	**0.1842 J**	**0.32695**	**0.36094 J**
C1-Naphthalenes	0.0109 UJ	0.00946 U	0.01153 UJ	0.00946 U	**0.18459 J**	**0.35044**	**0.7308 J**
C2-Naphthalenes	0.0109 UJ	0.00946 U	0.01153 UJ	0.00946 U	**0.26323 J**	**0.71436**	**1.00774 J**
C3-Naphthalenes	0.0109 UJ	**0.6199**	0.01153 UJ	0.00946 U	**0.24569 J**	**0.78294**	**0.65241 J**
C4-Naphthalenes	0.0109 UJ	**0.37077**	0.01153 UJ	0.00946 U	**0.16968 J**	**0.67881**	**0.2861 J**
Perylene	0.0109 UJ	**0.32926**	0.01153 UJ	**0.0277**	**0.00299 J**	**0.06076**	**0.00218 J**
Phenanthrene	0.01084 UJ	**2.17683**	0.01146 UJ	**0.2584**	**0.08986 J**	**0.47148**	**0.14966 J**
C1-Phenanthrenes/anthracenes	0.01084 UJ	**1.08008**	0.01146 UJ	**0.1372**	**0.07786 J**	**0.58124**	**0.20106 J**
C2-Phenanthrenes/anthracenes	0.01084 UJ	**0.77906**	0.01146 UJ	0.00941 U	**0.12018 J**	**0.78225**	**0.26349 J**
C3-Phenanthrenes/anthracenes	0.01084 UJ	**0.432**	0.01146 UJ	**0.05972**	**0.04164 J**	**0.48873**	**0.18318 J**
C4-Phenanthrenes/anthracenes	**0.0113 J**	**0.25973**	0.01146 UJ	**0.03564**	**0.01747 J**	**0.23933**	**0.05005 J**
Pyrene	0.01092 UJ	**2.14693**	**0.0272 J**	**0.2241**	**0.03396 J**	**0.5092**	**0.04953 J**
Total PAH44	**0.38792**	**29.69384**	**0.54012**	**3.12151**	**2.55613**	**12.8163**	**5.35291**
PCBs (ug/L)							
Aroclor 1016	0.4 UJ	0.38 U	0.4 UJ	0.38 U	0.4 UJ	0.38 U	0.41 UJ
Aroclor 1221	0.4 UJ	0.38 U	0.4 UJ	0.38 U	0.4 UJ	0.38 U	0.41 UJ
Aroclor 1232	0.4 UJ	0.38 U	0.4 UJ	0.38 U	0.4 UJ	0.38 U	0.41 UJ
Aroclor 1242	0.4 UJ	0.38 U	0.4 UJ	0.38 U	0.4 UJ	0.38 U	0.41 UJ
Aroclor 1248	0.4 UJ	0.38 U	0.4 UJ	0.38 U	0.4 UJ	0.38 U	0.41 UJ
Aroclor 1254	0.4 UJ	0.38 U	0.4 UJ	0.38 U	0.4 UJ	0.38 U	0.41 UJ
Aroclor 1260	0.4 UJ	0.38 U	0.4 UJ	0.38 U	0.4 UJ	0.38 U	0.41 UJ
Aroclor 1262	0.4 UJ	0.38 U	0.4 UJ	0.38 U	0.4 UJ	0.38 U	0.41 UJ
Aroclor 1268	0.4 UJ	0.38 U	0.4 UJ	0.38 U	0.4 UJ	0.38 U	0.41 UJ
Total PCB Aroclors	ND	ND	ND	ND	ND	ND	ND
Pesticides (ug/L)							
Aldrin	0.05 UJ	0.047 U	0.05 UJ	0.047 U	0.05 UJ	0.048 U	0.051 UJ
alpha-BHC	0.05 UJ	0.047 U	0.05 UJ	0.047 U	0.05 UJ	0.048 U	0.051 UJ
beta-BHC	0.05 UJ	0.047 U	0.05 UJ	0.047 U	0.05 UJ	0.048 U	0.051 UJ
gamma-BHC	0.05 UJ	0.047 U	0.05 UJ	0.047 U	0.05 UJ	0.048 U	0.051 UJ
delta-BHC	0.05 UJ	0.047 U	0.05 UJ	0.047 U	0.05 UJ	0.048 U	0.051 UJ
alpha-chlordane	0.05 UJ	0.047 U	0.05 UJ	0.047 U	0.05 UJ	0.048 U	0.051 UJ
gamma-Chlordane	**0.073 J**	**0.1 J**	**0.13 J**	**0.17 J**	**0.09 J**	**0.25**	0.051 UJ
4,4-DDD	0.05 UJ	0.047 U	0.05 UJ	0.047 U	0.05 UJ	0.048 U	0.051 UJ
4,4'-DDE	0.05 UJ	0.047 U	0.05 UJ	0.047 U	0.05 UJ	0.048 U	0.051 UJ
4,4'-DDT	0.05 UJ	0.047 U	0.05 UJ	0.047 U	0.05 UJ	0.048 U	0.051 UJ
Dieldrin	0.05 UJ	0.047 U	0.05 UJ	0.047 U	0.05 UJ	0.048 U	0.051 UJ
Endosulfan I	0.05 UJ	0.047 U	0.05 UJ	0.047 U	0.05 UJ	0.048 U	0.051 UJ
Endosulfan II	0.05 UJ	0.047 U	0.05 UJ	0.047 U	0.05 UJ	0.048 U	0.051 UJ
Endosulfan sulfate	0.05 UJ	0.047 U	0.05 UJ	0.047 U	0.05 UJ	0.048 U	0.051 UJ

Table 3
Summary of Storm Water Analytical Results
Gowanus Canal
Brooklyn, New York

Sample Location:	RH-035				OH-007		
Sample Type:	Baseline, Lab Filtered	Baseline, Unfiltered	Discharge, Lab Filtered	Discharge, Unfiltered	Baseline, Lab Filtered	Baseline, Unfiltered	Discharge, Lab Filtered
Sample Event:	Event 1	Event 1	Event 1	Event 1	Event 2	Event 2	Event 2
Sample Name:	MH-RH-035-LFB1	MH-RH-035-WWB1	MH-RH-035-LFD1	MH-RH-035-WWD1	MH-OH-007-LFB2	MH-OH-007-WWB2	MH-OH-007-LFD2
Sample Date:	9/28/2012	9/28/2012	9/28/2012	9/28/2012	1/11/2013	1/11/2013	1/11/2013
Endrin	0.05 UJ	0.047 U	0.05 UJ	0.047 U	0.05 UJ	0.048 U	0.051 UJ
Endrin aldehyde	0.05 UJ	0.047 U	0.05 UJ	0.047 U	0.05 UJ	0.048 U	0.051 UJ
Endrin ketone	0.05 UJ	0.047 U	0.05 UJ	0.047 U	0.05 UJ	0.048 U	0.051 UJ
Heptachlor	0.05 UJ	0.047 U	0.05 UJ	0.047 U	0.05 UJ	0.048 U	0.051 UJ
Heptachlor epoxide	0.05 UJ	0.047 U	0.05 UJ	0.047 U	0.05 UJ	0.048 U	0.051 UJ
Methoxychlor	0.1 UJ	0.094 U	0.1 UJ	0.094 U	0.1 UJ	0.095 U	0.1 UJ
Toxaphene	4 UJ	3.8 U	4 UJ	3.8 U	4 UJ	3.8 U	4.1 UJ
Herbicides (ug/L)							
2,4-D	NA	NA	4 UJ	3.8 UJ	3.8 UJ	3.8 U	4.2 UJ
2,4-DB	NA	NA	4 UJ	3.8 UJ	3.8 UJ	3.8 U	4.2 UJ
Dicamba	NA	NA	2 UJ	1.9 UJ	1.9 UJ	1.9 U	2.1 UJ
Dichloroprop	NA	NA	4 UJ	3.8 UJ	3.8 UJ	3.8 U	4.2 UJ
2,2-Dichloropropionic acid	NA	NA	**1.9 J**	4.7 UJ	**3.9 J**	4.7 UJ	5.3 UJ
Dinoseb	NA	NA	0.9 UJ	0.85 UJ	0.87 UJ	0.85 U	0.95 UJ
MCPP	NA	NA	400 UJ	380 UJ	380 UJ	380 U	420 UJ
Methylchlorophenoxyacetic acid	NA	NA	400 UJ	380 UJ	380 UJ	380 U	421 UJ
Silvex	NA	NA	1 UJ	0.94 UJ	0.96 UJ	0.94 U	1.1 UJ
2,4,5-Trichlorophenoxyacetic Acid	NA	NA	1 UJ	0.94 UJ	0.96 UJ	0.94 U	1.1 UJ
Dissolved Metals (ug/L)							
Antimony	**5 J**	2 UJ	2 UJ	**2.3 J**	2 UJ	2 U	2 UJ
Aluminum	**300 J**	**450 J**	**65 J**	**140 J**	**79 J**	30 U	**640 J**
Arsenic	**10 J**	**1.6 J**	**3.2 J**	**2.1 J**	**1.3 J**	1 U	**17 J**
Barium	**32 J**	**15 J**	**17 J**	**18 J**	**41 J**	**30**	**39 J**
Beryllium	1 UJ	1 U	1 UJ	1 U	1 UJ	1 U	1 UJ
Cadmium	**1.4 J**	1 U	1 UJ	1 U	**0.12 J**	1 U	**0.29 J**
Calcium	**8600 J**	**6900**	**10000 J**	**10000**	**37000 J**	**28000**	**9800 J**
Chromium	**3.9 J**	**2.9**	2 UJ	**2.3**	**1 J**	2 U	**6.1 J**
Cobalt	0.5 UJ	**0.82**	0.5 UJ	0.5 U	**4.3 J**	**2.4**	**0.86 J**
Copper	**21 J**	**12**	**17 J**	**26**	**34 J**	**5.8**	**14 J**
Iron	**510 J**	**610 J**	**300 J**	**480 J**	**1100 J**	**500**	**370 J**
Lead	**14 J**	**9.6**	**2.7 J**	**7.6**	**8.6 J**	**1.5**	**5.6 J**
Magnesium	**2000 J**	**1100**	**2800 J**	**3000**	**31000 J**	**9700**	**2100 J**
Manganese	**34 J**	**34 J**	**34 J**	**36**	**110 J**	**120**	**44 J**
Mercury	0.2 UJ	0.2 U	0.2 UJ	0.2 U	0.2 UJ	0.2 U	0.2 UJ
Nickel	**2.3 J**	**2.6 J**	**1.8 J**	**2.3**	**9.3 J**	**6.3 J**	**6.6 J**
Potassium	**3100 J**	**2700**	**6100 J**	**5600**	**16000 J**	**10000**	**2900 J**
Selenium	5 UJ	5 U	5 UJ	5 U	5 UJ	5 U	5 UJ
Silver	**0.12 J**	1 U	**0.084 J**	1 U	1 UJ	1 U	1 UJ
Sodium	**11000 J**	**4800**	**22000 J**	**23000**	**400000 J**	**230000**	**66000 J**
Thallium	1 UJ	1 U	1 UJ	1 U	1 UJ	1 U	1 UJ
Vanadium	**4.6 J**	**3.8 J**	**3.5 J**	**3.6 J**	**1.9 J**	**1.6**	**2.4 J**
Zinc	**74 J**	**79 J**	**39 J**	**70 J**	**190 J**	**59**	**41 J**
Total Metals (ug/L)							
Antimony	NA	2 UJ	NA	R	NA	**3 J**	NA
Aluminum	NA	**200 J**	NA	**350 J**	NA	**1000**	NA
Arsenic	NA	**1.6**	NA	**2.2**	NA	**0.47 J**	NA
Barium	NA	**12 J**	NA	**28 J**	NA	**80**	NA
Beryllium	NA	1 U	NA	1 U	NA	**0.094 J**	NA
Cadmium	NA	1 U	NA	1 U	NA	**1.5**	NA
Calcium	NA	**5800**	NA	**11000**	NA	**31000**	NA

Table 3
Summary of Storm Water Analytical Results
Gowanus Canal
Brooklyn, New York

Sample Location:	RH-035				OH-007		
Sample Type:	Baseline, Lab Filtered	Baseline, Unfiltered	Discharge, Lab Filtered	Discharge, Unfiltered	Baseline, Lab Filtered	Baseline, Unfiltered	Discharge, Lab Filtered
Sample Event:	Event 1	Event 1	Event 1	Event 1	Event 2	Event 2	Event 2
Sample Name:	MH-RH-035-LFB1	MH-RH-035-WWB1	MH-RH-035-LFD1	MH-RH-035-WWD1	MH-OH-007-LFB2	MH-OH-007-WWB2	MH-OH-007-LFD2
Sample Date:	9/28/2012	9/28/2012	9/28/2012	9/28/2012	1/11/2013	1/11/2013	1/11/2013
Chromium	NA	**2.8**	NA	**2.8**	NA	**7.2**	NA
Cobalt	NA	**0.72**	NA	**0.63**	NA	**5.1**	NA
Copper	NA	**19 J**	NA	**44**	NA	**130**	NA
Iron	NA	**620 J**	NA	**1300 J**	NA	**3400**	NA
Lead	NA	**9.7**	NA	**19**	NA	**56**	NA
Magnesium	NA	**920**	NA	**3100**	NA	**14000**	NA
Manganese	NA	**27 J**	NA	**48**	NA	**140**	NA
Mercury	NA	0.2 U	NA	**0.068 J**	NA	**0.21**	NA
Nickel	NA	**1.8 J**	NA	**2.8**	NA	**9.3 J**	NA
Potassium	NA	**2800**	NA	**6200**	NA	**11000**	NA
Selenium	NA	5 U	NA	5 U	NA	5 U	NA
Silver	NA	**0.32 J**	NA	**0.35 J**	NA	**5.9 J**	NA
Sodium	NA	**4400**	NA	**22000**	NA	**240000**	NA
Thallium	NA	1 U	NA	1 U	NA	1 U	NA
Vanadium	NA	**3.9 J**	NA	**4.3 J**	NA	**5.6**	NA
Zinc	NA	**70 J**	NA	**110 J**	NA	**340**	NA
Cyanides (ug/L)							
Free Cyanide	NA	NA	5 UJ	5 U	5 UJ	5 U	5 UJ
EDCs and PPCPs (Phenols) (ug/L)							
Bisphenol A	NA	NA	0.48 UJ	**0.54**	**2.7 J**	**5**	**0.83 J**
Nonylphenol	NA	NA	**3.9 J**	**9.6**	**2.4 J**	**9.6**	2.3 UJ
Nonylphenol Diethoxylate	NA	NA	9.6 UJ	8 U	8 UJ	8 U	8.9 UJ
Nonylphenol Monoethoxylate	NA	NA	**6.5 J**	**11**	4 UJ	**15**	4.5 UJ
4-tert-Octylphenol	NA	NA	0.48 UJ	0.4 U	0.4 UJ	**0.88**	0.45 UJ
EDCs and PPCPs (ug/L)							
Acetaminophen	NA	NA	**37 J**	**48**	**60 J**	**52**	**9.9 J**
alpha-Estradiol	NA	NA	0.005 UJ	0.0048 U	0.02 UJ	0.02 U	0.02 UJ
Androstenedione	NA	NA	**0.065 J**	**0.027**	**0.043 J**	**0.041**	**0.018 J**
Atrazine	NA	NA	0.01 UJ	0.0095 U	**0.0028 J**	0.01 U	0.01 UJ
Bisphenol A	NA	NA	**0.6 J**	**0.67 J**	**4.4 J**	**4.3**	**1.2 J**
Caffeine	NA	NA	**39 J**	**39 J**	**89 J**	**85**	**22 J**
Carbamazepine	NA	NA	**0.038 J**	**0.043 J**	**0.065 J**	**0.066**	**0.1 J**
DEET (N,N-Diethyl-3-Methyl Benzamide)	NA	NA	0.05 UJ	0.048 U	**0.54 J**	**0.51**	**0.23 J**
Diazepam	NA	NA	0.01 UJ	0.0095 U	0.01 UJ	0.01 U	0.01 UJ
Diclofenac	NA	NA	R	**0.05 J**	0.02 UJ	0.02 U	**0.016 J**
Diethylstilbestrol	NA	NA	0.002 UJ	R	0.02 UJ	0.02 U	0.02 UJ
Estradiol	NA	NA	**0.0051 J**	**0.011 J**	0.02 UJ	**0.027 J**	**0.013 J**
Estriol	NA	NA	**0.095 J**	**0.13**	**0.18 J**	**0.16**	**0.055 J**
Estrone	NA	NA	**0.0094 J**	**0.024 J**	**0.037 J**	**0.025 J**	**0.019 J**
Ethinyl Estradiol	NA	NA	0.005 UJ	R	0.02 UJ	0.02 U	0.02 UJ
Fluoxetine	NA	NA	R	**0.066 J**	**0.035 J**	0.01 UJ	**0.017 J**
Gemfibrozil	NA	NA	**0.45 J**	**1.4 J**	**1.1 J**	**0.77 J**	**0.23 J**
Hydrocodone	NA	NA	0.05 UJ	0.048 U	0.05 UJ	0.05 U	0.05 UJ
Ibuprofen	NA	NA	**8.5 J**	**9.6 J**	**15 J**	**13**	**5.8 J**
Iopromide	NA	NA	**0.045 J**	**0.036 J**	**0.36 J**	**0.47 J**	**0.076 J**
Meprobamate	NA	NA	**0.011 J**	**0.022**	**0.016 J**	**0.016**	0.01 UJ
Methadone	NA	NA	**0.052 J**	**0.052**	**0.04 J**	**0.043 J**	**0.012 J**
Naproxen	NA	NA	**8.3 J**	**7 J**	**5.7 J**	**5.2**	**2.2 J**
Oxybenzone	NA	NA	**1.4 J**	**1.4 J**	**0.55 J**	**0.73 J**	**0.42 J**
Pentoxifylline	NA	NA	0.01 UJ	0.0095 U	**0.013 J**	**0.012**	0.01 UJ

Table 3
Summary of Storm Water Analytical Results
Gowanus Canal
Brooklyn, New York

Sample Location:	RH-035				OH-007		
Sample Type:	Baseline, Lab Filtered	Baseline, Unfiltered	Discharge, Lab Filtered	Discharge, Unfiltered	Baseline, Lab Filtered	Baseline, Unfiltered	Discharge, Lab Filtered
Sample Event:	Event 1	Event 1	Event 1	Event 1	Event 2	Event 2	Event 2
Sample Name:	MH-RH-035-LFB1	MH-RH-035-WWB1	MH-RH-035-LFD1	MH-RH-035-WWD1	MH-OH-007-LFB2	MH-OH-007-WWB2	MH-OH-007-LFD2
Sample Date:	9/28/2012	9/28/2012	9/28/2012	9/28/2012	1/11/2013	1/11/2013	1/11/2013
Phenytoin (5,5-Diphenylhydantion / Dilantin)	NA	NA	0.002 UJ	**0.031 J**	**0.033 J**	0.02 U	**0.021 J**
Progesterone	NA	NA	**0.052 J**	0.019 U	0.02 UJ	0.02 U	0.02 UJ
Salicylic Acid	NA	NA	**0.69 J**	**29**	**23 J**	**22**	**3.7 J**
Sulfamethoxazole	NA	NA	**0.2 J**	**0.42**	**0.52 J**	**0.55**	**0.094 J**
Testosterone	NA	NA	**0.043 J**	**0.057**	**0.09 J**	**0.087**	**0.032 J**
Triclosan	NA	NA	R	R	R	R	0.5 UJ
Trimethoprim	NA	NA	**0.1 J**	**0.23 J**	**0.16 J**	**0.16 J**	**0.074 J**
Pathogen							
C. perfringens (cfu/100mL)	NA	NA	**35000**	**45000**	**85000**	**109000**	**73000**
Coliphage, Male Specific (pfu/100mL)	NA	NA	**55300**	**41700**	**53500**	**51000**	**19500**
Coliphage, Somatic (pfu/100mL)	NA	NA	**87600 J**	**49000 J**	**15500 J**	**13500 J**	**16000 J**
Cryptosporidium (oocysts/L)	NA	NA	0 UJ	0 U	0 UJ	0 UJ	0 UJ
E.Coli (mpn/100mL)	NA	NA	**4200000**	**6890000**	**1750000**	**4280000**	**2620000**
Enterococci (mpn/100mL)	NA	NA	**1320000**	**980000**	**1480000**	**770100**	**547500**
Enterovirus (pos/neg)	NA	NA	NA	NA	NA	NA	NA
Fecal Coliform (mpn/100mL)	NA	NA	**9870000**	**5210000**	**2180000**	**4280000**	**2620000**
Giardia (cysts/L)	NA	NA	**28.26 J**	**210**	**440**	**210**	**190**
Plaque forming virus (pfu//1 mL)	NA	NA	NA	NA	0 U	0 U	0 UJ
Plaque forming virus (pfu/125 mL)	NA	NA	NA	NA	NA	NA	NA
Plaque forming virus (pfu/165.5 mL)	NA	NA	NA	NA	NA	NA	NA
Plaque forming virus (pfu/182.5 mL)	NA	NA	NA	NA	NA	NA	NA
Plaque forming virus (pfu/185.5 mL)	NA	NA	NA	NA	NA	NA	NA
Plaque forming virus (pfu/187.5 mL)	NA	NA	NA	NA	NA	NA	NA
Plaque forming virus (pfu/197.5 mL)	NA	NA	NA	NA	NA	NA	NA
Plaque forming virus (pfu/199.5 mL)	NA	NA	0 U	NA	NA	NA	NA
Plaque forming virus (pfu/200 mL)	NA	NA	NA	NA	NA	NA	NA
Plaque forming virus (pfu/200.5 mL)	NA	NA	NA	NA	NA	NA	NA
Plaque forming virus (pfu/201 mL)	NA	NA	NA	NA	NA	NA	NA
Plaque forming virus (pfu/201.5 mL)	NA	NA	NA	NA	NA	NA	NA
Plaque forming virus (pfu/202 mL)	NA	NA	NA	NA	NA	NA	NA
Plaque forming virus (pfu/203 mL)	NA	NA	NA	0 U	NA	NA	NA
Plaque forming virus (pfu/204 mL)	NA	NA	NA	NA	NA	NA	NA
Plaque forming virus (pfu/205 mL)	NA	NA	NA	NA	NA	NA	NA
Viruses (pos/neg)	NA	NA	neg	neg	neg	neg	neg
Other (ug/L)							
Ammonia	NA	NA	**9700 J**	**9500**	**3600 J**	**10000**	**3300 J**
Calcium hardness as calcium carbonate	NA	**15000**	NA	**28000**	NA	NA	NA
Dissolved Organic Carbon	**32000 J**	**13000**	**18000 J**	**13000**	**49000 J**	**50000**	**12000 J**
Hardness as calcium carbonate	**30000 J**	**18000**	**36000 J**	**40000**	**220000 J**	**140000**	**33000 J**
Magnesium hardness as calcium carbonate	NA	**3800**	NA	**13000**	NA	NA	NA
pH (s.u.)	NA	NA	**6.59 J**	**6.24 J**	**6.82 J**	**6.96 J**	**7.11 J**
Sediment Concentration	NA	NA	NA	**63000**	NA	**140000**	NA
Specific Conductance (umhos/cm)	NA	NA	**280 J**	**320**	**1200 J**	**1700**	**480 J**
Total Dissolved Solids	NA	NA	NA	**150000**	NA	**870000**	NA
Total Organic Carbon	**36000 J**	**22000**	**18000 J**	**18000 J**	**50000 J**	**63000**	**12000 J**
Total Petroleum Hydrocarbons	1.1 UJ	**16286.35**	1.16 UJ	**1907.73**	**425.32 J**	**8408.55**	**782.47 J**
Total Suspended Solids	NA	NA	NA	**79000**	NA	**130000**	NA
Turbidity (ntu)	NA	NA	NA	**37**	NA	**47 J**	NA

Table 3
Summary of Storm Water Analytical Results
Gowanus Canal
Brooklyn, New York

Sample Location:	OH-007				RH-035											
Sample Type:	Discharge, Unfiltered				Baseline, Lab Filtered	Baseline, Lab Filtered	Baseline, Unfiltered	Discharge, Lab Filtered				Discharge, Unfiltered				
Sample Event:	Event 2				Event 2	Event 2	Event 2	Event 2				Event 2				
Sample Name:	MH-OH-007-WWD2				MH-RH-035-LFB2	Duplicate of MH-RH-035-LFB2	MH-RH-035-WWB2	MH-RH-035-LFD2				MH-RH-035-WWD2				
Sample Date:	1/11/2013				1/11/2013	1/11/2013	1/11/2013	1/11/2013				1/11/2013				
BTEX (ug/L)																
Benzene	**0.11 J**	1 U	1 U	1 U	**0.37 J**	2 UJ	**0.66 J**	1 UJ	5 UJ	1 UJ	1 UJ	**0.12 J**	1 U	1 U	1 U	
Toluene	**7.8**	**14**	**9**	**7.1**	**1.9 J**	**1.7 J**	**9**	**4.6 J**	**2.9 J**	**3.9 J**	**2.5 J**	**5**	**4.2**	**4.9**	**5.3**	
Ethylbenzene	**0.62 J**	**0.48 J**	**0.35 J**	**0.44 J**	1 UJ	2 UJ	**0.33 J**	1 UJ	5 UJ	1 UJ	1 UJ	1 U	1 U	1 U	1 U	
m,p-Xylene	**2.1 J**	**2 J**	**1.4 J**	**1.9 J**	2 UJ	4 UJ	**0.51 J**	2 UJ	10 UJ	2 UJ	2 UJ	2 UJ	2 UJ	2 UJ	2 UJ	
o-Xylene	**0.9 J**	**0.77 J**	**0.64 J**	**0.87 J**	1 UJ	2 UJ	**0.29 J**	1 UJ	5 UJ	1 UJ	1 UJ	1 U	1 U	1 U	1 U	
Total Xylene	**3**	**2.8 J**	**2.1 J**	**2.8 J**	3 UJ	6 UJ	**0.81 J**	3 UJ	15 UJ	3 UJ	3 UJ	3 U	3 U	3 U	3 U	
Total BTEX	**11.53**	**17.28**	**11.45**	**10.34**	**2.27**	**1.7**	**10.8**	**4.6**	**2.9**	**3.9**	**2.5**	**5.12**	**4.2**	**4.9**	**5.3**	
Other VOCs (ug/L)																
Acetone	**23 J**	**20 J**	**21**	**32**	**220 J**	**130 J**	**42 J**	**44 J**	**57 J**	**27 J**	**41 J**	**27 J**	**26 J**	**32 J**	**27 J**	
Bromochloromethane	1 U	1 U	1 U	1 U	1 UJ	2 UJ	1 U	1 UJ	5 UJ	1 UJ	1 UJ	1 U	1 U	1 U	1 U	
Bromodichloromethane	1 U	1 U	1 U	1 U	1 UJ	2 UJ	1 U	1 UJ	5 UJ	1 UJ	1 UJ	1 U	**0.28 J**	1 U	1 U	
Bromoform	1 U	1 U	1 U	1 U	1 UJ	2 UJ	1 U	1 UJ	5 UJ	1 UJ	1 UJ	1 U	1 U	1 U	1 U	
Bromomethane	1 U	1 U	1 U	1 U	1 UJ	2 UJ	1 U	1 UJ	5 UJ	1 UJ	1 UJ	1 U	1 U	1 U	1 U	
2-Butanone (Methyl ethyl ketone)	**2.3 J**	**2.3 J**	**2.3 J**	**2.2 J**	**2.3 J**	**3 J**	**4.6 J**	**2.9 J**	25 UJ	**1.4 J**	**1.8 J**	**2 J**	**1.7 J**	**1.7 J**	**1.5 J**	
Carbon disulfide	1 U	1 U	1 U	1 U	1 UJ	2 UJ	1 U	**0.37 J**	5 UJ	**0.28 J**	1 UJ	1 U	1 U	1 U	1 U	
Carbon tetrachloride	1 U	1 U	1 U	1 U	1 UJ	2 UJ	1 U	1 UJ	5 UJ	1 UJ	1 UJ	1 U	1 U	1 U	1 U	
Chlorobenzene	1 U	1 U	1 U	1 U	1 UJ	2 UJ	1 U	1 UJ	5 UJ	1 UJ	1 UJ	1 U	1 U	1 U	1 U	
Chloroethane	1 U	1 U	1 U	1 U	1 UJ	2 UJ	1 U	1 UJ	5 UJ	1 UJ	1 UJ	1 U	1 U	1 U	1 U	
Chloroform	**2.5**	**1.7**	**1.4**	**1.3**	**2.8 J**	**2.3 J**	**2.1**	**2 J**	5 UJ	**2.6 J**	**2.1 J**	**2.2**	**2.4**	**2.5**	**2.7**	
Chloromethane	1 U	1 U	1 U	1 U	1 UJ	2 UJ	1 U	1 UJ	5 UJ	1 UJ	1 UJ	1 U	1 U	1 U	1 U	
Cyclohexane	1 U	1 U	1 U	1 U	1 UJ	2 UJ	1 U	1 UJ	5 UJ	1 UJ	1 UJ	1 U	1 U	1 U	1 U	
1,2-Dibromo-3-chloropropane	1 U	1 U	1 UJ	1 UJ	1 UJ	2 UJ	1 U	1 UJ	5 UJ	1 UJ	1 UJ	1 U	1 U	1 U	1 U	
Dibromochloromethane	1 U	1 U	1 U	1 U	1 UJ	2 UJ	1 U	1 UJ	5 UJ	1 UJ	1 UJ	1 U	1 U	1 U	1 U	
1,2-Dibromoethane (EDB)	1 U	1 U	1 U	1 U	1 UJ	2 UJ	1 U	1 UJ	5 UJ	1 UJ	1 UJ	1 U	1 U	1 U	1 U	
1,2-Dichlorobenzene	1 U	1 U	1 U	**0.28 J**	1 UJ	2 UJ	1 U	1 UJ	5 UJ	1 UJ	1 UJ	1 U	1 U	1 U	1 U	
1,3-Dichlorobenzene	1 U	1 U	1 U	1 U	1 UJ	2 UJ	1 U	1 UJ	5 UJ	1 UJ	1 UJ	1 U	1 U	1 U	1 U	
1,4-Dichlorobenzene	1 U	1 U	1 U	1 U	1 UJ	2 UJ	**0.32 J**	1 UJ	5 UJ	1 UJ	1 UJ	1 U	1 U	1 U	1 U	
Dichlorodifluoromethane (Freon 12)	1 U	1 U	1 U	1 U	1 UJ	2 UJ	1 U	1 UJ	5 UJ	1 UJ	1 UJ	1 U	1 U	1 U	1 U	
1,1-Dichloroethane	1 U	1 U	1 U	1 U	1 UJ	2 UJ	1 U	1 UJ	5 UJ	1 UJ	1 UJ	1 U	1 U	1 U	1 U	
1,2-Dichloroethane	1 U	1 U	1 U	1 U	1 UJ	2 UJ	1 U	1 UJ	5 UJ	1 UJ	1 UJ	1 U	1 U	1 U	1 U	
1,1-Dichloroethene	1 U	1 U	1 U	1 U	1 UJ	2 UJ	1 U	1 UJ	5 UJ	1 UJ	1 UJ	1 U	1 U	1 U	1 U	
cis-1,2-Dichloroethene	**0.31 J**	1 U	1 U	1 U	1 UJ	2 UJ	**0.78 J**	1 UJ	5 UJ	1 UJ	1 UJ	1 U	1 U	1 U	1 U	
trans-1,2-Dichloroethene	1 U	1 U	1 U	1 U	1 UJ	2 UJ	1 U	1 UJ	5 UJ	1 UJ	1 UJ	1 U	1 U	1 U	1 U	
1,2-Dichloropropane	1 U	1 U	1 U	1 U	1 UJ	2 UJ	1 U	1 UJ	5 UJ	1 UJ	1 UJ	1 U	1 U	1 U	1 U	
cis-1,3-Dichloropropene	1 U	1 U	1 U	1 U	1 UJ	2 UJ	1 U	1 UJ	5 UJ	1 UJ	1 UJ	1 U	1 U	1 U	1 U	
trans-1,3-Dichloropropene	1 U	1 U	1 U	1 U	1 UJ	2 UJ	1 U	1 UJ	5 UJ	1 UJ	1 UJ	1 U	1 U	1 U	1 U	
1,4-Dioxane	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	
2-Hexanone	5 U	5 U	5 U	5 U	5 UJ	10 UJ	5 U	5 UJ	25 UJ	5 UJ	5 UJ	5 U	5 U	5 U	5 U	
Isopropyl benzene	**0.21 J**	**0.2 J**	1 U	1 U	1 UJ	2 UJ	1 U	1 UJ	5 UJ	1 UJ	1 UJ	1 U	1 U	1 U	1 U	
Methyl acetate	1 U	1 U	1 U	1 U	**9.2 J**	2 UJ	**1.1**	1 UJ	5 UJ	1 UJ	1 UJ	1 U	1 U	1 U	1 U	
Methyl tert-butyl ether (MTBE)	1 U	1 U	1 U	1 U	1 UJ	2 UJ	1 U	1 UJ	5 UJ	1 UJ	1 UJ	1 U	1 U	1 U	1 U	
4-Methyl-2-pentanone (MIBK)	**1.6 J**	**1.4 J**	5 U	5 U	**1.5 J**	**1.3 J**	**1.4 J**	**0.8 J**	25 UJ	**0.99 J**	**0.71 J**	**1.1 J**	**0.98 J**	**0.99 J**	**0.8 J**	
Methylcyclohexane	1 U	1 U	1 U	1 U	1 UJ	2 UJ	1 U	1 UJ	5 UJ	1 UJ	1 UJ	1 U	1 U	1 U	1 U	
Methylene chloride	1 UJ	**17 J**	**6.7**	1 U	**180 J**	**25 J**	1 UJ	1 UJ	**83 J**	1 UJ	**4.1 J**	1 UJ	1 UJ	1 UJ	1 UJ	
Styrene	1 U	1 U	1 U	1 U	1 UJ	2 UJ	1 U	1 UJ	5 UJ	1 UJ	1 UJ	1 U	1 U	1 U	1 U	
1,1,2,2-Tetrachloroethane	1 U	1 U	1 U	1 U	1 UJ	2 UJ	1 U	1 UJ	5 UJ	1 UJ	1 UJ	1 U	1 U	1 U	1 U	
Tetrachloroethene (PCE)	**5.5**	**5.1**	**3.6**	**3.3**	**4.2 J**	**2.8 J**	**18**	**2.7 J**	**1 J**	**1.5 J**	**1.5 J**	**2.2**	**1.8**	**1.9**	**3.1**	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	1 U	1 U	1 U	1 U	1 UJ	2 UJ	1 U	1 UJ	5 UJ	1 UJ	1 UJ	1 U	1 U	1 U	1 U	
1,2,3-Trichlorobenzene	1 U	1 U	1 U	1 U	1 UJ	2 UJ	1 U	1 UJ	5 UJ	1 UJ	1 UJ	1 U	1 U	1 U	1 U	

Validated

Table 3
Summary of Storm Water Analytical Results
Gowanus Canal
Brooklyn, New York

Sample Location:	OH-007				RH-035											
Sample Type:	Discharge, Unfiltered				Baseline, Lab Filtered	Baseline, Lab Filtered	Baseline, Unfiltered	Discharge, Lab Filtered				Discharge, Unfiltered				
Sample Event:	Event 2				Event 2	Event 2	Event 2	Event 2				Event 2				
Sample Name:	MH-OH-007-WWD2				MH-RH-035-LFB2	Duplicate of MH-RH-035-LFB2	MH-RH-035-WWB2	MH-RH-035-LFD2				MH-RH-035-WWD2				
Sample Date:	1/11/2013				1/11/2013	1/11/2013	1/11/2013	1/11/2013				1/11/2013				
1,2,4-Trichlorobenzene	1 U	1 U	1 U	1 U	1 UJ	2 UJ	1 U	1 UJ	5 UJ	1 UJ	1 UJ	1 U	1 U	1 U	1 U	
1,1,1-Trichloroethane	1 U	1 U	1 U	1 U	1 UJ	2 UJ	1 U	1 UJ	5 UJ	1 UJ	1 UJ	1 U	1 U	1 U	1 U	
1,1,2-Trichloroethane	1 U	1 U	1 U	1 U	1 UJ	2 UJ	1 U	1 UJ	5 UJ	1 UJ	1 UJ	1 U	1 U	1 U	1 U	
Trichloroethene (TCE)	**0.27 J**	**0.17 J**	1 U	1 U	1 UJ	2 UJ	**1.2**	1 UJ	5 UJ	1 UJ	1 UJ	1 U	1 U	1 U	1 U	
Trichlorofluoromethane (Freon 11)	1 U	1 U	1 U	1 U	1 UJ	2 UJ	1 U	1 UJ	5 UJ	1 UJ	1 UJ	1 U	1 U	1 U	1 U	
Vinyl chloride	1 U	1 U	1 U	1 U	1 UJ	2 UJ	1 U	1 UJ	5 UJ	1 UJ	1 UJ	1 U	1 U	1 U	1 U	
Total VOCs	**50.22**	**67.92**	**48.49**	**52.19**	**422.27**	**166.1**	**83.1**	**57.37**	**143.9**	**37.67**	**53.71**	**39.62**	**37.36**	**43.99**	**40.4**	
PAHs (ug/L)																
Acenaphthene	2.7 U				**0.31 J**	**0.22 J**	1.9 U	2.2 UJ				1.9 U				
Acenaphthylene	2.7 U				2.2 UJ	2.1 UJ	1.9 U	2.2 UJ				1.9 U				
Anthracene	2.7 U				2.2 UJ	2.1 UJ	1.9 U	2.2 UJ				1.9 U				
Benz[a]anthracene	2.7 U				2.2 UJ	2.1 UJ	1.9 U	2.2 UJ				1.9 U				
Benzo[a]pyrene	2.7 U				2.2 UJ	2.1 UJ	1.9 U	2.2 UJ				1.9 U				
Benzo[b]fluoranthene	2.7 U				2.2 UJ	2.1 UJ	1.9 U	2.2 UJ				1.9 U				
Benzo[g,h,i]perylene	2.7 U				2.2 UJ	2.1 UJ	1.9 U	2.2 UJ				1.9 U				
Benzo[k]fluoranthene	2.7 U				2.2 UJ	2.1 UJ	1.9 U	2.2 UJ				1.9 U				
Chrysene	2.7 U				2.2 UJ	2.1 UJ	1.9 U	2.2 UJ				1.9 U				
Dibenz[a,h]anthracene	2.7 U				2.2 UJ	2.1 UJ	1.9 U	2.2 UJ				1.9 U				
Fluoranthene	**0.26 J**				2.2 UJ	2.1 UJ	**0.2 J**	2.2 UJ				1.9 U				
Fluorene	2.7 U				2.2 UJ	2.1 UJ	1.9 U	2.2 UJ				1.9 U				
Indeno[1,2,3-cd]pyrene	2.7 U				2.2 UJ	2.1 UJ	1.9 U	2.2 UJ				1.9 U				
2-Methylnaphthalene	**1.3 J**				**0.4 J**	**0.37 J**	**0.42 J**	2.2 UJ				1.9 U				
Naphthalene	**0.68 J**				**2 J**	**1.9 J**	**1.6 J**	**0.35 J**				**0.26 J**				
Phenanthrene	2.7 U				2.2 UJ	2.1 UJ	1.9 U	2.2 UJ				1.9 U				
Pyrene	**0.35 J**				2.2 UJ	2.1 UJ	**0.23 J**	2.2 UJ				1.9 U				
Total PAH 17	**2.59**				**2.71**	**2.49**	**2.45**	**0.35**				**0.26**				
Other SVOCs (ug/L)																
Acetophenone	**1.5 J**				11 UJ	11 UJ	9.7 U	11 UJ				9.6 U				
Atrazine	13 U				11 UJ	11 UJ	9.7 U	11 UJ				9.6 U				
Benzaldehyde	13 U				**2 J**	**2.1 J**	**2.4 J**	11 UJ				**1.8 J**				
1,1-Biphenyl	13 U				11 UJ	11 UJ	9.7 U	11 UJ				9.6 U				
Bis(chloroisopropyl)ether	2.7 U				2.2 UJ	2.1 UJ	1.9 U	2.2 UJ				1.9 U				
Bis(2-chloroethyl)ether	2.7 U				2.2 UJ	2.1 UJ	1.9 U	2.2 UJ				1.9 U				
Bis(2-chloroethoxy)methane	13 U				11 UJ	11 UJ	9.7 U	11 UJ				9.6 U				
Bis(2-ethylhexyl)phthalate	27 U				22 UJ	21 UJ	19 U	22 UJ				19 U				
4-Bromophenyl phenyl ether	13 U				11 UJ	11 UJ	9.7 U	11 UJ				9.6 U				
Butyl benzyl phthalate	13 U				11 UJ	11 UJ	9.7 U	11 UJ				9.6 U				
Caprolactam	67 U				54 UJ	53 UJ	49 U	55 UJ				48 U				
Carbazole	2.7 U				2.2 UJ	2.1 UJ	1.9 U	2.2 UJ				1.9 U				
4-Chloro-3-methylphenol	13 U				11 UJ	11 UJ	9.7 U	11 UJ				9.6 U				
4-Chloroaniline	13 U				11 UJ	11 UJ	9.7 U	11 UJ				9.6 U				
2-Chloronaphthalene	2.7 U				2.2 UJ	2.1 UJ	1.9 U	2.2 UJ				1.9 U				
2-Chlorophenol	13 U				11 UJ	11 UJ	9.7 U	11 UJ				9.6 U				
4-Chlorophenyl phenyl ether	13 U				11 UJ	11 UJ	9.7 U	11 UJ				9.6 U				
Dibenzofuran	13 U				11 UJ	11 UJ	9.7 U	11 UJ				9.6 U				
3,3-Dichlorobenzidine	13 U				11 UJ	11 UJ	9.7 U	11 UJ				9.6 U				
2,4-Dichlorophenol	2.7 U				2.2 UJ	2.1 UJ	1.9 U	2.2 UJ				1.9 U				
Diethyl phthalate	**2.5 J**				**6.2 J**	**5.9 J**	**1.7 J**	**2.1 J**				**2.1 J**				
Dimethyl phthalate	13 U				11 UJ	11 UJ	9.7 U	11 UJ				9.6 U				
2,4-Dimethylphenol	13 U				11 UJ	11 UJ	9.7 U	11 UJ				9.6 U				

Table 3
Summary of Storm Water Analytical Results
Gowanus Canal
Brooklyn, New York

Sample Location:	OH-007	RH-035				
Sample Type:	Discharge, Unfiltered	Baseline, Lab Filtered	Baseline, Lab Filtered	Baseline, Unfiltered	Discharge, Lab Filtered	Discharge, Unfiltered
Sample Event:	Event 2	Event 2	Event 2	Event 2	Event 2	Event 2
Sample Name:	MH-OH-007-WWD2	MH-RH-035-LFB2	Duplicate of MH-RH-035-LFB2	MH-RH-035-WWB2	MH-RH-035-LFD2	MH-RH-035-WWD2
Sample Date:	1/11/2013	1/11/2013	1/11/2013	1/11/2013	1/11/2013	1/11/2013
Di-n-butyl phthalate	13 U	11 UJ	11 UJ	9.7 U	11 UJ	9.6 U
4,6-Dinitro-2-methylphenol	67 U	54 UJ	53 UJ	49 U	55 UJ	48 U
2,4-Dinitrophenol	67 U	54 UJ	53 UJ	49 U	55 UJ	48 U
2,4-Dinitrotoluene	13 U	11 UJ	11 UJ	9.7 U	11 UJ	9.6 U
2,6-Dinitrotoluene	13 U	11 UJ	11 UJ	9.7 U	11 UJ	9.6 U
Di-n-octyl phthalate	13 U	11 UJ	11 UJ	9.7 U	11 UJ	9.6 U
Hexachlorobenzene	2.7 U	2.2 UJ	2.1 UJ	1.9 U	2.2 UJ	1.9 U
Hexachlorobutadiene	2.7 U	2.2 UJ	2.1 UJ	1.9 U	2.2 UJ	1.9 U
Hexachlorocyclopentadiene	13 U	11 UJ	11 UJ	9.7 U	11 UJ	9.6 U
Hexachloroethane	13 U	11 UJ	11 UJ	9.7 U	11 UJ	9.6 U
Isophorone	13 U	11 UJ	11 UJ	9.7 U	11 UJ	9.6 U
2-Methylphenol (o-Cresol)	13 U	11 UJ	11 UJ	9.7 U	11 UJ	9.6 U
3,4-Methylphenol (m,p-Cresol)	**1.3 J**	**51 J**	**65 J**	**130**	**15 J**	**19**
2-Nitroaniline	67 U	54 UJ	53 UJ	49 U	55 UJ	48 U
3-Nitroaniline	67 U	54 UJ	53 UJ	49 U	55 UJ	48 U
4-Nitroaniline	67 U	54 UJ	53 UJ	49 U	55 UJ	48 U
Nitrobenzene	27 U	22 UJ	21 UJ	19 U	22 UJ	19 U
2-Nitrophenol	13 U	11 UJ	11 UJ	9.7 U	11 UJ	9.6 U
4-Nitrophenol	67 U	54 UJ	53 UJ	49 U	55 UJ	48 U
N-Nitrosodi-n-propylamine	2.7 U	2.2 UJ	2.1 UJ	1.9 U	2.2 UJ	1.9 U
N-Nitrosodiphenylamine	13 U	11 UJ	11 UJ	9.7 U	11 UJ	9.6 U
Pentachlorophenol	13 U	11 UJ	11 UJ	9.7 U	11 UJ	9.6 U
Phenol	**0.83 J**	**20 J**	**20 J**	**5.7**	2.2 UJ	1.9 U
1,2,4,5-Tetrachlorobenzene	13 U	11 UJ	11 UJ	9.7 U	11 UJ	9.6 U
2,3,4,6-Tetrachlorophenol	13 U	11 UJ	11 UJ	9.7 U	11 UJ	9.6 U
2,4,5-Trichlorophenol	13 U	11 UJ	11 UJ	9.7 U	11 UJ	9.6 U
2,4,6-Trichlorophenol	13 U	11 UJ	11 UJ	9.7 U	11 UJ	9.6 U
Total SVOCs	**8.72**	**81.91**	**95.49**	**142.25**	**17.45**	**23.16**
Alkylated PAHs (ug/L)						
Acenaphthene	**0.13131**	**0.13968 J**	**0.1506 J**	**0.42627**	**0.05752 J**	**0.09105**
Acenaphthylene	**0.05025**	**0.01836 J**	**0.01565 J**	**0.06713**	**0.01178 J**	**0.01548**
Anthracene	**0.0912**	**0.01581 J**	**0.0158 J**	**0.14064**	**0.0107 J**	**0.02769**
Benz[a]anthracene	**0.21416**	**0.00816 J**	**0.00587 J**	**0.20019**	**0.00668 J**	**0.04669**
Benzo[a]pyrene	**0.2177**	**0.00465 J**	**0.0035 J**	**0.22001**	**0.0036 J**	**0.06279**
Benzo[b]fluoranthene	**0.2838**	**0.00946 J**	**0.00644 J**	**0.20046**	**0.00787 J**	**0.05648**
Benzo[e]pyrene	**0.23223**	**0.00927 J**	**0.00607 J**	**0.16701**	**0.0064 J**	**0.04434**
Benzo[g,h,i]perylene	**0.23772**	**0.00736 J**	**0.00457 J**	**0.13581**	**0.00492 J**	**0.04814**
Benzo[k]fluoranthene	**0.25148**	**0.0084 J**	**0.00532 J**	**0.18754**	**0.00592 J**	**0.04991**
1,1-Biphenyl	**0.17934**	**0.02821 J**	**0.03047 J**	**0.08375**	**0.01707 J**	**0.02478**
Chrysene	**0.34584**	**0.01696 J**	**0.01403 J**	**0.27277**	**0.0141 J**	**0.07233**
C1-Chrysenes	**0.22425**	**0.01277 J**	**0.01002 J**	**0.18322**	**0.01045 J**	**0.0448**
C2-Chrysenes	**0.23046**	**0.01846 J**	0.01003 UJ	**0.24992**	**0.02555 J**	**0.06843 J**
C3-Chrysenes	**0.20784**	0.0114 UJ	0.01003 UJ	**0.14392**	0.01034 UJ	**0.03287**
C4-Chrysenes	0.01303 U	0.0114 UJ	0.01003 UJ	0.00974 U	0.01034 UJ	0.01013 U
Dibenz[a,h]anthracene	**0.04542**	**0.00125 J**	0.0099 UJ	**0.02656**	**0.00117 J**	**0.00812 J**
Dibenzofuran	**0.0725**	**0.01721 J**	**0.01711 J**	**0.05229**	**0.01624 J**	**0.02392**
Dibenzothiophene	**0.08691**	**0.02675 J**	**0.02661 J**	**0.08857**	**0.01938 J**	**0.02742**
C1-Dibenzothiophenes	**0.25623**	**0.06768 J**	**0.06783 J**	**0.16744**	**0.04673 J**	**0.05854**
C2-Dibenzothiophenes	**0.41015**	**0.11023 J**	**0.10879 J**	**0.23116**	**0.07591 J**	**0.10647**
C3-Dibenzothiophenes	**0.38192**	**0.09552 J**	**0.12654 J**	**0.28794**	**0.07803 J**	**0.10911**

Table 3
Summary of Storm Water Analytical Results
Gowanus Canal
Brooklyn, New York

Sample Location:	OH-007	RH-035				
Sample Type:	Discharge, Unfiltered	Baseline, Lab Filtered	Baseline, Lab Filtered	Baseline, Unfiltered	Discharge, Lab Filtered	Discharge, Unfiltered
Sample Event:	Event 2	Event 2	Event 2	Event 2	Event 2	Event 2
Sample Name:	MH-OH-007-WWD2	MH-RH-035-LFB2	Duplicate of MH-RH-035-LFB2	MH-RH-035-WWB2	MH-RH-035-LFD2	MH-RH-035-WWD2
Sample Date:	1/11/2013	1/11/2013	1/11/2013	1/11/2013	1/11/2013	1/11/2013
C4-Dibenzothiophenes	**0.22487**	**0.06801 J**	**0.05934 J**	**0.15848**	**0.05762 J**	**0.07647**
Fluoranthene	**0.6332**	**0.04298 J**	**0.03868 J**	**0.53735**	**0.04011 J**	**0.1604**
C1-Fluoranthenes/pyrenes	**0.39332**	**0.02885 J**	**0.02396 J**	**0.28581**	**0.02397 J**	**0.07211**
C2-Fluoranthenes/pyrenes	**0.39845**	**0.02851 J**	0.01005 UJ	**0.26409**	**0.02504 J**	**0.07094**
C3-Fluoranthenes/pyrenes	**0.27208**	**0.02239 J**	0.01005 UJ	**0.17776**	**0.02069 J**	**0.05177**
C4-Fluoranthenes/pyrenes	**0.15934**	0.01142 UJ	0.01005 UJ	**0.10038**	0.01036 UJ	**0.03885**
Fluorene	**0.18209**	**0.04613 J**	**0.04694 J**	**0.17523**	**0.03096 J**	**0.04827**
C1-Fluorenes	**0.41033**	**0.03199 J**	**0.03126 J**	**0.15269**	**0.02048 J**	**0.03145**
C2-Fluorenes	**0.61843**	**0.04788 J**	**0.05177 J**	**0.21472**	**0.03861 J**	**0.04947**
C3-Fluorenes	**0.89645**	**0.10579 J**	**0.10437 J**	**0.37783**	**0.07264 J**	**0.10426**
Indeno[1,2,3-cd]pyrene	**0.21001**	**0.00507 J**	**0.0033 J**	**0.12708**	**0.0037 J**	**0.04029**
Naphthalene	**0.28997**	**0.61255 J**	**0.84583 J**	**1.62111**	**0.24437 J**	**0.31746**
C1-Naphthalenes	**0.7963**	**0.22658 J**	**0.25898 J**	**0.71058**	**0.11478 J**	**0.17412**
C2-Naphthalenes	**2.02298**	**0.14027 J**	**0.14546 J**	**0.62747**	**0.07702 J**	**0.13791**
C3-Naphthalenes	**2.04205**	**0.11365 J**	**0.11417 J**	**0.47518**	**0.06142 J**	**0.11671**
C4-Naphthalenes	**1.27225**	**0.08414 J**	**0.08277 J**	**0.31627**	**0.04808 J**	**0.0782**
Perylene	**0.07387**	**0.00269 J**	**0.00239 J**	**0.05871**	**0.00237 J**	**0.01651**
Phenanthrene	**0.66077**	**0.09013 J**	**0.08714 J**	**0.64393**	**0.07118 J**	**0.162**
C1-Phenanthrenes/anthracenes	**1.04722**	**0.06912 J**	**0.06844 J**	**0.51271**	**0.04551 J**	**0.11458**
C2-Phenanthrenes/anthracenes	**1.28314**	**0.13523 J**	**0.11116 J**	**0.53531**	**0.10807 J**	**0.15934**
C3-Phenanthrenes/anthracenes	**0.74291**	**0.04763 J**	**0.09002 J**	**0.32681**	**0.03209 J**	**0.07568**
C4-Phenanthrenes/anthracenes	**0.29096**	**0.02755 J**	**0.02619 J**	**0.13542**	**0.01837 J**	**0.03863**
Pyrene	**0.63149**	**0.04488 J**	**0.03882 J**	**0.53696**	**0.03678 J**	**0.14671**
Total PAH44	**19.70319**	**2.63821**	**2.84621**	**12.60448**	**1.61388**	**3.30149**
PCBs (ug/L)						
Aroclor 1016	0.4 U	0.4 UJ	0.41 UJ	0.38 U	0.4 UJ	0.38 U
Aroclor 1221	0.4 U	0.4 UJ	0.41 UJ	0.38 U	0.4 UJ	0.38 U
Aroclor 1232	0.4 U	0.4 UJ	0.41 UJ	0.38 U	0.4 UJ	0.38 U
Aroclor 1242	0.4 U	0.4 UJ	0.41 UJ	0.38 U	0.4 UJ	0.38 U
Aroclor 1248	0.4 U	0.4 UJ	0.41 UJ	0.38 U	0.4 UJ	0.38 U
Aroclor 1254	0.4 U	0.4 UJ	0.41 UJ	**0.51 J**	0.4 UJ	0.38 U
Aroclor 1260	0.4 U	0.4 UJ	0.41 UJ	0.38 U	0.4 UJ	0.38 U
Aroclor 1262	0.4 U	0.4 UJ	0.41 UJ	0.38 U	0.4 UJ	0.38 U
Aroclor 1268	0.4 U	0.4 UJ	0.41 UJ	0.38 U	0.4 UJ	0.38 U
Total PCB Aroclors	ND	ND	ND	**0.51**	ND	ND
Pesticides (ug/L)						
Aldrin	0.05 U	0.05 UJ	0.051 UJ	0.048 U	0.05 UJ	0.048 U
alpha-BHC	0.05 U	0.05 UJ	0.051 UJ	0.048 U	0.05 UJ	0.048 U
beta-BHC	0.05 U	0.05 UJ	0.051 UJ	0.048 U	0.05 UJ	0.048 U
gamma-BHC	0.05 U	0.05 UJ	0.051 UJ	0.048 U	0.05 UJ	0.048 U
delta-BHC	0.05 U	0.05 UJ	0.051 UJ	0.048 U	0.05 UJ	0.048 U
alpha-chlordane	0.05 U	0.05 UJ	0.051 UJ	0.048 U	0.05 UJ	0.048 U
gamma-Chlordane	**0.18**	**0.25 J**	**0.19 J**	**0.27**	**0.15 J**	**0.27**
4,4-DDD	0.05 U	0.05 UJ	0.051 UJ	0.048 U	0.05 UJ	0.048 U
4,4'-DDE	0.05 U	0.05 UJ	0.051 UJ	0.048 U	0.05 UJ	0.048 U
4,4'-DDT	0.05 U	0.05 UJ	0.051 UJ	0.048 U	0.05 UJ	0.048 U
Dieldrin	0.05 U	0.05 UJ	0.051 UJ	0.048 U	0.05 UJ	0.048 U
Endosulfan I	0.05 U	0.05 UJ	0.051 UJ	0.048 U	0.05 UJ	0.048 U
Endosulfan II	0.05 U	0.05 UJ	0.051 UJ	0.048 U	0.05 UJ	0.048 U
Endosulfan sulfate	0.05 U	0.05 UJ	0.051 UJ	0.048 U	0.05 UJ	0.048 U

Table 3
Summary of Storm Water Analytical Results
Gowanus Canal
Brooklyn, New York

Sample Location:	OH-007	RH-035				
Sample Type:	Discharge, Unfiltered	Baseline, Lab Filtered	Baseline, Lab Filtered	Baseline, Unfiltered	Discharge, Lab Filtered	Discharge, Unfiltered
Sample Event:	Event 2	Event 2	Event 2	Event 2	Event 2	Event 2
Sample Name:	MH-OH-007-WWD2	MH-RH-035-LFB2	Duplicate of MH-RH-035-LFB2	MH-RH-035-WWB2	MH-RH-035-LFD2	MH-RH-035-WWD2
Sample Date:	1/11/2013	1/11/2013	1/11/2013	1/11/2013	1/11/2013	1/11/2013
Endrin	0.05 U	0.05 UJ	0.051 UJ	0.048 U	0.05 UJ	0.048 U
Endrin aldehyde	0.05 U	0.05 UJ	0.051 UJ	0.048 U	0.05 UJ	0.048 U
Endrin ketone	0.05 U	0.05 UJ	0.051 UJ	0.048 U	0.05 UJ	0.048 U
Heptachlor	0.05 U	0.05 UJ	0.051 UJ	0.048 U	0.05 UJ	0.048 U
Heptachlor epoxide	0.05 U	0.05 UJ	0.051 UJ	0.048 U	0.05 UJ	0.048 U
Methoxychlor	0.1 U	0.1 UJ	0.1 UJ	0.096 U	0.1 UJ	0.095 U
Toxaphene	4 U	4 UJ	4.1 UJ	3.8 U	4 UJ	3.8 U
Herbicides (ug/L)						
2,4-D	3.9 U	4.2 UJ	4.2 UJ	3.8 U	3.8 UJ	3.8 U
2,4-DB	3.9 U	4.2 UJ	4.2 UJ	3.8 U	3.8 UJ	3.8 U
Dicamba	1.9 U	2.1 UJ	2.1 UJ	1.9 U	1.9 UJ	1.9 U
Dichloroprop	3.9 U	4.2 UJ	**0.93 J**	3.8 U	3.8 UJ	3.8 U
2,2-Dichloropropionic acid	4.9 UJ	5.2 UJ	5.3 UJ	4.8 UJ	4.8 UJ	4.8 UJ
Dinoseb	0.87 U	0.94 UJ	0.95 UJ	0.86 U	0.87 UJ	0.86 U
MCPP	390 U	420 UJ	420 UJ	380 U	380 UJ	380 U
Methylchlorophenoxyacetic acid	391 U	420 UJ	420 UJ	380 U	380 UJ	380 U
Silvex	0.97 U	1 UJ	1.1 UJ	0.95 U	0.96 UJ	0.95 U
2,4,5-Trichlorophenoxyacetic Acid	0.97 U	1 UJ	1.1 UJ	0.95 U	0.96 UJ	0.95 U
Dissolved Metals (ug/L)						
Antimony	2 U	2 UJ	2 UJ	2 U	2 UJ	2 U
Aluminum	30 U	**71 J**	**38 J**	30 U	**47 J**	30 U
Arsenic	1 U	**3.4 J**	**0.52 J**	1 U	**1.9 J**	**0.37 J**
Barium	**15**	**31 J**	**30 J**	**12**	**18 J**	**8.2 J**
Beryllium	1 U	1 UJ	1 UJ	1 U	1 UJ	1 U
Cadmium	1 U	**0.15 J**	1 UJ	1 U	1 UJ	1 U
Calcium	**9300**	**17000 J**	**16000 J**	**19000**	**6900 J**	**6600**
Chromium	**0.64 J**	**1.4 J**	**1.8 J**	2 U	**5.7 J**	**0.97 J**
Cobalt	**0.7**	**0.54 J**	**0.69 J**	**0.59**	**0.31 J**	**0.26 J**
Copper	**6**	**16 J**	**17 J**	**2.4**	**16 J**	**9.3**
Iron	**280**	**840 J**	**890 J**	**510**	**270 J**	**100**
Lead	**1.9**	**3.3 J**	**2.7 J**	1 U	**2.3 J**	1 U
Magnesium	**2000**	**9000 J**	**8600 J**	**9700**	**2100 J**	**1700**
Manganese	**42**	**61 J**	**59 J**	**79**	**25 J**	**21**
Mercury	0.2 U	0.2 UJ	0.2 UJ	0.2 U	0.2 UJ	0.2 U
Nickel	**2 J**	**3.5 J**	**3.1 J**	**3.4 J**	**1.9 J**	**1.5 J**
Potassium	**3300**	**8500 J**	**8200 J**	**7500**	**4100 J**	**4200**
Selenium	5 U	5 UJ	5 UJ	5 U	5 UJ	5 U
Silver	1 U	1 UJ	1 UJ	1 U	1 UJ	1 U
Sodium	**73000**	**130000 J**	**130000 J**	**120000 J**	**31000 J**	**28000**
Thallium	1 U	1 UJ	1 UJ	1 U	1 UJ	1 U
Vanadium	**1.5**	**1.6 J**	**2.2 J**	**1.5**	**3.1 J**	**2**
Zinc	**29**	**70 J**	**52 J**	**32**	**65 J**	**48**
Total Metals (ug/L)						
Antimony	**2.6 J**	NA	NA	2 U	NA	2 U
Aluminum	**1200**	NA	NA	**1200**	NA	**290**
Arsenic	**0.68 J**	NA	NA	**0.94 J**	NA	1 U
Barium	**60**	NA	NA	**69**	NA	**15**
Beryllium	1 U	NA	NA	1 U	NA	1 U
Cadmium	**0.7 J**	NA	NA	**0.48 J**	NA	**0.18 J**
Calcium	**11000**	NA	NA	**21000**	NA	**6800**

Table 3
Summary of Storm Water Analytical Results
Gowanus Canal
Brooklyn, New York

Sample Location:	OH-007	RH-035				
Sample Type:	Discharge, Unfiltered	Baseline, Lab Filtered	Baseline, Lab Filtered	Baseline, Unfiltered	Discharge, Lab Filtered	Discharge, Unfiltered
Sample Event:	Event 2	Event 2	Event 2	Event 2	Event 2	Event 2
Sample Name:	MH-OH-007-WWD2	MH-RH-035-LFB2	Duplicate of MH-RH-035-LFB2	MH-RH-035-WWB2	MH-RH-035-LFD2	MH-RH-035-WWD2
Sample Date:	1/11/2013	1/11/2013	1/11/2013	1/11/2013	1/11/2013	1/11/2013
Chromium	**6.8**	NA	NA	**6**	NA	**1.6 J**
Cobalt	**2.2**	NA	NA	**1.4**	NA	0.5 U
Copper	**100**	NA	NA	**120**	NA	**33**
Iron	**3200**	NA	NA	**5100**	NA	**770**
Lead	**68**	NA	NA	**60**	NA	**9**
Magnesium	**2800**	NA	NA	**9000**	NA	**1900**
Manganese	**69**	NA	NA	**110**	NA	**29**
Mercury	**0.24**	NA	NA	**0.21**	NA	0.2 U
Nickel	**7.2 J**	NA	NA	**8.2 J**	NA	**2 J**
Potassium	**3300**	NA	NA	**6700**	NA	**4200**
Selenium	5 U	NA	NA	5 U	NA	5 U
Silver	1 U	NA	NA	1 U	NA	1 U
Sodium	**63000**	NA	NA	**95000 J**	NA	**26000**
Thallium	1 U	NA	NA	1 U	NA	1 U
Vanadium	**5.4**	NA	NA	**5.1**	NA	**2.5**
Zinc	**270**	NA	NA	**340**	NA	**99**
Cyanides (ug/L)						
Free Cyanide	5 U	**2 J**	5 UJ	5 U	5 UJ	5 U
EDCs and PPCPs (Phenols) (ug/L)						
Bisphenol A	**1.3 J**	**0.6 J**	0.52 U	**1.1 J**	**0.65 J**	**0.83**
Nonylphenol	**3.9 J**	**2.8 J**	2.6 U	**5 J**	**2.2 J**	**5**
Nonylphenol Diethoxylate	11 UJ	8.7 UJ	11 U	8 UJ	8 UJ	8 U
Nonylphenol Monoethoxylate	**7 J**	4.4 UJ	5.2 U	4 UJ	4 UJ	4 U
4-tert-Octylphenol	0.55 UJ	0.44 UJ	0.52 U	0.4 UJ	0.4 UJ	0.4 U
EDCs and PPCPs (ug/L)						
Acetaminophen	**11**	**71 J**	**73**	**19**	**29 J**	**30**
alpha-Estradiol	0.02 U	0.02 UJ	0.02 U	0.02 U	0.02 UJ	0.02 U
Androstenedione	**0.027**	**0.06 J**	**0.062**	**0.041 J**	0.01 UJ	**0.061**
Atrazine	0.01 U	0.01 UJ	0.01 U	0.1 U	0.01 UJ	0.01 U
Bisphenol A	**1.5**	**0.93 J**	**0.45**	**0.89**	**0.87 J**	**0.82**
Caffeine	**27**	**120 J**	**110**	**30**	**33 J**	**35**
Carbamazepine	**0.12 J**	**0.2 J**	**0.17**	**0.62**	**0.085 J**	**0.089**
DEET (N,N-Diethyl-3-Methyl Benzamide)	**0.27 J**	**0.62 J**	**0.73**	**0.34 J**	**0.36 J**	**0.89**
Diazepam	0.01 U	0.01 UJ	0.01 U	0.1 U	0.01 UJ	0.01 U
Diclofenac	0.02 UJ	**0.12 J**	**0.25**	**0.16 J**	**0.023 J**	**0.049**
Diethylstilbestrol	R	0.02 UJ	0.2 U	0.02 UJ	0.02 UJ	0.02 U
Estradiol	0.02 UJ	**0.013 J**	**0.016 J**	**0.032**	**0.0097 J**	**0.014 J**
Estriol	**0.061**	**0.21 J**	**0.2**	**0.1**	**0.071 J**	**0.065**
Estrone	**0.02 J**	**0.039 J**	**0.02 J**	0.05 U	**0.018 J**	**0.019 J**
Ethinyl Estradiol	0.02 U	0.02 UJ	**0.013 J**	**0.01 J**	0.02 UJ	0.02 U
Fluoxetine	**0.026 J**	**0.033 J**	**0.023**	**0.16**	**0.0087 J**	**0.042 J**
Gemfibrozil	**0.29 J**	**0.65 J**	**0.77**	**0.53 J**	**0.21 J**	**0.26 J**
Hydrocodone	0.05 U	0.05 UJ	0.05 U	0.5 U	0.05 UJ	0.05 U
Ibuprofen	**6.1**	**17 J**	**17**	**17 J**	**7.7 J**	**8**
Iopromide	**0.17 J**	**16 J**	**0.69**	**0.47 J**	**2.6 J**	**3.9 J**
Meprobamate	0.01 U	**0.021 J**	**0.022**	0.1 U	**0.012 J**	**0.013**
Methadone	**0.017 J**	**0.09 J**	**0.099**	0.5 UJ	**0.041 J**	**0.045 J**
Naproxen	**1.5**	**13 J**	**12**	**3.1**	**5.7 J**	**4.7**
Oxybenzone	**0.72 J**	**1.5 J**	**1.7**	**1.4 J**	**0.52 J**	**0.57 J**
Pentoxifylline	**0.0053 J**	0.01 UJ	0.01 U	0.1 U	0.01 UJ	0.01 U

Table 3
Summary of Storm Water Analytical Results
Gowanus Canal
Brooklyn, New York

Sample Location:	OH-007	RH-035				
Sample Type:	Discharge, Unfiltered	Baseline, Lab Filtered	Baseline, Lab Filtered	Baseline, Unfiltered	Discharge, Lab Filtered	Discharge, Unfiltered
Sample Event:	Event 2	Event 2	Event 2	Event 2	Event 2	Event 2
Sample Name:	MH-OH-007-WWD2	MH-RH-035-LFB2	Duplicate of MH-RH-035-LFB2	MH-RH-035-WWB2	MH-RH-035-LFD2	MH-RH-035-WWD2
Sample Date:	1/11/2013	1/11/2013	1/11/2013	1/11/2013	1/11/2013	1/11/2013
Phenytoin (5,5-Diphenylhydantion / Dilantin)	**0.01 J**	**0.069 J**	**0.026**	**0.17 J**	**0.042 J**	**0.044**
Progesterone	**0.053**	0.02 UJ	0.02 U	0.2 U	**0.022 J**	**0.057**
Salicylic Acid	**0.2 J**	**29 J**	**25**	**8.5**	**0.34 J**	**0.71**
Sulfamethoxazole	**0.11**	**0.72 J**	**0.75**	**0.1 J**	**0.17 J**	**0.17**
Testosterone	**0.038**	**0.081 J**	**0.11**	0.2 U	**0.036 J**	**0.058**
Triclosan	R	R	0.5 U	5 UJ	0.5 UJ	R
Trimethoprim	**0.1 J**	**0.28 J**	**0.4**	**0.13 J**	**0.13 J**	**0.14 J**
Pathogen						
C. perfringens (cfu/100mL)	**76000**	**69000**	NA	**138000**	**29000**	**38000**
Coliphage, Male Specific (pfu/100mL)	**13000**	**115000**	NA	**12500**	**47500**	**46000**
Coliphage, Somatic (pfu/100mL)	**4500 J**	**21000 J**	NA	**9000 J**	**11000 J**	**4000 J**
Cryptosporidium (oocysts/L)	0 U	0 UJ	NA	**6**	0 UJ	0 U
E.Coli (mpn/100mL)	**1480000**	**1340000**	NA	**15530000**	**517200**	**579400**
Enterococci (mpn/100mL)	**248100**	**547500**	NA	**4710000**	**79400**	**93300**
Enterovirus (pos/neg)	NA	NA	NA	NA	NA	NA
Fecal Coliform (mpn/100mL)	**1990000**	**2560000**	NA	**38730000**	**579400**	**547500**
Giardia (cysts/L)	**1100**	**970 J**	NA	**6600**	**150 J**	**220 J**
Plaque forming virus (pfu//1 mL)	0 U	0 U	NA	0 U	0 U	0 U
Plaque forming virus (pfu/125 mL)	NA	NA	NA	NA	NA	NA
Plaque forming virus (pfu/165.5 mL)	NA	NA	NA	NA	NA	NA
Plaque forming virus (pfu/182.5 mL)	NA	NA	NA	NA	NA	NA
Plaque forming virus (pfu/185.5 mL)	NA	NA	NA	NA	NA	NA
Plaque forming virus (pfu/187.5 mL)	NA	NA	NA	NA	NA	NA
Plaque forming virus (pfu/197.5 mL)	NA	NA	NA	NA	NA	NA
Plaque forming virus (pfu/199.5 mL)	NA	NA	NA	NA	NA	NA
Plaque forming virus (pfu/200 mL)	NA	NA	NA	NA	NA	NA
Plaque forming virus (pfu/200.5 mL)	NA	NA	NA	NA	NA	NA
Plaque forming virus (pfu/201 mL)	NA	NA	NA	NA	NA	NA
Plaque forming virus (pfu/201.5 mL)	NA	NA	NA	NA	NA	NA
Plaque forming virus (pfu/202 mL)	NA	NA	NA	NA	NA	NA
Plaque forming virus (pfu/203 mL)	NA	NA	NA	NA	NA	NA
Plaque forming virus (pfu/204 mL)	NA	NA	NA	NA	NA	NA
Plaque forming virus (pfu/205 mL)	NA	NA	NA	NA	NA	NA
Viruses (pos/neg)	neg	neg	NA	neg	neg	neg
Other (ug/L)						
Ammonia	**5700**	**10000 J**	**12000 J**	**7800**	**7500 J**	**4300**
Calcium hardness as calcium carbonate	NA	NA	NA	NA	NA	NA
Dissolved Organic Carbon	**13000**	**54000 J**	**72000 J**	**48000**	**23000 J**	**22000**
Hardness as calcium carbonate	**39000**	**79000 J**	**75000 J**	**89000**	**26000 J**	**25000**
Magnesium hardness as calcium carbonate	NA	NA	NA	NA	NA	NA
pH (s.u.)	**6.67 J**	**7.05 J**	**7.34 J**	**5.88 J**	**7.17 J**	**6.63 J**
Sediment Concentration	**120000**	NA	NA	**270000**	NA	**45000**
Specific Conductance (umhos/cm)	**520**	**1000 J**	**1000 J**	**880**	**300 J**	**280**
Total Dissolved Solids	**280000**	NA	NA	**460000**	NA	**140000**
Total Organic Carbon	**42000**	**55000 J**	**72000 J**	**28000**	**24000 J**	**25000**
Total Petroleum Hydrocarbons	**7203.16**	**784.51 J**	**969.23 J**	**9358.48**	**798.94 J**	**1974.15**
Total Suspended Solids	**240000**	NA	NA	**440000**	NA	**34000**
Turbidity (ntu)	**150 J**	NA	NA	**180 J**	NA	**35 J**

Table 3
Summary of Storm Water Analytical Results
Gowanus Canal
Brooklyn, New York

Sample Location:	OH-007		Owl's Head Water Treatment Plant								OH-007	
Sample Type:	Discharge, Lab Filtered	Discharge, Unfiltered	Discharge, Lab Filtered				Discharge, Unfiltered				Baseline, Lab Filtered	Baseline, Unfiltered
Sample Event:	Event 3	Event 3	Event 3				Event 3				Event 4	Event 4
Sample Name:	MH-OH-007-LFD3	MH-OH-007-WWD3	WTP-OH-LFD3				WTP-OH-WWD3				MH-OH-007-LFB4	MH-OH-007-WWB4
Sample Date:	1/16/2013	1/16/2013	1/16/2013				1/16/2013				1/31/2013	1/31/2013
BTEX (ug/L)												
Benzene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Toluene	**0.53 J**	**1.1**	**0.51 J**	**0.58 J**	**0.86 J**	**1.6**	**2**	**1.6**	**1.6**	**2.6**	**2.8**	**4.1**
Ethylbenzene	1 U	1 U	1 U	**0.77 J**	**0.58 J**	**0.3 J**	1 U	**1.3**	**0.93 J**	**0.49 J**	1 U	1 U
m,p-Xylene	2 U	2 U	**0.49 J**	**3.2**	**2.5**	**1.2 J**	**0.83 J**	**6**	**4.4**	**2.2**	2 U	2 U
o-Xylene	1 U	**0.21 J**	1 U	**0.87 J**	**0.83 J**	**0.37 J**	**0.35 J**	**1.6**	**1.4**	**0.65 J**	**0.13 J**	**0.21 J**
Total Xylene	3 U	**0.55 J**	**0.49 J**	**4.1**	**3.4**	**1.6 J**	**1.2 J**	**7.6**	**5.9**	**2.8 J**	3 U	**0.53 J**
Total BTEX	**0.53**	**1.86**	**1.49**	**5.45**	**4.84**	**3.5**	**3.2**	**10.5**	**8.43**	**5.89**	**2.93**	**4.84**
Other VOCs (ug/L)												
Acetone	**24**	**13 J**	**20**	**29**	**36**	**48**	**13 J**	**14 J**	**20 J**	**39 J**	**24**	**25**
Bromochloromethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Bromodichloromethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	**0.49 J**	1 U	1 U
Bromoform	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Bromomethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
2-Butanone (Methyl ethyl ketone)	5 U	5 UJ	5 U	5 U	5 U	5 U	5 UJ	5 UJ	5 UJ	5 UJ	5 U	5 U
Carbon disulfide	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	**1.4**	1 U
Carbon tetrachloride	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chlorobenzene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloroethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloroform	**1.5**	**1**	**0.9 J**	**1.5**	**2.4**	**4.5**	**0.98 J**	**1.6**	**2.5**	**4**	**1.6**	**1.8**
Chloromethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 UJ
Cyclohexane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dibromo-3-chloropropane	1 U	1 UJ	1 U	1 U	1 U	1 U	1 UJ	1 UJ	1 UJ	1 UJ	1 U	1 U
Dibromochloromethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dibromoethane (EDB)	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichlorobenzene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,3-Dichlorobenzene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,4-Dichlorobenzene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Dichlorodifluoromethane (Freon 12)	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloroethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
cis-1,2-Dichloroethene	1 U	1 U	**0.35 J**	1 U	1 U	1 U	**0.49 J**	1 U	**0.26 J**	**0.25 J**	**0.55 J**	**0.91 J**
trans-1,2-Dichloroethene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloropropane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
cis-1,3-Dichloropropene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
trans-1,3-Dichloropropene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,4-Dioxane	R	R	R	R	200 U	R	R	R	R	R	R	R
2-Hexanone	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Isopropyl benzene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Methyl acetate	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Methyl tert-butyl ether (MTBE)	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
4-Methyl-2-pentanone (MIBK)	5 U	5 UJ	5 U	5 U	5 U	5 U	5 UJ	5 UJ	5 UJ	5 UJ	**0.63 J**	**0.7 J**
Methylcyclohexane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Methylene chloride	**3.4 J**	1 UJ	**1.3 J**	**21 J**	**62 J**	**8.5 J**	1 U	1 U	1 U	1 U	1 U	1 U
Styrene	1 U	1 U	1 U	1 U	1 U	**0.11 J**	**0.16 J**	**0.2 J**	**0.26 J**	**0.15 J**	1 U	**0.1 J**
1,1,2,2-Tetrachloroethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Tetrachloroethene (PCE)	**0.31 J**	**1.4**	**0.55 J**	**0.41 J**	**0.48 J**	**0.87 J**	**0.97 J**	**0.69 J**	**0.85 J**	**1.4**	**72**	**130**
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2,3-Trichlorobenzene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 UJ	1 UJ

Validated

Table 3
Summary of Storm Water Analytical Results
Gowanus Canal
Brooklyn, New York

Sample Location:	OH-007		Owl's Head Water Treatment Plant								OH-007	
Sample Type:	Discharge, Lab Filtered	Discharge, Unfiltered	Discharge, Lab Filtered				Discharge, Unfiltered				Baseline, Lab Filtered	Baseline, Unfiltered
Sample Event:	Event 3	Event 3	Event 3				Event 3				Event 4	Event 4
Sample Name:	MH-OH-007-LFD3	MH-OH-007-WWD3	WTP-OH-LFD3				WTP-OH-WWD3				MH-OH-007-LFB4	MH-OH-007-WWB4
Sample Date:	1/16/2013	1/16/2013	1/16/2013				1/16/2013				1/31/2013	1/31/2013
1,2,4-Trichlorobenzene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,1-Trichloroethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,2-Trichloroethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Trichloroethene (TCE)	1 U	1 U	1 U	1 U	1 U	**0.17 J**	1 U	1 U	1 U	**0.2 J**	**4.5**	**3.4**
Trichlorofluoromethane (Freon 11)	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Vinyl chloride	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Total VOCs	**29.74**	**17.26**	**24.59**	**61.43**	**109.05**	**67.22**	**19.98**	**34.59**	**38.1**	**54.23**	**107.61**	**166.75**
PAHs (ug/L)												
Acenaphthene	2.3 U	1.9 U	2 U				2 U				7 U	6.6 U
Acenaphthylene	2.3 U	1.9 U	2 U				2 U				7 U	6.6 U
Anthracene	2.3 U	1.9 U	2 U				2 U				7 U	6.6 U
Benz[a]anthracene	2.3 U	1.9 U	2 U				2 U				7 U	6.6 U
Benzo[a]pyrene	2.3 U	1.9 U	2 U				2 U				7 U	6.6 U
Benzo[b]fluoranthene	2.3 U	1.9 U	2 U				2 U				7 U	6.6 U
Benzo[g,h,i]perylene	2.3 U	1.9 U	2 U				2 U				7 U	6.6 U
Benzo[k]fluoranthene	2.3 U	1.9 U	2 U				2 U				7 U	6.6 U
Chrysene	2.3 U	1.9 U	2 U				2 U				7 U	6.6 U
Dibenz[a,h]anthracene	2.3 U	1.9 U	2 U				2 U				7 U	6.6 U
Fluoranthene	2.3 U	1.9 U	2 U				2 U				7 U	6.6 U
Fluorene	2.3 U	1.9 U	2 U				2 U				7 U	6.6 U
Indeno[1,2,3-cd]pyrene	2.3 U	1.9 U	2 U				2 U				7 U	6.6 U
2-Methylnaphthalene	2.3 U	**0.2 J**	2 U				**0.16 J**				7 U	6.6 U
Naphthalene	2.3 U	1.9 U	2 U				2 U				7 U	6.6 U
Phenanthrene	2.3 U	1.9 U	2 U				2 U				7 U	6.6 U
Pyrene	2.3 U	**0.16 J**	2 U				2 U				7 U	6.6 U
Total PAH 17	ND	**0.36**	ND				**0.16**				ND	ND
Other SVOCs (ug/L)												
Acetophenone	11 U	9.6 U	10 U				10 U				35 U	33 U
Atrazine	R	R	R				R				35 U	33 U
Benzaldehyde	11 UJ	9.6 UJ	10 UJ				10 UJ				35 U	33 U
1,1-Biphenyl	11 U	9.6 U	10 U				10 U				35 U	33 U
Bis(chloroisopropyl)ether	2.3 U	1.9 U	2 U				2 U				7 UJ	6.6 UJ
Bis(2-chloroethyl)ether	2.3 U	1.9 U	2 U				2 U				7 U	6.6 U
Bis(2-chloroethoxy)methane	11 U	9.6 U	10 U				10 U				35 U	33 U
Bis(2-ethylhexyl)phthalate	23 U	19 U	20 U				20 U				70 U	66 U
4-Bromophenyl phenyl ether	11 U	9.6 U	10 U				10 U				35 U	33 U
Butyl benzyl phthalate	11 U	9.6 U	10 U				10 U				35 U	33 U
Caprolactam	57 U	48 U	50 U				50 U				170 U	160 U
Carbazole	2.3 U	1.9 U	2 U				2 U				7 U	6.6 U
4-Chloro-3-methylphenol	11 U	9.6 U	10 U				10 U				35 U	33 U
4-Chloroaniline	11 U	9.6 U	10 U				10 U				35 U	33 U
2-Chloronaphthalene	2.3 U	1.9 U	2 U				2 U				7 U	6.6 U
2-Chlorophenol	11 U	9.6 U	10 U				10 U				35 U	33 U
4-Chlorophenyl phenyl ether	11 U	9.6 U	10 U				10 U				35 U	33 U
Dibenzofuran	11 U	9.6 U	10 U				10 U				35 U	33 U
3,3-Dichlorobenzidine	11 U	9.6 U	10 U				10 U				35 U	33 U
2,4-Dichlorophenol	2.3 U	1.9 U	2 U				2 U				7 U	6.6 U
Diethyl phthalate	11 U	**2 J**	10 U				**1.8 J**				35 U	33 U
Dimethyl phthalate	11 U	9.6 U	10 U				10 U				35 U	33 U
2,4-Dimethylphenol	11 U	9.6 U	10 U				10 U				35 U	33 U

Table 3
Summary of Storm Water Analytical Results
Gowanus Canal
Brooklyn, New York

Sample Location:	OH-007		Owl's Head Water Treatment Plant		OH-007	
Sample Type:	Discharge, Lab Filtered	Discharge, Unfiltered	Discharge, Lab Filtered	Discharge, Unfiltered	Baseline, Lab Filtered	Baseline, Unfiltered
Sample Event:	Event 3	Event 3	Event 3	Event 3	Event 4	Event 4
Sample Name:	MH-OH-007-LFD3	MH-OH-007-WWD3	WTP-OH-LFD3	WTP-OH-WWD3	MH-OH-007-LFB4	MH-OH-007-WWB4
Sample Date:	1/16/2013	1/16/2013	1/16/2013	1/16/2013	1/31/2013	1/31/2013
Di-n-butyl phthalate	11 U	9.6 U	10 U	10 U	35 U	33 U
4,6-Dinitro-2-methylphenol	57 U	48 U	50 U	50 U	170 U	160 U
2,4-Dinitrophenol	57 U	48 U	50 U	50 U	170 UJ	160 UJ
2,4-Dinitrotoluene	11 U	9.6 U	10 U	10 U	35 U	33 U
2,6-Dinitrotoluene	11 U	9.6 U	10 U	10 U	35 U	33 U
Di-n-octyl phthalate	11 U	9.6 U	10 U	10 U	35 U	33 U
Hexachlorobenzene	2.3 U	1.9 U	2 U	2 U	7 U	6.6 U
Hexachlorobutadiene	2.3 U	1.9 U	2 U	2 U	7 U	6.6 U
Hexachlorocyclopentadiene	11 U	9.6 U	10 U	10 U	35 U	33 U
Hexachloroethane	11 U	9.6 U	10 U	10 U	35 U	33 U
Isophorone	11 U	9.6 U	10 U	10 U	35 U	33 U
2-Methylphenol (o-Cresol)	11 U	9.6 U	10 U	10 U	35 U	33 U
3,4-Methylphenol (m,p-Cresol)	11 U	9.6 U	**3.8 J**	10 U	35 U	**4.3 J**
2-Nitroaniline	57 U	48 U	50 U	50 U	170 U	160 U
3-Nitroaniline	57 U	48 U	50 U	50 U	170 U	160 U
4-Nitroaniline	57 U	48 U	50 U	50 U	170 U	160 U
Nitrobenzene	23 U	19 U	20 U	20 U	70 U	66 U
2-Nitrophenol	11 U	9.6 U	10 U	10 U	35 U	33 U
4-Nitrophenol	57 U	48 U	50 U	50 U	170 U	160 U
N-Nitrosodi-n-propylamine	2.3 U	1.9 U	2 U	2 U	7 UJ	6.6 UJ
N-Nitrosodiphenylamine	11 U	9.6 U	10 U	10 U	35 U	33 U
Pentachlorophenol	11 U	9.6 U	10 U	10 U	35 U	33 U
Phenol	2.3 U	1.9 U	2 U	2 U	**3.1 J**	6.6 U
1,2,4,5-Tetrachlorobenzene	11 U	9.6 U	10 U	10 U	35 U	33 U
2,3,4,6-Tetrachlorophenol	11 U	9.6 U	10 U	10 U	35 U	33 U
2,4,5-Trichlorophenol	11 U	9.6 U	10 U	10 U	35 U	33 U
2,4,6-Trichlorophenol	11 U	9.6 U	10 U	10 U	35 U	33 U
Total SVOCs	ND	**2.36**	**3.8**	**1.96**	**3.1**	**4.3**
Alkylated PAHs (ug/L)						
Acenaphthene	**0.03423**	**0.05265**	**0.05315**	**0.06353**	**0.04455 J**	**0.14484**
Acenaphthylene	**0.00887 J**	**0.01443**	**0.01491**	**0.02171**	0.01539 UJ	**0.04976**
Anthracene	**0.01304**	**0.038**	**0.01236**	**0.03574**	**0.01512 J**	**0.11825**
Benz[a]anthracene	**0.00573 J**	**0.0542**	**0.00428 J**	**0.07502**	**0.01651 J**	**0.3442**
Benzo[a]pyrene	0.01031 U	**0.04214**	0.00971 U	**0.07637**	**0.00922 J**	**0.32239**
Benzo[b]fluoranthene	**0.00585 J**	**0.0657**	**0.00374 J**	**0.09213**	**0.01709 J**	**0.49509**
Benzo[e]pyrene	**0.00403 J**	**0.05034**	**0.00357 J**	**0.07983**	**0.01535 J**	**0.39068**
Benzo[g,h,i]perylene	**0.00294 J**	**0.05224**	**0.00351 J**	**0.08731**	**0.01082 J**	**0.39292**
Benzo[k]fluoranthene	**0.00452 J**	**0.05822**	**0.00365 J**	**0.08954**	**0.01328 J**	**0.43448**
1,1-Biphenyl	**0.02434**	**0.0435**	**0.07639**	**0.08129**	**0.04591 J**	**0.11587**
Chrysene	**0.01005 J**	**0.09676**	**0.00789 J**	**0.11549**	**0.03027 J**	**0.5646**
C1-Chrysenes	**0.00572 J**	**0.04129**	**0.00841 J**	**0.07803**	**0.02018 J**	**0.34089**
C2-Chrysenes	**0.00961 J**	**0.04697**	0.00974 U	**0.08814**	0.01223 UJ	**0.33576**
C3-Chrysenes	0.01034 U	**0.03953**	0.00974 U	**0.08291**	0.01223 UJ	**0.31852**
C4-Chrysenes	0.01034 U	**0.04581**	0.00974 U	0.01023 U	0.01223 UJ	0.02544 U
Dibenz[a,h]anthracene	**0.00067 J**	**0.00761 J**	**0.00094 J**	**0.01597**	0.01207 UJ	**0.08069**
Dibenzofuran	**0.02353**	**0.03706**	**0.02659**	**0.03392**	**0.01964 J**	**0.06615**
Dibenzothiophene	**0.01668**	**0.03031**	**0.01964**	**0.03242**	**0.03282 J**	**0.1007**
C1-Dibenzothiophenes	**0.01466**	**0.03218**	**0.03061**	**0.09033**	**0.07161 J**	**0.1891**
C2-Dibenzothiophenes	**0.0266**	**0.05589**	**0.05716**	**0.15683**	**0.12624 J**	**0.4547**
C3-Dibenzothiophenes	**0.02849**	**0.06376**	**0.05953**	**0.14009**	**0.24544 J**	**0.52622**

Table 3
Summary of Storm Water Analytical Results
Gowanus Canal
Brooklyn, New York

Sample Location:	OH-007		Owl's Head Water Treatment Plant		OH-007	
Sample Type:	Discharge, Lab Filtered	Discharge, Unfiltered	Discharge, Lab Filtered	Discharge, Unfiltered	Baseline, Lab Filtered	Baseline, Unfiltered
Sample Event:	Event 3	Event 3	Event 3	Event 3	Event 4	Event 4
Sample Name:	MH-OH-007-LFD3	MH-OH-007-WWD3	WTP-OH-LFD3	WTP-OH-WWD3	MH-OH-007-LFB4	MH-OH-007-WWB4
Sample Date:	1/16/2013	1/16/2013	1/16/2013	1/16/2013	1/31/2013	1/31/2013
C4-Dibenzothiophenes	0.01032 U	**0.06395**	0.00972 U	**0.10203**	**0.07671 J**	**0.35025**
Fluoranthene	**0.04422**	**0.23527**	**0.03445**	**0.24085**	**0.07107 J**	**0.97564**
C1-Fluoranthenes/pyrenes	**0.01824**	**0.08174**	**0.02517**	**0.15602**	**0.04818 J**	**0.56388**
C2-Fluoranthenes/pyrenes	**0.01449**	**0.08054**	0.00976 U	**0.1523**	**0.08774 J**	**0.60021**
C3-Fluoranthenes/pyrenes	0.01036 U	**0.05923**	0.00976 U	**0.1019**	**0.02953 J**	**0.3937**
C4-Fluoranthenes/pyrenes	0.01036 U	**0.03122**	0.00976 U	**0.05939**	0.01226 UJ	**0.28144**
Fluorene	**0.03087**	**0.05334**	**0.07345**	**0.09087**	**0.05305 J**	**0.16832**
C1-Fluorenes	**0.02764**	**0.06116**	**0.1124**	**0.19172**	**0.08595 J**	**0.4251**
C2-Fluorenes	**0.04126**	**0.09621**	**0.14065**	**0.31958**	**0.17459 J**	**0.97076**
C3-Fluorenes	**0.08428**	**0.17249**	**0.15379**	**0.37792**	**0.18313 J**	**1.25642**
Indeno[1,2,3-cd]pyrene	**0.00221 J**	**0.04218**	**0.00251 J**	**0.07448**	**0.00675 J**	**0.33579**
Naphthalene	**0.09589**	**0.14873**	**0.20517**	**0.20099**	0.13759 UJ	0.25533 U
C1-Naphthalenes	**0.1275**	**0.24619**	**0.42102**	**0.43497**	0.22537 UJ	0.49566 U
C2-Naphthalenes	**0.14545**	**0.35556**	**0.71229**	**0.86088**	**0.32033 J**	**1.1646**
C3-Naphthalenes	**0.12293**	**0.31405**	**0.55014**	**0.89014**	**0.25502 J**	**1.49648**
C4-Naphthalenes	**0.05972**	**0.18183**	**0.22158**	**0.55104**	**0.20714 J**	**1.30219**
Perylene	**0.00136 J**	**0.01563**	**0.00111 J**	**0.0281**	**0.00261 J**	**0.10025**
Phenanthrene	**0.07236**	**0.18852**	**0.14056**	**0.28671**	**0.1541 J**	**0.88817**
C1-Phenanthrenes/anthracenes	**0.04472**	**0.15635**	**0.15858**	**0.45576**	**0.15323 J**	**1.24565**
C2-Phenanthrenes/anthracenes	**0.13692**	**0.19643**	**0.21141**	**0.57323**	**0.22274 J**	**1.65433**
C3-Phenanthrenes/anthracenes	**0.0262**	**0.0972**	**0.07031 J**	**0.31985**	**0.10273 J**	**1.04499**
C4-Phenanthrenes/anthracenes	**0.01605**	**0.04247**	**0.02592**	**0.13578**	**0.05168 J**	**0.48537**
Pyrene	**0.03258**	**0.1894**	**0.03605**	**0.24576**	**0.07342 J**	**0.97171**
Total PAH44	**1.38445**	**4.07828**	**3.68289**	**8.38687**	**3.09375**	**22.46106**
PCBs (ug/L)						
Aroclor 1016	0.4 U	0.38 U	0.4 U	0.38 U	0.41 U	0.41 U
Aroclor 1221	0.4 U	0.38 U	0.4 U	0.38 U	0.41 U	0.41 U
Aroclor 1232	0.4 U	0.38 U	0.4 U	0.38 U	0.41 U	0.41 U
Aroclor 1242	0.4 U	0.38 U	0.4 U	0.38 U	0.41 U	0.41 U
Aroclor 1248	0.4 U	0.38 U	0.4 U	0.38 U	0.41 U	0.41 U
Aroclor 1254	0.4 U	0.38 U	0.4 U	0.38 U	0.41 U	0.41 U
Aroclor 1260	0.4 U	0.38 U	0.4 U	0.38 U	0.41 U	0.41 U
Aroclor 1262	0.4 U	0.38 U	0.4 U	0.38 U	0.41 U	0.41 U
Aroclor 1268	0.4 U	0.38 U	0.4 U	0.38 U	0.41 U	0.41 U
Total PCB Aroclors	ND	ND	ND	ND	ND	ND
Pesticides (ug/L)						
Aldrin	0.05 U	0.048 U	0.05 U	0.048 U	0.051 U	0.051 U
alpha-BHC	0.05 U	0.048 U	0.05 U	0.048 U	0.051 U	0.051 U
beta-BHC	0.05 U	0.048 U	0.05 U	0.048 U	0.051 U	0.051 U
gamma-BHC	0.05 U	0.048 U	0.05 U	0.048 U	0.051 U	0.051 U
delta-BHC	0.05 U	0.048 U	0.05 U	0.048 U	0.051 U	0.051 U
alpha-chlordane	0.05 U	0.048 U	0.05 U	0.048 U	0.051 U	0.051 U
gamma-Chlordane	0.05 U	0.048 U	0.05 U	**0.18**	0.051 U	**0.18**
4,4-DDD	0.05 U	0.048 U	0.05 U	0.048 U	0.051 U	0.051 U
4,4'-DDE	0.05 U	0.048 U	0.05 U	0.048 U	0.051 U	0.051 U
4,4'-DDT	0.05 U	0.048 U	0.05 U	0.048 U	0.051 U	0.051 UJ
Dieldrin	0.05 U	0.048 U	0.05 U	0.048 U	0.051 U	0.051 U
Endosulfan I	0.05 U	0.048 U	0.05 U	0.048 U	0.051 U	0.051 U
Endosulfan II	0.05 U	0.048 U	0.05 U	0.048 U	0.051 U	0.051 U
Endosulfan sulfate	0.05 U	0.048 U	0.05 U	0.048 U	0.051 U	0.051 U

Table 3
Summary of Storm Water Analytical Results
Gowanus Canal
Brooklyn, New York

Sample Location:	OH-007		Owl's Head Water Treatment Plant		OH-007	
Sample Type:	Discharge, Lab Filtered	Discharge, Unfiltered	Discharge, Lab Filtered	Discharge, Unfiltered	Baseline, Lab Filtered	Baseline, Unfiltered
Sample Event:	Event 3	Event 3	Event 3	Event 3	Event 4	Event 4
Sample Name:	MH-OH-007-LFD3	MH-OH-007-WWD3	WTP-OH-LFD3	WTP-OH-WWD3	MH-OH-007-LFB4	MH-OH-007-WWB4
Sample Date:	1/16/2013	1/16/2013	1/16/2013	1/16/2013	1/31/2013	1/31/2013
Endrin	0.05 U	0.048 U	0.05 U	0.048 U	0.051 U	0.051 U
Endrin aldehyde	0.05 U	0.048 U	0.05 U	0.048 U	0.051 U	0.051 U
Endrin ketone	0.05 U	0.048 U	0.05 U	0.048 U	0.051 U	0.051 U
Heptachlor	0.05 U	0.048 U	0.05 U	0.048 U	0.051 U	0.051 U
Heptachlor epoxide	0.05 U	0.048 U	0.05 U	0.048 U	0.051 U	0.051 U
Methoxychlor	0.1 U	0.096 U	0.099 U	0.096 U	0.1 U	0.1 U
Toxaphene	4 U	3.8 U	4 U	3.8 U	4.1 U	4.1 U
Herbicides (ug/L)						
2,4-D	4 U	3.8 U	4 U	4 U	4.5 UJ	4.1 UJ
2,4-DB	4 U	3.8 U	4 U	4 U	4.5 UJ	4.1 U
Dicamba	2 U	1.9 U	2 U	2 U	2.2 UJ	2.1 UJ
Dichloroprop	4 U	3.8 U	4 U	4 U	4.5 UJ	4.1 UJ
2,2-Dichloropropionic acid	5 U	4.8 U	5 UJ	5 U	5.6 UJ	5.2 UJ
Dinoseb	0.89 U	0.87 U	0.9 U	0.9 U	R	R
MCPP	400 U	380 U	400 U	400 U	450 UJ	410 UJ
Methylchlorophenoxyacetic acid	400 U	380 U	400 U	400 U	450 UJ	410 U
Silvex	0.99 U	0.96 U	1 U	1 U	1.1 UJ	1 UJ
2,4,5-Trichlorophenoxyacetic Acid	0.99 U	0.96 U	1 U	1 U	1.1 UJ	1 UJ
Dissolved Metals (ug/L)						
Antimony	2 U	**0.48 J**	2 U	**0.31 J**	2 U	**2.6**
Aluminum	**81**	**110 J**	30 U	**72 J**	30 U	**610**
Arsenic	**3.8**	**1.6 J**	**1.4**	**0.34 J**	1.3 UJ	1.6 U
Barium	**20**	**18 J**	**17**	**13 J**	**36**	**57**
Beryllium	1 U	1 UJ	1 U	1 UJ	1 U	1 U
Cadmium	1 U	1 UJ	1 U	1 UJ	1 U	1 U
Calcium	**6300**	**6200 J**	**9600**	**9300 J**	**27000**	**24000**
Chromium	**1.7 J**	**1.3 J**	**0.97 J**	**0.95 J**	2 U	**6 J**
Cobalt	0.5 U	0.5 UJ	0.5 U	0.5 UJ	**1.3**	**2**
Copper	**8.9**	**17 J**	**5.3**	**13 J**	**9.5**	**61**
Iron	**85**	**350 J**	**180**	**250 J**	**1500 J**	**2300 J**
Lead	**2.8**	**11 J**	**1.1**	**3.6 J**	**6.9**	**70**
Magnesium	**1200**	**1100 J**	**5200**	**4300 J**	**3500**	**3700**
Manganese	**27**	**29 J**	**27**	**27 J**	**120**	**120**
Mercury	0.2 UJ	0.2 UJ	0.2 UJ	0.2 UJ	0.2 U	**0.32**
Nickel	**1.6**	**2.4 J**	**1.5**	**1.4 J**	**4.2**	**5.4**
Potassium	**1900**	**1800 J**	**3800**	**3400 J**	**6900**	**6700**
Selenium	5 U	5 UJ	5 U	5 UJ	5 U	5 U
Silver	1 U	1 UJ	1 U	1 UJ	1 U	**1.2 J**
Sodium	**48000**	**41000 J**	**44000**	**35000 J**	**140000 J**	**130000 J**
Thallium	1 U	1 UJ	1 U	1 UJ	1 U	1 U
Vanadium	1 U	**1.1 J**	1 U	1 UJ	1 UJ	2.8 UJ
Zinc	**48**	**69 J**	**18**	**43 J**	**20**	**250**
Total Metals (ug/L)						
Antimony	NA	2 U	NA	2 U	NA	**5 J**
Aluminum	NA	**410**	NA	**300**	NA	**1700 J**
Arsenic	NA	**1.9**	NA	**1.3**	NA	**3.4**
Barium	NA	**40**	NA	**22**	NA	**130**
Beryllium	NA	1 U	NA	1 U	NA	1 U
Cadmium	NA	1 U	NA	1 U	NA	**2.1**
Calcium	NA	**6500**	NA	**10000**	NA	**31000**

Table 3
Summary of Storm Water Analytical Results
Gowanus Canal
Brooklyn, New York

Sample Location:	OH-007		Owl's Head Water Treatment Plant		OH-007	
Sample Type:	Discharge, Lab Filtered	Discharge, Unfiltered	Discharge, Lab Filtered	Discharge, Unfiltered	Baseline, Lab Filtered	Baseline, Unfiltered
Sample Event:	Event 3	Event 3	Event 3	Event 3	Event 4	Event 4
Sample Name:	MH-OH-007-LFD3	MH-OH-007-WWD3	WTP-OH-LFD3	WTP-OH-WWD3	MH-OH-007-LFB4	MH-OH-007-WWB4
Sample Date:	1/16/2013	1/16/2013	1/16/2013	1/16/2013	1/31/2013	1/31/2013
Chromium	NA	**2.9**	NA	**1.9 J**	NA	**9.8**
Cobalt	NA	0.5 U	NA	0.5 U	NA	**3.7 J**
Copper	NA	**36**	NA	**28**	NA	**160**
Iron	NA	**1100**	NA	**940**	NA	**5600**
Lead	NA	**35**	NA	**14**	NA	**200**
Magnesium	NA	**1500**	NA	**5400**	NA	**5300**
Manganese	NA	**40**	NA	**35**	NA	**160**
Mercury	NA	**0.12 J**	NA	**0.046 J**	NA	**0.94**
Nickel	NA	**2.5**	NA	**2.3**	NA	**10 J**
Potassium	NA	**2000**	NA	**3800**	NA	**7100**
Selenium	NA	5 U	NA	5 U	NA	5 U
Silver	NA	1 U	NA	1 U	NA	**3.9**
Sodium	NA	**37000**	NA	**42000**	NA	**130000 J**
Thallium	NA	1 U	NA	1 U	NA	1 U
Vanadium	NA	**1.6**	NA	**1.1**	NA	**6.9**
Zinc	NA	**110**	NA	**77**	NA	**520 J**
Cyanides (ug/L)						
Free Cyanide	5 U	5 U	5 U	5 U	5 U	5 U
EDCs and PPCPs (Phenols) (ug/L)						
Bisphenol A	0.4 UJ	0.42 U	0.48 UJ	0.42 U	**1.8 J**	**1.7**
Nonylphenol	2 UJ	2.1 U	2.4 UJ	**4.2 J**	2.2 UJ	**4.5**
Nonylphenol Diethoxylate	8 UJ	8.4 U	9.6 UJ	8.4 U	8.6 UJ	8.7 U
Nonylphenol Monoethoxylate	4 UJ	4.2 U	4.8 UJ	4.2 U	4.3 UJ	**5.5**
4-tert-Octylphenol	0.4 UJ	0.42 U	0.48 UJ	0.42 U	0.43 UJ	0.44 U
EDCs and PPCPs (ug/L)						
Acetaminophen	**11 J**	**10 J**	**36 J**	**40 J**	**30 J**	**17**
alpha-Estradiol	0.02 UJ	0.02 UJ	0.02 UJ	0.02 UJ	0.02 UJ	0.02 UJ
Androstenedione	**0.0082 J**	**0.011 J**	**0.031 J**	**0.044 J**	**0.039 J**	**0.091 J**
Atrazine	0.01 UJ	0.01 UJ	0.01 UJ	0.01 UJ	**0.0041 J**	0.1 U
Bisphenol A	**0.34 J**	**0.46 J**	**0.29 J**	**0.31 J**	**2.3 J**	**2.7**
Caffeine	**10 J**	**8.2 J**	**21 J**	**23 J**	**38 J**	**30**
Carbamazepine	0.01 UJ	0.01 UJ	**0.05 J**	**0.061 J**	**0.062 J**	**0.024**
DEET (N,N-Diethyl-3-Methyl Benzamide)	**0.1 J**	**0.11 J**	**0.13 J**	**0.11 J**	0.23 UJ	0.5 U
Diazepam	0.01 UJ	0.01 UJ	0.01 UJ	0.01 UJ	0.01 UJ	0.1 U
Diclofenac	0.02 UJ	0.02 UJ	**0.067 J**	**0.11 J**	**0.091 J**	**0.096**
Diethylstilbestrol	0.02 UJ	0.02 UJ	0.02 UJ	0.02 UJ	0.02 UJ	0.02 U
Estradiol	0.02 UJ	0.02 UJ	**0.0089 J**	0.02 UJ	0.02 UJ	0.02 U
Estriol	**0.025 J**	**0.023 J**	**0.1 J**	**0.1 J**	**0.15 J**	**0.071**
Estrone	0.05 UJ	0.05 UJ	0.05 UJ	0.05 UJ	**0.018 J**	**0.039 J**
Ethinyl Estradiol	0.02 UJ	0.02 UJ	0.02 UJ	0.02 UJ	0.02 UJ	0.02 U
Fluoxetine	0.01 UJ	0.01 UJ	**0.0096 J**	**0.043 J**	**0.01 J**	**0.016**
Gemfibrozil	**0.1 J**	**0.1 J**	**0.59 J**	**0.7 J**	**1.2 J**	**0.93 J**
Hydrocodone	0.05 UJ	0.05 UJ	**0.025 J**	**0.023 J**	0.05 UJ	0.5 U
Ibuprofen	**2.1 J**	**1.8 J**	**4.5 J**	**5.6 J**	**7.7 J**	**7.6**
Iopromide	**0.029 J**	**0.017 J**	**7.7 J**	**1.5 J**	**0.19 J**	**0.16 J**
Meprobamate	**0.01 J**	**0.032 J**	**0.031 J**	**0.029 J**	0.01 UJ	0.1 U
Methadone	**0.0066 J**	**0.0081 J**	**0.024 J**	**0.025 J**	0.05 UJ	**0.042 J**
Naproxen	**1.6 J**	**1.6 J**	**3.3 J**	**3.8 J**	**5.1 J**	**3.1**
Oxybenzone	**0.21 J**	**0.18 J**	**0.33 J**	**0.44 J**	0.44 UJ	0.77 U
Pentoxifylline	0.01 UJ	0.01 UJ	**0.0095 J**	**0.0066 J**	0.01 UJ	0.1 U

Table 3
Summary of Storm Water Analytical Results
Gowanus Canal
Brooklyn, New York

Sample Location:	OH-007		Owl's Head Water Treatment Plant		OH-007	
Sample Type:	Discharge, Lab Filtered	Discharge, Unfiltered	Discharge, Lab Filtered	Discharge, Unfiltered	Baseline, Lab Filtered	Baseline, Unfiltered
Sample Event:	Event 3	Event 3	Event 3	Event 3	Event 4	Event 4
Sample Name:	MH-OH-007-LFD3	MH-OH-007-WWD3	WTP-OH-LFD3	WTP-OH-WWD3	MH-OH-007-LFB4	MH-OH-007-WWB4
Sample Date:	1/16/2013	1/16/2013	1/16/2013	1/16/2013	1/31/2013	1/31/2013
Phenytoin (5,5-Diphenylhydantion / Dilantin)	0.02 UJ	0.02 UJ	**0.019 J**	**0.021 J**	**0.024 J**	0.02 UJ
Progesterone	**0.019 J**	**0.028 J**	**0.02 J**	0.02 UJ	**0.091 J**	**0.072 J**
Salicylic Acid	**4 J**	**2.7 J**	**9.3 J**	**9.5 J**	**20 J**	**9.3**
Sulfamethoxazole	**0.097 J**	**0.056 J**	**0.2 J**	**0.18 J**	**0.14 J**	0.1 U
Testosterone	**0.013 J**	**0.012 J**	**0.041 J**	**0.041 J**	**0.091 J**	0.2 U
Triclosan	0.5 UJ	R	**0.58 J**	R	5 UJ	5 UJ
Trimethoprim	**0.057 J**	**0.031 J**	**0.15 J**	**0.14 J**	**0.088 J**	**0.073 J**
Pathogen						
C. perfringens (cfu/100mL)	**23000**	**19000**	**330000**	**270000**	**220000**	**390000**
Coliphage, Male Specific (pfu/100mL)	**2000**	**4000**	**19500**	**14500**	**53000**	**36000**
Coliphage, Somatic (pfu/100mL)	**6000 J**	**7500 J**	**17500 J**	**27500 J**	**21000 J**	**20500 J**
Cryptosporidium (oocysts/L)	0 U	**1.5 J**	0 UJ	0 UJ	R	0 UJ
E.Coli (mpn/100mL)	**285100**	**290900**	**1610000**	**1220000**	**2850000**	**2090000**
Enterococci (mpn/100mL)	**66300**	**114500**	**261300**	**275500**	**630000**	**850000**
Enterovirus (pos/neg)	NA	NA	NA	NA	NA	NA
Fecal Coliform (mpn/100mL)	**387300**	**313000**	**1850000**	**1299700**	**2010000**	**3550000**
Giardia (cysts/L)	**370**	**270 J**	**120 J**	**1200 J**	**490 J**	**640 J**
Plaque forming virus (pfu//1 mL)	NA	NA	NA	NA	NA	NA
Plaque forming virus (pfu/125 mL)	NA	NA	NA	NA	NA	NA
Plaque forming virus (pfu/165.5 mL)	NA	NA	NA	NA	NA	NA
Plaque forming virus (pfu/182.5 mL)	NA	NA	NA	NA	NA	NA
Plaque forming virus (pfu/185.5 mL)	NA	NA	NA	NA	NA	NA
Plaque forming virus (pfu/187.5 mL)	NA	NA	NA	NA	NA	NA
Plaque forming virus (pfu/197.5 mL)	NA	NA	NA	NA	NA	NA
Plaque forming virus (pfu/199.5 mL)	NA	NA	NA	NA	NA	NA
Plaque forming virus (pfu/200 mL)	NA	NA	NA	NA	NA	**Toxic**
Plaque forming virus (pfu/200.5 mL)	NA	NA	0 U	NA	NA	NA
Plaque forming virus (pfu/201 mL)	0 U	NA	NA	NA	NA	NA
Plaque forming virus (pfu/201.5 mL)	NA	NA	NA	0 U	NA	NA
Plaque forming virus (pfu/202 mL)	NA	NA	NA	NA	NA	NA
Plaque forming virus (pfu/203 mL)	NA	NA	NA	NA	NA	NA
Plaque forming virus (pfu/204 mL)	NA	NA	NA	NA	NA	NA
Plaque forming virus (pfu/205 mL)	NA	NA	NA	NA	**Toxic**	NA
Viruses (pos/neg)	neg	neg	neg	neg	**pos**	neg
Other (ug/L)						
Ammonia	**4000**	**1700**	**8200**	**5000**	**14000 J**	**11000 J**
Calcium hardness as calcium carbonate	**16000**	**16000**	**24000**	**25000**	NA	NA
Dissolved Organic Carbon	**3700**	**5700**	**12000**	**12000**	**28000**	**24000**
Hardness as calcium carbonate	**21000**	**23000**	**45000**	**47000**	**83000**	**100000**
Magnesium hardness as calcium carbonate	**4900**	**6300**	**21000**	**22000**	NA	NA
pH (s.u.)	**6.7 J**	**7.13 J**	**6.75 J**	**7.16 J**	**6.58 J**	**6.7 J**
Sediment Concentration	NA	**42000**	NA	**63000**	NA	**180000**
Specific Conductance (umhos/cm)	**310**	**350**	**410**	**370**	**1200**	**1200**
Total Dissolved Solids	NA	**150000**	NA	**160000**	NA	**540000 J**
Total Organic Carbon	**3300**	**9900**	**10000**	**14000**	**31000**	**67000**
Total Petroleum Hydrocarbons	**357.19**	**2236.92**	**304.56**	**1725.32**	**804.6 J**	**15827.7**
Total Suspended Solids	NA	**39000**	NA	**61000**	NA	**170000**
Turbidity (ntu)	NA	**30**	NA	**37**	NA	**98 J**

Validated

Table 3
Summary of Storm Water Analytical Results
Gowanus Canal
Brooklyn, New York

Sample Location:	OH-007								RH-031					
Sample Type:	Discharge, Lab Filtered				Discharge, Unfiltered				Baseline, Lab Filtered	Baseline, Unfiltered	Discharge, Lab Filtered		Discharge, Unfiltered	
Sample Event:	Event 4				Event 4				Event 4	Event 4	Event 4		Event 4	
Sample Name:	MH-OH-007-LFD4				MH-OH-007-WWD4				MH-RH-031-LFB4	MH-RH-031-WWB4	MH-RH-031-LFD4		MH-RH-031-WWD4	
Sample Date:	1/31/2013				1/31/2013				1/31/2013	1/31/2013	1/31/2013		1/31/2013	
BTEX (ug/L)														
Benzene	1 UJ	1 UJ	5 UJ	1 UJ	1 U	1 U	1 U	1 U	**1 J**	**1.5**	**1.3**	**0.7 J**	**1.8**	8 U
Toluene	**1.8**	**1.2**	5 UJ	**3.8**	**2.7**	**2.2**	**13**	**6.2**	**7 J**	**9.9**	**2.7**	5 UJ	**3.9**	**3.5 J**
Ethylbenzene	1 UJ	1 UJ	5 UJ	1 UJ	**0.3 J**	**0.28 J**	1 U	1 U	**0.38 J**	**0.51 J**	**0.28 J**	5 UJ	**0.4 J**	8 U
m,p-Xylene	**0.79 J**	**0.66 J**	10 UJ	**0.46 J**	**1.1 J**	**1.1 J**	2 U	**0.59 J**	**0.75 J**	**0.99 J**	**0.47 J**	10 UJ	**0.54 J**	16 U
o-Xylene	**0.39 J**	**0.34 J**	5 UJ	**0.26 J**	**0.53 J**	**0.66 J**	**0.17 J**	**0.33 J**	**0.34 J**	**0.47 J**	**0.23 J**	5 UJ	**0.23 J**	8 U
Total Xylene	**1.2 J**	**1 J**	15 UJ	**0.71 J**	**1.6 J**	**1.8 J**	**0.57 J**	**0.92 J**	**1.1 J**	**1.5 J**	**0.69 J**	15 UJ	**0.78 J**	24 U
Total BTEX	**3**	**2.2**	ND	**4.51**	**4.6**	**4.28**	**13.74**	**7.12**	**9.48**	**13.41**	**4.97**	**0.7**	**6.88**	**3.5**
Other VOCs (ug/L)														
Acetone	**22 J**	**12 J**	25 UJ	**6.8 J**	**13**	**11**	**8.2**	**4.4 J**	**10 J**	**14**	**28 J**	25 UJ	**10 J**	40 UJ
Bromochloromethane	1 UJ	1 UJ	5 UJ	1 UJ	1 U	1 U	1 U	1 U	1 U	1 U	1 UJ	5 UJ	1 U	8 U
Bromodichloromethane	1 UJ	1 UJ	5 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 U	1 U	1 U	1 UJ	5 UJ	1 U	8 U
Bromoform	1 UJ	1 UJ	5 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 U	1 U	1 UJ	5 UJ	1 UJ	8 UJ
Bromomethane	1 UJ	1 UJ	5 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 U	1 U	1 U	1 UJ	5 UJ	1 U	8 U
2-Butanone (Methyl ethyl ketone)	5 UJ	5 UJ	25 UJ	5 UJ	5 U	5 U	5 U	5 U	5 U	5 U	5 UJ	25 UJ	5 U	40 U
Carbon disulfide	1 UJ	1 UJ	5 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 U	**0.9 J**	1 U	1 UJ	5 UJ	1 U	8 U
Carbon tetrachloride	1 UJ	1 UJ	5 UJ	1 UJ	1 U	1 U	1 U	1 U	1 U	1 U	1 UJ	5 UJ	1 U	8 U
Chlorobenzene	1 UJ	1 UJ	5 UJ	1 UJ	1 U	1 U	1 U	1 U	1 U	1 U	1 UJ	5 UJ	1 U	8 U
Chloroethane	1 UJ	1 UJ	5 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 U	1 U	1 U	1 UJ	5 UJ	1 U	8 U
Chloroform	**0.79 J**	**0.51 J**	5 UJ	**0.34 J**	**0.91 J**	**0.64 J**	**0.22 J**	**0.38 J**	**1.7 J**	**2**	**2**	**0.94 J**	**1.7**	8 U
Chloromethane	1 UJ	1 UJ	5 UJ	1 UJ	1 U	1 U	1 U	1 U	1 UJ	1 UJ	1 UJ	5 UJ	1 U	8 U
Cyclohexane	1 UJ	1 UJ	5 UJ	1 UJ	1 U	1 U	1 U	1 U	1 U	1 U	1 UJ	5 UJ	1 U	8 U
1,2-Dibromo-3-chloropropane	1 UJ	1 UJ	5 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 U	1 U	1 UJ	5 UJ	1 UJ	8 UJ
Dibromochloromethane	1 UJ	1 UJ	5 UJ	1 UJ	1 U	1 U	1 U	1 U	1 U	1 U	1 UJ	5 UJ	1 U	8 U
1,2-Dibromoethane (EDB)	1 UJ	1 UJ	5 UJ	1 UJ	1 U	1 U	1 U	1 U	1 U	1 U	1 UJ	5 UJ	1 U	8 U
1,2-Dichlorobenzene	1 UJ	1 UJ	5 UJ	1 UJ	1 U	1 U	1 U	1 U	1 U	1 U	1 UJ	5 UJ	1 U	8 U
1,3-Dichlorobenzene	1 UJ	1 UJ	5 UJ	1 UJ	1 U	1 U	1 U	1 U	1 U	1 U	1 UJ	5 UJ	1 U	8 U
1,4-Dichlorobenzene	1 UJ	1 UJ	5 UJ	1 UJ	1 U	1 U	1 U	1 U	1 U	1 U	1 UJ	5 UJ	1 U	8 U
Dichlorodifluoromethane (Freon 12)	1 UJ	1 UJ	5 UJ	1 UJ	1 U	1 U	1 U	1 U	1 U	1 U	1 UJ	5 UJ	1 U	8 U
1,1-Dichloroethane	1 UJ	1 UJ	5 UJ	1 UJ	1 U	1 U	1 U	1 U	1 U	1 U	1 UJ	5 UJ	1 U	8 U
1,2-Dichloroethane	1 UJ	1 UJ	5 UJ	1 UJ	1 U	1 U	1 U	1 UJ	1 U	1 U	1 UJ	5 UJ	1 UJ	8 UJ
1,1-Dichloroethene	1 UJ	1 UJ	5 UJ	1 UJ	1 U	1 U	1 U	1 U	1 U	1 U	1 UJ	5 UJ	1 U	8 U
cis-1,2-Dichloroethene	1 UJ	1 UJ	5 UJ	1 UJ	1 U	1 U	1 U	1 U	**0.27 J**	**0.43 J**	**1.4**	**3.3 J**	**1.6**	**4 J**
trans-1,2-Dichloroethene	1 UJ	1 UJ	5 UJ	1 UJ	1 U	1 U	1 U	1 U	1 U	1 U	1 UJ	5 UJ	1 U	8 U
1,2-Dichloropropane	1 UJ	1 UJ	5 UJ	1 UJ	1 U	1 U	1 U	1 U	1 U	1 U	1 UJ	5 UJ	1 U	8 U
cis-1,3-Dichloropropene	1 UJ	1 UJ	5 UJ	1 UJ	1 U	1 U	1 U	1 U	1 U	1 U	1 UJ	5 UJ	1 U	8 U
trans-1,3-Dichloropropene	1 UJ	1 UJ	5 UJ	1 UJ	1 U	1 U	1 U	1 U	1 U	1 U	1 UJ	5 UJ	1 U	8 U
1,4-Dioxane	R	R	R	R	R	R	R	R	R	R	R	R	R	R
2-Hexanone	5 UJ	5 UJ	25 UJ	5 UJ	5 U	5 U	5 U	5 UJ	5 U	5 U	5 UJ	25 UJ	5 UJ	40 UJ
Isopropyl benzene	1 UJ	1 UJ	5 UJ	1 UJ	1 U	1 U	1 U	1 U	1 U	1 U	1 UJ	5 UJ	1 U	8 U
Methyl acetate	1 UJ	1 UJ	5 UJ	1 UJ	1 U	1 U	1 U	1 U	1 U	**0.36 J**	1 UJ	5 UJ	1 U	8 U
Methyl tert-butyl ether (MTBE)	1 UJ	1 UJ	5 UJ	1 UJ	1 U	1 U	1 U	1 UJ	1 U	1 U	1 UJ	5 UJ	1 UJ	8 UJ
4-Methyl-2-pentanone (MIBK)	**0.64 J**	5 UJ	25 UJ	5 UJ	**0.71 J**	**0.64 J**	5 U	5 U	**0.69 J**	**0.89 J**	**0.55 J**	25 UJ	5 U	40 U
Methylcyclohexane	1 UJ	1 UJ	5 UJ	1 UJ	1 U	1 U	1 U	1 U	1 U	1 U	1 UJ	5 UJ	1 U	8 U
Methylene chloride	1 UJ	1 UJ	5 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 U	1 U	1 UJ	5 UJ	1 UJ	8 UJ
Styrene	1 UJ	1 UJ	5 UJ	1 UJ	1 U	1 U	1 U	1 U	1 U	1 U	1 UJ	5 UJ	1 U	8 U
1,1,2,2-Tetrachloroethane	1 UJ	1 UJ	5 UJ	1 UJ	1 U	1 U	1 U	1 U	1 U	1 U	1 UJ	5 UJ	1 U	8 U
Tetrachloroethene (PCE)	**17**	**10**	**100**	**13**	**22**	**17**	**130**	**19**	**1.8 J**	**2.5**	**7.6**	**93**	**12**	**120**
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	1 UJ	1 UJ	5 UJ	1 UJ	1 U	1 U	1 U	1 U	1 U	1 U	1 UJ	5 UJ	1 U	8 U
1,2,3-Trichlorobenzene	1 UJ	1 UJ	5 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	5 UJ	1 UJ	8 UJ

Table 3
Summary of Storm Water Analytical Results
Gowanus Canal
Brooklyn, New York

Sample Location:	OH-007								RH-031					
Sample Type:	Discharge, Lab Filtered				Discharge, Unfiltered				Baseline, Lab Filtered	Baseline, Unfiltered	Discharge, Lab Filtered		Discharge, Unfiltered	
Sample Event:	Event 4				Event 4				Event 4	Event 4	Event 4		Event 4	
Sample Name:	MH-OH-007-LFD4				MH-OH-007-WWD4				MH-RH-031-LFB4	MH-RH-031-WWB4	MH-RH-031-LFD4		MH-RH-031-WWD4	
Sample Date:	1/31/2013				1/31/2013				1/31/2013	1/31/2013	1/31/2013		1/31/2013	
1,2,4-Trichlorobenzene	1 UJ	1 UJ	5 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 U	1 U	1 UJ	5 UJ	1 UJ	8 UJ
1,1,1-Trichloroethane	1 UJ	1 UJ	5 UJ	1 UJ	1 U	1 U	1 U	1 U	1 U	1 U	1 UJ	5 UJ	1 U	8 U
1,1,2-Trichloroethane	1 UJ	1 UJ	5 UJ	1 UJ	1 U	1 U	1 U	1 U	1 U	1 U	1 UJ	5 UJ	1 U	8 U
Trichloroethene (TCE)	**0.42 J**	**0.21 J**	**0.77 J**	1 UJ	**0.45 J**	**0.35 J**	**0.39 J**	1 U	**0.29 J**	**0.43 J**	**4.8**	**20**	**5.5**	**14**
Trichlorofluoromethane (Freon 11)	1 UJ	1 UJ	5 UJ	1 UJ	1 U	1 U	1 U	1 U	1 U	1 U	1 UJ	5 UJ	1 U	8 U
Vinyl chloride	1 UJ	1 UJ	5 UJ	1 UJ	1 U	1 U	1 U	1 U	1 U	1 U	1 UJ	5 UJ	1 U	8 U
Total VOCs	**45.03**	**25.92**	**100.77**	**25.37**	**43.3**	**35.67**	**152.55**	**31.82**	**26.22**	**35.48**	**50.02**	**117.94**	**38.45**	**141.5**
PAHs (ug/L)														
Acenaphthene	6.1 U				6.2 U				6.7 U	6.3 U	6.2 U		6.2 U	
Acenaphthylene	6.1 U				6.2 U				6.7 U	6.3 U	6.2 U		6.2 U	
Anthracene	6.1 U				6.2 U				6.7 U	6.3 U	6.2 U		6.2 U	
Benz[a]anthracene	6.1 U				6.2 U				6.7 U	6.3 U	6.2 U		6.2 U	
Benzo[a]pyrene	6.1 U				6.2 U				6.7 U	6.3 U	6.2 U		6.2 U	
Benzo[b]fluoranthene	6.1 U				6.2 U				6.7 U	6.3 U	6.2 U		6.2 U	
Benzo[g,h,i]perylene	6.1 U				6.2 U				6.7 U	6.3 U	6.2 U		6.2 U	
Benzo[k]fluoranthene	6.1 U				6.2 U				6.7 U	6.3 U	6.2 U		6.2 U	
Chrysene	6.1 U				6.2 U				6.7 U	6.3 U	6.2 U		6.2 U	
Dibenz[a,h]anthracene	6.1 U				6.2 U				6.7 U	6.3 U	6.2 U		6.2 U	
Fluoranthene	6.1 U				**0.54 J**				6.7 U	6.3 U	6.2 U		6.2 U	
Fluorene	6.1 U				6.2 U				6.7 U	6.3 U	6.2 U		6.2 U	
Indeno[1,2,3-cd]pyrene	6.1 U				6.2 U				6.7 U	6.3 U	6.2 U		6.2 U	
2-Methylnaphthalene	6.1 U				6.2 U				6.7 U	6.3 U	6.2 U		6.2 U	
Naphthalene	6.1 U				6.2 U				**1.8 J**	**1.7 J**	**0.8 J**		6.2 U	
Phenanthrene	6.1 U				6.2 U				6.7 U	6.3 U	6.2 U		6.2 U	
Pyrene	6.1 U				6.2 U				6.7 U	6.3 U	6.2 U		6.2 U	
Total PAH 17	ND				**0.54**				**1.8**	**1.7**	**0.8**		ND	
Other SVOCs (ug/L)														
Acetophenone	31 U				31 U				34 U	32 U	31 U		31 U	
Atrazine	31 U				31 U				34 U	32 U	31 U		31 U	
Benzaldehyde	31 U				31 U				34 U	32 U	31 U		31 U	
1,1-Biphenyl	31 U				31 U				34 U	32 U	31 U		31 U	
Bis(chloroisopropyl)ether	6.1 UJ				6.2 UJ				6.7 UJ	6.3 UJ	6.2 UJ		6.2 UJ	
Bis(2-chloroethyl)ether	6.1 U				6.2 U				6.7 U	6.3 U	6.2 U		6.2 U	
Bis(2-chloroethoxy)methane	31 U				31 U				34 U	32 U	31 U		31 U	
Bis(2-ethylhexyl)phthalate	61 U				62 U				67 U	63 U	62 U		62 U	
4-Bromophenyl phenyl ether	31 U				31 U				34 U	32 U	31 U		31 U	
Butyl benzyl phthalate	31 U				31 U				34 U	32 U	31 U		31 U	
Caprolactam	150 U				150 U				170 U	160 U	150 U		150 U	
Carbazole	6.1 U				6.2 U				6.7 U	6.3 U	6.2 U		6.2 U	
4-Chloro-3-methylphenol	31 U				31 U				34 U	32 U	31 U		31 U	
4-Chloroaniline	31 U				31 U				34 U	32 U	31 U		31 U	
2-Chloronaphthalene	6.1 U				6.2 U				6.7 U	6.3 U	6.2 U		6.2 U	
2-Chlorophenol	31 U				31 U				34 U	32 U	31 U		31 U	
4-Chlorophenyl phenyl ether	31 U				31 U				34 U	32 U	31 U		31 U	
Dibenzofuran	31 U				31 U				34 U	32 U	31 U		31 U	
3,3-Dichlorobenzidine	31 U				31 U				34 U	32 U	31 U		31 U	
2,4-Dichlorophenol	6.1 U				6.2 U				6.7 U	6.3 U	6.2 U		6.2 U	
Diethyl phthalate	31 U				31 U				34 U	32 U	31 U		31 U	
Dimethyl phthalate	31 U				31 U				34 U	32 U	31 U		31 U	
2,4-Dimethylphenol	31 U				31 U				34 U	32 U	31 U		31 U	

Table 3
Summary of Storm Water Analytical Results
Gowanus Canal
Brooklyn, New York

Sample Location:	OH-007		RH-031			
Sample Type:	Discharge, Lab Filtered	Discharge, Unfiltered	Baseline, Lab Filtered	Baseline, Unfiltered	Discharge, Lab Filtered	Discharge, Unfiltered
Sample Event:	Event 4	Event 4	Event 4	Event 4	Event 4	Event 4
Sample Name:	MH-OH-007-LFD4	MH-OH-007-WWD4	MH-RH-031-LFB4	MH-RH-031-WWB4	MH-RH-031-LFD4	MH-RH-031-WWD4
Sample Date:	1/31/2013	1/31/2013	1/31/2013	1/31/2013	1/31/2013	1/31/2013
Di-n-butyl phthalate	31 U	31 U	34 U	32 U	31 U	31 U
4,6-Dinitro-2-methylphenol	150 U	150 U	170 U	160 U	150 U	150 U
2,4-Dinitrophenol	150 UJ	150 UJ	170 UJ	160 UJ	150 UJ	150 UJ
2,4-Dinitrotoluene	31 U	31 U	34 U	32 U	31 U	31 U
2,6-Dinitrotoluene	31 U	31 U	34 U	32 U	31 U	31 U
Di-n-octyl phthalate	31 U	31 U	34 U	32 U	31 U	31 U
Hexachlorobenzene	6.1 U	6.2 U	6.7 U	6.3 U	6.2 U	6.2 U
Hexachlorobutadiene	6.1 U	6.2 U	6.7 U	6.3 U	6.2 U	6.2 U
Hexachlorocyclopentadiene	31 U	31 U	34 U	32 U	31 U	31 U
Hexachloroethane	31 U	31 U	34 U	32 U	31 U	31 U
Isophorone	31 U	31 U	34 U	32 U	31 U	31 U
2-Methylphenol (o-Cresol)	31 U	31 U	34 U	32 U	31 U	31 U
3,4-Methylphenol (m,p-Cresol)	31 U	31 U	**240**	**84**	31 U	31 U
2-Nitroaniline	150 U	150 U	170 U	160 U	150 U	150 U
3-Nitroaniline	150 U	150 U	170 U	160 U	150 U	150 U
4-Nitroaniline	150 U	150 U	170 U	160 U	150 U	150 U
Nitrobenzene	61 U	62 U	67 U	63 U	62 U	62 U
2-Nitrophenol	31 U	31 U	34 U	32 U	31 U	31 U
4-Nitrophenol	150 U	150 U	170 U	160 U	150 U	150 U
N-Nitrosodi-n-propylamine	6.1 UJ	6.2 UJ	6.7 UJ	6.3 UJ	6.2 UJ	6.2 UJ
N-Nitrosodiphenylamine	31 U	31 U	34 U	32 U	31 U	31 U
Pentachlorophenol	31 U	31 U	34 U	32 U	31 U	31 U
Phenol	6.1 U	6.2 U	**46**	**8.5**	6.2 U	6.2 U
1,2,4,5-Tetrachlorobenzene	31 U	31 U	34 U	32 U	31 U	31 U
2,3,4,6-Tetrachlorophenol	31 U	31 U	34 U	32 U	31 U	31 U
2,4,5-Trichlorophenol	31 U	31 U	34 U	32 U	31 U	31 U
2,4,6-Trichlorophenol	31 U	31 U	34 U	32 U	31 U	31 U
Total SVOCs	ND	**0.54**	**287.8**	**94.2**	**0.8**	ND
Alkylated PAHs (ug/L)						
Acenaphthene	**0.04763 J**	**0.13956**	**0.11939 J**	**0.24967**	**0.12983 J**	**0.22296**
Acenaphthylene	0.01211 UJ	**0.05978**	0.01129 UJ	0.036 U	0.00997 UJ	0.03419 U
Anthracene	**0.0138 J**	**0.14056**	**0.01083 J**	**0.09052**	**0.01398 J**	**0.11249**
Benz[a]anthracene	**0.00482 J**	**0.45256**	**0.01252 J**	**0.40504**	**0.02149 J**	**0.6455**
Benzo[a]pyrene	**0.00288 J**	**0.41369**	**0.00782 J**	**0.3298**	**0.00982 J**	**0.45725**
Benzo[b]fluoranthene	**0.00515 J**	**0.57715**	**0.01237 J**	**0.43608**	**0.01958 J**	**0.64615**
Benzo[e]pyrene	**0.00474 J**	**0.44821**	**0.00944 J**	**0.337**	**0.01423 J**	**0.44639**
Benzo[g,h,i]perylene	**0.0039 J**	**0.45922**	**0.00656 J**	**0.31793**	**0.00947 J**	**0.36115**
Benzo[k]fluoranthene	**0.00343 J**	**0.5134**	**0.00944 J**	**0.40459**	**0.01431 J**	**0.56368**
1,1-Biphenyl	**0.1091 J**	**0.20493**	**0.0265 J**	**0.04821**	**0.04471 J**	**0.06348**
Chrysene	**0.00925 J**	**0.72281**	**0.01886 J**	**0.56885**	**0.03096 J**	**0.8108**
C1-Chrysenes	**0.00607 J**	**0.32199**	**0.00935 J**	**0.22978**	**0.01402 J**	**0.24733**
C2-Chrysenes	0.01003 UJ	**0.25127**	0.01127 UJ	**0.18762**	**0.01901 J**	**0.16729**
C3-Chrysenes	0.01003 UJ	**0.24437**	0.01127 UJ	**0.18731**	0.01067 UJ	**0.16325**
C4-Chrysenes	0.01003 UJ	**0.21598**	0.01127 UJ	0.0227 U	0.01067 UJ	0.02177 U
Dibenz[a,h]anthracene	0.0099 UJ	**0.09068**	0.01112 UJ	**0.05907**	0.01053 UJ	**0.07916**
Dibenzofuran	**0.02703 J**	**0.0952**	0.01427 UJ	**0.04181**	**0.01623 J**	**0.04387**
Dibenzothiophene	**0.02473 J**	**0.09296**	**0.01599 J**	**0.0586**	**0.02341 J**	**0.06328**
C1-Dibenzothiophenes	**0.04963 J**	**0.18272**	**0.02242 J**	**0.09128**	**0.04084 J**	**0.16096**
C2-Dibenzothiophenes	**0.08787 J**	**0.36638**	**0.04631 J**	**0.19614**	**0.07855 J**	**0.19407**
C3-Dibenzothiophenes	**0.07222 J**	**0.37179**	**0.04265 J**	**0.22848**	**0.07437 J**	**0.22195**

Table 3
Summary of Storm Water Analytical Results
Gowanus Canal
Brooklyn, New York

Sample Location:	OH-007		RH-031			
Sample Type:	Discharge, Lab Filtered	Discharge, Unfiltered	Baseline, Lab Filtered	Baseline, Unfiltered	Discharge, Lab Filtered	Discharge, Unfiltered
Sample Event:	Event 4	Event 4	Event 4	Event 4	Event 4	Event 4
Sample Name:	MH-OH-007-LFD4	MH-OH-007-WWD4	MH-RH-031-LFB4	MH-RH-031-WWB4	MH-RH-031-LFD4	MH-RH-031-WWD4
Sample Date:	1/31/2013	1/31/2013	1/31/2013	1/31/2013	1/31/2013	1/31/2013
C4-Dibenzothiophenes	**0.04826 J**	**0.23377**	0.01125 UJ	**0.14516**	**0.05176 J**	**0.13741**
Fluoranthene	**0.03616 J**	**1.19165**	**0.04253 J**	**0.86158**	**0.07225 J**	**1.27423**
C1-Fluoranthenes/pyrenes	**0.0272 J**	**0.54363**	**0.01756 J**	**0.31534**	**0.03121 J**	**0.41591**
C2-Fluoranthenes/pyrenes	**0.02802 J**	**0.58141**	**0.01948 J**	**0.3036**	**0.02835 J**	**0.36598**
C3-Fluoranthenes/pyrenes	**0.01521 J**	**0.32726**	**0.01162 J**	**0.20285**	**0.02409 J**	**0.20572**
C4-Fluoranthenes/pyrenes	0.01005 UJ	**0.23159**	0.01129 UJ	**0.14263**	0.01069 UJ	**0.1413**
Fluorene	**0.07496 J**	**0.20601**	**0.03584 J**	**0.10301**	**0.04516 J**	**0.10539**
C1-Fluorenes	**0.12509 J**	**0.46756**	**0.02529 J**	**0.08349**	**0.04135 J**	**0.12007**
C2-Fluorenes	**0.19976 J**	**0.93232**	**0.06349 J**	**0.20771**	**0.07504 J**	**0.25696**
C3-Fluorenes	**0.15514 J**	**1.08678**	**0.07938 J**	**0.32888**	**0.08579 J**	**0.38015**
Indeno[1,2,3-cd]pyrene	**0.00253 J**	**0.41447**	**0.00438 J**	**0.26582**	**0.00616 J**	**0.33655**
Naphthalene	0.17062 UJ	0.39215 U	1.40393 UJ	1.4354 U	0.98717 UJ	1.036 U
C1-Naphthalenes	**0.4432 J**	**0.90664**	**0.31987 J**	0.47773 U	**0.35091 J**	0.4838 U
C2-Naphthalenes	**0.77935 J**	**1.92976**	**0.10502 J**	**0.3482**	**0.25702 J**	0.53105 U
C3-Naphthalenes	**0.52247 J**	**1.99516**	**0.06508 J**	**0.2568**	**0.15414 J**	**0.46416**
C4-Naphthalenes	**0.25137 J**	**1.42396**	**0.07079 J**	**0.22923**	**0.09792 J**	**0.34963**
Perylene	0.01003 UJ	**0.11991**	**0.00173 J**	**0.08596**	**0.00346 J**	**0.12582**
Phenanthrene	**0.08658 J**	**1.09266**	**0.07093 J**	**0.54728**	**0.10051 J**	**0.63693**
C1-Phenanthrenes/anthracenes	**0.13256 J**	**1.23373**	**0.03962 J**	**0.38378**	**0.07452 J**	**0.4811**
C2-Phenanthrenes/anthracenes	**0.17752 J**	**1.40424**	**0.09168 J**	**0.42898**	**0.11575 J**	**0.51058**
C3-Phenanthrenes/anthracenes	**0.05595 J**	**0.89168**	**0.02201 J**	**0.31079**	**0.04826 J**	**0.32234**
C4-Phenanthrenes/anthracenes	**0.02488 J**	**0.37502**	**0.0153 J**	**0.13339**	**0.02821 J**	**0.14736**
Pyrene	**0.0425 J**	**1.10171**	**0.03848 J**	**0.78175**	**0.06603 J**	**1.13862**
Total PAH44	**3.70096**	**25.05613**	**1.51053**	**10.93401**	**2.3327**	**13.58722**
PCBs (ug/L)						
Aroclor 1016	0.39 U	0.4 U	0.41 U	0.41 U	0.4 U	0.4 U
Aroclor 1221	0.39 U	0.4 U	0.41 U	0.41 U	0.4 U	0.4 U
Aroclor 1232	0.39 U	0.4 U	0.41 U	0.41 U	0.4 U	0.4 U
Aroclor 1242	0.39 U	0.4 U	0.41 U	0.41 U	0.4 U	0.4 U
Aroclor 1248	0.39 U	0.4 U	0.41 U	0.41 U	0.4 U	0.4 U
Aroclor 1254	0.39 U	0.4 U	0.41 U	0.41 U	0.4 U	0.4 U
Aroclor 1260	0.39 U	0.4 U	0.41 U	0.41 U	0.4 U	0.4 U
Aroclor 1262	0.39 U	0.4 U	0.41 U	0.41 U	0.4 U	0.4 U
Aroclor 1268	0.39 U	0.4 U	0.41 U	0.41 U	0.4 U	0.4 U
Total PCB Aroclors	ND	ND	ND	ND	ND	ND
Pesticides (ug/L)						
Aldrin	0.049 U	0.05 U	0.051 U	0.051 U	0.05 U	0.05 U
alpha-BHC	0.049 U	0.05 U	0.051 U	0.051 U	0.05 U	0.05 U
beta-BHC	0.049 U	0.05 U	0.051 U	0.051 U	0.05 U	0.05 U
gamma-BHC	0.049 U	0.05 U	0.051 U	0.051 U	0.05 U	0.05 U
delta-BHC	0.049 U	0.05 U	0.051 U	0.051 U	0.05 U	0.05 U
alpha-chlordane	0.049 U	0.05 U	0.051 U	0.051 U	0.05 U	0.05 U
gamma-Chlordane	0.049 U	**0.24**	**0.056 J**	0.051 U	**0.067**	**0.14 J**
4,4-DDD	0.049 U	0.05 U	0.051 U	0.051 U	0.05 U	0.05 U
4,4'-DDE	0.049 U	0.05 U	0.051 U	0.051 U	0.05 U	0.05 U
4,4'-DDT	0.049 U	0.05 UJ	0.051 U	0.051 UJ	0.05 U	0.05 UJ
Dieldrin	0.049 U	0.05 U	0.051 U	0.051 U	0.05 U	0.05 U
Endosulfan I	0.049 U	0.05 U	0.051 U	0.051 U	0.05 U	0.05 U
Endosulfan II	0.049 U	0.05 U	0.051 U	0.051 U	0.05 U	0.05 U
Endosulfan sulfate	0.049 U	0.05 U	0.051 U	0.051 U	0.05 U	0.05 U

Table 3
Summary of Storm Water Analytical Results
Gowanus Canal
Brooklyn, New York

Sample Location:	OH-007		RH-031			
Sample Type:	Discharge, Lab Filtered	Discharge, Unfiltered	Baseline, Lab Filtered	Baseline, Unfiltered	Discharge, Lab Filtered	Discharge, Unfiltered
Sample Event:	Event 4	Event 4	Event 4	Event 4	Event 4	Event 4
Sample Name:	MH-OH-007-LFD4	MH-OH-007-WWD4	MH-RH-031-LFB4	MH-RH-031-WWB4	MH-RH-031-LFD4	MH-RH-031-WWD4
Sample Date:	1/31/2013	1/31/2013	1/31/2013	1/31/2013	1/31/2013	1/31/2013
Endrin	0.049 U	0.05 U	0.051 U	0.051 U	0.05 U	0.05 U
Endrin aldehyde	0.049 U	0.05 U	0.051 U	0.051 U	0.05 U	0.05 U
Endrin ketone	0.049 U	0.05 U	0.051 U	0.051 U	0.05 U	0.05 U
Heptachlor	0.049 U	0.05 U	0.051 U	0.051 U	0.05 U	0.05 U
Heptachlor epoxide	0.049 U	0.05 U	0.051 U	0.051 U	0.05 U	0.05 U
Methoxychlor	0.049 U	0.099 U	0.1 U	0.1 U	0.1 U	0.1 U
Toxaphene	3.9 U	4 U	4.1 U	4.1 U	4 U	4 U
Herbicides (ug/L)						
2,4-D	3.8 UJ	3.8 UJ	4.5 UJ	4.2 UJ	4.3 UJ	4 UJ
2,4-DB	3.8 UJ	3.8 U	4.5 UJ	4.2 U	4.3 UJ	4 U
Dicamba	1.9 UJ	1.9 UJ	2.3 UJ	2.1 UJ	2.2 UJ	2 UJ
Dichloroprop	3.8 UJ	3.8 UJ	4.5 UJ	4.2 UJ	4.3 UJ	4 UJ
2,2-Dichloropropionic acid	4.8 UJ	4.8 UJ	5.7 UJ	5.2 UJ	5.4 UJ	5 UJ
Dinoseb	R	0.86 U	R	R	R	R
MCPP	380 UJ	380 U	450 UJ	420 UJ	430 UJ	400 UJ
Methylchlorophenoxyacetic acid	380 UJ	380 U	450 UJ	420 U	430 UJ	400 U
Silvex	0.96 UJ	0.95 UJ	1.1 UJ	1 UJ	1.1 UJ	1 UJ
2,4,5-Trichlorophenoxyacetic Acid	0.96 UJ	0.95 UJ	1.1 UJ	1 UJ	1.1 UJ	1 UJ
Dissolved Metals (ug/L)						
Antimony	2 U	2 U	2 U	2 U	2 U	2 U
Aluminum	30 U	30 U	**310**	30 U	**40**	30 U
Arsenic	2.2 U	**6.8 J**	**11 J**	**5.1 J**	3.1 U	2.5 U
Barium	**20**	**21**	**41**	**26**	**26**	**16**
Beryllium	1 U	1 U	1 U	1 U	1 U	1 U
Cadmium	1 U	1 U	1 U	1 U	1 U	1 U
Calcium	**11000**	**14000 J**	**27000**	**28000 J**	**18000**	**15000**
Chromium	2 U	2.8 U	2 U	2.7 U	2 U	2 U
Cobalt	**0.54**	**0.81**	**0.85**	**0.76**	**0.5**	0.5 U
Copper	**9.3**	**2.3**	**7.8**	**2**	**9.5**	**12**
Iron	**140 J**	**620 J**	**1300 J**	**580 J**	**590 J**	**140 J**
Lead	**3.2**	**1**	**3.7**	1 U	**3.1**	**1.8**
Magnesium	**1400**	**1700 J**	**9500**	**9500 J**	**8900**	**7400**
Manganese	**38**	**62**	**85**	**71**	**50**	**35**
Mercury	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	**0.07 J**
Nickel	**2.1**	**1.7**	**2.9**	**2.4**	**2.1**	**3.8**
Potassium	**2300**	**2500 J**	**7900**	**7600**	**6000**	**5200**
Selenium	5 U	5 U	5 U	5 U	5 U	5 U
Silver	1 U	1 U	1 U	1 U	1 U	1 U
Sodium	**37000 J**	**44000 J**	**150000 J**	**160000 J**	**110000 J**	**92000 J**
Thallium	1 U	1 U	1 U	1 U	1 U	1 U
Vanadium	1 UJ	16 UJ	1 UJ	12 UJ	1.1 UJ	1.3 UJ
Zinc	**78**	**40**	**31**	**15**	**38**	**55**
Total Metals (ug/L)						
Antimony	NA	**4.4 J**	NA	**4 J**	NA	**2.9 J**
Aluminum	NA	**1900 J**	NA	**1500 J**	NA	**1500 J**
Arsenic	NA	**4.3**	NA	**3.3 J**	NA	**3.3**
Barium	NA	**79**	NA	**72**	NA	**53**
Beryllium	NA	1 U	NA	1 U	NA	**0.04 J**
Cadmium	NA	1 U	NA	1 U	NA	1 U
Calcium	NA	**15000**	NA	**27000**	NA	**17000**

Table 3
Summary of Storm Water Analytical Results
Gowanus Canal
Brooklyn, New York

Sample Location:	OH-007		RH-031			
Sample Type:	Discharge, Lab Filtered	Discharge, Unfiltered	Baseline, Lab Filtered	Baseline, Unfiltered	Discharge, Lab Filtered	Discharge, Unfiltered
Sample Event:	Event 4	Event 4	Event 4	Event 4	Event 4	Event 4
Sample Name:	MH-OH-007-LFD4	MH-OH-007-WWD4	MH-RH-031-LFB4	MH-RH-031-WWB4	MH-RH-031-LFD4	MH-RH-031-WWD4
Sample Date:	1/31/2013	1/31/2013	1/31/2013	1/31/2013	1/31/2013	1/31/2013
Chromium	NA	**9.8**	NA	**9**	NA	**8.5**
Cobalt	NA	**2.2 J**	NA	**2.1 J**	NA	**1.5 J**
Copper	NA	**110**	NA	**95**	NA	**56**
Iron	NA	**4600**	NA	**4500**	NA	**3500**
Lead	NA	**150**	NA	**96**	NA	**59**
Magnesium	NA	**3400**	NA	**9700**	NA	**7900**
Manganese	NA	**85**	NA	**90**	NA	**67**
Mercury	NA	**0.46**	NA	**0.45**	NA	0.2 U
Nickel	NA	**8.5 J**	NA	**8 J**	NA	**6.1 J**
Potassium	NA	**2800**	NA	**7100**	NA	**5600**
Selenium	NA	5 U	NA	5 U	NA	5 U
Silver	NA	1 U	NA	1 U	NA	1 U
Sodium	NA	**35000 J**	NA	**120000 J**	NA	**86000 J**
Thallium	NA	1 U	NA	1 U	NA	1 U
Vanadium	NA	**7.2**	NA	**7.4**	NA	**5.7**
Zinc	NA	**370 J**	NA	**320 J**	NA	**230 J**
Cyanides (ug/L)						
Free Cyanide	5 U	5 U	5 U	5 U	5 U	5 U
EDCs and PPCPs (Phenols) (ug/L)						
Bisphenol A	**0.83 J**	**1.5**	**1.1 J**	**2.4**	**0.87 J**	**1.4**
Nonylphenol	2.4 UJ	**4.9**	2.1 UJ	**11**	2.4 UJ	**7.8**
Nonylphenol Diethoxylate	9.6 UJ	8 U	8.4 UJ	10 U	9.4 UJ	9.1 U
Nonylphenol Monoethoxylate	4.8 UJ	**5.6**	4.2 UJ	**6.5**	4.7 UJ	**5.2**
4-tert-Octylphenol	0.48 UJ	0.4 U	0.42 UJ	0.5 U	0.47 UJ	0.46 U
EDCs and PPCPs (ug/L)						
Acetaminophen	**6.7 J**	**6.3**	**23 J**	**22**	**13 J**	**13**
alpha-Estradiol	0.02 UJ	0.02 UJ	0.02 UJ	0.02 UJ	0.02 UJ	0.02 UJ
Androstenedione	0.01 UJ	**0.024**	**0.05 J**	0.1 U	**0.041 J**	**0.061**
Atrazine	0.01 UJ	0.01 U	**0.0039 J**	0.1 U	0.01 UJ	0.01 U
Bisphenol A	**1.1 J**	**1**	**1.5 J**	**2.1**	**1.1 J**	**1.5**
Caffeine	**7 J**	**6.6**	**31 J**	**31**	**16 J**	**20**
Carbamazepine	**0.016 J**	**0.073**	**0.27 J**	**0.24**	**0.11 J**	**0.13**
DEET (N,N-Diethyl-3-Methyl Benzamide)	0.16 UJ	0.18 U	0.39 UJ	0.5 U	0.26 UJ	0.29 U
Diazepam	0.01 UJ	0.01 U	0.01 UJ	0.1 U	0.01 UJ	0.01 U
Diclofenac	**0.0046 J**	**0.0079 J**	**0.026 J**	0.2 U	**0.016 J**	**0.02**
Diethylstilbestrol	0.02 UJ	0.02 U	0.02 UJ	0.02 UJ	0.02 UJ	0.02 U
Estradiol	0.02 UJ	0.02 U	**0.014 J**	**0.025 J**	0.02 UJ	**0.017 J**
Estriol	**0.028 J**	**0.05**	**0.11 J**	**0.12**	**0.047 J**	**0.047**
Estrone	0.05 UJ	0.05 U	**0.018 J**	0.05 UJ	**0.019 J**	0.05 U
Ethinyl Estradiol	0.02 UJ	0.02 U	0.02 UJ	0.02 U	0.02 UJ	0.02 U
Fluoxetine	0.1 UJ	**0.0096 J**	**0.016 J**	**0.12**	**0.0068 J**	**0.02 J**
Gemfibrozil	**0.084 J**	**0.11 J**	**0.23 J**	**0.17 J**	**0.13 J**	**0.16 J**
Hydrocodone	0.05 UJ	0.5 U	0.05 UJ	0.5 U	0.05 UJ	0.05 U
Ibuprofen	**1.3 J**	**1.5**	**4.7 J**	**4.3**	**2.6 J**	**2.6**
Iopromide	**0.025 J**	**0.017 J**	**0.11 J**	**0.11 J**	**0.073 J**	**0.13**
Meprobamate	0.01 UJ	0.01 U	**0.012 J**	0.1 U	0.01 UJ	0.01 U
Methadone	0.5 UJ	0.5 U	0.5 UJ	**0.055 J**	0.5 UJ	**0.037 J**
Naproxen	**0.75 J**	**0.82**	**3.2 J**	**4.4**	**1.8 J**	**2.1**
Oxybenzone	0.13 UJ	0.14 U	**0.54 J**	0.6 U	0.33 UJ	**0.91 J**
Pentoxifylline	**0.0055 J**	0.01 U	0.1 UJ	0.1 U	0.01 UJ	0.1 U

Table 3
Summary of Storm Water Analytical Results
Gowanus Canal
Brooklyn, New York

Sample Location:	OH-007		RH-031			
Sample Type:	Discharge, Lab Filtered	Discharge, Unfiltered	Baseline, Lab Filtered	Baseline, Unfiltered	Discharge, Lab Filtered	Discharge, Unfiltered
Sample Event:	Event 4	Event 4	Event 4	Event 4	Event 4	Event 4
Sample Name:	MH-OH-007-LFD4	MH-OH-007-WWD4	MH-RH-031-LFB4	MH-RH-031-WWB4	MH-RH-031-LFD4	MH-RH-031-WWD4
Sample Date:	1/31/2013	1/31/2013	1/31/2013	1/31/2013	1/31/2013	1/31/2013
Phenytoin (5,5-Diphenylhydantion / Dilantin)	0.2 UJ	0.02 UJ	**0.18 J**	0.2 UJ	**0.061 J**	**0.087 J**
Progesterone	**0.017 J**	**0.057**	**0.33 J**	**0.12 J**	**0.089 J**	**0.23**
Salicylic Acid	0.2 UJ	**0.34 J**	**11 J**	**9.9**	**3.7 J**	**3.9**
Sulfamethoxazole	**0.045 J**	**0.045**	**0.17 J**	**0.25**	**0.061 J**	**0.084**
Testosterone	0.02 UJ	**0.02 J**	**0.16 J**	**0.15 J**	**0.039 J**	**0.054**
Triclosan	0.5 UJ	0.5 UJ	5 UJ	5 UJ	5 UJ	0.5 UJ
Trimethoprim	0.05 UJ	0.05 UJ	**0.12 J**	**0.16 J**	0.05 UJ	**0.089 J**
Pathogen						
C. perfringens (cfu/100mL)	**110000**	**100000**	**80000**	**210000**	**80000**	**110000**
Coliphage, Male Specific (pfu/100mL)	**6000**	**3000**	**52000**	**68500**	**49000**	**39500**
Coliphage, Somatic (pfu/100mL)	**3000 J**	**3500 J**	**10500 J**	**8000 J**	**8000 J**	**6000 J**
Cryptosporidium (oocysts/L)	0 UJ	0 UJ	R	0 UJ	0 UJ	R
E.Coli (mpn/100mL)	**435200**	**461100**	**980400**	**816400**	**410600**	**435200**
Enterococci (mpn/100mL)	**116200**	**209800**	**218700**	**488400**	**151500**	**365400**
Enterovirus (pos/neg)	NA	NA	NA	NA	NA	NA
Fecal Coliform (mpn/100mL)	**410600**	**920800**	**1203000**	**1600000**	**648800**	**204600**
Giardia (cysts/L)	**31 J**	**18 J**	**210 J**	**380 J**	**20 J**	**1 J**
Plaque forming virus (pfu//1 mL)	NA	NA	NA	NA	NA	NA
Plaque forming virus (pfu/125 mL)	NA	NA	NA	NA	NA	NA
Plaque forming virus (pfu/165.5 mL)	NA	NA	**Toxic**	NA	NA	NA
Plaque forming virus (pfu/182.5 mL)	NA	NA	NA	NA	NA	NA
Plaque forming virus (pfu/185.5 mL)	0 U	NA	NA	NA	NA	NA
Plaque forming virus (pfu/187.5 mL)	NA	NA	NA	NA	NA	NA
Plaque forming virus (pfu/197.5 mL)	NA	NA	NA	NA	NA	NA
Plaque forming virus (pfu/199.5 mL)	NA	NA	NA	NA	NA	**Toxic**
Plaque forming virus (pfu/200 mL)	NA	NA	NA	NA	NA	NA
Plaque forming virus (pfu/200.5 mL)	NA	NA	NA	NA	NA	NA
Plaque forming virus (pfu/201 mL)	NA	**Toxic**	NA	**Toxic**	NA	NA
Plaque forming virus (pfu/201.5 mL)	NA	NA	NA	NA	0 U	NA
Plaque forming virus (pfu/202 mL)	NA	NA	NA	NA	NA	NA
Plaque forming virus (pfu/203 mL)	NA	NA	NA	NA	NA	NA
Plaque forming virus (pfu/204 mL)	NA	NA	NA	NA	NA	NA
Plaque forming virus (pfu/205 mL)	NA	NA	NA	NA	NA	NA
Viruses (pos/neg)	neg	neg	**pos**	**pos**	neg	neg
Other (ug/L)						
Ammonia	**1700 J**	**1900 J**	**7000 J**	**5600 J**	**4100 J**	**3100 J**
Calcium hardness as calcium carbonate	NA	NA	NA	NA	NA	NA
Dissolved Organic Carbon	**5800 J**	**8200 J**	**36000**	**21000**	**7600 J**	**10000**
Hardness as calcium carbonate	**32000**	**51000**	**110000**	**110000**	**81000**	**67000**
Magnesium hardness as calcium carbonate	NA	NA	NA	NA	NA	NA
pH (s.u.)	**6.53 J**	**6.59 J**	**6.48 J**	**6.7 J**	**6.59 J**	**6.69 J**
Sediment Concentration	NA	**260000**	NA	**150000**	NA	**160000**
Specific Conductance (umhos/cm)	**330**	**320**	**1200**	**1100**	**800**	**690**
Total Dissolved Solids	NA	**200000 J**	NA	**520000**	NA	**350000 J**
Total Organic Carbon	**6900**	**13000**	**37000**	**42000**	**8700**	**16000**
Total Petroleum Hydrocarbons	293.56 UJ	**7214.89**	**554.61 J**	**7221.52**	**517.95 J**	**5884.61**
Total Suspended Solids	NA	**500000**	NA	**200000**	NA	**150000**
Turbidity (ntu)	NA	**140**	NA	**140**	NA	**89**

Validated

Table 3
Summary of Storm Water Analytical Results
Gowanus Canal
Brooklyn, New York

Sample Location:	RH-034		RH-035									
Sample Type:	Discharge, Lab Filtered	Discharge, Unfiltered	Baseline, Lab Filtered	Baseline, Unfiltered	Baseline, Unfiltered	Discharge, Lab Filtered				Discharge, Unfiltered			
Sample Event:	Event 4	Event 4	Event 4	Event 4	Event 4	Event 4				Event 4			
Sample Name:	MH-RH-034-LFD4	MH-RH-034-WWD4	MH-RH-035-LFB4	MH-RH-035-WWB4	Duplicate of MH-RH-035-WWB4	MH-RH-035-LFD4				MH-RH-035-WWD4			
Sample Date:	1/31/2013	1/31/2013	1/31/2013	1/31/2013	1/31/2013	1/31/2013				1/31/2013			
BTEX (ug/L)													
Benzene	**0.24 J**	**0.32 J**	**0.72 J**	**1.1**	25 U	**0.27 J**	**0.62 J**	**0.59 J**	**0.6 J**	**0.6 J**	**0.8 J**	**0.88 J**	**0.91 J**
Toluene	**3**	**4.5**	**2.3 J**	**1.7**	25 U	**2**	**1.9**	**1.4**	**1.7**	**4.2**	**2.8**	**2.1**	**2.3**
Ethylbenzene	1 UJ	1 U	1 U	1 U	25 U	1 UJ	1 UJ	1 UJ	1 UJ	1 U	1 U	1 U	1 U
m,p-Xylene	2 UJ	2 U	2 U	2 U	50 U	2 UJ	2 UJ	2 UJ	2 UJ	2 U	2 U	2 U	2 U
o-Xylene	1 UJ	1 U	1 U	1 U	25 U	1 UJ	1 UJ	1 UJ	1 UJ	1 U	1 U	1 U	1 U
Total Xylene	3 UJ	3 U	3 U	3 U	75 U	3 UJ	3 UJ	3 UJ	3 UJ	3 U	3 U	3 U	3 U
Total BTEX	**3.24**	**4.82**	**3.02**	**2.8**	ND	**2.27**	**2.52**	**1.99**	**2.3**	**4.8**	**3.6**	**2.98**	**3.21**
Other VOCs (ug/L)													
Acetone	**27**	**18 J**	**10 J**	**15**	130 UJ	**23 J**	**21 J**	**15 J**	**12 J**	**11 J**	**10 J**	**11**	**7 J**
Bromochloromethane	1 UJ	1 U	1 U	1 U	25 U	1 UJ	1 UJ	1 UJ	1 UJ	1 U	1 U	1 U	1 U
Bromodichloromethane	1 UJ	1 U	1 U	1 U	25 U	1 UJ	1 UJ	1 UJ	1 UJ	**0.28 J**	1 U	1 UJ	1 U
Bromoform	1 UJ	1 UJ	1 UJ	1 U	25 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ
Bromomethane	1 UJ	1 U	1 U	1 U	25 U	1 UJ	1 UJ	1 UJ	1 UJ	1 U	1 U	1 UJ	1 U
2-Butanone (Methyl ethyl ketone)	5 UJ	5 U	5 U	5 U	130 U	5 UJ	5 UJ	5 UJ	5 UJ	5 U	5 U	5 U	5 U
Carbon disulfide	1 UJ	1 U	**0.99 J**	**0.24 J**	25 U	1 UJ	1 UJ	1 UJ	1 UJ	1 U	1 U	1 UJ	1 U
Carbon tetrachloride	1 UJ	1 U	1 U	1 U	25 U	1 UJ	1 UJ	1 UJ	1 UJ	1 U	1 U	1 U	1 U
Chlorobenzene	1 UJ	1 U	1 U	1 U	25 U	1 UJ	1 UJ	1 UJ	1 UJ	1 U	1 U	1 U	1 U
Chloroethane	1 UJ	1 U	1 U	1 U	25 U	1 UJ	1 UJ	1 UJ	1 UJ	1 U	1 U	1 UJ	1 U
Chloroform	**0.63 J**	**0.61 J**	**3 J**	**3.9**	25 U	**1.5**	**2.3**	**1.8**	**1.4**	**2**	**2.1**	**1.8**	**1.4**
Chloromethane	1 UJ	1 U	1 U	1 UJ	25 U	1 UJ	1 UJ	1 UJ	1 UJ	1 U	1 U	1 U	1 U
Cyclohexane	1 UJ	1 U	1 U	1 U	25 U	1 UJ	1 UJ	1 UJ	1 UJ	1 U	1 U	1 U	1 U
1,2-Dibromo-3-chloropropane	1 UJ	1 UJ	1 UJ	1 U	25 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ
Dibromochloromethane	1 UJ	1 U	1 U	1 U	25 U	1 UJ	1 UJ	1 UJ	1 UJ	1 U	1 U	1 U	1 U
1,2-Dibromoethane (EDB)	1 UJ	1 U	1 U	1 U	25 U	1 UJ	1 UJ	1 UJ	1 UJ	1 U	1 U	1 U	1 U
1,2-Dichlorobenzene	1 UJ	1 U	1 U	1 U	25 U	1 UJ	1 UJ	1 UJ	1 UJ	1 U	1 U	1 U	1 U
1,3-Dichlorobenzene	1 UJ	1 U	1 U	1 U	25 U	1 UJ	1 UJ	1 UJ	1 UJ	1 U	1 U	1 U	1 U
1,4-Dichlorobenzene	1 UJ	1 U	1 U	1 U	25 U	1 UJ	1 UJ	1 UJ	1 UJ	1 U	1 U	1 U	1 U
Dichlorodifluoromethane (Freon 12)	1 UJ	1 U	1 U	1 U	25 U	1 UJ	1 UJ	1 UJ	1 UJ	1 U	1 U	1 U	1 U
1,1-Dichloroethane	1 UJ	1 U	1 U	1 U	25 U	1 UJ	1 UJ	1 UJ	1 UJ	1 U	1 U	1 U	1 U
1,2-Dichloroethane	1 UJ	1 UJ	1 UJ	1 U	25 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 U	1 UJ
1,1-Dichloroethene	1 UJ	1 U	1 U	1 U	25 U	1 UJ	1 UJ	1 UJ	1 UJ	1 U	1 U	1 U	1 U
cis-1,2-Dichloroethene	1 UJ	1 U	**0.36 J**	**0.51 J**	25 U	1 UJ	**0.33 J**	**0.3 J**	**0.27 J**	**0.26 J**	**0.33 J**	**0.37 J**	**0.3 J**
trans-1,2-Dichloroethene	1 UJ	1 U	1 U	1 U	25 U	1 UJ	1 UJ	1 UJ	1 UJ	1 U	1 U	1 U	1 U
1,2-Dichloropropane	1 UJ	1 U	1 U	1 U	25 U	1 UJ	1 UJ	1 UJ	1 UJ	1 U	1 U	1 U	1 U
cis-1,3-Dichloropropene	1 UJ	1 U	1 U	1 U	25 U	1 UJ	1 UJ	1 UJ	1 UJ	1 U	1 U	1 U	1 U
trans-1,3-Dichloropropene	1 UJ	1 U	1 U	1 U	25 U	1 UJ	1 UJ	1 UJ	1 UJ	1 U	1 U	1 U	1 U
1,4-Dioxane	R	R	R	R	R	R	R	R	R	R	R	R	R
2-Hexanone	5 UJ	5 UJ	5 UJ	5 U	130 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 U	5 UJ
Isopropyl benzene	1 UJ	1 U	1 U	1 U	25 U	1 UJ	1 UJ	1 UJ	1 UJ	1 U	1 U	1 U	1 U
Methyl acetate	1 UJ	1 U	1 U	1 U	25 U	1 UJ	1 UJ	1 UJ	1 UJ	1 U	1 U	1 U	1 U
Methyl tert-butyl ether (MTBE)	1 UJ	1 UJ	1 UJ	1 U	25 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 U	1 UJ
4-Methyl-2-pentanone (MIBK)	5 UJ	5 U	5 U	5 U	130 U	**0.79 J**	**0.57 J**	**0.55 J**	5 UJ	**0.67 J**	5 U	**0.6 J**	5 U
Methylcyclohexane	1 UJ	1 U	1 U	1 U	25 U	1 UJ	1 UJ	1 UJ	1 UJ	1 U	1 U	1 U	1 U
Methylene chloride	**10 J**	**13 J**	1.1 UJ	1 U	25 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ
Styrene	1 UJ	1 U	1 U	1 U	25 U	1 UJ	1 UJ	1 UJ	1 UJ	1 U	1 U	1 U	1 U
1,1,2,2-Tetrachloroethane	1 UJ	1 U	1 U	1 U	25 U	1 UJ	1 UJ	1 UJ	1 UJ	1 U	1 U	1 U	1 U
Tetrachloroethene (PCE)	**0.65 J**	**0.95 J**	**1 J**	**1.1 J**	**320 J**	**0.51 J**	**0.82 J**	**1.3**	**0.82 J**	**1.5**	**1.2**	**1.5**	**1.3**
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	1 UJ	1 U	1 U	1 U	25 U	1 UJ	1 UJ	1 UJ	1 UJ	1 U	1 U	1 U	1 U
1,2,3-Trichlorobenzene	1 UJ	1 UJ	1 UJ	1 UJ	25 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ

Table 3
Summary of Storm Water Analytical Results
Gowanus Canal
Brooklyn, New York

Sample Location:	RH-034		RH-035											
Sample Type:	Discharge, Lab Filtered	Discharge, Unfiltered	Baseline, Lab Filtered	Baseline, Unfiltered	Baseline, Unfiltered	Discharge, Lab Filtered				Discharge, Unfiltered				
Sample Event:	Event 4	Event 4	Event 4	Event 4	Event 4	Event 4				Event 4				
Sample Name:	MH-RH-034-LFD4	MH-RH-034-WWD4	MH-RH-035-LFB4	MH-RH-035-WWB4	Duplicate of MH-RH-035-WWB4	MH-RH-035-LFD4				MH-RH-035-WWD4				
Sample Date:	1/31/2013	1/31/2013	1/31/2013	1/31/2013	1/31/2013	1/31/2013				1/31/2013				
1,2,4-Trichlorobenzene	1 UJ	1 UJ	1 UJ	1 U	25 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	
1,1,1-Trichloroethane	1 UJ	1 U	1 U	1 U	25 U	1 UJ	1 UJ	1 UJ	1 UJ	1 U	1 U	1 U	1 U	
1,1,2-Trichloroethane	1 UJ	1 U	1 U	1 U	25 U	1 UJ	1 UJ	1 UJ	1 UJ	1 U	1 U	1 U	1 U	
Trichloroethene (TCE)	**0.18 J**	1 U	**0.38 J**	**0.49 J**	**5.4 J**	**0.21 J**	**0.35 J**	**0.33 J**	**0.3 J**	**0.37 J**	**0.39 J**	**0.37 J**	**0.32 J**	
Trichlorofluoromethane (Freon 11)	1 UJ	1 U	1 U	1 U	25 U	1 UJ	1 UJ	1 UJ	1 UJ	1 U	1 U	1 U	1 U	
Vinyl chloride	1 UJ	1 U	1 U	1 U	25 U	1 UJ	1 UJ	1 UJ	1 UJ	1 U	1 U	1 U	1 U	
Total VOCs	**41.7**	**37.38**	**18.75**	**24.04**	**325.4**	**28.28**	**27.89**	**21.27**	**17.09**	**20.88**	**17.62**	**18.62**	**13.53**	
PAHs (ug/L)														
Acenaphthene	5.8 U	6.7 U	6.7 U	6.1 U	5.8 U	6 U				6.7 U				
Acenaphthylene	5.8 U	6.7 U	6.7 U	6.1 U	5.8 U	6 U				6.7 U				
Anthracene	5.8 U	6.7 U	6.7 U	6.1 U	5.8 U	6 U				6.7 U				
Benz[a]anthracene	5.8 U	6.7 U	6.7 U	6.1 U	5.8 U	6 U				6.7 U				
Benzo[a]pyrene	5.8 U	6.7 U	6.7 U	6.1 U	5.8 U	6 U				6.7 U				
Benzo[b]fluoranthene	5.8 U	6.7 U	6.7 U	6.1 U	5.8 U	6 U				6.7 U				
Benzo[g,h,i]perylene	5.8 U	6.7 U	6.7 U	6.1 U	5.8 U	6 U				6.7 U				
Benzo[k]fluoranthene	5.8 U	6.7 U	6.7 U	6.1 U	5.8 U	6 U				6.7 U				
Chrysene	5.8 U	6.7 U	6.7 U	6.1 U	5.8 U	6 U				6.7 U				
Dibenz[a,h]anthracene	5.8 U	6.7 U	6.7 U	6.1 U	5.8 U	6 U				6.7 U				
Fluoranthene	5.8 U	6.7 U	6.7 U	6.1 U	5.8 U	6 U				6.7 U				
Fluorene	5.8 U	6.7 U	6.7 U	6.1 U	5.8 U	6 U				6.7 U				
Indeno[1,2,3-cd]pyrene	5.8 U	6.7 U	6.7 U	6.1 U	5.8 U	6 U				6.7 U				
2-Methylnaphthalene	5.8 U	6.7 U	6.7 U	6.1 U	5.8 U	6 U				6.7 U				
Naphthalene	5.8 U	6.7 U	**1.2 J**	**1.7 J**	5.8 U	**0.98 J**				**1 J**				
Phenanthrene	5.8 U	6.7 U	6.7 U	6.1 U	5.8 U	6 U				6.7 U				
Pyrene	5.8 U	6.7 U	6.7 U	6.1 U	5.8 U	6 U				6.7 U				
Total PAH 17	ND	ND	**1.2**	**1.7**	ND	**0.98**				**1**				
Other SVOCs (ug/L)														
Acetophenone	29 U	33 U	33 U	30 U	29 U	30 U				34 U				
Atrazine	29 U	33 U	33 U	30 U	29 U	30 U				34 U				
Benzaldehyde	29 U	33 U	33 U	30 U	29 U	30 U				34 U				
1,1-Biphenyl	29 U	33 U	33 U	30 U	29 U	30 U				34 U				
Bis(chloroisopropyl)ether	5.8 UJ	6.7 UJ	6.7 UJ	6.1 UJ	5.8 UJ	6 UJ				6.7 UJ				
Bis(2-chloroethyl)ether	5.8 U	6.7 U	6.7 U	6.1 U	5.8 U	6 U				6.7 U				
Bis(2-chloroethoxy)methane	29 U	33 U	33 U	30 U	29 U	30 U				34 U				
Bis(2-ethylhexyl)phthalate	58 U	67 U	67 U	61 U	58 U	60 U				67 U				
4-Bromophenyl phenyl ether	29 U	33 U	33 U	30 U	29 U	30 U				34 U				
Butyl benzyl phthalate	29 U	33 U	33 U	30 U	29 U	30 U				34 U				
Caprolactam	140 U	170 U	170 U	150 U	140 U	150 U				170 U				
Carbazole	5.8 U	6.7 U	6.7 U	6.1 U	5.8 U	6 U				6.7 U				
4-Chloro-3-methylphenol	29 U	33 U	33 U	30 U	29 U	30 U				34 U				
4-Chloroaniline	29 U	33 U	33 U	30 U	29 U	30 U				34 U				
2-Chloronaphthalene	5.8 U	6.7 U	6.7 U	6.1 U	5.8 U	6 U				6.7 U				
2-Chlorophenol	29 U	33 U	33 U	30 U	29 U	30 U				34 U				
4-Chlorophenyl phenyl ether	29 U	33 U	33 U	30 U	29 U	30 U				34 U				
Dibenzofuran	29 U	33 U	33 U	30 U	29 U	30 U				34 U				
3,3-Dichlorobenzidine	29 U	33 U	33 U	30 U	29 U	30 U				34 U				
2,4-Dichlorophenol	5.8 U	6.7 U	6.7 U	6.1 U	5.8 U	6 U				6.7 U				
Diethyl phthalate	29 U	33 U	33 U	30 U	29 U	30 U				34 U				
Dimethyl phthalate	29 U	33 U	33 U	30 U	29 U	30 U				34 U				
2,4-Dimethylphenol	29 U	33 U	33 U	30 U	29 U	30 U				34 U				

Table 3
Summary of Storm Water Analytical Results
Gowanus Canal
Brooklyn, New York

Sample Location:	RH-034		RH-035				
Sample Type:	Discharge, Lab Filtered	Discharge, Unfiltered	Baseline, Lab Filtered	Baseline, Unfiltered	Baseline, Unfiltered	Discharge, Lab Filtered	Discharge, Unfiltered
Sample Event:	Event 4	Event 4	Event 4	Event 4	Event 4	Event 4	Event 4
Sample Name:	MH-RH-034-LFD4	MH-RH-034-WWD4	MH-RH-035-LFB4	MH-RH-035-WWB4	Duplicate of MH-RH-035-WWB4	MH-RH-035-LFD4	MH-RH-035-WWD4
Sample Date:	1/31/2013	1/31/2013	1/31/2013	1/31/2013	1/31/2013	1/31/2013	1/31/2013
Di-n-butyl phthalate	29 U	33 U	33 U	30 U	29 U	30 U	34 U
4,6-Dinitro-2-methylphenol	140 U	170 U	170 U	150 U	140 U	150 U	170 U
2,4-Dinitrophenol	140 UJ	170 UJ	170 UJ	150 UJ	140 UJ	150 UJ	170 UJ
2,4-Dinitrotoluene	29 U	33 U	33 U	30 U	29 U	30 U	34 U
2,6-Dinitrotoluene	29 U	33 U	33 U	30 U	29 U	30 U	34 U
Di-n-octyl phthalate	29 U	33 U	33 U	30 U	29 U	30 U	34 U
Hexachlorobenzene	5.8 U	6.7 U	6.7 U	6.1 U	5.8 U	6 U	6.7 U
Hexachlorobutadiene	5.8 U	6.7 U	6.7 U	6.1 U	5.8 U	6 U	6.7 U
Hexachlorocyclopentadiene	29 U	33 U	33 U	30 U	29 U	30 U	34 U
Hexachloroethane	29 U	33 U	33 U	30 U	29 U	30 U	34 U
Isophorone	29 U	33 U	33 U	30 U	29 U	30 U	34 U
2-Methylphenol (o-Cresol)	29 U	33 U	33 U	30 U	29 U	30 U	34 U
3,4-Methylphenol (m,p-Cresol)	29 U	33 U	**41**	**83**	**83**	**13 J**	**3.9 J**
2-Nitroaniline	140 U	170 U	170 U	150 U	140 U	150 U	170 U
3-Nitroaniline	140 U	170 U	170 U	150 U	140 U	150 U	170 U
4-Nitroaniline	140 U	170 U	170 U	150 U	140 U	150 U	170 U
Nitrobenzene	58 U	67 U	67 U	61 U	58 U	60 U	67 U
2-Nitrophenol	29 U	33 U	33 U	30 U	29 U	30 U	34 U
4-Nitrophenol	140 U	170 U	170 U	150 U	140 U	150 U	170 U
N-Nitrosodi-n-propylamine	5.8 UJ	6.7 UJ	6.7 UJ	6.1 UJ	5.8 UJ	6 UJ	6.7 UJ
N-Nitrosodiphenylamine	29 U	33 U	33 U	30 U	29 U	30 U	34 U
Pentachlorophenol	29 U	33 U	33 U	30 U	29 U	30 U	34 U
Phenol	5.8 U	6.7 U	**23**	**18 J**	**13 J**	**5.3 J**	**2 J**
1,2,4,5-Tetrachlorobenzene	29 U	33 U	33 U	30 U	29 U	30 U	34 U
2,3,4,6-Tetrachlorophenol	29 U	33 U	33 U	30 U	29 U	30 U	34 U
2,4,5-Trichlorophenol	29 U	33 U	33 U	30 U	29 U	30 U	34 U
2,4,6-Trichlorophenol	29 U	33 U	33 U	30 U	29 U	30 U	34 U
Total SVOCs	ND	ND	**65.2**	**102.7**	**96**	**19.28**	**6.9**
Alkylated PAHs (ug/L)							
Acenaphthene	**0.11885 J**	**0.18883**	**0.19617 J**	**0.48673 J**	**0.13671 J**	**0.14728 J**	**0.29751**
Acenaphthylene	0.01212 UJ	**0.03889**	0.01175 UJ	0.033 U	**0.04385 J**	0.00975 UJ	**0.04013**
Anthracene	**0.01094 J**	**0.07431**	**0.01051 J**	**0.06243 J**	**0.09578 J**	**0.01105 J**	**0.0951**
Benz[a]anthracene	**0.00433 J**	**0.22747**	**0.00645 J**	**0.0612 J**	**0.30141 J**	**0.00596 J**	**0.29679**
Benzo[a]pyrene	**0.00311 J**	**0.22237**	**0.00387 J**	**0.06167 J**	**0.28723 J**	**0.00368 J**	**0.27168**
Benzo[b]fluoranthene	**0.00444 J**	**0.29505**	**0.00603 J**	**0.04898 J**	**0.4869 J**	**0.00687 J**	**0.38507**
Benzo[e]pyrene	**0.00385 J**	**0.22631**	**0.00487 J**	**0.04426 J**	**0.35988 J**	**0.00617 J**	**0.29277**
Benzo[g,h,i]perylene	0.01218 UJ	**0.23517**	**0.00456 J**	**0.04383 J**	**0.34835 J**	**0.00421 J**	**0.30837**
Benzo[k]fluoranthene	**0.00361 J**	**0.24803**	**0.00539 J**	**0.05052 J**	**0.36965 J**	**0.00569 J**	**0.31966**
1,1-Biphenyl	**0.02321 J**	**0.03597**	**0.02295 J**	**0.05085 J**	**0.10376 J**	**0.02804 J**	**0.05516**
Chrysene	**0.00796 J**	**0.32908**	**0.0099 J**	**0.06852 J**	**0.51598 J**	**0.01288 J**	**0.44309**
C1-Chrysenes	**0.00587 J**	**0.17479**	**0.00845 J**	**0.04839 J**	**0.28226 J**	**0.01238 J**	**0.24022**
C2-Chrysenes	0.01223 UJ	**0.14497**	0.01166 UJ	**0.10369 J**	**0.79032 J**	0.00983 UJ	**0.20477**
C3-Chrysenes	0.01223 UJ	**0.16922**	0.01166 UJ	**0.07888 J**	**0.27418 J**	0.00983 UJ	**0.25988**
C4-Chrysenes	0.01223 UJ	0.01174 U	0.01166 UJ	0.02133 U	0.0227 U	0.00983 UJ	0.01992 U
Dibenz[a,h]anthracene	0.01207 UJ	**0.04419**	0.01151 UJ	**0.01054 J**	**0.06814**	0.00971 UJ	**0.05918**
Dibenzofuran	0.0122 UJ	**0.02825**	0.01496 UJ	**0.04466**	**0.06076**	0.01301 UJ	**0.04581**
Dibenzothiophene	**0.02101 J**	**0.04861**	**0.0095 J**	**0.04066 J**	**0.08755 J**	**0.02539 J**	**0.06638**
C1-Dibenzothiophenes	**0.02946 J**	**0.07323**	**0.01388 J**	**0.05273 J**	**0.17657 J**	**0.03913 J**	**0.09463**
C2-Dibenzothiophenes	**0.06621 J**	**0.15127**	**0.03053 J**	**0.07243 J**	**0.37245 J**	**0.08069 J**	**0.22897**
C3-Dibenzothiophenes	**0.06806 J**	**0.16822**	**0.08195 J**	**0.1981 J**	**0.79719 J**	**0.32945 J**	**0.26216**

Table 3
Summary of Storm Water Analytical Results
Gowanus Canal
Brooklyn, New York

Sample Location:	RH-034		RH-035				
Sample Type:	Discharge, Lab Filtered	Discharge, Unfiltered	Baseline, Lab Filtered	Baseline, Unfiltered	Baseline, Unfiltered	Discharge, Lab Filtered	Discharge, Unfiltered
Sample Event:	Event 4	Event 4	Event 4	Event 4	Event 4	Event 4	Event 4
Sample Name:	MH-RH-034-LFD4	MH-RH-034-WWD4	MH-RH-035-LFB4	MH-RH-035-WWB4	Duplicate of MH-RH-035-WWB4	MH-RH-035-LFD4	MH-RH-035-WWD4
Sample Date:	1/31/2013	1/31/2013	1/31/2013	1/31/2013	1/31/2013	1/31/2013	1/31/2013
C4-Dibenzothiophenes	**0.05908 J**	**0.12469**	0.01164 UJ	**0.06133 J**	**0.30578 J**	**0.05251 J**	**0.17078**
Fluoranthene	**0.02965 J**	**0.55977**	**0.02359 J**	**0.16147 J**	**0.86708 J**	**0.03535 J**	**0.7459**
C1-Fluoranthenes/pyrenes	**0.01472 J**	**0.23563**	**0.01407 J**	**0.09552 J**	**0.45766 J**	**0.0176 J**	**0.303**
C2-Fluoranthenes/pyrenes	0.01226 UJ	**0.23867**	0.01169 UJ	**0.07413 J**	**0.60585 J**	**0.04377 J**	**0.3381**
C3-Fluoranthenes/pyrenes	0.01226 UJ	**0.15201**	0.01169 UJ	**0.05287 J**	**0.36006 J**	0.00985 UJ	**0.23688**
C4-Fluoranthenes/pyrenes	0.01226 UJ	**0.12163**	0.01169 UJ	**0.03883 J**	**0.27205 J**	0.00985 UJ	**0.16424**
Fluorene	**0.04152 J**	**0.08214**	**0.03937 J**	**0.11881**	**0.14091**	**0.04036 J**	**0.11409**
C1-Fluorenes	**0.03232 J**	**0.07169**	**0.02107 J**	**0.05664 J**	**0.30952 J**	**0.02854 J**	**0.10457**
C2-Fluorenes	**0.05908 J**	**0.15644**	**0.05654 J**	**0.12545 J**	**0.8194 J**	**0.07429 J**	**0.25279**
C3-Fluorenes	**0.10259 J**	**0.22484**	**0.06231 J**	**0.15943 J**	**0.95085 J**	**0.07792 J**	**0.32499**
Indeno[1,2,3-cd]pyrene	0.01217 UJ	**0.20792**	**0.00259 J**	**0.03478 J**	**0.30706 J**	**0.0026 J**	**0.25937**
Naphthalene	0.24461 UJ	0.22029 U	1.2724 UJ	2.04176 U	0.24695 U	0.9776 UJ	1.23814 U
C1-Naphthalenes	0.15643 UJ	0.19377 U	0.24761 UJ	0.53272 U	0.47134 U	**0.26966 J**	0.4624 U
C2-Naphthalenes	**0.12214 J**	**0.24251**	**0.10376 J**	**0.29959 J**	**0.971 J**	**0.14395 J**	**0.38432**
C3-Naphthalenes	**0.07471 J**	**0.23319**	**0.06449 J**	**0.18101 J**	**1.12614 J**	**0.07765 J**	**0.32968**
C4-Naphthalenes	**0.06668 J**	**0.21335**	**0.0504 J**	**0.15425 J**	**0.94924 J**	**0.06643 J**	**0.27496**
Perylene	0.01223 UJ	**0.0571**	0.01166 UJ	**0.01128 J**	**0.07849 J**	0.00983 UJ	**0.07166**
Phenanthrene	**0.08215 J**	**0.46115**	**0.06222 J**	**0.35033 J**	**0.76319 J**	**0.08831 J**	**0.63035**
C1-Phenanthrenes/anthracenes	**0.12145 J**	**0.33417**	**0.03463 J**	**0.16706 J**	**0.96699 J**	**0.05337 J**	**0.47461**
C2-Phenanthrenes/anthracenes	**0.1712 J**	**0.38572**	**0.07869 J**	**0.14338 J**	**1.22151 J**	**0.09187 J**	**0.5249**
C3-Phenanthrenes/anthracenes	**0.02582 J**	**0.2403**	**0.02022 J**	**0.10342 J**	**0.75905 J**	**0.02657 J**	**0.36741**
C4-Phenanthrenes/anthracenes	**0.01821 J**	**0.11449**	**0.01351 J**	**0.04182 J**	**0.36227 J**	**0.01326 J**	**0.17552**
Pyrene	**0.02687 J**	**0.53644**	**0.02548 J**	**0.18156 J**	**0.83164 J**	**0.0318 J**	**0.6902**
Total PAH44	**1.4191**	**8.11808**	**1.08795**	**4.24203**	**19.38466**	**1.95468**	**11.20565**
PCBs (ug/L)							
Aroclor 1016	0.38 U	0.4 U	0.41 U	0.41 U	0.39 U	0.39 U	0.38 U
Aroclor 1221	0.38 U	0.4 U	0.41 U	0.41 U	0.39 U	0.39 U	0.38 U
Aroclor 1232	0.38 U	0.4 U	0.41 U	0.41 U	0.39 U	0.39 U	0.38 U
Aroclor 1242	0.38 U	0.4 U	0.41 U	0.41 U	0.39 U	0.39 U	0.38 U
Aroclor 1248	0.38 U	0.4 U	0.41 U	0.41 U	0.39 U	0.39 U	0.38 U
Aroclor 1254	0.38 U	0.4 U	0.41 U	0.41 U	0.39 U	0.39 U	0.38 U
Aroclor 1260	0.38 U	0.4 U	0.41 U	0.41 U	0.39 U	0.39 U	0.38 U
Aroclor 1262	0.38 U	0.4 U	0.41 U	0.41 U	0.39 U	0.39 U	0.38 U
Aroclor 1268	0.38 U	0.4 U	0.41 U	0.41 U	0.39 U	0.39 U	0.38 U
Total PCB Aroclors	ND	ND	ND	ND	ND	ND	ND
Pesticides (ug/L)							
Aldrin	0.047 U	0.05 U	0.051 U	0.051 U	0.049 U	0.049 U	0.047 U
alpha-BHC	0.047 U	0.05 U	0.051 U	0.051 U	0.049 U	0.049 U	0.047 U
beta-BHC	0.047 U	0.05 U	0.051 U	0.051 U	0.049 U	0.049 U	0.047 U
gamma-BHC	0.047 U	0.05 U	0.051 U	0.051 U	0.049 U	0.049 U	0.047 U
delta-BHC	0.047 U	0.05 U	0.051 U	0.051 U	0.049 U	0.049 U	0.047 U
alpha-chlordane	0.047 U	0.05 U	0.051 U	0.051 U	0.049 U	0.049 U	0.047 U
gamma-Chlordane	0.047 U	**0.27**	**0.21**	0.051 U	0.049 U	**0.064**	0.047 U
4,4-DDD	0.047 U	0.05 U	0.051 U	0.051 U	0.049 U	0.049 U	0.047 U
4,4'-DDE	0.047 U	0.05 U	0.051 U	0.051 U	0.049 U	0.049 U	0.047 U
4,4'-DDT	0.047 U	0.05 UJ	0.051 U	0.051 UJ	0.049 UJ	0.049 U	0.047 UJ
Dieldrin	0.047 U	0.05 U	0.051 U	0.051 U	0.049 U	0.049 U	0.047 U
Endosulfan I	0.047 U	0.05 U	0.051 U	0.051 U	0.049 U	0.049 U	0.047 U
Endosulfan II	0.047 U	0.05 U	0.051 U	0.051 U	0.049 U	0.049 U	0.047 U
Endosulfan sulfate	0.047 U	0.05 U	0.051 U	0.051 U	0.049 U	0.049 U	0.047 U

Table 3
Summary of Storm Water Analytical Results
Gowanus Canal
Brooklyn, New York

Sample Location:	RH-034		RH-035				
Sample Type:	Discharge, Lab Filtered	Discharge, Unfiltered	Baseline, Lab Filtered	Baseline, Unfiltered	Baseline, Unfiltered	Discharge, Lab Filtered	Discharge, Unfiltered
Sample Event:	Event 4	Event 4	Event 4	Event 4	Event 4	Event 4	Event 4
Sample Name:	MH-RH-034-LFD4	MH-RH-034-WWD4	MH-RH-035-LFB4	MH-RH-035-WWB4	Duplicate of MH-RH-035-WWB4	MH-RH-035-LFD4	MH-RH-035-WWD4
Sample Date:	1/31/2013	1/31/2013	1/31/2013	1/31/2013	1/31/2013	1/31/2013	1/31/2013
Endrin	0.047 U	0.05 U	0.051 U	0.051 U	0.049 U	0.049 U	0.047 U
Endrin aldehyde	0.047 U	0.05 U	0.051 U	0.051 U	0.049 U	0.049 U	0.047 U
Endrin ketone	0.047 U	0.05 U	0.051 U	0.051 U	0.049 U	0.049 U	0.047 U
Heptachlor	0.047 U	0.05 U	0.051 U	0.051 U	0.049 U	0.049 U	0.047 U
Heptachlor epoxide	0.047 U	0.05 U	0.051 U	0.051 U	0.049 U	0.049 U	0.047 U
Methoxychlor	0.094 U	0.099 U	0.1 U	0.1 U	0.098 U	0.097 U	0.094 U
Toxaphene	3.8 U	4 U	4.1 U	4.1 U	3.9 U	3.9 U	3.8 U
Herbicides (ug/L)							
2,4-D	4.4 UJ	4 UJ	4.2 UJ	4.1 UJ	3.8 UJ	4.2 UJ	3.8 UJ
2,4-DB	4.4 UJ	4 U	4.2 UJ	4.1 U	3.8 U	4.2 UJ	3.8 U
Dicamba	2.2 UJ	2 UJ	2.1 UJ	2 UJ	1.9 UJ	2.1 UJ	1.9 UJ
Dichloroprop	4.4 UJ	4 UJ	4.2 UJ	4.1 UJ	3.8 UJ	4.2 UJ	3.8 UJ
2,2-Dichloropropionic acid	5.6 UJ	5 UJ	5.3 UJ	5.1 UJ	4.8 UJ	5.3 UJ	4.7 UJ
Dinoseb	R	0.89 U	R	R	0.87 U	R	R
MCPP	440 UJ	400 U	420 UJ	410 UJ	380 U	420 UJ	380 UJ
Methylchlorophenoxyacetic acid	440 UJ	400 U	420 UJ	410 U	380 U	420 UJ	380 U
Silvex	1.1 UJ	0.99 UJ	1.1 UJ	1 UJ	0.96 UJ	1.1 UJ	0.94 UJ
2,4,5-Trichlorophenoxyacetic Acid	1.1 UJ	0.99 UJ	1.1 UJ	1 UJ	0.96 UJ	1.1 UJ	0.94 UJ
Dissolved Metals (ug/L)							
Antimony	2 U	2 U	2 U	2 U	**2.4**	2 U	2 U
Aluminum	**160**	30 U	**460**	**64 J**	**600 J**	**110**	**190**
Arsenic	**6.4 J**	**6.5 J**	**14 J**	1.3 U	2 U	**7.4 J**	2.1 U
Barium	**23**	**15**	**32**	**21 J**	**54 J**	**35**	**25**
Beryllium	1 U	1 U	1 U	1 U	**0.043 J**	1 U	1 U
Cadmium	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Calcium	**13000**	**15000 J**	**21000**	**18000 J**	**25000 J**	**21000**	**19000**
Chromium	2 U	2.6 U	2 U	2.9 U	**5.4 J**	3 U	**4.3 J**
Cobalt	0.5 U	0.5 U	0.5 U	0.5 UJ	**1.5 J**	**0.69**	**0.55**
Copper	**6.2**	**3.4**	**13**	**26 J**	**55 J**	**7.1**	**24**
Iron	**370 J**	**76 J**	**780 J**	**410 J**	**2200 J**	**1000 J**	**740 J**
Lead	**2.4**	1 U	**3.3**	**3.8 J**	**57 J**	**2.8**	**8.5**
Magnesium	**3900**	**4200 J**	**18000**	**16000 J**	**5000 J**	**8700**	**13000 J**
Manganese	**38**	**40**	**71**	**56 J**	**96 J**	**59**	**52**
Mercury	0.2 U	0.2 U	0.2 U	0.2 U	**0.27**	0.2 U	0.2 U
Nickel	**1.9**	**1.5**	**2.3**	**2.2 J**	**4.8 J**	**4.5**	**2.5**
Potassium	**3500**	**3700 J**	**12000**	**12000 J**	**7200 J**	**6300**	**9100 J**
Selenium	5 U	5 U	5 U	5 U	5 U	5 U	**0.51 J**
Silver	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Sodium	**61000 J**	**70000 J**	**160000 J**	**150000**	**140000 J**	**120000 J**	**140000 J**
Thallium	1 U	1 U	1 U	1 U	1 U	1 U	**1.5**
Vanadium	1.1 UJ	14 UJ	1 UJ	1 U	3.2 UJ	1 UJ	2 UJ
Zinc	**48**	**45**	**29**	**49 J**	**210 J**	**23**	**75**
Total Metals (ug/L)							
Antimony	NA	**2.5 J**	NA	2 UJ	**4.5 J**	NA	**3 J**
Aluminum	NA	**1000 J**	NA	**1200 J**	**1500 J**	NA	**1400 J**
Arsenic	NA	**3.3 J**	NA	**2.1**	**2.6**	NA	**4**
Barium	NA	**45**	NA	**60 J**	**110 J**	NA	**63**
Beryllium	NA	1 U	NA	1 U	1 U	NA	1 U
Cadmium	NA	1 U	NA	1 U	**1.5**	NA	1 U
Calcium	NA	**14000**	NA	**23000 J**	**32000 J**	NA	**23000**

Table 3
Summary of Storm Water Analytical Results
Gowanus Canal
Brooklyn, New York

Sample Location:	RH-034		RH-035				
Sample Type:	Discharge, Lab Filtered	Discharge, Unfiltered	Baseline, Lab Filtered	Baseline, Unfiltered	Baseline, Unfiltered	Discharge, Lab Filtered	Discharge, Unfiltered
Sample Event:	Event 4	Event 4	Event 4	Event 4	Event 4	Event 4	Event 4
Sample Name:	MH-RH-034-LFD4	MH-RH-034-WWD4	MH-RH-035-LFB4	MH-RH-035-WWB4	Duplicate of MH-RH-035-WWB4	MH-RH-035-LFD4	MH-RH-035-WWD4
Sample Date:	1/31/2013	1/31/2013	1/31/2013	1/31/2013	1/31/2013	1/31/2013	1/31/2013
Chromium	NA	**6.3**	NA	**6.5**	**8.1**	NA	**7.6**
Cobalt	NA	**1.1 J**	NA	**1.7 J**	**2.9 J**	NA	**1.7 J**
Copper	NA	**56**	NA	**64 J**	**130 J**	NA	**84**
Iron	NA	**2900**	NA	**4800**	**5000**	NA	**4000**
Lead	NA	**52**	NA	**45 J**	**160 J**	NA	**66**
Magnesium	NA	**4400**	NA	**17000 J**	**5000 J**	NA	**10000 J**
Manganese	NA	**55**	NA	**93 J**	**150 J**	NA	**80**
Mercury	NA	**0.11 J**	NA	0.2 UJ	**0.74 J**	NA	**0.62**
Nickel	NA	**5.1 J**	NA	**10 J**	**8.7 J**	NA	**6.9 J**
Potassium	NA	**3700**	NA	**11000 J**	**7400 J**	NA	**6700 J**
Selenium	NA	5 U	NA	5 U	5 U	NA	5 U
Silver	NA	1 U	NA	**1.7**	**2.1**	NA	1 U
Sodium	NA	**54000 J**	NA	**130000 J**	**140000 J**	NA	**120000 J**
Thallium	NA	1 U	NA	1 U	1 U	NA	1 U
Vanadium	NA	**4.4**	NA	**4.2 J**	**6.3 J**	NA	**5.9**
Zinc	NA	**220 J**	NA	**300 J**	**430 J**	NA	**290 J**
Cyanides (ug/L)							
Free Cyanide	5 U	5 U	5 U	5 U	5 U	5 U	5 U
EDCs and PPCPs (Phenols) (ug/L)							
Bisphenol A	**0.78 J**	**1.3**	0.46 UJ	0.47 UJ	**2.9 J**	**1 J**	**2.1**
Nonylphenol	2.3 UJ	**10**	2.3 UJ	**4.8**	**4.2**	2 UJ	**7**
Nonylphenol Diethoxylate	8.9 UJ	8.9 U	9.1 UJ	9.4 U	8 U	8 UJ	8 U
Nonylphenol Monoethoxylate	4.5 UJ	**6.4**	4.6 UJ	4.7 UJ	**7.3 J**	4 UJ	**5.4**
4-tert-Octylphenol	0.45 UJ	0.45 U	0.46 UJ	0.47 U	0.4 U	0.4 UJ	0.4 U
EDCs and PPCPs (ug/L)							
Acetaminophen	**5.4 J**	**5.5**	**47 J**	**68 J**	**32 J**	**14 J**	**14**
alpha-Estradiol	0.02 UJ	0.02 UJ	0.02 UJ	0.02 UJ	0.02 U	0.02 UJ	0.02 UJ
Androstenedione	**0.02 J**	**0.038**	**0.066 J**	**0.088 J**	**0.076 J**	**0.024 J**	0.1 U
Atrazine	0.01 UJ	0.01 U	**0.0027 J**	0.1 U	0.1 U	**0.0025 J**	0.1 U
Bisphenol A	**0.93 J**	**1.2**	**0.38 J**	**0.4 J**	**2.9 J**	**1.2 J**	**1.6**
Caffeine	**6.1 J**	**6.8**	**81 J**	**81 J**	**45 J**	**16 J**	**18**
Carbamazepine	**0.067 J**	**0.079**	**0.093 J**	**0.13**	**0.17**	**0.076 J**	**0.15**
DEET (N,N-Diethyl-3-Methyl Benzamide)	0.32 UJ	0.37 U	0.18 UJ	0.5 U	0.5 U	0.26 UJ	0.5 U
Diazepam	0.01 UJ	0.01 U	0.01 UJ	0.1 U	0.1 U	0.01 UJ	0.1 U
Diclofenac	**0.0068 J**	**0.0097 J**	**0.1 J**	**0.11 J**	**0.059 J**	**0.014 J**	**0.013 J**
Diethylstilbestrol	0.02 UJ	0.02 U	0.2 UJ	0.02 U	**0.024**	0.02 UJ	0.02 U
Estradiol	0.02 UJ	0.02 U	**0.012 J**	**0.0098 J**	**0.014 J**	0.02 UJ	**0.01 J**
Estriol	**0.041 J**	**0.034**	**0.18 J**	**0.17**	**0.17**	**0.064 J**	**0.061**
Estrone	0.05 UJ	0.05 U	0.5 UJ	0.5 U	**0.035 J**	0.05 UJ	0.05 U
Ethinyl Estradiol	0.02 UJ	0.02 U	0.02 UJ	0.02 U	0.02 U	0.02 UJ	**0.01 J**
Fluoxetine	**0.0065 J**	**0.012 J**	**0.018 J**	**0.041 J**	**0.11 J**	0.1 UJ	**0.014 J**
Gemfibrozil	**0.1 J**	**0.11 J**	**0.35 J**	**0.4 J**	**0.87 J**	**0.16 J**	**0.14 J**
Hydrocodone	0.05 UJ	0.5 U	0.05 UJ	0.5 U	0.5 U	0.05 UJ	0.5 U
Ibuprofen	**1.4 J**	**1.3**	**11 J**	**15 J**	**9.1 J**	**2.7 J**	**2.9**
Iopromide	**0.017 J**	**0.013 J**	**0.019 J**	**0.089 J**	**0.17 J**	**0.089 J**	**0.11 J**
Meprobamate	0.01 UJ	0.1 U	**0.019 J**	0.1 U	0.1 U	**0.0093 J**	0.1 U
Methadone	0.5 UJ	0.5 U	0.05 UJ	**0.068 J**	**0.045 J**	0.5 UJ	**0.039 J**
Naproxen	**0.93 J**	**1**	**8.7 J**	**9.9 J**	**5 J**	**2.2 J**	**2**
Oxybenzone	0.16 UJ	0.19 U	**1 J**	1.4 U	0.85 U	0.33 UJ	1.3 U
Pentoxifylline	0.01 UJ	0.01 U	0.01 UJ	0.1 U	0.1 U	0.01 UJ	0.1 U

Table 3
Summary of Storm Water Analytical Results
Gowanus Canal
Brooklyn, New York

Sample Location:	RH-034		RH-035				
Sample Type:	Discharge, Lab Filtered	Discharge, Unfiltered	Baseline, Lab Filtered	Baseline, Unfiltered	Baseline, Unfiltered	Discharge, Lab Filtered	Discharge, Unfiltered
Sample Event:	Event 4	Event 4	Event 4	Event 4	Event 4	Event 4	Event 4
Sample Name:	MH-RH-034-LFD4	MH-RH-034-WWD4	MH-RH-035-LFB4	MH-RH-035-WWB4	Duplicate of MH-RH-035-WWB4	MH-RH-035-LFD4	MH-RH-035-WWD4
Sample Date:	1/31/2013	1/31/2013	1/31/2013	1/31/2013	1/31/2013	1/31/2013	1/31/2013
Phenytoin (5,5-Diphenylhydantion / Dilantin)	**0.12 J**	**0.074 J**	**0.056 J**	**0.064 J**	0.2 UJ	**0.029 J**	**0.078 J**
Progesterone	**0.089 J**	**0.046**	NA	**0.11 J**	**0.12 J**	**0.1 J**	**0.12 J**
Salicylic Acid	**1.7 J**	2 U	**42 J**	**38 J**	**17 J**	**5.9 J**	**7.5**
Sulfamethoxazole	**0.031 J**	**0.034**	**0.31 J**	**0.28**	**0.18**	**0.14 J**	**0.12**
Testosterone	**0.034 J**	**0.024**	**0.093 J**	0.2 U	**0.13 J**	**0.049 J**	0.2 U
Triclosan	0.5 UJ	R	5 UJ	5 UJ	5 UJ	R	R
Trimethoprim	0.05 UJ	0.05 UJ	**0.19 J**	**0.24 J**	**0.13 J**	**0.098 J**	**0.08 J**
Pathogen							
C. perfringens (cfu/100mL)	NA	NA	**120000**	**170000**	NA	**130000**	**100000**
Coliphage, Male Specific (pfu/100mL)	NA	NA	**360000**	**300000**	NA	**21000**	**34500**
Coliphage, Somatic (pfu/100mL)	NA	NA	**37000 J**	**55000 J**	NA	**7500 J**	**6000 J**
Cryptosporidium (oocysts/L)	NA	NA	0 UJ	0 UJ	NA	R	0 UJ
E.Coli (mpn/100mL)	NA	NA	**1750000**	**2880000**	NA	**648800**	**727000**
Enterococci (mpn/100mL)	NA	NA	**770100**	**7800000**	NA	**203500**	**214200**
Enterovirus (pos/neg)	NA	NA	NA	NA	NA	NA	NA
Fecal Coliform (mpn/100mL)	NA	NA	**1460000**	**3410000**	NA	**920800**	**1220000**
Giardia (cysts/L)	NA	NA	**110 J**	**575 J**	NA	**17 J**	**75 J**
Plaque forming virus (pfu//1 mL)	NA	NA	NA	NA	NA	NA	NA
Plaque forming virus (pfu/125 mL)	NA	NA	NA	NA	NA	NA	NA
Plaque forming virus (pfu/165.5 mL)	NA	NA	NA	NA	NA	NA	NA
Plaque forming virus (pfu/182.5 mL)	NA	NA	**Toxic**	NA	NA	NA	NA
Plaque forming virus (pfu/185.5 mL)	NA	NA	NA	NA	NA	NA	NA
Plaque forming virus (pfu/187.5 mL)	NA	NA	NA	NA	NA	NA	NA
Plaque forming virus (pfu/197.5 mL)	NA	NA	NA	NA	NA	NA	NA
Plaque forming virus (pfu/199.5 mL)	NA	NA	NA	NA	NA	NA	NA
Plaque forming virus (pfu/200 mL)	NA	NA	NA	**Toxic**	NA	NA	NA
Plaque forming virus (pfu/200.5 mL)	NA	NA	NA	NA	NA	NA	NA
Plaque forming virus (pfu/201 mL)	NA	NA	NA	NA	NA	NA	NA
Plaque forming virus (pfu/201.5 mL)	NA	NA	NA	NA	NA	NA	**Toxic**
Plaque forming virus (pfu/202 mL)	NA	NA	NA	NA	NA	NA	NA
Plaque forming virus (pfu/203 mL)	NA	NA	NA	NA	NA	NA	NA
Plaque forming virus (pfu/204 mL)	NA	NA	NA	NA	NA	0 U	NA
Plaque forming virus (pfu/205 mL)	NA	NA	NA	NA	NA	NA	NA
Viruses (pos/neg)	NA	NA	neg	neg	NA	neg	**pos**
Other (ug/L)							
Ammonia	**1800 J**	**2500 J**	**23000 J**	**15000 J**	**5900 J**	**5200 J**	**4500 J**
Calcium hardness as calcium carbonate	NA	NA	NA	NA	NA	NA	NA
Dissolved Organic Carbon	**8500 J**	**11000**	**47000**	**45000 J**	**14000 J**	**17000**	**14000**
Hardness as calcium carbonate	**49000**	**53000**	**130000**	**130000**	**100000**	**88000**	**100000**
Magnesium hardness as calcium carbonate	NA	NA	NA	NA	NA	NA	NA
pH (s.u.)	**6.41 J**	**6.59 J**	**6.66 J**	**6.79 J**	**6.75 J**	**6.55 J**	**6.66 J**
Sediment Concentration	NA	**76000**	NA	**150000**	**160000**	NA	**210000**
Specific Conductance (umhos/cm)	**490**	**490**	**2000**	**1700**	**1300**	**1000**	**1000**
Total Dissolved Solids	NA	**260000 J**	NA	**570000 J**	**540000 J**	NA	**440000 J**
Total Organic Carbon	**8300**	**15000**	**50000**	**58000**	**70000**	**18000**	**23000**
Total Petroleum Hydrocarbons	310.4 UJ	**4011.56**	**839.6 J**	**5979.69 J**	**11406.84 J**	**471.34 J**	**7101.74**
Total Suspended Solids	NA	**93000**	NA	**210000 J**	**340000 J**	NA	**240000**
Turbidity (ntu)	NA	**97 J**	NA	**53 J**	**190 J**	NA	**120 J**

Table 3
Summary of Storm Water Analytical Results
Gowanus Canal
Brooklyn, New York

Sample Location:	Owl's Head Water Treatment Plant								Red Hook Water Treatment Plant							
Sample Type:	Discharge, Lab Filtered				Discharge, Unfiltered				Discharge, Lab Filtered				Discharge, Unfiltered			
Sample Event:	Event 4				Event 4				Event 4				Event 4			
Sample Name:	WTP-OH-LFD4				WTP-OH-WWD4				WTP-RH-LFD4				WTP-RH-WWD4			
Sample Date:	1/31/2013				1/31/2013				1/31/2013				1/31/2013			
BTEX (ug/L)																
Benzene	1 UJ	1 UJ	1 UJ	1 UJ	1 U	1 U	1 U	1 U	**0.55 J**	**0.12 J**	**0.12 J**	**0.11 J**	**0.91 J**	**0.3 J**	**0.19 J**	**0.24 J**
Toluene	**3.3**	**9.5**	**7.4**	**4.7**	**4.9**	**14**	**8.8**	**13**	**1.7**	**1.8**	**4.2**	**4.8**	**3.9**	**7**	**7.9**	**7.7**
Ethylbenzene	1 UJ	1 UJ	1 UJ	1 UJ	**0.24 J**	1 U	**0.48 J**	**0.38 J**	1 UJ	1 UJ	1 UJ	1 UJ	1 U	1 U	1 U	1 U
m,p-Xylene	**0.49 J**	**0.41 J**	2 UJ	**0.42 J**	**0.83 J**	**0.55 J**	**1.4 J**	**1.7 J**	2 UJ	2 UJ	2 UJ	2 UJ	2 U	2 U	**0.69 J**	2 U
o-Xylene	**0.23 J**	**0.16 J**	**0.22 J**	**0.13 J**	**0.32 J**	**0.22 J**	**0.49 J**	**0.46 J**	1 UJ	1 UJ	**0.14 J**	1 UJ	**0.12 J**	**0.17 J**	**0.28 J**	**0.14 J**
Total Xylene	**0.72 J**	**0.57 J**	**0.62 J**	**0.55 J**	**1.2 J**	**0.77 J**	**1.9 J**	**2.1 J**	3 UJ	3 UJ	3 UJ	3 UJ	3 U	**0.54 J**	**0.98 J**	3 U
Total BTEX	**4.02**	**10.07**	**8.24**	**5.25**	**6.34**	**14.77**	**11.18**	**15.48**	**2.25**	**1.92**	**4.46**	**4.91**	**4.93**	**8.01**	**9.07**	**8.08**
Other VOCs (ug/L)																
Acetone	**33 J**	**26 J**	**16 J**	**29 J**	**35**	**29**	**14**	**10**	**23 J**	**16 J**	**12 J**	**16 J**	**31 J**	**12**	**8.5**	**7.8**
Bromochloromethane	1 UJ	1 UJ	1 UJ	1 UJ	1 U	1 U	1 U	1 U	1 UJ	1 UJ	1 UJ	1 UJ	1 U	1 U	1 U	1 U
Bromodichloromethane	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 U	1 UJ	1 UJ	1 UJ
Bromoform	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ
Bromomethane	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 U	1 UJ	1 UJ	1 UJ
2-Butanone (Methyl ethyl ketone)	5 UJ	5 UJ	5 UJ	5 UJ	5 U	5 U	5 U	5 U	5 UJ	5 UJ	5 UJ	5 UJ	5 U	5 U	5 U	5 U
Carbon disulfide	1 UJ	1 UJ	**0.38 J**	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	**0.23 J**	1 UJ	1 UJ	1 UJ	1 UJ
Carbon tetrachloride	1 UJ	1 UJ	1 UJ	1 UJ	1 U	1 U	1 U	1 U	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 U	1 U	1 U
Chlorobenzene	1 UJ	1 UJ	1 UJ	1 UJ	1 U	1 U	1 U	1 U	1 UJ	1 UJ	1 UJ	1 UJ	1 U	1 U	1 U	1 U
Chloroethane	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 U	1 UJ	1 UJ	1 UJ
Chloroform	**2.2**	**2.3**	**1.1**	**0.66 J**	**2.7**	**2.7**	**1.1**	**0.68 J**	**2.1**	**0.62 J**	**0.47 J**	**0.64 J**	**2.8**	**1.1**	**0.56 J**	**0.65 J**
Chloromethane	1 UJ	1 UJ	1 UJ	1 UJ	1 U	1 U	1 U	1 U	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 U	1 U	1 U
Cyclohexane	1 UJ	1 UJ	1 UJ	1 UJ	1 U	1 U	1 U	1 U	1 UJ	1 UJ	1 UJ	1 UJ	1 U	1 U	1 U	1 U
1,2-Dibromo-3-chloropropane	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ
Dibromochloromethane	1 UJ	1 UJ	1 UJ	1 UJ	1 U	1 U	1 U	1 U	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 U	1 U	1 U
1,2-Dibromoethane (EDB)	1 UJ	1 UJ	1 UJ	1 UJ	1 U	1 U	1 U	1 U	1 UJ	1 UJ	1 UJ	1 UJ	1 U	1 U	1 U	1 U
1,2-Dichlorobenzene	1 UJ	1 UJ	1 UJ	1 UJ	1 U	1 U	1 U	1 U	1 UJ	1 UJ	1 UJ	1 UJ	1 U	1 U	1 U	1 U
1,3-Dichlorobenzene	1 UJ	1 UJ	1 UJ	1 UJ	1 U	1 U	1 U	1 U	1 UJ	1 UJ	1 UJ	1 UJ	1 U	1 U	1 U	1 U
1,4-Dichlorobenzene	1 UJ	1 UJ	1 UJ	**0.21 J**	**0.26 J**	**0.22 J**	**0.24 J**	**0.27 J**	1 UJ	1 UJ	1 UJ	1 UJ	1 U	1 U	1 U	**0.22 J**
Dichlorodifluoromethane (Freon 12)	1 UJ	1 UJ	1 UJ	1 UJ	1 U	1 U	1 U	1 U	1 UJ	1 UJ	1 UJ	1 UJ	1 U	1 U	1 U	1 U
1,1-Dichloroethane	1 UJ	1 UJ	1 UJ	1 UJ	1 U	1 U	1 U	1 U	1 UJ	1 UJ	1 UJ	1 UJ	1 U	1 U	1 U	1 U
1,2-Dichloroethane	1 UJ	1 UJ	1 UJ	1 UJ	1 U	1 U	1 U	1 U	1 UJ	1 UJ	1 UJ	1 UJ	1 U	1 U	1 U	1 U
1,1-Dichloroethene	1 UJ	1 UJ	1 UJ	1 UJ	1 U	1 U	1 U	1 U	1 UJ	1 UJ	1 UJ	1 UJ	1 U	1 U	1 U	1 U
cis-1,2-Dichloroethene	1 UJ	**0.38 J**	**0.33 J**	**0.28 J**	**0.37 J**	**0.39 J**	**0.29 J**	1 U	**0.25 J**	1 UJ	1 UJ	1 UJ	**0.32 J**	1 U	1 U	**0.24 J**
trans-1,2-Dichloroethene	1 UJ	1 UJ	1 UJ	1 UJ	1 U	1 U	1 U	1 U	1 UJ	1 UJ	1 UJ	1 UJ	1 U	1 U	1 U	1 U
1,2-Dichloropropane	1 UJ	1 UJ	1 UJ	1 UJ	1 U	1 U	1 U	1 U	1 UJ	1 UJ	1 UJ	1 UJ	1 U	1 U	1 U	1 U
cis-1,3-Dichloropropene	1 UJ	1 UJ	1 UJ	1 UJ	1 U	1 U	1 U	1 U	1 UJ	1 UJ	1 UJ	1 UJ	1 U	1 U	1 U	1 U
trans-1,3-Dichloropropene	1 UJ	1 UJ	1 UJ	1 UJ	1 U	1 U	1 U	1 U	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 U	1 U	1 U
1,4-Dioxane	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
2-Hexanone	5 UJ	5 UJ	5 UJ	5 UJ	5 U	5 U	5 U	5 U	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 U	5 U	5 U
Isopropyl benzene	1 UJ	1 UJ	1 UJ	1 UJ	1 U	1 U	**0.24 J**	1 U	1 UJ	1 UJ	1 UJ	1 UJ	1 U	1 U	1 U	1 U
Methyl acetate	1 UJ	**1.1**	1 UJ	1 UJ	1 U	1 U	1 U	1 U	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 U	1 U	1 U
Methyl tert-butyl ether (MTBE)	1 UJ	1 UJ	1 UJ	1 UJ	1 U	1 U	1 U	1 U	1 UJ	1 UJ	1 UJ	**0.95 J**	1 U	1 U	1 U	**1.2**
4-Methyl-2-pentanone (MIBK)	**0.69 J**	**0.54 J**	5 UJ	5 UJ	**0.71 J**	**0.63 J**	5 U	5 U	**0.55 J**	**0.58 J**	5 UJ	5 UJ	**0.81 J**	**0.75 J**	**0.57 J**	5 U
Methylcyclohexane	1 UJ	1 UJ	1 UJ	1 UJ	1 U	1 U	1 U	1 U	1 UJ	1 UJ	1 UJ	1 UJ	1 U	1 U	1 U	1 U
Methylene chloride	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ
Styrene	1 UJ	1 UJ	1 UJ	1 UJ	1 U	1 U	**0.12 J**	1 U	1 UJ	1 UJ	1 UJ	1 UJ	1 U	1 U	1 U	1 U
1,1,2,2-Tetrachloroethane	1 UJ	1 UJ	1 UJ	1 UJ	1 U	1 U	1 U	1 U	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 U	1 U	1 U
Tetrachloroethene (PCE)	**2**	**2.3**	**1**	**6.4**	**3.2**	**3.2**	**1.4**	**5.1**	**0.63 J**	**0.54 J**	**0.6 J**	**2.4**	**1.1**	**1.3**	**0.81 J**	**3.2**
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	1 UJ	1 UJ	1 UJ	1 UJ	1 U	1 U	1 U	1 U	1 UJ	1 UJ	1 UJ	1 UJ	1 U	1 U	1 U	1 U
1,2,3-Trichlorobenzene	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ

Table 3
Summary of Storm Water Analytical Results
Gowanus Canal
Brooklyn, New York

Sample Location:	Owl's Head Water Treatment Plant								Red Hook Water Treatment Plant							
Sample Type:	Discharge, Lab Filtered				Discharge, Unfiltered				Discharge, Lab Filtered				Discharge, Unfiltered			
Sample Event:	Event 4				Event 4				Event 4				Event 4			
Sample Name:	WTP-OH-LFD4				WTP-OH-WWD4				WTP-RH-LFD4				WTP-RH-WWD4			
Sample Date:	1/31/2013				1/31/2013				1/31/2013				1/31/2013			
1,2,4-Trichlorobenzene	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ
1,1,1-Trichloroethane	**1.2**	**0.75 J**	1 UJ	1 UJ	**1.5**	**0.95 J**	1 U	**0.38 J**	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 U	1 U	1 U
1,1,2-Trichloroethane	1 UJ	1 UJ	1 UJ	1 UJ	1 U	1 U	1 U	1 U	1 UJ	1 UJ	1 UJ	1 UJ	1 U	1 U	1 U	1 U
Trichloroethene (TCE)	**0.25 J**	**0.14 J**	1 UJ	1 UJ	**0.26 J**	**0.25 J**	1 U	1 U	**0.36 J**	**0.2 J**	**0.24 J**	**0.26 J**	**0.62 J**	**0.37 J**	**0.58 J**	**0.25 J**
Trichlorofluoromethane (Freon 11)	1 UJ	1 UJ	1 UJ	1 UJ	1 U	1 U	1 U	1 U	1 UJ	1 UJ	1 UJ	1 UJ	1 U	1 U	1 U	1 U
Vinyl chloride	1 UJ	1 UJ	1 UJ	1 UJ	1 U	1 U	1 U	1 U	1 UJ	1 UJ	1 UJ	1 UJ	1 U	1 U	1 U	1 U
Total VOCs	**44.08**	**44.15**	**27.05**	**42.35**	**51.49**	**52.88**	**30.46**	**34.07**	**29.14**	**19.86**	**17.77**	**25.39**	**41.58**	**23.53**	**21.06**	**21.64**
PAHs (ug/L)																
Acenaphthene	6 U				5.9 U				6.5 U				6.4 U			
Acenaphthylene	6 U				5.9 U				6.5 U				6.4 U			
Anthracene	6 U				5.9 U				6.5 U				6.4 U			
Benz[a]anthracene	6 U				5.9 U				6.5 U				6.4 U			
Benzo[a]pyrene	6 U				5.9 U				6.5 U				6.4 U			
Benzo[b]fluoranthene	6 U				5.9 U				6.5 U				6.4 U			
Benzo[g,h,i]perylene	6 U				5.9 U				6.5 U				6.4 U			
Benzo[k]fluoranthene	6 U				5.9 U				6.5 U				6.4 U			
Chrysene	6 U				5.9 U				6.5 U				6.4 U			
Dibenz[a,h]anthracene	6 U				5.9 U				6.5 U				6.4 U			
Fluoranthene	6 U				5.9 U				6.5 U				6.4 U			
Fluorene	6 U				5.9 U				6.5 U				6.4 U			
Indeno[1,2,3-cd]pyrene	6 U				5.9 U				6.5 U				6.4 U			
2-Methylnaphthalene	6 U				5.9 U				6.5 U				6.4 U			
Naphthalene	6 U				5.9 U				6.5 U				6.4 U			
Phenanthrene	6 U				5.9 U				6.5 U				6.4 U			
Pyrene	6 U				5.9 U				6.5 U				6.4 U			
Total PAH 17	ND				ND				ND				ND			
Other SVOCs (ug/L)																
Acetophenone	30 U				30 U				33 U				32 U			
Atrazine	30 U				30 U				33 U				32 U			
Benzaldehyde	30 U				30 U				33 U				32 U			
1,1-Biphenyl	30 U				30 U				33 U				32 U			
Bis(chloroisopropyl)ether	6 UJ				5.9 UJ				6.5 U				6.4 UJ			
Bis(2-chloroethyl)ether	6 U				5.9 U				6.5 UJ				6.4 U			
Bis(2-chloroethoxy)methane	30 U				30 U				33 U				32 U			
Bis(2-ethylhexyl)phthalate	60 U				59 U				65 U				64 U			
4-Bromophenyl phenyl ether	30 U				30 U				33 U				32 U			
Butyl benzyl phthalate	30 U				30 U				33 U				32 U			
Caprolactam	150 U				150 U				160 U				160 U			
Carbazole	6 U				5.9 U				6.5 U				6.4 U			
4-Chloro-3-methylphenol	30 U				30 U				33 U				32 U			
4-Chloroaniline	30 U				30 U				33 U				32 U			
2-Chloronaphthalene	6 U				5.9 U				6.5 U				6.4 U			
2-Chlorophenol	30 U				30 U				33 U				32 U			
4-Chlorophenyl phenyl ether	30 U				30 U				33 U				32 U			
Dibenzofuran	30 U				30 U				33 U				32 U			
3,3-Dichlorobenzidine	30 U				30 U				33 U				32 U			
2,4-Dichlorophenol	6 U				5.9 U				6.5 U				6.4 U			
Diethyl phthalate	30 U				30 U				33 U				32 U			
Dimethyl phthalate	30 U				30 U				33 U				32 U			
2,4-Dimethylphenol	30 U				30 U				33 U				32 U			

Table 3
Summary of Storm Water Analytical Results
Gowanus Canal
Brooklyn, New York

Sample Location:	Owl's Head Water Treatment Plant		Red Hook Water Treatment Plant	
Sample Type:	Discharge, Lab Filtered	Discharge, Unfiltered	Discharge, Lab Filtered	Discharge, Unfiltered
Sample Event:	Event 4	Event 4	Event 4	Event 4
Sample Name:	WTP-OH-LFD4	WTP-OH-WWD4	WTP-RH-LFD4	WTP-RH-WWD4
Sample Date:	1/31/2013	1/31/2013	1/31/2013	1/31/2013
Di-n-butyl phthalate	30 U	30 U	33 U	32 U
4,6-Dinitro-2-methylphenol	150 U	150 U	160 U	160 U
2,4-Dinitrophenol	150 UJ	150 UJ	160 UJ	160 UJ
2,4-Dinitrotoluene	30 U	30 U	33 U	32 U
2,6-Dinitrotoluene	30 U	30 U	33 U	32 U
Di-n-octyl phthalate	30 U	30 U	33 U	32 U
Hexachlorobenzene	6 U	5.9 U	6.5 U	6.4 U
Hexachlorobutadiene	6 U	5.9 U	6.5 U	6.4 U
Hexachlorocyclopentadiene	30 U	30 U	33 U	32 U
Hexachloroethane	30 U	30 U	33 U	32 U
Isophorone	30 U	30 U	33 U	32 U
2-Methylphenol (o-Cresol)	30 U	30 U	33 U	32 U
3,4-Methylphenol (m,p-Cresol)	**10 J**	**13 J**	33 U	**16 J**
2-Nitroaniline	150 U	150 U	160 U	160 U
3-Nitroaniline	150 U	150 U	160 U	160 U
4-Nitroaniline	150 U	150 U	160 U	160 U
Nitrobenzene	60 U	59 U	65 U	64 U
2-Nitrophenol	30 U	30 U	33 U	32 U
4-Nitrophenol	150 U	150 U	160 U	160 U
N-Nitrosodi-n-propylamine	6 UJ	5.9 UJ	6.5 UJ	6.4 UJ
N-Nitrosodiphenylamine	30 U	30 U	33 U	32 U
Pentachlorophenol	30 U	30 U	33 U	32 U
Phenol	**7.8**	**3.1 J**	6.5 U	**2.3 J**
1,2,4,5-Tetrachlorobenzene	30 U	30 U	33 U	32 U
2,3,4,6-Tetrachlorophenol	30 U	30 U	33 U	32 U
2,4,5-Trichlorophenol	30 U	30 U	33 U	32 U
2,4,6-Trichlorophenol	30 U	30 U	33 U	32 U
Total SVOCs	**17.8**	**16.1**	ND	**18.3**
Alkylated PAHs (ug/L)				
Acenaphthene	0.02104 UJ	**0.07861**	**0.06954 J**	**0.27134**
Acenaphthylene	0.01047 UJ	**0.05127**	0.01004 UJ	**0.05656**
Anthracene	**0.01154 J**	**0.1285**	**0.01033 J**	**0.26678**
Benz[a]anthracene	**0.0096 J**	**0.38032**	**0.00507 J**	**0.75315**
Benzo[a]pyrene	**0.00487 J**	**0.33619**	**0.00307 J**	**0.67399**
Benzo[b]fluoranthene	**0.0122 J**	**0.57358**	**0.0059 J**	**0.89632**
Benzo[e]pyrene	**0.00957 J**	**0.41371**	**0.0043 J**	**0.6606**
Benzo[g,h,i]perylene	**0.00499 J**	**0.40032**	**0.00303 J**	**0.64582**
Benzo[k]fluoranthene	**0.00702 J**	**0.44084**	**0.00479 J**	**0.73672**
1,1-Biphenyl	**0.02975 J**	**0.0829**	**0.04658 J**	**0.13244**
Chrysene	**0.02245 J**	**0.69141**	**0.00953 J**	**0.96703**
C1-Chrysenes	**0.01217 J**	**0.29254**	**0.00785 J**	**0.46329**
C2-Chrysenes	0.01034 UJ	**0.28822**	0.01013 UJ	**0.37937**
C3-Chrysenes	0.01034 UJ	**0.26299**	0.01013 UJ	**0.3578**
C4-Chrysenes	0.01034 UJ	0.02011 U	0.01013 UJ	0.02111 U
Dibenz[a,h]anthracene	0.01021 UJ	**0.07875**	0.01 UJ	**0.12894**
Dibenzofuran	0.01379 UJ	**0.06278**	**0.01992 J**	**0.13712**
Dibenzothiophene	**0.02753 J**	**0.09399**	**0.02066 J**	**0.12085**
C1-Dibenzothiophenes	**0.03294 J**	**0.1334**	**0.03082 J**	**0.17545**
C2-Dibenzothiophenes	**0.05917 J**	**0.26658**	**0.06179 J**	**0.34628**
C3-Dibenzothiophenes	**0.07177 J**	**0.31345**	**0.19836 J**	**0.39283**

Table 3
Summary of Storm Water Analytical Results
Gowanus Canal
Brooklyn, New York

Sample Location:	Owl's Head Water Treatment Plant		Red Hook Water Treatment Plant	
Sample Type:	Discharge, Lab Filtered	Discharge, Unfiltered	Discharge, Lab Filtered	Discharge, Unfiltered
Sample Event:	Event 4	Event 4	Event 4	Event 4
Sample Name:	WTP-OH-LFD4	WTP-OH-WWD4	WTP-RH-LFD4	WTP-RH-WWD4
Sample Date:	1/31/2013	1/31/2013	1/31/2013	1/31/2013
C4-Dibenzothiophenes	**0.04416 J**	**0.20844**	**0.04035 J**	**0.26384**
Fluoranthene	**0.06733 J**	**1.34885**	**0.03237 J**	**1.9282**
C1-Fluoranthenes/pyrenes	**0.02559 J**	**0.4074**	**0.01945 J**	**0.70232**
C2-Fluoranthenes/pyrenes	**0.05778 J**	**0.48512**	**0.0628 J**	**0.69749**
C3-Fluoranthenes/pyrenes	0.01036 UJ	**0.30204**	0.01015 UJ	**0.42427**
C4-Fluoranthenes/pyrenes	0.01036 UJ	**0.22654**	0.01015 UJ	**0.28597**
Fluorene	**0.03066 J**	**0.12443**	**0.05053 J**	**0.26384**
C1-Fluorenes	**0.04269 J**	**0.19847**	**0.05954 J**	**0.35923**
C2-Fluorenes	**0.07726 J**	**0.48585**	**0.09597 J**	**0.87512**
C3-Fluorenes	**0.12013 J**	**0.59974**	**0.1061 J**	**0.99608**
Indeno[1,2,3-cd]pyrene	**0.00335 J**	**0.34683**	**0.00304 J**	**0.61532**
Naphthalene	0.14994 UJ	0.28567 U	0.44799 UJ	0.79203 U
C1-Naphthalenes	0.19381 UJ	0.50478 U	**0.30955 J**	**0.73464**
C2-Naphthalenes	**0.23312 J**	**0.96834**	**0.39725 J**	**1.67829**
C3-Naphthalenes	**0.14451 J**	**0.92669**	**0.22617 J**	**1.68212**
C4-Naphthalenes	**0.09647 J**	**0.65764**	**0.11779 J**	**1.15206**
Perylene	0.01034 UJ	**0.08463**	0.01013 UJ	**0.18398**
Phenanthrene	**0.08794 J**	**0.82116**	**0.09419 J**	**1.58398**
C1-Phenanthrenes/anthracenes	**0.09449 J**	**0.70547**	**0.07248 J**	**1.12161**
C2-Phenanthrenes/anthracenes	**0.13494 J**	**0.75995**	**0.08295 J**	**1.1911**
C3-Phenanthrenes/anthracenes	**0.0423 J**	**0.49775**	**0.03415 J**	**0.76085**
C4-Phenanthrenes/anthracenes	**0.02888 J**	**0.21473**	**0.01837 J**	**0.32789**
Pyrene	**0.04913 J**	**1.0493**	**0.02864 J**	**1.65504**
Total PAH44	**1.6963**	**16.78972**	**2.35323**	**28.04592**
PCBs (ug/L)				
Aroclor 1016	0.39 U	0.39 U	0.42 U	0.38 U
Aroclor 1221	0.39 U	0.39 U	0.42 U	0.38 U
Aroclor 1232	0.39 U	0.39 U	0.42 U	0.38 U
Aroclor 1242	0.39 U	0.39 U	0.42 U	0.38 U
Aroclor 1248	0.39 U	0.39 U	0.42 U	0.38 U
Aroclor 1254	0.39 U	0.39 U	0.42 U	0.38 U
Aroclor 1260	0.39 U	0.39 U	0.42 U	0.38 U
Aroclor 1262	0.39 U	0.39 U	0.42 U	0.38 U
Aroclor 1268	0.39 U	0.39 U	0.42 U	0.38 U
Total PCB Aroclors	ND	ND	ND	ND
Pesticides (ug/L)				
Aldrin	0.049 U	0.049 U	0.052 U	0.048 U
alpha-BHC	0.049 U	0.049 U	0.052 U	0.048 UJ
beta-BHC	0.049 U	0.049 U	0.052 U	0.048 UJ
gamma-BHC	0.049 U	0.049 U	0.052 U	0.048 UJ
delta-BHC	0.049 U	0.049 U	0.052 U	R
alpha-chlordane	0.049 U	0.049 U	0.052 U	0.048 UJ
gamma-Chlordane	**0.1**	**0.58**	**0.07**	**0.41 J**
4,4-DDD	0.049 U	0.049 U	0.052 U	0.048 UJ
4,4'-DDE	0.049 U	0.049 U	0.052 U	0.048 U
4,4'-DDT	0.049 U	0.049 UJ	0.052 U	0.048 UJ
Dieldrin	0.049 U	0.049 U	0.052 U	0.048 UJ
Endosulfan I	0.049 U	0.049 U	0.052 U	0.048 UJ
Endosulfan II	0.049 U	0.049 U	0.052 U	0.048 UJ
Endosulfan sulfate	0.049 U	0.049 U	0.052 U	0.048 UJ

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Gowanus Canal
Brooklyn, New York

Sample Location:	Owl's Head Water Treatment Plant		Red Hook Water Treatment Plant	
Sample Type:	Discharge, Lab Filtered	Discharge, Unfiltered	Discharge, Lab Filtered	Discharge, Unfiltered
Sample Event:	Event 4	Event 4	Event 4	Event 4
Sample Name:	WTP-OH-LFD4	WTP-OH-WWD4	WTP-RH-LFD4	WTP-RH-WWD4
Sample Date:	1/31/2013	1/31/2013	1/31/2013	1/31/2013
Endrin	0.049 U	0.049 U	0.052 U	0.048 U
Endrin aldehyde	0.049 U	0.049 U	0.052 U	R
Endrin ketone	0.049 U	0.049 U	0.052 U	0.048 UJ
Heptachlor	0.049 U	0.049 U	0.052 U	0.048 U
Heptachlor epoxide	0.049 U	0.049 U	0.052 U	0.048 UJ
Methoxychlor	0.098 U	0.097 U	0.1 U	0.095 UJ
Toxaphene	3.9 U	3.9 U	4.2 U	3.8 U
Herbicides (ug/L)				
2,4-D	4.1 UJ	3.8 UJ	4.3 UJ	3.8 UJ
2,4-DB	4.1 UJ	3.8 U	4.3 UJ	3.8 U
Dicamba	2 UJ	1.9 UJ	2.1 UJ	1.9 UJ
Dichloroprop	4.1 UJ	3.8 UJ	4.3 UJ	3.8 UJ
2,2-Dichloropropionic acid	5.1 UJ	4.8 UJ	5.3 UJ	4.8 UJ
Dinoseb	R	0.86 U	R	0.86 U
MCPP	410 UJ	380 U	430 UJ	380 U
Methylchlorophenoxyacetic acid	410 UJ	380 U	430 UJ	380 U
Silvex	1 UJ	0.95 UJ	1.1 UJ	0.95 UJ
2,4,5-Trichlorophenoxyacetic Acid	1 UJ	0.95 UJ	1.1 UJ	0.95 UJ
Dissolved Metals (ug/L)				
Antimony	2 U	2 U	2 U	2 U
Aluminum	**99**	30 U	**130**	30 U
Arsenic	**6.2 J**	3.9 U	**7.1 J**	4.6 U
Barium	**38**	**15**	**43**	**29**
Beryllium	1 U	1 U	1 U	1 U
Cadmium	1 U	1 U	1 U	1 U
Calcium	**13000**	**15000 J**	**24000**	**28000 J**
Chromium	2 U	2 U	2.7 U	2.3 U
Cobalt	**0.62**	**0.6**	**0.84**	**0.8**
Copper	**8.7**	2 U	**5.7**	2 U
Iron	**830 J**	**490 J**	**1100 J**	**1300 J**
Lead	**2.9**	1 U	**3.2**	1 U
Magnesium	**2600**	**3200 J**	**12000**	**13000 J**
Manganese	**47**	**52**	**82**	**100**
Mercury	0.2 U	0.2 U	0.2 U	0.2 U
Nickel	**1.8**	**1.7**	**2.3**	**1.8**
Potassium	**4000**	**4400 J**	**7600**	**7900 J**
Selenium	5 U	5 U	5 U	5 U
Silver	1 U	1 U	1 U	1 U
Sodium	**70000 J**	**82000 J**	**150000 J**	**180000 J**
Thallium	1 U	1 U	1 U	1 U
Vanadium	1 UJ	8.8 UJ	1 UJ	8.4 UJ
Zinc	**17**	**11**	**24**	**5.1**
Total Metals (ug/L)				
Antimony	NA	**3.6 J**	NA	**5.1 J**
Aluminum	NA	**1800 J**	NA	**2600 J**
Arsenic	NA	**2.3**	NA	**4.3**
Barium	NA	**70**	NA	**110**
Beryllium	NA	1 U	NA	1 U
Cadmium	NA	1 U	NA	1 U
Calcium	NA	**16000**	NA	**29000**

Table 3
Summary of Storm Water Analytical Results
Gowanus Canal
Brooklyn, New York

Sample Location:	Owl's Head Water Treatment Plant		Red Hook Water Treatment Plant	
Sample Type:	Discharge, Lab Filtered	Discharge, Unfiltered	Discharge, Lab Filtered	Discharge, Unfiltered
Sample Event:	Event 4	Event 4	Event 4	Event 4
Sample Name:	WTP-OH-LFD4	WTP-OH-WWD4	WTP-RH-LFD4	WTP-RH-WWD4
Sample Date:	1/31/2013	1/31/2013	1/31/2013	1/31/2013
Chromium	NA	**9.5**	NA	**12**
Cobalt	NA	**2 J**	NA	**3.1 J**
Copper	NA	**84**	NA	**120**
Iron	NA	**4800**	NA	**6900**
Lead	NA	**78**	NA	**130**
Magnesium	NA	**4200**	NA	**14000**
Manganese	NA	**80**	NA	**130**
Mercury	NA	**0.17 J**	NA	**0.35**
Nickel	NA	**7.9 J**	NA	**9.9 J**
Potassium	NA	**4300**	NA	**7600**
Selenium	NA	5 U	NA	5 U
Silver	NA	1 U	NA	1 U
Sodium	NA	**62000 J**	NA	**140000 J**
Thallium	NA	1 U	NA	1 U
Vanadium	NA	**7.1**	NA	**9.5**
Zinc	NA	**310 J**	NA	**420 J**
Cyanides (ug/L)				
Free Cyanide	5 U	5 U	5 U	5 U
EDCs and PPCPs (Phenols) (ug/L)				
Bisphenol A	**1.1 J**	**2.2 J**	**0.88 J**	**2 J**
Nonylphenol	**3.7 J**	**8.7 J**	**3.8 J**	**13 J**
Nonylphenol Diethoxylate	8 UJ	8 UJ	8 UJ	8 UJ
Nonylphenol Monoethoxylate	4 UJ	**8.3 J**	**5.7 J**	**13 J**
4-tert-Octylphenol	0.4 UJ	0.4 UJ	0.4 UJ	0.4 UJ
EDCs and PPCPs (ug/L)				
Acetaminophen	**19 J**	**19**	**15 J**	**18**
alpha-Estradiol	0.02 UJ	0.02 UJ	0.02 UJ	0.02 UJ
Androstenedione	**0.044 J**	**0.034**	**0.041 J**	**0.11**
Atrazine	**0.0032 J**	0.01 U	**0.0027 J**	0.1 U
Bisphenol A	**1.2 J**	**1.6**	**1.2 J**	**1.5 J**
Caffeine	**15 J**	**18**	**17 J**	**21**
Carbamazepine	**0.11 J**	**0.15**	**0.062 J**	**0.14**
DEET (N,N-Diethyl-3-Methyl Benzamide)	0.17 UJ	0.2 U	0.19 UJ	0.5 U
Diazepam	0.01 UJ	0.01 U	0.01 UJ	0.1 U
Diclofenac	**0.046 J**	**0.071**	**0.023 J**	**0.024**
Diethylstilbestrol	0.02 UJ	0.02 U	0.02 UJ	0.02 U
Estradiol	**0.013 J**	**0.011 J**	0.02 UJ	**0.014 J**
Estriol	**0.1 J**	**0.12**	**0.052 J**	**0.083**
Estrone	**0.017 J**	**0.02 J**	0.05 UJ	0.05 U
Ethinyl Estradiol	**0.013 J**	0.02 U	0.02 UJ	0.02 U
Fluoxetine	0.1 UJ	**0.013**	**0.0056 J**	0.1 U
Gemfibrozil	**0.48 J**	**0.84 J**	**0.25 J**	**0.28 J**
Hydrocodone	0.05 UJ	0.05 U	0.05 UJ	0.5 U
Ibuprofen	**2.8 J**	**4**	**4.2 J**	**3.5**
Iopromide	**0.44 J**	**0.61**	**0.018 J**	**0.12 J**
Meprobamate	**0.014 J**	0.1 U	**0.012 J**	0.1 U
Methadone	0.5 UJ	0.5 U	0.5 UJ	**0.043 J**
Naproxen	**2.4 J**	**2.8**	**2.3 J**	**3.1**
Oxybenzone	0.28 UJ	0.22 U	0.31 UJ	1.5 UJ
Pentoxifylline	**0.011 J**	**0.011**	0.01 UJ	0.1 U

Table 3
Summary of Storm Water Analytical Results
Gowanus Canal
Brooklyn, New York

Sample Location:	Owl's Head Water Treatment Plant		Red Hook Water Treatment Plant	
Sample Type:	Discharge, Lab Filtered	Discharge, Unfiltered	Discharge, Lab Filtered	Discharge, Unfiltered
Sample Event:	Event 4	Event 4	Event 4	Event 4
Sample Name:	WTP-OH-LFD4	WTP-OH-WWD4	WTP-RH-LFD4	WTP-RH-WWD4
Sample Date:	1/31/2013	1/31/2013	1/31/2013	1/31/2013
Phenytoin (5,5-Diphenylhydantion / Dilantin)	0.2 UJ	**0.088 J**	**0.04 J**	**0.072 J**
Progesterone	**0.056 J**	**0.089**	**0.096 J**	**0.11 J**
Salicylic Acid	**7.5 J**	**8.2**	**5.6 J**	**5.9**
Sulfamethoxazole	**0.18 J**	**0.21**	**0.14 J**	**0.12**
Testosterone	**0.039 J**	**0.057**	**0.045 J**	0.2 U
Triclosan	R	R	5 UJ	R
Trimethoprim	**0.084 J**	**0.1 J**	**0.078 J**	**0.088 J**
Pathogen				
C. perfringens (cfu/100mL)	**370000**	**470000**	**140000**	**460000**
Coliphage, Male Specific (pfu/100mL)	**20500**	**19000**	**27500**	**55000**
Coliphage, Somatic (pfu/100mL)	**21500 J**	**25500 J**	**6500 J**	**15500 J**
Cryptosporidium (oocysts/L)	0 UJ	0 UJ	R	R
E.Coli (mpn/100mL)	**1460000**	**2280000**	**686700**	**686700**
Enterococci (mpn/100mL)	**248100**	**517200**	**190400**	**461100**
Enterovirus (pos/neg)	NA	NA	NA	NA
Fecal Coliform (mpn/100mL)	**1690000**	**2180000**	**721500**	**1200000**
Giardia (cysts/L)	**18 J**	**63 J**	**18 J**	**73 J**
Plaque forming virus (pfu//1 mL)	NA	NA	NA	NA
Plaque forming virus (pfu/125 mL)	NA	NA	NA	NA
Plaque forming virus (pfu/165.5 mL)	NA	NA	NA	NA
Plaque forming virus (pfu/182.5 mL)	NA	NA	NA	NA
Plaque forming virus (pfu/185.5 mL)	NA	NA	NA	NA
Plaque forming virus (pfu/187.5 mL)	0 U	NA	NA	NA
Plaque forming virus (pfu/197.5 mL)	NA	NA	**Toxic**	NA
Plaque forming virus (pfu/199.5 mL)	NA	NA	NA	NA
Plaque forming virus (pfu/200 mL)	NA	**Toxic**	NA	**Toxic**
Plaque forming virus (pfu/200.5 mL)	NA	NA	NA	NA
Plaque forming virus (pfu/201 mL)	NA	NA	NA	NA
Plaque forming virus (pfu/201.5 mL)	NA	NA	NA	NA
Plaque forming virus (pfu/202 mL)	NA	NA	NA	NA
Plaque forming virus (pfu/203 mL)	NA	NA	NA	NA
Plaque forming virus (pfu/204 mL)	NA	NA	NA	NA
Plaque forming virus (pfu/205 mL)	NA	NA	NA	NA
Viruses (pos/neg)	**pos**	neg	neg	neg
Other (ug/L)				
Ammonia	**8000 J**	**6800 J**	**6100 J**	**7100**
Calcium hardness as calcium carbonate	NA	NA	NA	NA
Dissolved Organic Carbon	**14000**	**11000**	**17000**	**14000**
Hardness as calcium carbonate	**43000**	**58000**	**110000**	**130000**
Magnesium hardness as calcium carbonate	NA	NA	NA	NA
pH (s.u.)	**6.57 J**	**6.58 J**	**6.54 J**	**6.81 J**
Sediment Concentration	NA	**230000**	NA	**370000**
Specific Conductance (umhos/cm)	**610**	**580**	**1300**	**970**
Total Dissolved Solids	NA	**270000 J**	NA	**570000 J**
Total Organic Carbon	**15000**	**19000**	**16000**	**25000**
Total Petroleum Hydrocarbons	**540.54 J**	**9930.41**	365.88 UJ	**9919.34**
Total Suspended Solids	NA	**260000**	NA	**340000**
Turbidity (ntu)	NA	**92**	NA	**110**

Table 3
Summary of Storm Water Analytical Results
Gowanus Canal
Brooklyn, New York

Notes:
Analytes in blue are not detected in any sample
ntu - nephelometric turbidity units
oocyst/L - oocyst per liter
pfu/mL - plaque forming units per 1 milliliter
S.U. - standard units
umhos/cm - micromhos per centimeter

BTEX - benzene, toluene, ethylbenzene, and xylenes
VOCs - volatile organic compounds
PAHs - polycyclic aromatic hydrocarbons
PCBs - polychlorinated biphenyls
SVOCs - semivolatile organic compounds
EDCs - endocrine disruptor compounds
PPCPs - pharmaceuticals and personal care products

Total BTEX, Total VOCs, Total PAHs, Total SVOCs, and Total PCBs are calculated using detects only.
Total PAH16 is calculated using the EPA16 list of analytes: Acenaphthene, Acenaphthylene, Anthracene, Benz[a]anthracene, Benzo[a]pyrene, Benzo[b]fluoranthene, Benzo[g,h,i]perylene, Benzo[k]fluoranthene, Chrysene, Dibenz[a,h]anthracene, Fluoranthene, Fluorene, Indeno[1,2,3-cd]pyrene, Naphthalene, Phenanthrene, and Pyrene
Total PAH17 is calculated using the EPA16 list of analytes plus 2-Methylnaphthalene

NE - not established
NA - not analyzed
ND - not detected; total concentration is listed as ND because no compounds were detected in the group

Bolding indicates a detected concentration
Gray shading indicates that the detected result value exceeds NYS AWQS

Validation Qualifiers:
J - estimated value
R - rejected
U - indicates not detected to the reporting limit
UJ - not detected at or above the reporting limit shown and the reporting limit is estimated

Validated

Table 4
Summary of Storm Water Total Suspended Solids Results
Gowanus Canal
Brooklyn, New York

Sample Location:	MH-OH-007	MH-RH-031	MH-RH-035	MH-RH-035
Sample Date:	1/31/2013	1/31/2013	1/16/2013	1/31/2013
Sample Interval	TSS (ug/L)			
A	**91000**	**330000**	**180000**	**210000**
B	**93000**	**300000**	**130000**	**790000**
C	**89000**	NA	**76000**	**350000**
D	**77000**	**210000**	**50000**	**280000**
E	**130000**	**100000**	**35000**	**350000**
F	**120000**	**120000**	**44000**	**180000**
G	**390000**	**120000**	**69000**	**72000**
H	**310000**	**290000**	**71000**	**53000**
I	**380000**	**400000**	**46000**	**58000**
J	**540000**	**230000**	**110000**	NA
K	**90000**	**450000**	**64000**	**150000**
L	NA	NA	NA	**260000**

Notes:

TSS - Total Suspended Solids

NA - not analyzed

ug/L - micrograms per liter

Bolding indicates a detected concentration

Figure

LEGEND

- Sample Location
- Combined Sewer Outfalls (CSOs)

SOURCE:

1. ESRI WORLD IMAGERY. ACCESSED VIA ARCGISONLINE.COM

0 225 450 900

SCALE, FEET

CSO INVESTIGATION
GOWANUS CANAL SUPERFUND SITE
BROOKLYN, NEW YORK

nationalgrid

GEI Consultants

CSO WATER SAMPLING LOCATIONS

Proj. 093010-6-1608 | April 2013 | Figure 1

J:\Projects\National_Grid\Gowanus\2012_CSO_Sampling\Stormwater\2012_CSO_Sample_Locations.mxd

Appendix K

Initial Geotechnical Investigation in Support of Cap Design, prepared for National Grid by GEI Consultants Inc.

GEI Consultants

Geotechnical
Environmental
Water Resources
Ecological

Data Report

Initial Geotechnical Investigation in Support of Cap Design

Gowanus Canal Superfund Site
Brooklyn, New York
EPA Index No.: CERCLA-02-2010-2011
EPA ID No.: NYN000206222

Submitted to:
National Grid
One MetroTech Center
Brooklyn, NY 11201

Submitted by:
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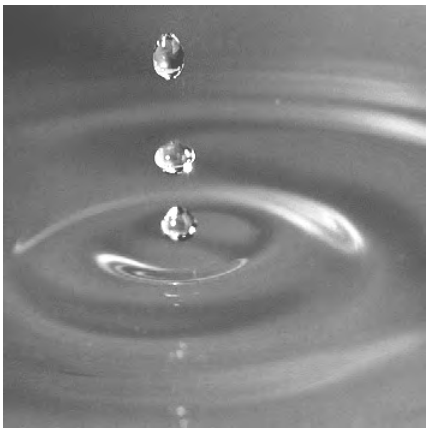
April 2013
Project 093010-6-1606



George A. Onorato, P.E.

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C. Geotechnical Laboratory Testing Data
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Abbreviations and Acronyms

ASTM	American Society of Testing and Materials
BCPT	Flow Penetrometer Testing
C_c	Compression Index
CIUC	Isotropically-Consolidated Undrained Compression
CL-ML	Loose Inorganic Clay and Silt
CPTs	Cone penetrometer tests
CPTU	Cone penetrometer tests with pore pressure measurements
DRET	Dredging Elutriate Testing
FS	Feasibility Study
fs	Sleeve friction
GEI	GEI Consultants, Inc.
HASP	Health and Safety Plan
MGP	Manufactured Gas Plant
NAPL	Non-Aqueous Phase Liquid
OCR	Over Consolidation Ratio
OH	Organic Silt
OL-OH	Organic silts
PAHs	Polycyclic Aromatic Hydrocarbons
PCB	Polychlorinated Biphenyl
pcf	Pound per cubic foot
PID	Photoionization detector
PM-10	Particulate matter less than 10 microns in size
psf	Pounds per square foot
qc	tip resistance
RTA	Remediation Target Area
SBT	Soil Behavior Types
SM	Silty Sand
SPT	Standard Penetration Tests
S_u	Shear Strengths
SW-SM	Widely Graded Sand with Silt
u	High Friction Pore Water Measurements
USCS	Unified Soil Classification System
USEPA	United States Environmental Protection Agency
VOCs	Volatile Organic Compounds
UUC	Unconsolidated-Undrained Compression
WOH	Weight of Hammer

Executive Summary

GEI Consultants, Inc. (GEI) was retained by National Grid to conduct a geotechnical investigation along the Gowanus Canal in support of a United States Environmental Protection Agency (USEPA) proposed remedial design that may include dredging and/or capping of impacted sediments within the Canal. The environmental impacts detected within the Canal sediments have been identified as a complex mixture of petrogenic and pyrogenic hydrocarbons, as well as heavy metals, pesticides, herbicides, polychlorinated biphenyls (PCBs) and other types of chemicals.

The purpose of this initial investigation was to obtain geotechnical strength parameters of the native sediments to gain a better understanding of the sediments' bearing and shear load capacities in addition to the sediments' compressibility characteristics along the Canal. Findings from this investigation will be used to guide future design investigations.

This geotechnical investigation included performing 19 cone penetration tests (CPTUs), 5 test borings, and a laboratory testing program that included geotechnical index testing (grain size distribution, unit weight, specific gravity, moisture content, organic content, and Atterberg limits), unconsolidated-undrained compression (UUC) and isotropically-consolidated undrained compression (CIUC) strength testing, and incremental consolidation testing. In addition, bulk sediments samples were collected with the intention of conducting Dredging Elutriate Testing (DRET); however, this part of the program was deferred to a later date.

In addition to the Standard Penetration Tests (SPTs) and CPTU field tests, nine sediments samples were retained and evaluated for sediment engineering properties from the five test borings that were performed within the Canal. Samples were collected within the upper 15 feet of soil deposits below the mudline of the Canal.

Based on the results of the SPT, CPTU, and geotechnical laboratory testing programs, sediments within the upper 3 to 12 feet of soil deposits below the mudline of the Canal were characterized as accumulated or "soft" sediments. The soft sediments are collectively described as a mixture of mainly grayish-black soft organic silt (OH) with varying amounts of loose inorganic silty clay (CL-ML) with some areas of intermixed gravel present in thin deposits. In general, only slight to moderate "organic-like" and/or petroleum-like odors were evident in these shallow sediments with very few obvious visual signs of tar impacts.

The SPT results (N-values) recorded in the soft sediment layer ranged from Weight-of-Hammer (WOH) to 3 blows per foot. Undrained shear strengths (S_u) within the organic layer (OH) ranged from less than 65 pounds per square foot (psf) for UUC tests to less than 530 psf for the CIUC tests. Medium dense silty clay (CL-ML) yielded S_u values of 2,370 psf for

the UUC test. A thin sand layer (SM) was observed in one boring a foot below the mudline and a CIUC test on this layer yielded a S_u value of 16,490 psf.

The compressive properties of the shallow sediments yielded a relatively low compression index (C_c) given the range of organic sediments present. The C_c for the OH materials ranged from 0.6 to 1.0 and only 0.1 for the CL-ML materials for sediments tested within the upper 3 feet. Based on the estimated pre-consolidation stresses, it appears that these shallow soft sediments are over consolidated.

Underlying the soft sediments layer, a mixture of alluvial sandy-silt and some organic silt deposits or "native" sediments were generally encountered within all the borings performed in the Canal. The native sediments layer consisted mainly of loose to medium dense widely graded sand with silt (SW-SM); and the intermixed organic silt (OL-OH) deposit was described as a soft, black, organic silt with tar present.

SPT N-values for the native sediments from 5 to 15 feet ranged from 5 to 14 blows per foot. Visual and olfactory inspection of these soils indicated mild to strong petroleum odors and signs of tar impacts present at various intervals to a depth of approximately 24 feet. Undrained shear strengths of the soft organic soils yielded S_u of less than 85 psf for UUC tests and less than 270 psf for the CICU test.

1. Introduction

1.1 Scope and Purpose of the Investigation

The Gowanus Canal sediments contain or have been impacted by non-aqueous phase liquids (NAPLs) that are a complex hydrocarbon mixture including polycyclic aromatic hydrocarbons (PAHs). The NAPL contains petrogenic and pyrogenic hydrocarbons, as well as other types of chemicals. The oil refineries, petrochemical plants, Manufactured Gas Plant (MGP) facilities, fertilizer and glue factories, coal yards, and other industrial and urban discharges along the Canal are all potential sources of NAPL. These industrial land uses and discharges have likely contributed petroleum, heavy metals, pesticides, herbicides, polychlorinated biphenyls (PCBs) and/or other chemicals to the sediments. Many of these compounds are the same as or difficult to distinguish from compounds also associated with former MGP operations.

In support of the development of a remedial design focused on an effective, sustainable remedy, with overall containment for all sources of contaminants present in the Gowanus Canal, a number of investigative efforts are planned under the general categories as follows:

- Cap stability and components
- In-situ solidification
- Upland and underlying sediments loading (hydraulic and chemical)
- Hydrodynamic modeling

On behalf of National Grid, GEI Consultants, Inc. (GEI) has prepared this Data Report to present the findings from an initial geotechnical investigation conducted to support the design of a cap in the Gowanus Canal. This report provides laboratory data and field observations collected during the field investigation conducted by National Grid. This Data Report documents the investigation methods, findings, and results from the sediments investigation.

The general scope of the investigation was to obtain geotechnical strength parameters of the native sediments to gain a better understanding of the sediments' bearing and shear load capacities in addition to the sediments' compressibility characteristics along the Canal. Findings from this investigation will be used to guide future design investigations.

This investigation was performed with the intent of providing supplemental data in support of the United States Environmental Protection Agency's (USEPA) draft Feasibility Study (FS) with specific regards to an evaluation of cap stability and dredge design for the Gowanus Canal. USEPA has outlined a potential remedy for the Canal that included dredging of soft sediments and placement of a protective cap over the subgrade (native

sediments). This investigation focused on developing preliminary engineering properties of the soft and native sediments to evaluate the feasibility of related elements of the approach and consider alternatives to the USEPA approach. One alternative would be the placement of a cap on or some depth into the soft sediments rather than fully dredging to the native sediments for cap placement.

The scope of this investigation included the installation of 19 cone penetrometer tests (CPTUs) that provided continuous resistance profiles through the sediments at various locations within the Canal. Cone Penetrometer Test (CPT) data includes typical cone plots, in addition to 10 pore water dissipation tests, interpretation of soil behavior types (SBT) classifications, as well as interpretations of geotechnical parameters based on published CPT correlations[1]. In addition, five test borings were performed using a sonic drill rig that had the capability of performing Standard Penetration Tests (SPTs) as well as collecting standard Shelby tube samples for laboratory analyses. Subsurface exploration data are summarized in Table 1

The laboratory testing program included geotechnical index testing (grain size distribution, unit weight, specific gravity, moisture content, organic content, and Atterberg limits), unconsolidated-undrained compression (UUC) and isotropically-consolidated undrained compression (CIUC) strength testing, and incremental consolidation testing. Geotechnical laboratory testing data are summarized in Table 2.

1.2 Air Monitoring

Work zone air monitoring was implemented during the sampling activities in accordance with the Geotechnical Investigation Work Plan for Cap Design, dated April 24, 2012. Concentrations of volatile organic compounds (VOCs), hydrogen cyanide, hydrogen sulfide, combustible gas, oxygen, and particulate matter less than 10 microns in size (PM-10) were monitored in accordance with the Health and Safety Plan (HASP).

There were no exceedances of the particulate matter action level related to sampling activities. Measured exceedances that occurred throughout the work were considered due to exhaust fumes from the boat engine or spud movement. There was no visible dust observed in the work area. There were no exceedances of VOCs, hydrogen cyanide, hydrogen sulfide, combustible gas, or oxygen action levels related to sampling activities. Exceedances of hydrogen cyanide and VOCs action levels that occurred throughout the work were considered due to exhaust fumes from the boat engine and spud movement.

[1] CPT correlations are subject to change to reflect the current state of practice. The interpreted values are not considered valid for all soil types. The interpretations are presented only as a guide for geotechnical use and should be carefully scrutinized for consideration in any geotechnical design.

High temperatures and humidity potentially interfered with the instruments creating false elevated readings. Odors were not observed in the work area.

1.3 Exploration Locations and Canal Access

The Gowanus Canal is located in an industrial section of South Brooklyn, New York. It roughly includes 2 miles of man-made canal that extends from Butler Street to the southwest past the Gowanus Expressway and into the Gowanus Bay. Several barge basins are connected to the main channel at the eastern side of the canal at 7th Street, 6th Street, 5th, and 4th Streets. The study area encompasses the entire main Canal; excluding the barge basins. The explorations for this initial geotechnical investigation were spaced approximately 400 feet apart from each other. Figure 1 summarizes the study area and the specific locations of the CPTUs and test borings.

Notification to the US Coast Guard to gain access to the Canal was made by Millers Launch, the local barge contractor hired by the driller.

1.4 Limitations

The engineering review, associated data collection, and preparation of documents related to this report have been performed in accordance with the standard of care commonly used as the state-of-practice in the engineering profession. Standard of care is defined as the ordinary diligence exercised by fellow practitioners in the profession performing the same services under similar circumstances during the same period.

The geotechnical information presented in this report is based on a limited number of explorations and tests performed by GEI. Subsurface conditions and material properties presented in this report may vary significantly between borings and locations. The nature and extent of the variations may not become evident until subsequent phases of investigation or future construction. Therefore, this study may not have revealed all adverse conditions present at the Site.

Our work was performed in accordance with generally accepted engineering practices. No warranty, expressed or implied, is made that the actual encountered subsurface and site conditions will conform exactly to the conditions described herein, or that this report's interpretations will be applicable to, or sufficient for, all future work planned at the subject site. GEI does not attest to the accuracy, completeness, or reliability of geotechnical borings and other subsurface data by others that are included in this report. GEI did not perform independent validation or verification of data provided by others.

This report was prepared for use by and the benefit of National Grid. Use by any other party is at its own discretion and risk.

2. Sediments Exploration

2.1 Piezocone Penetrometer Testing (CPTU)

This section presents the results of a CPTU exploration program carried out on the Canal. The work was performed by ConeTec, Inc. of West Berlin, New Jersey under contract with GEI. ConeTec performed CPTUs between August 21 and August 29, 2012.

A total of 19 CPTU soundings were completed at 19 different locations as depicted in Figure 1. The CPTU testing was performed to evaluate in-situ geotechnical criteria of the soils. The CPTUs ranged in depth from 25 to 35 feet below the mudline (with an average depth of 27 feet). The CPTU logs are provided in Appendix A.

In addition, flow penetrometer testing (BCPT) soundings were completed at 10 of the 19 CPTU locations. BCPT soundings were performed to evaluate undrained shear strengths of the soft to medium strength sediments where the CPTU soundings were not sufficiently accurate to assess the lower soil strengths of those layers. CPTU sounding locations were selected and numbered under the direction and supervision of GEI personnel.

The specific procedures for the CPTU soundings, BCPT soundings, and method of evaluation of the in-situ geotechnical properties are described in ConeTec's Field Report, dated October 3, 2012, which is included in Appendix A of this Data Report.

The CPTU sounding method provides continuous interpretive information about soil types and relative strengths; the test consists of advancing (or pushing) a steel cone penetrometer into the ground using a small mini-sonic rig. The tip of the cone is equipped with sensors that collect information about the tip and sleeve friction resistance encountered in the soil as the probe is advanced. This information can then be used to classify the strata using empirical correlations. The interpreted logs are also included in Appendix A and the CPT locations are shown in Figure 1.

Interpretation of sediments/soils encountered on the project was carried out using correlations developed by Robertson (1992). Interpretations of cone data is based on the relationship between tip resistance (qc), sleeve friction (fs), penetration resistance, and high friction pore water measurements (u). Generally, saturated cohesive soils (clays and slits) have low tip ratios and generate large excess pore water pressures. Cohesionless soils (sands

and gravel) have higher tip resistances, lower friction ratios, and do not generate significant excess pore water pressure.[2]

Based on the normalized CPTU graphs prepared by ConeTec, classifications of certain soil types were estimated using charts that plot ranges of normalized cone resistance versus friction ratio. These charts are referred to as "Normalized Behavior Type Classifications" and are used to identify the stratigraphy at the test sounding locations.

The CPTU interpretations generally identified a mixture of soft alluvial silt/sand sediments deposit within the upper 2 to 12.5 feet. The soundings also showed a relatively distinct transition to a mixture of coarser medium-dense sand below the finer grained softer sediments layer. This transition was observed at almost all the CPTU locations with the only exception being GC-CPT-015, which appeared to represent a more continuous silty soft material all the way to the bottom of the CPTU sounding (approximately 30 feet below the mudline).

The CPTU interpretations identified that the soft sediments layer was found to be thicker (up to 12.5 feet thick) near the head of the Canal and appears to thin out to less than 6 feet thick towards the southern end of Remediation Target Area (RTA) 2 and the mouth of the Canal (RTA 3). The average soft sediment thickness found in the CPTU's was 6.3 feet. Based on an estimation of the over consolidation ratio (OCR), it appears that a majority of the shallow sediments along the northern portion of the Canal appear to be over consolidated. This indicates that the shallow sediments may have experienced a greater load at some time in the past and possibly have been historically dredged. However, CPTU sounding GC-CPT-018 indicated a deeper compressible (under consolidated) organic layer at a depth of 11 to 18 feet below the mudline.

Undrained shear strengths (S_u) were estimated using BCPT sounding methods at 10 of the CPTU sounding locations. The BCPT soundings were mainly performed within the upper 10 to 15 feet of the soft sediments. Based on the BCPT sounding interpretations, undrained shear strengths within the upper 2 to 5 feet of the sediments were estimated to be relatively weak at S_u values between 41 to 125 pounds per square foot (psf). Table 3 summarizes the estimated S_u at these shallow depths, and the complete BCPT soundings are presented in Appendix A.

[2] Interpretations of soil types from CPTU data is entirely performed by ConeTec, Inc., and any explanations of the technical methods used by ConeTec are presented in the text for convenience to the reader only. A copy of the complete CPTU Data Report is included in Appendix A.

2.2 Test Borings

Five Test borings were performed using roto-sonic drilling methods. The boring logs are included in Appendix B and the boring locations are shown in Figure 1.

The borings were performed by Boart Longyear of Northborough, Massachusetts. Boart Longyear, in turn, contracted directly with Miller's Launch of Staten Island, New York whom facilitated access to the Canal and provided the barge for the drilling work. The borings were performed using roto-sonic drilling methods with SPT performed at approximately 5-foot intervals. The borings were drilled between August 14 and August 20, 2012 using a track-mounted mini-sonic LS600 drill rig that was barge-mounted. The borings were drilled to depths ranging from 25 to 35 feet below the existing mudline. Water depth ranged from 7.5 feet to about 18 feet at the time of drilling. The total drilled length was approximately 137 feet.

Undisturbed Shelby tubes were collected with a hydraulically-activated piston sampler in the soft sediments at four of the five test boring locations and retained for laboratory strength and consolidation analyses. At GC-B-003, sediment deposits that were conducive for undisturbed sampling were not encountered. A total of 17 Shelby tubes were pushed in the soft and native sediments deposits with 9 of those tubes having limited or no sample recovery. There were eight undisturbed tube samples collected that retained enough soil for further laboratory strength and consolidation analyses, of which seven were actually submitted for testing. These eight tubes were collected at depth intervals of 0 to 2, 2 to 4, 10 to 12, and 15 to 17 feet below the mudline.

A photoionization detector (PID) was used to screen the levels of VOCs present along the length of each sample. Jar headspace analyses were performed on 5-foot intervals at each boring location. A GEI field representative was on site full time to observe and document the borings and to collect the samples.

After each boring was completed, Boart Longyear tremie grouted the boreholes with a grout mixture suitable for saltwater. The mixture is intended to prevent platelet flocculation and was mixed in the following proportions: 1 pint LIQUI-TROL™, 16 pounds ZEOGEL®, 5 pounds powdered bentonite, and 40 gallons potable water. A 4.5-inch casing was used to advance the borehole, which was extracted at completion. A GEI field representative observed the grouting of all boreholes.

2.3 Laboratory Testing Program

Representative soil samples were selected and tested in the laboratory to substantiate visual classifications and to aid in the determination of pertinent engineering properties. The laboratory testing program included:

- Natural Moisture Content Tests (American Society of Testing and Materials [ASTM] D2216)
- Organic Content Tests (ASTM D2974)
- Grain Size Distribution Tests (ASTM D422)
- Unit Weight Tests (ASTM D7263)
- Atterberg Limits Tests (ASTM D4318)
- UUC Triaxial Tests (ASTM D2850)
- CIUC Triaxial Tests (with pore water pressures) (ASTM D4767)
- One-Dimensional Consolidation Tests (ASTM D-2435)

The laboratory testing results are included in Appendix C of this report and a summary table of results are presented in Table 2.

Select sediment samples from the Gowanus Canal were also submitted to the University of Texas at Austin for geotechnical testing to evaluate the potential for NAPL expression. The sediment samples selected for analysis were at intervals that may be exposed during dredging activities. The samples were limited due to the difficulty of collecting undisturbed tube samples and were selected based on potential NAPL presence (based upon field PID readings) and from locations near the interface of the soft and native sediments. A summary of the NAPL expression testing prepared by Dr. Danny Reible of the University of Texas is provided in Appendix D.

An experienced GEI engineer visually classified each soil sample on the basis of texture and plasticity (ASTM D2488) and identified each soil sample using the classification group symbols and names in general accordance with the Unified Soil Classification System (USCS) (ASTM D2487). A brief explanation of the USCS is included with this report in Appendix B.

3. Sediments Stratigraphy and Characteristics

3.1 Sediments Stratigraphy

The subsurface soil conditions encountered in the explorations performed by GEI were similar to the expected conditions based on our review of previous investigations conducted by the USEPA. In general, two distinct soil units with inter-bedding organic marsh deposits are identified within the Canal that are relevant to the dredge and cap system design. These two stratums are[3] accumulated or "soft" sediments and alluvial/sand deposits or "native" sediments and are further described in the paragraphs below.

Soft Sediments – Soft sediments are the soils present at the sediments-water interface (mudline) within the Canal that appears to range in thickness from about 2 to possibly 12.5 feet. A clear interface between the soft and native sediments was difficult to estimate due to the intermixed deposits of sands, silts, and clays, with deposits of organics present at various depth intervals. In general, soft sediments were described as consisting of a mixture of grayish-black, soft organic silt (OH), intermixed with leaves, roots, wood, and other debris with varying amounts of inorganic silty clay (CL-ML) with some gravel also intermixed.

Mild to strong "organic-like" and petroleum odors were evident in most of the recovered samples, but few obvious visual NAPL impacts were observed. The SPT results (N-values) recorded within this layer ranged from Weight-of-Hammer (WOH) to 3 blows per foot. A rough estimation of the soft sediments thickness is presented on the cross sections in Figures 2 through 4.

Native Sediments – underlying the soft sediments layer, a mixture of alluvial/sand and lenses of lean clay and silt was generally encountered within all the borings performed in the Canal. The native sediments typically consisted of tan fine to coarse widely graded sand with silt (SW-SM), and were generally loose with N-values ranging from 5 to 14 blows per foot. Mild to strong petroleum odors were observed in all five borings ranging in depths from 16 to 25 feet below the mudline. Visual impacts were also observed within all soil borings mainly ranging from petroleum sheen/staining, tar coating, and some thin zones of tar saturation. A depth profile and locations of the visual impacts observed within the borings are presented on the cross sections in Figures 2 through 4.

[3] The subsurface conditions are known only at the exploration locations. The subsurface conditions between exploration locations may differ from those described below and/or depicted in the subsurface profiles.

3.2 Estimated Sediments Engineering Properties

Laboratory strength and consolidation testing was performed on shallow and deeper sediments to gain a general understanding of engineering properties of the sediments within the Gowanus Canal.

A total of seven undisturbed Shelby tube samples and six disturbed jar samples were retained for laboratory testing from the five test borings that were performed within the Canal. The testing program focused on characterization of sediments from 0 to 15 feet below the mudline.

Upper 3 feet of Soft Sediments

Based on the laboratory results, shallow sediments (0 to 3 feet) consisted mainly of a mixture of organic and inorganic silts (OL-OH), silty sands (SM), and silty clays (CL-ML); the presence of gravel was also observed within boring GC-B-003. In general, these shallow sediments are characterized as soft highly plastic active[4] silts, which is typical for this type of deposit. No visual signs of NAPL impacts were observed within these shallow soils.

UUC tests indicate that the organic sediments are relatively weak with shear strengths ranging between 30 to 65 psf. The CIUC tests on these organic silts indicated shear strength ranging from 160 to 530 psf using a 250 psf confining pressure.

Test results on the silty clay material indicated higher strengths than the organic sediments. A UUC test performed on the silty clay material indicates undrained shear strength of 2,370 psf.

A CIUC test performed on the silty sand material in GC-B-004 yielded undrained shear strength of 16,490 psf using a 250 psf confining pressure, with an estimate effective friction angle of 37.7 degrees.

Consolidation tests performed on the OH taken from the upper 3 feet resulted in a Compression Index (C_c) that ranged between 0.64 and 1.00, which is relatively low[5] for this type of material. Void ratios ranged between 2.02 and 2.96. Based on an estimation of the pre-consolidated stress, sediments in this area appear to be over consolidated (OCR > 1). This estimation of the OCR on the shallow sediments was also estimated within the CPTU testing program (see Section 2.1.1).

[4] Skempton (1953) defined the activity of clays as the plasticity index divided by the clay fraction of specimen finer than 0.002 mm. (Das 1999, Principals of Foundation Engineering, Fourth Edition)
[5] Typical values of C_c presented by Holtz and Kovacs (1981) as presented in Table 9-7 FHWA (1997).

Native Sediments and Soft Sediments between 5 and 15 feet

Soil deposits between the 5- and 15-foot-depth range appear to be a transitional zone of the soft sediments to the native sediments layer. In general, the sandy silt layer was found within four of the five test borings and began at about 5 to 6 feet beneath the mudline.

At GC-B-005, the OH layers (soft sediments layer) appear to extent to about 15 feet. Tar impact and distinct petroleum-like odor and sheens were reported within all borings at this depth interval, with the only exception being GC-B-005, where no impacts or odors were observed until below 15 feet.

Strength testing was performed for the OH material (at GC-B-005) at depths of 10.95 and 11.45 feet deep. A UUC test indicates that the OH material is relatively weak with shear strengths estimated at only 85 psf. A CIUC test performed on the OH material yielded undrained shear strength of 270 psf using a 500 psf confining pressure. An effective friction angle of 31.3 degrees was estimated based on one sample tested[6].

Although no laboratory strength or consolidation tests were performed for the SM-SW material, geotechnical index properties can be estimated based on SPT N-values. Based on N-values between 5 and 14 blows per foot, a wet unit weight of approximately 106 to 116 pound per cubic foot (pcf), an effective friction angle of between 27 and 32 degrees can be assumed[7].

[6] a strength envelope was not developed to more accurately determine a friction angle or cohesion (c) for this material
[7] Source: Principals of Foundation Engineering, fourth Edition (Das, 1999),

4. References

Das, Braja M., "Principals of Foundation Engineering, Fourth Edition" *PWS Publishing.* 1999.

FHWA 1997, "*Geotechnical and Foundation Engineering Module 1 – Subsurface Investigations*", Federal Highway Administration National Highway Institute. November 1997

ConeTec, Inc. 2012. *Presentation of Field In Situ Testing Results for Gowanus Canal*, October 3, 2012.

Tables

Table 1
Subsurface Exploration Data
Initial Geotechnical Investigation in Support of Cap Design
Gowanus Canal Superfund Site

Exploration ID[1]	RTA[2] Reach	Approximate Locations[3,4]			Depth of Water (feet)	Total Depth of Exploration Below Mudline (feet)	Bottom of Exploration Elevation (feet)
		Northing, (feet)	Easting, (feet)	Mudline Elevation, (feet)			
GC-CPT-001	1	673394.0	634301.4	-4.1	7.2	24.8	-28.9
GC-B-001	1	673194.0	634183.3	-5.3	8.3	25.0	-30.3
GC-CPT-002	1	673192.9	634168.516	-5.4	6.2	25.4	-30.9
GC-CPT-003	1	672919.0	634054.5514	-4.9	7.7	24.6	-29.6
GC-CPT-004	1	672620.8	633936.1003	-8.9	9.2	25.8	-34.7
GC-CPT-005	1	672219.4	633818.2468	-9.6	12.0	25.3	-34.9
GC-B-002	1	671956.0	633707.085	-12.1	13.2	25.0	-37.1
GC-CPT-006	1	671963.7	633704.166	-14.0	11.7	27.1	-41.1
GC-CPT-007	1	671817.5	633631.053	-12.4	10.2	25.4	-37.9
GC-CPT-008	2	671476.5	633461.9918	-9.6	10.9	25.4	-35.0
GC-CPT-009	2	671540.7	632999.3449	-11.9	13.9	25.4	-37.4
GC-B-003	2	671599.3	632430.51	-10.8	11.6	25.0	-35.8
GC-CPT-010	2	671597.9	632402.6824	-15.4	13.4	26.9	-42.3
GC-CPT-011	2	671322.9	632080.6707	-15.5	14.3	27.2	-42.7
GC-CPT-012	2	670938.6	631782.3913	-14.7	14.2	25.8	-40.4
GC-CPT-013	2	670640.2	631622.2982	-16.6	17.5	26.4	-43.0
GC-B-004	2	670330.5	631405.22	-16.9	16.0	27.0	-43.9
GC-CPT-014	2	670280.6	631383.9605	-15.9	15.3	28.2	-44.1
GC-CPT-015	3a	669739.9	631081.7948	-15.2	13.7	29.7	-44.9
GC-CPT-016	3b	669404.5	631069.9667	-25.3	25.0	37.1	-62.4
GC-CPT-017	3b	669039.4	630937.9762	-28.3	27.1	32.6	-60.9
GC-B-005	3b	668901.5	630551.09	-18.9	18.9	35.0	-53.9
GC-CPT-018	3b	668921.9	630554.9162	-18.6	20.0	36.4	-55.0
GC-CPT-019	3b	668574.7	630362.7106	-36.2	35.1	28.7	-64.9

Notes:
1 - "GC" prefix indicates Gowanus Canal, "B" prefix indicates Boring, and "CPT" prefix indicates Cone Penetration Test.
2 - "RTA" indicates Remediation Target Areas as defined by EPA.
3 - Coordinates are referenced to the North American Datum of 1983 (NAD83), New York State Plane Coordinate System, East Zone (3101).
4 - Elevations are referenced to the North American Vertical Datum of 1988 (NAVD).

Table 2
Geotechnical Laboratory Testing Results
Initial Geotechnical Investigation in Support of Cap Design
Gowanus Canal Superfund Site

Boring Number	Sample ID	Depth Interval, (feet)	Elevation, (feet, NAVD)	Water Content[(1)] %	Plastic Limit	Liquid Limit for Chart	Liquid Limit	Plasticity Index for Chart	Plasticity Index	Dry Unit Weight[(1)], (pcf)	Organic Content[(1,2)], (%)	Fines Distribution[(3)]		Peak Undrained Shear Strength		Consolidation Test[(5)]	Soil Description
												% Silt	% Clay	Type of Test[(4)]	s_u (ksf)		
GC-B-001	U1	0 to 2	-5.1 to -7.1	-	-	#N/A	-	#N/A	-	-	-	-	-	-	-	-	Black, Sandy Organic Soil (OH)
GC-B-001	U2	2 to 4	-7.1 to -9.1	*80.6*	60	73	73	13	13	*45.0*	16.7	50.2	11.0	CIUC	0.53	YES	Black, Sandy Organic Soil (OH)
GC-B-001	S1 (0-13")	10 to 12	-15.1 to -17.1	10.2	-	#N/A	-	#N/A	-	74.3	4.4	3.2	-	-	-	-	Gray, Narrowly Graded Sand with Gravel (SP)
GC-B-002	U1	0 to 2	-10.1 to -12.1	*133.8*	55	105	105	50	50	*35.0*	11.3	59.9	36.0	CIUC, UUC	0.07, 0.16	YES	Black, Organic Soil (OH)
GC-B-002	U2	2 to 4	-12.1 to -14.1	*127.1*	51	73	73	22	22	*33.2*	14.1	58.2	21.0	UUC	0.03	YES	Black, Organic Soil with Sand (OH)
GC-B-003	S2	5 to 10	-18.4 to -23.4	*18.4*	-	#N/A	-	#N/A	-	-	*3.3*	14.2	-	-	-	-	Gray, Silty Sand (SM)
GC-B-003	S3	10 to 12	-23.4 to -25.4	20.0	-	#N/A	-	#N/A	-	-	5.1	36.3	-	-	-	-	Gray, Silty Sand (SM)
GC-B-004	U1	0 to 2	-16.1 to -18.1	*25.3*	-	#N/A	-	#N/A	-	110.1	3.2	-	-	CIUC	16.49	YES	Black, Silty Sand (SM)
GC-B-004	U2	2 to 4	-18.1 to -20.1	*24.6*	21	27	27	6	6	*102.2*	1.0	91.6	7.0	UUC	2.37	YES	Brown, Silty Clay (CL-ML)
GC-B-004	S2	10 to 12	-26.1 to -28.1	18.2	20	28	28	8	8	-	1.1	9.0	-	-	-	-	Gray, Narrowly Graded Sand with Silt (SP-SM)
GC-B-005	S1	5 to 7	-22.9 to -24.9	86.1	-	#N/A	-	#N/A	-	-	13.5	34.7	-	-	-	-	Gray, Silty Sand with Gravel (SM)
GC-B-005	U3	10 to 12	-27.9 to -29.9	*78.6*	40	80	80	40	40	*51.8*	6.3	50.7	-	CIUC, UUC	0.27, 0.09	YES	Black, Sandy Organic Soil (OH)
GC-B-005	U5	15 to 17	-32.9 to -34.9	*69.1*	36	45	45	9	9	*53.5*	*13.8*	58.7	10.0	UUC	0.06	YES	Black, Sandy Organic Soil (OL)
GC-B-005	S2	20 to 22	-37.9 to -39.9	*24.4*	22	39	39	17	17	78.9	-	4.2	-	-	-	-	Gray, Silty Sand with Gravel (SP)

Notes:

1 - Italics indicate that mutliple tests were performed from one sample interval and that the values have been averaged.

2 - Organic Content determined by burning off the organic matter in the soil sample and recording the change in soil matter after this process.

3 - Silt particle size is defined as between 0.074 and 0.002 mm; Clay particle size is smaller than 0.002 mm. If only silt value shown then this indicates percent fines.

4 - Type of Strength Test: (see Appendix C for stress-strain plots and detailed testing information)
UUC = Unconsolidated, undrained triaxial compression
CIUC = Consolidated isotropically, undrained triaxial compression (with pore pressure measurements)

5 - Consolidation test performed. See Appendix C for compression curves and detailed testing information.

Table 3
Undrained Shear Strength from BCPT Data
Initial Geotechnical Investigation in Support of Cap Design
Gowanus Canal Superfund Site

Locations (Boring ID)	Estimated Layer Thickness of Soft Sediments [2] (fs <200 psf)	BCPT Test Depth (feet)	S 1 (kPa)	S 1 (psf)
GC-CPT-001[1]	12.5	3	6.0	125.3
GC-CPT-002[1]	8.0	3	3.0	62.7
GC-CPT-003[1]	10.0	5	2.8	58.5
GC-CPT-004[1]	6.0	2	2.0	41.8
GC-CPT-005[1]	4.0	2	5.8	121.1
GC-CPT-006[1]	4.5	3	3.5	73.1
GC-CPT-007[1]	10.0	3	4.0	83.5
GC-CPT-008[1]	6.0	3	5.0	104.4
GC-CPT-009[1]	7.5	3	2.0	41.8
GC-CPT-010[1]	5.5	4	4.0	83.5
GC-CPT-011	8.0			
GC-CPT-012	4.5			
GC-CPT-013	7.5			
GC-CPT-014	2.0			
GC-CPT-015	6.0			
GC-CPT-016	2.5			
GC-CPT-017[1]	6.0	4	4	83.5
GC-CPT-018	5.0			
GC-CPT-019	4.0			

Notes:

1 - flow penetrometer testing (BCPT) soundings performed

2 - Average thickness of soft sediments is 6.3 feet

psf - pounds per square foot

kPa - kilopascal

Figures

SOURCE:
1. LOCATIONS TAKEN BY ConTec.
2. ESRI WORLD IMAGERY ACCESSED VIA ARCGISONLINE.COM.

0 250 500 1,000
SCALE, FEET

INITIAL GEOTECHNICAL INVESTIGATION
IN SUPPORT OF CAP DESIGN
GOWANUS CANAL SUPERFUND SITE
BROOKLYN, NEW YORK

nationalgrid

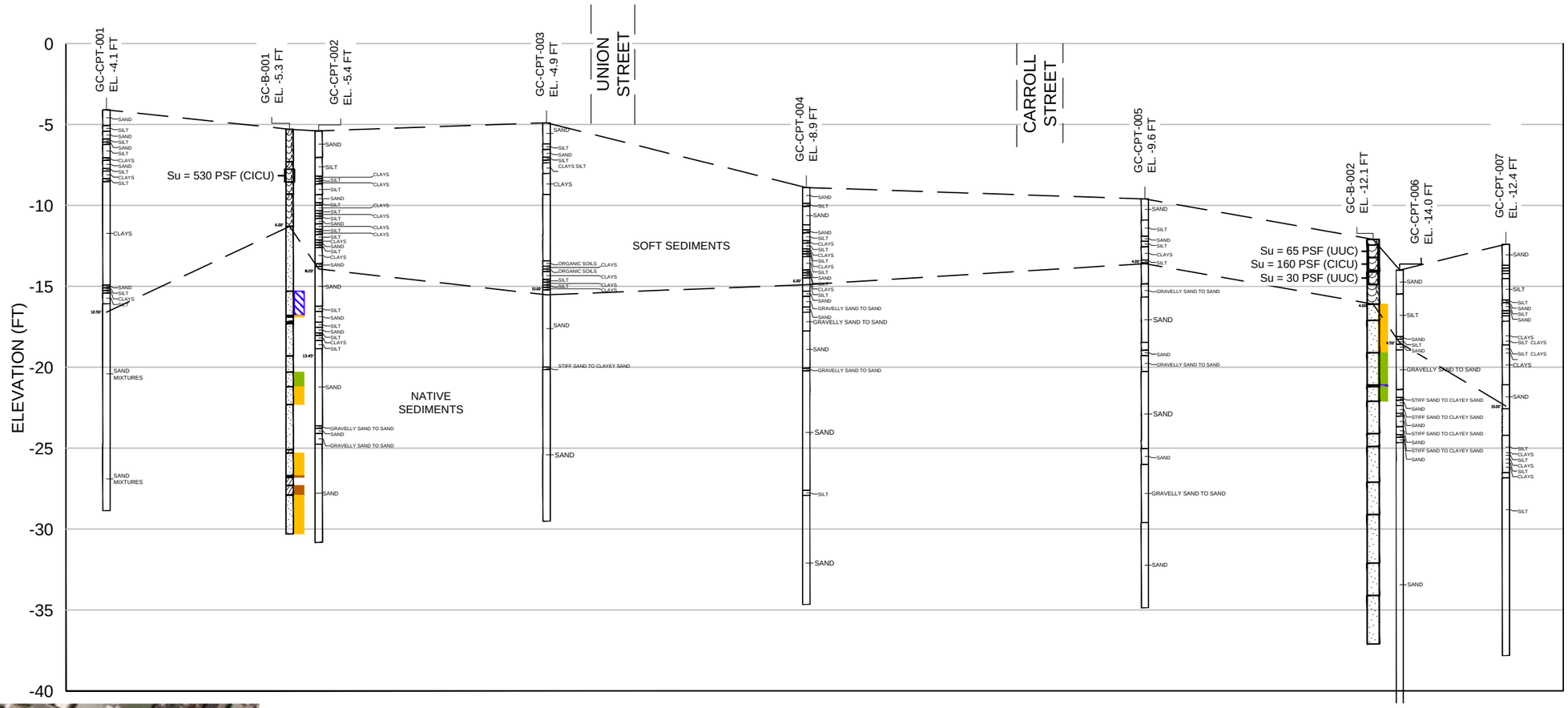
GEI Consultants

Proj. 093010-6-1606

PROJECT LOCATION AND EXPLORATORY BORING LOCATIONS

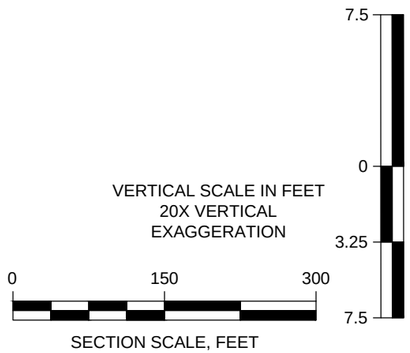
April 2013 Figure 1

J:\Projects\National_Grid\Gowanus\Remedial Design\Geotechnical Report\CPT_Locations.mxd



NOTES:

1. VISUAL OBSERVATIONS ARE NOT MADE FROM CPTU SOUNDS.
2. ELEVATIONS SHOWN ARE NAVD 88, AND ARE BASED OFF FIELD MEASUREMENTS MADE AT THE TIME OF EXPLORATION.



LEGEND:

- GC-CPT-002 — CPTU SOUNDING
- GC-B-001 — SPT BORING
- TAR SATURATED
- LENSES WITH TAR SATURATION AND TAR/NAPTHA ODORS
- BLEBS, GLOBS, LENSES, COATINGS AND TAR/NAPTHA ODORS
- TAR STAINING, SHEEN, AND TAR/NAPTHA ODORS
- PETROLEUM SHEEN/ STAINING ODORS
- HIGH PLASTICITY ORGANIC SOIL (OH)
- LOW PLASTICITY ORGANIC SOIL (OL)
- WIDELY GRADED SAND (GW)
- WIDELY GRADED SAND (SW)
- WIDELY GRADED SAND WITH SILT (SW-SM)
- NARROWLY GRADED SAND (SP)
- NARROWLY GRADED SAND WITH SILT (SP-SM)
- SILTY SAND (SM)
- SILT (ML)
- LEAN CLAY (CL)
- SILTY CLAY (ML-CL)
- Su (UUC) — UNCONSOLIDATED UNDRAINED SHEAR STRENGTH
- Su (CICU) — CONSOLIDATED UNDRAINED SHEAR STRENGTH
- PSF — POUNDS PER SQUARE FOOT

INITIAL GEOTECHNICAL INVESTIGATION
IN SUPPORT OF CAP DESIGN
GOWANUS CANAL
BOROUGH OF BROOKLYN, NEW YORK

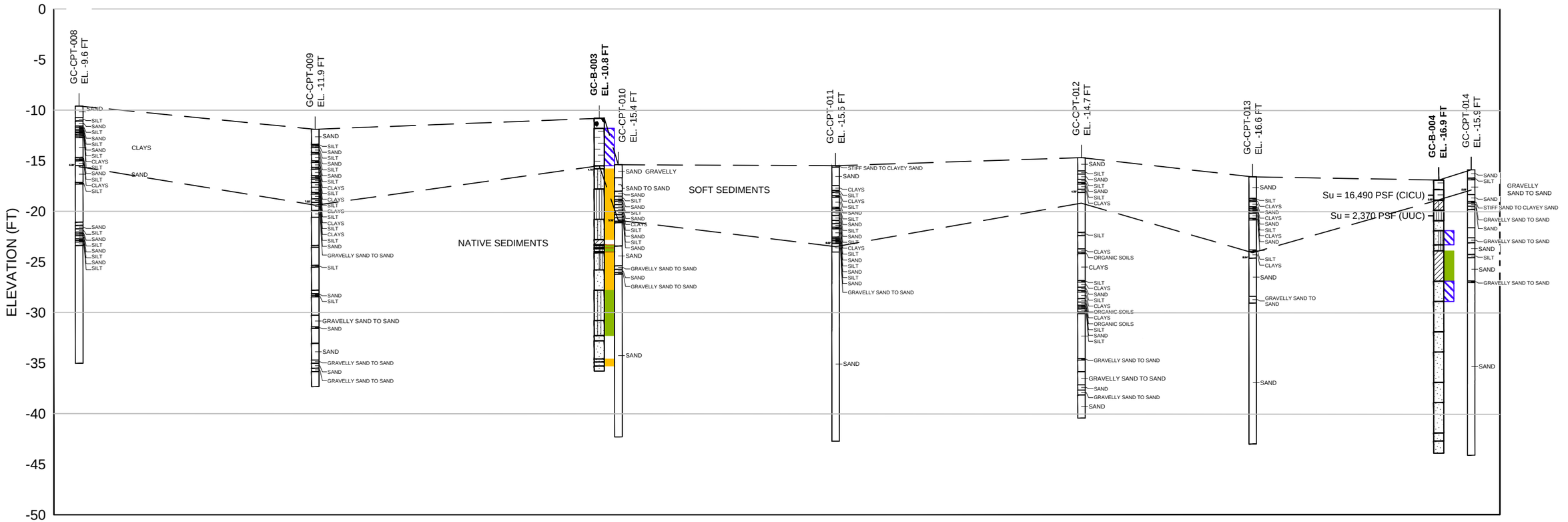
nationalgrid

GEI Consultants

CROSS SECTION #1
RTA-1

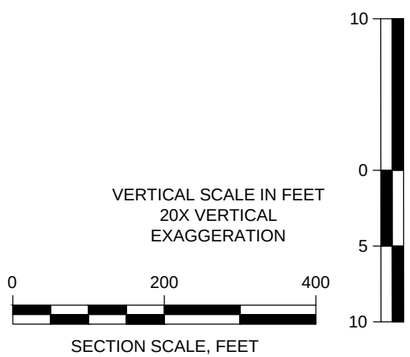
Project 093010-6-1606 | April 2013 | Figure 2

I:\Project\National Grid\GOWANUS CANAL\Geotechnical Report\F2 Geotechnical Report - Section 1.dwg



NOTES:

1. VISUAL OBSERVATIONS ARE NOT MADE FROM CPTU SOUNDS.
2. ELEVATIONS SHOWN ARE NAVD 88, AND ARE BASED OFF FIELD MEASUREMENTS MADE AT THE TIME OF EXPLORATION.



LEGEND:

- GC-CPT-002 — CPTU SOUNDING
- GC-B-001 — SPT BORING
- TAR SATURATED
- LENSES WITH TAR SATURATION AND TAR/NAPTHA ODORS
- BLEBS, GLOBS, LENSES, COATINGS AND TAR/NAPTHA ODORS
- TAR STAINING, SHEEN, AND TAR/NAPTHA ODORS
- PETROLEUM SHEEN/ STAINING ODORS
- HIGH PLASTICITY ORGANIC SOIL (OH)
- LOW PLASTICITY ORGANIC SOIL (OL)
- WIDELY GRADED SAND (GW)
- WIDELY GRADED SAND (SW)
- WIDELY GRADED SAND WITH SILT (SW-SM)
- NARROWLY GRADED SAND (SP)
- NARROWLY GRADED SAND WITH SILT (SP-SM)
- SILTY SAND (SM)
- SILT (ML)
- LEAN CLAY (CL)
- SILTY CLAY (ML-CL)
- Su (UUC) — UNCONSOLIDATED UNDRAINED SHEAR STRENGTH
- Su (CICU) — CONSOLIDATED UNDRAINED SHEAR STRENGTH
- PSF — POUNDS PER SQUARE FOOT

INITIAL GEOTECHNICAL INVESTIGATION
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GOWANUS CANAL
BOROUGH OF BROOKLYN, NEW YORK

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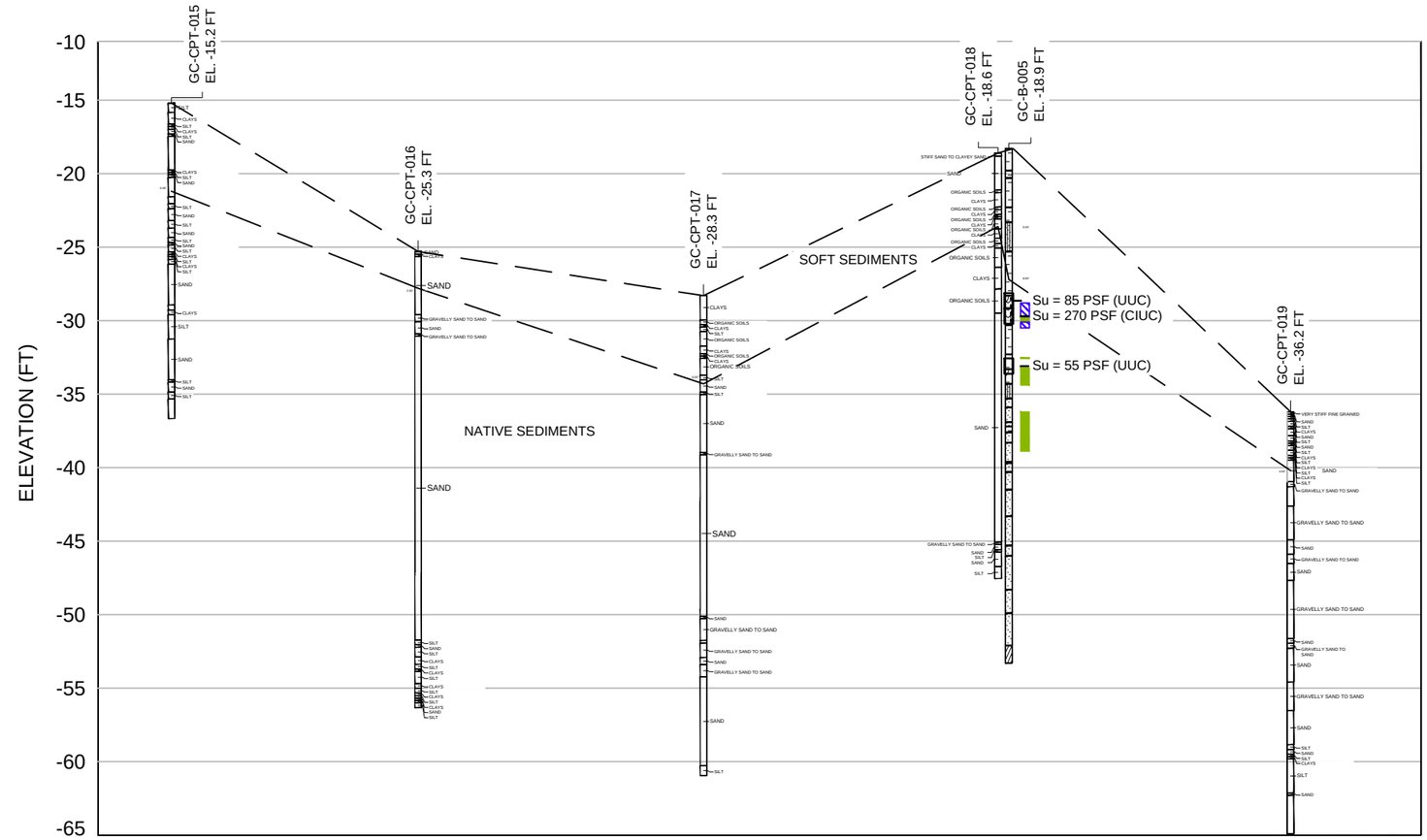
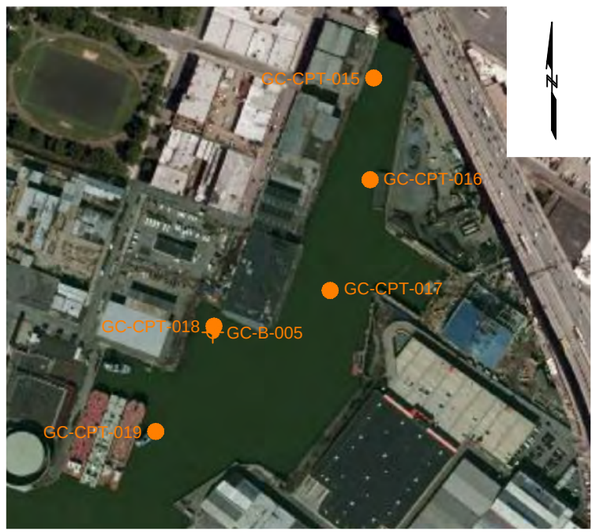
CROSS SECTION #2
RTA-2

Project 093010-6-1606 | April 2013 | Figure 3

I:\Project\National Grid\GOWANUS CANAL\Geotechnical Report\F3 Geotechnical Report - Section 2.dwg





NOTES:

1. VISUAL OBSERVATIONS ARE NOT MADE FROM CPTU SOUNDS.
2. ELEVATIONS SHOWN ARE NAVD 88, AND ARE BASED OFF FIELD MEASUREMENTS MADE AT THE TIME OF EXPLORATION.

VERTICAL SCALE IN FEET
20X VERTICAL
EXAGGERATION

0 200 400
SECTION SCALE, FEET

10
0
5
10

LEGEND:

GC-CPT-002	CPTU SOUNDING
GC-B-001	SPT BORING
	TAR SATURATED
	LENSES WITH TAR SATURATION AND TAR/NAPTHA ODORS
	BLEBS, GLOBS, LENSES, COATINGS AND TAR/NAPTHA ODORS
	TAR STAINING, SHEEN, AND TAR/NAPTHA ODORS
	PETROLEUM SHEEN/ STAINING ODORS

	HIGH PLASTICITY ORGANIC SOIL (OH)
	LOW PLASTICITY ORGANIC SOIL (OL)
	WIDELY GRADED SAND (GW)
	WIDELY GRADED SAND (SW)
	WIDELY GRADED SAND WITH SILT (SW-SM)
	NARROWLY GRADED SAND (SP)
	NARROWLY GRADED SAND WITH SILT (SP-SM)
	SILTY SAND (SM)
	SILT (ML)
	LEAN CLAY (CL)
	SILTY CLAY (ML-CL)
Su (UUC)	UNCONSOLIDATED UNDRAINED SHEAR STRENGTH
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GOWANUS CANAL
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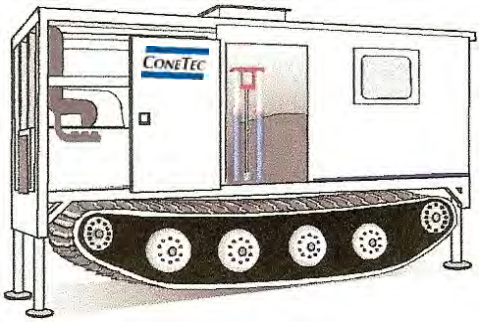
CROSS SECTION #3
RTA-3

Project 093010-6-1606 | April 2013 | Figure 4

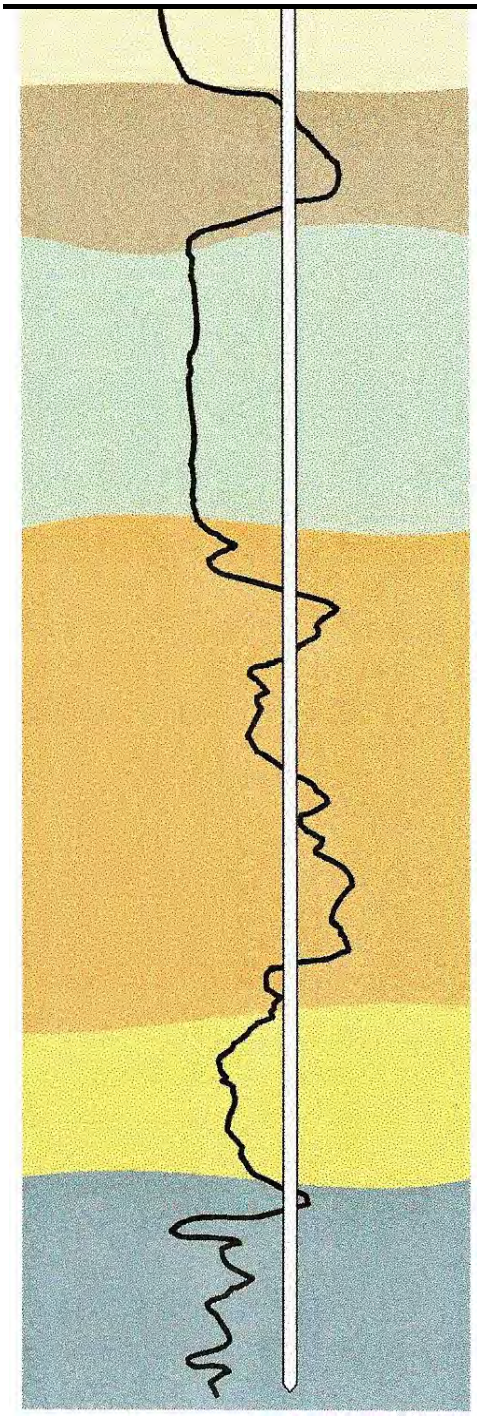
I:\Project\National Grid\GOWANUS CANAL\Geotechnical Report\F4 Geotechnical Report - Section 3.dwg

Appendix A

Cone Penetrometer Data



Geotechnical and Environmental In Situ Testing Contractors



ConeTec Field Report

Presentation of In Situ Test Results for:

Gowanus Canal
Brooklyn, New York

Presented to: GEI Consultants

Date: October 3rd, 2012

Presented by: ConeTec, Inc.
436 Commerce Lane
Unit C
West Berlin, NJ 08091
(856) 767-8600

PRESENTATION OF IN SITU TESTING PROGRAM RESULTS

Gowanus Canal
Brooklyn, New York

August 21st through 24th & 27th, 28th, 2012

Prepared for:

GEI Consultants
Glastonbury, Connecticut

Prepared by:

ConeTec Inc.
West Berlin, NJ

October 3rd, 2012

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1.0 INTRODUCTION

This report presents the results of a piezocone penetrometer testing (CPTU) and flow penetrometer testing (BCPT) programs carried out on the Gowanus Canal Site located in Brooklyn, New York. The work was performed under subcontract to GEI Consultants of Glastonbury, Connecticut. The CPTU & BCPT programs took place from August 21st through August 28th, 2012.

A total of nineteen CPTU soundings were completed at nineteen different sounding locations. The CPT testing was performed to evaluate insitu geotechnical criteria of the soils.

A total of ten BCPT soundings were completed at ten of the above CPTU locations. BCPT soundings were performed to evaluate the undrained shear strengths of the soil.

CPT sounding locations were selected and numbered under the direction and supervision of GEI personnel.

2.0 FIELD EQUIPMENT AND PROCEDURES

2.1 CONE PENETRATION TESTING

The cone penetrometer tests were carried out using an integrated electronic piezocone manufactured by ConeTec in Vancouver, Canada. The piezocone used for the CPTu's was a compression model cone penetrometer with a 15 cm^2 tip and a 225 cm^2 friction sleeve. The cone is designed with an equal end area friction sleeve and a tip end area ratio of 0.80. The piezocone dimensions and the operating procedure were in accordance with ASTM Standard D-5778-07. A diagram of the cone penetrometer used for this project is shown as Figure 1.

Pore pressure filter elements, made of porous plastic, were saturated under a vacuum using silicone as the saturating fluid. The pore pressure element was six millimeters thick and was located immediately behind the tip (the u_2 location) for all soundings.

The cone was advanced using Boart Longyear's Drill Rig mounted on a spud barge. The following data were recorded onto magnetic media every five centimeters (approximately every two inches) as the cone was advanced into the ground:

- Tip Resistance (qc)
- Sleeve Friction (fs)
- Dynamic Pore Pressure (u_t)

Before each sounding a complete set of analog baseline readings are taken with a multi-meter and compared with the digitized value on the computer screen. This provides a check on the analog to digital conversion board.

Evaluation of the analog baselines is key to consistent readings. The baseline data should be stable and should not wander excessively during the course of a sounding. Baseline data can be used to apply corrections to the cone data where necessary. For this project, the baseline shift from sounding to sounding was small, typically less than 0.1% of full scale, and no data corrections were applied.

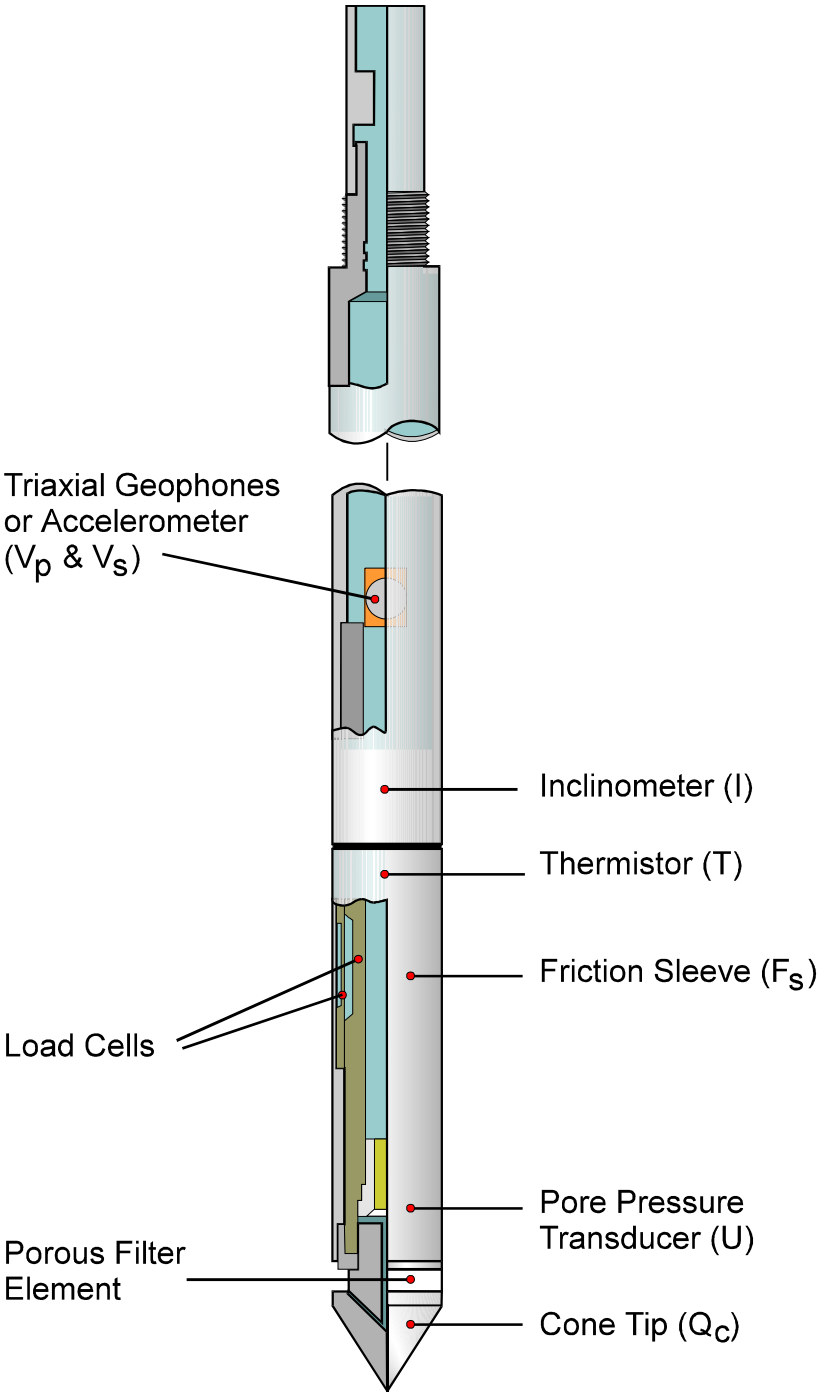


FIGURE 1 - TYPICAL CONE PENETROMETER

2.2 PORE PRESSURE DISSIPATION TESTS

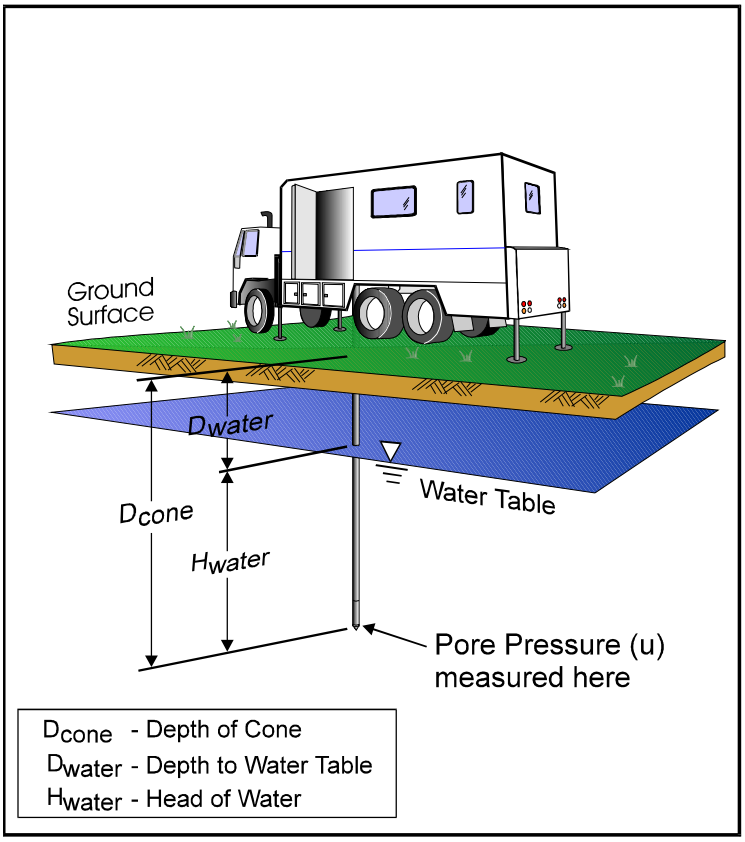
When cone penetration is stopped, the piezocone essentially becomes a piezometer. While stopped, pore water pressures are automatically recorded at five-second intervals and the readings are stored in a dissipation file (.ppd). Dissipation data can then be plotted onto a dissipation curve consisting of pore water pressure (u) verses time (t). The shapes of dissipation curves are very useful in evaluating soil type, drainage and in situ static water level.

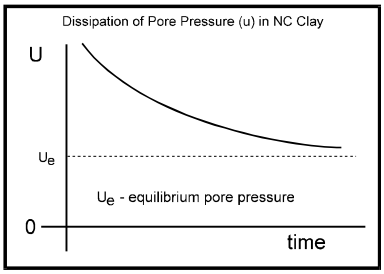
A flat curve that stabilizes quickly (i.e. less than 30 seconds) is typical of a free draining sand. In this case, the final measured pore water pressure is the static in situ water pressure.

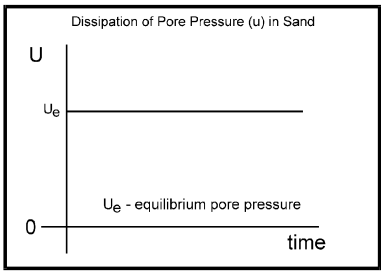
Soils that generate excess dynamic pore water pressure during penetration will dissipate this excess pressure when penetration stops. The shape of the dissipation curve and the time of dissipation can be used to estimate C_h, the coefficient of consolidation that can in turn be used to calculate K_h, the horizontal permeability.

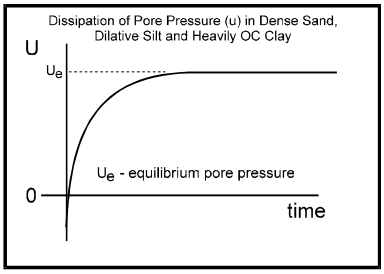
Figure 2 shows some idealized shapes of various pore water pressure dissipation curves. The reader is referred Robertson et. al., 1990 to reference dissipation test data analytical techniques.

Estimation of Ground Water Table from CPT Dissipation Tests









Water Table Calculation

$$D_{water} = D_{cone} - H_{water}$$

where $H_{water} = U_e$ (depth units)

Useful Conversion Factors: 1psi = 0.704m = 2.31 feet (water)
1tsf = 0.958 bar = 13.9 psi
1m = 3.28 feet

FIGURE 2 - TYPICAL DISSIPATION TESTS

2.3 FLOW PENETROMETER PROCEDURES

Full flow penetrometer testing is used for assessing the undrained shear strength (S_u) of low to medium strength soils. The test incorporates a standard cone penetrometer body (typically 10 cm^2 plan area) and a spherical attachment that replaces the standard 60 degree conical tip, as shown in Figure 4.

During penetration soil is able to flow around the penetrometer, significantly reducing the influence of overburden stress as compared to the cone penetration test (CPT). The undrained shear strength derived from the full flow penetration test is related to the net penetration resistance using the following relationship:

$$S_u = q_{net} / N \quad \text{where N typically varies between 10.0 and 11.0}$$

Although the N factor is generally considered to be unique across soil deposits, experience has shown that some minor variation does exist. However this variation is generally less compared to the N_{kt} factor for the standard CPT. Data is recorded continuously and the test is performed in the same manner as the CPT. Because of the subdued sleeve and pore pressure response full flow penetration test results are not used for the interpretation of other geotechnical parameters or for soil classification. The test may be interrupted at selected depths to cycle the probe up and down to in order to achieve a completely remolded soil state to provide an indication of sensitivity in soft soils. For the calculations to be valid, full flow of soil around the probe must be assumed.

A standard 10 ton, 10 cm^2 cone penetrometer body was used with a spherical attachment resulting in a projected area of (A_b) 60 cm^2.

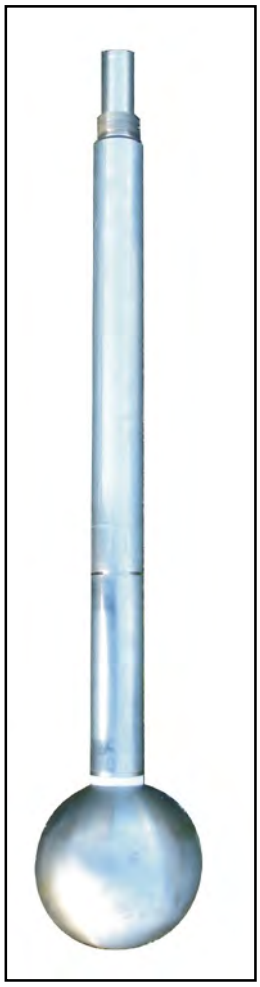


FIGURE 3 - TYPICAL FLOW PENETROMETER

2.4 FLOW PENETROMETER RESULTS

Continuous and cycling profiles of undrained shear strength (Su) from the ball penetrometer tests for this project are presented in Appendix D. The unit weights used for calculating the undrained shear strength were based on assigned unit weights from SBT zones of the adjacent CPT soundings. The plots presented shows the initial ball penetration, cycling and undrained shear strength results from the vane tests. Cycling data allows for an easy comparison of the initial strength to the residual or post peak strength, and finally to the completely remolded strength of the soil.

3.0 CONE PENETRATION TEST DATA AND INTERPRETATION

3.1 ANALYSIS OF PIEZOCONE DATA - GENERAL

A total of nineteen CPT & BCPT soundings, involving 806.26 feet of testing, were completed.

The interpretation of cone data is based on the relationship between cone bearing, qc, sleeve friction, fs, and penetration resistance, high friction pore water pressure, u. The friction ratio, Rf , (sleeve friction divided by cone bearing) is a calculated parameter which is used to infer soil behavior type. Generally, saturated cohesive soils have low tip ratios and generate large excess pore water pressures. Cohesionless soils have higher tip resistances, lower friction ratios and do not generate significant excess pore water pressure.

The interpretation of soils encountered on this project was carried out using correlations developed by Robertson et al., 1992. It should be noted that it is not always possible to clearly identify a soil type based on qc, fs and u. Occasionally soils will fall within different soil categories on the classification charts. In these situations, experience and judgment and an assessment of the pore pressure dissipation data should be used to infer the soil behavior type. Computer tabulations of the interpreted soil types along with certain other geotechnical parameters for each cone hole is presented in Appendix B.

Each of the parameters measured in the sounding is discussed briefly below. A detailed explanation of CPTU testing and interpretation of the results can be found in Robertson, 1989.

TIP RESISTANCE (q_c): The resistance to penetration, measured at the cone tip, provides an accurate profile of subsurface strata. The recorded tip resistance is a composite of the penetration resistance of the soils located five to ten cone diameters (7 to 14 inches) in front of and behind the tip. The actual resistance "sensed" by the tip depends on the soil properties and on the relative stiffness of the layers encountered. Tip resistance is often corrected for pore pressure effects when testing in soft saturated cohesive soils.

For this project the correction was made and the tip resistance shown, q_t is the corrected tip resistance.

The correction used is: $q_t = q_c + (1\text{-}a)u$

Where: q_t = corrected tip resistance
q_c = measured tip resistance
a = net area ratio for cone (0.80 for this project)
u = dynamic pore water pressure measured behind tip

SLEEVE FRICTION (f_s) The resistance recorded on the friction sleeve, is a measure of the remolded strength of the soil. Values of sleeve friction in very soft soils (such as peat) may fluctuate due to the measured force being small relative to the capacity of the measuring load cell.

FRICTION RATIO (R_f) The ratio of sleeve friction to tip resistance expressed as a percentage, is an indicator of soil type. Cohesive soils generally have friction ratios that are greater than two, while sands and non-plastic silts have friction ratios that are lower than two.

PORE PRESSURE (u*)* Dynamic pore water pressure is measured during penetration. (dynamic pore water pressure data can be found in the .cor, and .xls files. Static pore water pressure is measured when cone penetration is stopped (static pore water pressure data can be found in the .ppd files). The measured dynamic pore water pressure changes with the location of the porous filter and negative readings are possible when the filter is located behind the tip.

It is important to note that the CPT classifies soil by physical behavior, not by grain size; therefore, the CPT classification should be verified against samples obtained from a conventional drilling program. While the CPT soil classification may not always be accurate in terms of the actual label it applies to a particular soil, it is very accurate in grouping soils with similar mechanical properties.

3.2 CONE PLOTS

The data from each sounding was plotted using the computer program SCREENzW. The plots are included in Appendix A. SCREENzW was developed by ConeTec Inc. and it incorporates soil behavior type (SBT) classification as part of the plot. The soil classification is based on the classification chart reproduced chart in Appendix B.

3.3 PORE PRESSURE DISSIPATION TEST RESULTS

Pore water pressure dissipation data are collected and automatically recorded during pauses in penetration. The pore water pressure data is recorded at five second intervals. No pore water pressure dissipation tests were performed on this project.

3.4 CPT DATA PROCESSING

The electronic data files were processed using the program SCREENzW. SCREENzW is a program developed by ConeTec to calculate common engineering parameters from CPT data. The processed data file summery sheet is attached in Appendix B. The files (.xls) are also included in the CDS package. The calculations used are summarized in the table at the front of the Appendix. Each calculation is derived according to the referenced article.

For this project, the depth to ground water used was determined to be the canal surface. The exact depth used is noted in the header of each ifi.xls file.

3.5 ELECTRONIC DATA FILES

Along with the report, all of the project data can be downloaded from ConeTec's "ConeTec Data Services" (CDS) website (www.conetecdataservices.com) using a secure, project-specific user name and password. These electronic files contain all important project information including tabular data (.xls and ASCII formats), GPS coordinates of approximate sounding locations, dynamic and static pore water pressure and some basic interpretation files in Microsoft™ Excel format (.xls). Information regarding the digital file formats of the electronic files is included in Appendix E.

5.0 REFERENCES

Robertson, P.K., 1989, “Soil Classification using the Cone Penetration Test”, Canadian Geotechnical Journal, vol. 27, pages 151-158.

Robertson, P.K., Sully, J., Woeller, D.G., Lunne, T., Powell, J.M., and Gillespie, D.J., 1992, “Estimating Coefficient of Consolidation from Piezocone Tests”, Canadian Geotechnical Journal, vol. 29, pages 539-550.

Appendix A

TABLE 1 - SUMMARY OF CPT SOUNDINGS

Job No.: 12-748
Location: Gowanus Canal - Brooklyn, New York
Client: GEI Consultants
Date: August 21, 22, 23, 24, 27 & 28, 2012

Date	CPTU Sounding	Filename	Total Depth (ft)	Flow Penetrometer Performed	Northing UTM Zone 18 (m)	Easting UTM Zone 18 (m)
8/21/2012	GC-CPT-001	748CP01.COR	32.48	yes	4503838	585576
8/21/2012	GC-CPT-002	748CP02.COR	32.32	yes	4503776	585536
8/22/2012	GC-CPT-003	748CP03.COR	31.50	yes	4503692	585502
8/22/2012	GC-CPT-004	748CP04.COR	35.60	yes	4503601	585466
8/22/2012	GC-CPT-005	748CP05.COR	38.55	yes	4503479	585431
8/22/2012	GC-CPT-006	748CP06.COR	39.37	yes	4503401	585396
8/23/2012	GC-CPT-007	748CP07.COR	35.43	yes	4503356	585374
8/23/2012	GC-CPT-008	748CP08.COR	38.88	yes	4503252	585323
8/24/2012	GC-CPT-009	748CP09.COR	32.32	yes	4503271	585182
8/24/2012	GC-CPT-010	748CP10.COR	38.71		4503287	585000
8/24/2012	GC-CPT-011	748CP11.COR	45.11		4503203	584903
8/24/2012	GC-CPT-012	748CP12.COR	38.71		4503085	584813
8/27/2012	GC-CPT-013	748CP13.COR	41.99		4502994	584764
8/27/2012	GC-CPT-014	748CP14.COR	44.13		4502884	584692
8/27/2012	GC-CPT-015	748CP15.COR	47.08		4502719	584601
8/28/2012	GC-CPT-016	748CP16.COR	55.12		4502616	584598
8/28/2012	GC-CPT-017	748CP17.COR	61.68	yes	4502505	584559
8/28/2012	GC-CPT-018	748CP18.COR	55.28		4502468	584442
8/28/2012	GC-CPT-019	748CP19.COR	62.01		4502362	584384
Totals:		19	806.26			

Note: Coordinates are in UTM-NAD83 (meters) Zone 18.

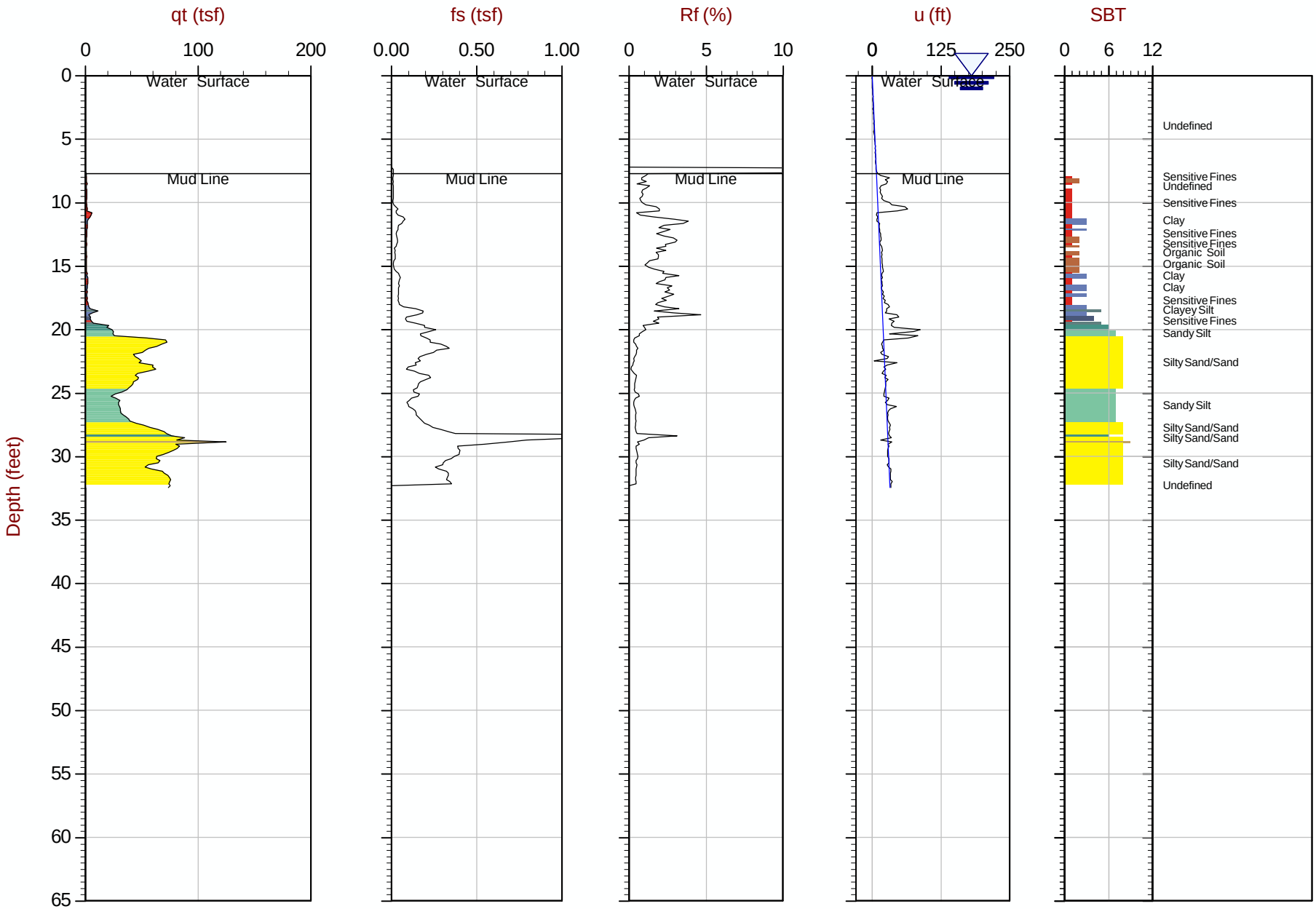
Non-Normalized CPT Plots

CONETEC

GEI Consultants

Job No: 12-748
Date: 08:21:12 10:43
Site: Gowanus Canal

Sounding: GC-CPT-001
Cone: 366:T1500F15U500



Max Depth: 9.900 m / 32.48 ft
Depth Inc: 0.050 m / 0.164 ft

File: 748CP01.COR

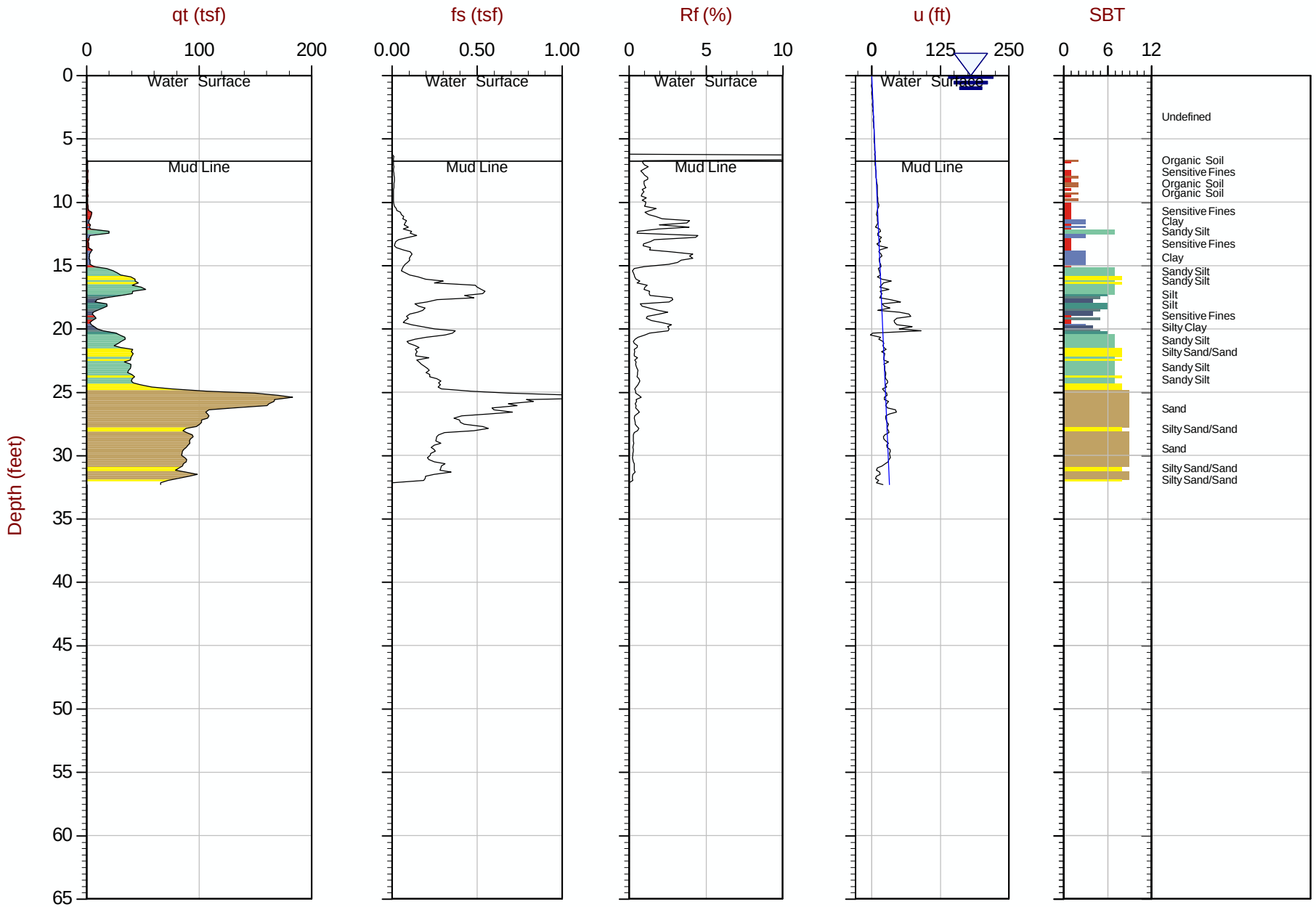
SBT: Lunne, Robertson and Powell, 1997
Coords: UTM Zone 18 N: 4503838 E: 585576

CONETEC

GEI Consultants

Job No: 12-748
Date: 08:21:12 08:56
Site: Gowanus Canal

Sounding: GC-CPT-002
Cone: 366:T1500F15U500



Max Depth: 9.850 m / 32.32 ft
Depth Inc: 0.050 m / 0.164 ft

File: 748CP02.COR

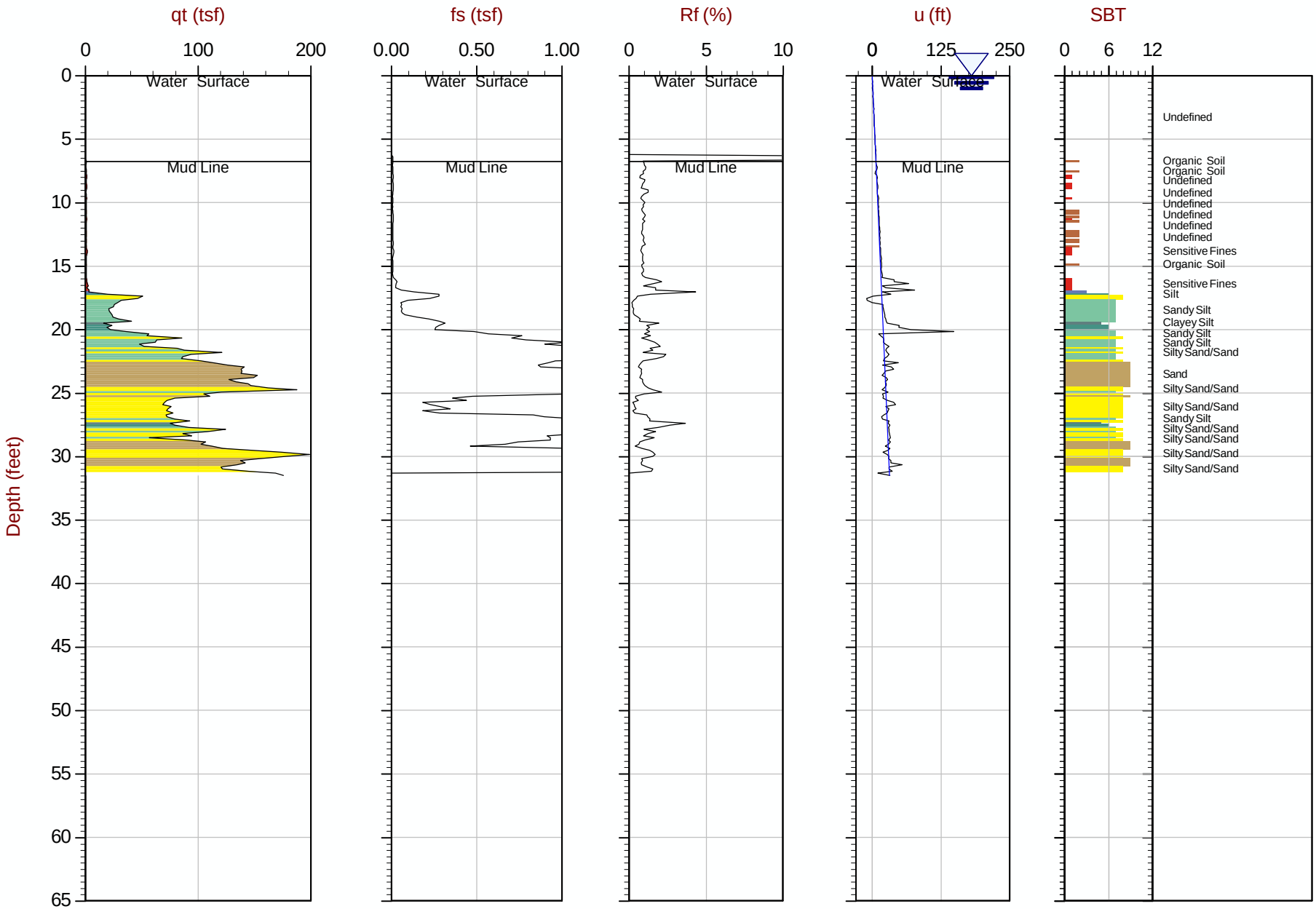
SBT: Lunne, Robertson and Powell, 1997
Coords: UTM Zone 18 N: 4503776 E: 585536

CONETEC

GEI Consultants

Job No: 12-748
Date: 08:22:12 08:11
Site: Gowanus Canal

Sounding: GC-CPT-003
Cone: 366:T1500F15U500



Max Depth: 9.600 m / 31.50 ft
Depth Inc: 0.050 m / 0.164 ft

File: 748CP03.COR

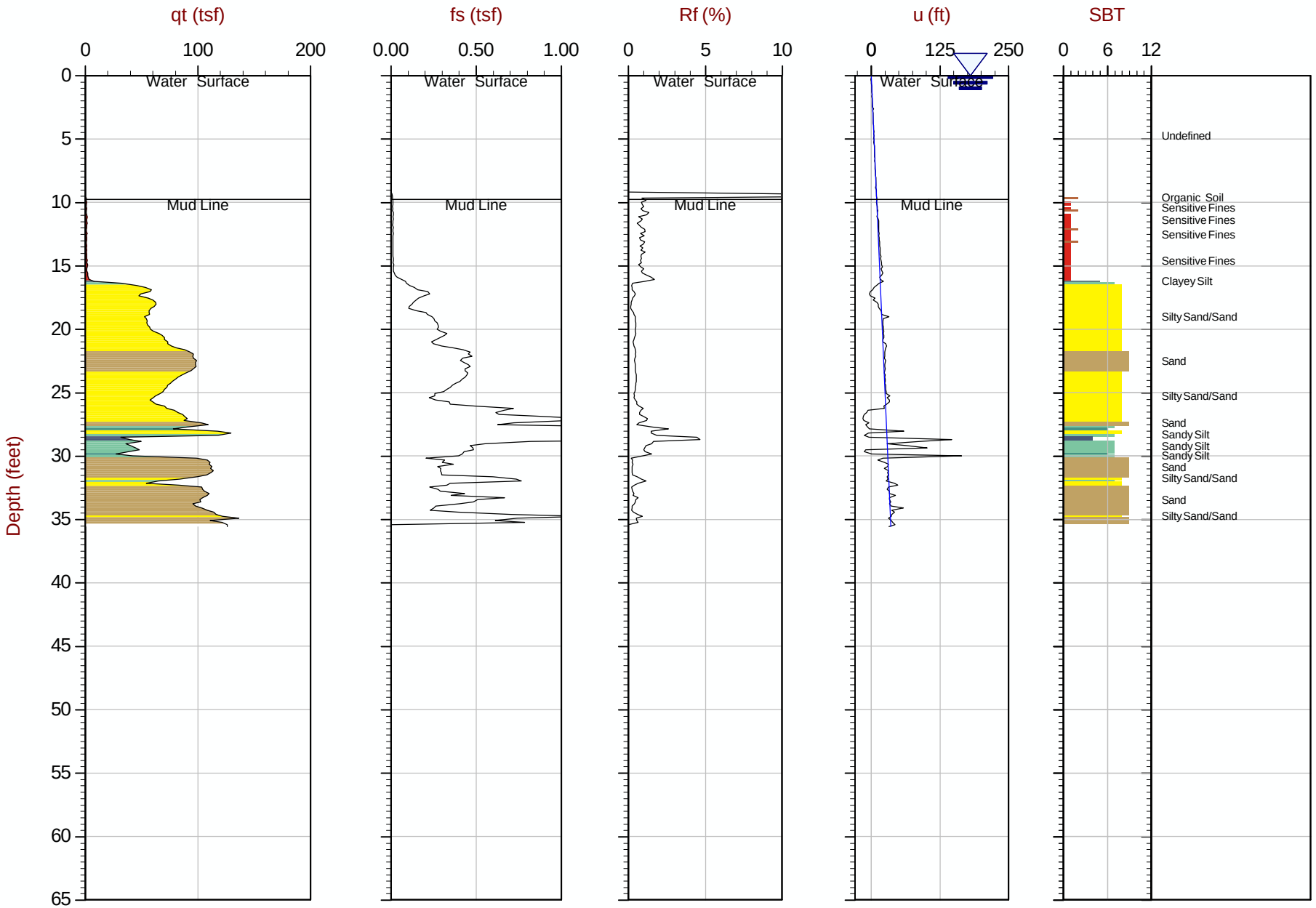
SBT: Lunne, Robertson and Powell, 1997
Coords: UTM Zone 18 N: 4503692 E: 585502

CONETEC

GEI Consultants

Job No: 12-748
Date: 08:22:12 09:27
Site: Gowanus Canal

Sounding: GC-CPT-004
Cone: 366:T1500F15U500



Max Depth: 10.850 m / 35.60 ft
Depth Inc: 0.050 m / 0.164 ft

File: 748CP04.COR

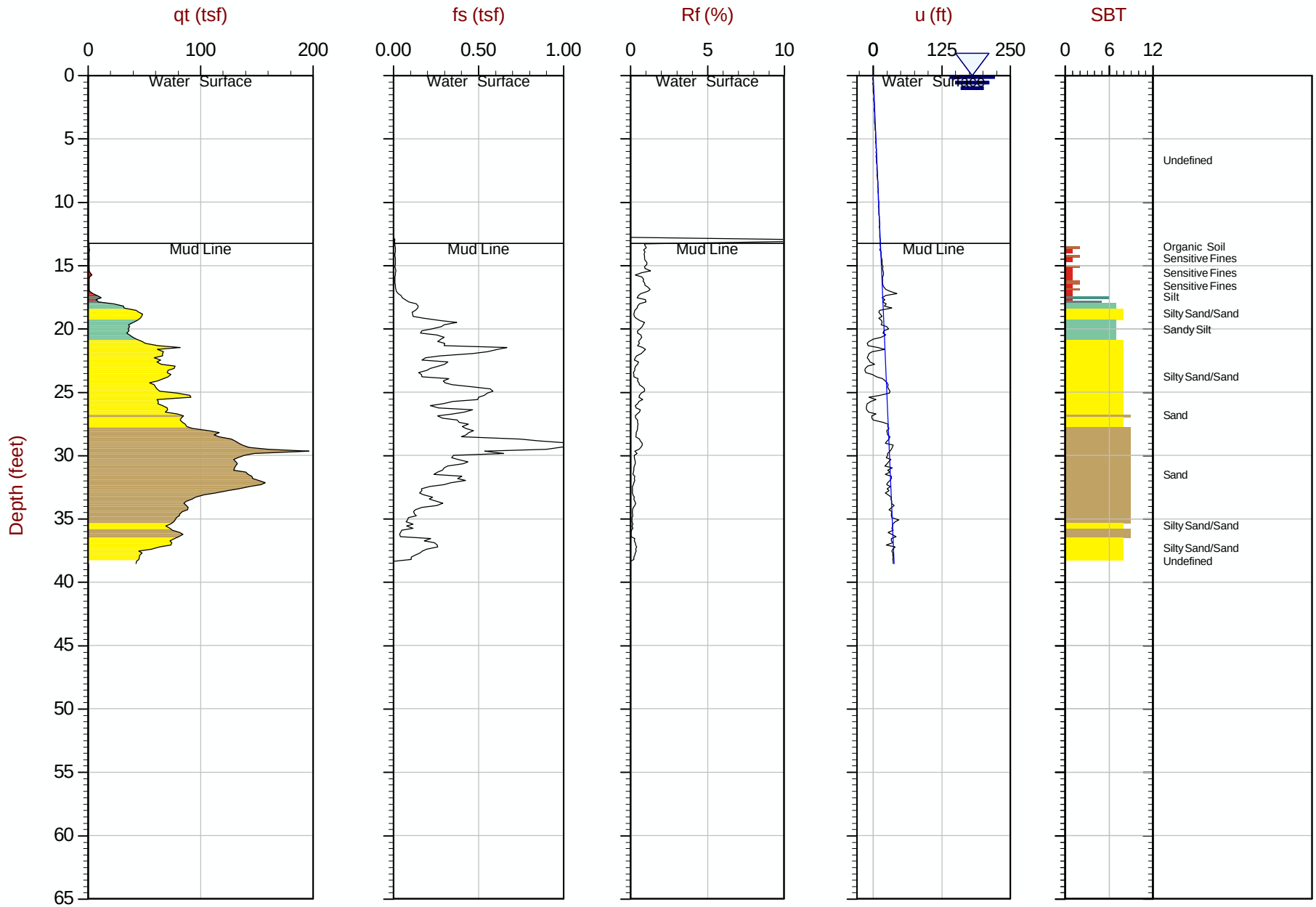
SBT: Lunne, Robertson and Powell, 1997
Coords: UTM Zone 18 N: 4503601 E: 585466

CONETEC

GEI Consultants

Job No: 12-748
Date: 08:22:12 12:24
Site: Gowanus Canal

Sounding: GC-CPT-005
Cone: 366:T1500F15U500



Max Depth: 11.750 m / 38.55 ft
Depth Inc: 0.050 m / 0.164 ft

File: 748CP05.COR

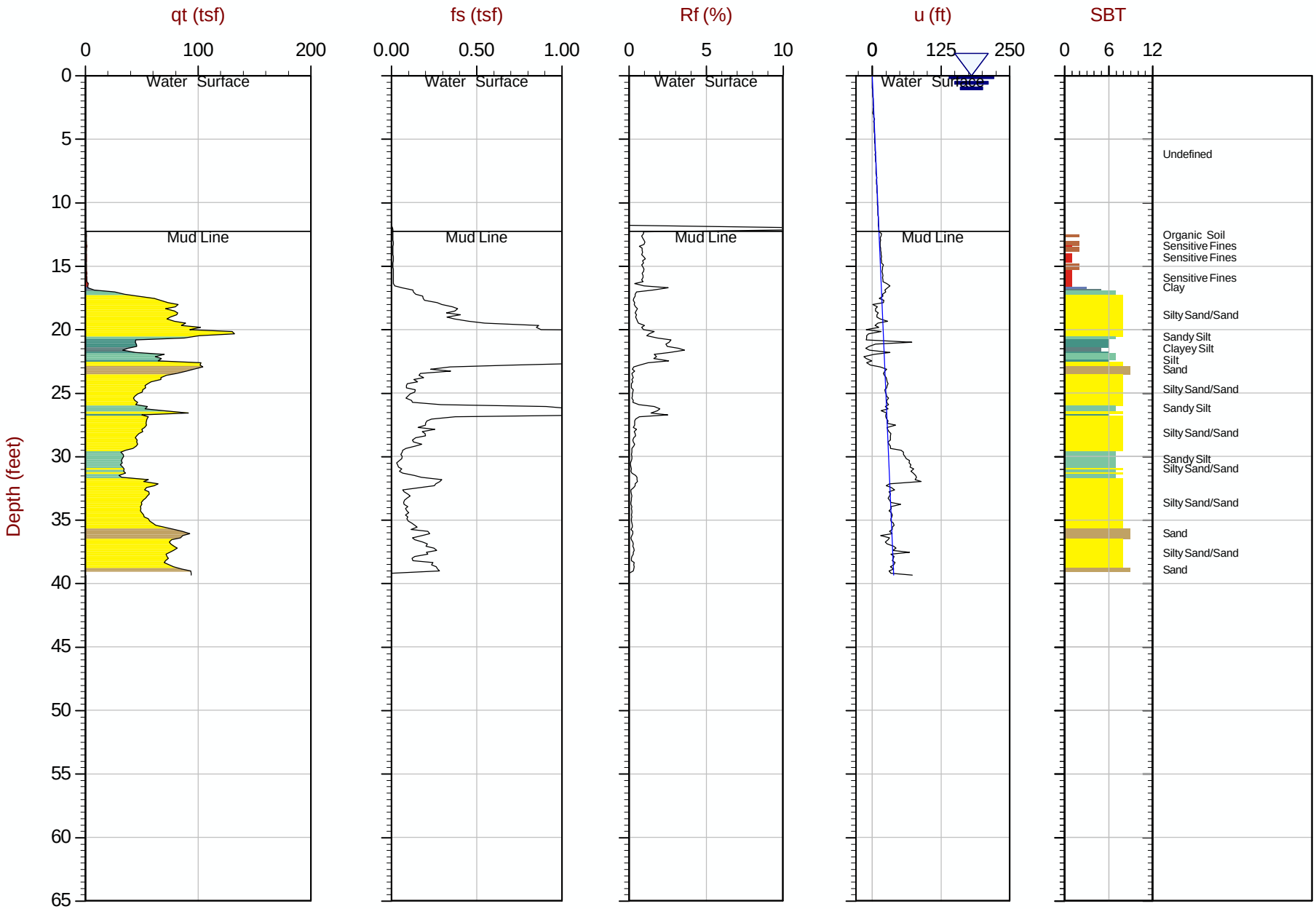
SBT: Lunne, Robertson and Powell, 1997
Coords: UTM Zone 18 N: 4503479 E: 585431

CONETEC

GEI Consultants

Job No: 12-748
Date: 08:22:12 13:47
Site: Gowanus Canal

Sounding: GC-CPT-006
Cone: 366:T1500F15U500



Max Depth: 12.000 m / 39.37 ft
Depth Inc: 0.050 m / 0.164 ft

File: 748CP06.COR

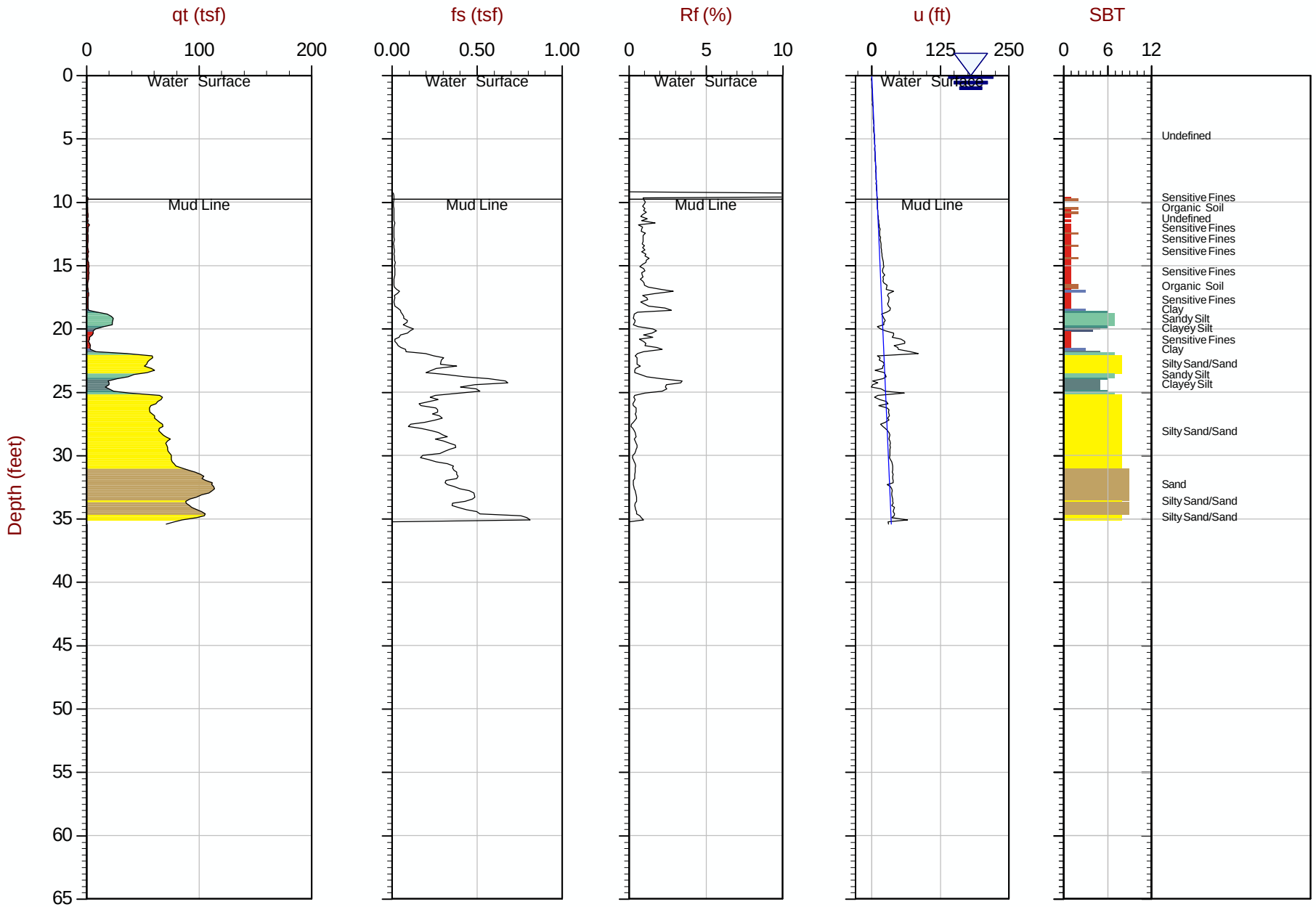
SBT: Lunne, Robertson and Powell, 1997
Coords: UTM Zone 18 N: 4503401 E: 585396

CONETEC

GEI Consultants

Job No: 12-748
Date: 08:23:12 09:23
Site: Gowanus Canal

Sounding: GC-CPT-007
Cone: 366:T1500F15U500



Max Depth: 10.800 m / 35.43 ft
Depth Inc: 0.050 m / 0.164 ft

File: 748CP07.COR

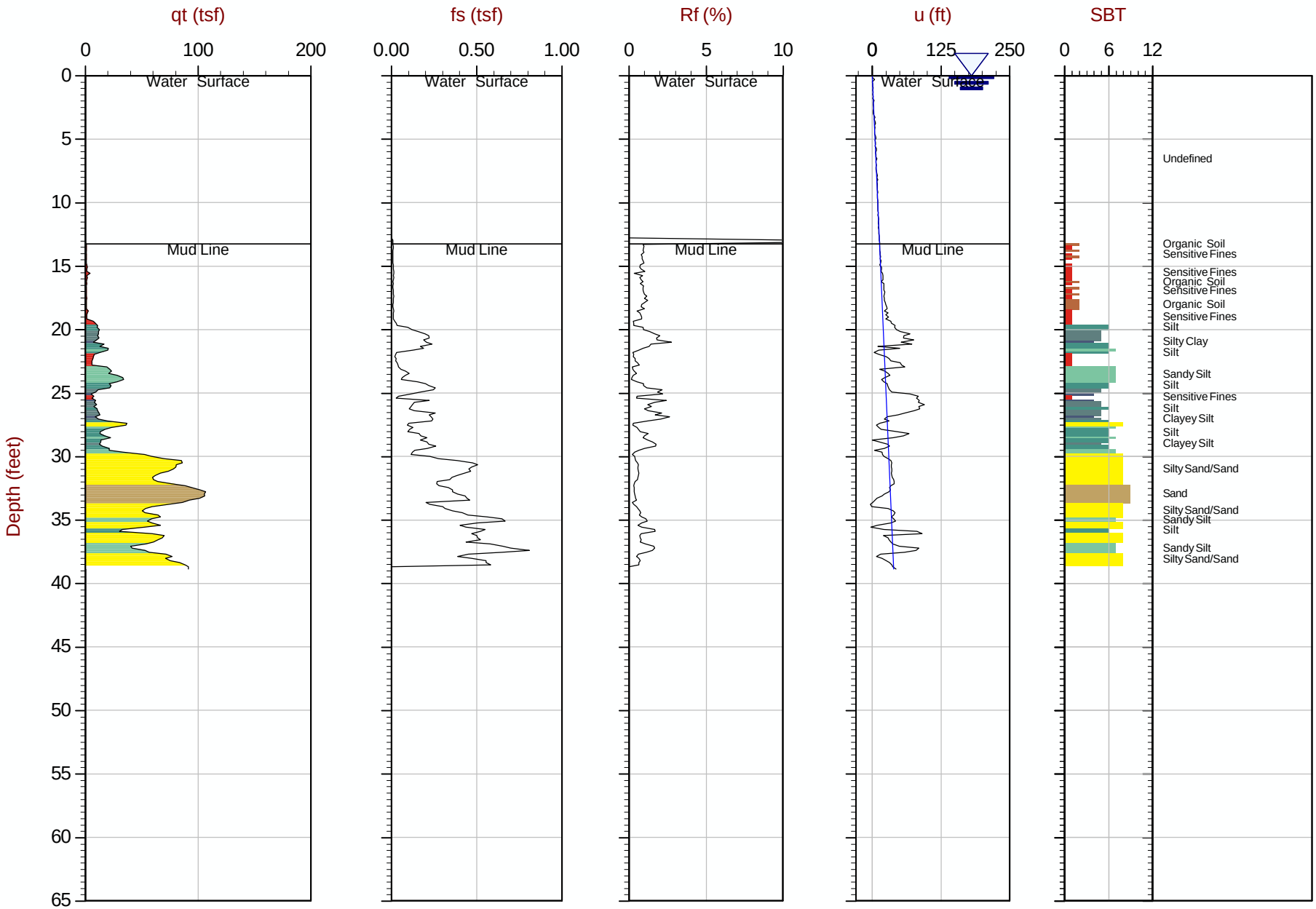
SBT: Lunne, Robertson and Powell, 1997
Coords: UTM Zone 18 N: 4503356 E: 585374

CONETEC

GEI Consultants

Job No: 12-748
Date: 08:23:12 11:40
Site: Gowanus Canal

Sounding: GC-CPT-008
Cone: 366:T1500F15U500



Max Depth: 11.850 m / 38.88 ft
Depth Inc: 0.050 m / 0.164 ft

File: 748CP08.COR

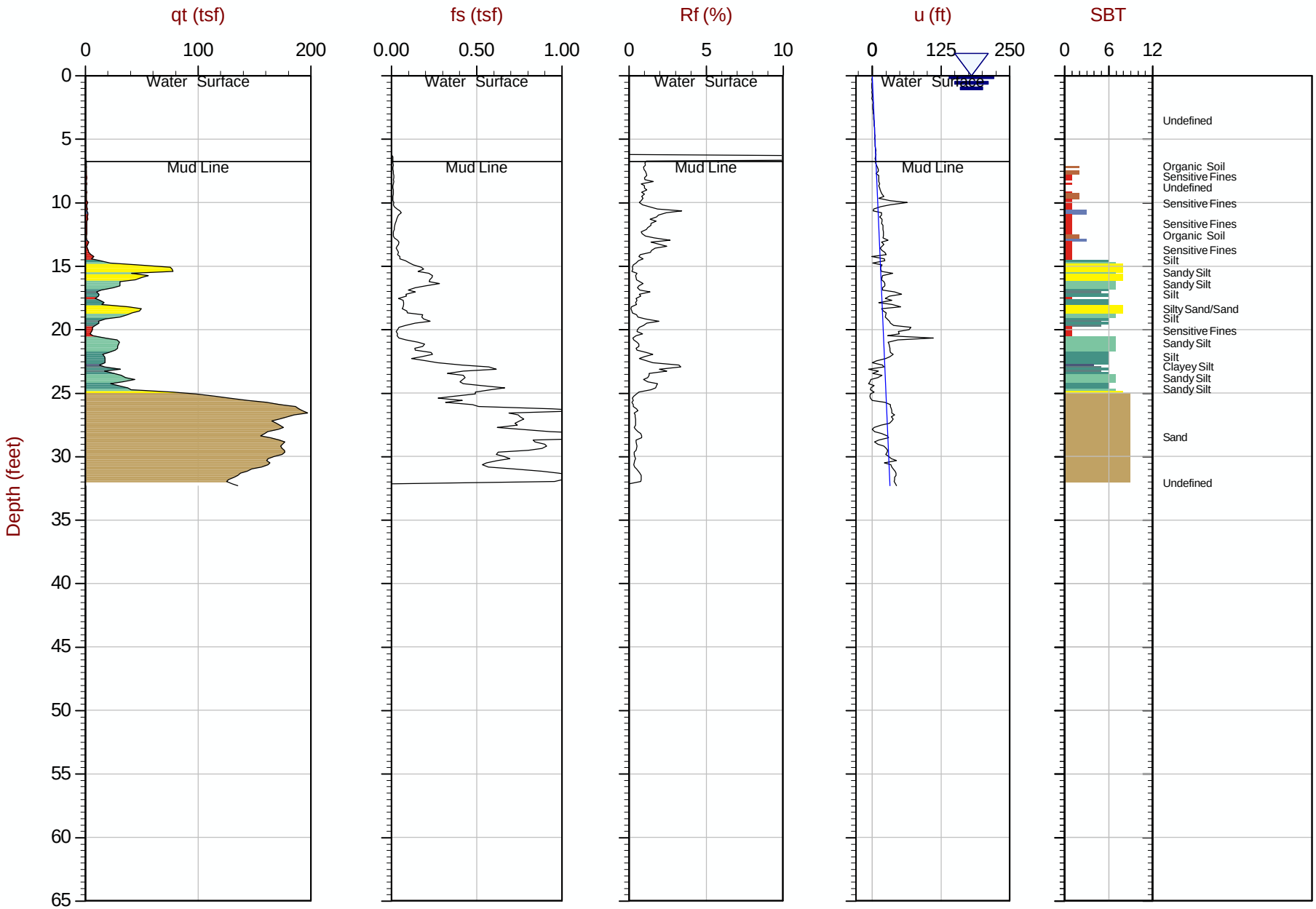
SBT: Lunne, Robertson and Powell, 1997
Coords: UTM Zone 18 N: 4503252 E: 585323

CONETEC

GEI Consultants

Job No: 12-748
Date: 08:24:12 07:39
Site: Gowanus Canal

Sounding: GC-CPT-009
Cone: 366:T1500F15U500



Max Depth: 9.850 m / 32.32 ft
Depth Inc: 0.050 m / 0.164 ft

File: 748CP09.COR

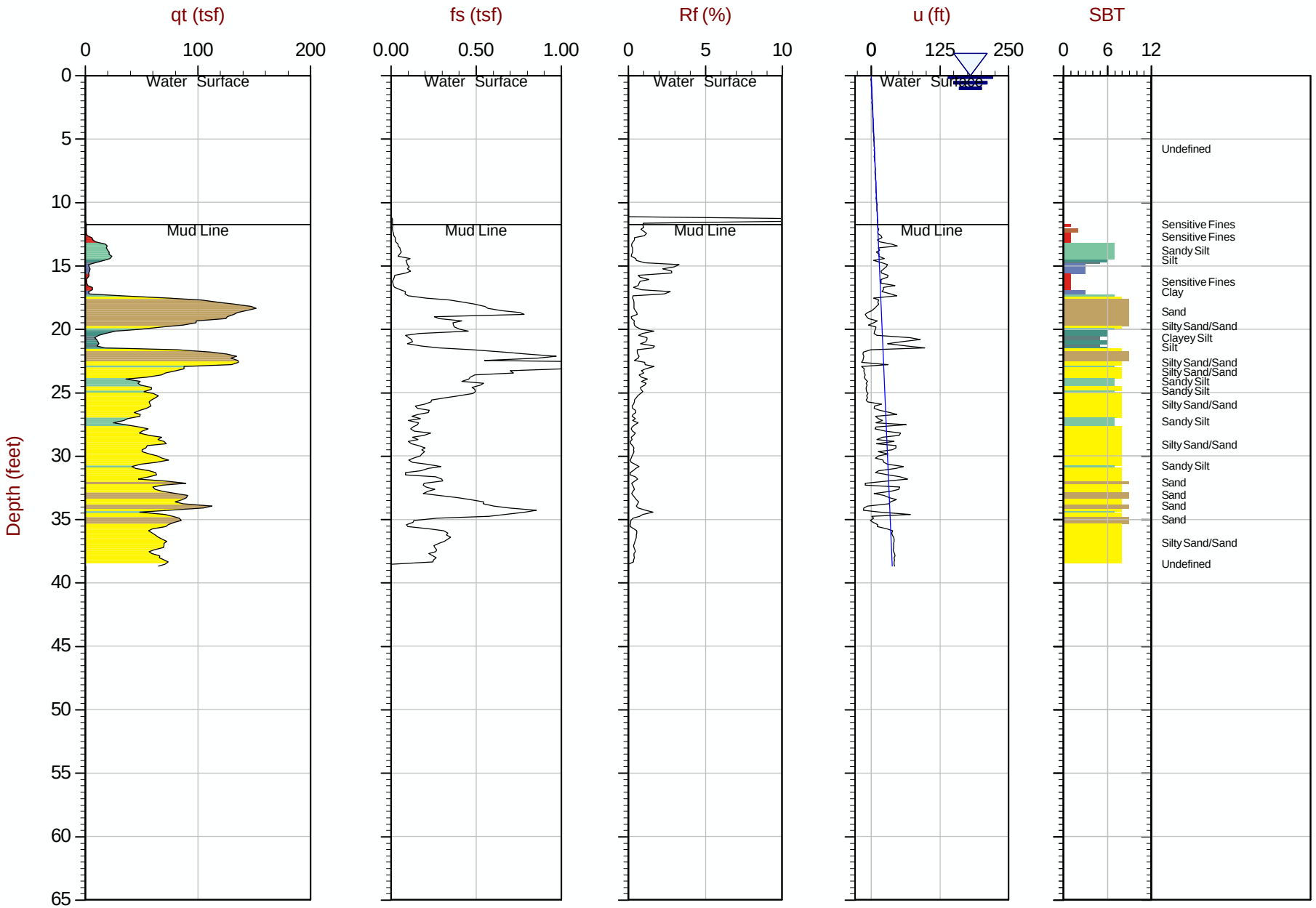
SBT: Lunne, Robertson and Powell, 1997
Coords: UTM Zone 18 N: 4503271 E: 585182

CONETEC

GEI Consultants

Job No: 12-748
Date: 08:24:12 08:55
Site: Gowanus Canal

Sounding: GC-CPT-010
Cone: 366:T1500F15U500



Max Depth: 11.800 m / 38.71 ft
Depth Inc: 0.050 m / 0.164 ft

File: 748CP10.COR

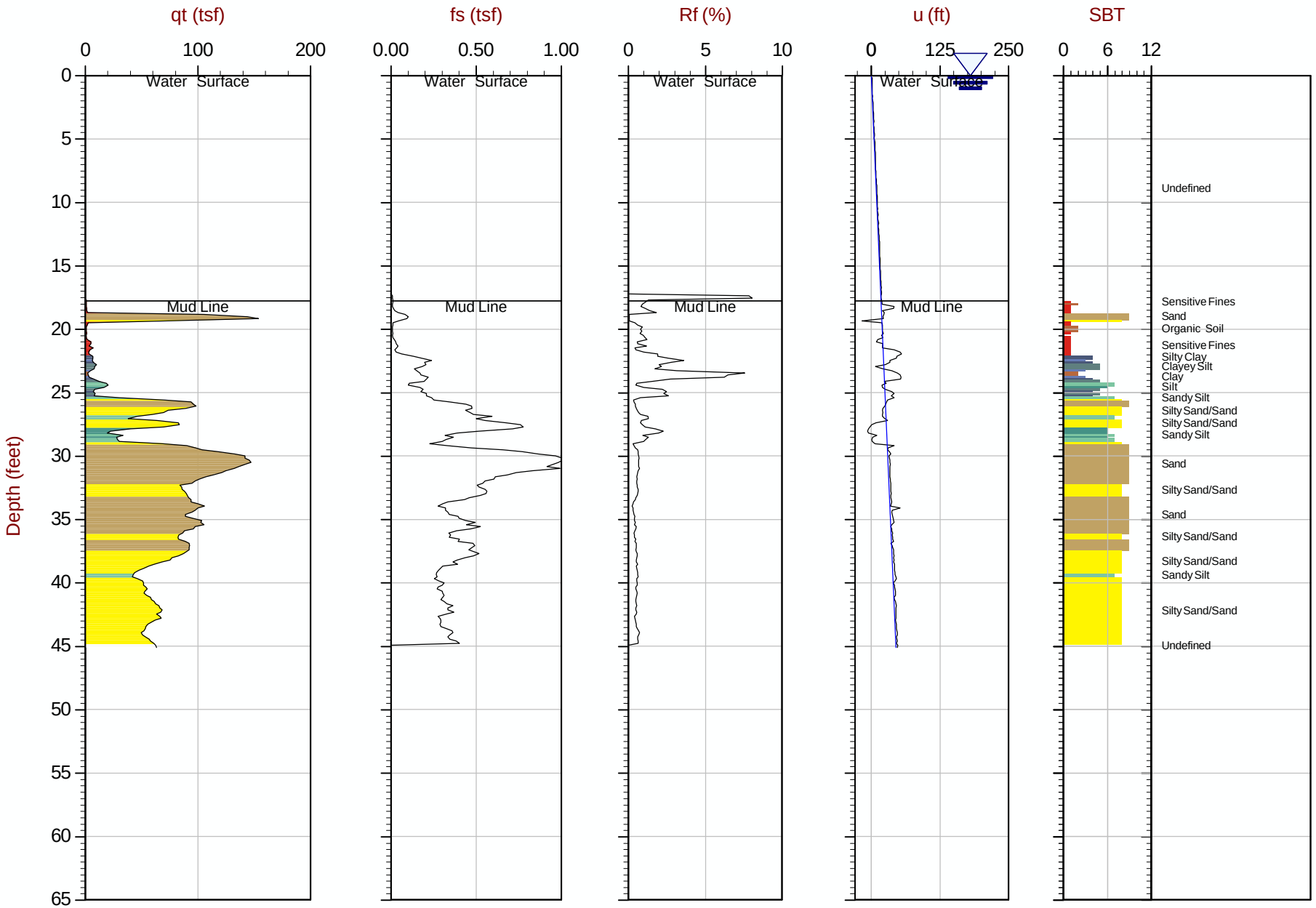
SBT: Lunne, Robertson and Powell, 1997
Coords: UTM Zone 18 N: 4503287 E: 585000

CONETEC

GEI Consultants

Job No: 12-748
Date: 08:24:12 10:22
Site: Gowanus Canal

Sounding: GC-CPT-011
Cone: 366:T1500F15U500



Max Depth: 13.750 m / 45.11 ft
Depth Inc: 0.050 m / 0.164 ft

File: 748CP11.COR

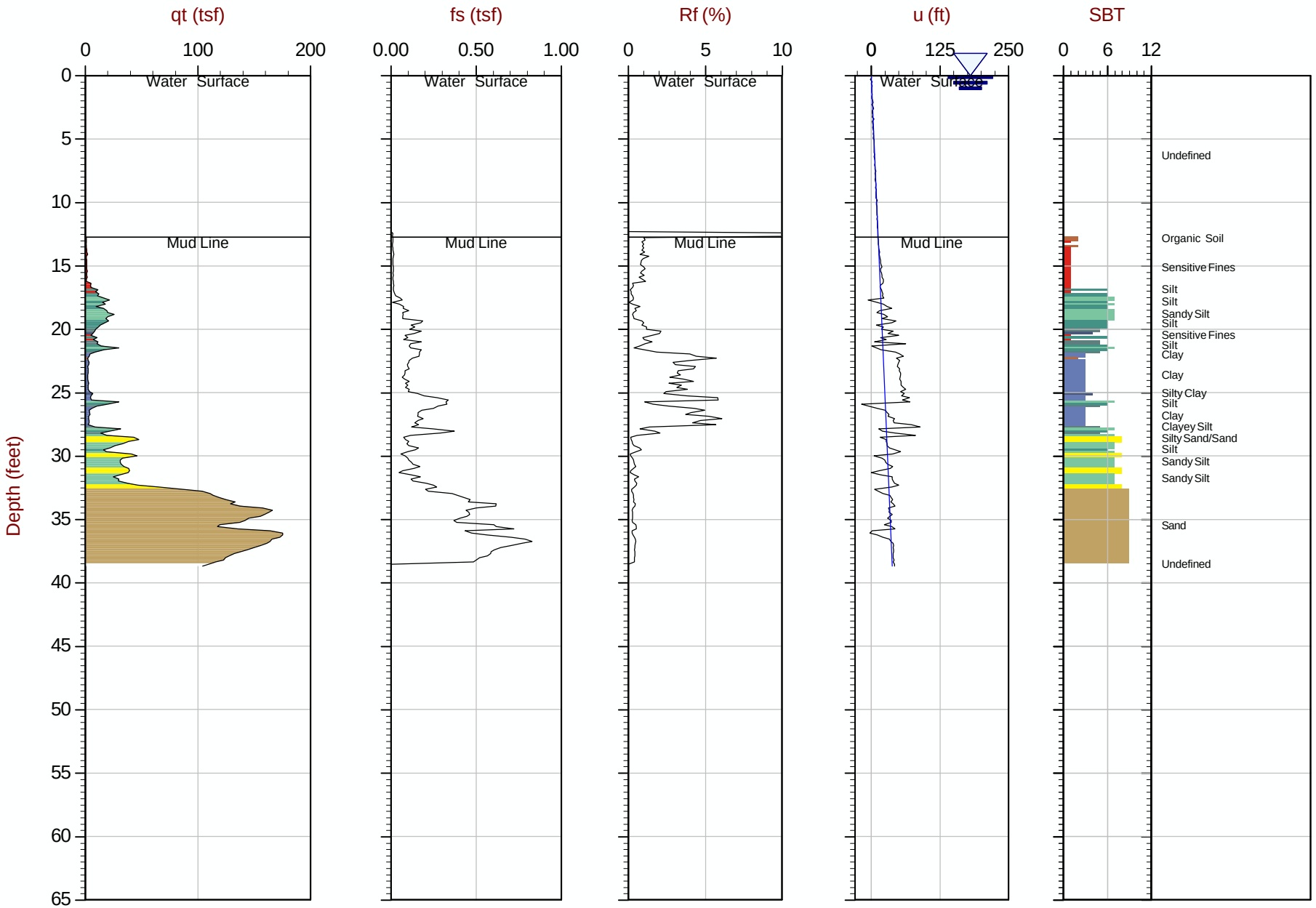
SBT: Lunne, Robertson and Powell, 1997
Coords: UTM Zone 18 N: 4503203 E: 584903

CONETEC

GEI Consultants

Job No: 12-748
Date: 08:24:12 12:15
Site: Gowanus Canal

Sounding: GC-CPT-012
Cone: 366:T1500F15U500



Max Depth: 11.800 m / 38.71 ft
Depth Inc: 0.050 m / 0.164 ft

File: 748CP12.COR

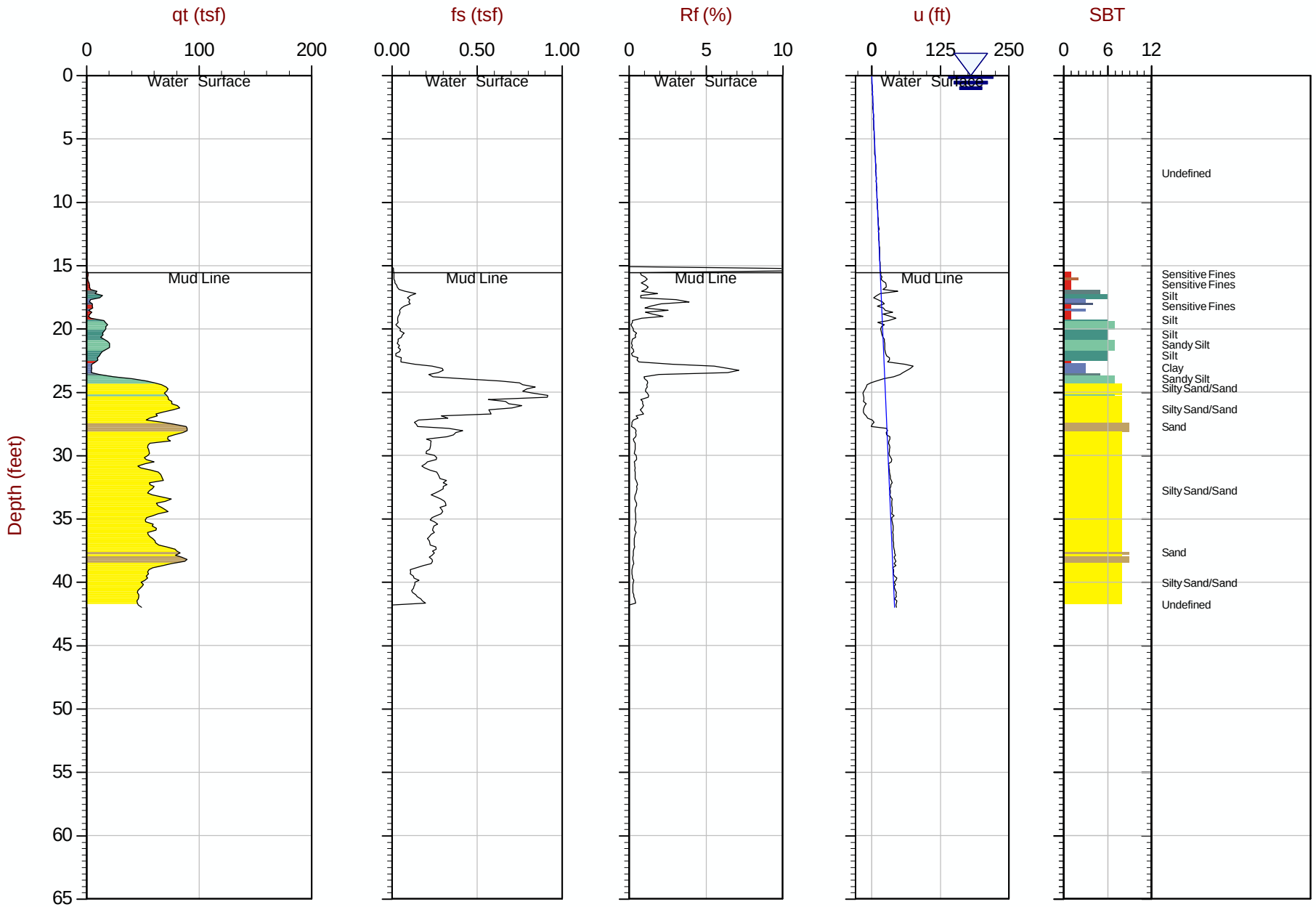
SBT: Lunne, Robertson and Powell, 1997
Coords: UTM Zone 18 N: 4503085 E: 584813

CONETEC

GEI Consultants

Job No: 12-748
Date: 08:27:12 07:29
Site: Gowanus Canal

Sounding: GC-CPT-013
Cone: 366:T1500F15U500



Max Depth: 12.800 m / 41.99 ft
Depth Inc: 0.050 m / 0.164 ft

File: 748CP13.COR

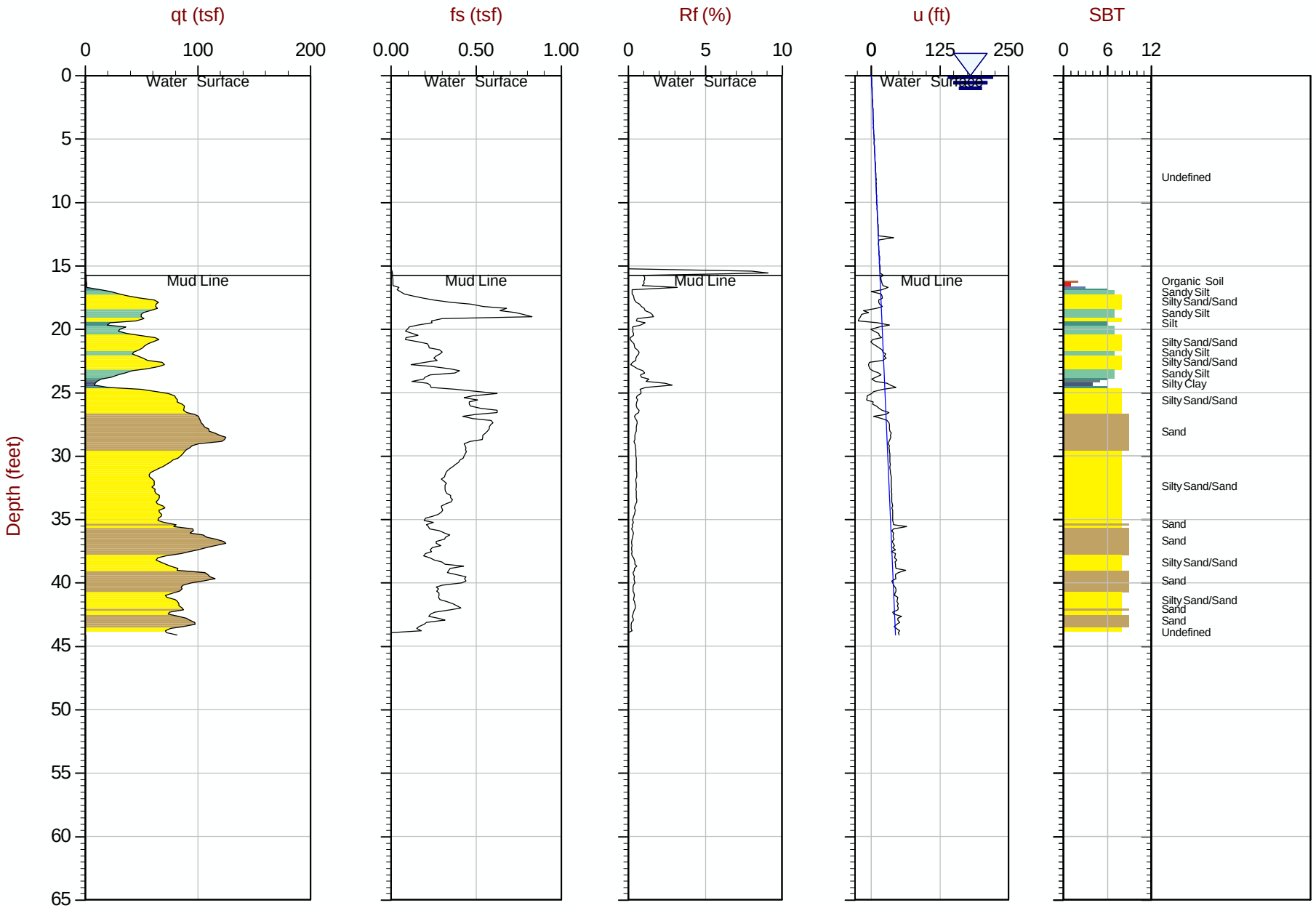
SBT: Lunne, Robertson and Powell, 1997
Coords: UTM Zone 18 N: 4502994 E: 584764

CONETEC

GEI Consultants

Job No: 12-748
Date: 08:27:12 08:58
Site: Gowanus Canal

Sounding: GC-CPT-014
Cone: 366:T1500F15U500



Max Depth: 13.450 m / 44.13 ft
Depth Inc: 0.050 m / 0.164 ft

File: 748CP14.COR

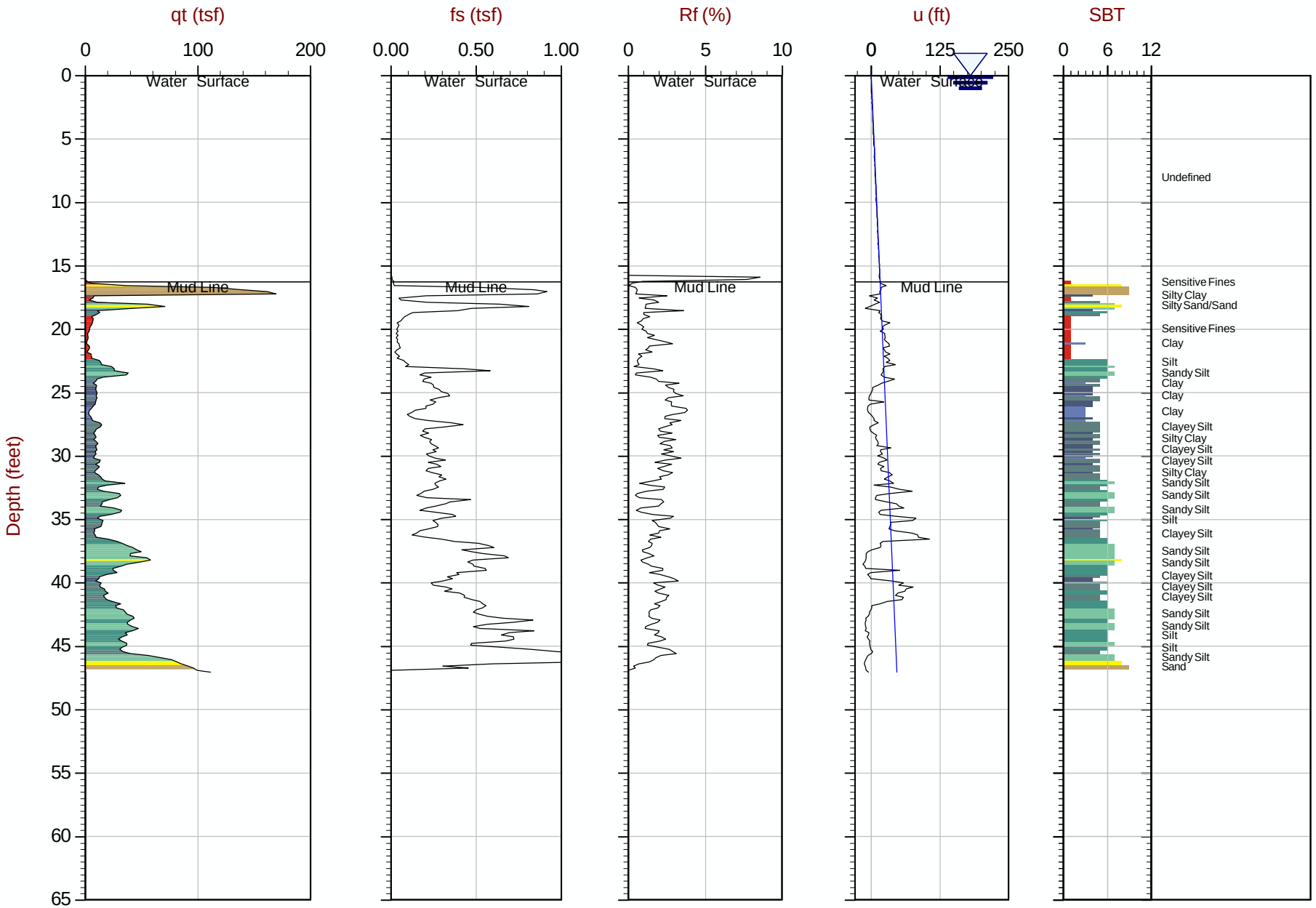
SBT: Lunne, Robertson and Powell, 1997
Coords: UTM Zone 18 N: 4502884 E: 584692

CONETEC

GEI Consultants

Job No: 12-748
Date: 08:27:12 10:43
Site: Gowanus Canal

Sounding: GC-CPT-015
Cone: 366:T1500F15U500



Max Depth: 14.350 m / 47.08 ft
Depth Inc: 0.050 m / 0.164 ft

File: 748CP15.COR

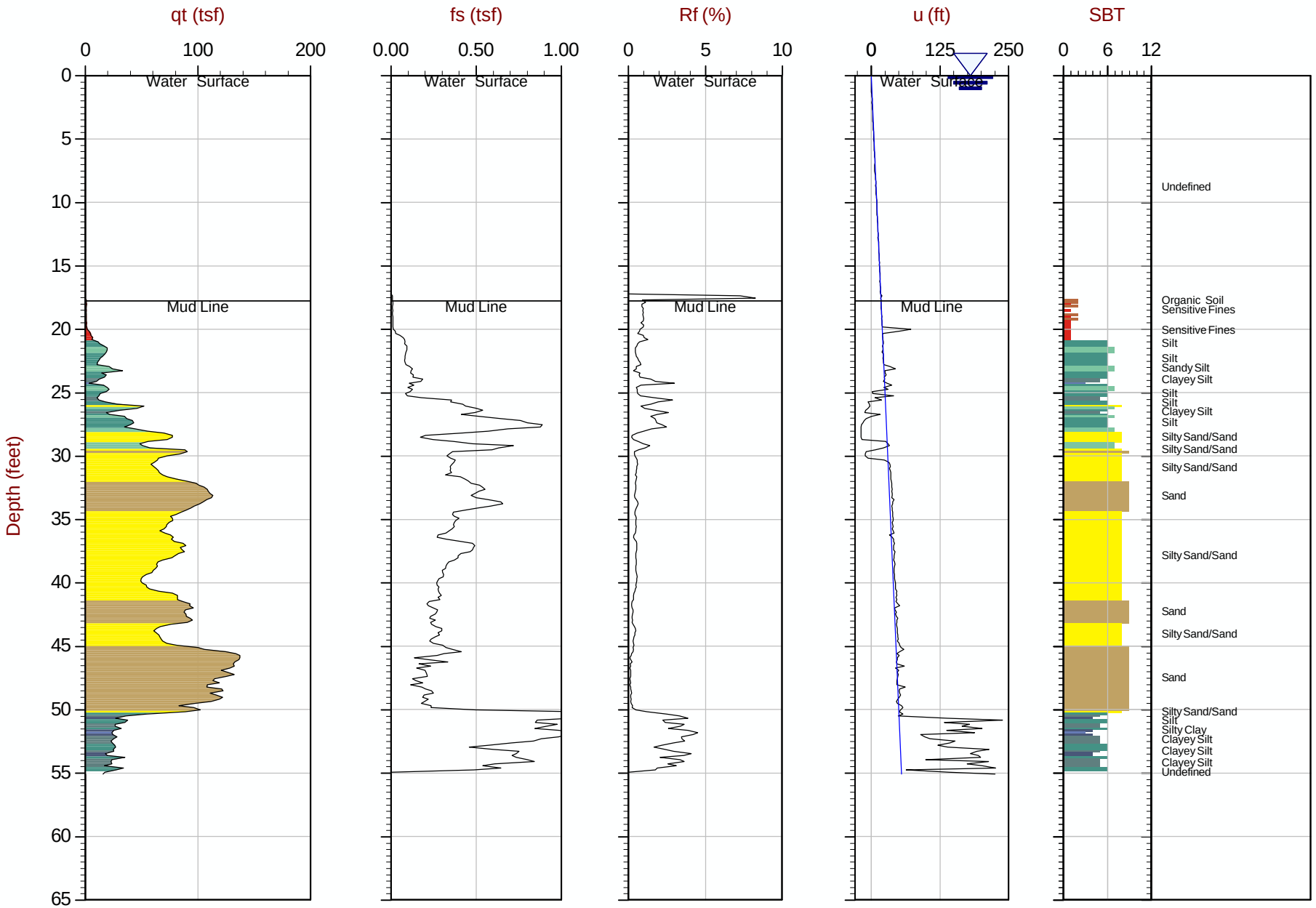
SBT: Lunne, Robertson and Powell, 1997
Coords: UTM Zone 18 N: 4502719 E: 584601

CONETEC

GEI Consultants

Job No: 12-748
Date: 08:28:12 10:01
Site: Gowanus Canal

Sounding: GC-CPT-016
Cone: 366:T1500F15U500



Max Depth: 16.800 m / 55.12 ft
Depth Inc: 0.050 m / 0.164 ft

File: 748CP16.COR

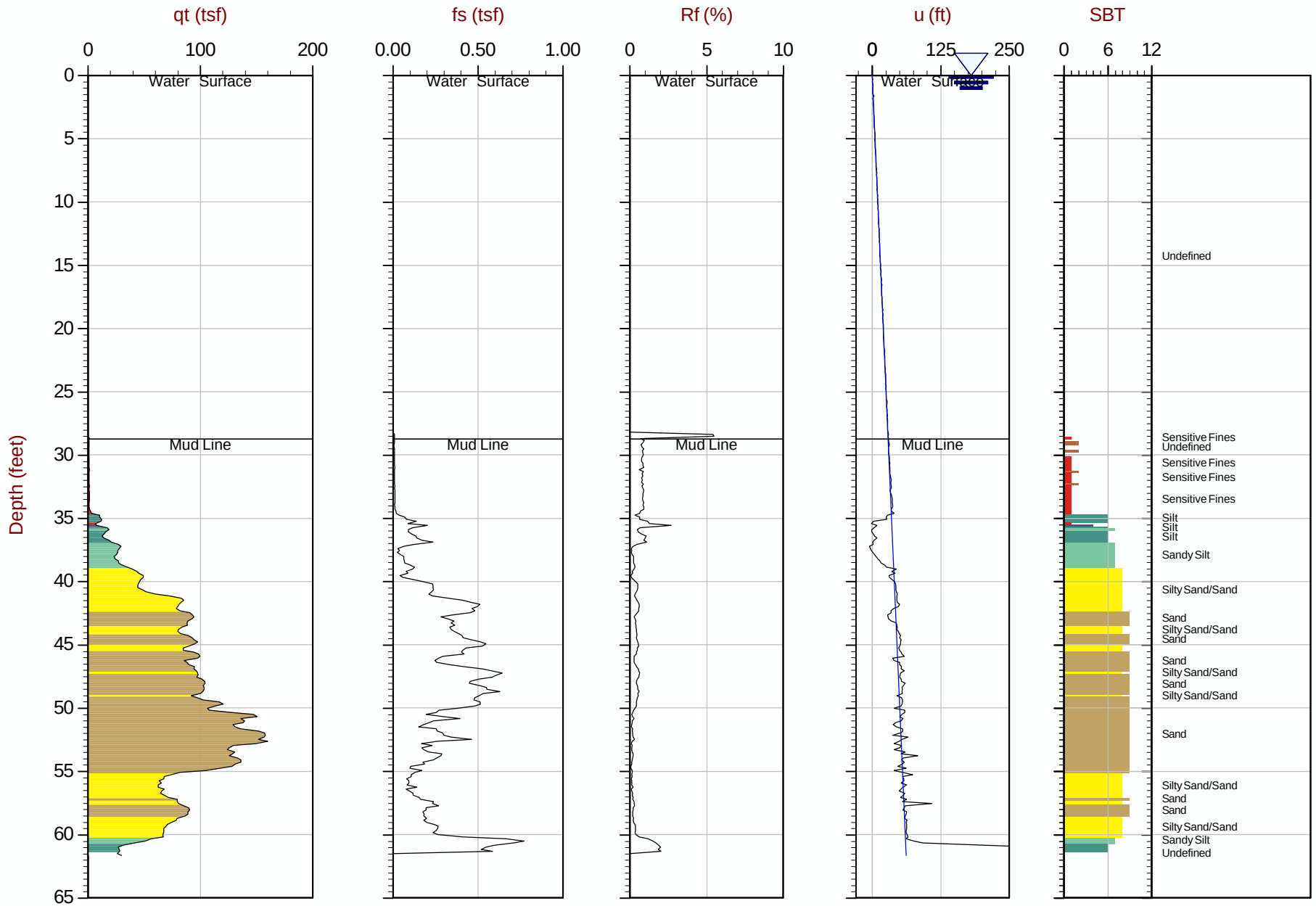
SBT: Lunne, Robertson and Powell, 1997
Coords: UTM Zone 18 N: 4502616 E: 584598

CONETEC

GEI Consultants

Job No: 12-748
Date: 08:28:12 11:42
Site: Gowanus Canal

Sounding: GC-CPT-017
Cone: 366:T1500F15U500



Max Depth: 18.800 m / 61.68 ft
Depth Inc: 0.050 m / 0.164 ft

File: 748CP17.COR

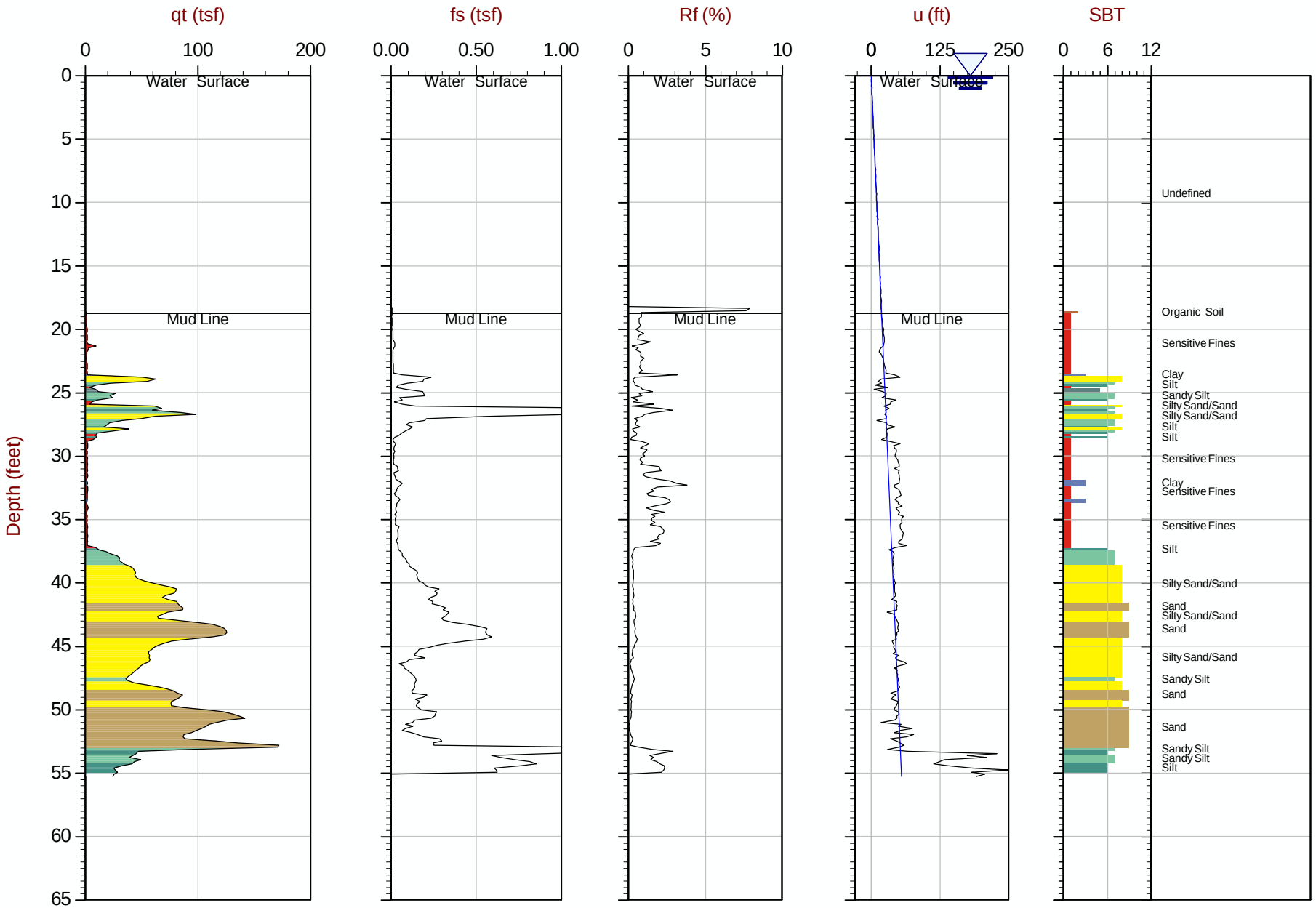
SBT: Lunne, Robertson and Powell, 1997
Coords: UTM Zone 18 N: 4502505 E: 584559

CONETEC

GEI Consultants

Job No: 12-748
Date: 08:28:12 08:00
Site: Gowanus Canal

Sounding: GC-CPT-018
Cone: 366:T1500F15U500



Max Depth: 16.850 m / 55.28 ft
Depth Inc: 0.050 m / 0.164 ft

File: 748CP18.COR

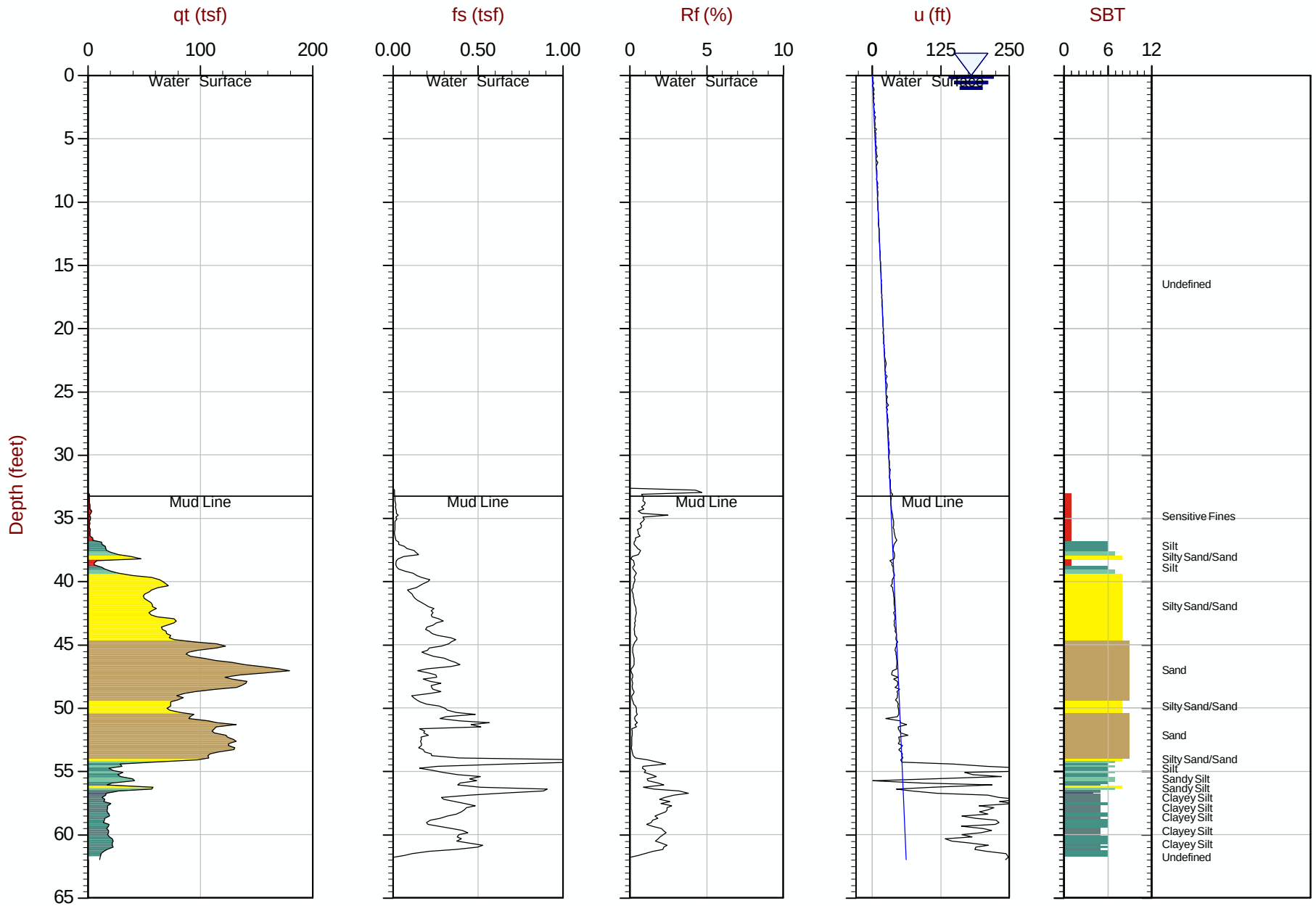
SBT: Lunne, Robertson and Powell, 1997
Coords: UTM Zone 18 N: 4502468 E: 584442

CONETEC

GEI Consultants

Job No: 12-748
Date: 08:28:12 14:19
Site: Gowanus Canal

Sounding: GC-CPT-019
Cone: 366:T1500F15U500



Max Depth: 18.900 m / 62.01 ft
Depth Inc: 0.050 m / 0.164 ft

File: 748CP19.COR

SBT: Lunne, Robertson and Powell, 1997
Coords: UTM Zone 18 N: 4502362 E: 584384

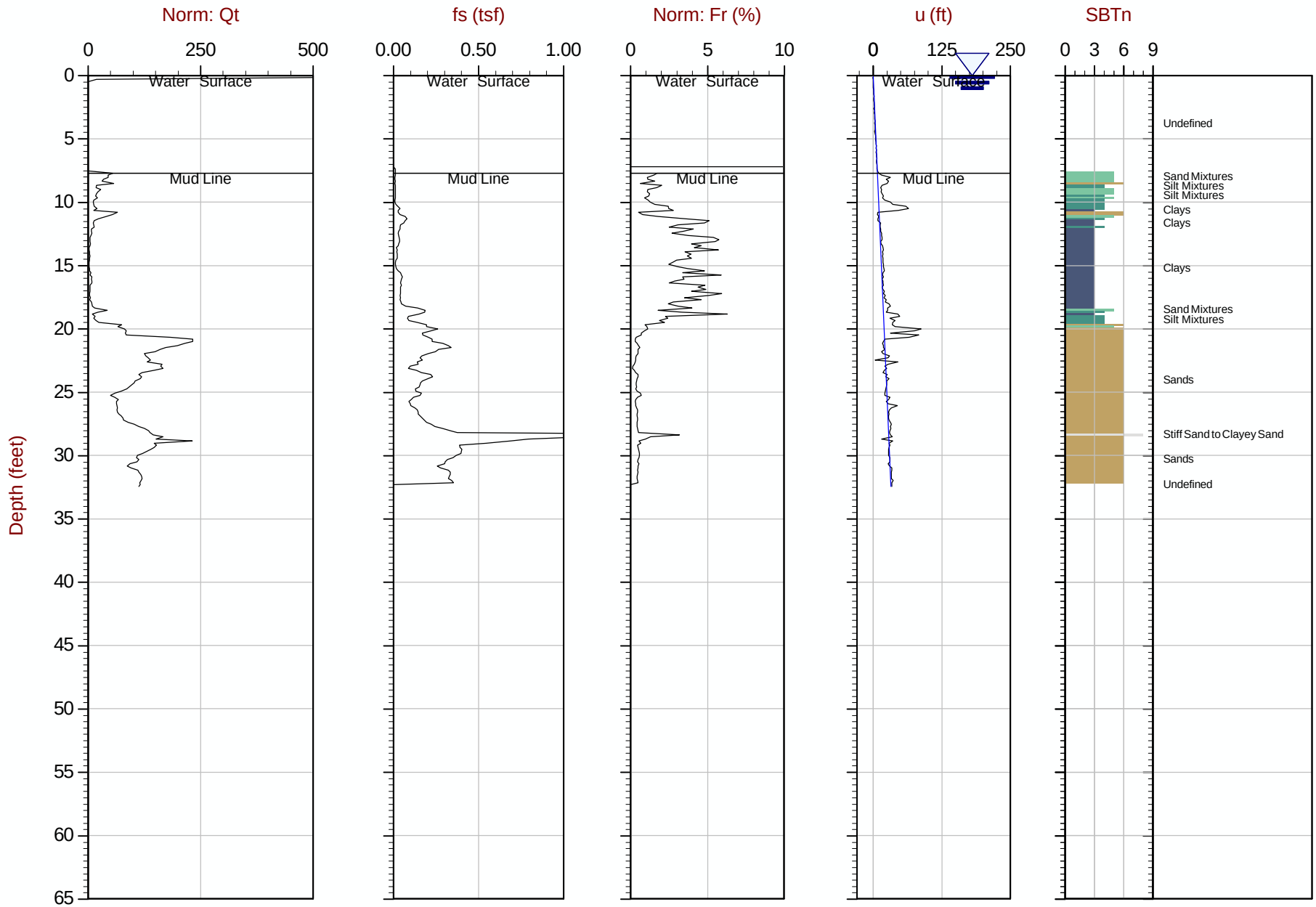
Normalized CPT Plots

CONETEC

GEI Consultants

Job No: 12-748
Date: 08:21:12 10:43
Site: Gowanus Canal

Sounding: GC-CPT-001
Cone: 366:T1500F15U500



Max Depth: 9.900 m / 32.48 ft
Depth Inc: 0.050 m / 0.164 ft

File: 748CP01.COR

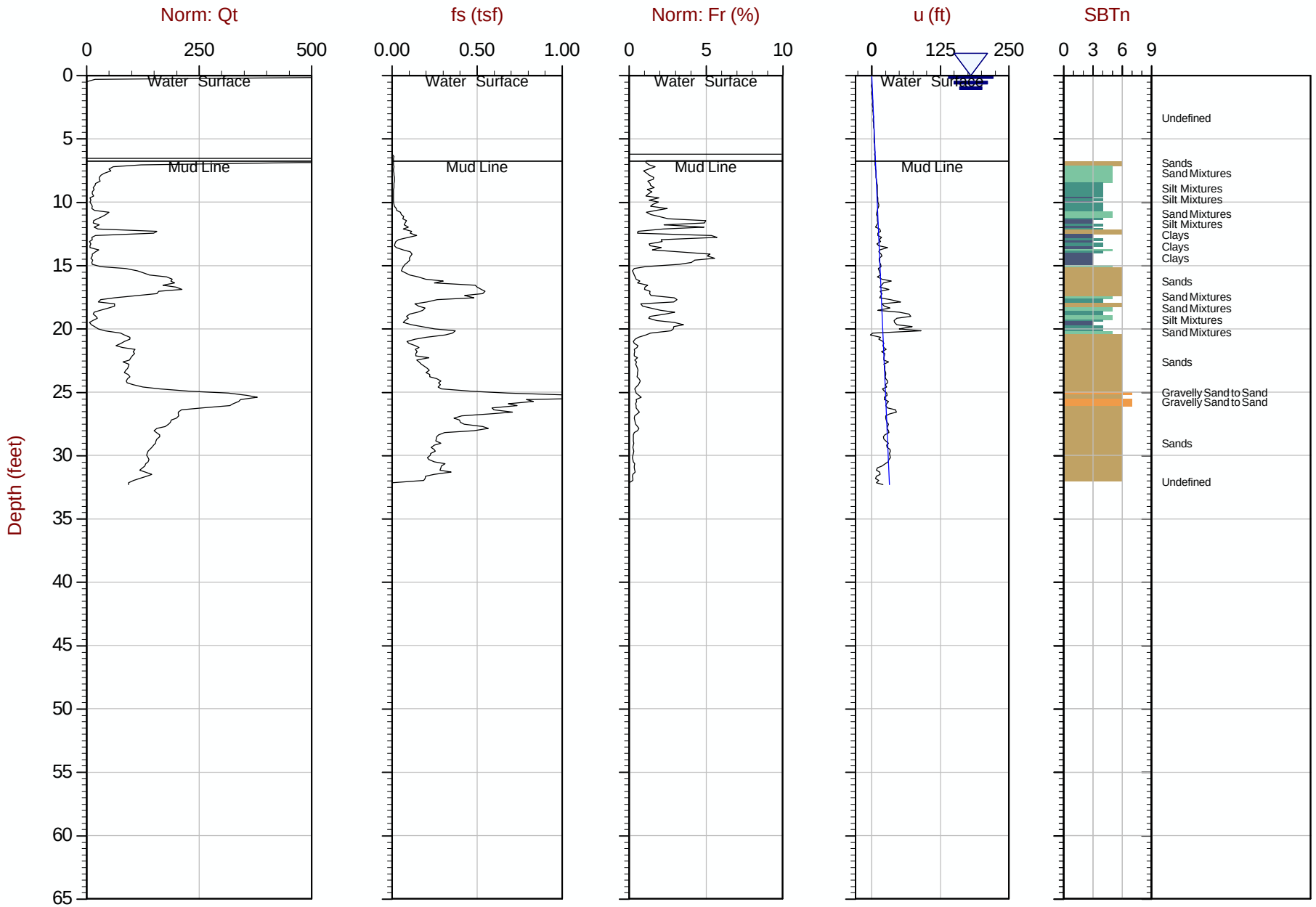
SBT: Lunne, Robertson and Powell, 1997
Coords: UTM Zone 18 N: 4503838 E: 585576

CONETEC

GEI Consultants

Job No: 12-748
Date: 08:21:12 08:56
Site: Gowanus Canal

Sounding: GC-CPT-002
Cone: 366:T1500F15U500



Max Depth: 9.850 m / 32.32 ft
Depth Inc: 0.050 m / 0.164 ft

File: 748CP02.COR

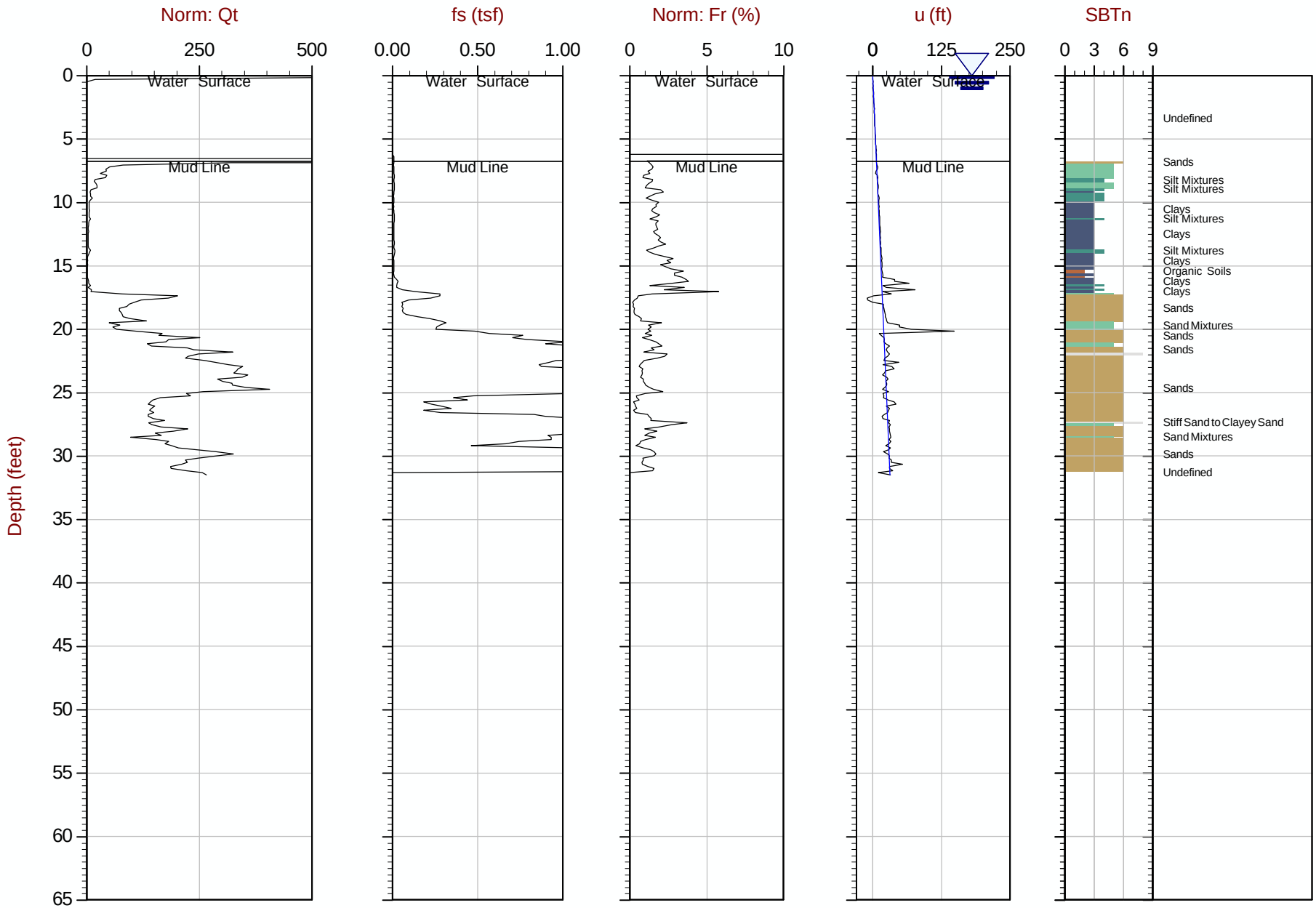
SBT: Lunne, Robertson and Powell, 1997
Coords: UTM Zone 18 N: 4503776 E: 585536

CONETEC

GEI Consultants

Job No: 12-748
Date: 08:22:12 08:11
Site: Gowanus Canal

Sounding: GC-CPT-003
Cone: 366:T1500F15U500



Max Depth: 9.600 m / 31.50 ft
Depth Inc: 0.050 m / 0.164 ft

File: 748CP03.COR

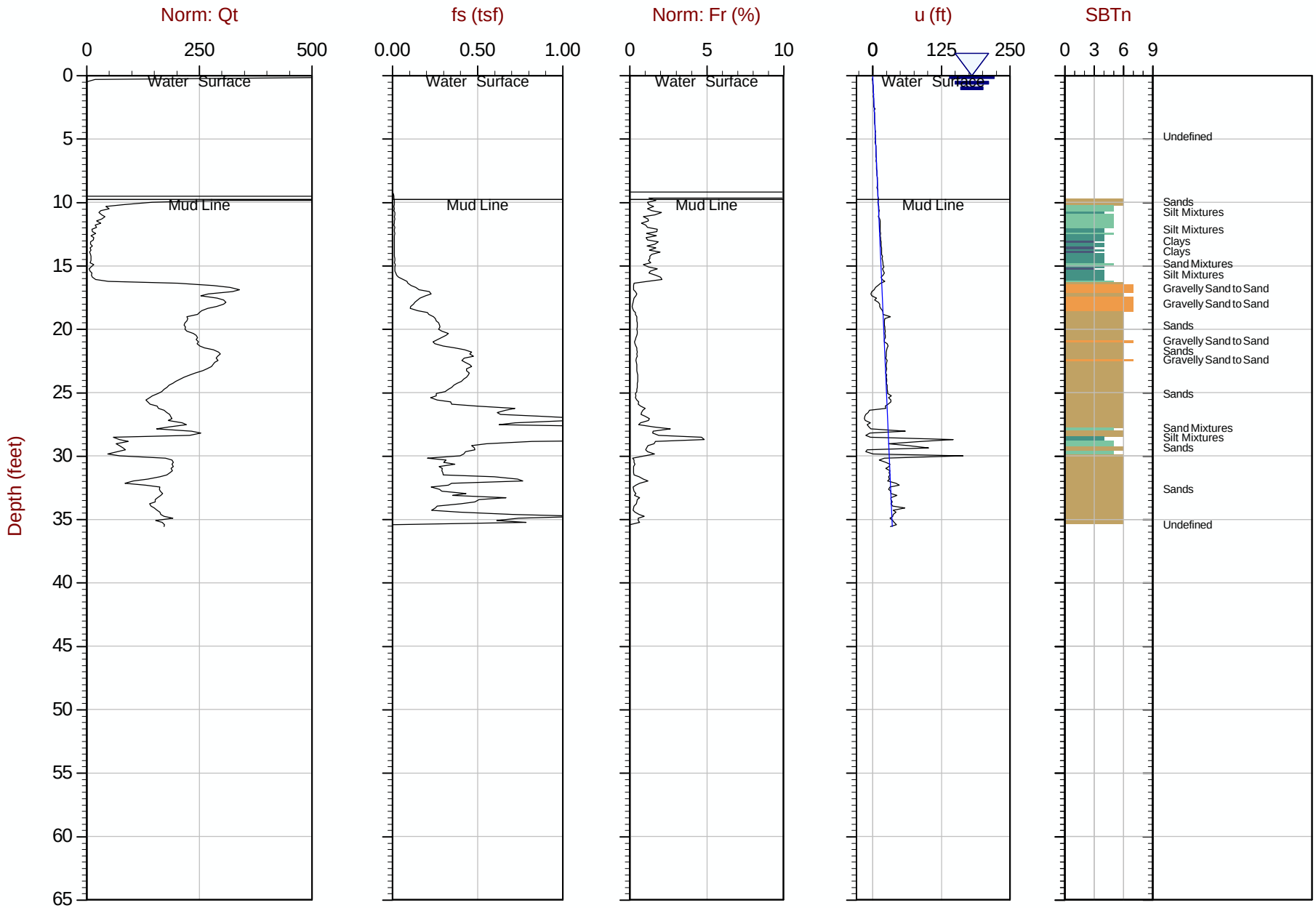
SBT: Lunne, Robertson and Powell, 1997
Coords: UTM Zone 18 N: 4503692 E: 585502

CONETEC

GEI Consultants

Job No: 12-748
Date: 08:22:12 09:27
Site: Gowanus Canal

Sounding: GC-CPT-004
Cone: 366:T1500F15U500



Max Depth: 10.850 m / 35.60 ft
Depth Inc: 0.050 m / 0.164 ft

File: 748CP04.COR

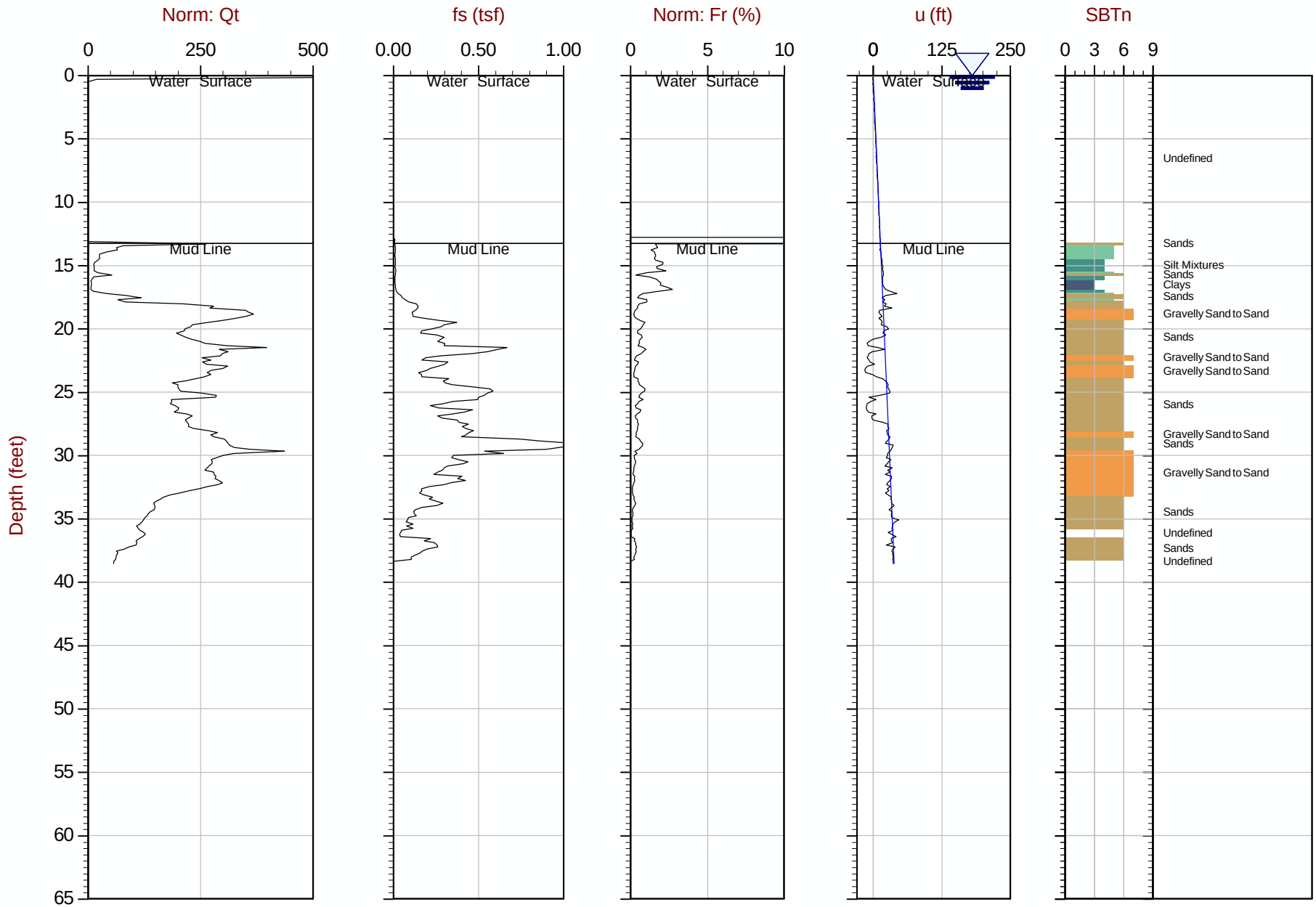
SBT: Lunne, Robertson and Powell, 1997
Coords: UTM Zone 18 N: 4503601 E: 585466

CONETEC

GEI Consultants

Job No: 12-748
Date: 08:22:12 12:24
Site: Gowanus Canal

Sounding: GC-CPT-005
Cone: 366:T1500F15U500



Max Depth: 11.750 m / 38.55 ft
Depth Inc: 0.050 m / 0.164 ft

File: 748CP05.COR

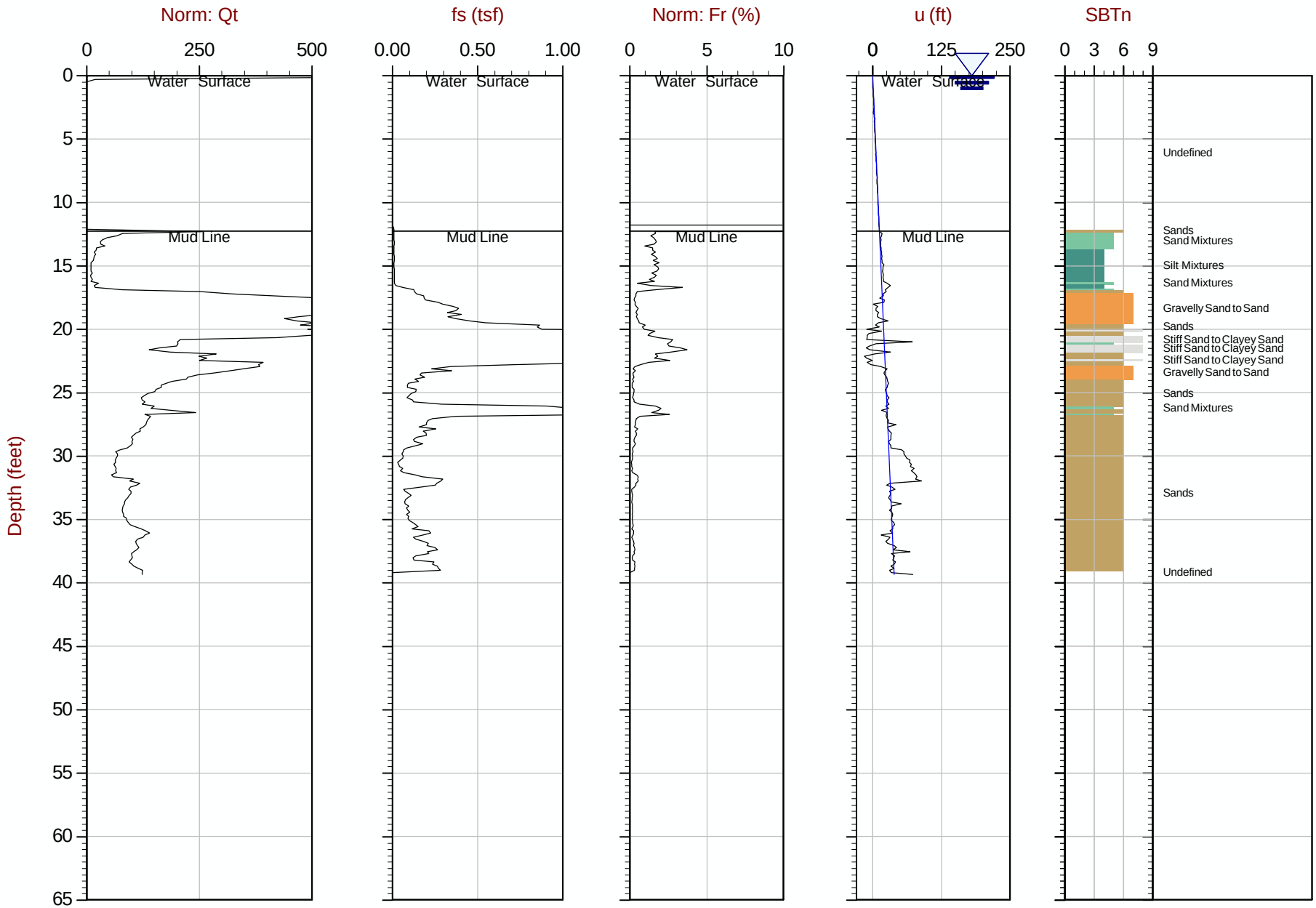
SBT: Lunne, Robertson and Powell, 1997
Coords: UTM Zone 18 N: 4503479 E: 585431

CONETEC

GEI Consultants

Job No: 12-748
Date: 08:22:12 13:47
Site: Gowanus Canal

Sounding: GC-CPT-006
Cone: 366:T1500F15U500



Max Depth: 12.000 m / 39.37 ft
Depth Inc: 0.050 m / 0.164 ft

File: 748CP06.COR

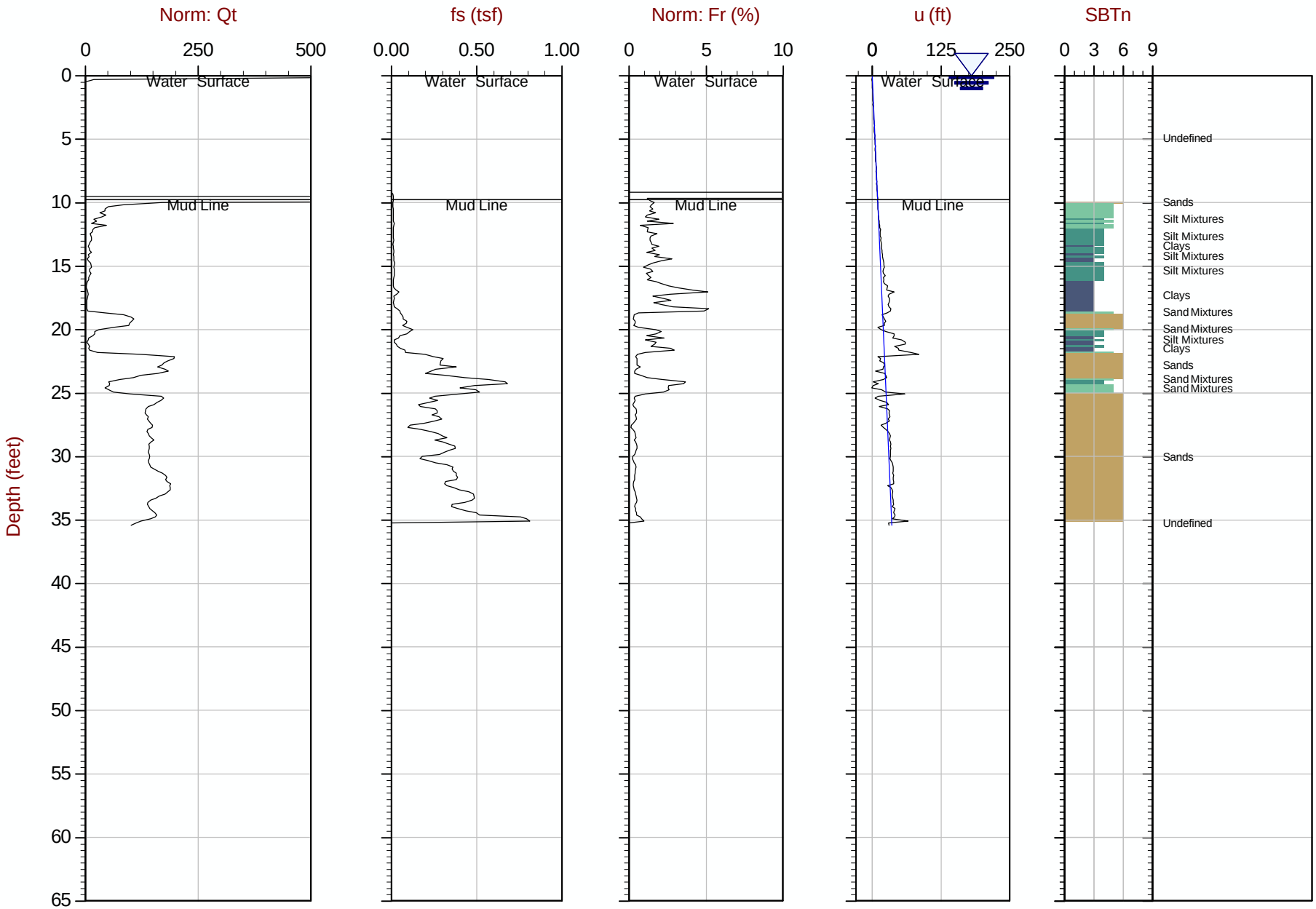
SBT: Lunne, Robertson and Powell, 1997
Coords: UTM Zone 18 N: 4503401 E: 585396

CONETEC

GEI Consultants

Job No: 12-748
Date: 08:23:12 09:23
Site: Gowanus Canal

Sounding: GC-CPT-007
Cone: 366:T1500F15U500



Max Depth: 10.800 m / 35.43 ft
Depth Inc: 0.050 m / 0.164 ft

File: 748CP07.COR

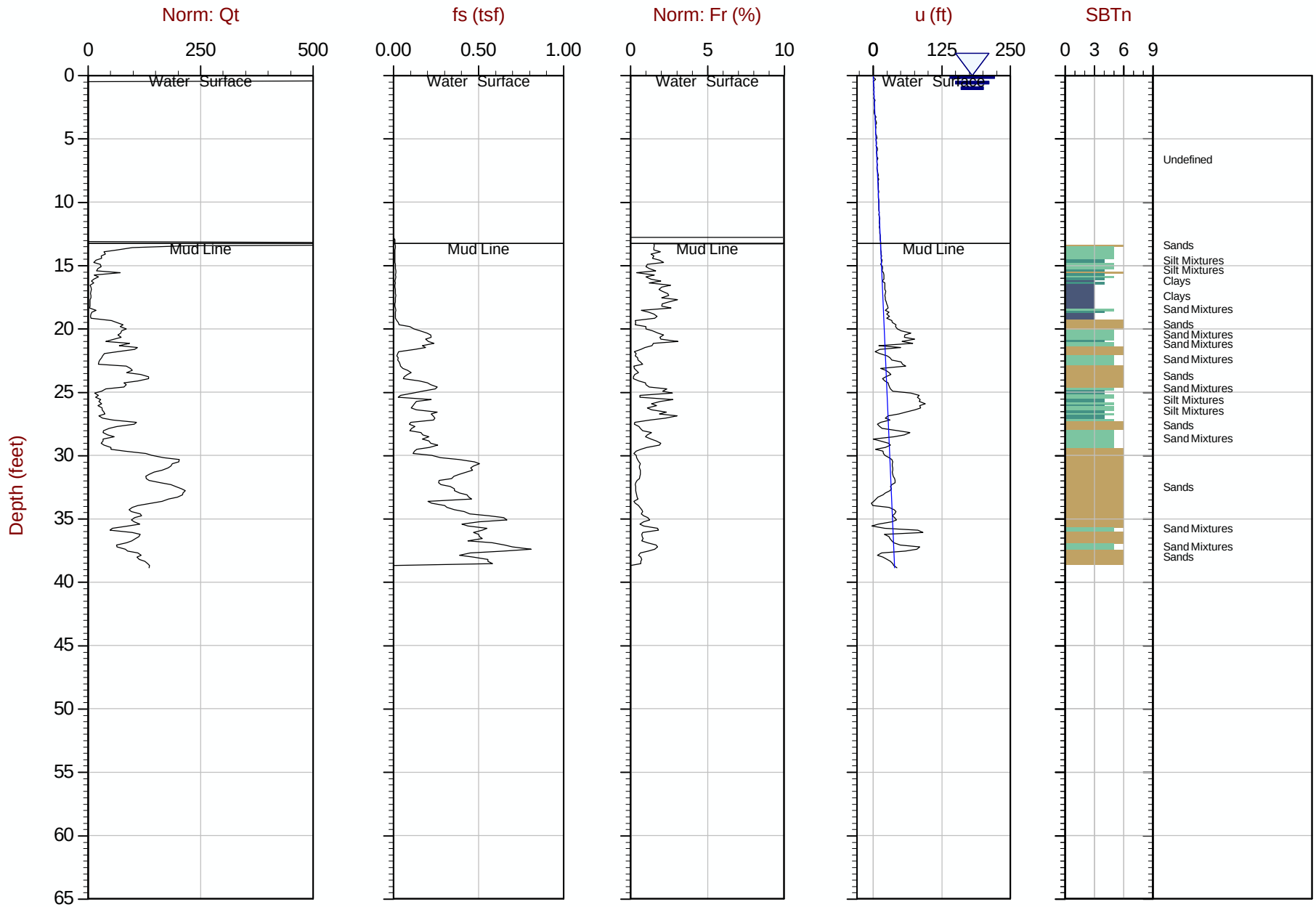
SBT: Lunne, Robertson and Powell, 1997
Coords: UTM Zone 18 N: 4503356 E: 585374

CONETEC

GEI Consultants

Job No: 12-748
Date: 08:23:12 11:40
Site: Gowanus Canal

Sounding: GC-CPT-008
Cone: 366:T1500F15U500



Max Depth: 11.850 m / 38.88 ft
Depth Inc: 0.050 m / 0.164 ft

File: 748CP08.COR

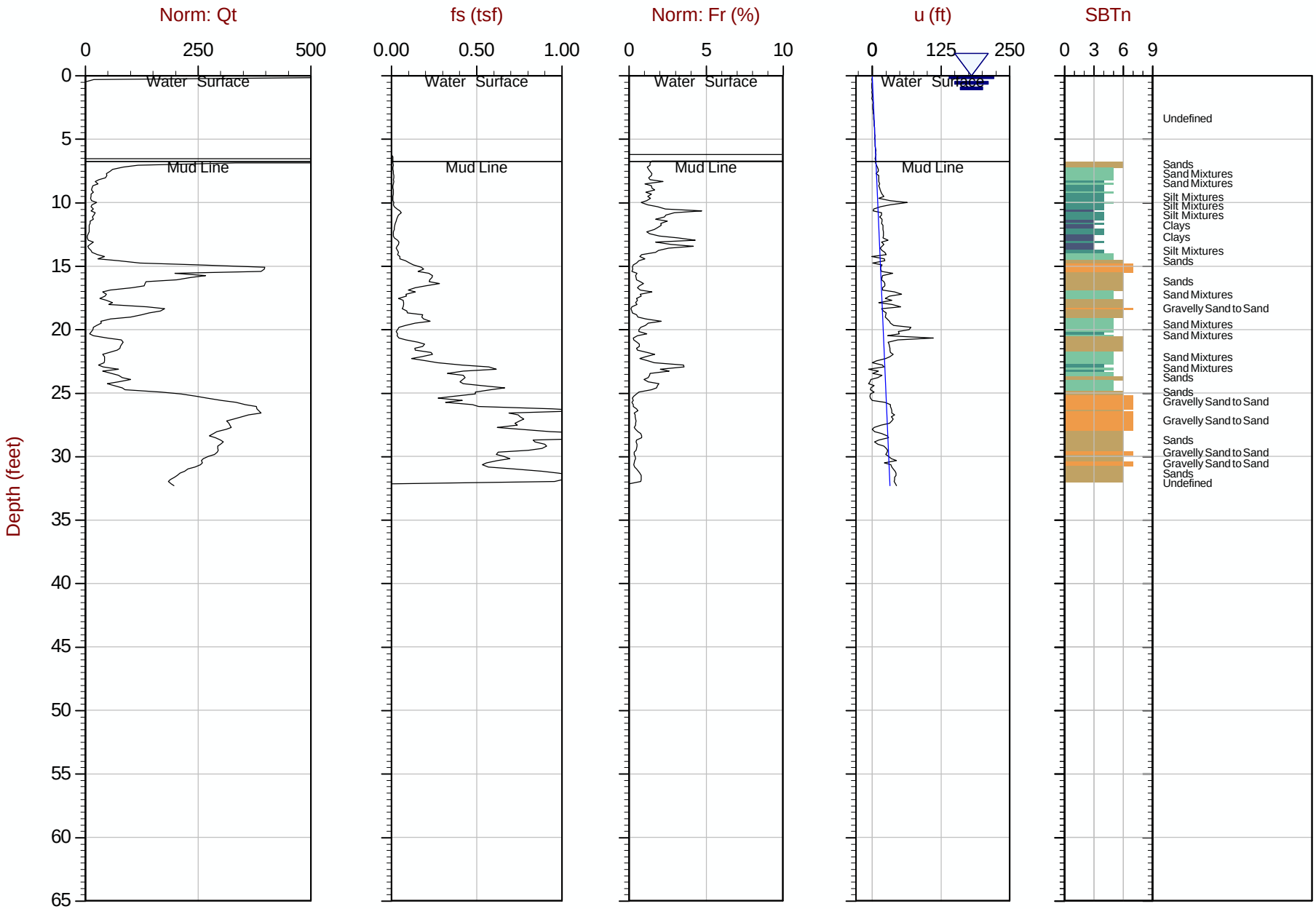
SBT: Lunne, Robertson and Powell, 1997
Coords: UTM Zone 18 N: 4503252 E: 585323

CONETEC

GEI Consultants

Job No: 12-748
Date: 08:24:12 07:39
Site: Gowanus Canal

Sounding: GC-CPT-009
Cone: 366:T1500F15U500



Max Depth: 9.850 m / 32.32 ft
Depth Inc: 0.050 m / 0.164 ft

File: 748CP09.COR

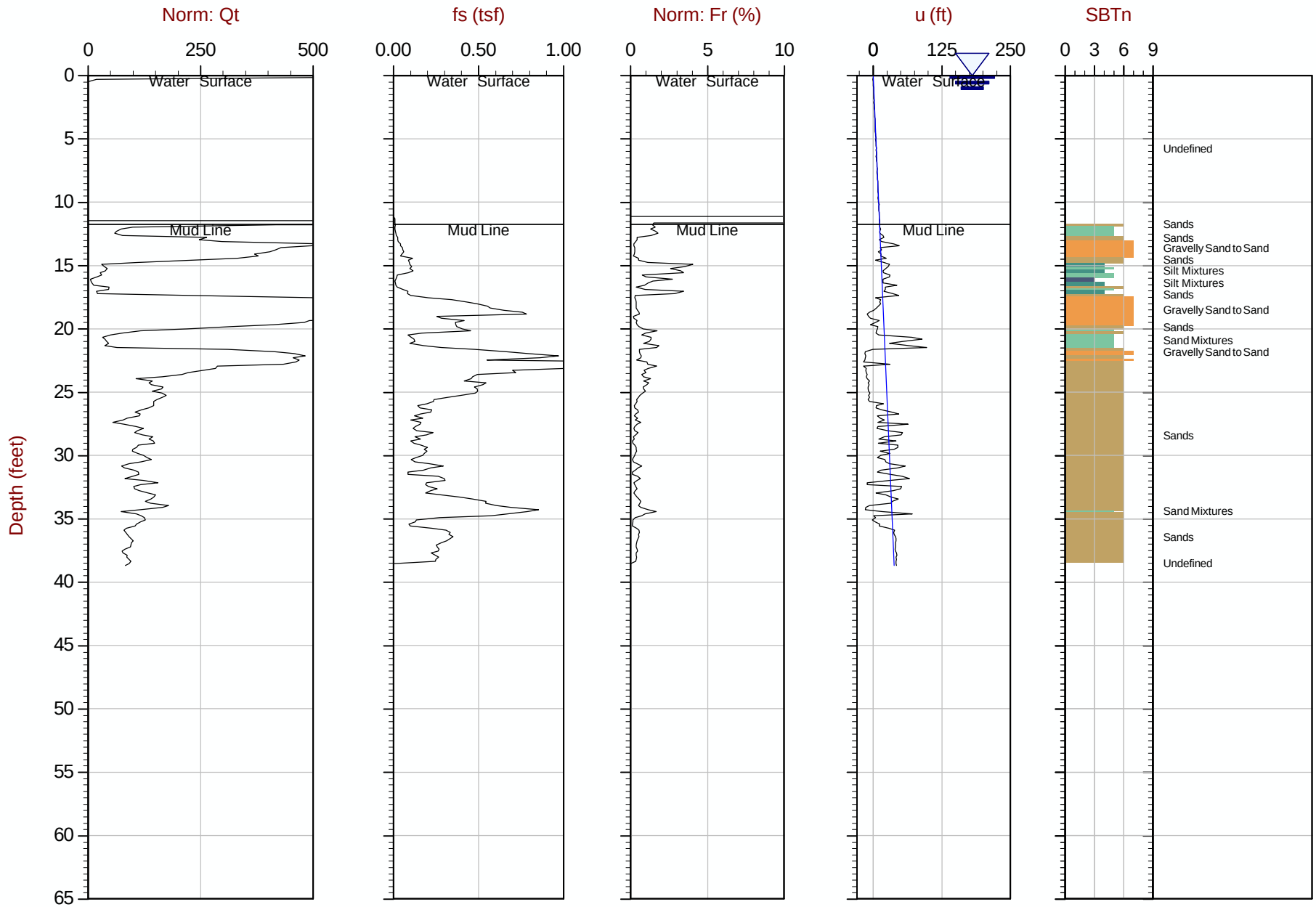
SBT: Lunne, Robertson and Powell, 1997
Coords: UTM Zone 18 N: 4503271 E: 585182

CONETEC

GEI Consultants

Job No: 12-748
Date: 08:24:12 08:55
Site: Gowanus Canal

Sounding: GC-CPT-010
Cone: 366:T1500F15U500



Max Depth: 11.800 m / 38.71 ft
Depth Inc: 0.050 m / 0.164 ft

File: 748CP10.COR

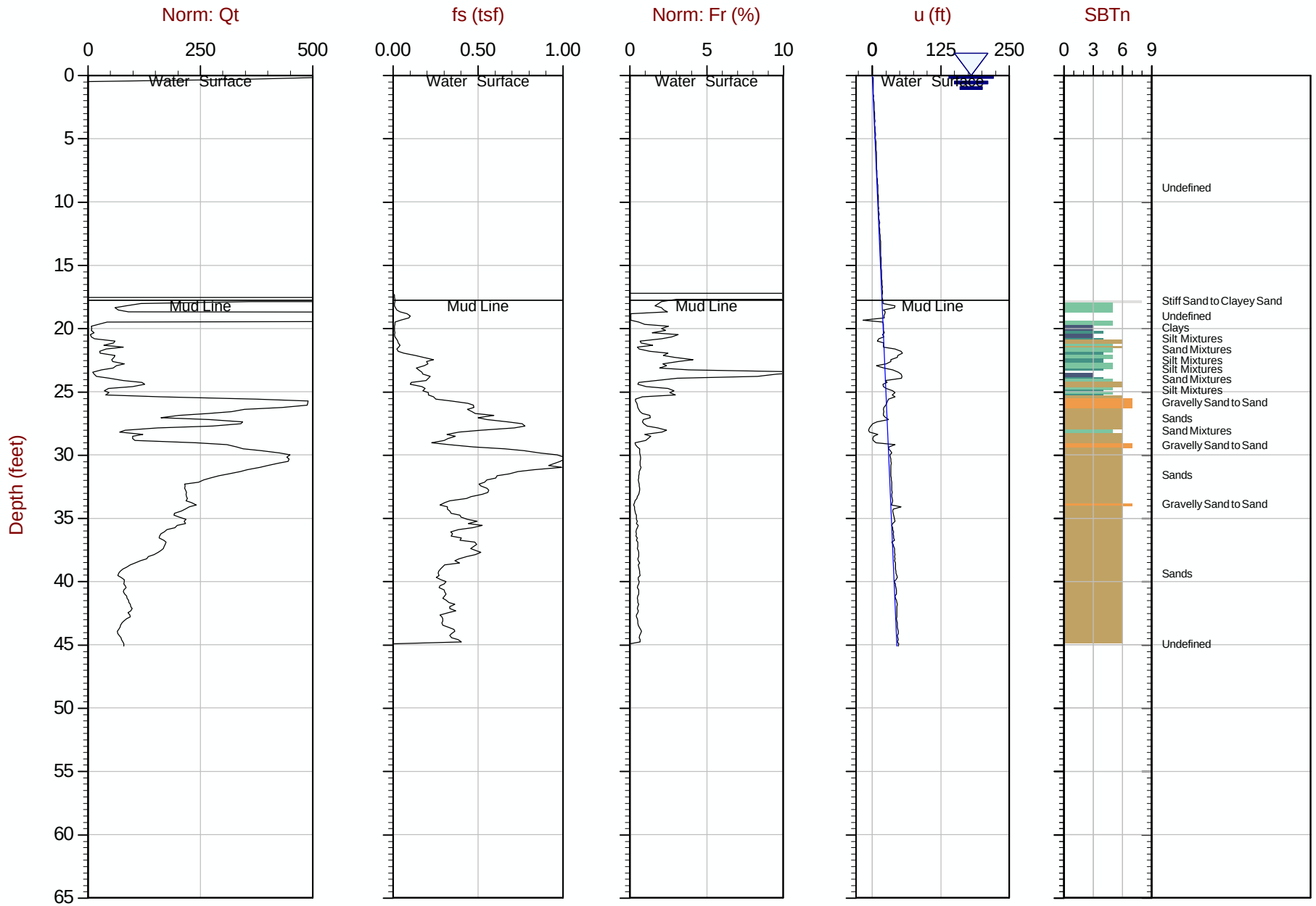
SBT: Lunne, Robertson and Powell, 1997
Coords: UTM Zone 18 N: 4503287 E: 585000

CONETEC

GEI Consultants

Job No: 12-748
Date: 08:24:12 10:22
Site: Gowanus Canal

Sounding: GC-CPT-011
Cone: 366:T1500F15U500



Max Depth: 13.750 m / 45.11 ft
Depth Inc: 0.050 m / 0.164 ft

File: 748CP11.COR

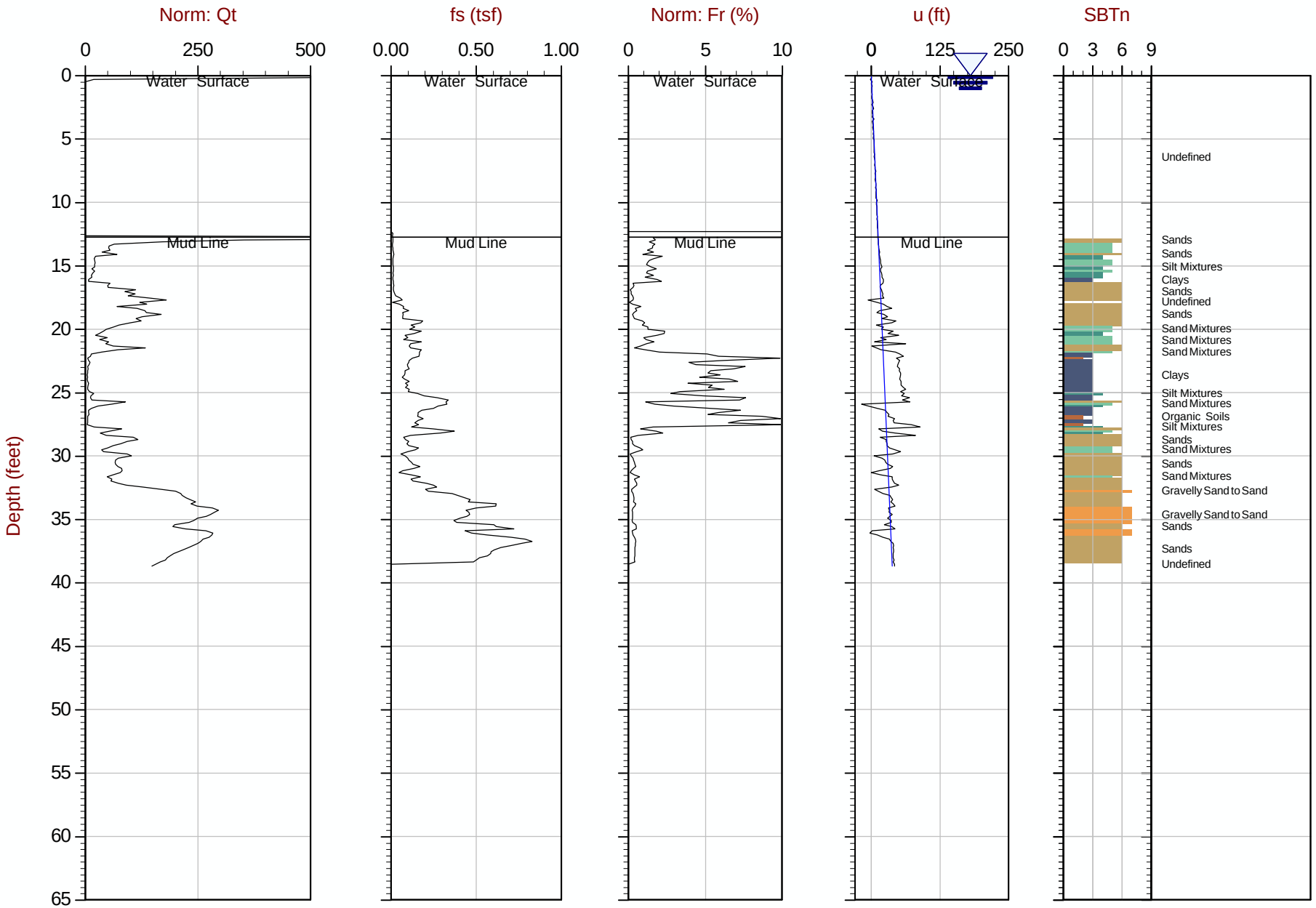
SBT: Lunne, Robertson and Powell, 1997
Coords: UTM Zone 18 N: 4503203 E: 584903

CONETEC

GEI Consultants

Job No: 12-748
Date: 08:24:12 12:15
Site: Gowanus Canal

Sounding: GC-CPT-012
Cone: 366:T1500F15U500



Max Depth: 11.800 m / 38.71 ft
Depth Inc: 0.050 m / 0.164 ft

File: 748CP12.COR

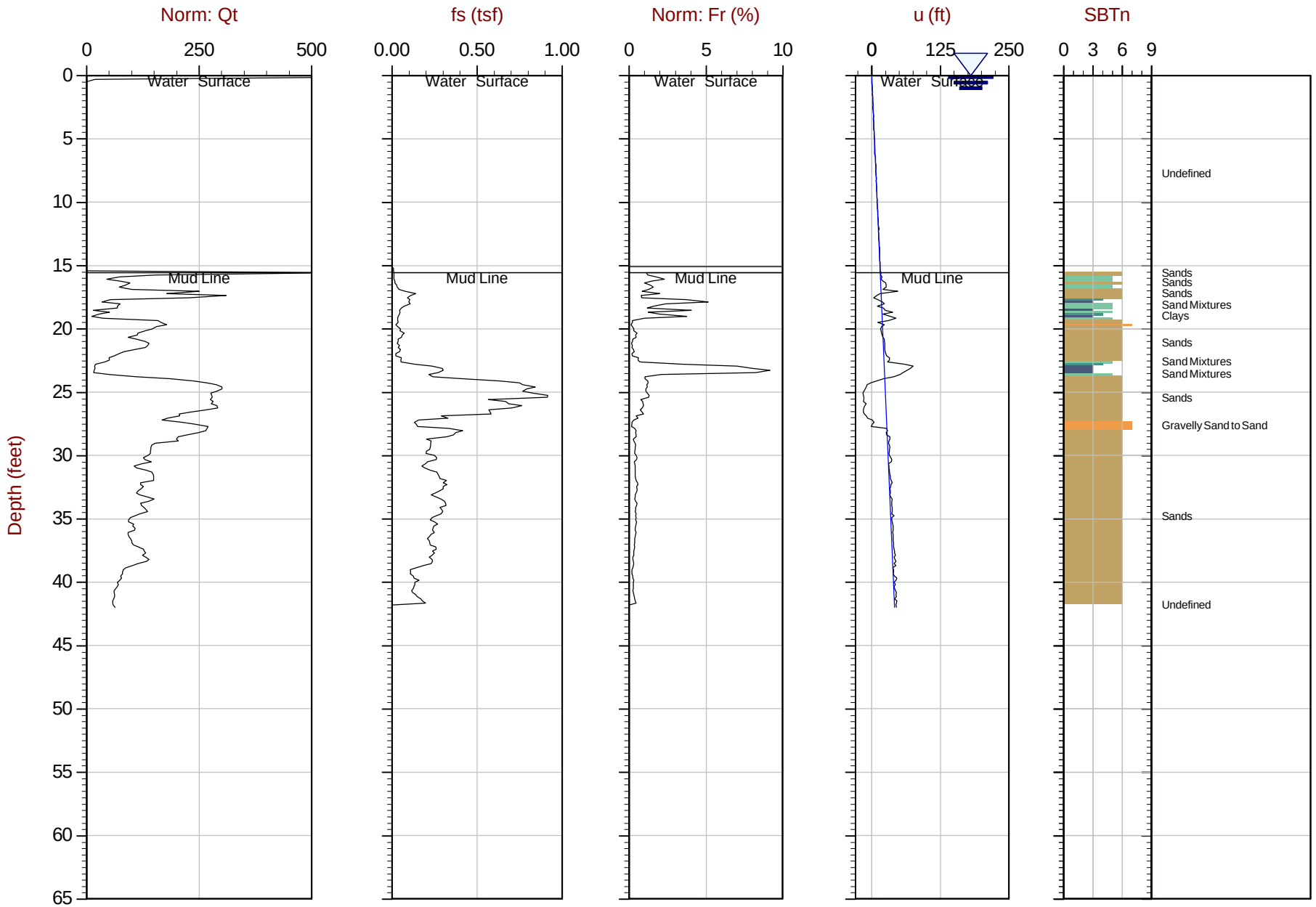
SBT: Lunne, Robertson and Powell, 1997
Coords: UTM Zone 18 N: 4503085 E: 584813

CONETEC

GEI Consultants

Job No: 12-748
Date: 08:27:12 07:29
Site: Gowanus Canal

Sounding: GC-CPT-013
Cone: 366:T1500F15U500



Max Depth: 12.800 m / 41.99 ft
Depth Inc: 0.050 m / 0.164 ft

File: 748CP13.COR

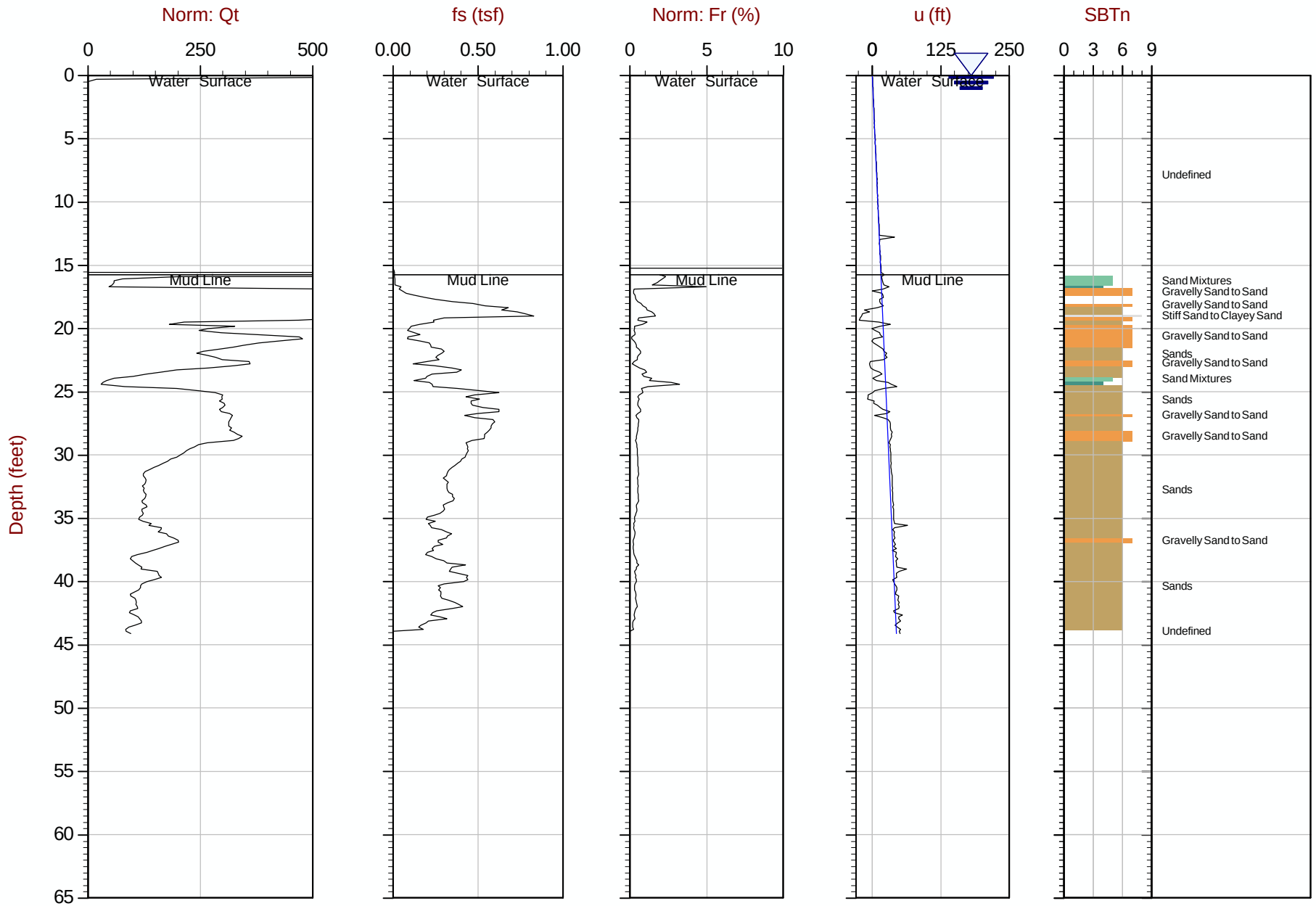
SBT: Lunne, Robertson and Powell, 1997
Coords: UTM Zone 18 N: 4502994 E: 584764

CONETEC

GEI Consultants

Job No: 12-748
Date: 08:27:12 08:58
Site: Gowanus Canal

Sounding: GC-CPT-014
Cone: 366:T1500F15U500



Max Depth: 13.450 m / 44.13 ft
Depth Inc: 0.050 m / 0.164 ft

File: 748CP14.COR

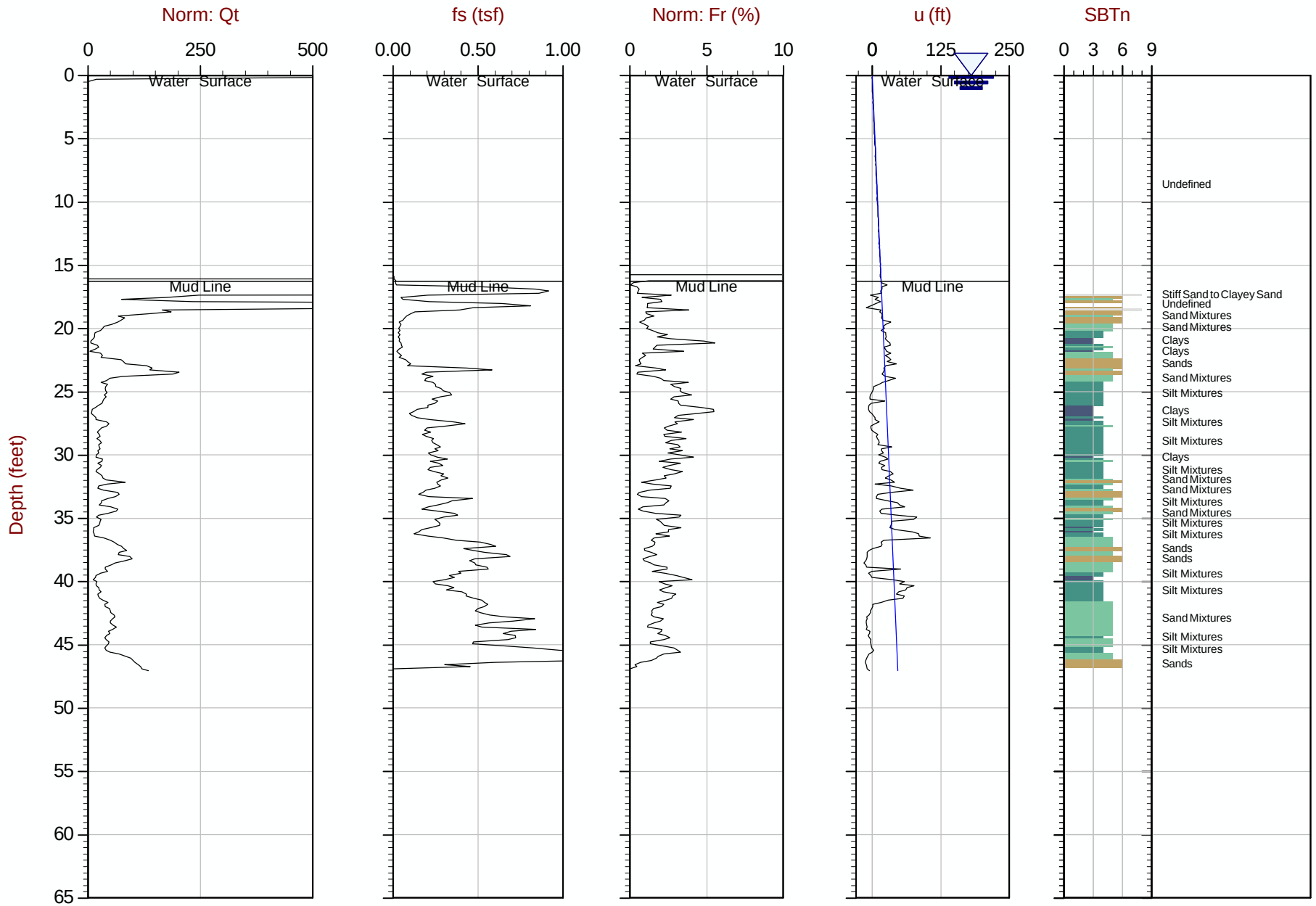
SBT: Lunne, Robertson and Powell, 1997
Coords: UTM Zone 18 N: 4502884 E: 584692

CONETEC

GEI Consultants

Job No: 12-748
Date: 08:27:12 10:43
Site: Gowanus Canal

Sounding: GC-CPT-015
Cone: 366:T1500F15U500



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Depth Inc: 0.050 m / 0.164 ft

File: 748CP15.COR

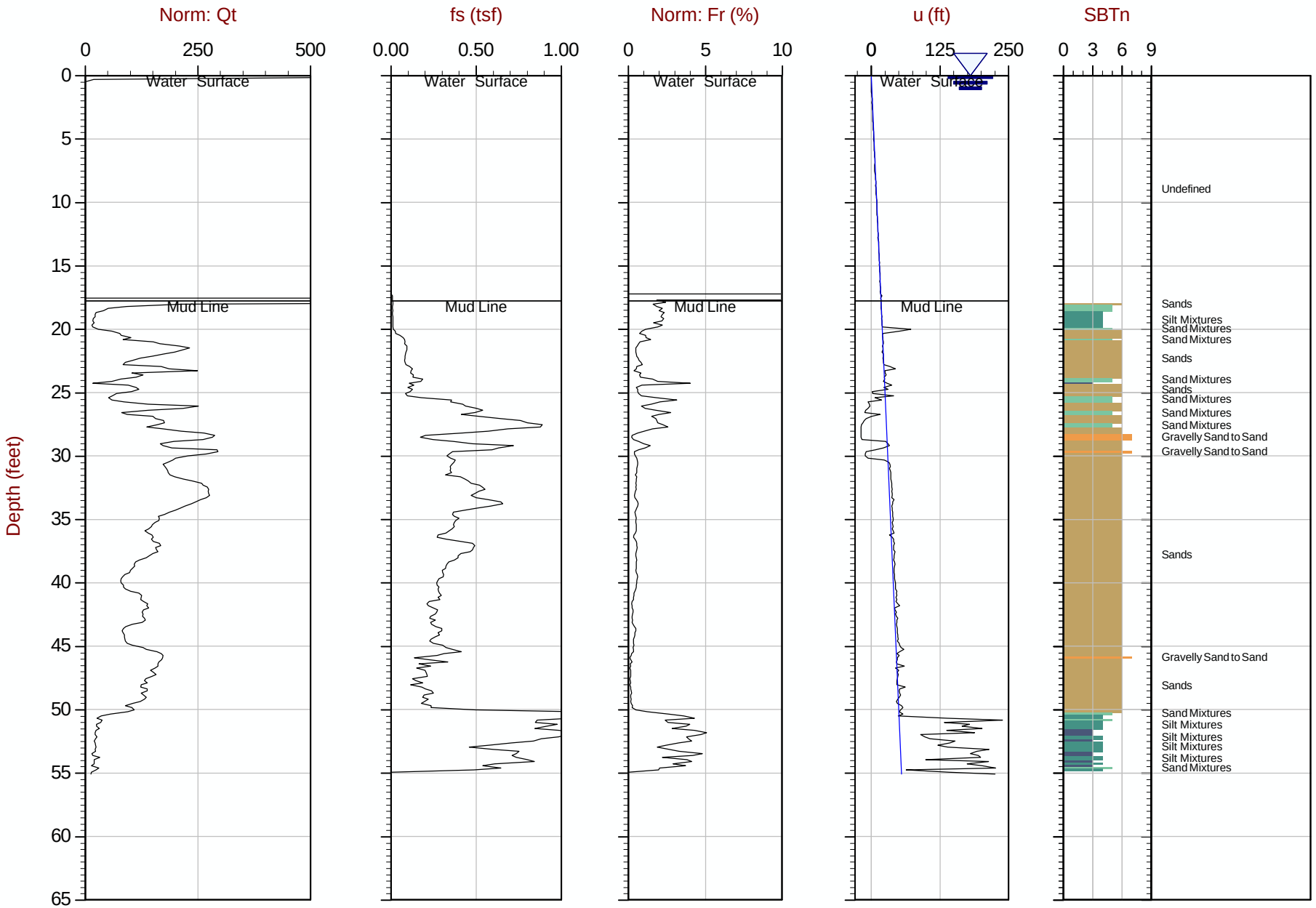
SBT: Lunne, Robertson and Powell, 1997
Coords: UTM Zone 18 N: 4502719 E: 584601

CONETEC

GEI Consultants

Job No: 12-748
Date: 08:28:12 10:01
Site: Gowanus Canal

Sounding: GC-CPT-016
Cone: 366:T1500F15U500



Max Depth: 16.800 m / 55.12 ft
Depth Inc: 0.050 m / 0.164 ft

File: 748CP16.COR

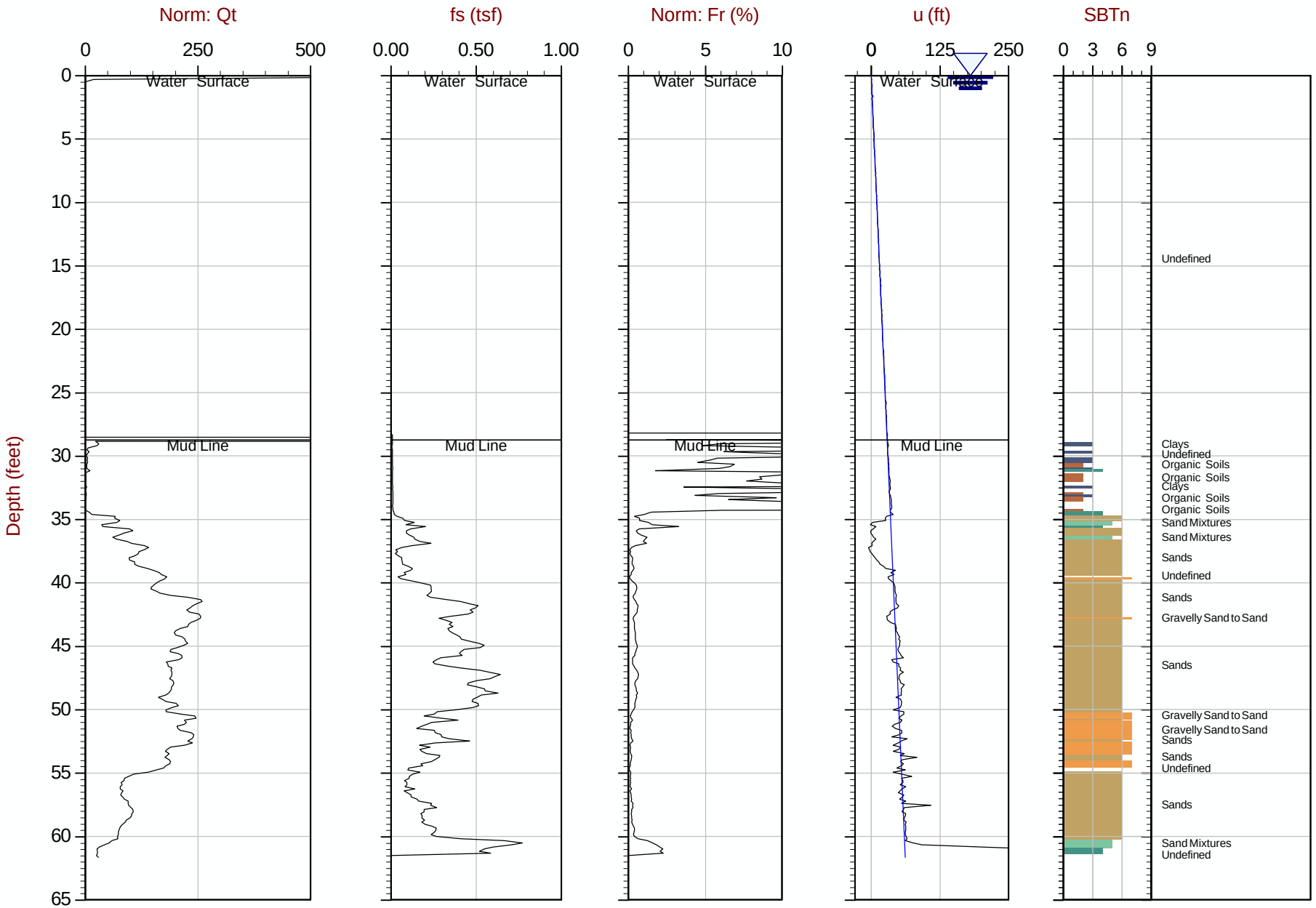
SBT: Lunne, Robertson and Powell, 1997
Coords: UTM Zone 18 N: 4502616 E: 584598

CONETEC

GEI Consultants

Job No: 12-748
Date: 08:28:12 11:42
Site: Gowanus Canal

Sounding: GC-CPT-017
Cone: 366:T1500F15U500



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Depth Inc: 0.050 m / 0.164 ft

File: 748CP17.COR

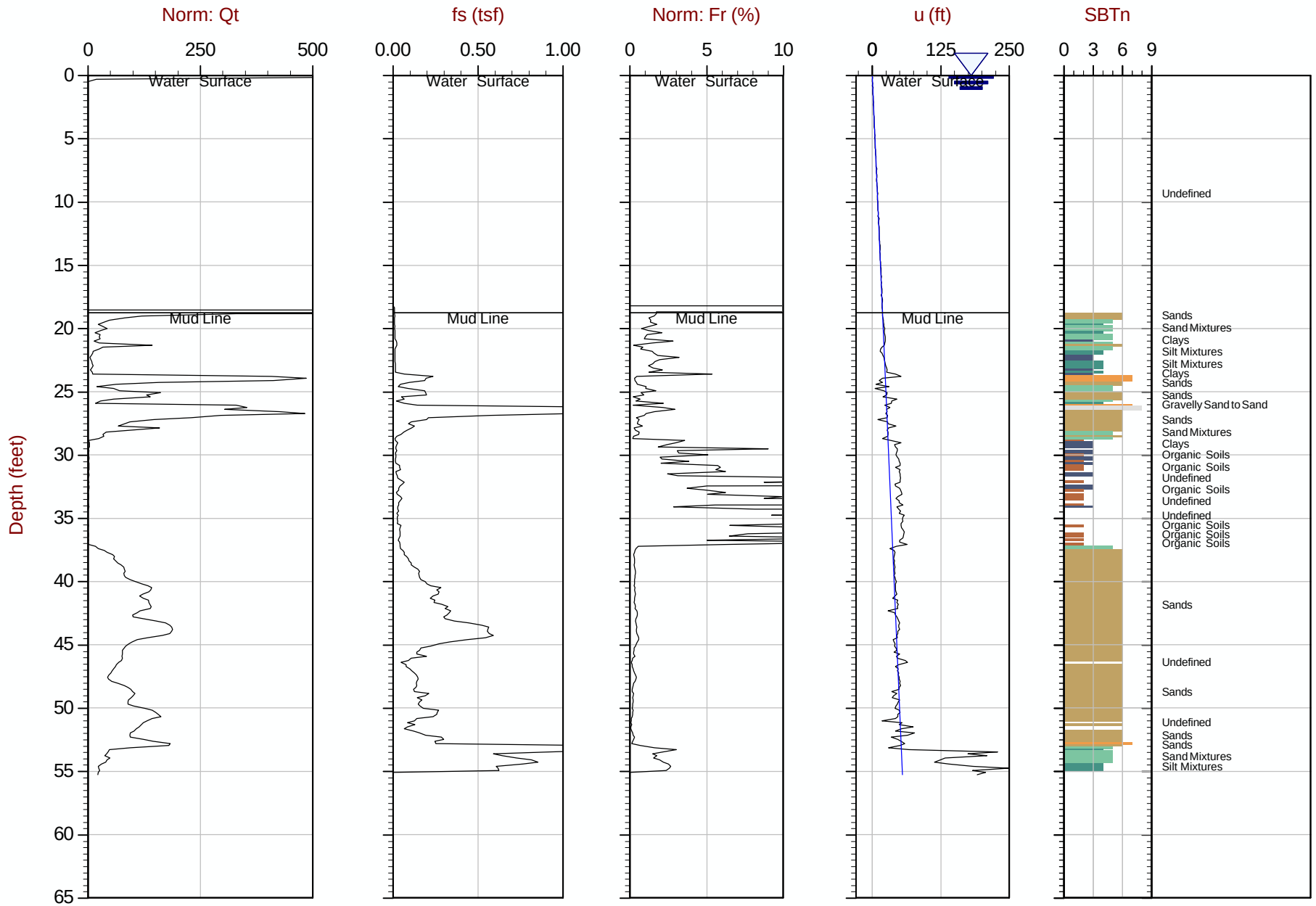
SBT: Lunne, Robertson and Powell, 1997
Coords: UTM Zone 18 N: 4502505 E: 584559

CONETEC

GEI Consultants

Job No: 12-748
Date: 08:28:12 08:00
Site: Gowanus Canal

Sounding: GC-CPT-018
Cone: 366:T1500F15U500



Max Depth: 16.850 m / 55.28 ft
Depth Inc: 0.050 m / 0.164 ft

File: 748CP18.COR

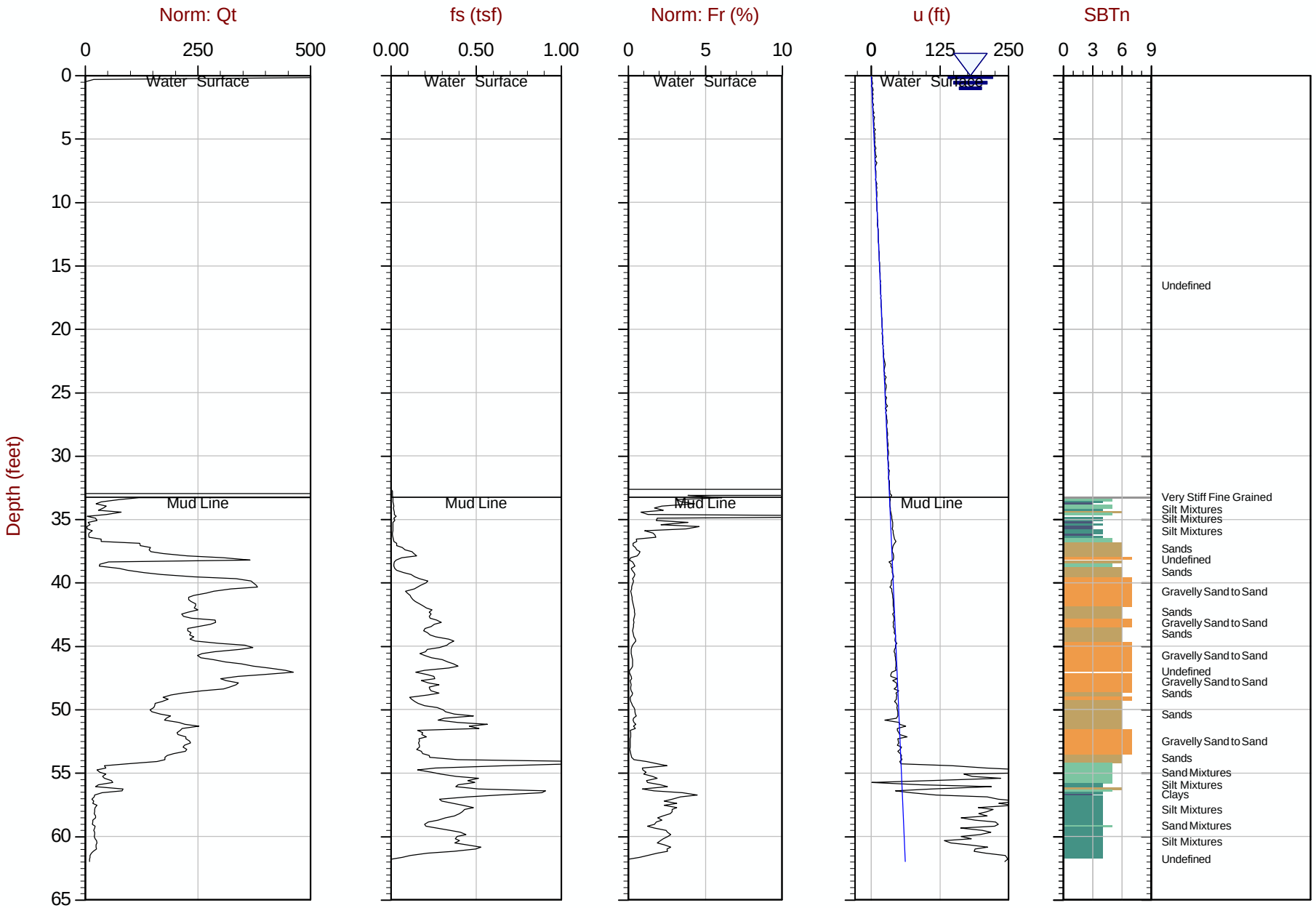
SBT: Lunne, Robertson and Powell, 1997
Coords: UTM Zone 18 N: 4502468 E: 584442

CONETEC

GEI Consultants

Job No: 12-748
Date: 08:28:12 14:19
Site: Gowanus Canal

Sounding: GC-CPT-019
Cone: 366:T1500F15U500



Max Depth: 18.900 m / 62.01 ft
Depth Inc: 0.050 m / 0.164 ft

File: 748CP19.COR

SBT: Lunne, Robertson and Powell, 1997
Coords: UTM Zone 18 N: 4502362 E: 584384

Appendix B

CONETEC INTERPRETATION METHODS

A Detailed Description of the Methods Used in ConeTec's CPT Interpretation and Plotting Software

Revision SZW-Rev 05
January 16, 2011

Prepared by Jim Greig

CONETEC

ConeTec Interpretations as of January 16, 2011

ConeTec's interpretation routine provides a tabular output of geotechnical parameters based on current published CPT correlations and is subject to change to reflect the current state of practice. The interpreted values are not considered valid for all soil types. The interpretations are presented only as a guide for geotechnical use and should be carefully scrutinized for consideration in any geotechnical design. Reference to current literature is strongly recommended. ConeTec does not warranty the correctness or the applicability of any of the geotechnical parameters interpreted by the program and does not assume liability for any use of the results in any design or review. Representative hand calculations should be made for any parameter that is critical for design purposes. The end user of the interpreted output should also be fully aware of the techniques and the limitations of any method used in this program. The purpose of this document is to inform the user as to which methods were used and what the appropriate papers and/or publications are for further reference.

The CPT interpretations are based on values of tip, sleeve friction and pore pressure averaged over a user specified interval (e.g. 0.20m). Note that q_t is the tip resistance corrected for pore pressure effects and q_c is the recorded tip resistance. Since all ConeTec cones have equal end area friction sleeves, pore pressure corrections to sleeve friction, f_s, are not required.

The tip correction is: $q_t = q_c + (1-a) \cdot u_2$

where: q_t is the corrected tip resistance
q_c is the recorded tip resistance
u_2 is the recorded dynamic pore pressure behind the tip (u_2 position)
a is the Net Area Ratio for the cone (typically 0.80 for ConeTec cones)

The total stress calculations are based on soil unit weights that have been assigned to the Soil Behavior Type zones, from a user defined unit weight profile or by using a single value throughout the profile.

Effective vertical overburden stresses are calculated based on a hydrostatic distribution of equilibrium pore pressures below the water table or from a user defined equilibrium pore pressure profile (this can be obtained from CPT dissipation tests). For over water projects the effects of the column of water have been taken into account as has the appropriate unit weight of water. How this is done depends on where the instruments were zeroed (i.e. on deck or at mud line).

Details regarding the interpretation methods for all of the interpreted parameters are provided in Table 1. The appropriate references cited in Table 1 are listed in Table 2. Where methods are based on charts or techniques that are too complex to describe in this summary the user should refer to the cited material.

The estimated Soil Behavior Types (normalized and non-normalized) are based on the charts developed by Robertson and Campanella shown in Figures 1 and 2. Alternate classification charts, such as the Bq SBTcharts, are shown in Figure 3.

Where the results of a calculation/interpretation are declared *'invalid'* the value will be represented by the text strings "-9999" or "-9999.0". In some cases the value 0 will be used. Invalid results will occur because of (and not limited to) one or a combination of:

1. Invalid or undefined CPT data (e.g. drilled out section or data gap).

2. Where the interpretation method is inappropriate, for example, drained parameters in an undrained material (and vice versa).

3. Where interpretation input values are beyond the range of the referenced charts or specified limitations of the interpretation method.

4. Where pre-requisite or intermediate interpretation calculations are invalid.

The parameters selected for output from the program are often specific to a particular project. As such, not all of the interpreted parameters listed in Table 1 may be included in the output files delivered with this report.

The output files are provided in Microsoft Excel XLS format. The ConeTec software has several options for output depending on the number or types of interpreted parameters desired. Each output file will be named using the original COR file basename followed by a three or four letter indicator of the interpretation set selected (e.g. BSC, TBL, NLI or IFI) and possibly followed by an operator selected suffix identifying the characteristics of the particular interpretation run.

Table 1
CPT Interpretation Methods

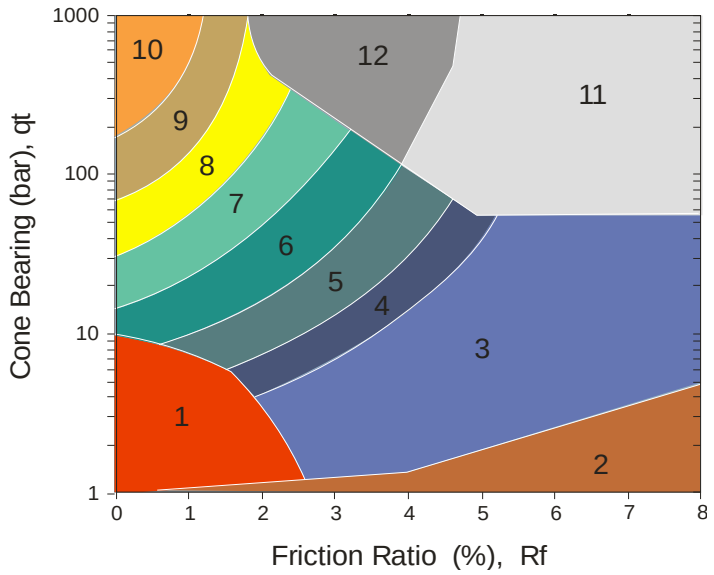
Interpreted Parameter	Description	Equation	Ref
Depth	Mid Layer Depth *(where interpretations are done at each point then Mid Layer Depth = Recorded Depth)*	*Depth (Layer Top) + Depth (Layer Bottom) / 2.0*	
Elevation	Elevation of Mid Layer based on sounding collar elevation supplied by client	Elevation = Collar Elevation - Depth	
Avgqc	Averaged recorded tip value (q_c)	$Avgqc = \frac{1}{n}\sum_{i=1}^{n} q_c$ *n=1 when interpretations are done at each point*	
Avgqt	Averaged corrected tip (q_t) where: $q_t = q_c + (1-a) \bullet u$	$Avgqt = \frac{1}{n}\sum_{i=1}^{n} q_t$ *n=1 when interpretations are done at each point*	
Avgfs	Averaged sleeve friction (f_s)	$Avgfs = \frac{1}{n}\sum_{i=1}^{n} fs$ *n=1 when interpretations are done at each point*	
AvgRf	Averaged friction ratio (Rf) where friction ratio is defined as: $Rf = 100\% \bullet \frac{fs}{qt}$	$AvgRf = 100\% \cdot \frac{Avgfs}{Avgqt}$ *n=1 when interpretations are done at each point*	
Avgu	Averaged dynamic pore pressure *(u)*	$Avgu = \frac{1}{n}\sum_{i=1}^{n} u_i$ *n=1 when interpretations are done at each point*	
AvgRes	Averaged Resistivity (this data is not always available since it is a specialized test requiring an additional module)	$Avgu = \frac{1}{n}\sum_{i=1}^{n} RESISTIVITY_i$ *n=1 when interpretations are done at each point*	
AvgUVIF	Averaged UVIF ultra-violet induced fluorescence (this data is not always available since it is a specialized test requiring an additional module)	$Avgu = \frac{1}{n}\sum_{i=1}^{n} UVIF_i$ *n=1 when interpretations are done at each point*	
AvgTemp	Averaged Temperature (this data is not always available since it is a specialized test)	$Avgu = \frac{1}{n}\sum_{i=1}^{n} TEMPERATURE_i$ *n=1 when interpretations are done at each point*	
AvgGamma	Averaged Gamma Counts (this data is not always available since it is a specialized test requiring an additional module)	$Avgu = \frac{1}{n}\sum_{i=1}^{n} GAMMA_i$ *n=1 when interpretations are done at each point*	
SBT	Soil Behavior Type as defined by Robertson and Campanella	See Figure 1	2, 5

Interpreted Parameter	Description	Equation	Ref
U.Wt.	Unit Weight of soil determined from one of the following user selectable options: 1) uniform value 2) value assigned to each SBT zone 3) user supplied unit weight profile	See references	5
T. Stress σ_v	Total vertical overburden stress at Mid Layer Depth. *A layer is defined as the averaging interval specified by the user. For data interpreted at each point the Mid Layer Depth is the same as the recorded depth.*	$TStress = \sum_{i=1}^{n} \gamma_i h_i$ *where* γ_i is layer unit weight h_i is layer thickness	
E. Stress σ_v'	Effective vertical overburden stress at Mid Layer Depth	*Estress = Tstress - u_{eq}*	
Ueq	Equilibrium pore pressure determined from one of the following user selectable options: 1) hydrostatic from water table depth 2) user supplied profile	For hydrostatic option: $u_{eq} = \gamma_w \cdot (D - D_{wt})$ where u_{eq} is equilibrium pore pressure γ_w is unit weight of water D is the current depth D_{wt} is the depth to the water table	
Cn	SPT N_{60} overburden correction factor	*$Cn=(\sigma_v')^{-0.5}$* where *σ_v' is in tsf* *$0.5 < C_n < 2.0$*	
N_{60}	SPT N value at 60% energy calculated from qt/N ratios assigned to each SBT zone. This method has abrupt N value changes at zone boundaries.	*See Figure 1*	4, 5
$(N_1)_{60}$	SPT N_{60} value corrected for overburden pressure	*$(N_1)_{60} = Cn \cdot N_{60}$*	4
$N_{60}I_c$	SPT N_{60} values based on the Ic parameter	(qt/pa)/ N_{60} = 8.5 (1 – Ic/4.6)	5
$(N_1)_{60}$Ic	SPT N_{60} value corrected for overburden pressure (using N_{60} $I_{c)}$. User has 2 options.	*1) $(N_1)_{60}Ic = Cn \cdot (N_{60}\, Ic)$* 2) q_{c1n}/ *$(N_1)_{60}Ic$* = 8.5 (1 – Ic/4.6)	4 5
$(N_1)_{60cs}$Ic	Clean sand equivalent SPT $(N_1)_{60}$Ic. User has 3 options.	1) $(N_1)_{60cs}Ic = \alpha + \beta((N_1)_{60}Ic)$ 2) $(N_1)_{60cs}Ic = K_{SPT} * ((N_1)_{60}Ic)$ 3) q_{c1ncs}/ $(N_1)_{60cs}Ic$ = 8.5 (1 – Ic/4.6) FC ≤ 5%: α = 0, β=1.0 FC ≥ 35% α = 5.0, β=1.2 5% < FC < 35% α = exp[1.76 – (190/FC^2)] β = [0.99 + ($FC^{1.5}$/1000)]	10 10 5
Su	Undrained shear strength based on q_t Su factor N_{kt} is user selectable	$Su = \frac{qt - \sigma_v}{N_{kt}}$	1, 5
Su	Undrained shear strength based on pore pressure Su factor $N_{\Delta u}$ is user selectable	$Su = \frac{u_2 - u_{eq}}{N_{\Delta u}}$	1, 5
k	Coefficient of permeability (assigned to each SBT zone)		5
Bq	Pore pressure parameter	$Bq = \frac{\Delta u}{qt - \sigma_v}$ *where:* $\Delta u = u - u_{eq}$ *and u = dynamic pore pressure* *u_{eq} = equilibrium pore pressure*	1, 5

Interpreted Parameter	Description	Equation	Ref
Q_t	Normalized q_t for Soil Behavior Type classification as defined by Robertson, 1990	$Qt = \frac{qt - \sigma_v}{\sigma'_v}$	2, 5
F_r	Normalized Friction Ratio for Soil Behavior Type classification as defined by Robertson, 1990	$Fr = 100\% \cdot \frac{fs}{qt - \sigma_v}$	2, 5
Net qt	Net tip resistance	$qt - \sigma_v$	
qe	Effective tip resistance	$qt - u_2$	
qeNorm	Normalized effective tip resistance	$\frac{qt - u_2}{\sigma'_v}$	
SBTn	Normalized Soil Behavior Type as defined by Robertson and Campanella	See Figure 2	2, 5
SBT-BQ	Non-normalized Soil Behavior type based on the Bq parameter	See Figure 3	2, 5
SBT-BQn	Normalized Soil Behavior based on the Bq parameter	See Figure 3	2, 5
SBT-JandD	Soil Behaviour Type as defined by Jeffries and Davies	See Figure 3	7
SBT-BQn	Normalized Soil Behavior base on the Bq parameter	See Figure 3	2, 5
I_c	Soil index for estimating grain characteristics	$Ic = [(3.47 - \log_{10}Q)^2 + (\log_{10} Fr + 1.22)^2]^{0.5}$ *Where:* $Q = \left(\frac{qt - \sigma_v}{P_{a2}}\right)\left(\frac{P_a}{\sigma'_v}\right)^n$ *And* *Fr is in percent* P_a *= atmospheric pressure* P_{a2} *= atmospheric pressure* *n varies from 0.5 to 1.0 and is selected in an iterative manner based on the resulting* I_c	3, 8
FC	Apparent fines content (%)	$FC=1.75(Ic^{3.25}) - 3.7$ $FC=100$ *for* $Ic > 3.5$ $FC=0$ *for* $Ic < 1.26$ $FC = 5\%$ *if* $1.64 < Ic < 2.6$ *AND* $F_r<0.5$	3
Ic Zone	This parameter is the Soil Behavior Type zone based on the Ic parameter (valid for zones 2 through 7 on SBTn chart)	Ic < 1.31 Zone = 7 1.31 < Ic < 2.05 Zone = 6 2.05 < Ic < 2.60 Zone = 5 2.60 < Ic < 2.95 Zone = 4 2.95 < Ic < 3.60 Zone = 3 Ic > 3.60 Zone = 2	3
PHI ϕ	Friction Angle determined from one of the following user selectable options: a) Campanella and Robertson b) Durgunoglu and Mitchel c) Janbu d) Kulhawy and Mayne	See reference	5 5 5 11
Dr	Relative Density determined from one of the following user selectable options: a) Ticino Sand b) Hokksund Sand c) Schmertmann 1976 d) Jamiolkowski - All Sands	See reference	5

Interpreted Parameter	Description	Equation	Ref
OCR	Over Consolidation Ratio	a) Based on Schmertmann's method involving a plot of S_u/σ_v' /($S_u/\sigma_v')_{NC}$ and OCR where the Su/p' ratio for NC clay is user selectable	9
State Parameter	The state parameter is used to describe whether a soil is contractive (SP is positive) or dilative (SP is negative) at large strains based on the work by Been and Jefferies	See reference	8, 6, 5
Es/qt	Intermediate parameter for calculating Young's Modulus, E, in sands. It is the Y axis of the reference chart.	Based on Figure 5.59 in the reference	5
Young's Modulus E	Young's Modulus based on the work done in Italy. There are three types of sands considered in this technique. The user selects the appropriate type for the site from: a) OC Sands b) Aged NC Sands c) Recent NC Sands Each sand type has a family of curves that depend on mean normal stress. The program calculates mean normal stress and linearly interpolates between the two extremes provided in the Es/qt chart.	Mean normal stress is evaluated from: $\sigma_m' = \frac{1}{3}\left(\sigma_v' + \sigma_h' + \sigma_h'\right)^3$ where σ_v'= vertical effective stress σ_h'= horizontal effective stress and $\sigma_h = K_o \cdot \sigma_v'$ with Ko assumed to be 0.5	5
q_{c1}	q_t normalized for overburden stress used for seismic analysis	$q_{c1} = q_t \cdot (Pa/\sigma_v')^{0.5}$ where: Pa = atm. Pressure q_t is in MPa	3
q_{c1n}	q_{c1} in dimensionless form used for seismic analysis	$q_{c1n} = (q_{c1} / Pa)(Pa/\sigma_v')^n$ where: Pa = atm. Pressure and n ranges from 0.5 to 0.75 based on Ic.	3
K_{SPT}	Equivalent clean sand factor for $(N_1)60$	$K_{SPT} = 1 + ((0.75/30) \cdot (FC - 5))$	10
K_{CPT}	Equivalent clean sand correction for q_{c1N}	$K_{cpt} = 1.0$ for $I_c \leq 1.64$ $K_{cpt} = f(I_c)$ for $I_c > 1.64$ (see reference)	10
q_{c1ncs}	Clean sand equivalent q_{c1n}	$q_{c1ncs} = q_{c1n} \cdot K_{cpt}$	3
CRR	Cyclic Resistance Ratio (for Magnitude 7.5)	$q_{c1ncs} < 50$: $CRR_{7.5} = 0.833\ [(q_{c1ncs}/1000] + 0.05$ $50 \leq q_{c1ncs} < 160$: $CRR_{7.5} = 93\ [(q_{c1ncs}/1000]^3 + 0.08$	10
CSR	Cyclic Stress Ratio	$CSR = (\tau_{av}/\sigma_v') = 0.65\ (a_{max} / g)\ (\sigma_v/ \sigma_v')\ r_d$ $r_d = 1.0 - 0.00765\ z$ $z \leq 9.15$m $r_d = 1.174 - 0.0267\ z$ $9.15 < z \leq 23$m $r_d = 0.744 - 0.008\ z$ $23 < z \leq 30$m $r_d = 0.50$ $z > 30$m	10

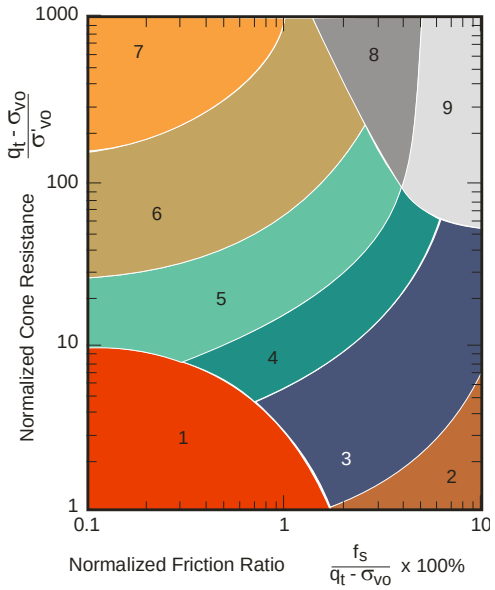
Interpreted Parameter	Description	Equation	Ref
MSF	Magnitude Scaling Factor	See Reference	10
FofS	Factor of Safety against Liquefaction	FS = ($CRR_{7.5}$ / CSR) MSF	10
Liquefaction Status	Statement indicating possible liquefaction	Takes into account FofS and limitations based on I_c and q_{c1ncs}.	10
Cont/Dilat Tip	Contractive / Dilative qc1 Boundary based on $(N_1)_{60}$	$(\sigma_v')_{boundary} = 9.58 \times 10^{-4} [(N_1)_{60}]^{-4.79}$ qc1 is calculated from specified qt(MPa)/N ratio	11
Su(Liq)/s'v	Liquefied Shear Strength Ratio	$\frac{Su(Liq)}{\sigma_v'} = 0.03 + 0.0143(q_{c1})$	12



Zone	qt / N	Soil Behavior Type
1	2	sensitive fine grained
2	1	organic material
3	1	clay
4	1.5	silty clay to clay
5	2	clayey silt to silty clay
6	2.5	sandy silt to clayey silt
7	3	silty sand to sandy silt
8	4	sand to silty sand
9	5	sand
10	6	gravelly sand to sand
11	1	very stiff fine grained *
12	2	sand to clayey sand *

* overconsolidated or cemented

Figure 1 Non-Normalized Behavior Type Classification Chart



Zone	Normalized Soil Behavior Type
1	sensitive fine grained
2	organic material
3	clay to silty clay
4	clayey silt to silty clay
5	silty sand to sandy silt
6	clean sands to silty sands
7	gravelly sand to sand
8	very stiff sand to clayey sand
9	very stiff fine grained

Figure 2 Normalized Behavior Type Classification Chart

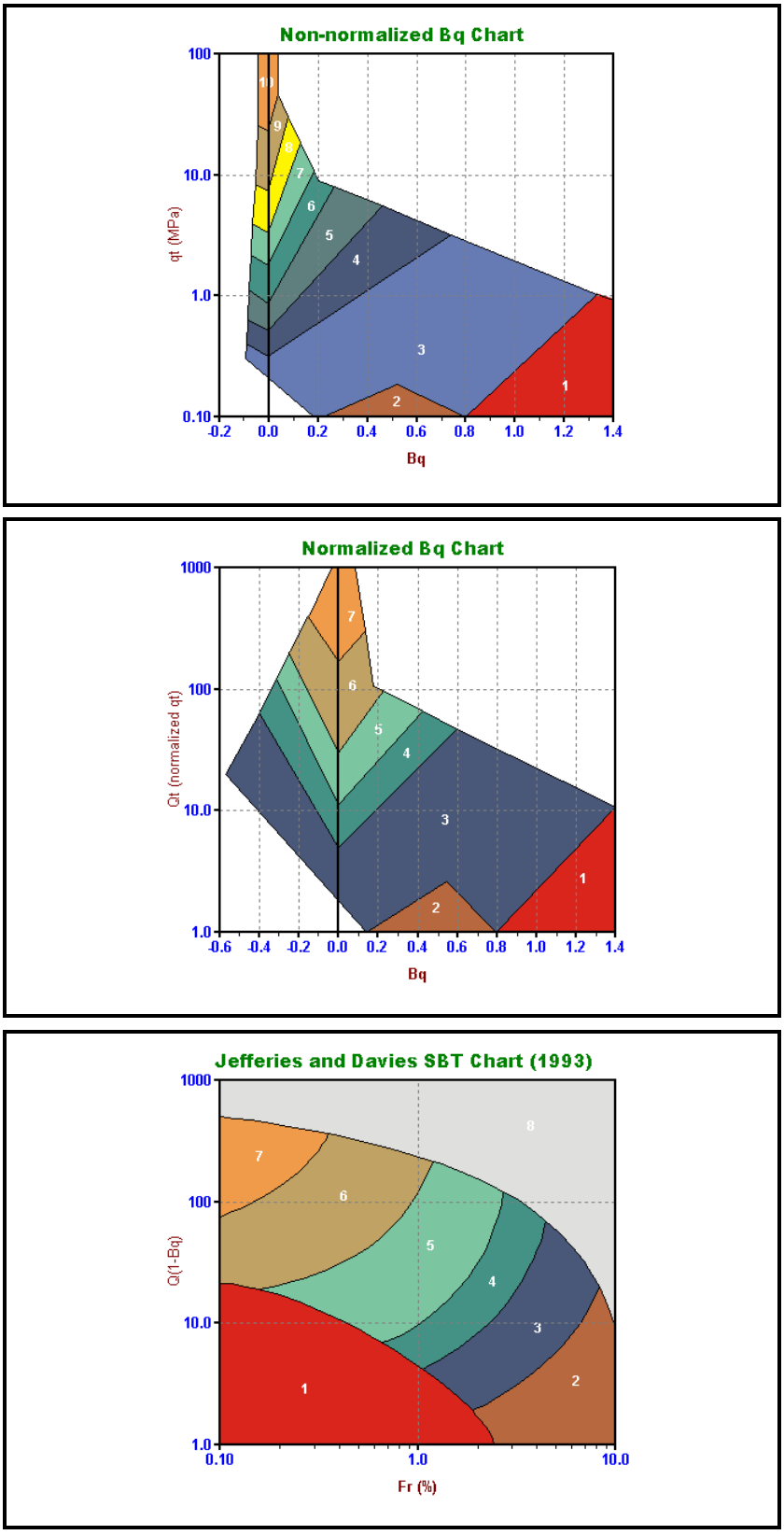


Figure 3 – Alternate Soil Behaviour Type Charts

Table 2 References

No.	References
1	Robertson, P.K., Campanella, R.G., Gillespie, D. and Greig, J., 1986, "Use of Piezometer Cone Data", Proceedings of InSitu 86, ASCE Specialty Conference, Blacksburg, Virginia.
2	Robertson, P.K., 1990, "Soil Classification Using the Cone Penetration Test", Canadian Geotechnical Journal, Volume 27.
3	Robertson, P.K. and Fear, C.E., 1998, "Evaluating cyclic liquefaction potential using the cone penetration test", Canadian Geotechnical Journal, 35: 442-459.
4	Robertson, P.K. and Wride, C.E., 1998, "Cyclic Liquefaction and its Evaluation Based on SPT and CPT", NCEER Workshop Paper, January 22, 1997
5	Lunne, T., Robertson, P.K. and Powell, J. J. M., 1997, " Cone Penetration Testing in Geotechnical Practice," Blackie Academic and Professional.
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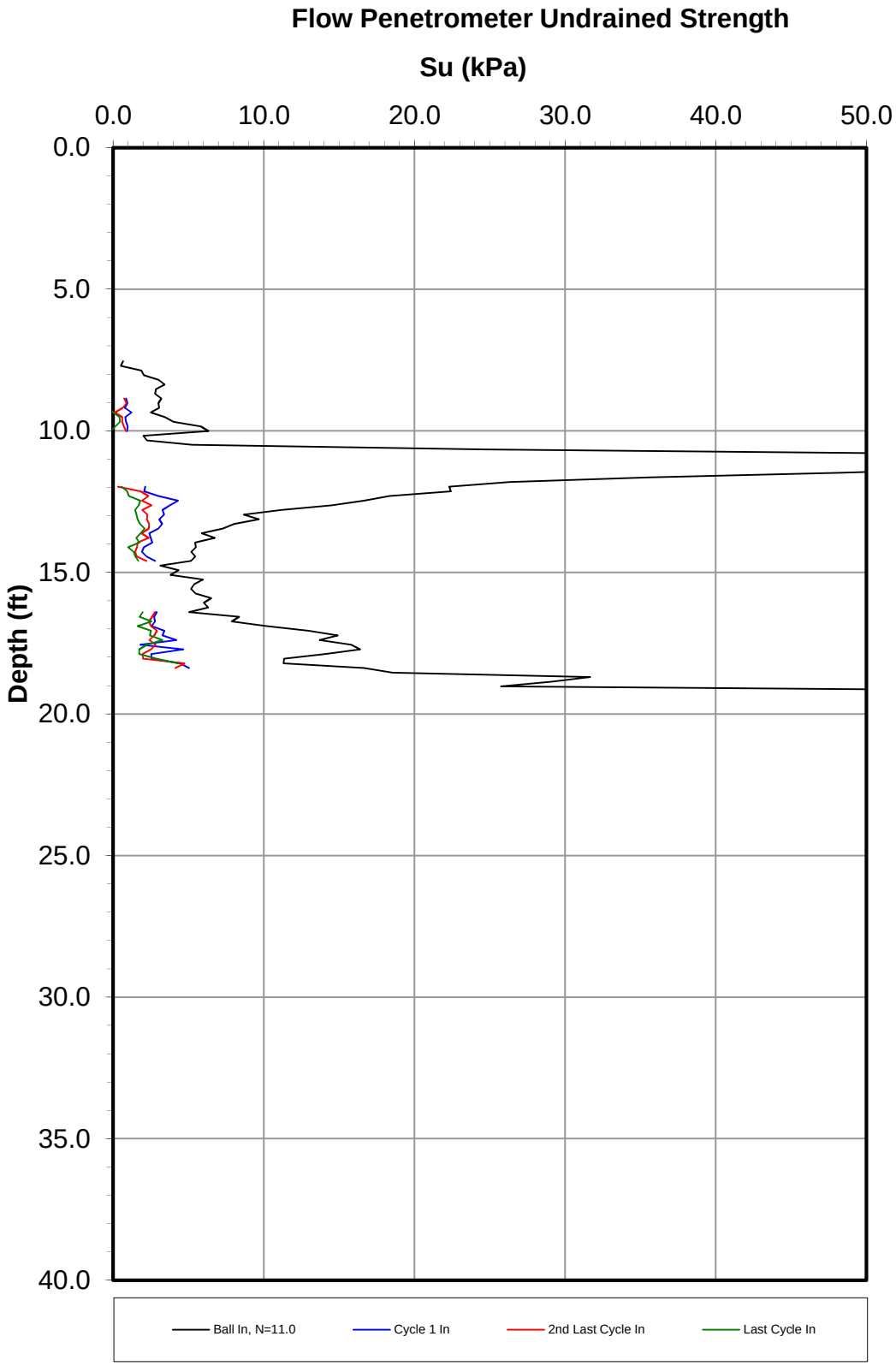
9	Schmertmann, 1977, "Guidelines for Cone Penetration Test Performance and Design", Federal Highway Administration Report FHWA-TS-78-209, U.S. Department of Transportation
10	Proceedings of theNCEER Workshop on Evaluation of Liquefaction Resistance of Soils, Salt LakeCity, 1996. Chaired by Leslie Youd. 11
11	Kulhawy, F.H. and Mayne, P.W. ,1990, "Manual on Estimating Soil Properties for Foundation Design, *Report No. EL-6800"*, Electric Power Research Institute, Palo Alto, CA, August 1990, 306 p.
12	Oslon, Scott M. and Stark, Timothy D., 2003, "Yield Strength Ratio and Liquefaction Analysis of Slopes and Embankments", Journal of Geotechnical and Geoenvironmental Engineering, ASCE, August 2003.

Appendix C

No Dissipation Tests Performed

Appendix D

Project: 12-748
Client: GEI Consultants
Project: Gowanus Canal
Sounding: GC-BPT-001
Sounding Date: 8/21/2012



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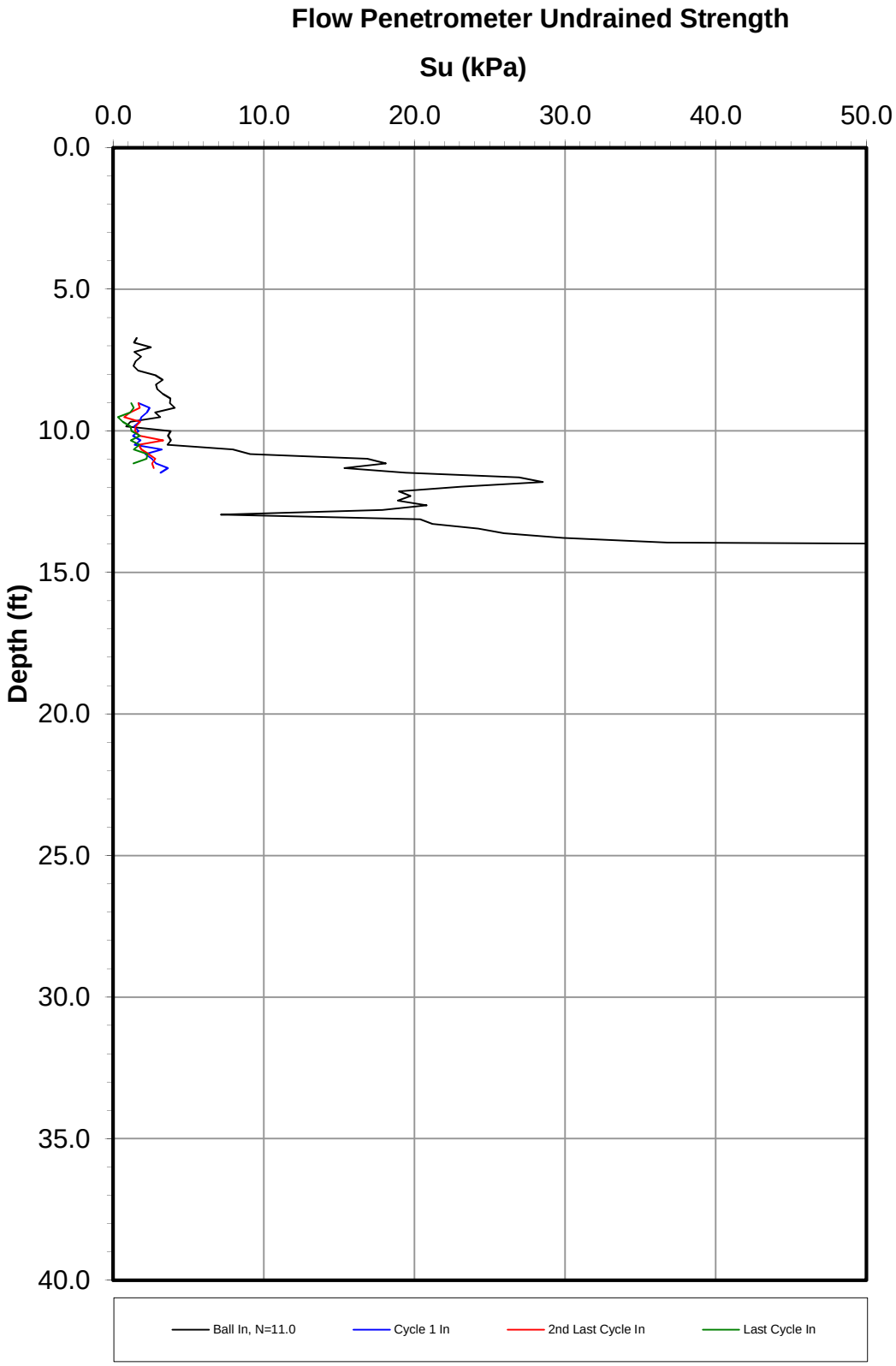
Client: GEI Consultants
Project: Gowanus Canal
Sounding: GC-BPT-002
Sounding Date: 8/21/2012



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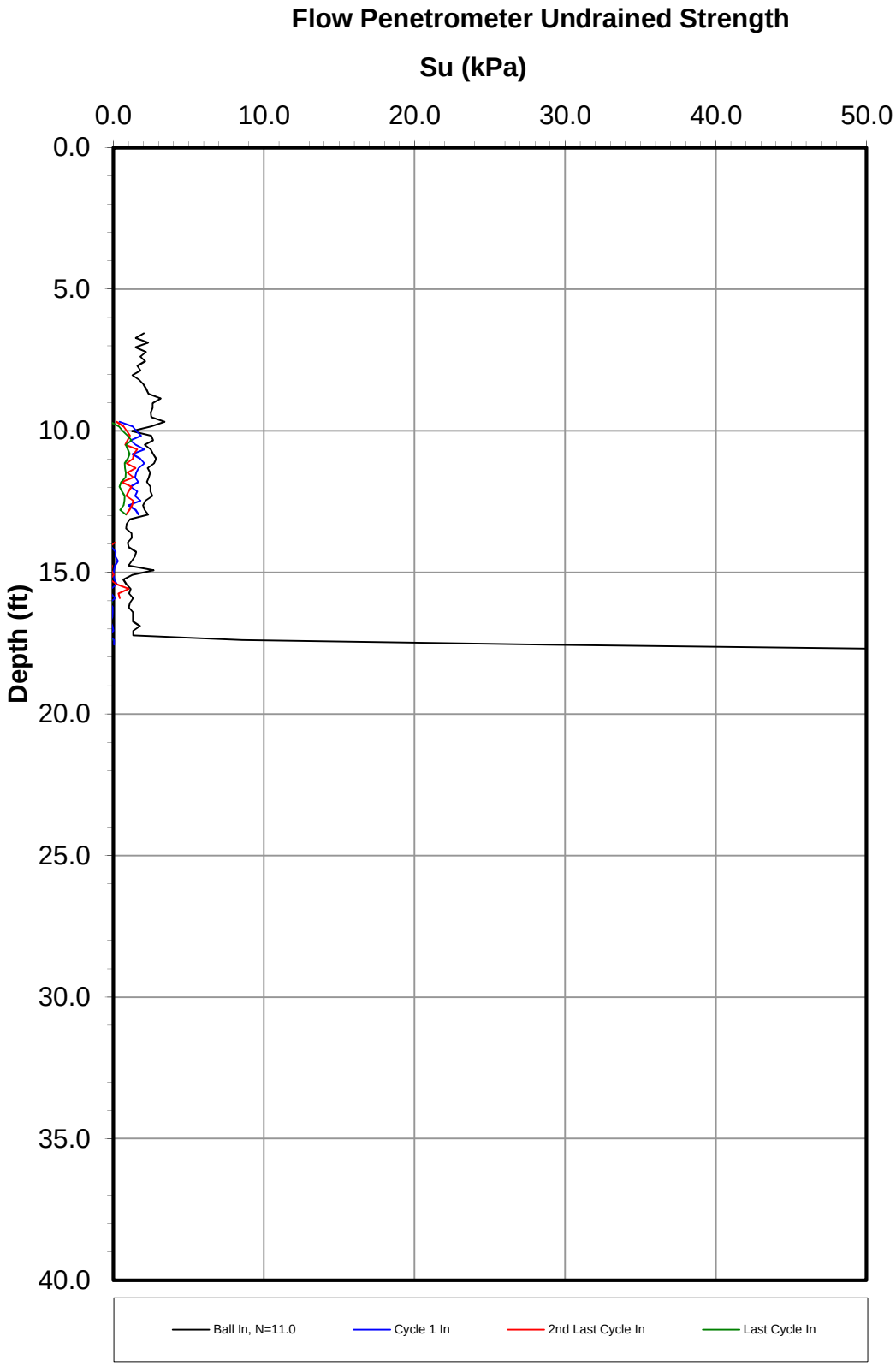
Client: GEI Consultants
Project: Gowanus Canal
Sounding: GC-BPT-003
Sounding Date: 8/21/2012



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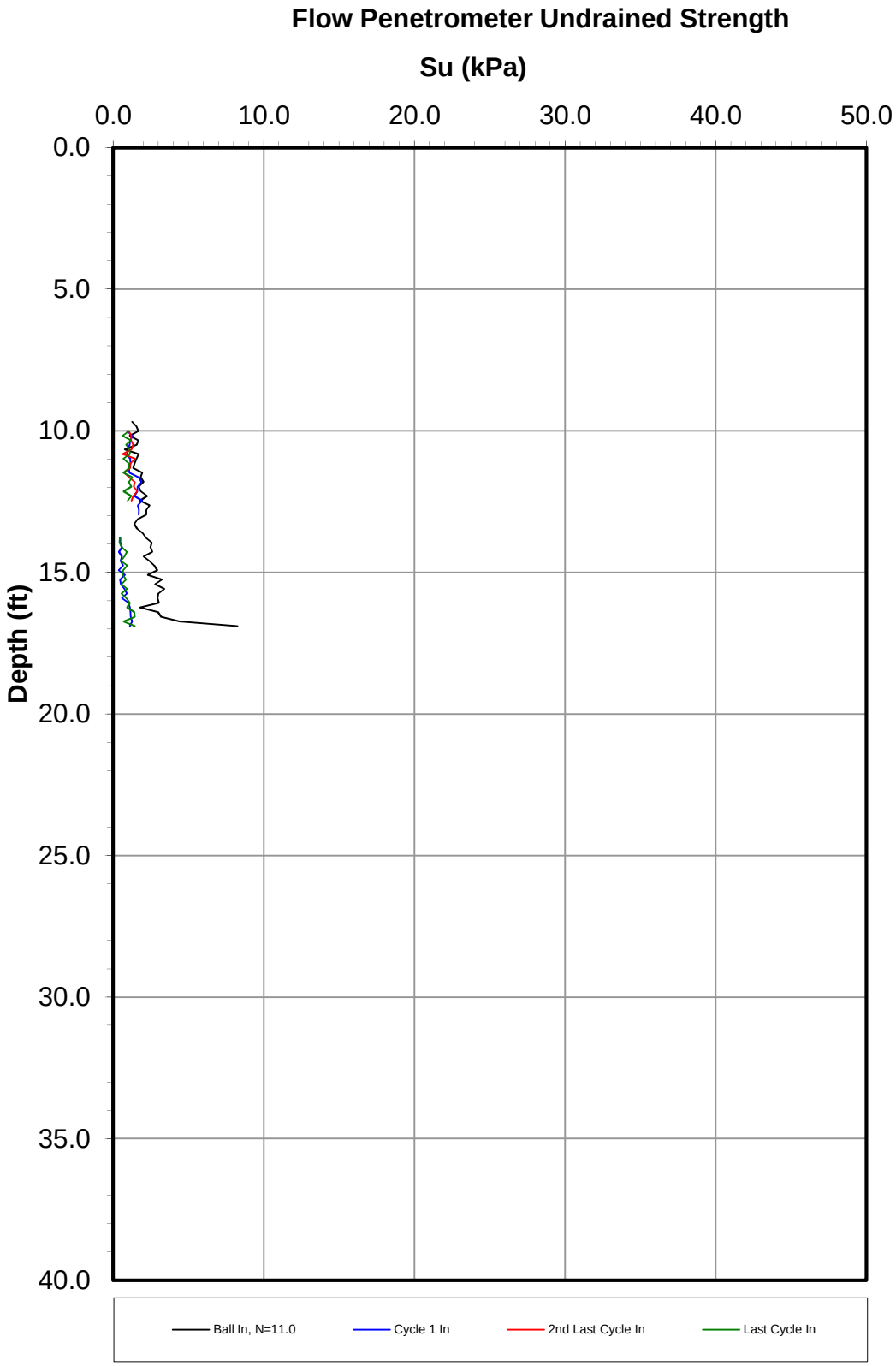
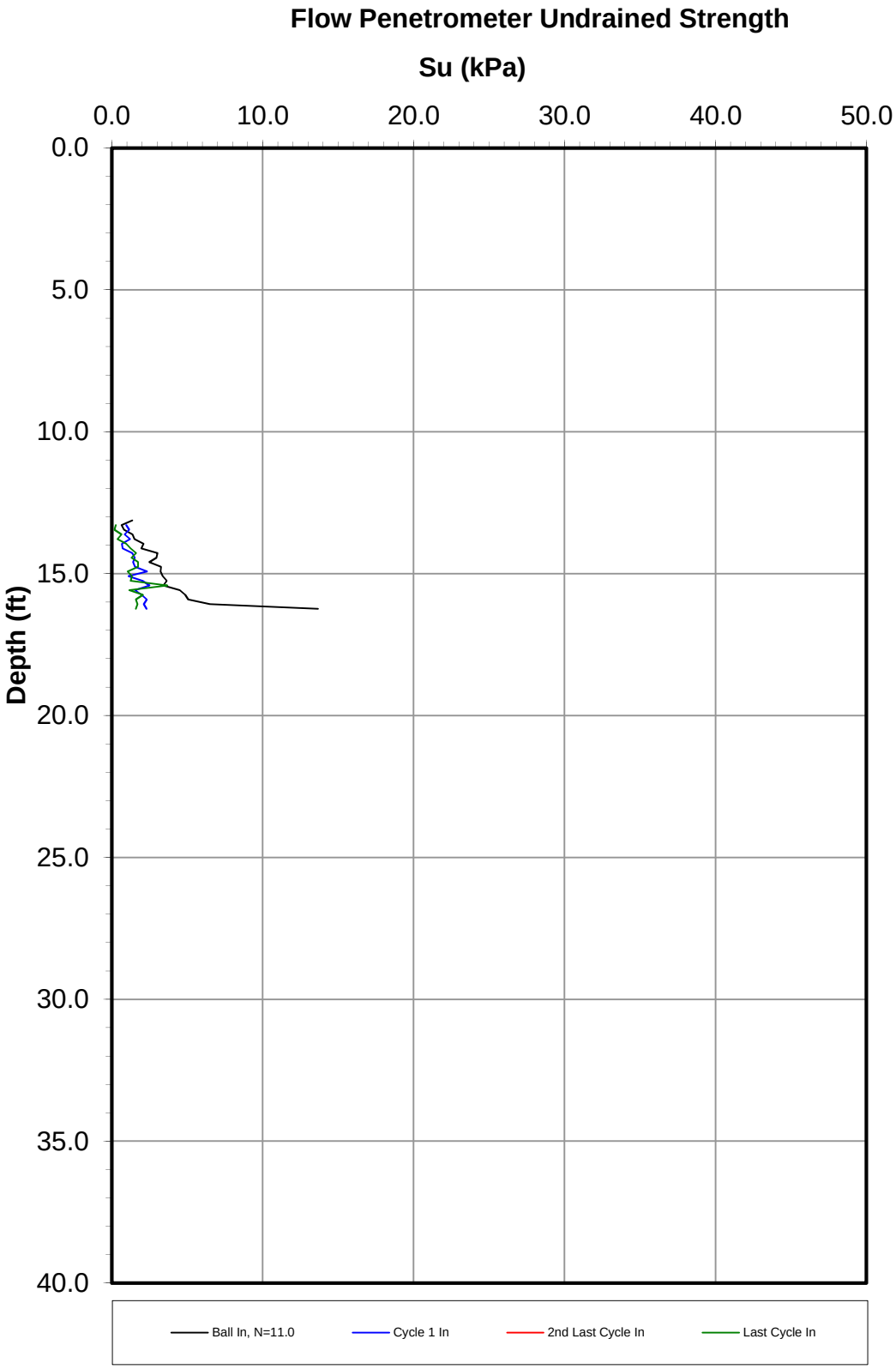
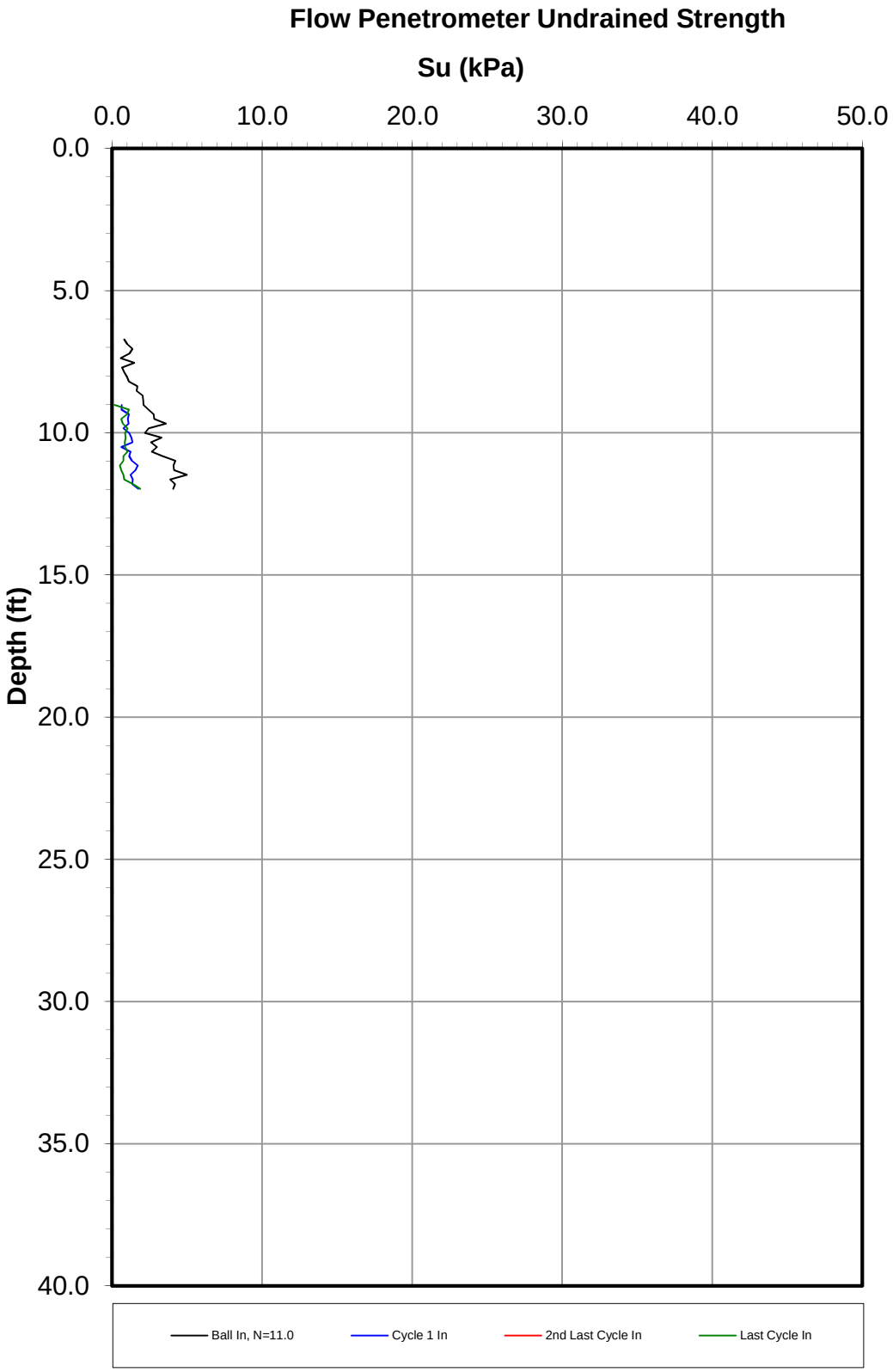
Client: GEI Consultants
Project: Gowanus Canal
Sounding: GC-BPT-004
Sounding Date: 8/22/2012



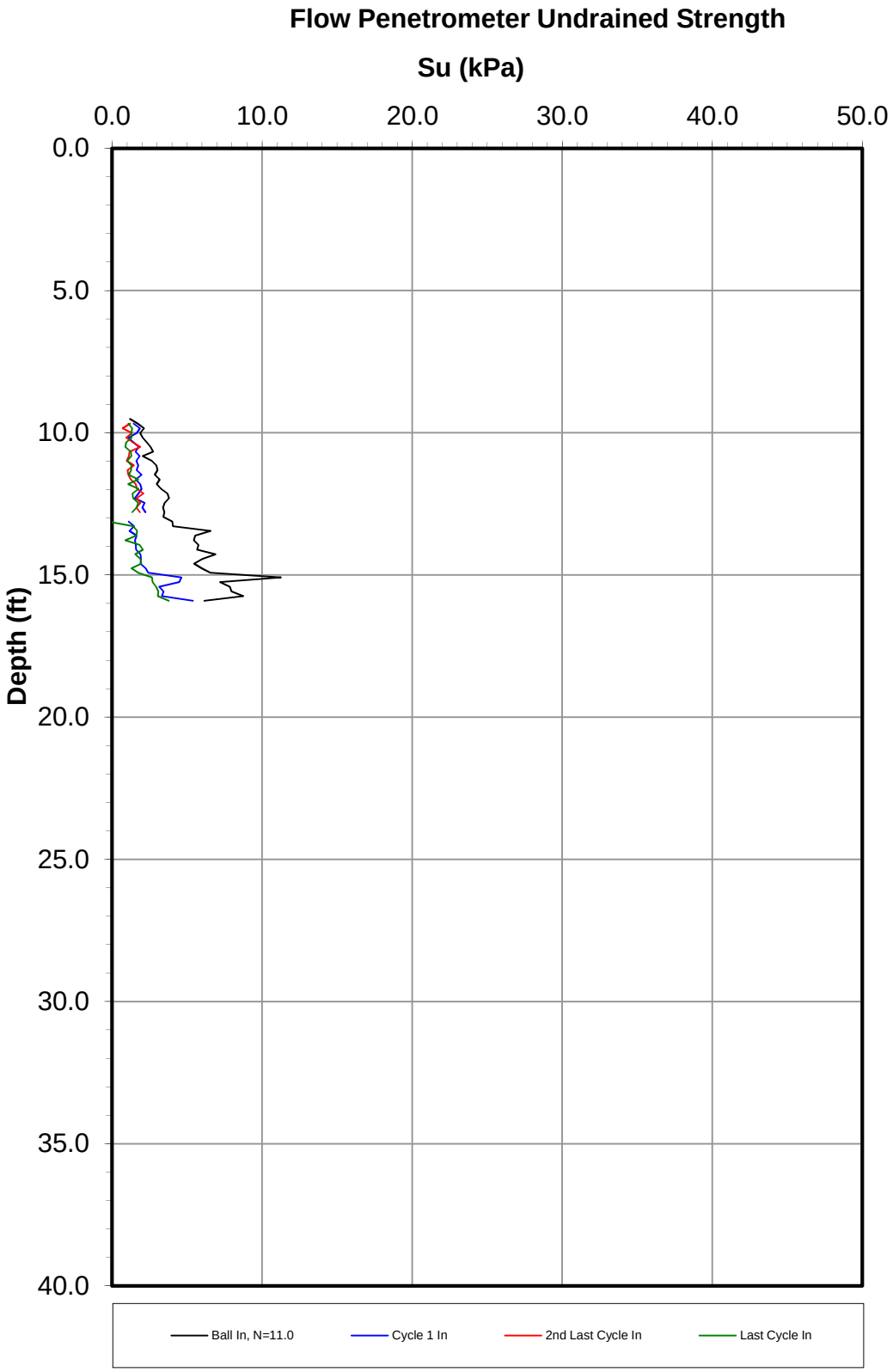
Project: 12-748
Client: GEI Consultants
Project: Gowanus Canal
Sounding: GC-BPT-005
Sounding Date: 8/22/2012



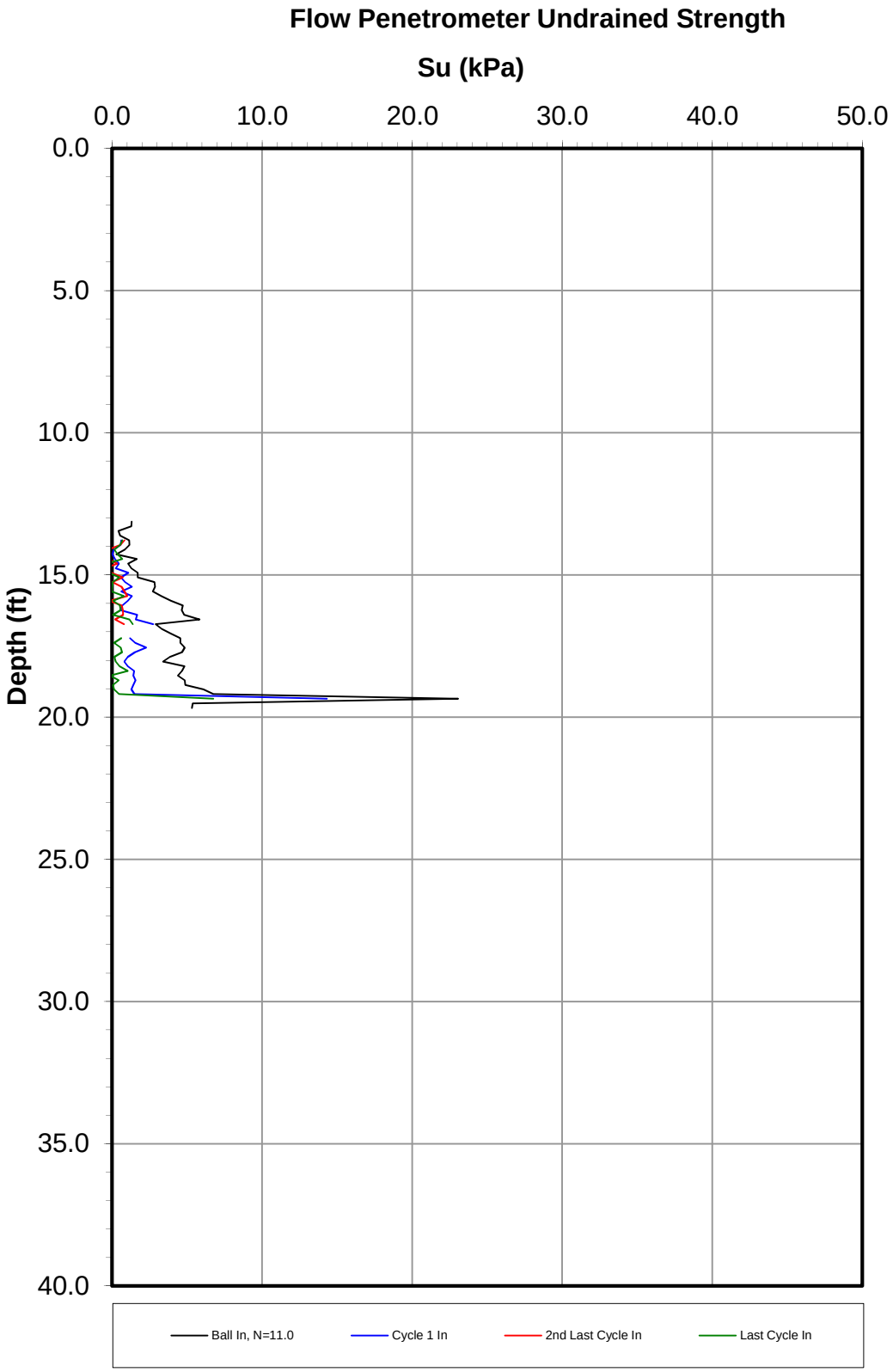
Project: 12-748
Client: GEI Consultants
Project: Gowanus Canal
Sounding: GC-BPT-006
Sounding Date: 8/23/2012



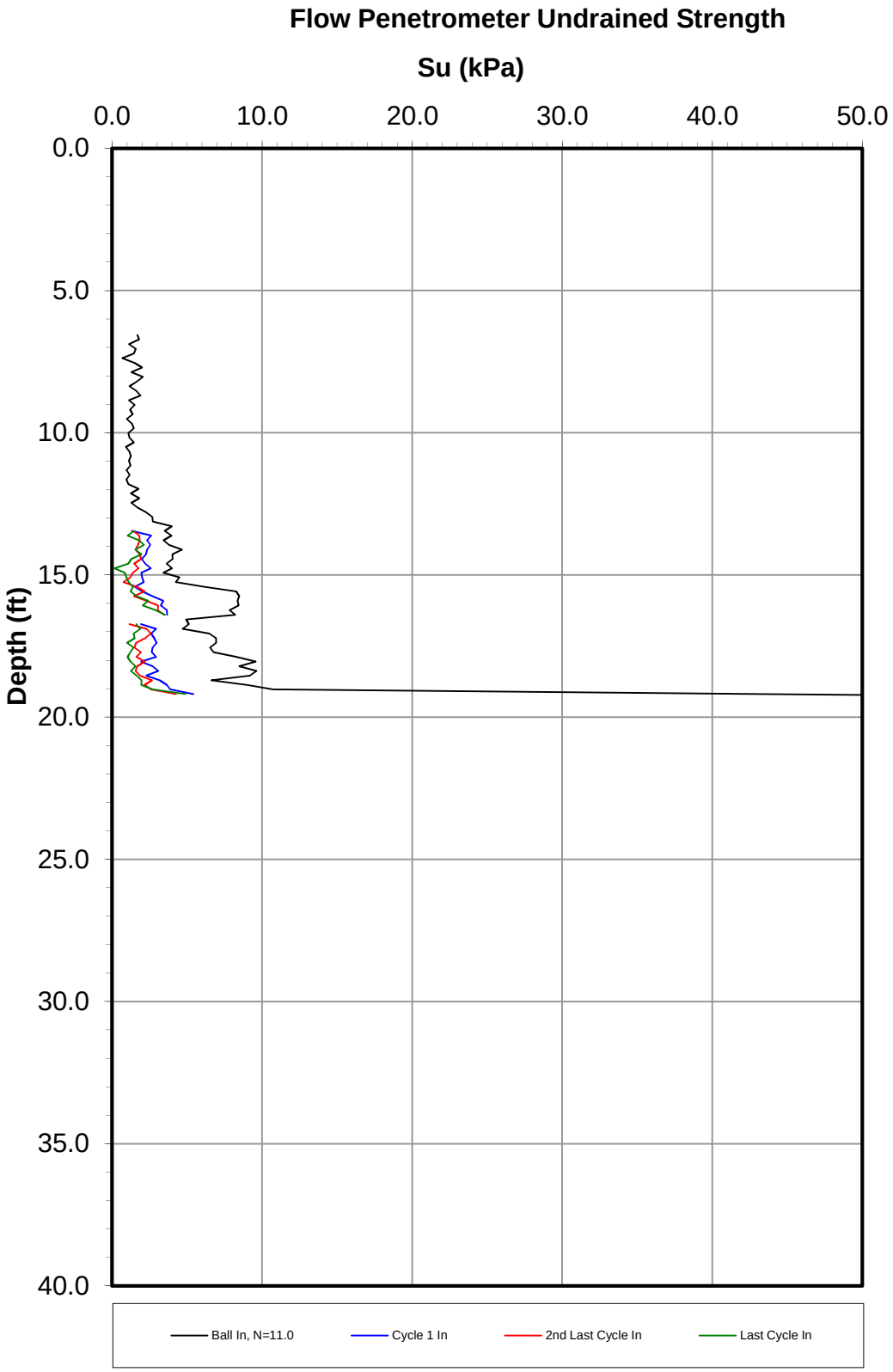
Project: 12-748
Client: GEI Consultants
Project: Gowanus Canal
Sounding: GC-BPT-007
Sounding Date: 8/23/2012



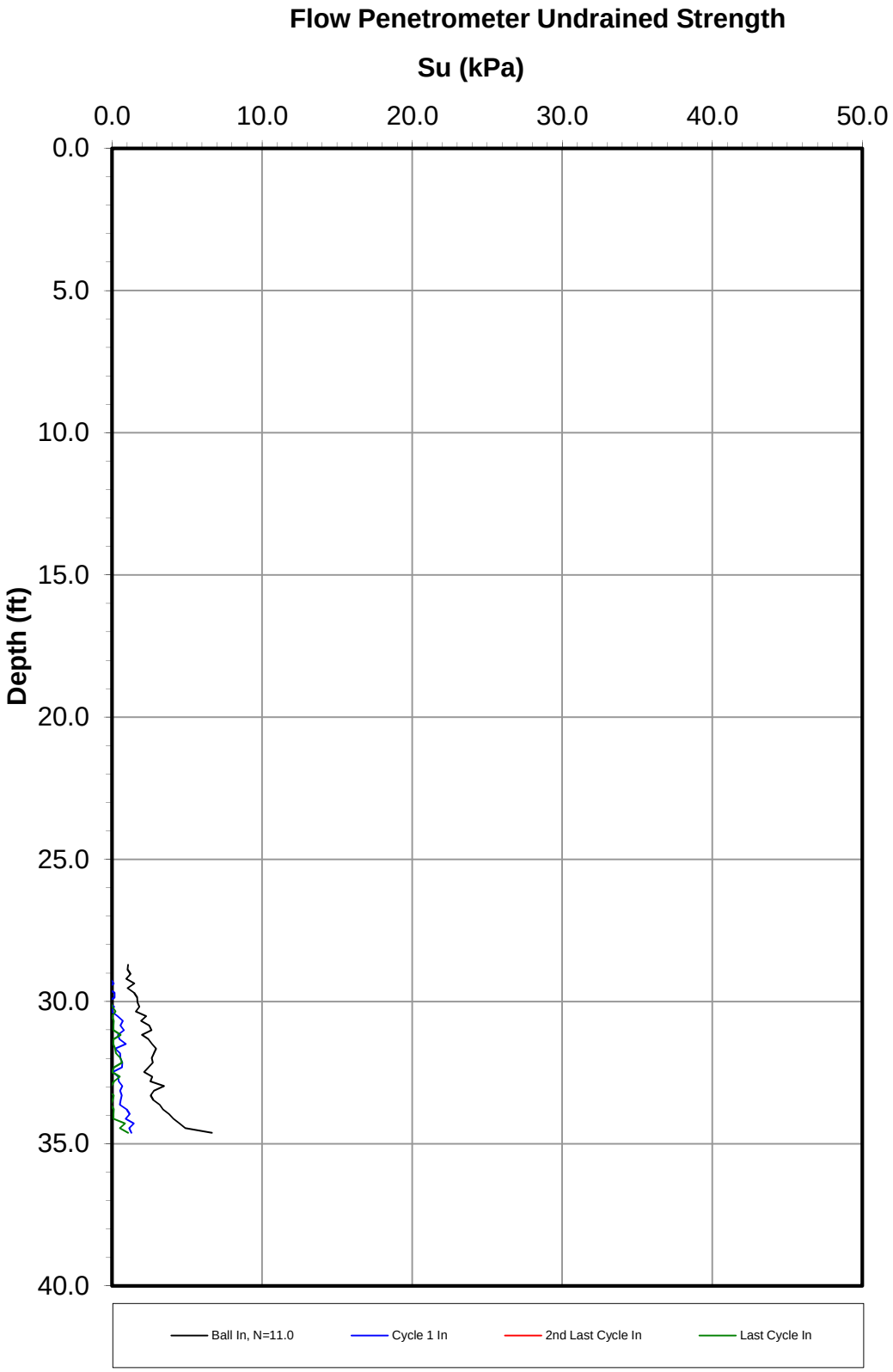
Project: 12-748
Client: GEI Consultants
Project: Gowanus Canal
Sounding: GC-BPT-008
Sounding Date: 8/23/2012



Project: 12-748
Client: GEI Consultants
Project: Gowanus Canal
Sounding: GC-BPT-009
Sounding Date: 8/23/2012



Project: 12-748
Client: GEI Consultants
Project: Gowanus Canal
Sounding: GC-BPT-017
Sounding Date: 8/28/2012



Appendix E

Electronic Data Files

The released data contains the following folders:

1. CPT Data - .cor files in ASCII format, and or .xls files.
2. Pore Pressure Dissipation Data - .ppd files in Excel format
3. CPT Plots - .pdf files
4. Data Interpretation - .xls files contain common engineering values

ConeTec Digital File Formats

CPT Data Files (COR Extension)

ConeTec data files are stored in ASCII text files that are readable by almost any text editor. ConeTec CPT data files are named such that the first 3 characters contain the job number, the next two characters are CP followed by two characters indicating the sounding number. The last 8th character position is reserved for the letters a, b, c, d etc to uniquely identify multiple soundings at the same location. The CPT sounding file has the extension COR, and pore pressure dissipation files have the extension PPD or PPF. As an example, for job number 06-127 the first sounding will have file names 127CP01.COR and 127CP01.PPD.

The sounding (COR) file consists of the following components:

1. Two lines of header information
2. Data records
3. End of data marker
4. Units information

Header Lines

Line 1: Columns 1-6 may be blank or may indicate the version number of the recording software
Columns 7-21 contain the sounding Date and Time
Columns 22-36 contain the sounding Operator

Line 2: Columns 1-16 contain the Job Location
Columns 17-31 contain the Cone ID
Columns 32-47 contain the sounding number

Data Records

The data records contain 4 or more columns of data in floating point format. A comma (and spaces) separates each data item:

Column 1: Sounding Depth (meters)
Column 2: Tip (q_c) data uncorrected for pore pressure effects. Recorded in units selected by the operator.
Column 3: Sleeve (f_s) data. Recorded in units selected by the operator
Column 4: Dynamic pore pressure readings. Recorded in units selected by the operator
Column 5: Empty, Resistivity, UVIF or Gamma data

End of Data Marker

After the last line of data there will be a line containing ASCII 26 (CTL-Z) and a newline (carriage return/ line feed) character. This is used to mark the end of data.

Units Information

The last section of the file contains information about the units that were selected for the sounding. A separator bar makes up the first line. The second line contains the type of units used for depth, q_c, f_s and u. The third line contains the conversion values required for ConeTec's software to convert the recorded data to an internal set of base units (bar for q_c, bar for f_s and meters for u).

CPT Dissipation Files (PPx Extension)

CPT Dissipation files have the same naming convention as the CPT sounding files and have the extension PPD, PPF or PPM. PPF (PPM and PPD) files consist of the following components:

1. Two lines of header information
2. Data records

Header Lines (same as COR file):

Line 1: Columns 1-6 may be blank or may indicate the version number of the recording software
Columns 7-21 contain the sounding Date and Time
Columns 22-36 contain the sounding Operator

Line 2: Columns 1-16 contain the Job Location
Columns 17-31 contain the Cone ID
Columns 32-47 contain the sounding number

Data Records

The data records immediately follow the header lines. Each data record can occupy several lines in the file and is a complete record of a dissipation test at a particular depth. Each data record starts with a line containing two values separated by spaces; the first value being an index number (not currently used by the Software) and the second being the dissipation test depth in meters. Following this line are the dissipation pore pressure values stored at 5 second intervals with a maximum of 12 entries per line. The last line of the dissipation record may not contain a full 12 entries. The data record is terminated with an ASCII 30 character (appears as a triangle in some editors).

This sequence is repeated for every dissipation test in the sounding. No marker is used to indicate end of file. Units information is not stored in this file. Users need to check the CPT file for the units that were used.

CPT Basic Interpretations (TBL Extension)

ConeTec's basic CPT interpretation output files are generally delivered in text files with a TBL extension. The root file name is the same as the COR files. A number of calculated geotechnical parameters are presented in these files. The files are stored as ASCII text files that can be viewed using any text editor such as Notepad or Wordpad. The files do not contain any page formatting. These files are not distributed if the enhanced interpretation files are provided.

CPT Enhanced Interpretations (IFI, IFP, XLS Extension)

ConeTec's enhanced CPT interpretation output files are delivered in several formats, each file type containing the exact same information but formatted slightly differently. The files typically have any of the following file extensions:

1. IFI — an importable TAB delimited ASCII text file containing approximately 47 data columns of geotechnical interpretations. The file is designed for easy import to Excel. A companion document describes the techniques used for the interpretations (usually reproduced at the beginning of the Interpretation Appendix). Text editors can be used to view the file contents, however, they may remove the tabs or replace the tabs with spaces upon saving the file destroying the feature that makes them easy to import into Excel.

   Because Excel imports the data as text and the sheet is protected two steps may be necessary to modify the data or use the values in certain Excel functions:

   a) Under Tools (Excel 2000) Select the Protection Option and then Unprotect the sheet
   b) Select the entire sheet, copy and then use Paste Special to paste as values to a second sheet.

   Future versions of our interpretation routine will address these inconveniences.

2. IFP — a printable ASCII text file containing the same 47 columns of geotechnical interpretations as the IFI file. This file type has been formatted as a multi-page document with up to 132 characters per line and up to 68 lines per page. Each page has been separated into multiple sections to accommodate all the data fields. Each physical page has a header section and a page/section number. The file is designed for direct printing to laser printers set into compressed font mode. This output is typically provided in the Interpretation Appendix.

   An abbreviated set of interpretations (containing 36 columns of output) may be generated instead. These files usually have the extensions NLI and NLP. XLS files can be generated from these as well.

3. XLS — an Excel format file that has been generated directly from the corresponding IFI file. IFI and IFP files are not distributed if the XLS files are generated. The XLS files may have been generated from abbreviated NLI interpretation files.

In each case root file name is the same as the COR files.

CPT Interpretations (Excel Format)

ConeTec's latest software (September 2007) outputs CPT interpretations directly to Excel format (XLS extension) without creating intermediate ASCII files. Because of the desires of various clients, there are several different configurations of output parameters in ConeTec's interpretation files. Since the Excel format file must have the XLS extension a suffix is used after the basename of the source CPT data file (COR) to identify the format of the file. The configurations still follow the formats described above and use the same extensions but now as suffixes. To allow for various runs (e.g. using a different water table, or user supplied equilibrium profile, or different methods for a particular parameter) of the same data an additional suffix may be specified by the engineer post processing the data to identify each particular run. This suffix will follow the one used to identify the format of the file.

For example:

If the selected format is ConeTec's TBL configuration and each run is identified by a run number. The resultant files generated for 278CP01.COR would be:

78CP01-TBL-RUN01.XLS
78CP01-TBL-RUN02.XLS
78CP01-TBL-RUN03.XLS

CPT Data in Excel Format

ConeTec can now provide the equivalent of the ASCII COR files in Excel Format. These files will have the same basename as the COR files and an XLS extension.

Pore Pressure Dissipation Data in Excel Format

ConeTec can now provide the equivalent of the ASCII PPD format files in Excel format. These files will contain each dissipation trace that exceeds a minimum duration (selected by the engineer during post-processing) in a particular Excel spreadsheet column. The first column (Column A) will contain the time in seconds and the second column (Column B) will contain the time in minutes. Subsequent columns will contain dissipation trace data. The time columns will extend to the longest trace of the data set.

Detailed header information is provided at the top of the spreadsheet. The test depth in meters and feet, the number of points in the trace and the particular units are identified at the top of each trace column.

The Excel format file names will have the same basename as the original PPD format file followed by the suffix -PPD and then followed by a second suffix that the engineer doing the post processing can specify. Because the engineer can select various types of units for the dissipation data output (which can be different from the units used in the original recording) the secondary suffix is often used to identify the units in the XLS file, however, the original recorded units and the output units are clearly identified within the XLS spreadsheet file.

Appendix B

Exploration Logs

Visual Manual Description Standards, Visual Impact Key, Soil Strata Key
Sonic/SPT Exploration Logs

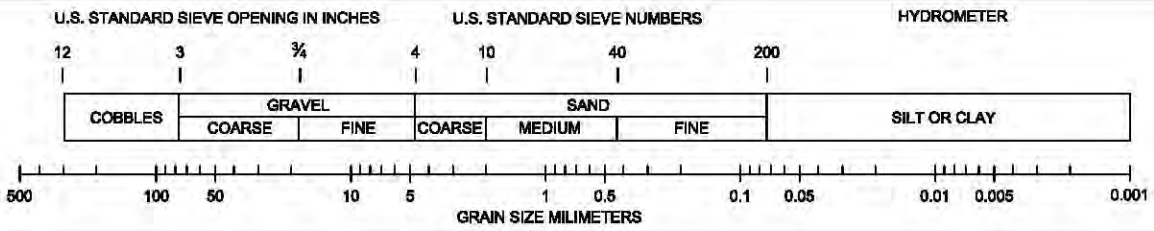
COARSE-GRAINED SOILS
VISUAL-MANUAL DESCRIPTIONS

GEI Consultants

TYPICAL SOIL COLORS

- YELLOW
- OLIVE
- LIGHT BROWN
- BROWN
- REDDISH BROWN
- RED
- GRAY
- BLACK

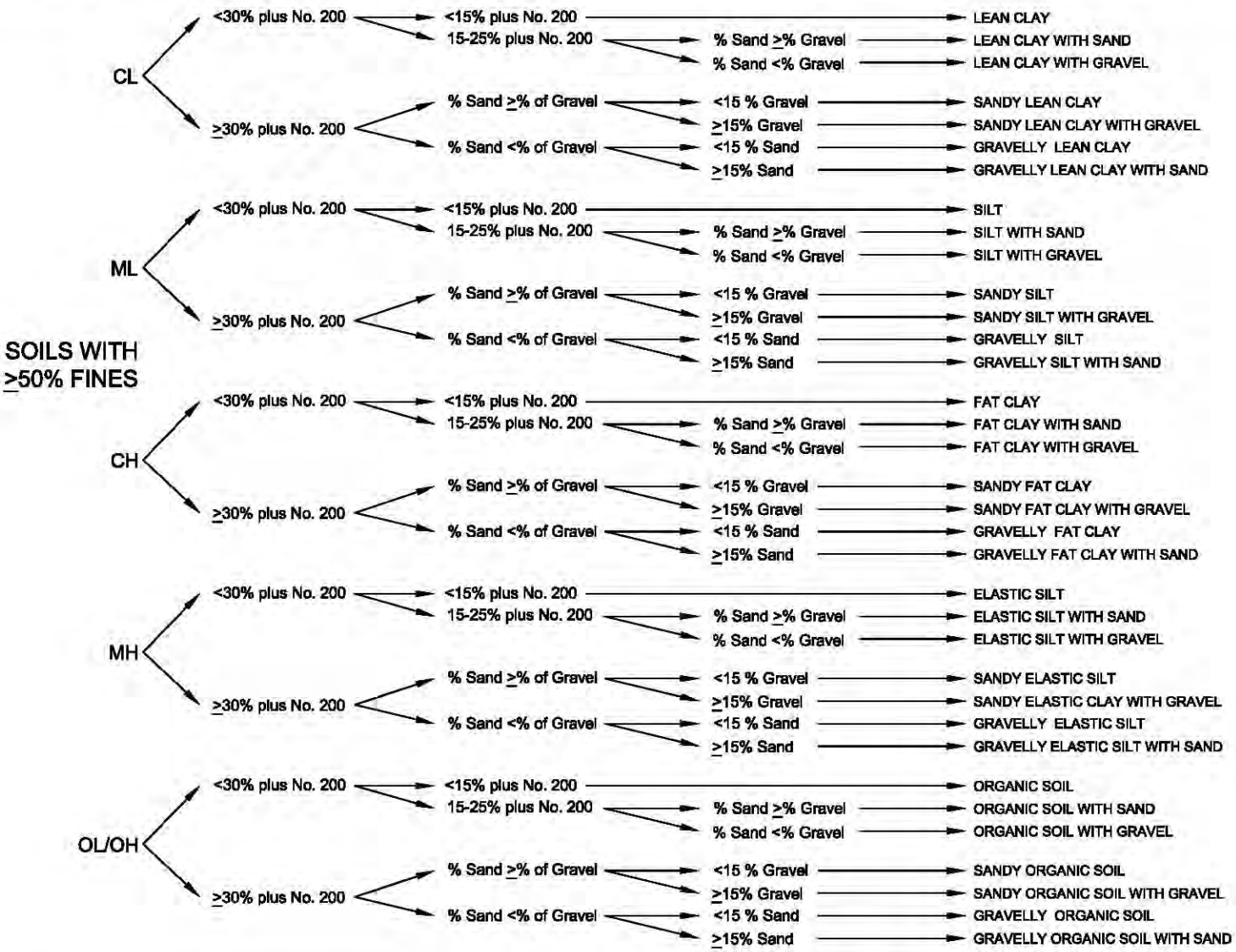
				GROUP SYMBOL	GROUP NAME
GRAVEL % Gravel > % Sand	≤5% Fines	WIDELY GRADED		GW	<15% Sand → WIDELY GRADED GRAVEL; ≥15% Sand → WIDELY GRADED GRAVEL WITH SAND
		NARROWLY GRADED		GP	<15% Sand → NARROWLY GRADED GRAVEL; ≥15% Sand → NARROWLY GRADED GRAVEL WITH SAND
	~10% Fines	WIDELY GRADED	Fines = ML or MH	GW-GM	<15% Sand → WIDELY GRADED GRAVEL WITH SILT; ≥15% Sand → WIDELY GRADED GRAVEL WITH SILT AND SAND
			Fines = CL or CH	GW-GC	<15% Sand → WIDELY GRADED GRAVEL WITH CLAY; ≥15% Sand → WIDELY GRADED GRAVEL WITH CLAY AND SAND
		NARROWLY GRADED	Fines = ML or MH	GP-GM	<15% Sand → NARROWLY GRADED GRAVEL WITH SILT; ≥15% Sand → NARROWLY GRADED GRAVEL WITH SILT AND SAND
			Fines = CL or CH	GP-GC	<15% Sand → NARROWLY GRADED GRAVEL WITH CLAY; ≥15% Sand → NARROWLY GRADED GRAVEL WITH CLAY AND SAND
	≥15% Fines		Fines = ML or MH	GM	<15% Sand → SILTY GRAVEL; ≥15% Sand → SILTY GRAVEL WITH SAND
			Fines = CL or CH	GC	<15% Sand → CLAYEY GRAVEL; ≥15% Sand → CLAYEY GRAVEL WITH SAND
SOILS WITH <50% FINES					
SAND % Sand ≥ % Gravel	≤5% Fines	WIDELY GRADED		SW	<15% Gravel → WIDELY GRADED SAND; ≥15% Gravel → WIDELY GRADED SAND WITH GRAVEL
		NARROWLY GRADED		SP	<15% Gravel → NARROWLY GRADED SAND; ≥15% Gravel → NARROWLY GRADED SAND WITH GRAVEL
	~10% Fines	WIDELY GRADED	Fines = ML or MH	SW-SM	<15% Gravel → WIDELY GRADED SAND WITH SILT; ≥15% Gravel → WIDELY GRADED SAND WITH SILT AND GRAVEL
			Fines = CL or CH	SW-SC	<15% Gravel → WIDELY GRADED SAND WITH CLAY; ≥15% Gravel → WIDELY GRADED SAND WITH CLAY AND GRAVEL
		NARROWLY GRADED	Fines = ML or MH	SP-SM	<15% Gravel → NARROWLY GRADED SAND WITH SILT; ≥15% Gravel → NARROWLY GRADED SAND WITH SILT AND GRAVEL
			Fines = CL or CH	SP-SC	<15% Gravel → NARROWLY GRADED SAND WITH CLAY; ≥15% Gravel → NARROWLY GRADED SAND WITH CLAY AND GRAVEL
	≥15% Fines		Fines = ML or MH	SM	<15% Gravel → SILTY SAND; ≥15% Gravel → SILTY SAND WITH GRAVEL
			Fines = CL or CH	SC	<15% Gravel → CLAYEY SAND; ≥15% Gravel → CLAYEY SAND WITH GRAVEL



1. GROUP NAME and (SYMBOL)
2. Structure , if any. (stratified layer thicknesses, lenses, varves, gradational changes)
3. Describe sand, gravel and fines components, with percentages, in order of predominance. Include max gravel size. For test pits give percent cobbles and boulders, by volume, and include max size.
4. Color
5. Sheen, odor, roots, ash, brick, cementation, reaction with HCL, etc.
6. "Fill," local name or geologic name, if known

GEI Consultants

FINE-GRAINED SOILS
VISUAL-MANUAL DESCRIPTIONS



ID OF INORGANIC FINE SOILS FROM MANUAL TESTS

Symbol	Name	Dry Strength	Dilatancy	Toughness*
ML	Silt	None to low	Slow to rapid	Low or thread cannot be formed
CL	Lean Clay	Medium to high	None to slow	Medium
MH	Elastic Silt	Low to medium	None to slow	Low to medium
CH	Fat Clay	High to very high	None	High

1. GROUP NAME and (SYMBOL)
2. Describe fines, sand, and gravel components, in order of predominance. Include plasticity of fines. Include percentages of sand and gravel.
3. Color
4. Sheen, odor, roots, ash, brick, cementation, torvane and penetrometer results, etc.
5. "Fill," local name or geologic name, if known

PEAT

Peat refers to a sample composed primarily of vegetable matter in varying stages of decomposition. The description should begin: PEAT (PT) and need not include percentages of sand, gravel or fines.

CRITERIA FOR DESCRIBING PLASTICITY

Description	Criteria
Nonplastic ML	A 1/8-in. (3 -mm) thread cannot be rolled at any water content
Low Plasticity ML, MH	The thread can barely be rolled and the lump cannot be formed when drier than the plastic limit *
Medium Plasticity MH, CL	The thread is easy to roll and not much time is required to reach the plastic limit. The thread cannot be rerolled after reaching the plastic limit. The lump crumbles when drier than the plastic limit
High Plasticity CH	It takes considerable time rolling and kneading to reach the plastic limit. The thread can be rerolled several times after reaching the plastic limit. The lump can be formed without crumbling when drier than the plastic limit

* Toughness refers to the strength of the thread near plastic limit. The lump refers to a lump of soil drier than the plastic, similar to dry strength.

EXAMPLE SOIL DESCRIPTIONS

SANDY SILT (ML) ~60% slightly plastic fines, ~40% mostly fine sand, 1" thick layer of fine to medium sand with <20% fines, gray.

LEAN CLAY (CL) ~90% moderately plastic fines, ~10% fine sand, olive. Boston Blue Clay. Sv = 0.5, 0.5, 0.8 tsf, Qp = 1.0, 1.5, 1.6 tsf

Stratified CLAYEY SAND (SC) and WIDELY GRADED SAND (SW) SC layers 1 to 2 inches thick consist of fine sand with ~30% moderately plastic fines, gray. SW layers 1 to 4 inches thick consist of fine to coarse sand, ~10% gravel to 1/2 inch, <5% fines, brown. Hydraulic Fill.

EXAMPLE ROCK DESCRIPTIONS

(0-9"): GRANITE, hard, one piece, joint surface slightly weathered, pink.
(6-60"): PHYLLITE, joints ~ 45° generally parallel to foliation, 9" to 44" moderate to severe jointing and joint weathering. 44" to 60" single piece, green-gray.

ARGILLITE, medium hard, moderately weathered joints, gray. Cambridge Argillite.

GEOPROBE AND ROTOSONIC

When SPTs are not performed, note sample density (sands) or stiffness (clays) in description.

CRITERIA FOR DESCRIBING DILATANCY OF FINE-GRAINED SOILS

Description	Criteria
None	No visible change in the specimen
Slow	Water appears slowly on the surface of the specimen during shaking and does not disappear or disappears slowly upon squeezing.
Rapid	Water appears quickly on the surface of the specimen during shaking and disappears quickly upon squeezing.

SPT: Standard Penetration Test

30-inch drop with 140-lb hammer
1 3/4 to 2 1/4 turns around cathead
2-inch O.D. split spoon sampler

ENV'L TERMINOLOGY FOR SOIL DESCRIPTIONS

- **Ash** - Typically silt-size to medium sand-size.
- Do not use the term "cinders." This is not a technical term. Instead, use "ash," "burnt wood," "burnt material," or a similar term.
- **Coal-like material** - If it looks like coal but you aren't sure.
- **Clinker** - Vitrified (glass-like) or heat-fused material. Often burned impurities in coal. Often looks like pumice, but heavier.
- **Slag** - Similar to clinker, but normally refers to residue from metal ore processing.

- **Sheen** - Iridescent petroleum-like sheen. Not to be used for a "bacterial sheen," which can be distinguished by its tendency to break up on the water surface at angles. Petroleum sheen will be continuous and will not break up.
- **Stained** - Use with a color ("brown-stained") to indicate that the soil is stained a color other than its natural (unimpacted) color.
- **Coated** - Soil grains are coated with NAPL (oil, tar, etc.). There is not enough NAPL to saturate the pore spaces. ("Split spoon sampler coated with brown oil." "Soil grains coated with gray substance with slight gasoline-like odor.")
- **Saturated** - The entire sample pore space is saturated with NAPL. If you use this term, be sure it is not water saturating the pore spaces. Depending on viscosity, the NAPL may drain from a soil sample. ("Sample saturated with green, sticky substance.")
- **Blebs** - Discrete sphericals of NAPL in a soil matrix that was not visibly coated or saturated. ("Occasional blebs of reddish-brown tar.")
- **Oil** - Exhibits a petroleum odor, different from MGP odors.
- **Tar** - Exhibits an MGP odor (e.g. naphthalene-like odor).

- **Odors** - Use terms such as "naphthalene-like odor" or "petroleum-like odor." Use modifiers (strong, moderate, slight) to indicate odor intensity.

GOWANUS CANAL

VISUAL IMPACT LEGEND

nationalgrid

Figure

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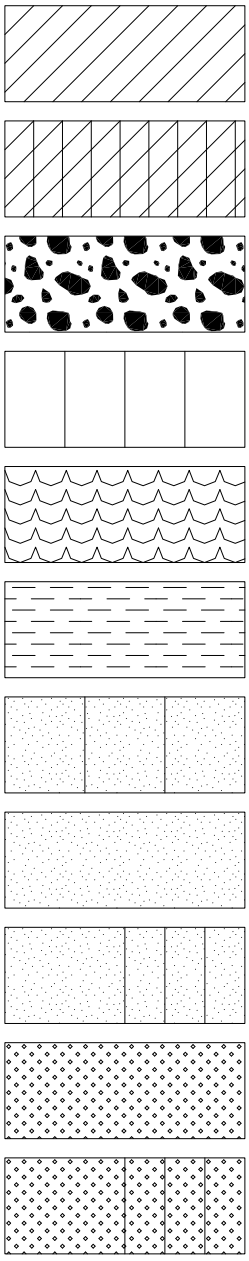

LEAN CLAY (CL)

SILTY CLAY (CL-ML)

WIDELY GRADED GRAVEL (GW)

SILT (ML)

HIGH PLASTICITY ORGANIC SOIL (OH)

LOW PLASTICITY ORGANIC SOIL (OL)

SILTY SAND (SM)

NARROWLY GRADED SAND (SP)

NARROWLY GRADED SAND WITH SILT (SP-SM)

WIDELY GRADED SAND (SW)

WIDELY GRADED SAND WITH SILT (SW-SM)

INITIAL GEOTECHNICAL INVESTIGATION
IN SUPPORT OF CAP DESIGN
GOWANUS CANAL
BOROUGH OF BROOKLYN, NEW YORK

nationalgrid

GEI Consultants

Project 093010-6-1606

SOIL STRATIGRAPHY LEGEND

April 2013

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GEI Consultants, Inc.
455 Winding Brook Road
Glastonbury, CT 06033
(860) 368-5300

CLIENT: National Grid
PROJECT: Gowanus Cap Investigation
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 093010-6-1606

BORING LOG
PAGE 1 of 3
GC-B-001

MUDLINE ELEVATION (FT): -5.30 **LOCATION:**
NORTHING (FT): 673194 **EASTING (FT):** 634183 **TOTAL DEPTH (FT):** 25.0
DRILLED BY: Boart Longyear / F. Gardella **DATUM VERT. / HORZ.:** NAVD 88 / NAD 83
LOGGED BY: K. Weber / C. Benetti **DATE START / END:** 8/20/2012 - 8/20/2012
DRILLING DETAILS: Cased Boring / Sonic Coring / Oesterberg Sampler / Mini Sonic
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	PRIMARY SAMPLE INFO NO.	PEN / REC (in./in.)	BLOWS (/6 IN.)	PID (PPM)	SONIC SAMPLE INFO NO.	PEN / REC (in./in.)	PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	SOIL / BEDROCK DESCRIPTION
	0	U-1	24/8	P- U- S- H							OLO	**U-1 (0 - 8")**: **SANDY ORGANIC SOIL (OH)**; ~70% fines, low plasticity, rapid dilatancy, ~30% sand, fine to medium; wet, black, gravel fragments in top of sample, slight organic-like odor.
		U-2	24/18	P- U- S- H								**U-2 LAB @ 2.45'**: **SANDY ORGANIC SOIL (OH)**; 61% fines, 35% fine to coarse sand, 4% fine gravel, wet, black, with debris, slight organic-like odor.
-10	5	U-3	24/0	P- U- S- H		SC-1	36/17	9.9			OLO	**U-3 NO RECOVERY**. **SC-1 (0 - 8")**: **ORGANIC SOIL WITH SAND (OL)**; ~75% fines, low, slow dilatancy, ~15% sand, fine to medium, ~10% gravel, fine to coarse, subangular; max. size 1.5, wet, moderate organic-like odor.
								7.1				**SC-1 (8 - 17")**: **NARROWLY GRADED SAND WITH GRAVEL (SP)**; ~75% sand, fine to coarse, ~20% gravel, fine to coarse, subrounded, ~5% fines, non plastic; max. size 2, wet, slight petroleum-like odor.
								12.0			PLO	
								JHS = 5.0				
						SC-2	36/21	9.8				**SC-2 (0 - 16")**: **NARROWLY GRADED SAND WITH GRAVEL (SP)**; ~60% sand, fine to coarse, ~35% gravel, fine to coarse, subrounded, ~5% fines, non plastic; max. size 2.5, wet, slight petroleum-like odor.
								10.1			PLO	
								12.5				
								31.8				
-15	10							JHS = 41.9				**SC-2 (16 - 21")**: **ORGANIC SOIL WITH SAND (OL)**; ~75% fines, low, slow dilatancy, ~15% sand, fine to medium, ~10% gravel, fine to coarse, subangular;

NOTES:

PEN = PENETRATION LENGTH OF SAMPLER OR CORE BARREL
REC = RECOVERY LENGTH OF SAMPLE
PID = PHOTOIONIZATION DETECTOR READING
JHS = JAR HEADSPACE PID READING
NA = NOT APPLICABLE
NM = NOT MEASURED
IN. = INCHES
FT. = FEET
ppm = PARTS PER MILLION
Q_P = POCKET PENETROMETER
S_v = TORVANE PEAK
WC = WATER CONTENT
OC = ORGANIC CONTENT
LL = LIQUID LIMIT
PL = PLASTIC LIMIT
PI = PLASTIC INDEX
UW_T = TOTAL UNIT WEIGHT
UW_D = DRY UNIT WEIGHT
NLO = NAPHTHALENE LIKE ODOR
PLO = PETROLEUM LIKE ODOR
TLO = TAR LIKE ODOR
CLO = CHEMICAL LIKE ODOR
CrLO = CREOSOTE LIKE ODOR
OLO = ORGANIC LIKE ODOR

ENVIRONMENTAL LOG SONIC AND SPT 2012 GOWANUS LOGS.GPJ 4/11/13

GEI Consultants, Inc.
455 Winding Brook Road
Glastonbury, CT 06033
(860) 368-5300

CLIENT: National Grid
PROJECT: Gowanus Cap Investigation
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 093010-6-1606

BORING LOG
PAGE 2 of 3
GC-B-001

ELEV. FT.	DEPTH FT.	PRIMARY SAMPLE INFO NO.	PEN / REC (in./in.)	BLOWS (/6 IN.)	PID (PPM)	SONIC SAMPLE INFO NO.	PEN / REC (in./in.)	PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	SOIL / BEDROCK DESCRIPTION
	10	S-1	24/16	5-8-7-2	9.9 10.4 7.4 60.7	SC-3	60/29	53.4 105			OLO	max. size 1.5, wet, slight petroleum-like odor. **S-1 LAB @ 11'**: **NARROWLY GRADED SAND WITH GRAVEL (SP)**; 60% mostly fine to medium sand, 37% fine to coarse gravel, 3% fines, dark gray, gravel lens 11.5'- 11.6' with 1" gravel; light to dark gray/black staining throughout, black coating in gravel lens, moderate petroleum-like odor. **SC-3 (0 - 6")**: **NARROWLY GRADED SAND (SP)**; ~70% sand, medium to coarse, ~25% gravel, fine to coarse, subrounded, ~5% fines, non plastic; mostly fine to medium sand, fine to coarse gravel, fines, max. size 2, dark gray, moderate black staining, slight petroleum-like odor.
		U-4	24/0	P- U- S- H				155 235 234 JHS = 364			NLO	**SC-3 (6 - 29")**: **NARROWLY GRADED SAND (SP)**; ~95% sand, fine to coarse, ~5% fines, non plastic; wet, few gravel pieces at bottom, up to 1.5"; moderate NAPL coating 11-14.5', moderate tar staining 14.5-15', moderate naphthalene-like odor. **S-1 (13 - 15")**: **ORGANIC SOIL WITH SAND (OL)**; ~75% fines, low plasticity, slow dilatancy, ~15% sand, fine to medium, ~10% gravel, fine to coarse, subangular; organic matter, leaves, twig fragments, max. size 1.5, wet, moderate organic-like odor. **S-1 (15 - 16")**: **SANDY SILT (ML)**; ~55% fines, non plastic, rapid dilatancy, ~45% sand, fine; wet, dark reddish brown. **U-4 NO RECOVERY**.
-20	15	S-2	24/22	2-3-3-6	186 171 270 351 260	SC-4	60/44	91.0 115 338 216 246 JHS = 911 521			NLO NLO NLO	**S-2 (0 - 10")**: **NARROWLY GRADED SAND (SP)**; ~90% sand, fine to coarse, ~5% gravel, fine, subangular, ~5% fines, non plastic; max. size 1, wet, brown to dark brown, moderate tar staining, moderate naphthalene-like odor, to strong natpthalene-like odor. **SC-4 (0 - 14")**: **SILTY SAND WITH GRAVEL (SM)**; ~60% sand, fine to coarse, ~25% gravel, fine to coarse, subrounded, ~15% fines, non plastic; max. size 1.5, wet, brown to dark brown, moderate NAPL coating, strong naphthalene-like odor. **S-2 (10 - 22")**: **NARROWLY GRADED SAND (SP)**; ~90% sand, fine to coarse, ~5% gravel, fine, subangular, ~5% fines, non plastic; max. size 1, wet, brown to dark brown, moderate to heavy NAPL coating, strong naphthalene-like odor, strong naphthalene-like odor. **SC-4 (14 - 42")**: **NARROWLY GRADED SAND (SP)**; ~90% sand, fine to coarse, ~5% gravel, fine, subangular, ~5% fines, non plastic; max. size 1, wet, lens of gray silt 17.6-17.7'; moderate to heavy NAPL coating throughout, tar saturated 19.7-19.8', strong naphthalene-like odor.
-25	20	S-3	24/16	2-3-3-2	210 380 312 818 300	SC-5	60/44	73.8 143 272			NLO PLO	**SC-4 (42 - 44")**: **SANDY LEAN CLAY (CL)**; ~65% fines, moderate, slow dilatancy, ~35% sand, fine; wet, slight naphthalene-like odor. **S-3 (0 - 12")**: **NARROWLY GRADED SAND (SP)**; ~95% sand, fine to coarse, ~5% fines, non plastic; wet, brown, moderate NAPL coating, tar saturated 21.4-21.5', strong naphthalene-like odor. **SC-5 (0 - 16")**: **NARROWLY GRADED SAND (SP)**; ~95% sand, fine to coarse, ~5% fines, non plastic; wet, brown, heavy NAPL coating, tar saturated 21.6-21.8', strong naphthalene-like odor. **S-3 (12 - 16")**: **SANDY LEAN CLAY (CL)**; ~70% fines, moderate, slow dilatancy, ~30% sand, fine; wet, brown, moderate naphthalene-like odor.

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ENVIRONMENTAL LOG SONIC AND SPT 2012 GOWANUS LOGS.GPJ 4/11/13

GEI Consultants, Inc.
455 Winding Brook Road
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CLIENT: National Grid
PROJECT: Gowanus Cap Investigation
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 093010-6-1606

BORING LOG

GC-B-001

ELEV. FT.	DEPTH FT.	PRIMARY SAMPLE INFO NO.	PEN / REC (in./in.)	BLOWS (/6 IN.)	PID (PPM)	SONIC SAMPLE INFO NO.	PEN / REC (in./in.)	PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	SOIL / BEDROCK DESCRIPTION
								77.6 JHS = 68.9			PLO	**SC-5 (16 - 23")**: **LEAN CLAY (CL)**; ~90% fines, moderate, slow dilatancy, ~10% sand, fine; wet, 0.5" thick gray silt laminations; 3-1" thick fine to medium sand lenses with tar saturation and moderate petroleum-like odor, moderate petroleum-like odor.
								213				**SC-5 (23 - 44")**: **NARROWLY GRADED SAND WITH GRAVEL (SP)**; ~80% sand, fine to coarse, ~15% gravel, fine to coarse, subrounded, ~5% fines; max. size 1.5, wet, seams of heavy NAPL coating in fine to coarse sand seams.
								319				
-30	25											End of Boring at 25 feet.

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BORING LOG
PAGE 1 of 3
GC-B-002

MUDLINE ELEVATION (FT): -12.10 **LOCATION:**
NORTHING (FT): 671956 **EASTING (FT):** 633707 **TOTAL DEPTH (FT):** 25.0
DRILLED BY: Boart Longyear / J. Graglia **DATUM VERT. / HORZ.:** NAVD 88 / NAD 83
LOGGED BY: K. Weber / G. Schmidt **DATE START / END:** 8/17/2012 - 8/17/2012
DRILLING DETAILS: Cased Boring / Sonic Coring / Oesterberg Sampler / Mini Sonic
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	PRIMARY SAMPLE INFO NO.	PEN / REC (in./in.)	BLOWS (/6 IN.)	PID (PPM)	SONIC SAMPLE INFO NO.	PEN / REC (in./in.)	PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	SOIL / BEDROCK DESCRIPTION
	0	U-1	24/24	P- U- S- H		SC-1	60/31	0.9			OLO	**U-1 LAB @ 1.5'**: **ORGANIC SOIL (OH)**; 96% fines, 4% mostly fine sand, wet, black, hair, organic fibers, plastic, fabric, moderate organic-like odor. **SC-1 (0 - 22")**: **ORGANIC SOIL (OL)**; ~100% fines, low; fines, mostly fine sand, wet, black, moderate organic-like odor.
								0.4			OLO	
		U-2	24/22	P- U- S- H				3.2				**U-2 LAB @ 2.3'**: **ORANGIC SOIL WITH SAND (OH)**; 79% fines, 19% mostly fine sand, 2% fine gravel, wet, black, hair, organic fibers, plastic, moderate organic-like odor.
-15								19.4			NLO PLO PLO	**SC-1 (22 - 31")**: **NARROWLY GRADED SAND (SP)**; ~95% sand, fine to coarse, ~5% fines, non plastic; wet, light to moderate NAPL coating, strong naphthalene-like odor, moderate petroleum-like odor.
								JHS = 70.1				
	5	U-3	24/2	P- U- S- H		SC-2	60/48	32.2			PLO NLO	**U-3 Trimmings**: **NARROWLY GRADED SAND (SP)**; ~95% sand, fine to coarse, ~5% fines, non plastic; wet, brown, light to moderate NAPL coating, strong naphthalene-like odor, moderate petroleum-like odor. **SC-2 (0 - 15")**: **NARROWLY GRADED SAND (SP)**; ~95% sand, fine to coarse, ~5% fines, non plastic; wet, brown, slight to moderate tar staining, pockets of dark gray/black staining, strong petroleum-like odor, moderate naphthalene-like odor.
								34.4				
											PLO NLO	**SC-2 (15 - 38")**: **NARROWLY GRADED SAND (SP)**; ~95% sand, fine to coarse, ~5% fines, non plastic; wet, slight to moderate tar staining, moderate petroleum-like odor, moderate naphthalene-like odor.
-20								24.7				
								JHS = 13.8				
								30.5			NLO PLO	
	10										NLO PLO	**SC-2 (38 - 39")**: **NARROWLY GRADED SAND (SP)**; ~95% sand, fine to coarse, ~5% fines, non plastic; wet, slight to moderate tar staining, dark grayish black petroleum-like coating, strong petroleum-like odor, moderate naphthalene-like odor.

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CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 093010-6-1606

BORING LOG

GC-B-002

ELEV. FT.	DEPTH FT.	PRIMARY SAMPLE INFO NO.	PEN / REC (in./in.)	BLOWS (/6 IN.)	PID (PPM)	SONIC SAMPLE INFO NO.	PEN / REC (in./in.)	PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	SOIL / BEDROCK DESCRIPTION
	10	S-1	24/24	5-6-8-5	13.1 13.4 5.8 6.1	SC-3	60/40	2.7 10.2 6.6 JHS = 12.4 4.9				**SC-2 (39 - 48")**: **NARROWLY GRADED SAND (SP)**; ~95% sand, fine to coarse, ~5% fines, non plastic; wet, slight to moderate tar staining, moderate naphthalene-like odor, slight petroleum-like odor. **S-1 (0 - 24")**: **NARROWLY GRADED SAND (SP)**; ~95% sand, fine to coarse, ~5% fines, non plastic; wet, brownish gray. **SC-3 (0 - 22")**: **NARROWLY GRADED SAND (SP)**; ~95% sand, fine to coarse, ~5% fines, non plastic; wet, brownish gray.
-25											PLO	**SC-3 (22 - 40")**: **NARROWLY GRADED SAND (SP)**; ~95% sand, fine to coarse, ~5% fines, non plastic; wet, petroleum-like sheen, slight petroleum-like odor.
	15	S-2	24/22	3-3-4-3	5.0 22.7 8.8 7.6	SC-4	60/33	6.4 3.7 8.8 JHS = 15.2 4.5				**S-2 (0 - 22")**: **NARROWLY GRADED SAND (SP)**; ~95% sand, fine to coarse, ~5% fines, non plastic; wet, grayish brown. **SC-4 (0 - 33")**: **NARROWLY GRADED SAND (SP)**; ~95% sand, fine to coarse, ~5% fines, non plastic; wet, grayish brown, petroleum-like sheen on water, slight petroleum-like odor.
-30												
	20	S-3	24/24	5-4-5-5	7.6 7.0 4.4 5.7	SC-5	60/45	10.2 7.4				**S-3 (0 - 24")**: **NARROWLY GRADED SAND (SP)**; ~95% sand, fine to coarse, ~5% fines, non plastic; wet, grayish brown. **SC-5 (0 - 36")**: **NARROWLY GRADED SAND (SP)**; ~95% sand, fine to coarse, ~5% fines, non plastic; wet, grayish brown.

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BORING LOG

GC-B-002

ELEV. FT.	DEPTH FT.	PRIMARY SAMPLE INFO NO.	PEN / REC (in./in.)	BLOWS (/6 IN.)	PID (PPM)	SONIC SAMPLE INFO NO.	PEN / REC (in./in.)	PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	SOIL / BEDROCK DESCRIPTION
-35								9.8 JHS = 8.9				
								6.6				**SC-5 (36 - 45")**: **NARROWLY GRADED SAND WITH GRAVEL (SP)**; non plastic, ~60% sand, fine to coarse, ~35% gravel, fine to coarse, subrounded; max. size 2, wet.
	25											End of Boring at 25 feet.

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BORING LOG
PAGE 1 of 3
GC-B-003

MUDLINE ELEVATION (FT): -10.80 **LOCATION:**
NORTHING (FT): 671599 **EASTING (FT):** 632431 **TOTAL DEPTH (FT):** 25.0
DRILLED BY: Boart Longyear / J. Graglia **DATUM VERT. / HORZ.:** NAVD 88 / NAD 83
LOGGED BY: K. Weber / G. Schmidt **DATE START / END:** 8/16/2012 - 8/16/2012
DRILLING DETAILS: Cased Boring / Sonic Coring / Oesterberg Sampler / Mini Sonic
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	PRIMARY SAMPLE INFO NO.	PEN / REC (in./in.)	BLOWS (/6 IN.)	PID (PPM)	SONIC SAMPLE INFO NO.	PEN / REC (in./in.)	PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	SOIL / BEDROCK DESCRIPTION
	0	S-1	24/6	2-2-1-2		SC-1	60/32	88.3			PLO	**S-1 (0 - 6")**: **WIDELY GRADED GRAVEL (GW)**; ~100% gravel, fine to coarse, subangular; max. size 1.25, wet, gray. **SC-1 (0 - 10")**: **WIDELY GRADED GRAVEL (GW)**; ~100% gravel, fine to coarse, subangular; max. size 1.25, wet, gray, coated with black viscous-like material, likely petroleum, moderate petroleum-like odor.
								107				
								76.6				**SC-1 (10 - 30")**: **ORGANIC SOIL (OL)**; ~90% fines, low, ~10% sand, fine; wet, ~40% organic fibers in bottom 1.6'; seams of dark gray/black petroleum-like staining, strong organic-like odor, moderate petroleum-like odor, FILL.
								99.8			OLO PLO	
								JHS = 36.7				
~15								74.3				
											NLO PLO	
	5	S-2	24/19	7-6-5-6	56.9	SC-2	60/56	195				**SC-1 (30 - 32")**: **NARROWLY GRADED SAND (SP)**; ~90% sand, fine to coarse, ~5% gravel, fine to coarse, subangular, ~5% fines, non plastic; max. size 1, wet, moderate naphthalene-like odor, moderate petroleum-like odor. **S-2 LAB @ 6'**: **SILTY SAND (SM)**; 79% mostly fine sand, 14% fines, 7% fine gravel, wet, gray and brown, occasional lenses of gray silt; tar staining throughout with lenses of NAPL coating up to 0.5" thick, moderate petroleum-like odor, moderate naphthalene-like odor.
					144						PLO NLO	
					212			411				**SC-2 (0 - 22")**: **SILTY SAND (SM)**; ~85% sand, fine to medium, ~15% fines, non plastic; mostly fine sand, fines, fine gravel, wet, gray and brown, heavily tar stained; zones of black petroleum-like coating, strong petroleum-like odor, moderate naphthalene-like odor.
					278							
								403				**SC-2 (22 - 56")**: **SANDY SILT (ML)**; ~65% fines, non plastic, ~30% sand, fine, ~5% gravel, fine to coarse, subrounded; max. size 2, heavy tar staining, pockets of black coating, lens of black (likely petroleum) coating 7.7-7.8' just above a 3" cobble at 7.9', strong naphthalene-like odor, moderate petroleum-like odor.
											NLO PLO	
								806				
~20								JHS = 639				
	10											

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BORING LOG

GC-B-003

ELEV. FT.	DEPTH FT.	PRIMARY SAMPLE INFO NO.	PEN / REC (in./in.)	BLOWS (/6 IN.)	PID (PPM)	SONIC SAMPLE INFO NO.	PEN / REC (in./in.)	PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	SOIL / BEDROCK DESCRIPTION
	10	S-3	24/22	4-3-4-7	58.2 418 278 263	SC-3	60/48	187 197			NLO NLO NLO	**S-3 LAB @ 11'**: **SILTY SAND (SM)**; 55% mostly fine to medium sand, 36% fines, 9% fine gravel, wet, gray, lenses of fine to medium sand and occasional sandy silt lenses; tar staining throughout, intermittent lenses of heavy NAPL coating, moderate naphthalene-like odor, to strong naphthalene-like odor. **SC-3 (0 - 10")**: **NARROWLY GRADED SAND WITH SILT (SP-SM)**; ~90% sand, fine to medium, ~10% fines, non plastic; mostly fine to medium sand, fines, fine gravel, wet, gray, tar staining throughout, strong naphthalene-like odor. **SC-3 (10 - 14")**: **SANDY LEAN CLAY (CL)**; strong naphthalene-like odor.
-25								406 540 JHS = 872				**SC-3 (14 - 38")**: **NARROWLY GRADED SAND WITH SILT (SP-SM)**; ~90% sand, fine to medium, ~10% fines, non plastic; wet, tar staining throughout, moderate NAPL coating 13.3-15', lenses of tar saturation 12.3-12.4', 12.8-12.9', and 13.2-13.3', strong naphthalene-like odor.
	15	S-4	24/21	5-5-4-3	415 198 521	SC-4	60/45	457 396			NLO	**S-4 (0 - 21")**: **NARROWLY GRADED SAND (SP)**; ~95% sand, fine to coarse, ~5% fines, non plastic; wet, brown, moderate to heavy tar staining throughout; intermittent lenses of NAPL coating (closely spaced 16-16.7'), strong naphthalene-like odor. **SC-4 (0 - 45")**: **SILTY SAND (SM)**; ~80% sand, fine to medium, ~20% fines, non plastic; wet, brown, lenses of sandy silt and fine to medium sand up to 2" thick; tar staining throughout, heavy NAPL coating 15-17.2', pockets and seams of moderate NAPL coating 17.2-20', strong naphthalene-like odor.
-30								447 JHS = 873 408				
	20	S-5	24/21	2-3-4-5	158 194 84.2 75.9	SC-5	60/40	68.1 43.7				**S-5 (0 - 16")**: **SILTY SAND (SM)**; ~80% sand, fine to medium, ~20% fines, non plastic; wet, brown, lenses of sandy silt and fine to medium sand up to 2" thick; very slight tar staining, moderate naphthalene-like odor. **SC-5 (0 - 20")**: **SILTY SAND (SM)**; ~80% sand, fine to medium, ~20% fines, non plastic; wet, brown, lenses of sandy silt and fine to medium sand up to 2" thick; light to moderate tar staining, strong naphthalene-like odor. **S-5 (16 - 21")**: **NARROWLY GRADED SAND (SP)**; ~95% sand, fine to coarse, ~5% fines, non plastic; wet, brown, slight naphthalene-like odor.

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BORING LOG

GC-B-003

ELEV. FT.	DEPTH FT.	PRIMARY SAMPLE INFO NO.	PEN / REC (in./in.)	BLOWS (/6 IN.)	PID (PPM)	SONIC SAMPLE INFO NO.	PEN / REC (in./in.)	PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	SOIL / BEDROCK DESCRIPTION
								80.8				**SC-5 (20-30")**: **NARROWLY GRADED SAND (SP)**; ~95% sand, fine to coarse, ~5% fines, non plastic; wet, slight naphthalene-like odor.
-35								130				**SC-5 (30-36")**: **NARROWLY GRADED SAND (SP)**; ~95% sand, fine to coarse, ~5% fines, non plastic; wet, heavy tar staining with moderate NAPL coating with seams of light NAPL coating 23.8-24.5', moderate naphthalene-like odor.
	25							JHS = 284				**SC-5 (36 - 40")**: **NARROWLY GRADED SAND (SP)**; ~95% sand, ~5% fines, non plastic. End of Boring at 25 feet.

NOTES:

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NM = NOT MEASURED
IN. = INCHES
FT. = FEET
ppm = PARTS PER MILLION
Q_P = POCKET PENETROMETER
S_v = TORVANE PEAK
WC = WATER CONTENT
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LL = LIQUID LIMIT
PL = PLASTIC LIMIT
PI = PLASTIC INDEX
UW_T = TOTAL UNIT WEIGHT
UW_D = DRY UNIT WEIGHT
NLO = NAPHTHALENE LIKE ODOR
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TLO = TAR LIKE ODOR
CLO = CHEMICAL LIKE ODOR
CrLO = CREOSOTE LIKE ODOR
OLO = ORGANIC LIKE ODOR

GEI Consultants, Inc.
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CLIENT: National Grid
PROJECT: Gowanus Cap Investigation
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 093010-6-1606

BORING LOG
PAGE 1 of 1
GC-B-003-SH

LOCATION:
NORTHING (FT): 671599 **EASTING (FT):** 632431 **TOTAL DEPTH (FT):** 5.5
DRILLED BY: Boart Longyear / J. Graglia **DATUM VERT. / HORZ.:** NAVD 88 / NAD 83
LOGGED BY: K. Weber / G. Schmidt **DATE START / END:** 8/16/2012 - 8/16/2012
DRILLING DETAILS: Cased Boring / Oesterberg Sampler / Mini Sonic
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	PRIMARY SAMPLE INFO NO.	PEN / REC (in./in.)	BLOWS (/6 IN.)	PID (PPM)	SONIC SAMPLE INFO NO.	PEN / REC (in./in.)	PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	SOIL / BEDROCK DESCRIPTION
	0											
												U-1 NO RECOVERY.
		U-1	12/0	P-U-S-H								
		U-2	24/0	P-U-S-H								**U-2 NO RECOVERY**.
	5											

End of Boring at 5.5 feet.

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ENVIRONMENTAL LOG SONIC AND SPT 2012 GOWANUS LOGS.GPJ 4/11/13

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GEI PROJECT NUMBER:	093010-6-1606

BORING LOG

PAGE 1 of 3

GC-B-004

MUDLINE ELEVATION (FT):	-16.90	LOCATION:	
NORTHING (FT):	670330	EASTING (FT): 631405	TOTAL DEPTH (FT): 27.0
DRILLED BY:	Boart Longyear / J. Graglia	DATUM VERT. / HORZ.:	NAVD 88 / NAD 83
LOGGED BY:	K. Weber / G. Schmidt	DATE START / END:	8/15/2012 - 8/16/2012

DRILLING DETAILS: Cased Boring / Sonic Coring / Oesterberg Sampler / Mini Sonic

WATER LEVEL DEPTHS (FT):

GENERAL NOTE:

ELEV. FT.	DEPTH FT.	PRIMARY SAMPLE INFO NO.	PEN / REC (in./in.)	BLOWS (/6 IN.)	PID (PPM)	SONIC SAMPLE INFO NO.	PEN / REC (in./in.)	PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	SOIL / BEDROCK DESCRIPTION
	0	U-1	24/20	P- U- S- H		SC-1	60/44	45.1			PLO	**U-1 Trimmings**: **ORGANIC SOIL (OL)**; ~90% fines, low plasticity, ~10% sand, fine; debris, organics, wet, black.
												SC-1 (0 - 7"): **SANDY ORGANIC SOIL (OL)**; ~55% fines, non plastic plasticity, rapid dilatancy, ~45% sand, fine; debris, organics, black, moderate petroleum-like odor.
								14.2			PLO PLO	**SC-1 (7 - 14")**: **SANDY SILT (ML)**; ~60% fines, low, ~40% sand, fine; wet, intermittent lenses of fine to medium sand, slight petroleum-like odor, moderate petroleum-like odor.
		U-2	24/22	P- U- S- H				24.7				**SC-1 (14 - 44")**: **NARROWLY GRADED SAND (SP)**; ~90% sand, ~5% gravel, fine to coarse, subrounded, ~5% fines, non plastic; max. size 1, wet, heavy petroleum sheen throughout, heavy black (likely petroleum) staining 3.4-5', moderate petroleum-like odor.
-20												**U-2 LAB @ 2.75'**: **SILTY CLAY (CL-ML)**; fine; 99% fines, ~1% fine sand, wet, black.
								83.0			PLO	
								JHS = 54.0				
	5	S-1	24/24	5-5-4-2	6.2	SC-2	60/44	604				**S-1 (0-24")**: **NARROWLY GRADED SAND WITH SILT (SP-SM)**; ~95% sand, fine to medium, ~5% fines; wet, dark gray black, slight dark gray to black staining from ~5 to 6.4 ft, moderate petroleum-like odor, to strong petroleum-like odor.
					7.5						NLO	**SC-2 (0 - 11")**: **NARROWLY GRADED SAND (SP)**; ~95% sand, fine to coarse, ~5% fines, non plastic; wet, dark gray black, heavy black staining and tar staining, strong naphthalene-like odor.
					8.6						PLO PLO	
					2.9			327				**SC-2 (11 - 17")**: **NARROWLY GRADED SAND (SP)**; ~95% sand, fine to coarse, ~5% fines, non plastic; wet, slight naphthalene-like odor.
												SC-2 (17 - 44"): **LEAN CLAY (CL)**; ~90% fines, moderate, slow dilatancy, ~10% sand, fine; wet, seams and lenses of gray sandy silt; seams of fine to medium sand with tar staining, pockets of black staining throughout, moderate naphthalene-like odor.
								359				
-25												
								268				
	10											

NOTES:

PEN	= PENETRATION LENGTH OF SAMPLER OR CORE BARREL	IN.	= INCHES	WC	= WATER CONTENT	NLO	= NAPHTHALENE LIKE ODOR
		FT.	= FEET	OC	= ORGANIC CONTENT	PLO	= PETROLEUM LIKE ODOR
REC	= RECOVERY LENGTH OF SAMPLE			LL	= LIQUID LIMIT	TLO	= TAR LIKE ODOR
PID	= PHOTOIONIZATION DETECTOR READING	ppm	= PARTS PER MILLION	PL	= PLASTIC LIMIT	CLO	= CHEMICAL LIKE ODOR
				PI	= PLASTIC INDEX	CrLO	= CREOSOTE LIKE ODOR
JHS	= JAR HEADSPACE PID READING			UW_T	= TOTAL UNIT WEIGHT	OLO	= ORGANIC LIKE ODOR
NA	= NOT APPLICABLE	Q_P	= POCKET PENETROMETER	UW_D	= DRY UNIT WEIGHT		
NM	= NOT MEASURED	S_V	= TORVANE PEAK				

ENVIRONMENTAL LOG SONIC AND SPT 2012 GOWANUS LOGS.GPJ 4/11/13

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CLIENT: National Grid
PROJECT: Gowanus Cap Investigation
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 093010-6-1606

BORING LOG

GC-B-004

ELEV. FT.	DEPTH FT.	PRIMARY SAMPLE INFO NO.	PEN / REC (in./in.)	BLOWS (/6 IN.)	PID (PPM)	SONIC SAMPLE INFO NO.	PEN / REC (in./in.)	PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	SOIL / BEDROCK DESCRIPTION
	10	S-2	24/24	2-2-3-2	86.6 115 225 310 JHS = 1.9	SC-3	60/48	135 181			PLO NLO	**S-2 LAB @ 11'**: **NARROWLY GRADED SAND WITH SILT (SP-SM)**; non plastic; 90% mostly fine to medium sand, 9% fines, 1% fine gravel, wet, brown to gray brown, moderate black/dark gray black staining throughout, moderate petroleum-like odor, moderate naphthalene-like odor. **SC-3 (0 - 18")**: **NARROWLY GRADED SAND (SP)**; ~95% sand, fine to coarse, ~5% fines, non plastic; mostly fine to medium sand, fines, fine gravel, wet, brown to gray brown, black staining, strong petroleum-like odor.
-30								102 JHS = 12.5 43.1				**SC-3 (18 - 36")**: **NARROWLY GRADED SAND (SP)**; ~95% sand, fine to coarse, ~5% fines, non plastic; wet, seams of dark grayish black staining, moderate petroleum-like odor. **SC-3 (36 - 48")**: **NARROWLY GRADED SAND (SP)**; ~95% sand, fine to coarse, ~5% fines, non plastic; wet, slight petroleum-like odor.
	15	S-3	24/8	3-3-3-2	0.0 0.0	SC-4	60/55	53.5 62.4			PLO	**S-3 (0 - 8")**: **NARROWLY GRADED SAND (SP)**; ~95% sand, fine to coarse, ~5% fines, non plastic; wet, gray brown, slight petroleum-like odor. **SC-4 (0 - 35")**: **NARROWLY GRADED SAND (SP)**; ~95% sand, fine to coarse, ~5% fines, non plastic; wet, gray brown, slight petroleum-like odor.
-35								18.1 JHS = 1.6 23.4				**SC-4 (35 - 55")**: **NARROWLY GRADED SAND (SP)**; ~95% sand, fine to coarse, ~5% fines, non plastic; wet.
	20	S-4	24/20	3-7-7-6	20.6 5.7 13.6 0.0	SC-5	60/50	2.4 0.4				**S-4 (0 - 20")**: **NARROWLY GRADED SAND (SP)**; ~95% sand, fine to coarse, ~5% fines, non plastic; wet, gray brown. **SC-5 (0 - 20")**: **NARROWLY GRADED SAND (SP)**; ~95% sand, fine to coarse, ~5% fines, non plastic; wet, gray brown.

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ENVIRONMENTAL LOG SONIC AND SPT 2012 GOWANUS LOGS.GPJ 4/11/13

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BORING LOG

GC-B-004

ELEV. FT.	DEPTH FT.	PRIMARY SAMPLE INFO NO.	PEN / REC (in./in.)	BLOWS (/6 IN.)	PID (PPM)	SONIC SAMPLE INFO NO.	PEN / REC (in./in.)	PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	SOIL / BEDROCK DESCRIPTION
-40								3.3 JHS = 2.5				**SC-5 (20 - 30")**: **NARROWLY GRADED SAND WITH GRAVEL (SP)**; ~75% sand, fine to coarse, ~20% gravel, fine to coarse, subrounded, ~5% fines, non plastic; max. size 2, wet.
								0.6				**SC-5 (30 - 50")**: **NARROWLY GRADED SAND (SP)**; ~95% sand, fine to coarse, ~5% fines, non plastic; wet.
	25	S-5	24/24	4-5-6-7	0.0							**S-5 (0 - 10")**: **NARROWLY GRADED SAND WITH GRAVEL (SP)**; ~75% sand, fine to coarse, ~20% gravel, fine to coarse, subrounded, ~5% fines, non plastic; max. size 2, wet.
					0.0							**S-5 (10 - 24")**: **NARROWLY GRADED SAND (SP)**; ~95% sand, fine to coarse, ~5% fines, non plastic; wet, gray brown.
												End of Boring at 27 feet.

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BORING LOG
PAGE 1 of 4
GC-B-005

MUDLINE ELEVATION (FT): -18.90 **LOCATION:**
NORTHING (FT): 668902 **EASTING (FT):** 630551 **TOTAL DEPTH (FT):** 35.0
DRILLED BY: Boart Longyear / J. Graglia **DATUM VERT. / HORZ.:** NAVD 88 / NAD 83
LOGGED BY: K. Weber / G. Schmidt **DATE START / END:** 8/14/2012 - 8/15/2012
DRILLING DETAILS: Cased Boring / Sonic Coring / Oesterberg Sampler / Mini Sonic
WATER LEVEL DEPTHS (FT):
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	PRIMARY SAMPLE INFO NO.	PEN / REC (in./in.)	BLOWS (/6 IN.)	PID (PPM)	SONIC SAMPLE INFO NO.	PEN / REC (in./in.)	PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	SOIL / BEDROCK DESCRIPTION
	0	U-1	18/0	P- U- S- H		SC-1	60/15	3.6				**U-1 NO RECOVERY**. **SC-1 (0 - 15")**: **ORGANIC SOIL WITH SAND (OL)**; ~85% fines, non plastic to low plasticity, rapid dilatancy, ~10% sand, fine to medium, ~5% gravel, coarse, subangular; max. size 3, wet, moderate organic-like odor.
-20												
		U-2	24/23	P- U- S- H				JHS = 0.0			OLO	**U-2 Trimmings**: **ORGANIC SILT (OL)**; ~80% fines, non plastic, rapid dilatancy, ~20% sand, fine to medium; wet, black, few gravel fragments at top of sample, moderate organic-like odor.
											OLO	
	5	S-1	24/7	5-2- 1/12"		SC-2	60/27	8.0				**S-1 LAB @ 6'**: **SILTY SAND WITH GRAVEL (SM)**; 47% fine to coarse sand, 35% fines, 1% fine gravel, wet, black, with some organic matter (~13.5% by burnoff), slight organic-like odor. **SC-2 (0 - 27")**: **ORGANIC SOIL WITH SAND (OL)**; ~80% fines, non plastic to low plasticity, rapid dilatancy, ~20% sand, fine to medium; fine to coarse sand, fines, fine gravel, wet, black, slight organic-like odor.
-25								20.1				
								13.2				
								JHS = 8.0				
								14.1				
								7.1				
	10											

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ENVIRONMENTAL LOG SONIC AND SPT 2012 GOWANUS LOGS.GPJ 4/11/13

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CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 093010-6-1606

BORING LOG
PAGE 2 of 4
GC-B-005

ELEV. FT.	DEPTH FT.	PRIMARY SAMPLE INFO NO.	PEN / REC (in./in.)	BLOWS (/6 IN.)	PID (PPM)	SONIC SAMPLE INFO NO.	PEN / REC (in./in.)	PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	SOIL / BEDROCK DESCRIPTION
	10	U-3	24/20	P- U- S- H		SC-3	60/36	3.3				**U-3 LAB @ 11.45'**: **SANDY ORGANIC SOIL (OH)**; 51% fines, 49% mostly fine sand, wet, black, slight organic-like odor. **SC-3 (0 - 36")**: **ORGANIC SOIL WITH SAND (OL)**; ~80% fines, non plastic to low plasticity, rapid dilatancy, ~20% sand, fine to medium; with fines, mostly fine sand, wet, black.
-30								5.2				
		U-4	24/0	P- U- S- H				13.9				**U-4 NO RECOVERY**.
								26.8				
								JHS = 28.9				
	15	U-5	24/20	P- U- S- H		SC-4	60/38	16.2				**U-5 LAB @ 15.3'**: **SANDY ORGANIC SOIL (OL)**; fine to medium; 69% fines, 31% mostly fine sand, wet, black. **SC-4 (0 - 11")**: **SANDY ORGANIC SOIL (OL)**; ~60% fines, non plastic, rapid dilatancy, ~40% sand, fine to medium; fines, mostly fine sand, wet, black.
-35								40.7				**U-5 Trimmings Bot**: **SILTY SAND (SM)**; ~55% sand, fine to coarse, ~40% fines, non plastic, ~5% gravel, fine; wet, black. **SC-4 (11 - 27")**: **NARROWLY GRADED SAND (SP)**; ~95% sand, fine to coarse, ~5% fines, non plastic; wet.
		U-6	24/0	P- U- S- H				77.1				**U-6 NO RECOVERY**.
											PLO NLO	**SC-4 (27 - 30")**: **NARROWLY GRADED SAND (SP)**; ~95% sand, fine to coarse, ~5% fines, non plastic; wet, dark grayish black staining throughout, very slight possible tar staining (brownish staining) 18.6-18.9', moderate petroleum-like odor, slight naphthalene-like odor.
								31.9				**SC-4 (30 - 33")**: **SANDY ORGANIC SOIL (OL)**; ~60% fines, non plastic, rapid dilatancy, ~40% sand, fine to medium; wet, dark grayish black staining, moderate petroleum-like odor, moderate naphthalene-like odor.
								JHS = 30.1				
	20	S-2	24/11	1-2-2-4	76.3	SC-5	60/47	72.1				**SC-4 (33 - 38")**: **NARROWLY GRADED SAND (SP)**; ~95% sand, fine to coarse, ~5% fines, non plastic; wet, slight petroleum-like odor, slight naphthalene-like odor. **S-2 LAB @ 21'**: **NARROWLY GRADED SAND (SP)**; 96% mostly fine sand, 4% fines, wet, brown, pocket of dark grayish black staining at 21.3'. **SC-5 (0 - 47")**: **NARROWLY GRADED SAND (SP)**; ~95% sand, fine to coarse, ~5% fines, non plastic; mostly fine sand, fines, wet, brown, dark grayish black staining 20-22.1', pockets of grayish black staining and very slight tar staining 22.1-23.2', moderate petroleum-like odor, moderate naphthalene-like odor.
-40					657			93.7				

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ENVIRONMENTAL LOG SONIC AND SPT 2012 GOWANUS LOGS.GPJ 4/11/13

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PROJECT: Gowanus Cap Investigation
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GEI PROJECT NUMBER: 093010-6-1606

BORING LOG

GC-B-005

ELEV. FT.	DEPTH FT.	PRIMARY SAMPLE INFO NO.	PEN / REC (in./in.)	BLOWS (/6 IN.)	PID (PPM)	SONIC SAMPLE INFO NO.	PEN / REC (in./in.)	PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	SOIL / BEDROCK DESCRIPTION
								188 JHS = 2.8				
								76.9				
	25	S-3	24/0	5-6-5-3		SC-6	60/37	19.3				**S-3 NO RECOVERY**. **SC-6 (0 - 20")**: **NARROWLY GRADED SAND (SP)**; ~95% sand, fine to coarse, ~5% fines, non plastic; wet, pockets of grayish black staining and very slight tar staining, moderate petroleum-like odor, moderate naphthalene-like odor.
-45								12.5				
								10.2 JHS = 1.2				**SC-6 (20 - 37")**: **NARROWLY GRADED GRAVEL (SP)**; ~90% sand, medium to coarse, ~5% gravel, fine to coarse, subrounded, ~5% fines, non plastic; max. size 1.
								12.0				
	30	S-4	24/0	5-3-2-1		SC-7	60/55	0.0				**S-4 NO RECOVERY**. **SC-7 (0 - 18")**: **NARROWLY GRADED GRAVEL (SP)**; ~90% sand, medium to coarse, ~5% gravel, fine to coarse, subrounded, ~5% fines, non plastic; max. size 1.
-50								7.7				
								JHS = 0.0				**SC-7 (18 - 42")**: **NARROWLY GRADED SAND WITH GRAVEL (SP)**; ~65% sand, fine to coarse, ~30% gravel, fine to coarse, subrounded, ~5% fines, non plastic; max. size 1.75, wet.
								0.0				
								0.0				**SC-7 (42 - 55")**: **LEAN CLAY WITH SAND (CL)**; ~80% fines, medium, slow dilatancy, ~20% sand, fine to medium; wet.

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ENVIRONMENTAL LOG SONIC AND SPT 2012 GOWANUS LOGS.GPJ 4/11/13

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(860) 368-5300

CLIENT: National Grid
PROJECT: Gowanus Cap Investigation
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 093010-6-1606

BORING LOG

GC-B-005

ELEV. FT.	DEPTH FT.	PRIMARY SAMPLE INFO NO.	PEN / REC (in./in.)	BLOWS (/6 IN.)	PID (PPM)	SONIC SAMPLE INFO NO.	PEN / REC (in./in.)	PID (PPM)	STRATA	VISUAL IMPACTS	ODOR	SOIL / BEDROCK DESCRIPTION
	35											End of Boring at 35 feet.

NOTES:

PEN = PENETRATION LENGTH OF SAMPLER OR CORE BARREL
REC = RECOVERY LENGTH OF SAMPLE
PID = PHOTOIONIZATION DETECTOR READING
JHS = JAR HEADSPACE PID READING
NA = NOT APPLICABLE
NM = NOT MEASURED

IN. = INCHES
FT. = FEET
ppm = PARTS PER MILLION
Q_P = POCKET PENETROMETER
S_v = TORVANE PEAK

WC = WATER CONTENT
OC = ORGANIC CONTENT
LL = LIQUID LIMIT
PL = PLASTIC LIMIT
PI = PLASTIC INDEX
UW_T = TOTAL UNIT WEIGHT
UW_D = DRY UNIT WEIGHT

NLO = NAPHTHALENE LIKE ODOR
PLO = PETROLEUM LIKE ODOR
TLO = TAR LIKE ODOR
CLO = CHEMICAL LIKE ODOR
CrLO = CREOSOTE LIKE ODOR
OLO = ORGANIC LIKE ODOR

Appendix C

Geotechnical Laboratory Testing Data

Table C-1
Consolidation Tests
Initial Geotechnical Investigation in Support of Cap Design
Gowanus Canal Superfund Site

Location (Boring ID)	Depth (feet below mudline)	Soil Type (USCS)	Initial Void Ratio (e0)	Initial gdry/gsat (lb/ft3)	Initial Wn/ Saturation Wn /S [%]	Final Void Ratio (ef)	Final gdry/gsat (lb/ft3)	Final Wf/ Saturation (S [%])	Coef. of Consolidation (average) (Cv [m^2/yr])	Coef. of Secondary Consolidation (average) (Ca)	Compression Ratio (CR)	Compression Index (Cc)	ReCompression Ratio (Cr)	Cr/Cc (%)	ReCompression Index (RR)
GC-B-001	2.45	OH	2.018	41.4/83.2	101.2%/100%	1.24	55.7/90.4	62.2%/100%	4.06	0.00820	0.213	0.643	0.029	4.5%	0.088
GC-B-002	1.50	OH	2.937	36.5/82.4	126.1%/99%	2.009	47.7/89.4	87.2%/100%	1.85	0.01035	0.234	0.921	0.028	3.0%	0.11
GC-B-002	2.70	OH	2.964	33.7/78.7	133.5%/96%	1.808	47.6/87.7	84.4%/100%	3.67	0.00747	0.253	1.003	0.034	3.4%	0.135
GC-B-004	2.75	CL-ML	0.731	97.7/122.9	25.8%/96%	0.684	100.5/125.8	25.2%/100%	138.85	0.0007	0.064	0.111	0.013	11.7%	0.023
GC-B-005	15.50	OL	1.46	52.0/88.3	25.8%/98%	0.741	73.5/100.1	25.2%/100%	3.24	0.0036	0.206	0.507	0.022	4.3%	0.054

Notes:
USCS - Unified Soil Classification System

Table C-2
Unconsolidated-Undrained Compression Tests
Initial Geotechnical Investigation in Support of Cap Design
Gowanus Canal Superfund Site

Location (Boring ID)	Depth (feet below mudline)	Soil Type (USCS)	Water Content (%)	Void Ratio (e0)	Wet Unit Weight (gsat) (pcf)	Dry Unit Weight (gdry) (pcf)	Liquid Limit (LL)	Plastic Limit (PL)	Placticity Index (PI)	Specific Gravity (Gs)	U-U Compressive Strength (psf)	U-U Shear Strength (Su) (pcf)	Strain at peak (%)
GC-B-002	0.45	OH	133.6	3.29	78.2	33.5	105	55	50	2.30	130	65	8.7
GC-B-002	2.3	OH	140	3.09	78.6	32.7	73	51	22	2.14	60	30	5.9
GC-B-004	2.3	CL-ML	20.5	0.59	128.4	106.6	27	21	6	2.71	4,740	2,370	15
GC-B-005	10.95	OH	81.7	2.33	94.3	51.9	80	40	41	2.77	170	85	7.7
GC-B-005	15.3	OL	66.0	1.45	91.1	54.9	45	36	9	2.15	110	55	7.0

Notes:
USCS - Unified Soil Classification System
pcf - pounds per cubic foot
psf - pounds per square foot

Table C-3
Consolidated-Undrained Triaxial Compression Tests
Initial Geotechnical Investigation in Support of Cap Design
Gowanus Canal Superfund Site

Location (Boring ID)	Depth (feet below mudline)	Soil Type (USCS)	Water Content (%)	Wet Unit Weight (gsat) (pcf)	Consolidation Stress (s) (psf)	CU Shear Strength (S) (pcf)	Effective Friction Angle ('Φ) (°)
GC-B-001	3.00	OH	81.8	88.1	250	530	61.1 [1]
GC-B-002	1.00	OH	136.2	82.8	250	160	44.3
GC-B-004	0.95	SM	16.1	127.8	250	16,490	37.7
GC-B-005	11.45	OH	80.6	93.2	500	270	31.3

Notes:
1 - debris in sample likely affected result
pcf - pounds per cubic foot
psf - pounds per square foot

GEI Consultants #09301-0-1016
Gowanus Canal Superfund Site
LABORATORY TESTING DATA SUMMARY

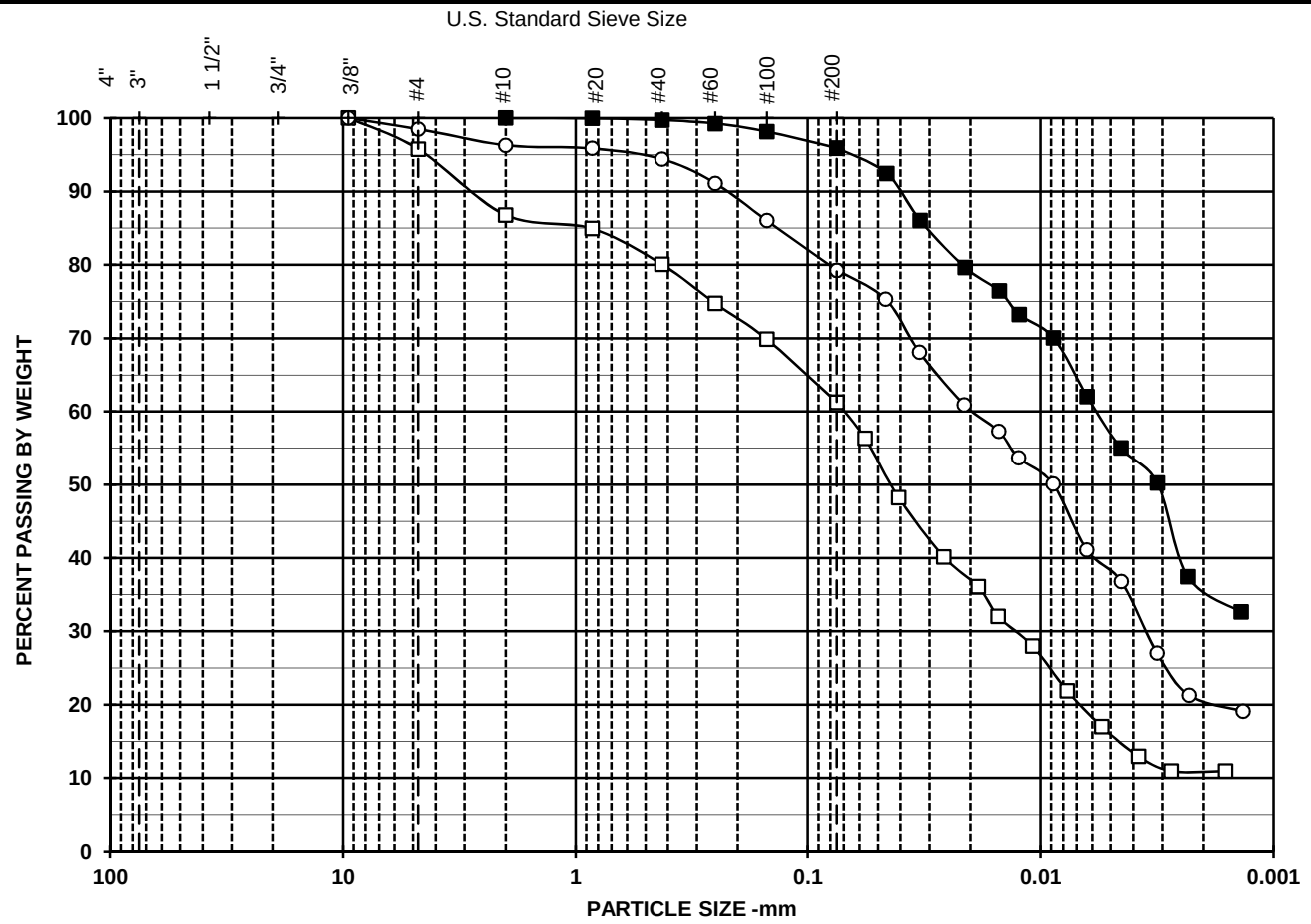
BORING NO.	SAMPLE NO.	DEPTH (ft)	IDENTIFICATION TESTS										STRENGTH			CONSOLIDATION		REMARKS & Test ID
			WATER CONTENT (%)	LIQUID LIMIT (-)	PLASTIC LIMIT (-)	PLAS. INDEX (-)	USCS SYMB. (1)	SIEVE MINUS NO. 200 (%)	HYDRO. % MINUS 2 μm (%)	ORGANIC CONTENT (burnoff) (%)	TOTAL UNIT WEIGHT (pcf)	DRY UNIT WEIGHT (pcf)	Type Test@ Test STRESS (ksf)	PEAK SHEAR STRESS (ksf)	AXIAL STRAIN @ PEAK STRESS (%)	INITIAL CONDITIONS VOID RATIO (-)	INITIAL CONDITIONS SATUR-ATION (%)	
GC-B-001	U-1	0-2																
GC-B-001	U-2	2-4									83.9							
GC-B-001	U-2	2.2	55.2															
GC-B-001	U-2A	2.45	101.2	73	60	13	OH	61.2	11	16.7	83.2	41.4				2.018	100	C12157
GC-B-001	U-2	2.7	84.3															
GC-B-001	U-2B	3.0	81.8				OH				88.1	48.5	CIU@.25	0.53	21.2			T3321
GC-B-002	U-1	0-2									70.8							
GC-B-002	U-1	0.2	122.3															
GC-B-002	U-1	0.45	133.6				OH				78.2	33.5	UU@1	0.07	8.7			UU284b
GC-B-002	U-1	0.75	147.2															
GC-B-002	U-1B	1.0	136.2				OH				82.8	35.1	CIU@.25	0.16	1.3			T3322
GC-B-002	U-1	1.3	137.5															
GC-B-002	U-1C	1.5	126.1	105	55	50	OH	95.9	36	11.3	82.4	36.5				2.937	99	C12158
GC-B-002	U-2	2-4																
GC-B-002	U-2A	2.3	140.4	73	51	22	OH	79.2	21		78.6	32.7	UU@1.2	0.03	5.9			UU283d
GC-B-002	U-2B	2.7	133.5				OH			14.1	78.7	33.7				2.964	96	C12155
GC-B-002	U-2	2.85	107.3															
GC-B-004	U-1	0-2									114.0							
GC-B-004	U-1	0.15	39.2															
GC-B-004	U-1	0.7	20.7															
GC-B-004	U-1B	0.95	16.1				SM			3.2	127.8	110.1	CIU@.25	16.49	13.9			T3323
GC-B-004	U-2	2-4																

GEI Consultants #09301-0-1016
Gowanus Canal Superfund Site
LABORATORY TESTING DATA SUMMARY

BORING	SAMPLE	DEPTH	IDENTIFICATION TESTS										STRENGTH			CONSOLIDATION		REMARKS
			WATER	LIQUID	PLASTIC	PLAS.	USCS	SIEVE	HYDRO.	ORGANIC	TOTAL	DRY	Type Test@	PEAK	AXIAL STRAIN	INITIAL CONDITIONS		&
NO.	NO.		CONTENT	LIMIT	LIMIT	INDEX	SYMB. (1)	MINUS NO. 200	% MINUS 2 μm	CONTENT (burnoff)	UNIT WEIGHT	UNIT WEIGHT	Test STRESS	SHEAR STRESS	@ PEAK STRESS	VOID RATIO	SATUR-ATION	Test ID
		(ft)	(%)	(-)	(-)	(-)		(%)	(%)	(%)	(pcf)	(pcf)	(ksf)	(ksf)	(%)	(-)	(%)	
GC-B-004	U-2	2.3	20.5				CL-ML				128.4	106.6	UU@1.2	2.37	15.0			UU283c
GC-B-004	U-2B	2.75	25.8	27	21	6	CL-ML	98.6	7	1.0	122.9	97.7				0.791	96	C12154
GC-B-004	U-2	3.0	27.5															
GC-B-005	U-2	2-4																
GC-B-005	U-3	10-12									77.7							
GC-B-005	U-3	10.2	85.4															
GC-B-005	U-3	10.7	66.7															
GC-B-005	U-3	10.95	81.7				OH				94.3	51.9	UU@1.8	0.09	7.7			UU285e
GC-B-005	U-3C	11.45	80.6	80	40	41	OH	50.7		6.3	93.2	51.6	CIU@.5	0.27	9.3			T3324
GC-B-005	U-5	15-17																
GC-B-005	U-5A	15.3	66.0	45	36	9	OL	68.7	10		91.1	54.9	UU@2.1	0.06	7.0			UU283b
GC-B-005	U-5B	15.5	69.7				OL			13.8	88.3	52.0				1.460	98	C12153
GC-B-005	U-5	15.8	71.7															

Note: (1) USCS symbol based on visual observation, Sieve results, and Atterberg limits reported.

COBBLES	GRAVEL		SAND			SILT OR CLAY
	COARSE	FINE	COARSE	MEDIUM	FINE	



Symbol	□	■	○
Boring	GC-B-001	GC-B-002	GC-B-002
Sample	U-2A	U-1C	U-2A
Depth	2.45	1.5	2.3
% +3"	0.0	0.0	0.0
% Gravel	4.2	0.0	1.5
% SAND	34.6	4.1	19.3
%C SAND	9.0	0.0	2.2
%M SAND	6.7	0.3	1.9
%F SAND	18.8	3.8	15.2
% FINES	61.2	95.9	79.2
% -2μ	11	36	21
D_{100} (mm)	9.50	2.00	9.50
D_{60} (mm)	0.07	0.01	0.02
D_{30} (mm)	0.01	0.00	0.00
D_{10} (mm)			
Cc			
Cu			

Particle Size	PERCENT FINER		
(Sieve #)	□	■	○
4"			
3"			
1 1/2"			
3/4"			
3/8"	100.0		100.0
4	95.8		98.5
10	86.8	100.0	96.3
20	84.9	100.0	95.9
40	80.1	99.7	94.4
60	74.7	99.3	91.1
100	69.9	98.2	86.0
200	61.2	95.9	79.2

SYMBOL	w (%)	LL	PL	PI	USCS	DESCRIPTION AND REMARKS	Date Tested
□		73	60	13	OH	Black, Sandy Organic silt	10/10/2012
■		105	55	50	OH	Black, Organic silt	10/10/2012
○		73	51	22	OH	Black, Organic silt with sand	10/10/2012

TerraSense, LLC

7960-12008

GEI Consultants

09301-0-1016

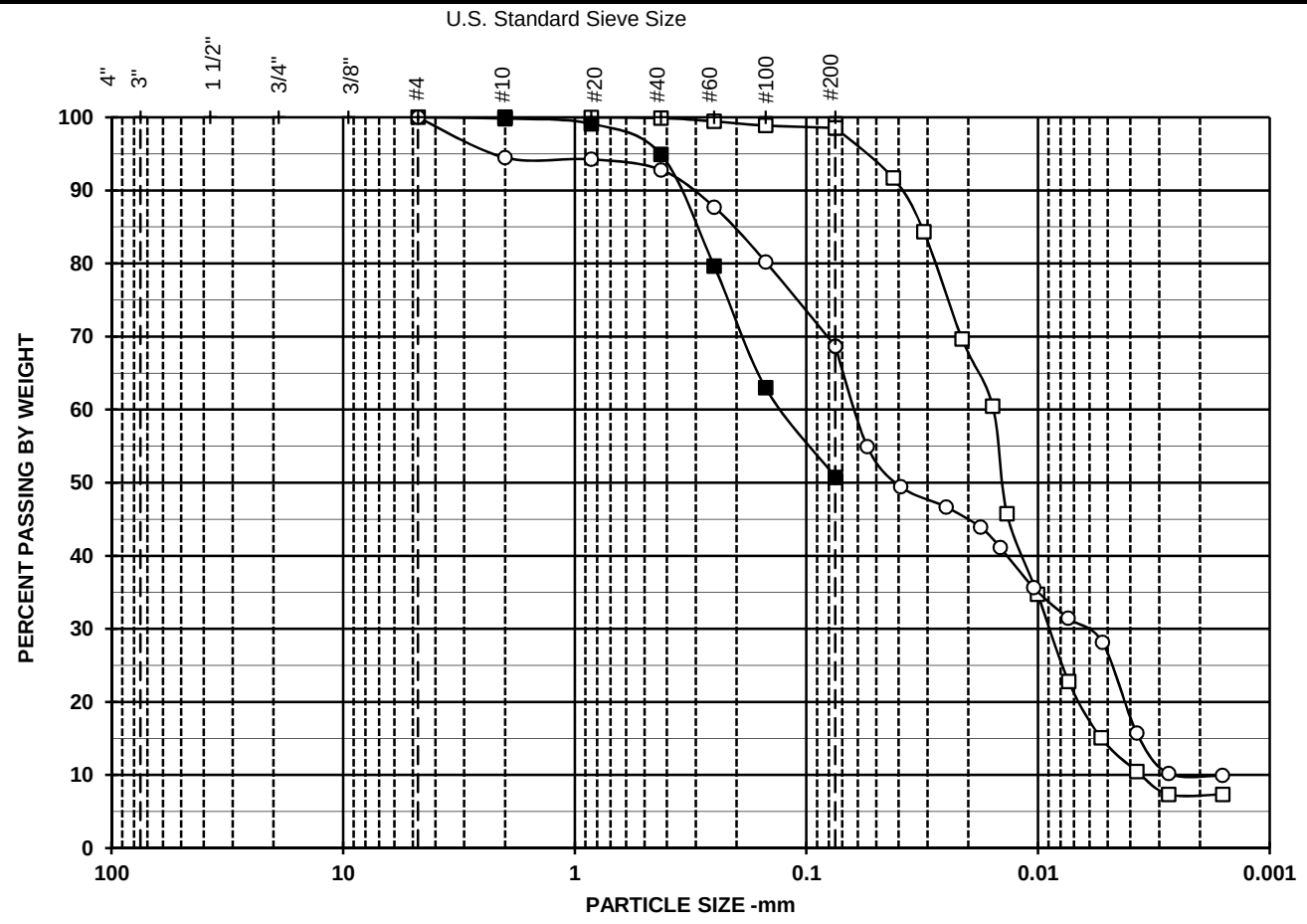
PARTICLE SIZE DISTRIBUTION

Gowanus Canal Superfund Site

Analysis File: 3SV-MasterRev3

sieve8a.xls 12/14/2012

COBBLES	GRAVEL		SAND			SILT OR CLAY
	COARSE	FINE	COARSE	MEDIUM	FINE	



SYMBOL	w (%)	LL	PL	PI	USCS	DESCRIPTION AND REMARKS	Date Tested
□		27	21	6	CL-ML	Brown, Silty clay	10/10/2012
■		80	40	40	OH	Black, Sandy Organic silt	10/17/2012
○		45	36	9	OL	Black, Sandy Organic silt	10/10/2012

Symbol	□	■	○
Boring	GC-B-004	GB-C-005	GC-B-005
Sample	U-2B	U-3C	U-5A
Depth	2.75	11.45	15.3
% +3"	0.0	0.0	0.0
% Gravel	0.0	0.0	0.0
% SAND	1.4	49.3	31.3
%C SAND	0.0	0.2	5.5
%M SAND	0.1	4.9	1.7
%F SAND	1.3	44.2	24.1
% FINES	98.6	50.7	68.7
% -2μ	7		10
D_{100} (mm)	2.00	4.75	4.75
D_{60} (mm)	0.02	0.13	0.06
D_{30} (mm)	0.01		0.01
D_{10} (mm)			
Cc			
Cu			

Particle Size	PERCENT FINER		
(Sieve #)	□	■	○
4"			
3"			
1 1/2"			
3/4"			
3/8"			
4		100.0	100.0
10	100.0	99.8	94.5
20	100.0	99.1	94.3
40	99.9	94.9	92.8
60	99.4	79.6	87.7
100	98.9	63.0	80.2
200	98.6	50.7	68.7

TerraSense, LLC

7960-12008

GEI Consultants

09301-0-1016

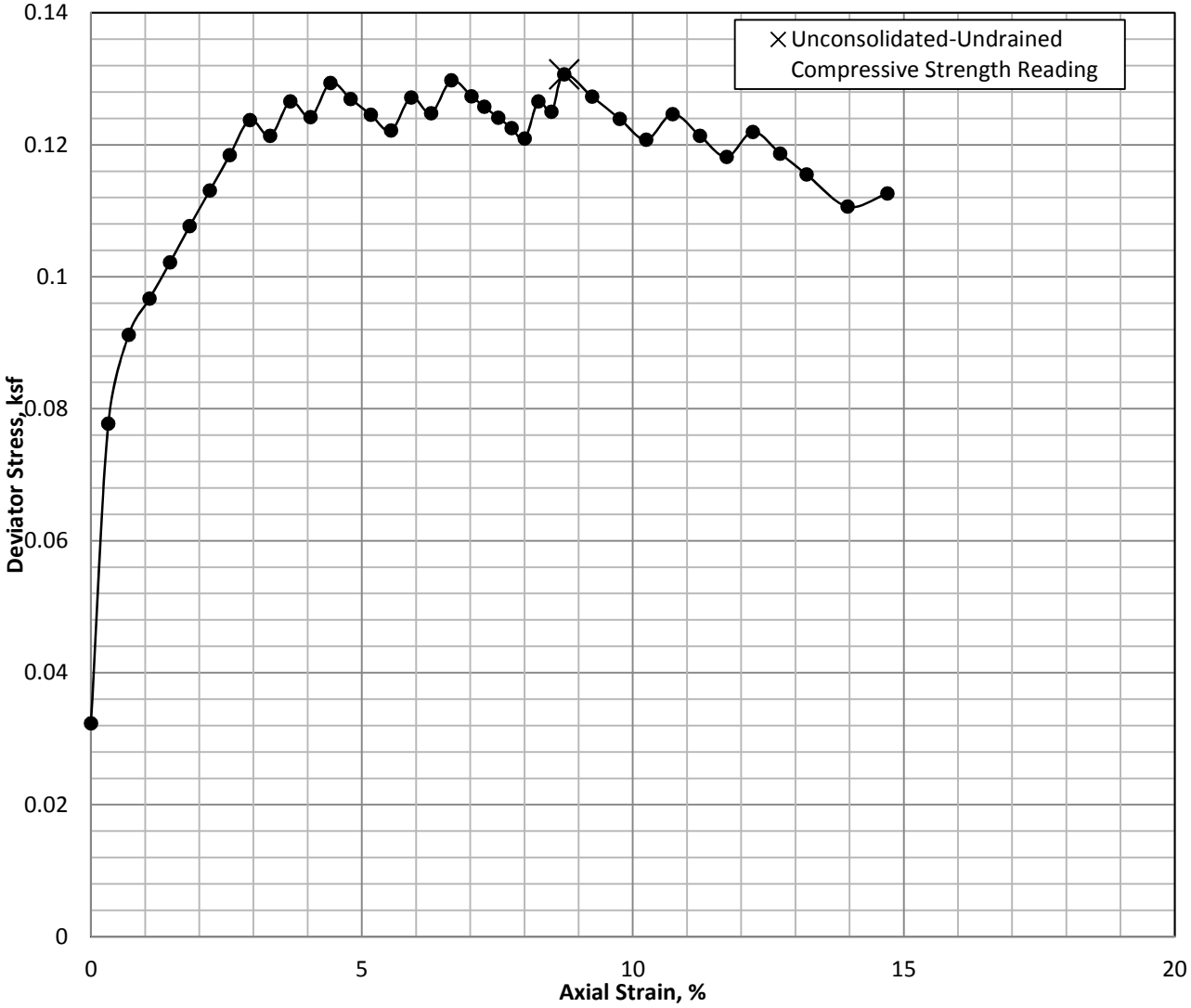
PARTICLE SIZE DISTRIBUTION

Gowanus Canal Superfund Site

Analysis File: 3SV-MasterRev3

sieve8b.xls 12/14/2012

UNCONSOLIDATED-UNDRAINED COMPRESSIVE STRENGTH TEST, ASTM METHOD D2850



Specimen and Material Property Information

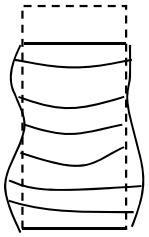
Sample Type: Intact tube sample

Description and/or Classification: OH, Black Organic SILT, trace veg. fibers

Cell Pressure (ksf)	Water [1] Content (%)	Wet Unit Weight (pcf)	Dry Unit [1] Weight (pcf)	Void Ratio (-)	Saturation [2] (%)	Length (inch)	Diameter (inch)	L/D (-)	LL/ PL (-)	PI (-)	Specific [2] Gravity (-)
0 (Initial)	133.6	78.2	33.5	3.29	93.4	5.961	2.733	2.2			2.30
1.0	133.6	78.3	33.5	3.29	93.6	5.958	2.731	2.2			

Failure Summary

U-U Compressive Strength (ksf)	U-U Shear Strength, s_u (ksf)	Strain to to Peak (%)	Strain Rate (%/min)
0.13	0.065	8.7	0.74



FAILURE SKETCH

Remarks and Notes:

(1) Water Content determined after shear from partial specimen.

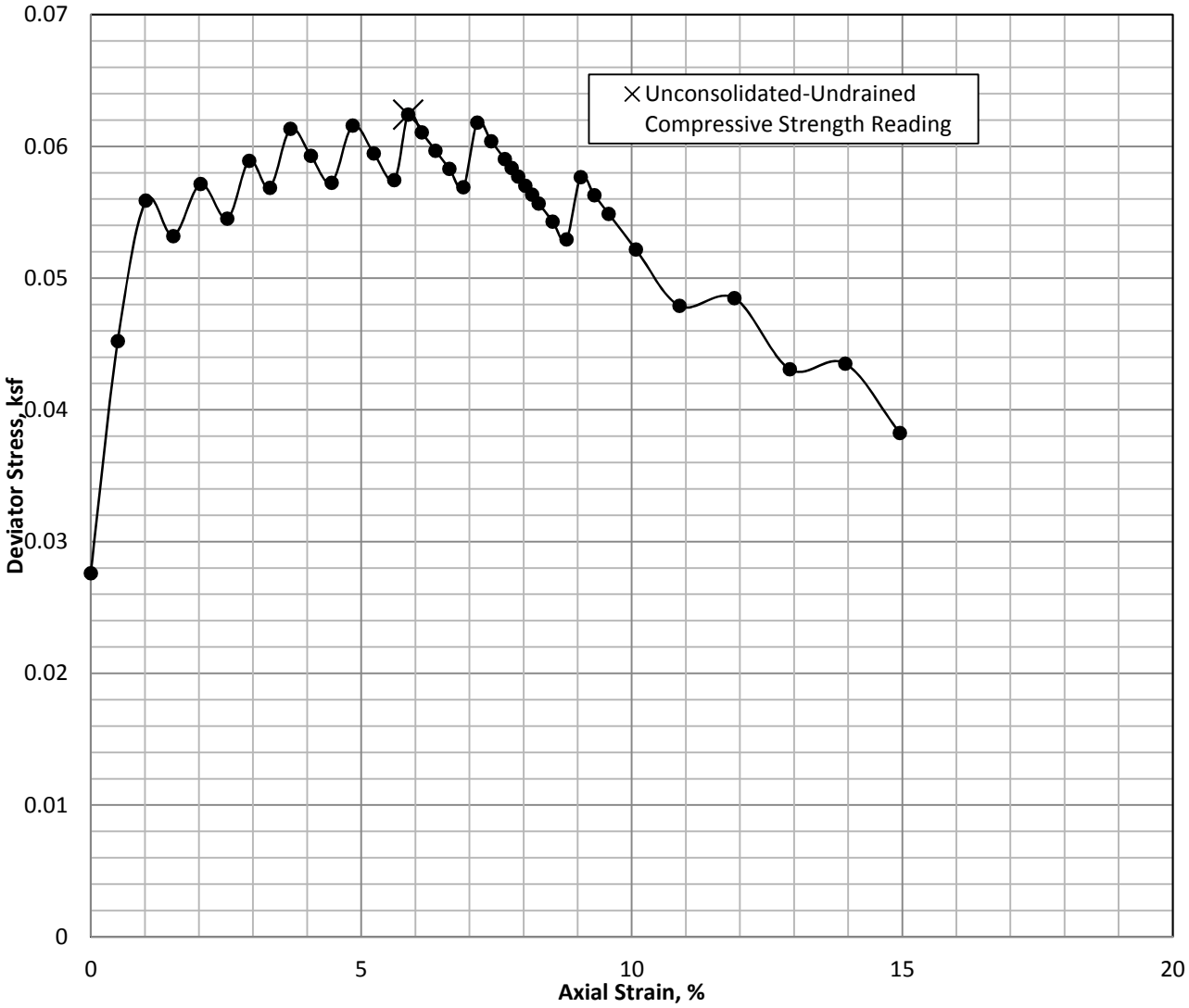
(2) Assumed specific gravity

Tested by: DT Reviewed by: GET

Test Date: 10/10/2012 Review Date: 12/14/2012

GEI Consultants **Project # 09301-0-1016**	**Gowanus Canal Superfund Site**	**UNCONSOLIDATED-UNDRAINED COMPRESSION TEST**
TerraSense, LLC **Project # 7960-12008**		**Boring: GC-B-002 Sample: U-1** **Section: A Depth: .45 ft.**

UNCONSOLIDATED-UNDRAINED COMPRESSIVE STRENGTH TEST, ASTM METHOD D2850



Specimen and Material Property Information

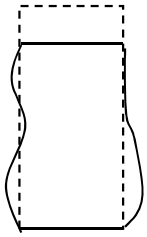
Sample Type: Intact tube sample

Description and/or Classification: OH, Black Organic SILT, trace veg.-fiber,tar

Cell Pressure (ksf)	Water [1] Content (%)	Wet Unit Weight (pcf)	Dry Unit [1] Weight (pcf)	Void Ratio (-)	Saturation [2] (%)	Length (inch)	Diameter (inch)	L/D (-)	LL/ PL (-)	PI (-)	Specific [2] Gravity (-)
0 (Initial)	140.4	78.6	32.7	3.09	97.4	5.793	2.957	2.0	73	22	2.14
1.2	140.4	78.8	32.8	3.08	97.7	5.789	2.955	2.0	51		

Failure Summary

U-U Compressive Strength (ksf)	U-U Shear Strength, s_u (ksf)	Strain to to Peak (%)	Strain Rate (%/min)
0.06	0.03	5.9	0.77



FAILURE SKETCH

Remarks and Notes:

(1) Water Content determined after shear from partial specimen.

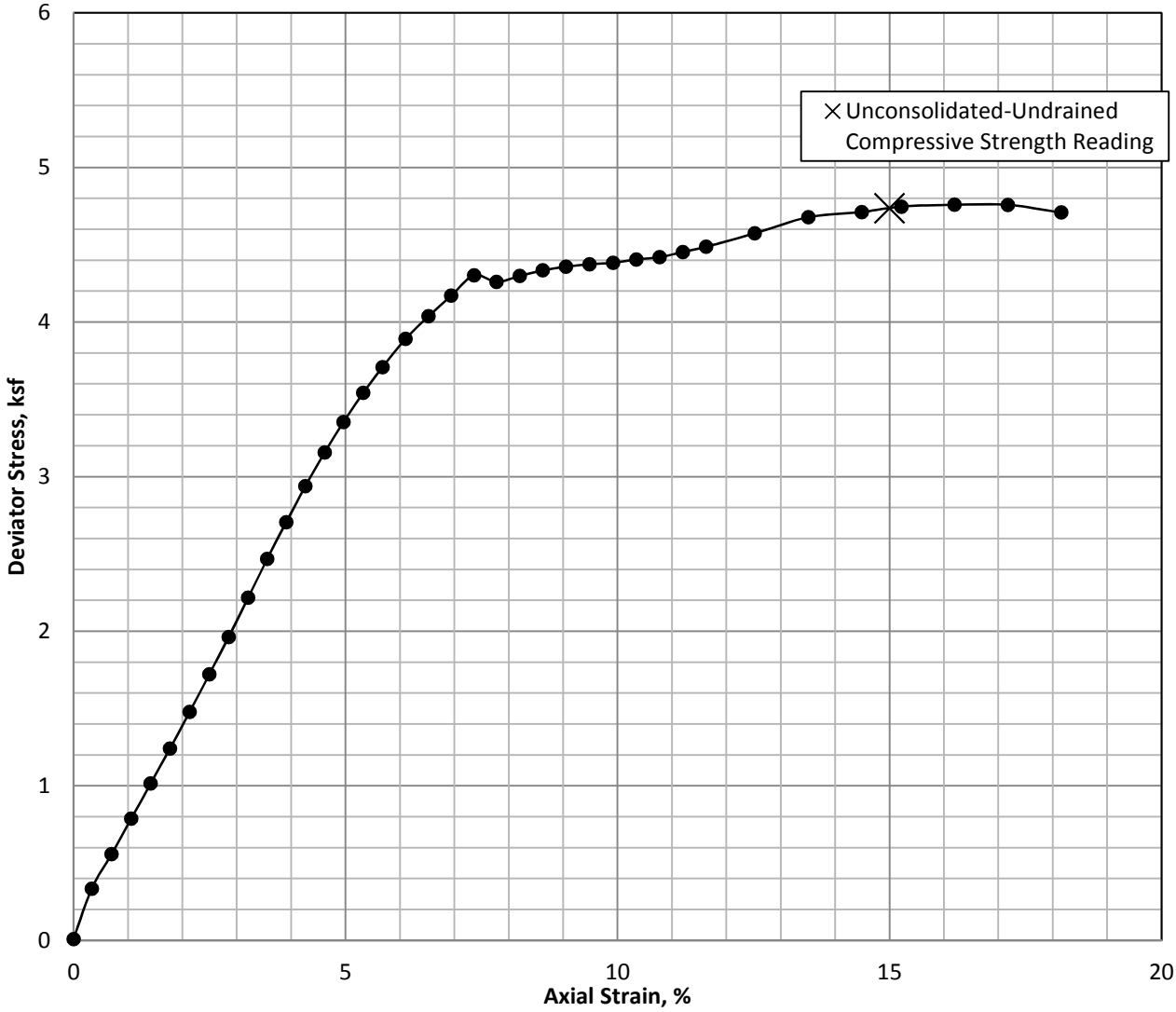
(2) Assumed specific gravity

Tested by: DT Reviewed by: GET

Test Date: 10/9/2012 Review Date: 12/14/2012

GEI Consultants **Project # 09301-0-1016**	**Gowanus Canal Superfund Site**	**UNCONSOLIDATED-UNDRAINED COMPRESSION TEST**
TerraSense, LLC **Project # 7960-12008**		**Boring: GC-B-002 Sample: U-2** **Section: A Depth: 2.3 ft.**

UNCONSOLIDATED-UNDRAINED COMPRESSIVE STRENGTH TEST, ASTM METHOD D2850



Specimen and Material Property Information

Sample Type: Intact tube sample

Description and/or Classification: CL-ML, Greenish silty clay, tar & gray clayey sand on top

Cell Pressure (ksf)	Water (1) Content (%)	Wet Unit Weight (pcf)	Dry Unit (1) Weight (pcf)	Void Ratio (-)	Saturation (2) (%)	Length (inch)	Diameter (inch)	L/D (-)	LL/ PL (-)	PI (-)	Specific (2) Gravity (-)
0 (Initial)	20.5	128.4	106.6	0.59	94.8	6.021	2.878	2.1			2.71
1.2	20.5	129.1	107.1	0.58	96.2	6.010	2.873	2.1			

Failure Summary

U-U Compressive Strength (ksf)	U-U Shear Strength, s_u (ksf)	Strain to to Peak (%)	Strain Rate (%/min)
4.74	2.37	15.0	0.72

FAILURE SKETCH

Remarks and Notes:

(1) Water Content determined after shear from partial specimen.

(2) Assumed specific gravity

Tested by: DT Reviewed by: GET

Test Date: 10/9/2012 Review Date: 12/14/2012

GEI Consultants
Project # 09301-0-1016

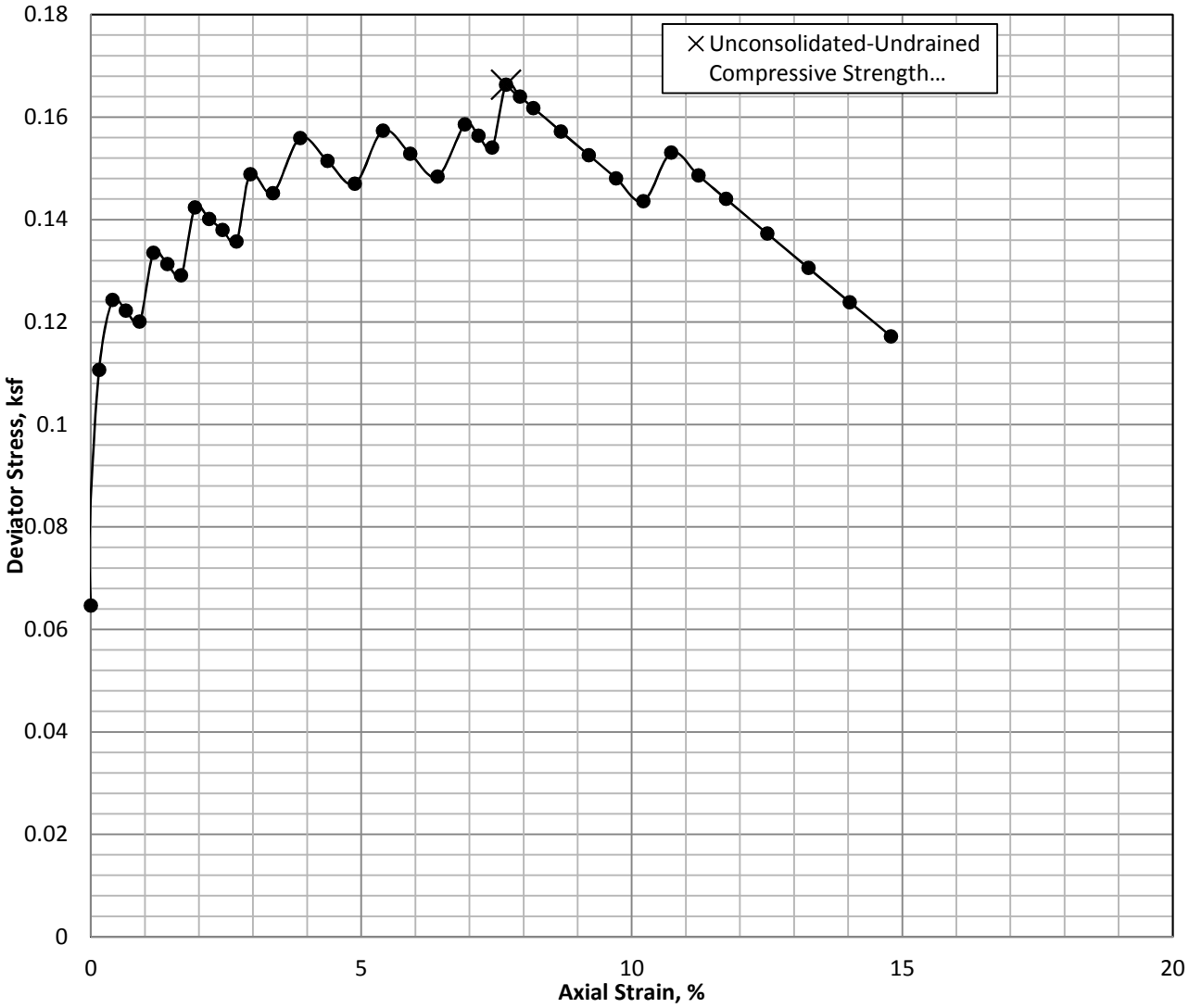
TerraSense, LLC
Project # 7960-12008

Gowanus Canal Superfund Site

UNCONSOLIDATED-UNDRAINED COMPRESSION TEST

Boring: GC-B-004 Sample: U-2
Section: A Depth: 2.3 ft.

UNCONSOLIDATED-UNDRAINED COMPRESSIVE STRENGTH TEST, ASTM METHOD D2850



Specimen and Material Property Information

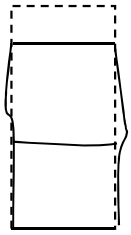
Sample Type: Intact tube sample

Description and/or Classification: OH, Black Organic SILT, tar

Cell Pressure (ksf)	Water [1] Content (%)	Wet Unit Weight (pcf)	Dry Unit [1] Weight (pcf)	Void Ratio (-)	Saturation [2] (%)	Length (inch)	Diameter (inch)	L/D (-)	LL/ PL (-)	PI (-)	Specific [2] Gravity (-)
0 (Initial)	81.7	94.3	51.9	2.33	97.1	3.895	1.935	2.0			2.77
1.8	81.7	94.8	52.2	2.31	97.9	3.888	1.931	2.0			

Failure Summary

U-U Compressive Strength (ksf)	U-U Shear Strength, s_u (ksf)	Strain to to Peak (%)	Strain Rate (%/min)
0.17	0.085	7.7	0.74



FAILURE SKETCH

Remarks and Notes:

(1) Water Content determined after shear from partial specimen.

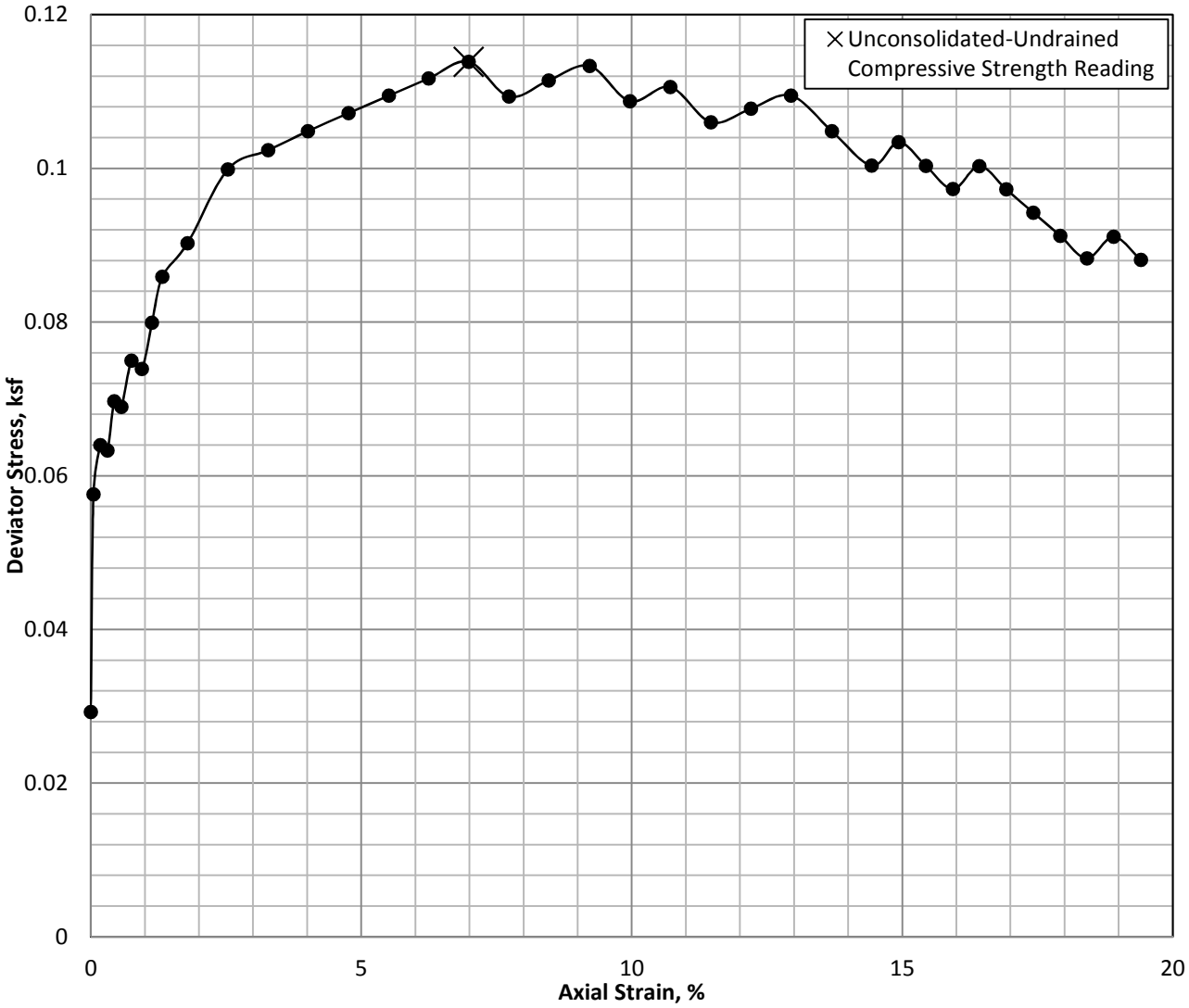
(2) Assumed specific gravity

Tested by: DT Reviewed by: GET

Test Date: 10/11/2012 Review Date: 12/14/2012

GEI Consultants **Project # 09301-0-1016**	**Gowanus Canal Superfund Site**	**UNCONSOLIDATED-UNDRAINED COMPRESSION TEST**
TerraSense, LLC **Project # 7960-12008**		**Boring: GB-C-005 Sample: U-3** **Section: B Depth: 10.95 ft.**

UNCONSOLIDATED-UNDRAINED COMPRESSIVE STRENGTH TEST, ASTM METHOD D2850



Specimen and Material Property Information

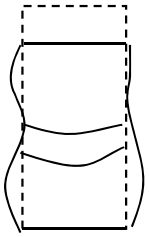
Sample Type: Intact tube sample

Description and/or Classification: OL, Black Organic SILT with tar

Cell Pressure (ksf)	Water [1] Content (%)	Wet Unit Weight (pcf)	Dry Unit [1] Weight (pcf)	Void Ratio (-)	Saturation [2] (%)	Length (inch)	Diameter (inch)	L/D (-)	LL/ PL (-)	PI (-)	Specific [2] Gravity (-)
0 (Initial)	66.0	91.1	54.9	1.45	98.3	5.952	2.879	2.1	45	9	2.15
2.1	66.0	92.0	55.4	1.42	99.8	5.934	2.870	2.1	36		

Failure Summary

U-U Compressive Strength (ksf)	U-U Shear Strength, s_u (ksf)	Strain to to Peak (%)	Strain Rate (%/min)
0.11	0.055	7.0	0.74



FAILURE SKETCH

Remarks and Notes:

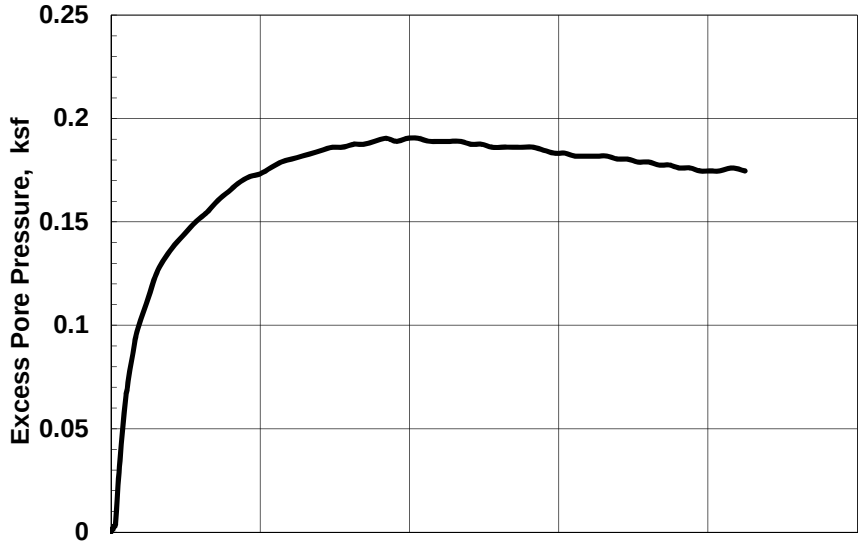
(1) Water Content determined after shear from partial specimen.

(2) Assumed specific gravity

Tested by: DT Reviewed by: GET

Test Date: 10/9/2012 Review Date: 12/14/2012

GEI Consultants **Project # 09301-0-1016**	**Gowanus Canal Superfund Site**	**UNCONSOLIDATED-UNDRAINED COMPRESSION TEST**
TerraSense, LLC **Project # 7960-12008**		**Boring: GC-B-005 Sample: U-5** **Section: A Depth: 15.3 ft.**

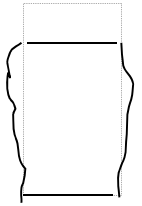


SAMPLE INFORMATION

Boring: GL-B-001 Sample: U-2B Depth: 3ft
Type: Intact tube sample
Description: OH, black sandy organic silt, some gravel, metal fragments noted

SPECIMEN INFORMATION (Initial)

Height: 5.80 inch Diameter: 2.87 inch Area: 6.45 in²
Water Content: 81.8 % Total Unit Weight: 88.1 pcf

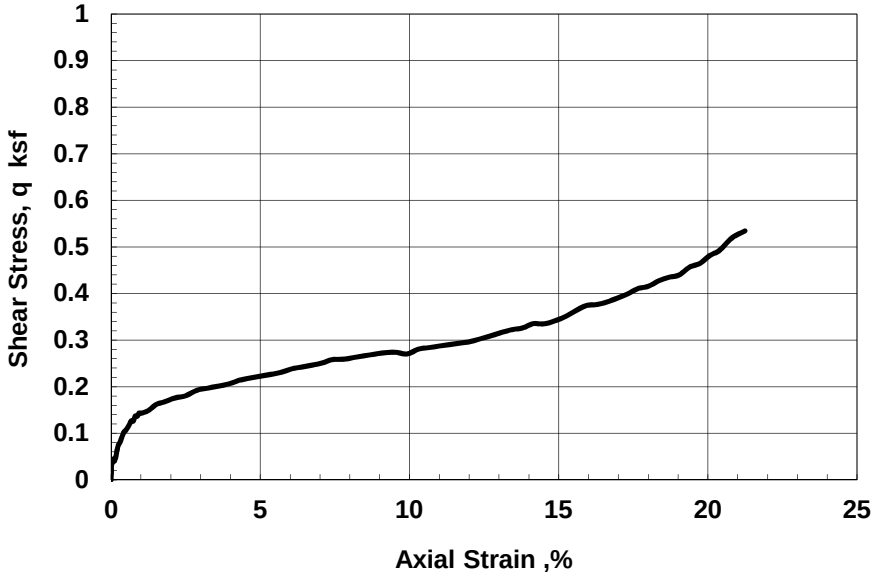


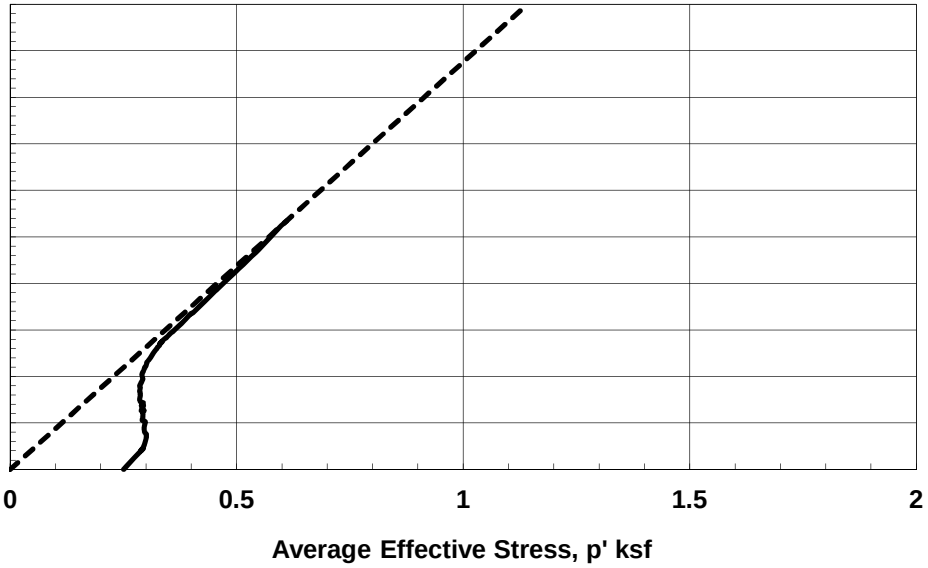
Failure Sketch

TEST SUMMARY

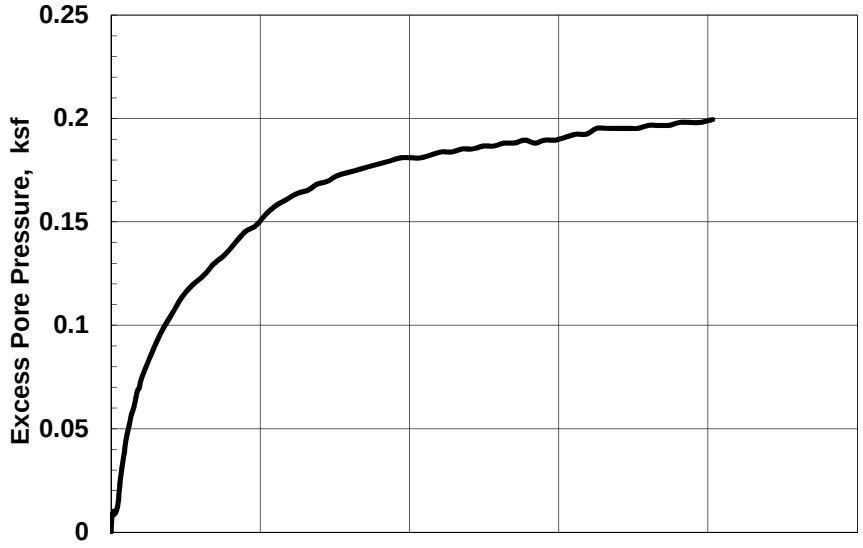
Consolidation Stresses: 0.25 ksf vertical, 0.25 ksf lateral
Water Content: 69.6 % Total Unit Weight: 91.2 pcf
B Coefficient: 99.2 Strain Rate: 0.022 %/min
Peak Shear Strength: 0.53 ksf @ 21.2 % Strain
Peak Effective Friction Angle: 61.1°

REMARKS:





Test by: DT	Project No. 7960-12008	GEI Consultants #09301-0-1016 Gowanus Canal	CONSOLIDATED UNDRAINED TRIAXIAL COMPRESSION with Pore Pressure Measurements	
Checked by: GET	**TerraSense, LLC**		Boring: GL-B-001 Sample: U-2B	December-12



SAMPLE INFORMATION

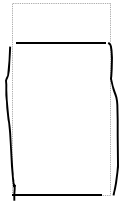
Boring: GC-B-002 Sample: U-1B Depth: 1ft
Type: Intact tube sample
Description: OH, gray organic silt

SPECIMEN INFORMATION (Initial)

Height: 5.90 inch Diameter: 2.84 inch Area: 6.34 in²
Water Content: 136.2 % Total Unit Weight: 82.8 pcf

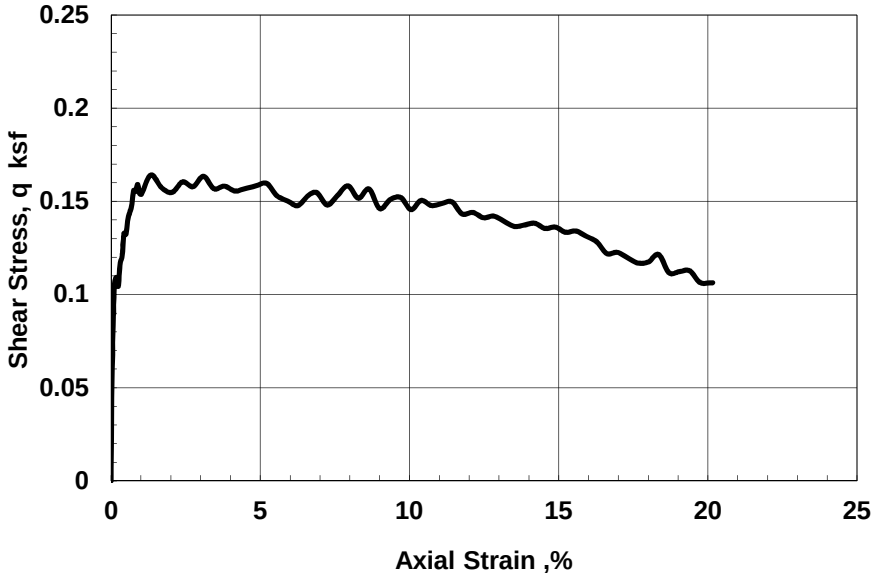
TEST SUMMARY

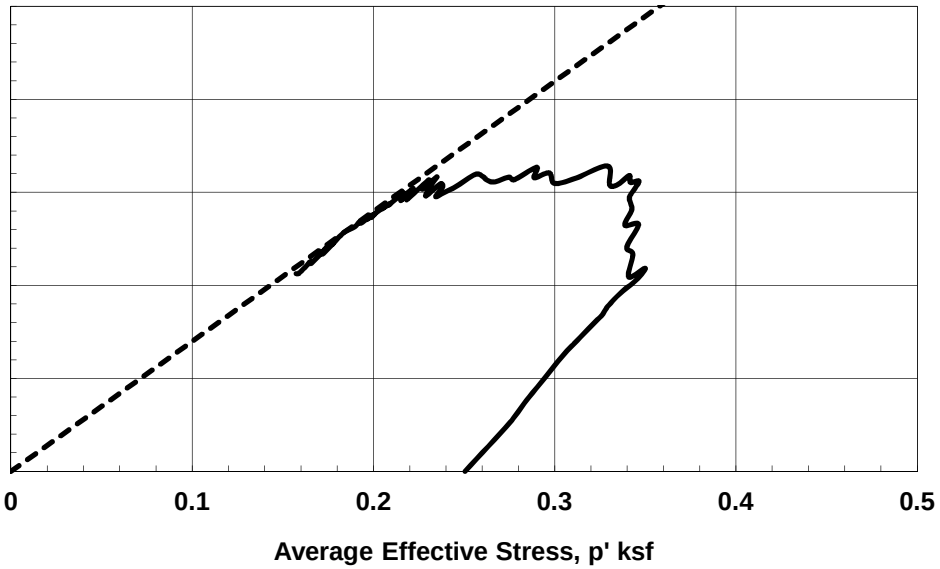
Consolidation Stresses: 0.25 ksf vertical, 0.25 ksf lateral
Water Content: 109.1 % Total Unit Weight: 86.6 pcf
B Coefficient: 99.1 Strain Rate: 0.022 %/min
Peak Shear Strength: 0.16 ksf @ 1.3 % Strain
Peak Effective Friction Angle: 44.3°



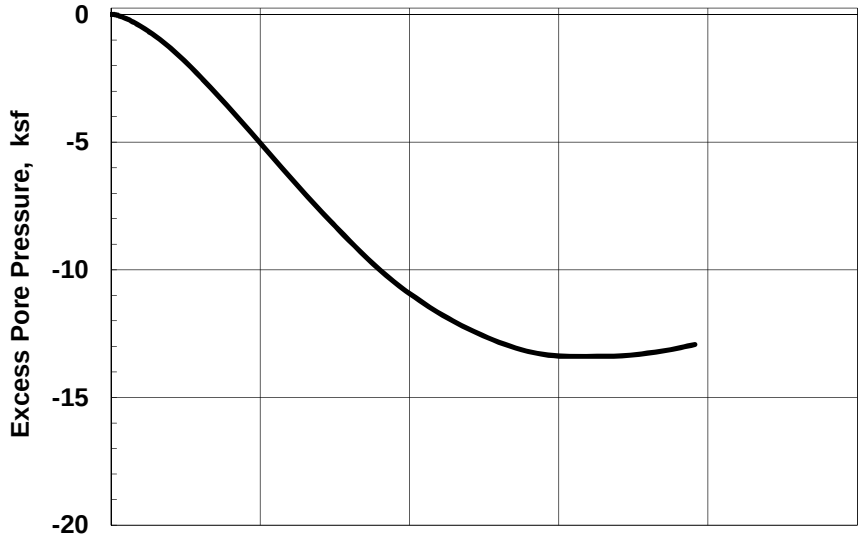
Failure Sketch

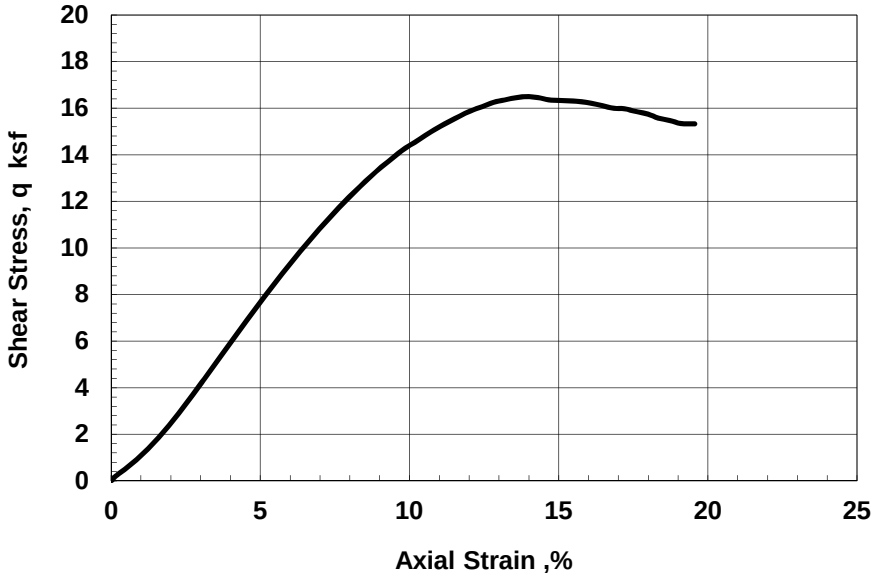
REMARKS:





Test by: DT	Project No. 7960-12008	GEI Consultants #09301-0-1016 Gowanus Canal	CONSOLIDATED UNDRAINED TRIAXIAL COMPRESSION with Pore Pressure Measurements	
Checked by: GET	**TerraSense, LLC**		Boring: GC-B-002 Sample: U-1B	December-12





SAMPLE INFORMATION

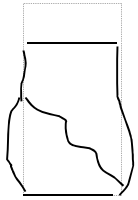
Boring: GC-B-004 Sample: U-1B Depth: 0.95ft
Type: Intact tube sample
Description: SM, black silty sand w/ tar

SPECIMEN INFORMATION (Initial)

Height: 6.01 inch Diameter: 2.86 inch Area: 6.43 in²
Water Content: 16.1 % Total Unit Weight: 127.8 pcf

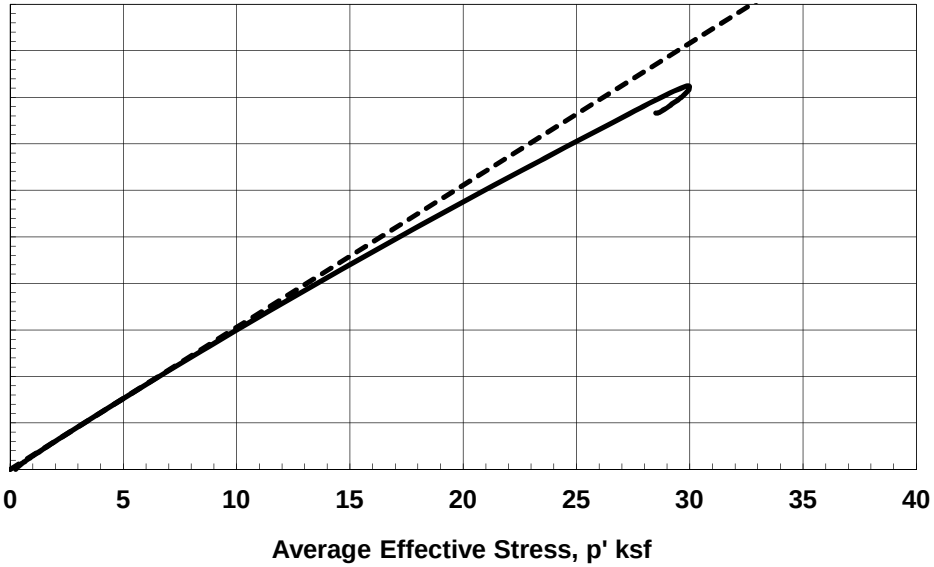
TEST SUMMARY

Consolidation Stresses: 0.25 ksf vertical, 0.25 ksf lateral
Water Content: 15.8 % Total Unit Weight: 129.5 pcf
B Coefficient: 98.9 Strain Rate: 0.023 %/min
Peak Shear Strength: 16.49 ksf @ 13.9 % Strain
Peak Effective Friction Angle: 37.7°

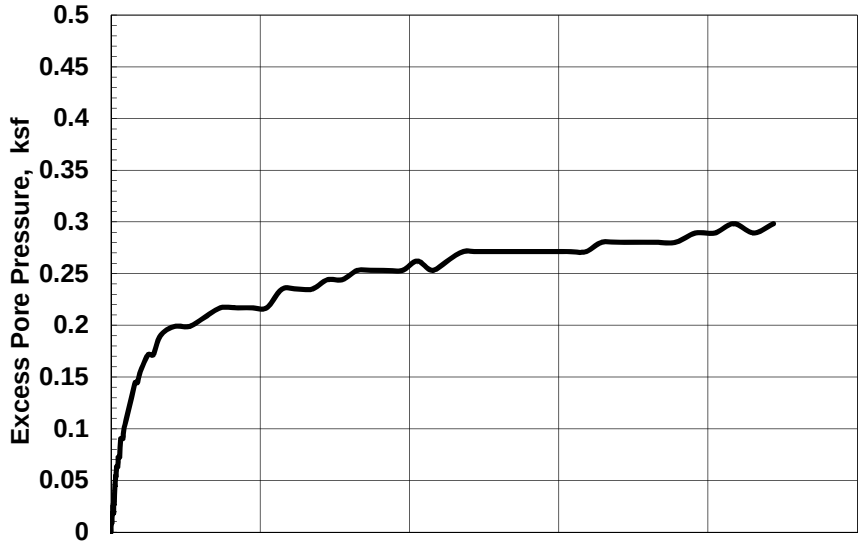


Failure Sketch

REMARKS:



Test by: DT	Project No. 7960-12008	GEI Consultants #09301-0-1016 Gowanus Canal	CONSOLIDATED UNDRAINED TRIAXIAL COMPRESSION with Pore Pressure Measurements	
Checked by: GET	**TerraSense, LLC**		Boring: GC-B-004 Sample: U-1B	December-12

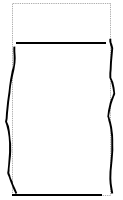


SAMPLE INFORMATION

Boring: GC-B-005 Sample: U-3C Depth: 11.45ft
Type: Intact tube sample
Description: OH, gray organic silt; peat noted
LL = 80 PL = 40 PI = 41

SPECIMEN INFORMATION (Initial)

Height: 3.88 inch Diameter: 1.94 inch Area: 2.96 in²
Water Content: 80.6 % Total Unit Weight: 93.2 pcf

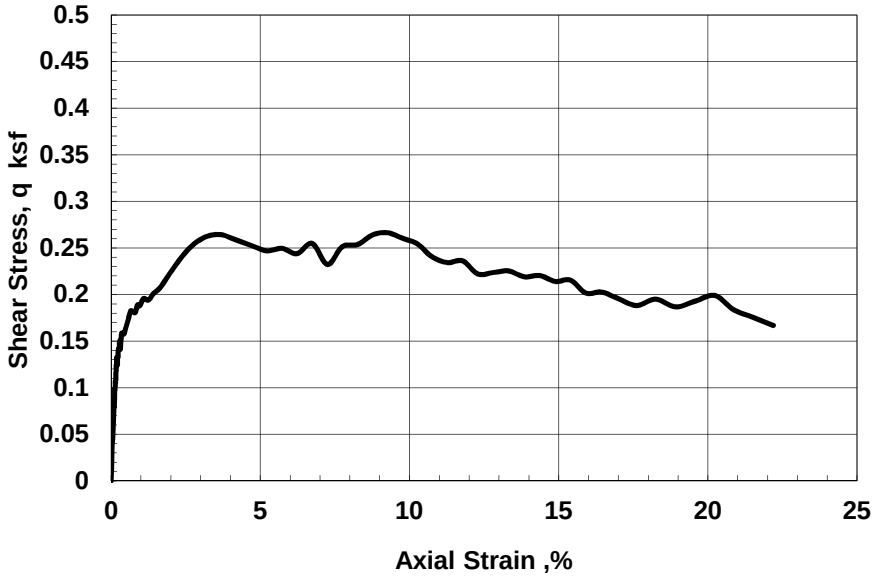


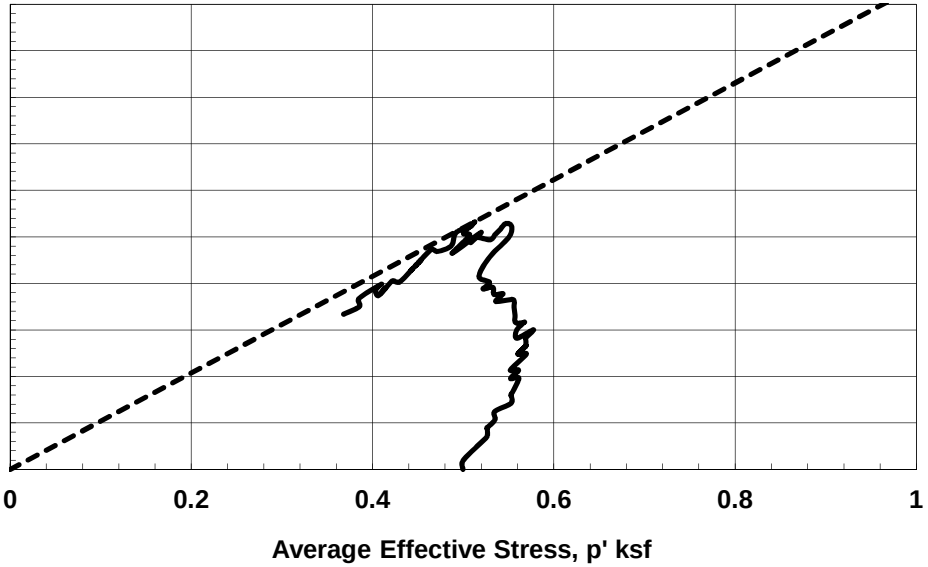
Failure Sketch

TEST SUMMARY

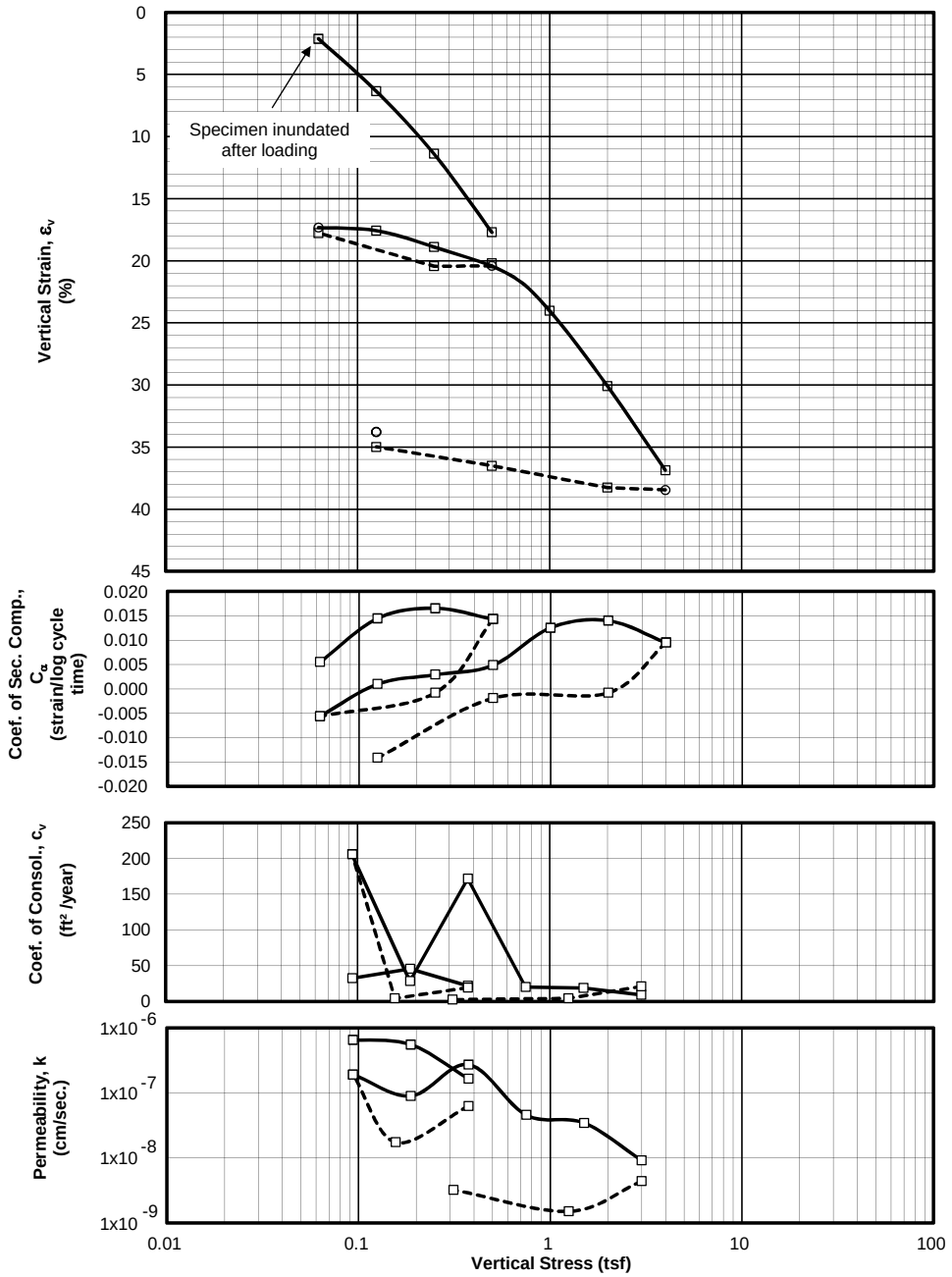
Consolidation Stresses: 0.50 ksf vertical, 0.50 ksf lateral
Water Content: 60.2 % Total Unit Weight: 99.8 pcf
B Coefficient: 99.2 Strain Rate: 0.021 %/min
Peak Shear Strength: 0.27 ksf @ 9.3 % Strain
Peak Effective Friction Angle: 31.3°

REMARKS:





Test by: DT	Project No. 7960-12008	GEI Consultants #09301-0-1016 Gowanus Canal	CONSOLIDATED UNDRAINED TRIAXIAL COMPRESSION with Pore Pressure Measurements	
Checked by: GET	**TerraSense, LLC**		Boring: GC-B-005 Sample: U-3C	December-12



SAMPLE INFORMATION

Boring:	GC-B-001
Sample:	U-2A
Depth:	2.45 feet
Elevation:	
Type:	3-inch thin wall tube
Description:	OH, black organic silt

LL = 73, PL = 60, PI = 13

SPECIMEN INFORMATION

(NOTE: Initial and final states refer to beginning and end of test)

Initial height:	0.62	inch
Diameter:	2.50	inch

Initial water content:	101.2	%
Initial total unit weight:	83.2	pcf
Initial dry unit weight:	41.4	pcf
Initial void ratio:	2.018	
Initial degree of saturation:	100	%
Final water content:	62.2	%
Final total unit weight:	90.4	pcf
Final dry unit weight:	55.7	pcf
Final void ratio:	1.240	
Final degree of saturation:	100	% (assumed specific gravity = 2.00)

TEST SUMMARY

Construction Method:	Casagrande (Log)
Estimated preconsolidation stress (tsf):	0.3 (Range: 0.3 to 0.5)
Estimated in situ effective overburden stress (tsf):	
Compression Ratio (strain per log cycle stress):	0.213
Compression Index (void ratio per log cycle stress):	0.643
Swell Ratio (strain per log cycle stress):	0.044
Swell Index (void ratio per log cycle stress):	0.133
Recompression Ratio (strain per log cycle stress):	0.029
Recompression Index (void ratio per log cycle stress):	0.088
Remarks:	

LEGEND: □ End of primary o End of Stage ——— Loading - - - - - - - Unloading

Test Date: 10/10/12 Tested By: CMJ Checked By: GET

GEI Consultants Project No. 09301-0-1016	Gowanus Canal Superfund Site	ONE DIMENSIONAL CONSOLIDATION TEST Boring: GC-B-001 Depth: 2.45 feet
TerraSense, LLC	Project No. 7960-12008	December 2012

PROJECT:	Gowanus Canal					
PROJECT NO.:	7960-12008	Initial height:	0.622 inch	Final height:	0.461 inch	
BORING:	GC-B-001	Initial water content:	101.2 %	Final water content:	62.2 %	
SAMPLE:	U-2A	Initial dry density:	41.4 pcf	Final dry density:	55.7 pcf	
TEST:	C12157	Initial total density:	83.2 pcf	Final total density:	90.4 pcf	
DEPTH, feet:	2.45	Initial saturation:	100 %	Final saturation:	100 %	
BY:	CMJ	Initial void ratio:	2.018	Final void ratio:	1.240	
TEST DATE:	10/10/2012			Final strain:	25.8 %	

EQUIPMENT:

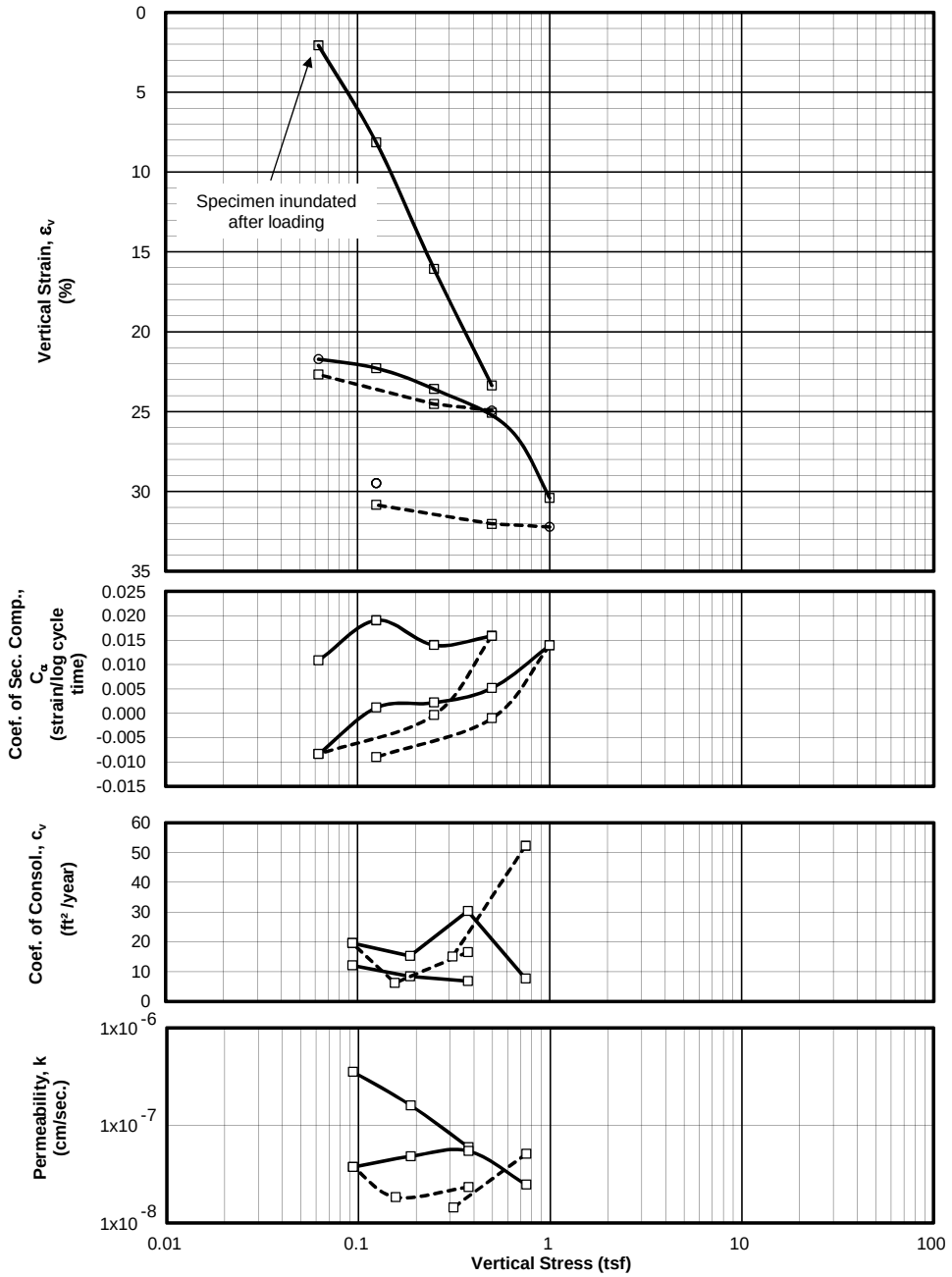
SPECIMEN DESCRIPTION: OH, black organic silt

Load Frame No.: 3

Ring Diameter: 2.5 inch

G	LL	PL	PI
2	73	60	13

Load No.	Load (tsf)	d_{100} (inch)	t_{100} Strain (%)	t_{100} Void Ratio (-)	Final Strain (%)	Final Void Ratio (-)	c_v (ft^2/year)	C_α (strain/logt)	Constrained Modulus (tsf)	Permeability (cm/sec)
1	0.063	0.0132	2.124	1.954	2.799	1.933	58.61	0.0055	2.94	6.01E-07
2	0.125	0.0394	6.344	1.826	7.872	1.780	32.29	0.0145	1.48	6.58E-07
3	0.250	0.0708	11.392	1.674	14.587	1.578	45.47	0.0165	2.48	5.54E-07
4	0.500	0.1101	17.714	1.483	20.410	1.402	21.61	0.0143	3.95	1.65E-07
5	0.250	0.1271	20.440	1.401	20.296	1.405	19.09	-0.0008	9.17	6.28E-08
6	0.063	0.1104	17.767	1.482	17.333	1.495	4.04	-0.0056	7.01	1.74E-08
7	0.125	0.1092	17.574	1.487	17.783	1.481	205.57	0.0010	32.37	1.92E-07
8	0.250	0.1174	18.893	1.448	19.231	1.437	28.18	0.0029	9.48	8.97E-08
9	0.500	0.1256	20.211	1.408	21.610	1.366	171.72	0.0048	18.98	2.73E-07
10	1.00	0.1494	24.027	1.293	25.154	1.259	19.84	0.0125	13.10	4.57E-08
11	2.00	0.1870	30.091	1.110	31.378	1.071	18.86	0.0140	16.49	3.45E-08
12	4.00	0.2291	36.861	0.905	38.454	0.857	8.93	0.0095	29.54	9.12E-09
13	2.00	0.2378	38.260	0.863	38.163	0.866	20.78	-0.0008	143.05	4.38E-09
14	0.500	0.2269	36.503	0.916	36.358	0.921	4.25	-0.0019	85.40	1.50E-09
15	0.125	0.2175	34.988	0.962	33.781	0.998	2.64	-0.0142	24.75	3.21E-09



SAMPLE INFORMATION

Boring:	GC-B-002
Sample:	U-1C
Depth:	1.50 feet
Elevation:	
Type:	3-inch thin wall tube
Description:	OH, black organic silt

LL = 105, PL = 55, PI = 50

SPECIMEN INFORMATION

(NOTE: Initial and final states refer to beginning and end of test)

Initial height:	0.62	inch
Diameter:	2.50	inch

Initial water content:	126.1	%
Initial total unit weight:	82.4	pcf
Initial dry unit weight:	36.5	pcf
Initial void ratio:	2.937	
Initial degree of saturation:	99	%
Final water content:	87.2	%
Final total unit weight:	89.4	pcf
Final dry unit weight:	47.7	pcf
Final void ratio:	2.009	
Final degree of saturation:	100	% (assumed specific gravity = 2.30)

TEST SUMMARY

Construction Method:	Casagrande (Log)
Estimated preconsolidation stress (tsf):	0.3 (Range: 0.2 to 0.5)
Estimated in situ effective overburden stress (tsf):	
Compression Ratio (strain per log cycle stress):	0.234
Compression Index (void ratio per log cycle stress):	0.921
Swell Ratio (strain per log cycle stress):	0.031
Swell Index (void ratio per log cycle stress):	0.122
Recompression Ratio (strain per log cycle stress):	0.028
Recompression Index (void ratio per log cycle stress):	0.110
Remarks:	

LEGEND: □ End of primary o End of Stage ——— Loading - - - - - - - Unloading

Test Date: 10/10/12 Tested By: TK/CMJ Checked By: GET

GEI Consultants Project No. 09301-0-1016	Gowanus Canal Superfund Site	ONE DIMENSIONAL CONSOLIDATION TEST Boring: GC-B-002 Depth: 1.50 feet
TerraSense, LLC	Project No. 7960-12008	December 2012

PROJECT:	Gowanus Canal					
PROJECT NO.:	7960-12008	Initial height:	0.615 inch	Final height:	0.470 inch	
BORING:	GC-B-002	Initial water content:	126.1 %	Final water content:	87.2 %	
SAMPLE:	U-1C	Initial dry density:	36.5 pcf	Final dry density:	47.7 pcf	
TEST:	C12158	Initial total density:	82.4 pcf	Final total density:	89.4 pcf	
DEPTH, feet:	1.5	Initial saturation:	99 %	Final saturation:	100 %	
BY:	TK/CMJ	Initial void ratio:	2.937	Final void ratio:	2.009	
TEST DATE:	10/10/2012			Final strain:	23.6 %	

EQUIPMENT:

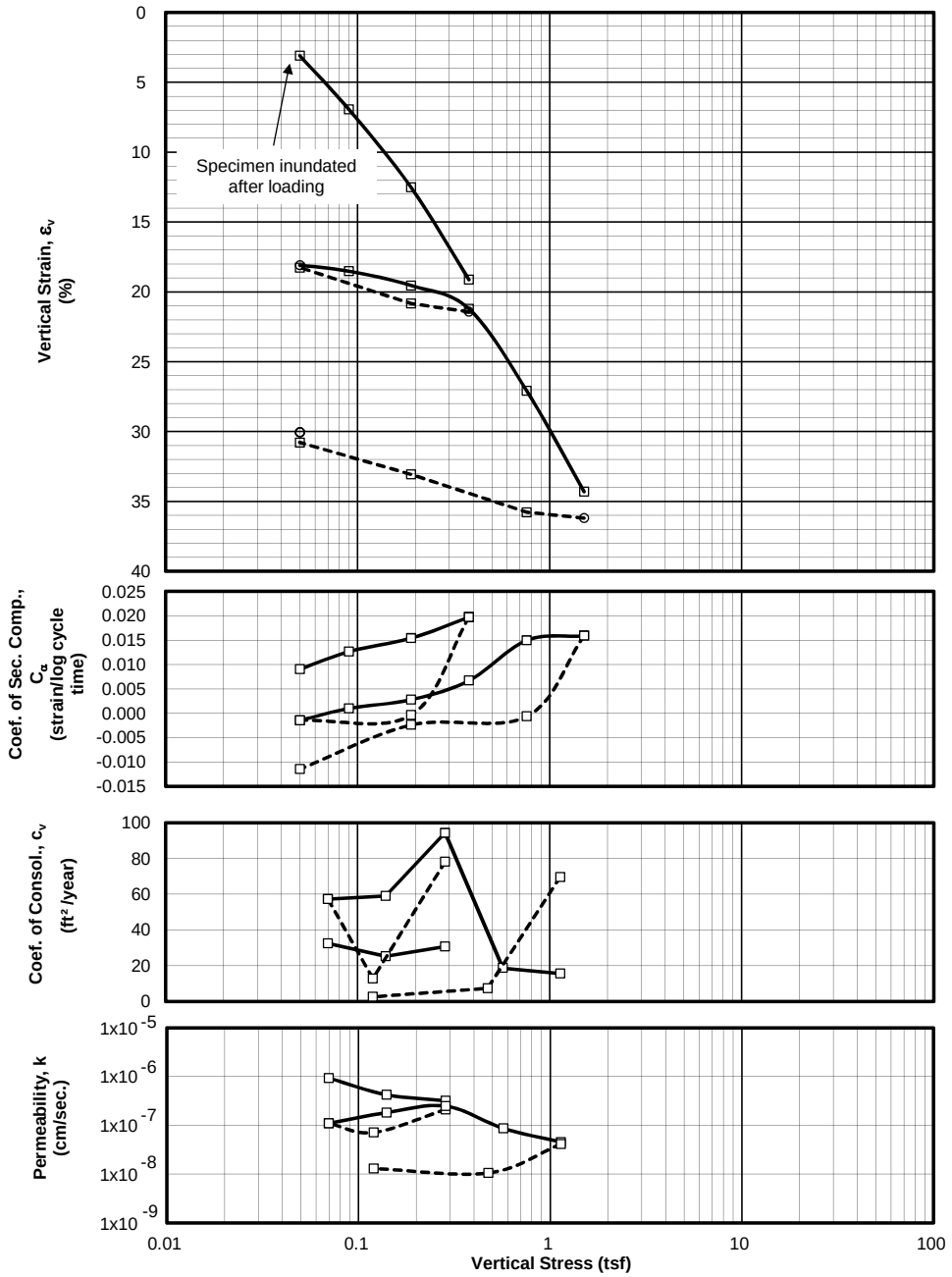
SPECIMEN DESCRIPTION: OH, black organic silt

Load Frame No.: 6

Ring Diameter: 2.5 inch

G	LL	PL	PI
2.3	105	55	50

Load No.	Load (tsf)	d_{100} (inch)	t_{100} Strain (%)	t_{100} Void Ratio (-)	Final Strain (%)	Final Void Ratio (-)	c_v (ft²/year)	C_α (strain/logt)	Constrained Modulus (tsf)	Permeability (cm/sec)
1	0.063	0.0127	2.065	2.856	3.290	2.808	51.76	0.0108	3.03	5.16E-07
2	0.125	0.0501	8.146	2.617	10.096	2.540	12.07	0.0191	1.03	3.54E-07
3	0.250	0.0988	16.068	2.305	17.840	2.235	8.38	0.0140	1.58	1.60E-07
4	0.500	0.1437	23.363	2.017	24.933	1.956	6.78	0.0159	3.43	5.97E-08
5	0.250	0.1509	24.531	1.971	24.489	1.973	16.53	-0.0004	21.42	2.33E-08
6	0.063	0.1395	22.676	2.045	21.721	2.082	6.14	-0.0084	10.11	1.83E-08
7	0.125	0.1371	22.281	2.060	22.378	2.056	19.57	0.0011	15.82	3.73E-08
8	0.250	0.1451	23.588	2.009	23.995	1.993	15.25	0.0022	9.56	4.81E-08
9	0.500	0.1543	25.081	1.950	25.780	1.922	30.29	0.0051	16.74	5.46E-08
10	1.00	0.1871	30.412	1.740	32.218	1.669	7.67	0.0139	9.38	2.47E-08
11	0.500	0.1970	32.026	1.676	31.875	1.682	52.24	-0.0011	30.96	5.09E-08
12	0.125	0.1897	30.838	1.723	29.476	1.777	15.02	-0.0090	31.55	1.44E-08



SAMPLE INFORMATION

Boring:	GC-B-002
Sample:	U-2B
Depth:	2.70 feet
Elevation:	
Type:	3-inch thin wall tube
Description:	OH, black organic silt; fibers noted

SPECIMEN INFORMATION

(NOTE: Initial and final states refer to beginning and end of test)

Initial height:	0.61	inch
Diameter:	2.50	inch

Initial water content:	133.5	%
Initial total unit weight:	78.7	pcf
Initial dry unit weight:	33.7	pcf
Initial void ratio:	2.964	
Initial degree of saturation:	96	%
Final water content:	84.4	%
Final total unit weight:	87.7	pcf
Final dry unit weight:	47.6	pcf
Final void ratio:	1.808	
Final degree of saturation:	100	% (assumed specific gravity = 2.14)

TEST SUMMARY

Construction Method:	Casagrande (Log)
Estimated preconsolidation stress (tsf):	0.3 (Range: 0.2 to 0.3)
Estimated in situ effective overburden stress (tsf):	
Compression Ratio (strain per log cycle stress):	0.253
Compression Index (void ratio per log cycle stress):	1.003
Swell Ratio (strain per log cycle stress):	0.045
Swell Index (void ratio per log cycle stress):	0.178
Recompression Ratio (strain per log cycle stress):	0.034
Recompression Index (void ratio per log cycle stress):	0.135
Remarks:	

LEGEND: □ End of primary o End of Stage ——— Loading - - - - - - - Unloading

Test Date: 10/9/12 Tested By: TK/CMJ Checked By: GET

GEI Consultants Project No. 09301-0-1016	Gowanus Canal Superfund Site	ONE DIMENSIONAL CONSOLIDATION TEST Boring: GC-B-002 Depth: 2.70 feet
TerraSense, LLC	Project No. 7960-12008	December 2012

PROJECT:	Gowanus Canal					
PROJECT NO.:	7960-12008	Initial height:	0.614 inch	Final height:	0.435 inch	
BORING:	GC-B-002	Initial water content:	133.5 %	Final water content:	84.4 %	
SAMPLE:	U-2B	Initial dry density:	33.7 pcf	Final dry density:	47.6 pcf	
TEST:	C12155	Initial total density:	78.7 pcf	Final total density:	87.7 pcf	
DEPTH, feet:	2.7	Initial saturation:	96 %	Final saturation:	100 %	
BY:	TK/CMJ	Initial void ratio:	2.964	Final void ratio:	1.808	
TEST DATE:	10/9/2012			Final strain:	29.2 %	

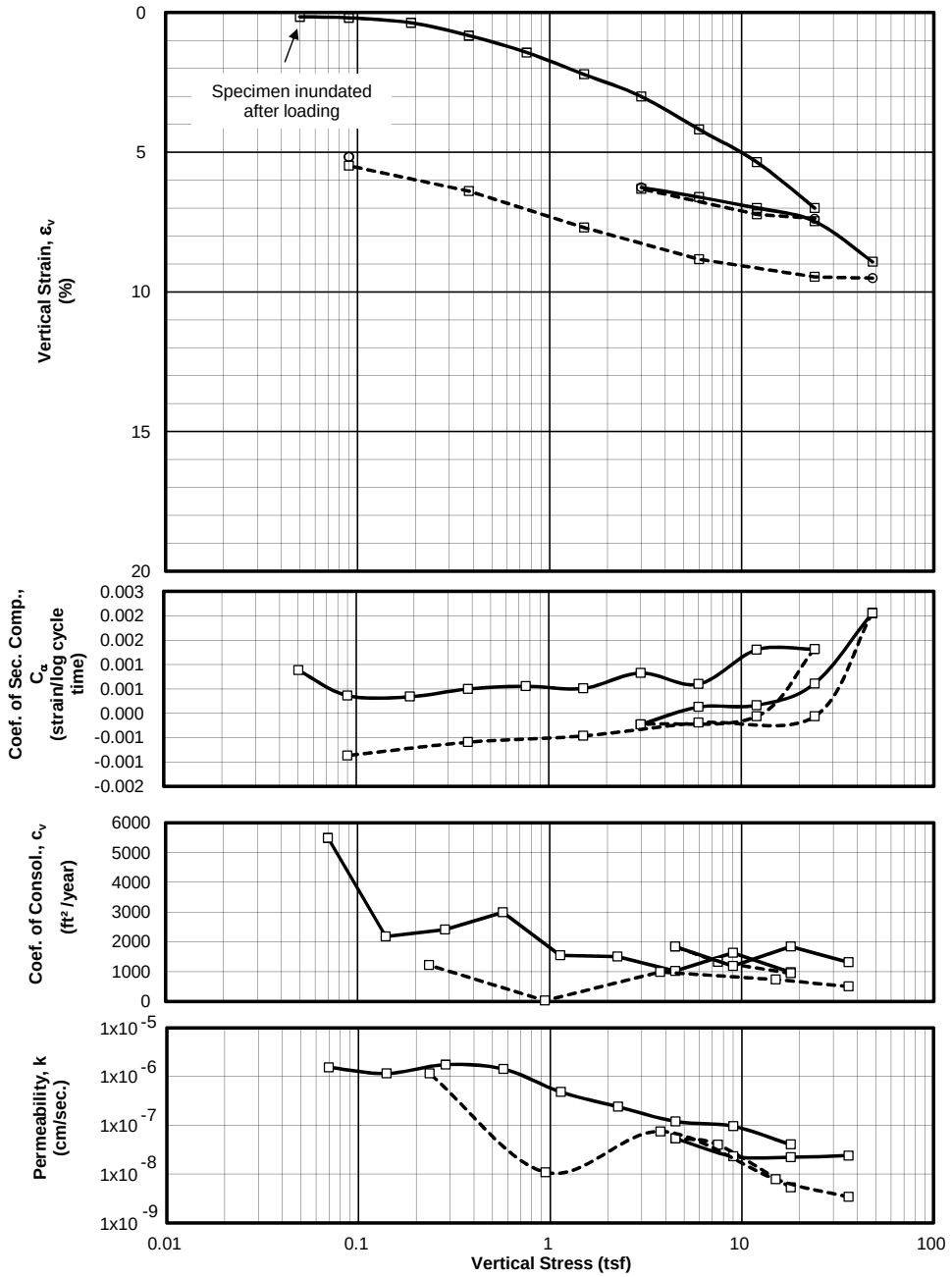
EQUIPMENT: SPECIMEN DESCRIPTION: OH, black organic silt; fibers noted

Load Frame No.: 1

Ring Diameter: 2.5 inch

G	LL	PL	PI
2.14			

Load No.	Load (tsf)	d_{100} (inch)	t_{100} Strain (%)	t_{100} Void Ratio (-)	Final Strain (%)	Final Void Ratio (-)	c_v (ft²/year)	C_α (strain/logt)	Constrained Modulus (tsf)	Permeability (cm/sec)
1	0.050	0.0191	3.109	2.841	4.522	2.785	54.83	0.0090	1.61	1.03E-06
2	0.090	0.0426	6.940	2.689	9.292	2.596	32.40	0.0126	1.04	9.36E-07
3	0.190	0.0770	12.532	2.467	14.144	2.404	25.17	0.0154	1.79	4.25E-07
4	0.380	0.1176	19.137	2.206	21.429	2.115	30.68	0.0197	2.88	3.22E-07
5	0.190	0.1281	20.846	2.138	20.808	2.139	78.06	-0.0004	11.12	2.12E-07
6	0.050	0.1122	18.266	2.240	18.099	2.247	12.82	-0.0015	5.43	7.13E-08
7	0.090	0.1138	18.520	2.230	18.675	2.224	57.22	0.0010	15.75	1.10E-07
8	0.190	0.1201	19.549	2.189	19.929	2.174	58.92	0.0028	9.71	1.83E-07
9	0.380	0.1303	21.216	2.123	23.229	2.043	94.22	0.0067	11.40	2.49E-07
10	0.760	0.1664	27.086	1.890	28.664	1.828	18.63	0.0150	6.47	8.68E-08
11	1.51	0.2108	34.302	1.604	36.188	1.530	15.63	0.0159	10.39	4.54E-08
12	0.760	0.2198	35.771	1.546	35.649	1.551	69.48	-0.0007	51.07	4.10E-08
13	0.190	0.2032	33.071	1.653	32.895	1.660	7.36	-0.0024	21.11	1.05E-08
14	0.050	0.1891	30.785	1.744	30.038	1.773	2.64	-0.0115	6.12	1.30E-08



SAMPLE INFORMATION

Boring:	GC-B-004
Sample:	U-2B
Depth:	2.75 feet
Elevation:	
Type:	3-inch thin wall tube
Description:	CL-ML, light green-brown silt

LL = 27, PL = 21, PI = 6

SPECIMEN INFORMATION

(NOTE: Initial and final states refer to beginning and end of test)

Initial height:	0.62	inch
Diameter:	2.50	inch

Initial water content:	25.8	%
Initial total unit weight:	122.9	pcf
Initial dry unit weight:	97.7	pcf
Initial void ratio:	0.731	
Initial degree of saturation:	96	%
Final water content:	25.2	%
Final total unit weight:	125.8	pcf
Final dry unit weight:	100.5	pcf
Final void ratio:	0.684	
Final degree of saturation:	100	%

(assumed specific gravity = 2.71)

TEST SUMMARY

Construction Method:	Casagrande (Log)
Estimated preconsolidation stress (tsf):	5.0 (Range: 2.3 to 7.9)
Estimated in situ effective overburden stress (tsf):	
Compression Ratio (strain per log cycle stress):	0.064
Compression Index (void ratio per log cycle stress):	0.111
Swell Ratio (strain per log cycle stress):	0.015
Swell Index (void ratio per log cycle stress):	0.026
Recompression Ratio (strain per log cycle stress):	0.013
Recompression Index (void ratio per log cycle stress):	0.023
Remarks:	

LEGEND: □ End of primary o End of Stage ——— Loading - - - - - - - Unloading

Test Date: 10/9/12 Tested By: TK/CMJ Checked By: GET

GEI Consultants Project No. 09301-0-1016	Gowanus Canal Superfund Site	ONE DIMENSIONAL CONSOLIDATION TEST Boring: GC-B-004 Depth: 2.75 feet
TerraSense, LLC	Project No. 7960-12008	December 2012

PROJECT:	Gowanus Canal						
PROJECT NO.:	7960-12008	Initial height:	0.616	inch	Final height:	0.599	inch
BORING:	GC-B-004	Initial water content:	25.8	%	Final water content:	25.2	%
SAMPLE:	U-2B	Initial dry density:	97.7	pcf	Final dry density:	100.5	pcf
TEST:	C12154	Initial total density:	122.9	pcf	Final total density:	125.8	pcf
DEPTH, feet:	2.75	Initial saturation:	96	%	Final saturation:	100	%
BY:	TK/CMJ	Initial void ratio:	0.731		Final void ratio:	0.684	
TEST DATE:	10/9/2012				Final strain:	2.7	%

EQUIPMENT:

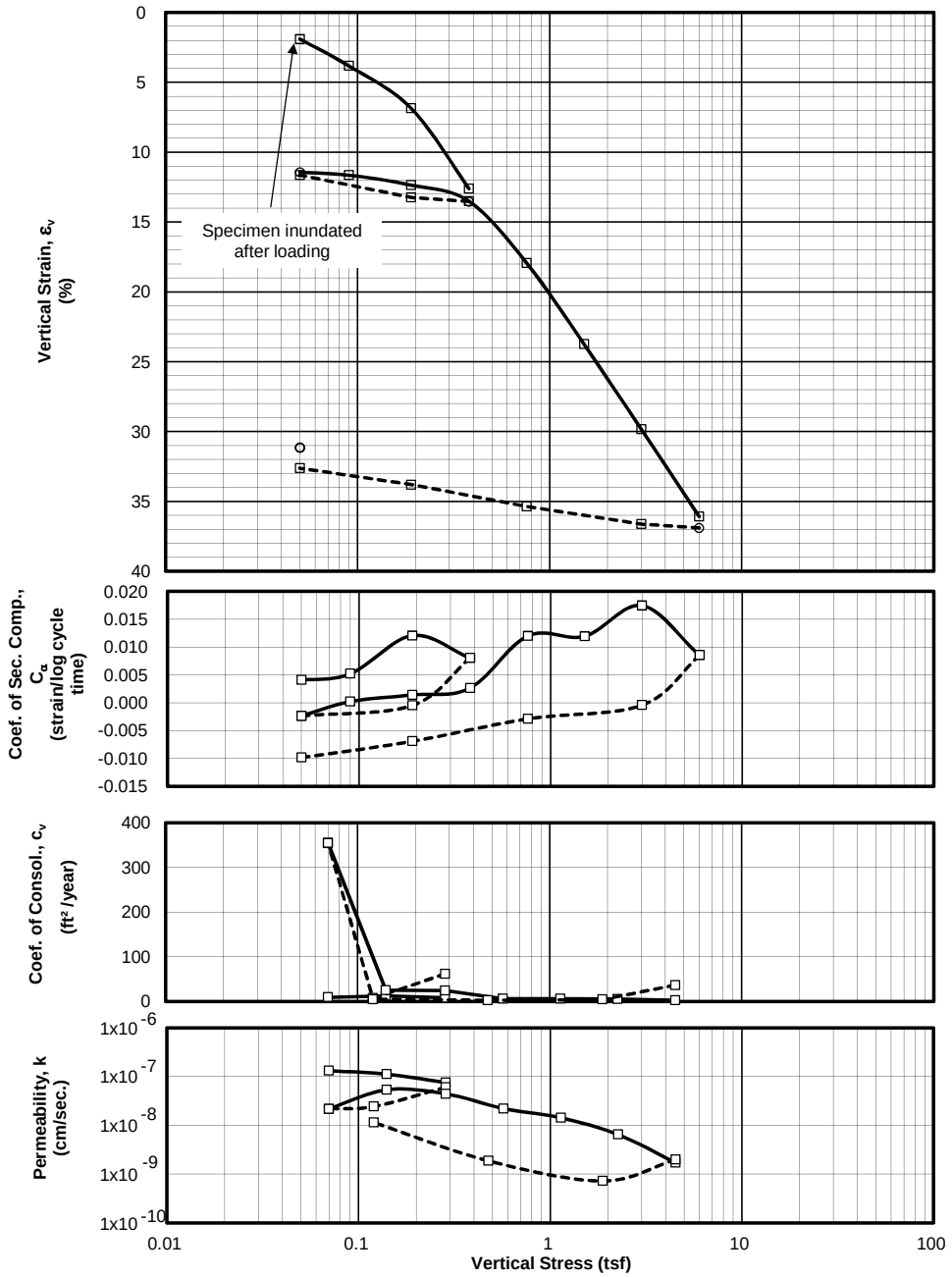
Load Frame No.: 2

Ring Diameter: 2.5 inch

SPECIMEN DESCRIPTION: CL-ML, light green-brown silt

G	LL	PL	PI
2.71	27	21	6

Load No.	Load (tsf)	d_{100} (inch)	t_{100} Strain (%)	t_{100} Void Ratio (-)	Final Strain (%)	Final Void Ratio (-)	c_v (ft²/year)	C_α (strain/logt)	Constrained Modulus (tsf)	Permeability (cm/sec)
1	0.050	0.0010	0.158	0.728	0.274	0.726	30.46	0.0009	31.71	2.90E-08
2	0.090	0.0012	0.195	0.728	0.362	0.725	5488.08	0.0004	106.61	1.55E-06
3	0.190	0.0023	0.372	0.725	0.458	0.723	2178.75	0.0003	56.62	1.16E-06
4	0.380	0.0051	0.831	0.717	0.967	0.714	2412.47	0.0005	41.36	1.76E-06
5	0.760	0.0089	1.437	0.706	1.641	0.703	2986.58	0.0006	62.73	1.44E-06
6	1.51	0.0137	2.219	0.693	2.382	0.690	1544.43	0.0005	95.86	4.86E-07
7	3.00	0.0185	3.010	0.679	3.230	0.675	1506.13	0.0008	188.48	2.41E-07
8	6.00	0.0258	4.188	0.659	4.403	0.655	1019.16	0.0006	254.57	1.21E-07
9	12.0	0.0330	5.357	0.638	5.722	0.632	1628.66	0.0013	513.24	9.57E-08
10	24.0	0.0432	7.004	0.610	7.381	0.603	974.36	0.0013	728.68	4.03E-08
11	12.0	0.0445	7.227	0.606	7.211	0.606	943.45	-0.0001	5384.89	5.29E-09
12	3.00	0.0389	6.321	0.622	6.266	0.623	1321.39	-0.0002	993.24	4.01E-08
13	6.00	0.0407	6.611	0.617	6.636	0.616	1839.72	0.0001	1033.67	5.37E-08
14	12.0	0.0431	7.001	0.610	7.047	0.609	1183.26	0.0002	1538.73	2.32E-08
15	24.0	0.0461	7.477	0.602	7.647	0.599	1844.75	0.0006	2520.28	2.21E-08
16	48.0	0.0550	8.928	0.577	9.513	0.566	1315.32	0.0021	1654.60	2.40E-08
17	24.0	0.0583	9.467	0.567	9.457	0.567	500.04	-0.0001	4446.48	3.39E-09
18	6.00	0.0544	8.833	0.578	8.789	0.579	737.69	-0.0002	2835.94	7.85E-09
19	1.51	0.0475	7.701	0.598	7.566	0.600	988.70	-0.0005	396.72	7.52E-08
20	0.380	0.0394	6.399	0.620	6.292	0.622	31.36	-0.0006	86.82	1.09E-08
21	0.090	0.0338	5.489	0.636	5.169	0.642	1220.61	-0.0009	31.85	1.16E-06



SAMPLE INFORMATION

Boring:	GC-B-005
Sample:	U-5B
Depth:	15.50 feet
Elevation:	
Type:	3-inch thin wall tube
Description:	OL, black silt w/ oil

SPECIMEN INFORMATION

(NOTE: Initial and final states refer to beginning and end of test)

Initial height:	0.62	inch
Diameter:	2.50	inch

Initial water content:	69.7	%
Initial total unit weight:	88.3	pcf
Initial dry unit weight:	52.0	pcf
Initial void ratio:	1.460	
Initial degree of saturation:	98	%

Final water content:	36.1	%
Final total unit weight:	100.1	pcf
Final dry unit weight:	73.5	pcf
Final void ratio:	0.741	
Final degree of saturation:	100	%

(assumed specific gravity = 2.05)

TEST SUMMARY

Construction Method:	Casagrande (Log)
Estimated preconsolidation stress (tsf):	0.4 (Range: 0.3 to 0.5)
Estimated in situ effective overburden stress (tsf):	
Compression Ratio (strain per log cycle stress):	0.206
Compression Index (void ratio per log cycle stress):	0.507
Swell Ratio (strain per log cycle stress):	0.028
Swell Index (void ratio per log cycle stress):	0.069
Recompression Ratio (strain per log cycle stress):	0.022
Recompression Index (void ratio per log cycle stress):	0.054
Remarks:	

LEGEND: □ End of primary o End of Stage ——— Loading - - - - - - - Unloading

Test Date: 10/9/12 Tested By: TK/CMJ Checked By: GET

GEI Consultants Project No. 09301-0-1016	Gowanus Canal Superfund Site	ONE DIMENSIONAL CONSOLIDATION TEST Boring: GC-B-005 Depth: 15.50 feet
TerraSense, LLC	Project No. 7960-12008	December 2012

PROJECT:	Gowanus Canal					
PROJECT NO.:	7960-12008	Initial height:	0.618 inch	Final height:	0.437 inch	
BORING:	GC-B-005	Initial water content:	69.7 %	Final water content:	36.1 %	
SAMPLE:	U-5B	Initial dry density:	52.0 pcf	Final dry density:	73.5 pcf	
TEST:	C12153	Initial total density:	88.3 pcf	Final total density:	100.1 pcf	
DEPTH, feet:	15.5	Initial saturation:	98 %	Final saturation:	100 %	
BY:	TK/CMJ	Initial void ratio:	1.460	Final void ratio:	0.741	
TEST DATE:	10/9/2012			Final strain:	29.2 %	

EQUIPMENT: SPECIMEN DESCRIPTION: OL, black silt w/ oil

Load Frame No.: 3

Ring Diameter: 2.5 inch

G	LL	PL	PI
2.05			

Load No.	Load (tsf)	d_{100} (inch)	t_{100} Strain (%)	t_{100} Void Ratio (-)	Final Strain (%)	Final Void Ratio (-)	c_v (ft^2/year)	C_α (strain/logt)	Constrained Modulus (tsf)	Permeability (cm/sec)
1	0.050	0.0118	1.911	1.413	2.372	1.401	28.28	0.0041	2.62	3.26E-07
2	0.090	0.0237	3.835	1.365	4.338	1.353	9.16	0.0052	2.08	1.33E-07
3	0.190	0.0424	6.862	1.291	8.178	1.259	12.29	0.0121	3.30	1.12E-07
4	0.380	0.0780	12.622	1.149	13.548	1.127	8.22	0.0080	3.30	7.52E-08
5	0.190	0.0818	13.243	1.134	13.195	1.135	61.38	-0.0005	30.57	6.06E-08
6	0.050	0.0720	11.645	1.173	11.444	1.178	7.06	-0.0024	8.76	2.43E-08
7	0.090	0.0720	11.653	1.173	11.705	1.172	354.47	0.0002	489.06	2.19E-08
8	0.190	0.0764	12.363	1.156	12.507	1.152	25.06	0.0014	14.07	5.37E-08
9	0.380	0.0836	13.520	1.127	13.794	1.120	24.22	0.0026	16.42	4.45E-08
10	0.760	0.1109	17.948	1.018	19.252	0.986	6.31	0.0120	8.58	2.22E-08
11	1.51	0.1467	23.743	0.876	25.346	0.836	6.15	0.0119	12.94	1.43E-08
12	3.00	0.1843	29.828	0.726	31.409	0.687	5.28	0.0175	24.49	6.50E-09
13	6.00	0.2229	36.074	0.572	36.901	0.552	2.74	0.0085	48.03	1.72E-09
14	3.00	0.2263	36.619	0.559	36.584	0.560	36.14	-0.0004	550.61	1.98E-09
15	0.760	0.2185	35.358	0.590	35.033	0.598	4.27	-0.0029	177.68	7.24E-10
16	0.190	0.2089	33.799	0.628	33.191	0.643	2.27	-0.0069	36.56	1.87E-09
17	0.050	0.2016	32.617	0.657	31.145	0.694	4.52	-0.0099	11.85	1.15E-08

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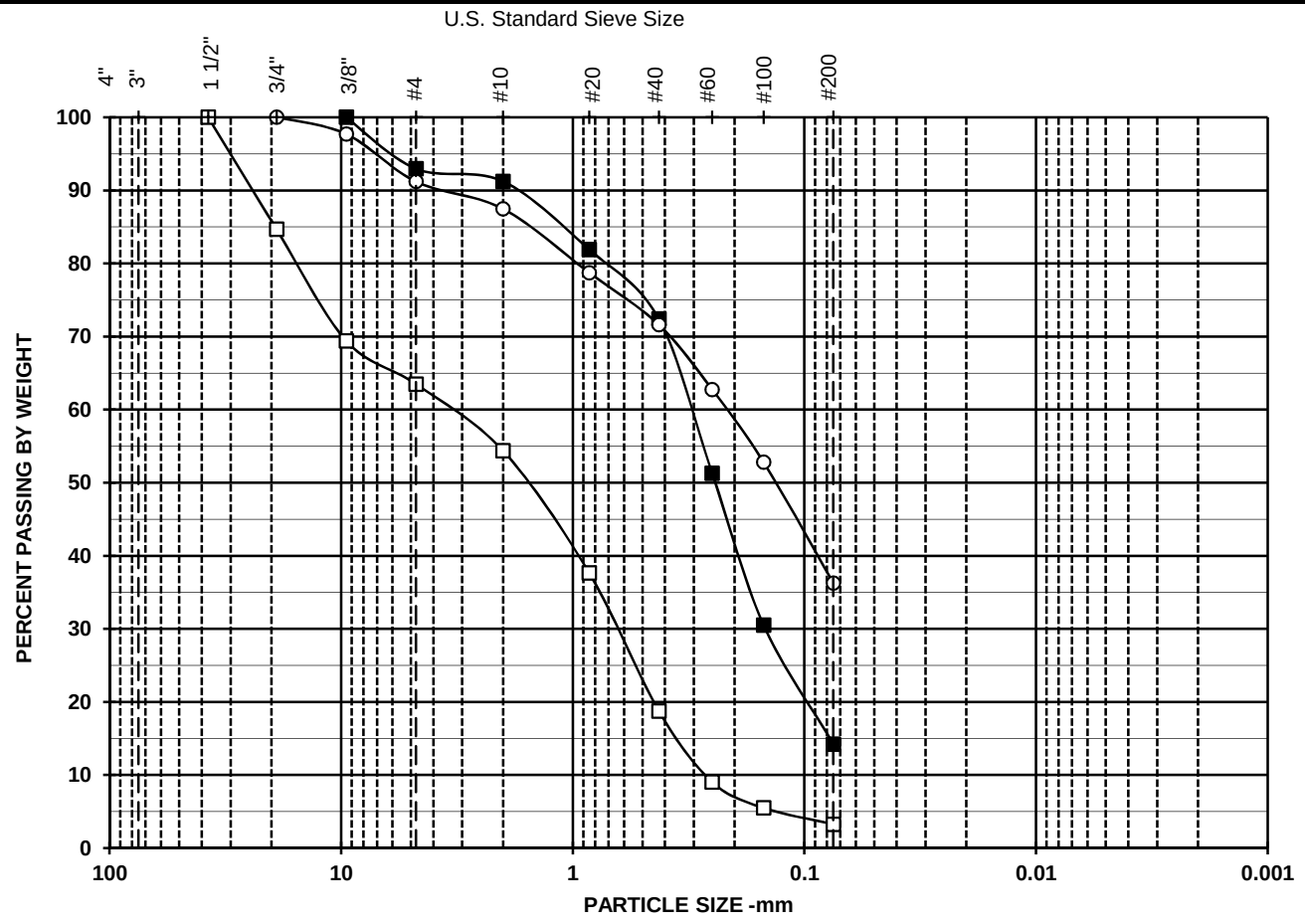
Gowanus Canal Superfund Site
LABORATORY TESTING DATA SUMMARY

BORING NO.	SAMPLE NO.	DEPTH (ft)	IDENTIFICATION TESTS				REMARKS
			WATER CONTENT (%)	USCS SYMB. (1)	SIEVE MINUS NO. 200 (%)	ORGANIC CONTENT (burnoff) (%)	
GC-B-001	S-1	10-12	10.2	SP	3.2	4.4	
GC-B-003	S-2	5-10	18.6	SM	14.2	3.3	
GC-B-003	S-3	10-12	20.0	SM	36.3	5.1	
GC-B-004	S-2	10-12	18.2	SP-SM	9.0	1.1	
GC-B-005	S-1	5-7	86.1	SM	34.7	13.5	
GC-B-005	S-2	20-22	24.4	SP	4.2		

Note: (1) USCS symbol based on visual observation and Sieve reported.

COBBLES	GRAVEL		SAND			SILT OR CLAY
	COARSE	FINE	COARSE	MEDIUM	FINE	



Symbol	□	■	○
Boring	GC-B-001	GC-B-003	GC-B-003
Sample	S-1	S-2	S-3
Depth	10-12	5-10	10-12
% +3"	0.0	0.0	0.0
% Gravel	36.5	7.1	8.8
% SAND	60.3	78.7	54.9
%C SAND	9.1	1.7	3.7
%M SAND	35.6	18.8	15.8
%F SAND	15.5	58.2	35.4
% FINES	3.2	14.2	36.3
% -2μ			
D_{100} (mm)	37.50	9.50	19.00
D_{60} (mm)	3.70	0.32	0.22
D_{30} (mm)	0.68	0.15	
D_{10} (mm)	0.27		
Cc	0.5		
Cu	13.8		

Particle Size	PERCENT FINER		
(Sieve #)	□	■	○
4"			
3"			
1 1/2"	100.0		
3/4"	84.7		100.0
3/8"	69.4	100.0	97.7
4	63.5	92.9	91.2
10	54.4	91.2	87.5
20	37.7	81.9	78.7
40	18.8	72.4	71.6
60	9.0	51.3	62.7
100	5.5	30.5	52.8
200	3.2	14.2	36.3

SYMBOL	w (%)	LL	PL	PI	USCS	DESCRIPTION AND REMARKS	Date Tested
□	10.2				SP	Gray, Poorly graded sand with gravel	11/7/2012
■	18.6				SM	Gray, Silty sand	11/7/2012
○	20.0				SM	Gray, Silty sand	11/7/2012

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7960-12013	09301-0 task 1606

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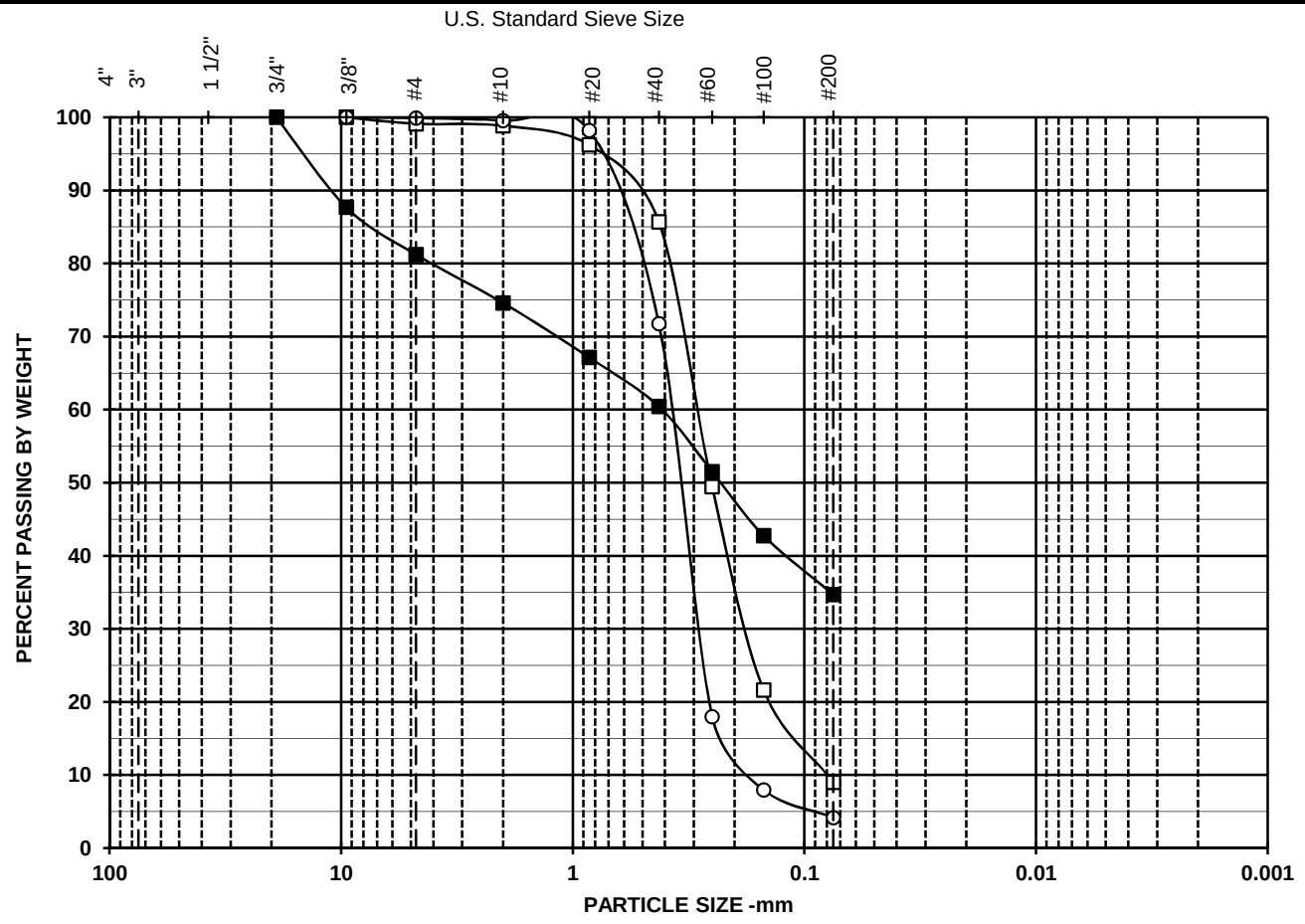
Gowanus Canal Superfund Site

COBBLES	GRAVEL		SAND			SILT OR CLAY
	COARSE	FINE	COARSE	MEDIUM	FINE	



Symbol	□	■	○
Boring	GC-B-004	GC-B-005	GC-B-005
Sample	S-2	S-1	S-2
Depth	10-12	5-7	20-22
% +3"	0.0	0.0	0.0
% Gravel	0.9	18.8	0.1
% SAND	90.1	46.5	95.7
%C SAND	0.3	6.6	0.4
%M SAND	13.1	14.2	27.8
%F SAND	76.7	25.7	67.6
% FINES	9.0	34.7	4.2
% -2μ			
D_{100} (mm)	9.50	19.00	9.50
D_{60} (mm)	0.30	0.42	0.39
D_{30} (mm)	0.18		0.29
D_{10} (mm)	0.08		0.17
Cc	1.3		1.3
Cu	3.7		2.3

Particle Size	PERCENT FINER		
(Sieve #)	□	■	○
4"			
3"			
1 1/2"			
3/4"		100.0	
3/8"	100.0	87.7	100.0
4	99.1	81.2	99.9
10	98.8	74.6	99.5
20	96.2	67.1	98.2
40	85.7	60.4	71.8
60	49.5	51.5	18.0
100	21.6	42.7	8.0
200	9.0	34.7	4.2

SYMBOL	w (%)	LL	PL	PI	USCS	DESCRIPTION AND REMARKS	Date Tested
□	18.2				SP-SM	Gray, Poorly-graded sand with silt	11/7/2012
■	86.1				SM	Gray, Silty sand with gravel	11/7/2012
○	24.4				SP	Gray, Poorly graded sand	11/7/2012

TerraSense, LLC

7960-12013

GEI Consultants, Inc.

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PARTICLE SIZE DISTRIBUTION

Gowanus Canal Superfund Site

Appendix D

Geotechnical Investigation of Gowanus Canal Sediments: NAPL Expression

April 1, 2013

From: Danny D. Reible, Chadi El Mohtar, Mintae Kim, Alexandre Martinez

To: GEI Consultants, Inc.
400 Unicorn Park Drive
Woburn, MA 01801

Re: **Geotechnical Investigation of Gowanus Canal Sediments: NAPL Expression**

Summary

Selected sediments samples from the Gowanus Canal were subjected to geotechnical testing for potential NAPL expression. The testing followed the methodology of Erten et al. (2011)[1]. The samples were selected on the basis of measurable NAPL content (based upon PID readings from sonic cores in the same interval) and location near the interface of the "soft" and "native" sediments in the Canal. The sediments that may be exposed after dredging and that will require capping to contain sediment contaminants. The purpose of the testing was to determine the potential for NAPL expression.

Of the three samples, two samples were fine-grained material containing 9-15% hexane extractible material (HEM, EPA Method 9071B) divided by total sample weight) or 20-32% HEM per dry solids, and one was more sandy material containing approximately 3% HEM (total basis), 4% HEM (dry solids basis). HEM is used here as a surrogate for NAPL content although HEM may overpredict NAPL content if there is significant extractible organic material in the samples. All samples were subjected to loadings equivalent to up to 10 feet of sand in five stages. No samples released meaningful quantities of NAPL as a result of this loading. One sample with a higher content of NAPL did release a non-measurable trace quantity of NAPL during loading. Significantly, no substantial NAPL was expressed even though the samples were subjected to volumetric strains (volume reduction during consolidation) of 16-18% of the fine-grained samples and 2.5-5% of the coarser samples.

This testing indicates that the methodology of Erten et al. (2011) may be used for NAPL expression testing in these sediments and that the NAPL present in the sediment samples is at a residual saturation that is unlikely to be mobilized by loading with the weight of a sediment cap. The trace amounts of NAPL expressed in one sample suggests that disturbance can release small amounts of material that could ultimately lead to sheens. Further testing is required to confirm whether these conclusions are generally applicable in the Canal.

[1] Erten, M.B., R. Gilbert, C.S. El Mohtar, D.D. Reible, Development of a laboratory procedure to evaluate the consolidation potential of soft contaminated sediments, *Geotechnical Testing Journal, 34*, 5, September (2011)

Methodology and Results

Selected sediments samples from the Gowanus Canal were subjected to geotechnical testing for potential NAPL expression. The testing followed the methodology of Erten et al. (2011)[1] which is designed to evaluate the potential for NAPL expression under loadings typical of placement of a sediment cap. Three samples were taken and designated:

- GC-B-002
- GC-B-004
- GC-B-005

These samples were selected based on testing of samples with tar impacts or elevated PID readings in sonic cores over the same tube sample interval and location near the interface of accumulated "soft" sediments and alluvial/sand "native" deposits.

Three eight-inch-long sections were cut from the bottom of each sample core and tested at the University of Texas at Austin. Four triaxial consolidation tests were performed on samples obtained from the three Shelby tubes. Iit should be noted that the tubes were subjected to some disturbance during shipping as a result of shipping while horizontal. As a result, the samples were likely to be less consolidated and the NAPL more mobile than in undisturbed cores.

Characterization of the samples included

- Density and estimated mass of dry solids based on NAPL and Water content
- NAPL, mobile organic contaminant content- Measured via EPA 9071B, Hexane Extractible Material
- Water Content- Measured by drying overnight at 105 C

Measurements were conducted on pre-consolidated samples as well as at the top, middle and bottom of consolidated cores. All measurements were conducted in triplicate although occasional samples were lost or invalidated.

Typically a Ko consolidation test is run to simulate field conditions. In a Ko consolidation test, the vertical and horizontal principle effective stresses are not equal and the ratio between the two is chosen to insure that the specimen consolidates only vertically (no lateral strains). For the soft sediments, the vertical effective stresses are usually higher than the normal effective stresses to insure Ko conditions. With only three samples it was not possible to determine the appropriate Ko value and a value of 0.7 (horizontal to vertical effective stress) was used based on previous results on soft sediment testing. This was likely lower than optimum and one sample (GC-B-005) failed horizontally during testing. Volumetric strain and NAPL displacement can still be determined although other consolidation parameters would not be estimated accurately. These parameters were estimated as part of other geotechnical testing and so this was not considered a serious limitation for the current testing.

The samples were first removed from the tube and trimmed down to the testing diameter of two inches. Figure 1 below shows the early stages of trimming on specimen GC-B-004(p1) obtained from tube GC-B-004. Note the limited presence of contaminants in samples from this tube and the heterogeneity of their distribution. Figure 2 shows specimens GCB-004(P1) and GC-B-002 after being trimmed down to testing diameter. The specimens were then placed in a second

trimming device to cut off the top and bottom to insure they were parallel and perpendicular to the heigh of the specimen (Figure 3).

After trimming, the specimens were placed in the triaxial setup through a split mold (Figure 4a). Before the cell is assembled and testing begins (Figure 4b), bladder accumulaters were used to collect the effluent. General comments about the specimens and consolidation testing performed are as follows:

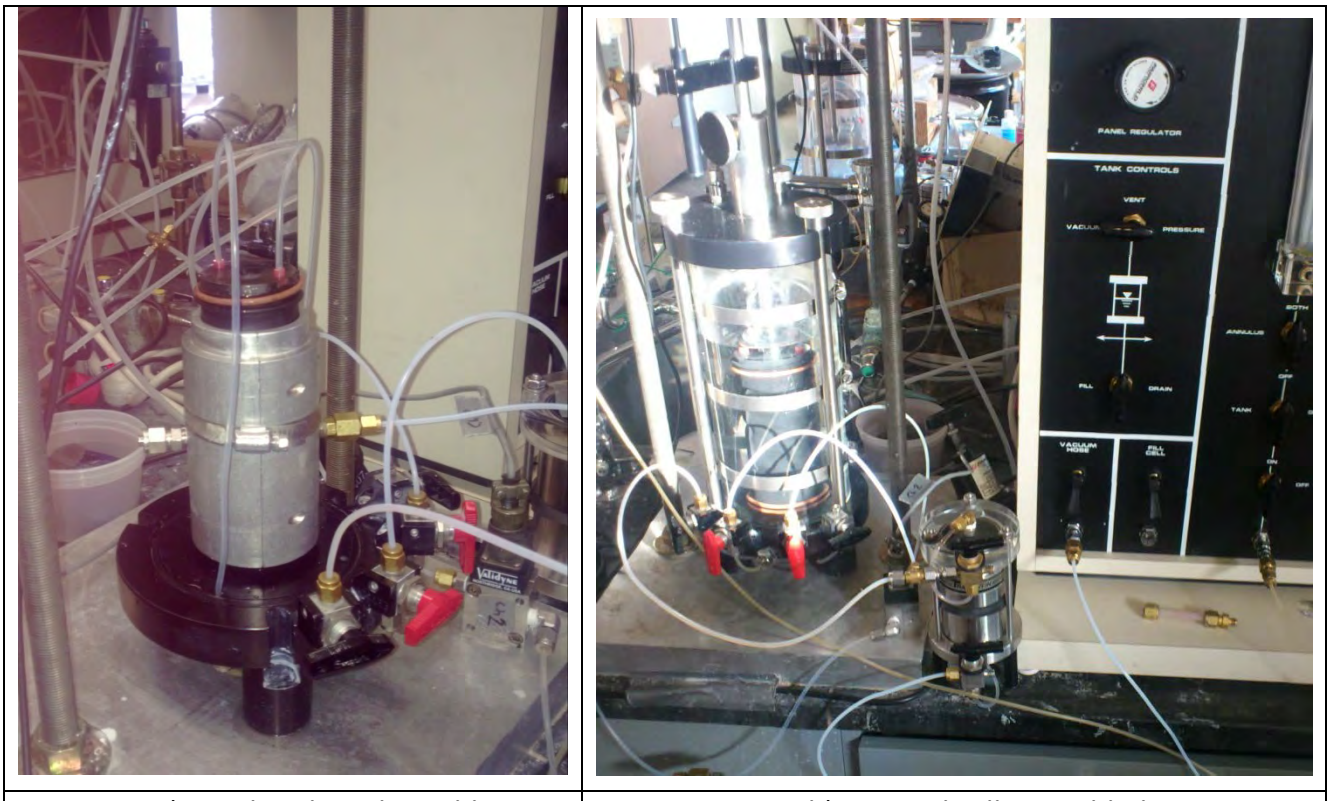
1) The samples cannot be considered undisturbed since they were not stored and shipped properly. Specimen GC-B-002 had traces of contaminents that were already expelled from the specimen due to disturbance during shipping. Since they were not undistubed, there is a higher likelihood that contaminants would be mobile.
2) Samples GC-B-002 and GC-B-005 appeared more contaminated (Figure 2b and 3). Sample GC-B-005 had more "roots" and other debris that made trimming more challenging and eventually resulted in the specimen failing during consolidation.
3) The soil in sample GC-B-004 was light brown with occasional non-uniform pockets of NAPL or other organic rich material (Figure 1). The soil was coarser than that of the other two samples, with a higher sand content.
4) Sample GC-B-002 was tested first. Due to a transducer failure, high precision consolidation information was not recorded although volume changes due to consolidation at regular intervals were recorded manually and analyzed herein.
5) With the limited number of samples, Ko could not be identified and therefore the results reported here should be used with caution as they do not reflect true Ko conditions. Additional tests are needed to determine Ko for these sediments before a true Ko consolidation can be run.

Figure 1: early stages of trimming on specimen GC-B-004(P1)

a) GC-B-004(P1)	b) GC-B-002

Figure 2: specimens trimmed to final diameter of 2”

Figure 3: trimming top and bottom of specimen GC-B-002.



a) Within the split mold | b) Triaxial cell assembled

Figure 4: specimen setup in the triaxial cell.

Consolidation was conducted in five stages as shown in Table 1, exposed sediment and then capped with the equivalent of up to 10 feet of sand in 2.5 foot stages. Water depth (to set hydrostatic pressures) was assumed to be 10 ft. Table 1 summarizes the stresses used for the testing and the equivalent field conditions.

Table 1: lab stresses and equivalent field conditions

Depth to top of specimen (ft)	Thickness of sand cap (ft)	Depth of water to top of specimen (ft)	Horizontal Effective Stress (psi)	Vertical Effective Stress (psi)	Back Pressure (psi)	Horizontal Total Stress (psi)	Vertical Total Stress (psi)
2.5	-	10	0.47	0.68	5.5	5.97	6.18
2.5	2.5	10	1.31	1.88	5.5	6.81	7.38
2.5	5.0	10	2.16	3.09	5.5	7.66	8.59
2.5	7.5	10	2.95	4.21	5.5	8.45	9.71
2.5	10.0	10	3.82	5.45	5.5	9.32	10.95

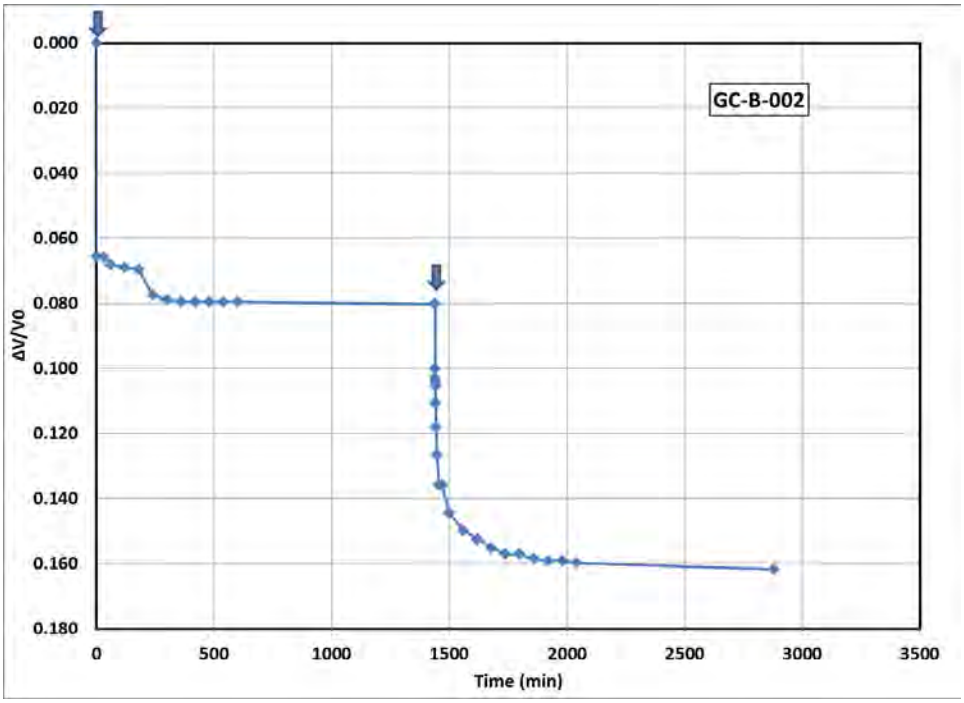
The volumetric strains versus time for each of the specimens and estimated NAPL (as measured by HEM) and water contents are shown in Figures 4-7. In each figure the placement of additional load on the sample is shown by the vertical arrows. For Sample GC-B-002, the maximum load was placed in two steps while for other samples, the load was applied in 5 steps. The fine-grained sediment samples GC-B-002 and GC-B-005 showed >20% initial NAPL contents and water contents in the 70-100% range (mass NAPL or water per mass dry solids). The coarse grained sediment sample GC-B-004-1 and GC-B-004-2 showed initial oil contents of less than 5% and a water content of 25%. There was similar variability as measured by absolute standard deviation between replicates of all samples which meant that the lower NAPL content

of sample GC-B-004 samples exhibited a relatively high relative standard deviation (+/- ~100%). Samples GC-B-002 and GC-B-005 samples showed similar absolute variability but much lower relative variability due to the higher NAPL/HEM contents. The fine grained samples consolidated approximately 16-18% with the loading of the equivalent of 10 feet of sand. The coarser sample consolidated <5%. None of the samples expressed meaningful amounts of NAPL. Trace observations of expressed NAPL however indicate that the sediments could lead to transient sheens if disturbed.

Post-consolidation sampling showed that some redistribution of NAPL and water had occurred in the samples despite negligible NAPL release. Water mobilized to the near surface and water was expressed from the top of the sediment during the consolidation process. NAPL, however, had apparently replaced water at the bottom of the sample. Samples collected post-consolidation from the top of the specimens showed elevated water contents and depleted NAPL levels (as measured by HEM) while bottom samples showed the reverse trends.

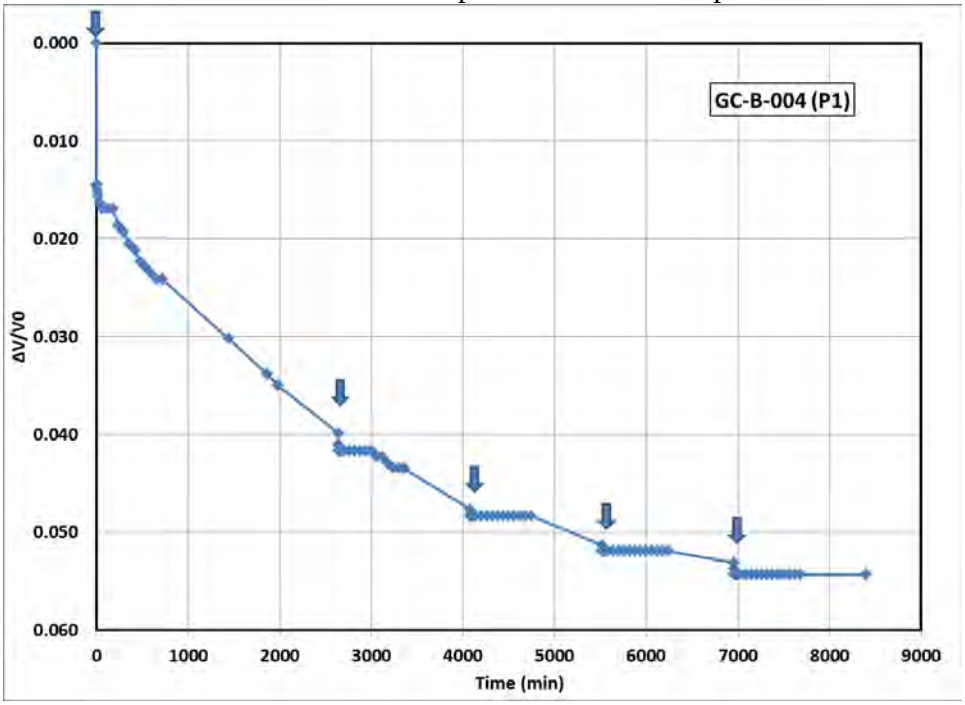
Although this testing was preliminary in nature, it suggests that the NAPL currently present in sediments in the Gowanus Canal is unlikely to be mobilized by capping. Further testing is required to confirm whether these conclusions are generally applicable in the Canal.

Figure 5: Sample GC-B-002 consolidation profile and water/NAPL content statistics pre and post consolidation. The full load of the equivalent of 10 foot of cap was placed in two steps with rapid sample consolidation immediately after application. Total sample strain was 16%. No meaningful NAPL was displaced, only water. NAPL redistributed slightly through the sample with some movement to the bottom of the sample as water was displaced.



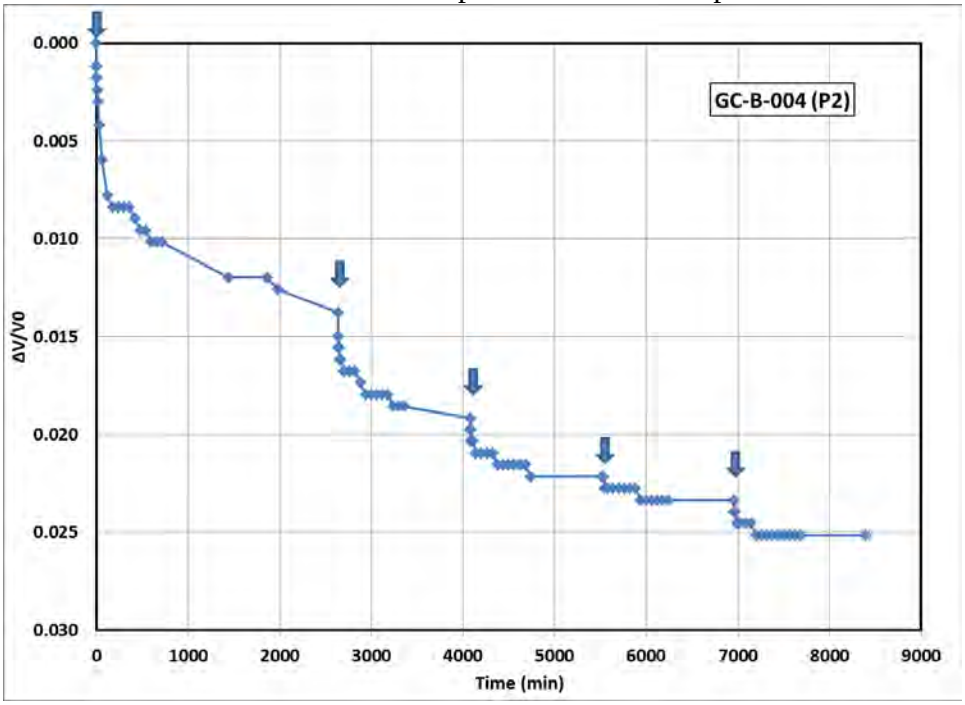
Core GC-B-002			Post Consolidation		
		Undisturbed	Bottom	Middle	Top
Density of sample	(kg/m3)wet sample	1.31	1.33	1.40	1.32
SD	+-	0.10	0.09	0.09	0.04
Water Content	g water/g sample	48.56%	37.79%	38.76%	42.27%
SD	+-	0.65%	6.97%	2.21%	1.29%
% HEM	g HEM/g sample	9.09%	13.55%	11.17%	9.61%
SD	+-	1.99%	1.91%	2.29%	0.28%
Water Content	g water/g dry solid	114.69%	77.67%	77.40%	87.86%
SD	+-	2.19%	10.05%	3.87	1.85
% HEM	g HEM/g dry solid	21.47%	27.86%	22.30%	19.97%
SD	+-	2.88%	7.48%	3.91%	1.36%

Figure 6: Sample GC-B-004-1 consolidation profile and water/NAPL content statistics pre and post consolidation. The full load of the equivalent of 10 foot of cap was placed in five steps with rapid sample consolidation immediately after application. Total sample strain was 5.5% as a result of water displacement. NAPL redistributed slightly through the sample with some movement to the bottom of the sample as water was displaced.



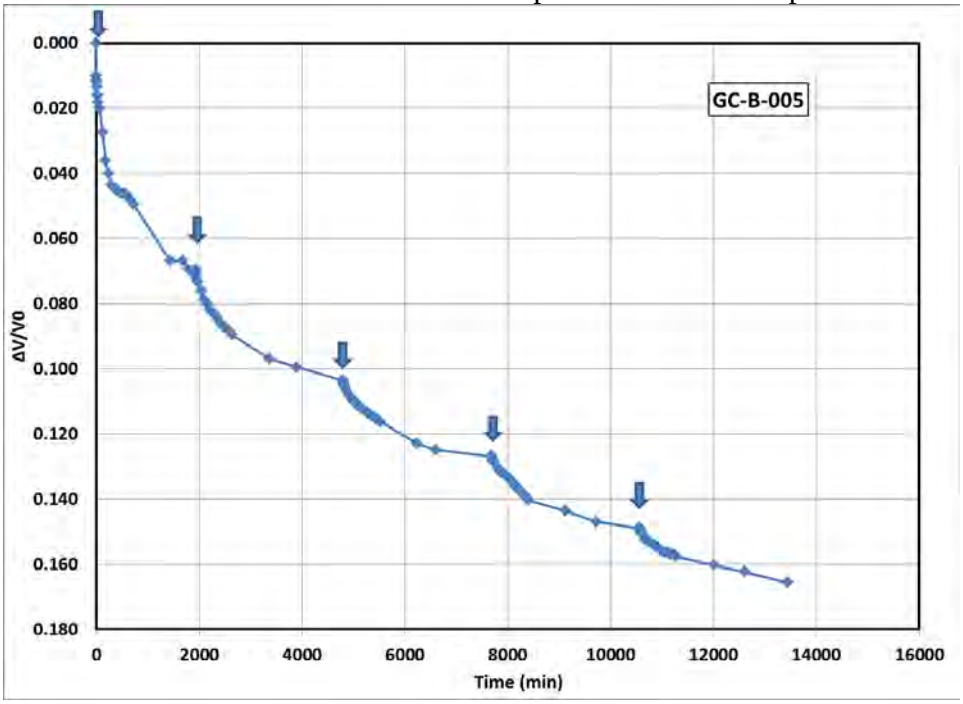
Core II : GC-B-004			Post Consolidation		
		Undisturbed	Bottom	Middle	Top
Density of sample	(kg/m3)wet sample	1.85	1.93	2.23	1.95
SD	+-	0.08	0.03	0.26	0.16
Water Content	g water/g sample	19.82%	10.13%	12.87%	13.90%
SD	+-	0.60%	0.30%	0.69%	0.27%
% HEM	g HEM/g sample	2.81%	4.96%	2.67%	1.64%
SD	+-	3.12%	3.12%	2.36%	0.04%
Water Content	g water/g dry solid	25.61%	11.93%	15.24%	16.46%
SD	+-	3.23%	3.15%	2.56%	0.39%
% HEM	g HEM/g dry solid	3.63%	5.84%	3.16%	1.94%
SD	+-	4.45%	4.42%	3.41%	0.28%

Figure 7: Sample GC-B-004-2 consolidation profile and water/NAPL content statistics pre and post consolidation. The full load of the equivalent of 10 foot of cap was placed in five steps with rapid sample consolidation immediately after application. Total sample strain was 2.5% as a result of water displacement. NAPL redistributed slightly through the sample with some movement to the bottom of the sample as water was displaced.



Core II : GC-B-004			Post Consolidation		
		Undisturbed	Bottom	Middle	Top
Density of sample	(kg/m3)wet sample	1.85	2.03	2.06	2.10
SD	+-	0.08	0.03	0.12	0.06
Water Content	g water/g sample	19.82%	17.95%	16.21%	13.71%
SD	+-	0.60%	0.54%	0.30%	0.09%
% HEM	g HEM/g sample	2.81%	5.65%	2.05%	1.70%
SD	+-	3.12%	1.79%	2.73%	0.75%
Water Content	g water/g dry solid	25.61%	23.49%	19.89%	16.21%
SD	+-	3.23%	1.95%	2.77%	0.76%
% HEM	g HEM/g dry solid	3.63%	7.40%	2.50%	2.02%
SD	+-	4.45%	2.60%	3.88%	1.07%

Figure 8: Sample GC-B-005 consolidation profile and water/NAPL content statistics pre and post consolidation. The full load of the equivalent of 10 foot of cap was placed in five steps with rapid sample consolidation immediately after application. The sample partially collapsed during the test although total sample strain was still measurable. Total sample strain was approximately 16% as a result of water displacement. NAPL redistributed slightly through the sample with some movement to the bottom of the sample as water was displaced.



Core III : GC-B-005			Post Consolidation		
		Undisturbed	Bottom	Middle	Top
Density of sample	(kg/m3)wet sample	1.50	1.18	1.36	1.31
SD	+-	0.05	0.09	0.09	0.03
Water Content	g water/g sample	37.21%	28.90%	33.66%	35.59%
SD	+-	2.74%	3.83%	0.95%	1.98%
% HEM	g HEM/g sample	15.11%*	22.40%	14.77%	15.59%
SD	+-	12.38%*	2.00%	1.79%	2.00%
Water Content	g water/g dry solid	78.08%	59.34%	65.26%	72.88%
SD	+-	12.97%	5.78%	2.24%	3.45%
% HEM	g HEM/g dry solid	31.70%	46.00%	28.63%	31.92%
SD	+-	17.72%	4.76%	2.71%	3.45%

* Pre-consolidation measurements were subject to large variations due to uneven distribution of NAPL, causing equally large variability in water content and HEM/dry solids ratio

Appendix L

RTA 3B figures, prepared for National Grid by GEI Consultants Inc.

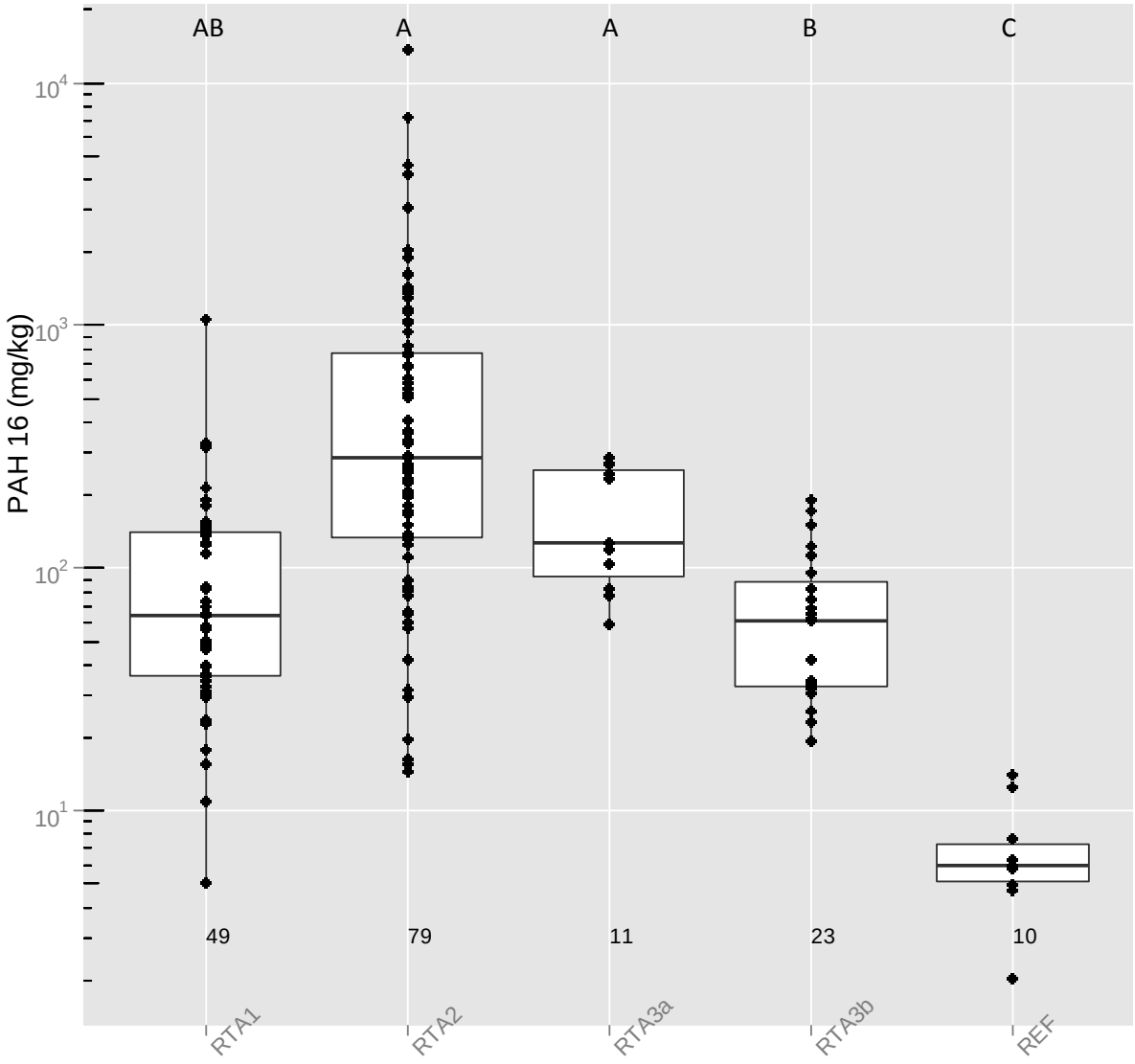


Figure 1. Total PAH_{16} in surface sediments (0 to 6 inches) measured in five sediment sampling events (GEI 2011, 2012a, 2012b, 2012c; CH2M Hill, 2011). Number of samples per group is displayed at bottom of figure. Letters at top indicate analysis of variance and Tukey's pairwise test results; data with the same letters are not significantly different ($p<0.05$ significance level).

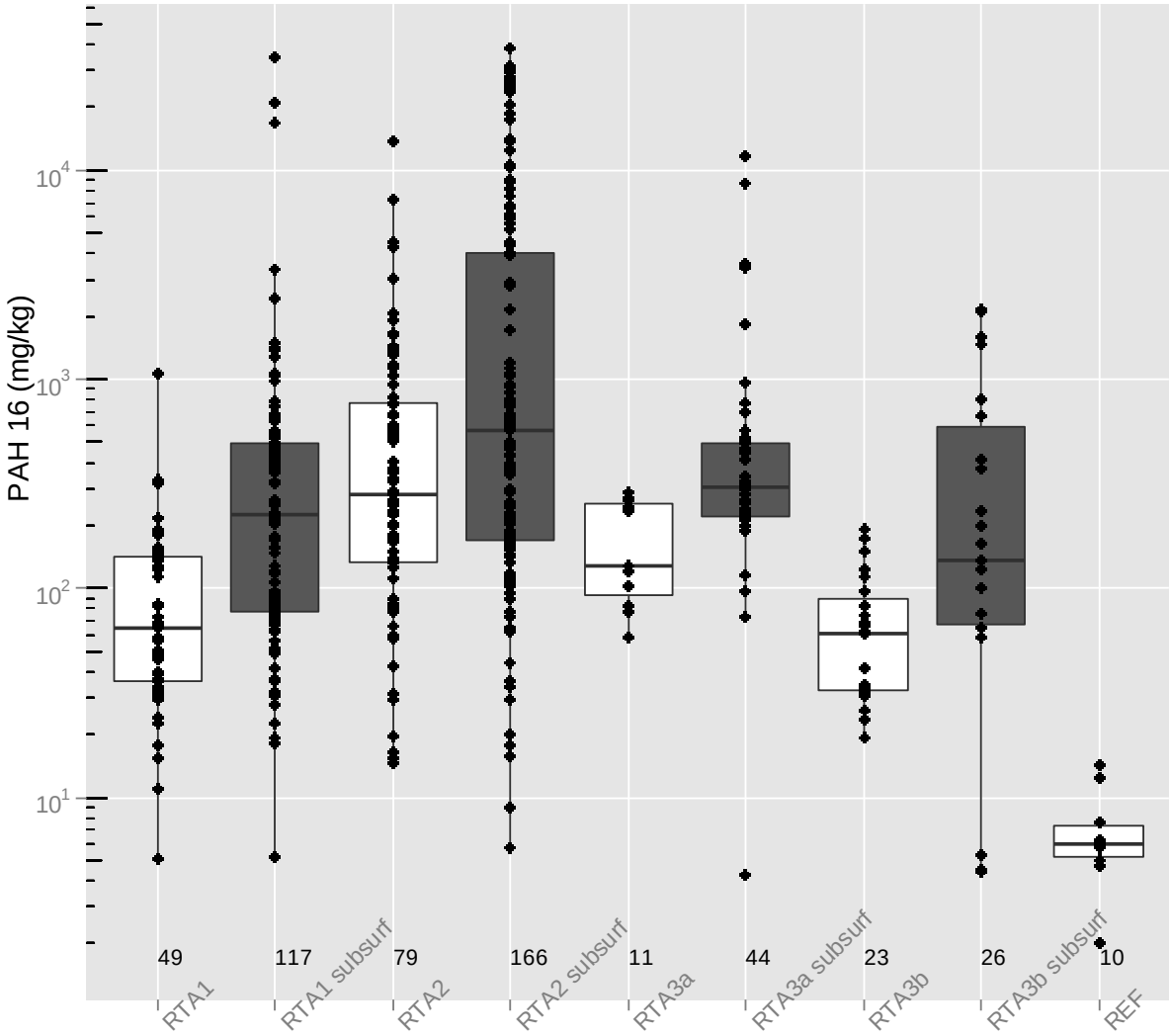


Figure 2. Total PAH_{16} in surface and subsurface sediments measured in six sediment sampling events. All surface data were collected by GEI (2011, 2012a, 2012b, 2012c) and CH2M Hill (2011), and subsurface data were collected by GEI (2007, 2012c). Number of samples per group displayed at bottom of figure.

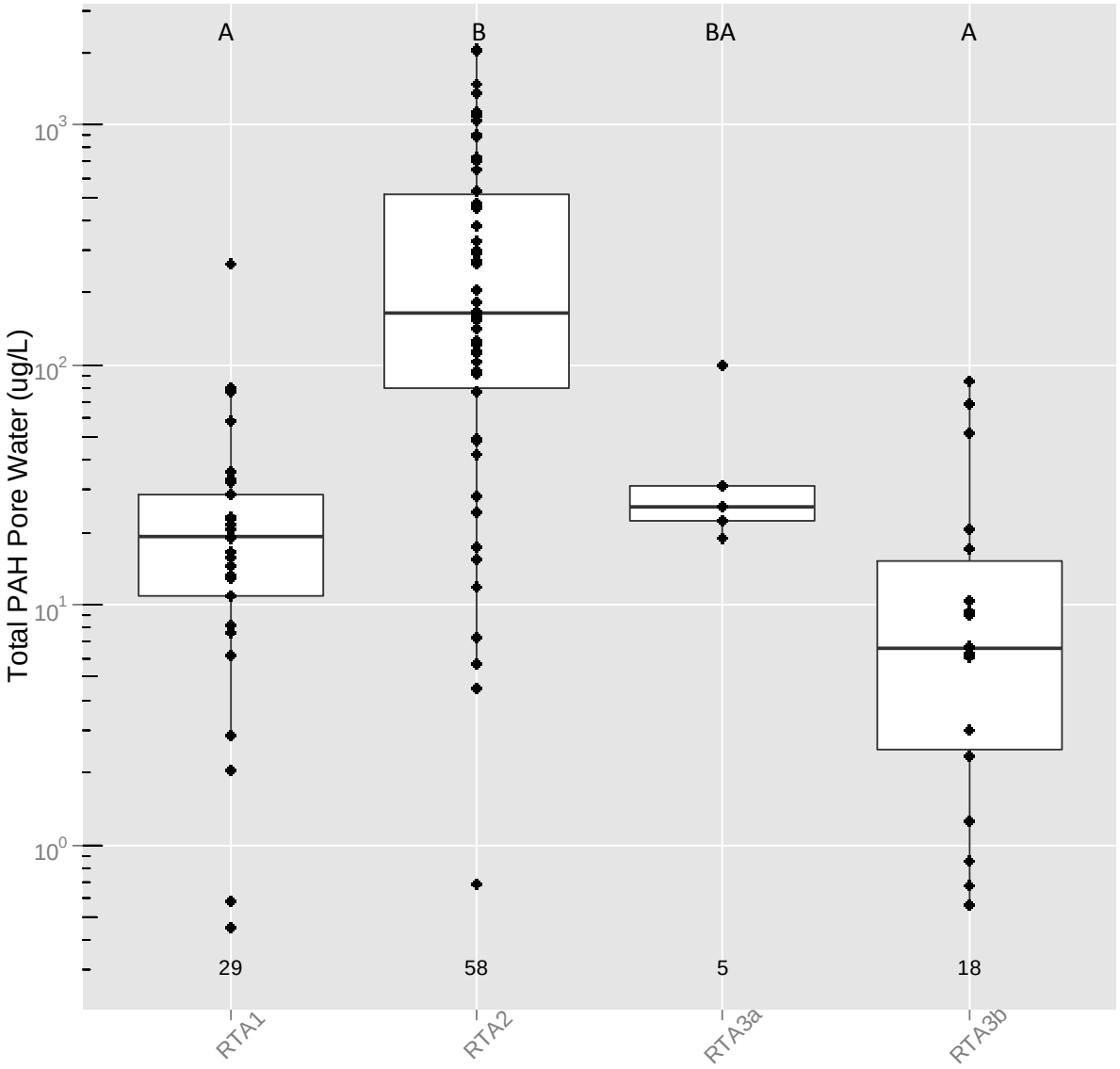


Figure 3. Total PAH_{34} measured in surface sediment pore water samples in each of three GEI (2011, 2012a, 2012b) seasonal sampling events. Number of samples per group displayed at bottom of figure. Letters at top indicate analysis of variance and Tukey's pairwise test results; data with the same letters are not significantly different ($p<0.05$ significance level).

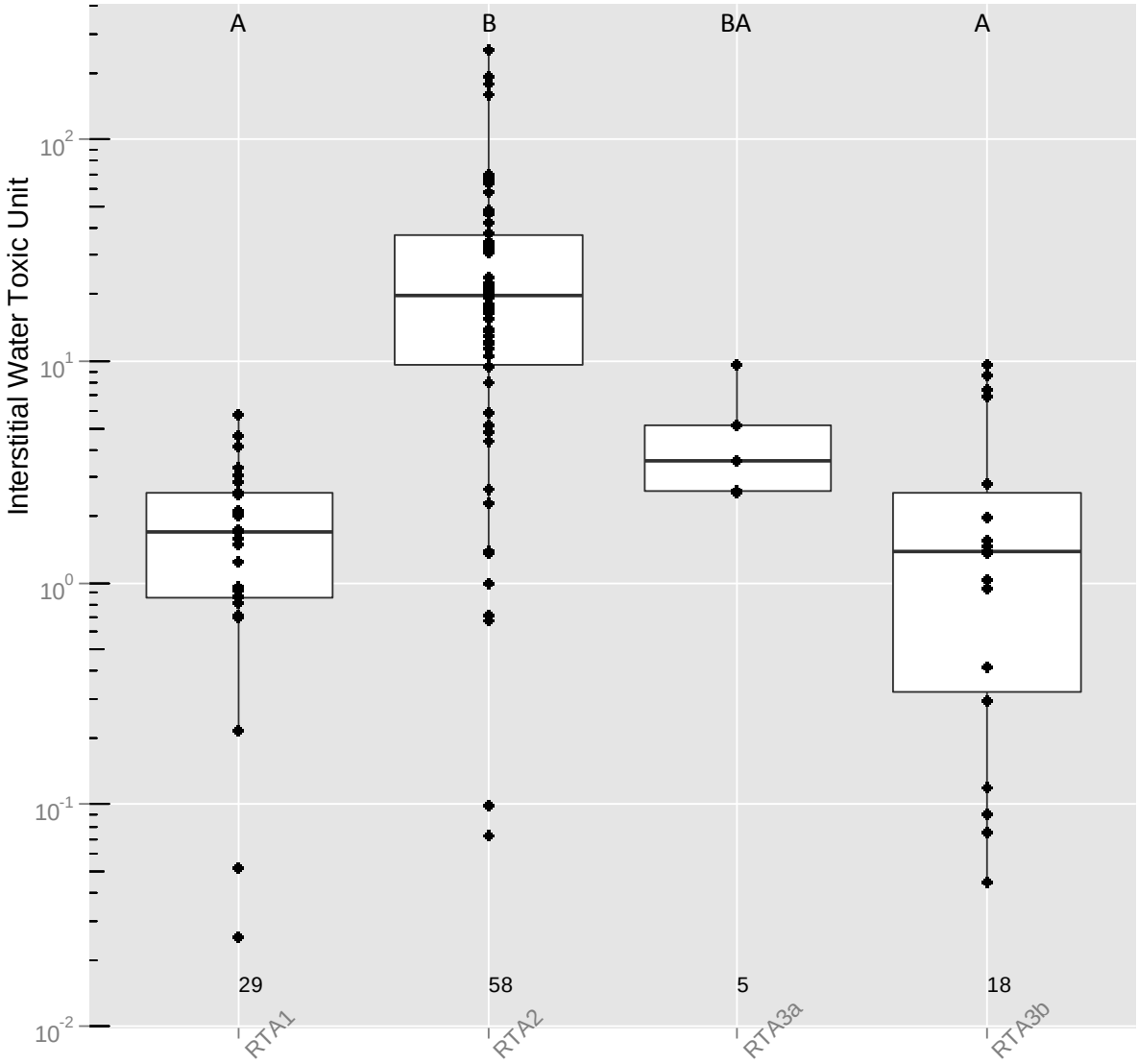


Figure 4. Interstitial water toxic units estimated from Total PAH_{34} in interstitial water; data were measured in surface sediment samples in each of three GEI seasonal sampling events. Number of samples per group displayed at bottom of figure. Letters at top indicate analysis of variance and Tukey's pairwise test results; data with the same letters are not significantly different ($p<0.05$ significance level).

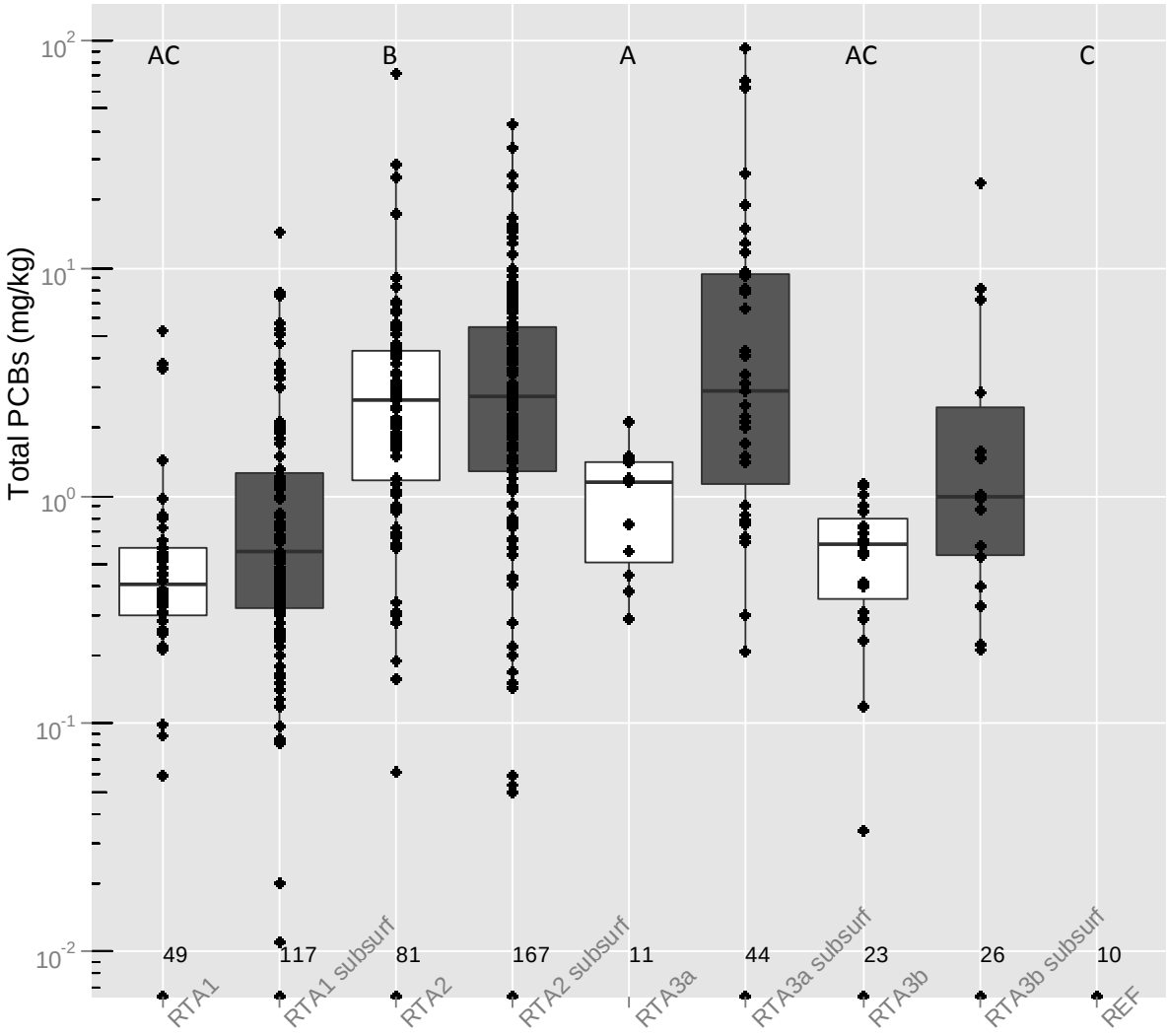


Figure 5. Total PCBs as the sum of measured PCB Aroclors in surface and subsurface sediments measured in six sediment sampling events. All surface data were collected by GEI (2011, 2012a, 2012b, 2012c) and CH2M Hill (2011), and subsurface data were collected by GEI (2007, 2012c). Number of samples per group displayed at bottom of figure. Letters at top indicate analysis of variance and Tukey's pairwise test results (surface samples only); data with the same letters are not significantly different ($p<0.05$ significance level).

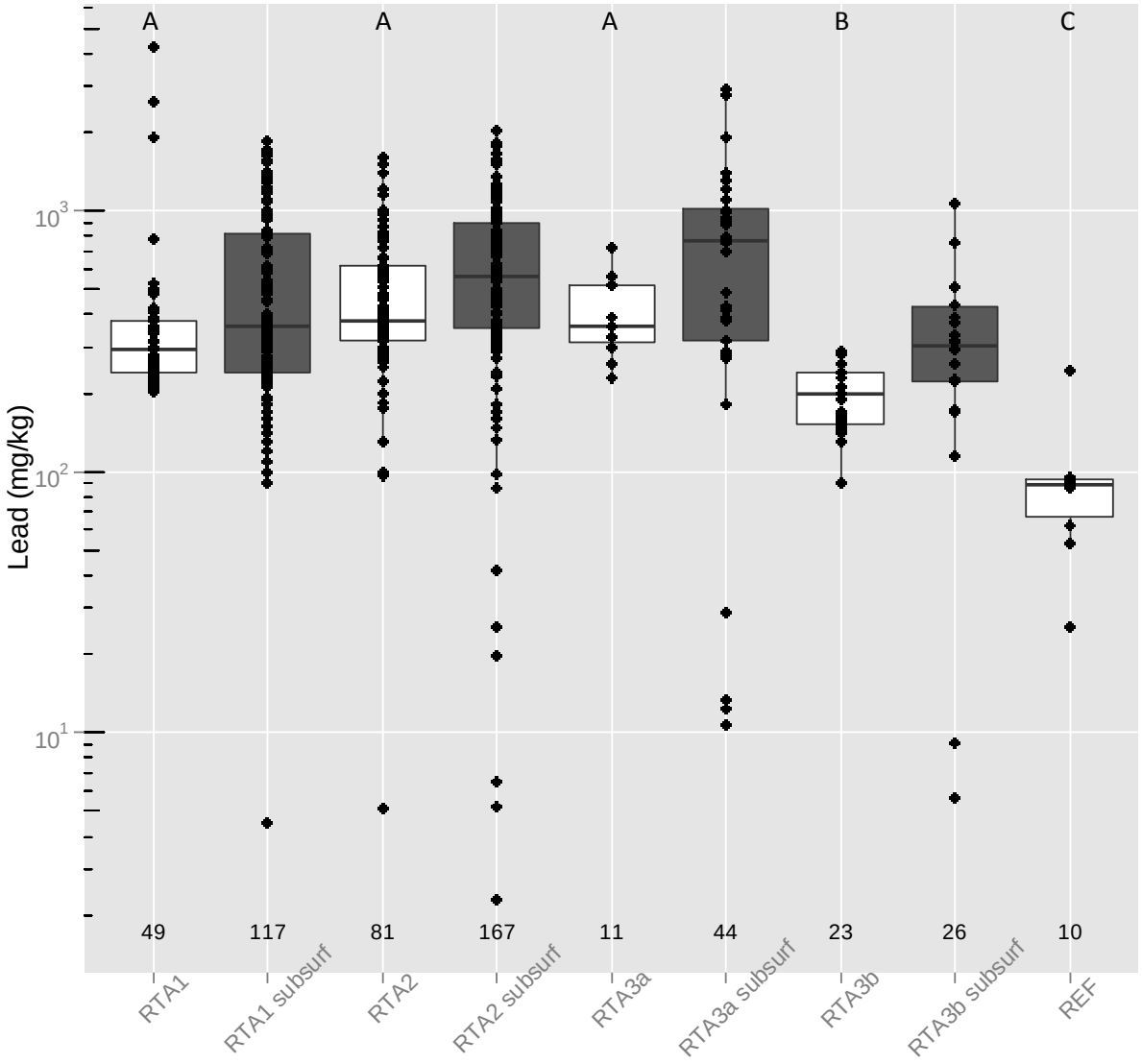


Figure 6. Lead measured in surface and subsurface sediments measured in six sediment sampling events. All subsurface data shown were collected in the GEI RI (2007) and GEI CSO Mound Core Analysis (2012c). Number of samples per group displayed at bottom of figure. Letters at top indicate analysis of variance and Tukey's pairwise test results (surface samples only); data with the same letters are not significantly different ($p<0.05$ significance level).

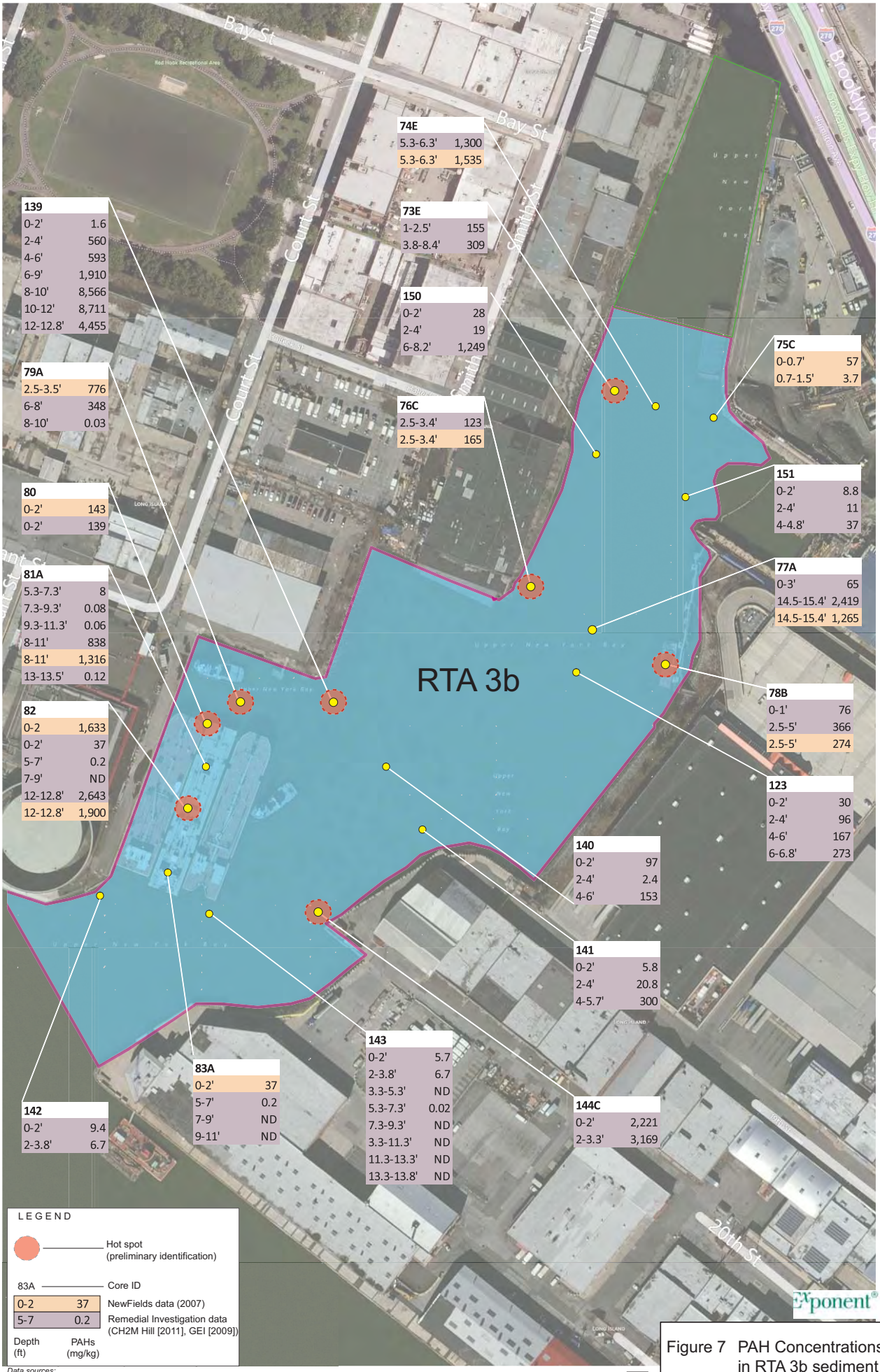


Figure 7 PAH Concentrations in RTA 3b sediment

Data sources:
- NewFields. 2007. Environmental Forensic Investigation, Gowanus Canal, Brooklyn, New York. March.
- GEI Consultants, Inc. 2009. Remedial Investigation Technical Report, Gowanus Canal, Brooklyn, New York.
- CH2M Hill. 2011. Gowanus Canal Remedial Investigation Report. January.

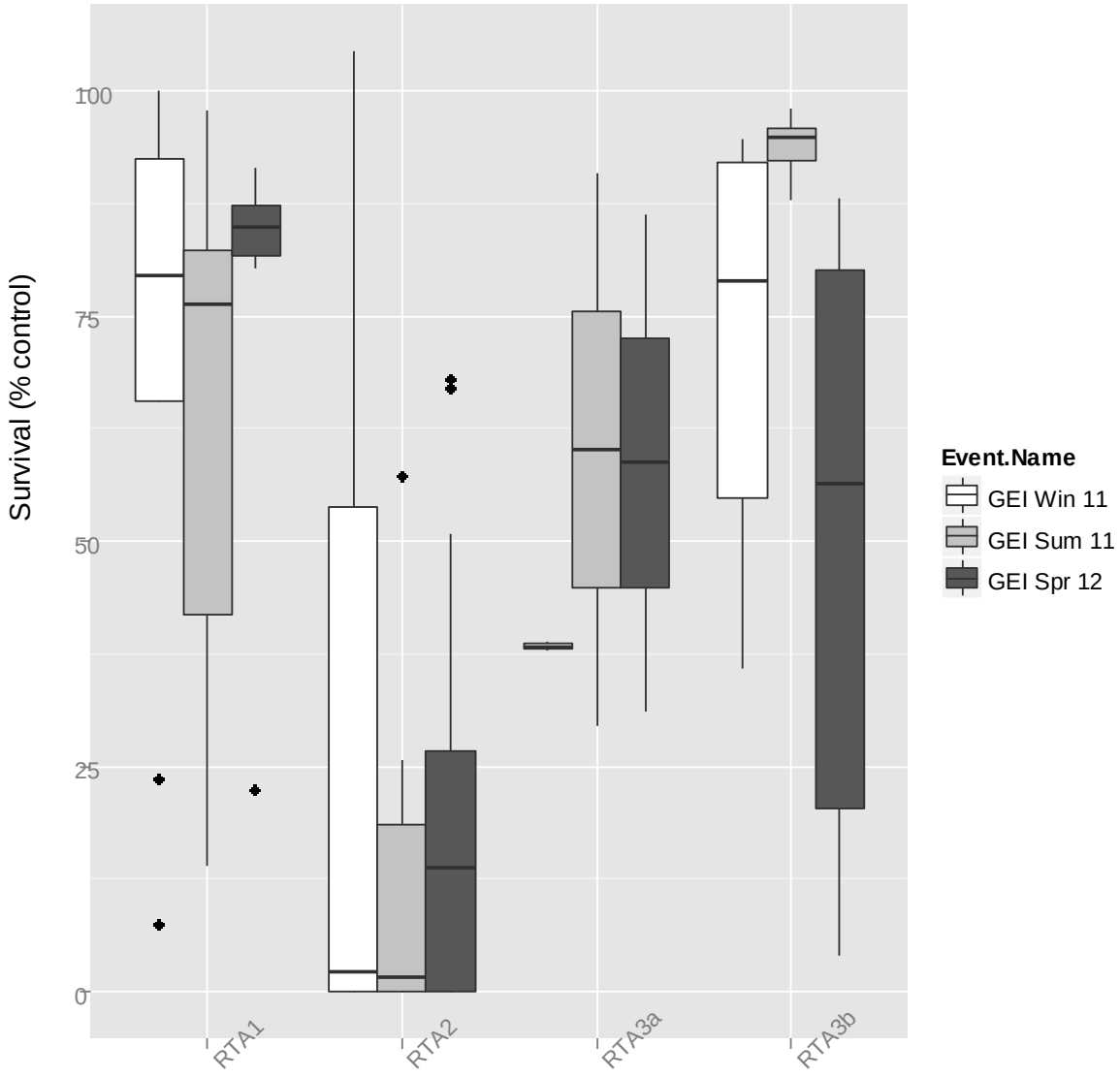


Figure 8. Control-normalized percent survival for *Leptocheirus plumulosus* 10 day toxicity test samples for the three GEI seasonal sampling events (GEI 2011, 2012a, 2012b).

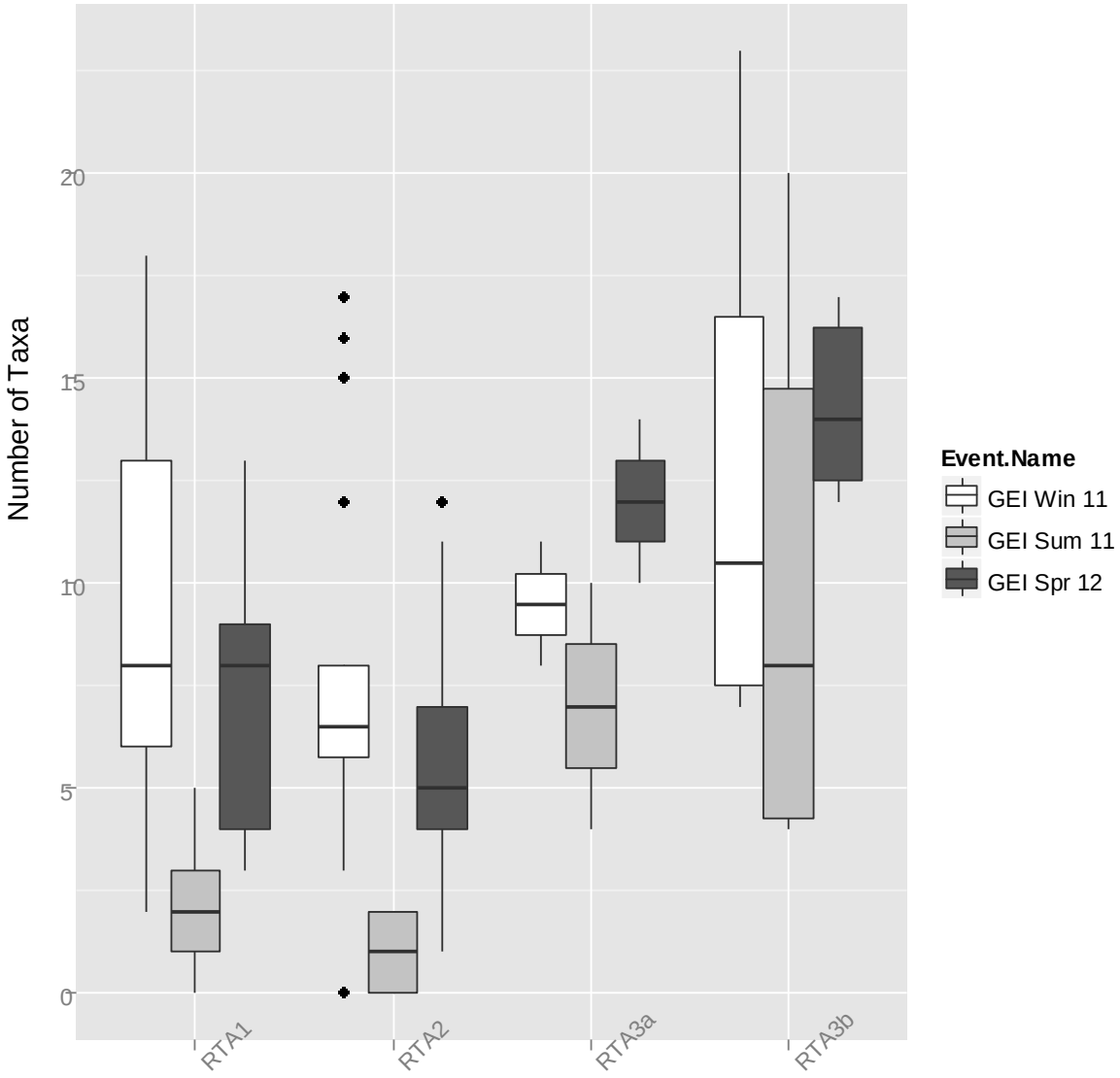


Figure 9. Benthic invertebrate taxa observed in each remedial target area for the three GEI seasonal sampling events (GEI 2011, 2012a, 2012b).

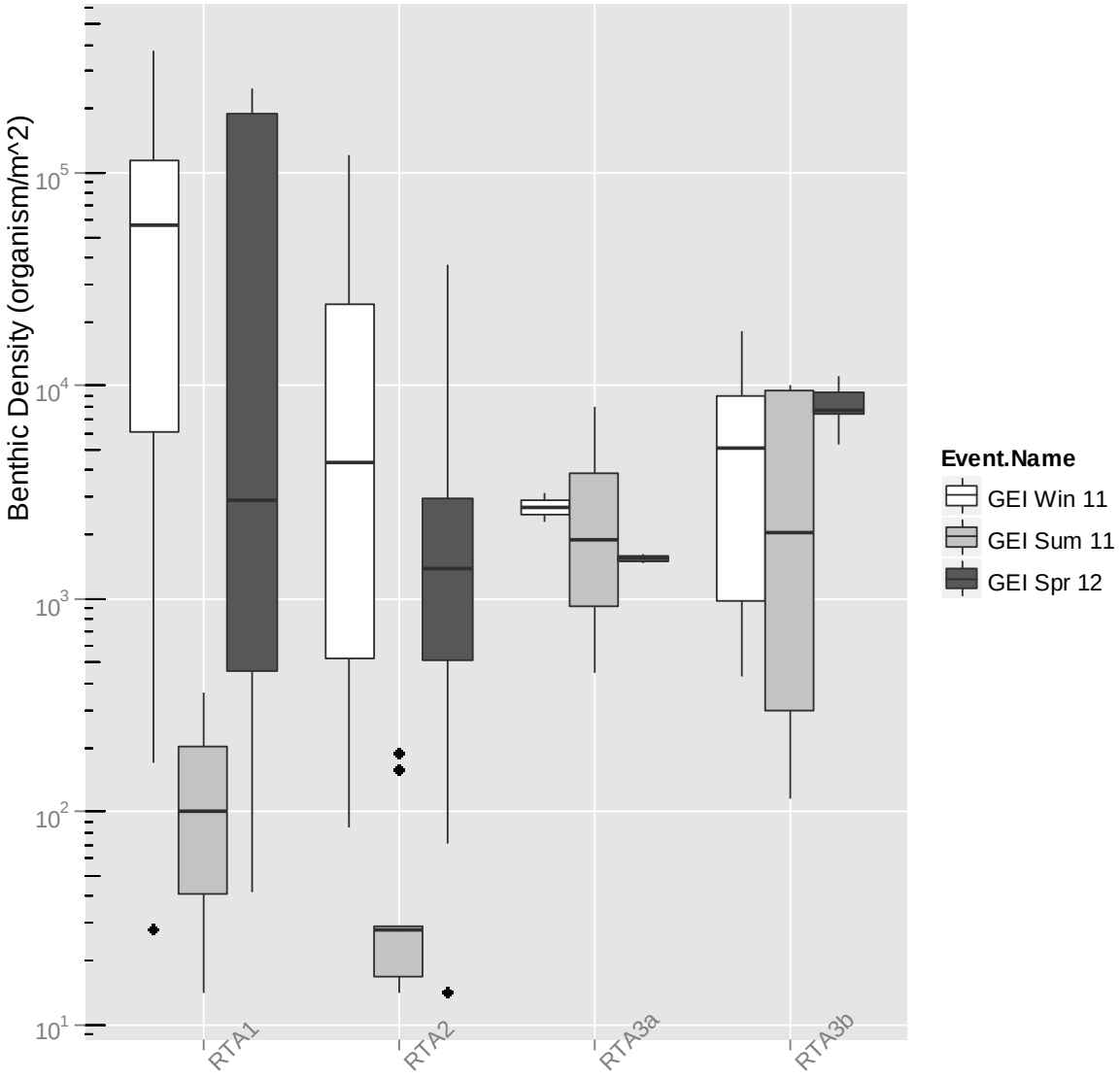


Figure 10. Benthic invertebrate density calculated in each remedial target area for the three GEI seasonal sampling events (GEI 2011, 2012a, 2012b).

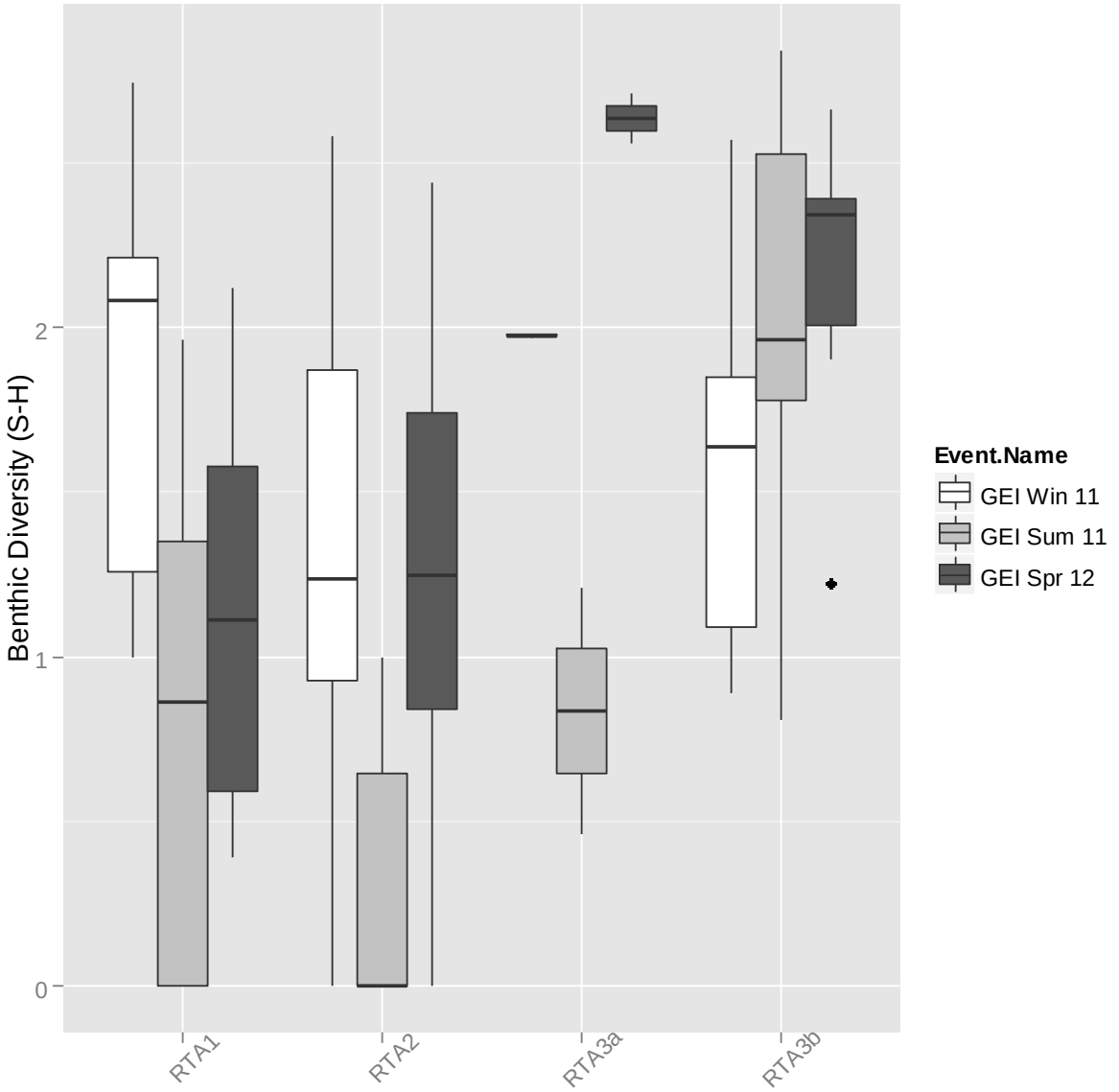


Figure 11. Benthic diversity calculated in each remedial target area for the three GEI seasonal sampling events (GEI 2011, 2012a, 2012b).

Table 1. Comparison between PAH_{16} in hot spots versus the remainder of RTA 3b

Sediment Core	**Average $tPAH_{16}$ concentration (mg/kg) Depth: 0-2 ft**	**Average $tPAH_{16}$ concentration (mg/kg) Depth: 2-4 ft**
Hotspot cores (preliminary identification): Core 82, 80, 79A, 139, 144C, 76C, 78B, 73E (see Figure 7 for core locations and sample results)	808 mg/kg	828 mg/kg
Non-hotspot cores: 142, 83A, 81A, 143, 141, 140, 123, 77A, 151, 150, 74E, 75C	31.5 mg/kg	23 mg/kg

Prepared for National Grid by Exponent, Inc.

Data Sources:

CH2M Hill. 2011. Gowanus Canal Remedial Investigation Report. January.
GEI Consultants, Inc., 2009_ Remedial Investigation Technical Report, Gowanus Canal, Brooklyn, New York. December.
NewFields, 2007. Environmental Forensic Investigation, Gowanus Canal, Brooklyn, New York. March.

I, the sender, vote that I do not want this project to proceed.

Robert Goldberg to: Region2 GowanusCanalComments 04/25/2013 06:23 PM

History: This message has been forwarded.

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

- Children
- Numerous public and private schools which use the fields for physical education & sports teams
- Residents of the Red Hook Houses and the surrounding neighborhood
- Soccer, softball, baseball, football, handball, basketball, track & field teams and enthusiasts
- Swimmers of all ages
- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--
Robert Goldberg
banorchestra@earthlink.net
Brooklyn, NY

no toxic redhook
Carlos Slinger to: Region2 GowanusCanalComments 04/25/2013 06:40 PM

I'm here registering my opposition to the toxic waste processing center and/or placement of toxic waste in red hook,as proposed in the EPA Gowanus clean up plan. The neighborhood is potentially one of the next great place to live,visit,and shop if the plan goes ahead,mostly all of us will not only be severely affected by the processing center,and also all business
Thank you

Carlos Slinger
RED HOOK RESIDENT

--

You never change things by fighting the existing reality. To change something, build a model that makes the existing model obsolete.
-Buckminster Fuller

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NOTICE TO AGENT IS NOTICE TO PRINCIPLE.

--

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NOTICE TO AGENT IS NOTICE TO PRINCIPLE.

I, the sender, vote that I do not want this project to proceed.

Irene Shen to: Region2 GowanusCanalComments 04/25/2013 06:45 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

- Children
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- Residents of the Red Hook Houses and the surrounding neighborhood
- Soccer, softball, baseball, football, handball, basketball, track & field teams and enthusiasts
- Swimmers of all ages
- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--
Irene Shen
ihpshen@gmail.com
40 Lefferts Place #!
Brooklyn , NY
parks user

I, the sender, vote that I do not want this project to proceed.

Viv Schaffel to: Region2 GowanusCanalComments 04/25/2013 07:18 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

—

Viv Schaffel
veemanning@yahoo.com
Brooklyn, NY
11231

I, the sender, vote that I do not want this project to proceed.
Aimee Chan-Lindquist to: Region2 GowanusCanalComments 04/25/2013 07:35 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

–
Aimee Chan-Lindquist
aimeeevachan@gmail.com
Resident

re: EPA's plan for Gowanus Canal

Taryn FitzGerald to: Region2 GowanusCanalComments 04/25/2013 08:09 PM

Hello,

We are residents in the community and understand that the Douglas Degraw Pool is in jeopardy of being destroyed to create an underground sewage system. This pool serves many old and new residents of a growing, thriving community that has been targeted lately by the Bloomberg administration. While we are all for cleanup of the area, the pool must remain for the community and should NOT be considered as a site for such storage.

Thank you very much.

Sincerely,
Taryn FitzGerald, Sergio Fanchiotti and Ryan Fanchiotti

I, the sender, vote that I do not want this project to proceed.
Audrey Oster to: Region2 GowanusCanalComments 04/25/2013 08:35 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

- Children
- Numerous public and private schools which use the fields for physical education & sports teams
- Residents of the Red Hook Houses and the surrounding neighborhood
- Soccer, softball, baseball, football, handball, basketball, track & field teams and enthusiasts
- Swimmers of all ages
- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

–
Audrey Oster
peg.aao@att.net
218 Baltic St.
Brooklyn, NY
Resident

My comments

Warren Cohen to: Region2 GowanusCanalComments, Natalie Loney 04/25/2013 09:53 PM

Please respond to Warren Cohen

To the EPA:

I am a resident of the Gowanus who lives a block and a half from the canal (44 1st Street.)

I supported the initial listing of the canal as a Superfund candidate and now I support nearly all of your proposed methods for cleaning up the Canal via the Superfund process.

I was very pleased to note that along with chemical contaminants, you plan to clean up the biological contaminants as well. Not only to clean the canal but to protect it against future contaminants. My neighbors support this as well .

On that end, I wish the EPA were actually more aggressive, encompassing the canal's bulkheads and the land that is leaching toxic materials into the canal. I don't understand why there isn't a more comprehensive approach by the EPA. I also wish the EPA was more actively considering the impact of cleanup change that will affect the region after its remedy is complete. I also oppose the EPA granting special endorsements to projects like Lightstone's 700 apartment building on the canal which I think will have a negative impact on our local environment.

I do hope the EPA can work around disruption at the Double D pool, which is a community resource.

But overall and on the plus side, I do appreciate the EPA wanting to minimize the carbon footprint. I do hope the clean up itself is done in ways that minimize disruption to the local neighborhoods. I support barge transport for the toxic materials (not trucks or truck traffic.)

I am excited to see the Gowanus Canal finally cleaned via the Superfund Process. Thank you.

Best,

Warren Cohen
44 1st Street
Brooklyn, NY 11231

comments on Gowanus Canal Superfund Site "Proposed Plan"

Levine, Larry to: Region2 GowanusCanalComments 04/25/2013 09:56 PM

History: This message has been forwarded.

Dear Mr. Tsiamis:

Please find attached the comments of Natural Resources Defense Council in support of EPA's "Proposed Plan" for the Gowanus Canal Superfund Site.

Thank you for your consideration of these comments.

Lawrence Levine | Senior Attorney | Natural Resources Defense Council
Office: 212.727.4548 | 40 W 20th St., NY, NY 10011
Admitted in New York

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This message is intended only for the addressee and may contain information privileged confidential, and exempt from disclosure under law. If you are not the intended recipient, please notify me immediately by email and delete the original message.

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Follow us on Twitter: http://twitter.com/NRDCWATER and http://twitter.com/NRDCNY
Find more info on the Web: http://www.nrdc.org/water and http://www.nrdc.org/newyork

NRDC ltr re Gowanus Superfund plan (4-25-13).pdf

NRDC
THE EARTH'S BEST DEFENSE

40 West 20th Street
New York, NY 10011
(212) 727-2700
Fax (212) 727-1773

April 25, 2013

Christos Tsiamis
Remedial Project Manager
Central New York Remediation Section
U.S. Environmental Protection Agency
290 Broadway, 20th Floor
New York, New York 10007-1866

via email: GowanusCanalComments.Region2@epa.gov

Re: Gowanus Canal Superfund Site – Proposed Plan

Dear Mr. Tsiamis:

On behalf of Natural Resources Defense Council ("NRDC") and its 1.3 million members and activists, I write to submit comments in support of the Environmental Protection Agency's ("EPA") December 2012 "Proposed Plan" for the Gowanus Canal Superfund Site.[1] NRDC commends EPA for focusing its attention on this long-neglected, highly polluted, urban waterway and for developing a plan intended to remove from the canal, and/or permanently sequester from potential routes of human and ecological exposure, the most significant toxic contamination in the canal. We express our support for community efforts to ensure that the cleanup is completed both expeditiously and safely.

We submit this letter to emphasize our support for EPA's proposal to address ongoing sources of contamination as part of the Superfund remedy, particularly combined sewage overflows ("CSOs") near the head of the canal, which threaten to recontaminate areas targeted for intensive cleanup.

NRDC has been involved for decades in efforts to ensure that New York City solves its 30 billion-gallon-per-year sewage overflow problem, consistent with the requirements of the federal Clean Water Act. We support the 2012 CSO administrative consent order ("CSO Order") between New York City and the New York State Department of Environmental Conservation ("NYSDEC"), which commits the city to (i) implement specific "gray" infrastructure projects in particular drainage areas, (ii) meet targets for green infrastructure implementation citywide, and (iii) critically, to develop Long Term Control Plans ("LTCPs")

[1] http://www.epa.gov/region2/superfund/npl/gowanus/pdf/gowanus_prap.pdf

that build upon the gray and green projects specified in the AOC to identify *additional* CSO reduction projects necessary to achieve compliance with state water quality standards.

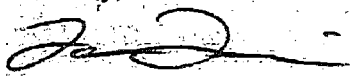
The CSO Order makes clear that the City's CSO reduction obligations in the Gowanus Canal are not limited to the specific projects identified in the CSO Order itself. Rather, under the CSO Order, the City, through the LTCP, must achieve any additional reductions necessary to meet not only existing water quality standards, which correspond to the canal's current "designated uses," but also any higher standards corresponding to the canal's "highest attainable use." We fully expect that, following the Superfund cleanup, more extensive recreational and ecological uses will be attainable in the canal than are reflected in the canal's current designated uses under state law. It is critical to ensure that ongoing CSO discharges do not preclude such uses or otherwise undermine the remedial goals of the Superfund cleanup.

EPA's Proposed Plan rightly concludes that the City's LTCP for the Gowanus Canal, which is due for submission to NYSDEC in June 2015, should be required to achieve CSO reductions at a level necessary to prevent recontamination of the Superfund site and to ensure the long-term integrity of the Superfund remedy. We applaud NYSDEC for concurring in this determination, and for committing to coordinate with EPA to ensure the Gowanus LTCP achieves this goal.

We also look forward to participating in the City's process of developing LTCPs for the Gowanus Canal and waterbodies throughout the city. We stand ready to support the City's efforts to identify the most cost-effective combinations of green and gray infrastructure to meet the requirements of both the CSO Order and the Gowanus Canal Superfund remedy.

Thank you for your consideration of these comments.

Sincerely,



Lawrence M. Levine
Senior Attorney

I support the Red Hook Option of the EPA Gowanus Canal Superfund cleanup.

The improvement to an active local maritime industrial business, the economic benefits it will bring, the jobs that it will create, are all important to me and what I believe is best for the majority of the community of Red Hook.

Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community are without harm or risk of such.

Please approve the Red Hook option.

(print)

Ronda — first name
Mc bee — last name

160 Centre Mall — address
3C — apt.#

Brooklyn — city
N.Y. — state
11231 — zip

area code & phone number

email

I am 18 years of age or older

x Ronda Mc bee — sign
4-26 — date

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

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Please approve the Red Hook option.

(print)

Latisha (first name) Wade (last name)

754 Henry St. (address) 6A (apt.#)

Brooklyn. (city) N.Y. (state) 11231 (zip)

718-8524463 or 3477850991 (area code & phone number)

~~Tisst~~ TishaWade@yahoo.com. (email)

I am 18 years of age or older

x Latisha Wade (sign) 4/26/13 (date)

mail:

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290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

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Please approve the Red Hook option.

(print)

Robert (first name) Vincent (last name)

11 Lorrain St (address) 6A (apt.#)

Brooklyn (city) n.y. (state) 11231 (zip)

917 - 299 - 7183 (area code & phone number)

(email)

I am 18 years of age or older

x Robert Vincent (sign) 4/26/13 (date)

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email:

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Please approve the Red Hook option.

(print)

Nurys — first name
Pimentel — last name

116 Mill — address
3B — apt.#

Brooklyn — city
New York — state
11231 — zip

(718) 254-0654 — area code & phone number

nurysp@yahoo.com — email

I am 18 years of age or older

x Nurys Pimentel — sign
4/26/13 — date

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Fax:

212 637 3966

email:

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Please approve the Red Hook option.

(print)

Richard — first name

Haggwood — last name

116 Mill St — address

4B — apt.#

Brooklyn — city

N.Y. — state

11231 — zip

_____ _____ — area code & phone number

_____ — email

I am 18 years of age or older

X R. Haggwood — sign

4/26/13 — date

mail:

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290 Broadway, 20th Floor
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Fax:

212 637 3966

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Please approve the Red Hook option.

(print)

James — first name
Banks — last name

212 west 129st — address
3b — apt.#

New York — city
NY — state
10027 — zip

304 264 4767 — area code & phone number

James.banks@yahoo.com — email

I am 18 years of age or older

x James Banks — sign
4-26-13 — date

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Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

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Please approve the Red Hook option.

(print)

Cunt — first name
Brown — last name

11 Lorraine — address
2A — apt.#

Bklyn — city
NY — state
11231 — zip

718 8340225 — area code & phone number

email

I am 18 years of age or older

x Cunt Brown — sign
4/26/13 — date

mail:
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email:
GowanusCanalComments.Region2@epa.gov

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Please approve the Red Hook option.

(print)

Jerome Gibbs
first name last name

147 Richard St 2A
address apt.#

Brooklyn N.Y 11231
city state zip

area code & phone number

email

x Jerome QIBB 4/26
signature date

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212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

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Please approve the Red Hook option.

(print)

Jamal (first name) White (last name)

80 Dwight St (address) 13E (apt.#)

Brooklyn (city) NY (state) 11231 (zip)

347 341-1854 (area code & phone number)

Tights15@gmail.com (email)

x Jamal White (signature) 4/26/13 (date)

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Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

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Please approve the Red Hook option.

(print)

Gloria — first name

Hopkins — last name

22 Mill st. — address

apt.#

Bklyn — city

NY — state

11231 — zip

area code & phone number

email

x _____ — signature

4.26.13 — date

mail:

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Please approve the Red Hook option.

(print)

Edwin — first name
Mojica — last name

502 Columbia St — address
Apt 5B — apt.#

Brooklyn — city
NY — state
11231 — zip

347-613-4216 — area code & phone number

email

x Edwin Mojica — signature
4/26/ — date

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290 Broadway, 20th Floor
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Fax:
212 637 3966

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GowanusCanalComments.Region2@epa.gov

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Please approve the Red Hook option.

(print)

LEROY — first name
BUSH — last name

168 MILL STREET — address
1-R — apt.#

BROOKLYN — city
NY — state
11231 — zip

718-797-0144 — area code & phone number

LBush56@VERIZON.NET — email

x [signature] — 04-26-13 — date

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290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

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R.?

I support the EPA Gowanus Canal Superfund - Red Hook option.

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Please approve the Red Hook option.

(print)

Lakim Reed

first name last name

57 Centre Mall 5A

address apt.#

Brooklyn NY 1123

city state zip

(347) 262 7197

area code & phone number

Lakim Brooklyn AOL

email

X [signature] 4/24/13

signature date

mail:

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Fax:

212 637 3966

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GowanusCanalComments.Region2@epa.gov

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Please approve the Red Hook option.

(print)

SAMUEL — first name
SHERIDAN III — last name

414 Columbia st — address
4D — apt.#

Brooklyn NY — city
— state
11231 — zip

1917-470 5351 — area code & phone number

— email

x Samuel Sheridan — signature
4-26 — date

mail:
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290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

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Please approve the Red Hook option.

(print)

Vincent — first name
Joyner — last name

79 Lorraine street — address
3D — apt.#

Brooklyn — city
N.Y — state
11231 — zip

347 256 2035 — area code & phone number

email

x Vincent Joyner — signature
4-26-13 — date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

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Please approve the Red Hook option.

(print)

Shirelle Gilmore
first name last name

30 Bush ST
address apt.#

Brooklyn NY 11231
city state zip

area code & phone number

email

x Shirelle Gilmore 4-26-13
signature date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

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212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

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Please approve the Red Hook option.

(print)

Paul — first name

Evans — last name

462 Columbia St — address

5A — apt.#

BK — city

NY — state

11231 — zip

(12?) | — area code & phone number

email

X [signature] — signature

4-26 — date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

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Please approve the Red Hook option.

(print)

Howard Allen E — Howard Allen E
first name — last name

189 Richards ST — 3
address — apt.#

Brooklyn — NY — 11231
city — state — zip

(917) 861-1143
area code & phone number

email

x Howard Allen E — 4-26
signature — date

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290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

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R.S.

I support the EPA Gowanus Canal Superfund - Red Hook option.

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Please approve the Red Hook option.

(print)

FRANK — first name
BLACK — last name

82 DWIGHT ST — address
14A — apt.#

BKLYN — city
NY — state
11231 — zip

area code & phone number

email

x Frank Black — signature
4/26/13 — date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

I support the Red Hook Option of the EPA Gowanus Canal Superfund cleanup.

The improvement to an active local maritime industrial business, the economic benefits it will bring, the jobs that it will create, are all important to me and what I believe is best for the majority of the community of Red Hook.

Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community are without harm or risk of such.

Please approve the Red Hook option.

(print)

Jazmin Warmsley
first name last name

127 Pioneer St B
address apt.#

Brooklyn NY 11231
city state zip

347 995 8582
area code & phone number

email

I am 18 years of age or older

X [signature] 4/26/13
sign date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

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Please approve the Red Hook option.

(print)

Brian SORIAN

first name last name

15 Bush 2C

address apt.#

Brooklyn NY 11231

city state zip

area code & phone number

email

I am 18 years of age or older

x [signature] 4-26

sign date

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

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Please approve the Red Hook option.

(print)

Brian (first name) Bernadin (last name)

5 Sigourney St (address) (apt.#)

Brooklyn (city) NY (state) 11231 (zip)

212-206-1074 (area code & phone number)

Brian@besttrailstouring.com (email)

I am 18 years of age or older

X (sign) 4/26/13 (date)

mail:
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290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
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Please approve the Red Hook option.

(print)

Lance (first name) Lovett (last name)

93 Centre Mall (address) 4B (apt.#)

Brooklyn (city) N.Y (state) 11231 (zip)

347 722 2835 (area code & phone number)

HandSumLance@aol.com (email)

x Lance Lovett (signature) 4/26 (date)

mail:
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290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
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email:
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Please approve the Red Hook option.

(print)

Cory Davis _____
first name last name

493 Columbia St. 1B
address apt.#

Brooklyn N.Y 11231
city state zip

347-683-0129
area code & phone number

Terrell davis 94@yahoo.com
email

x _____ 4-25-13
signature date

mail:
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Fax:
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email:
GowanusCanalComments.Region2@epa.gov

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Please approve the Red Hook option.

(print)

Gerald — first name
White — last name

address
2B — apt.#

36 West 9th St — city
Bklyn — state
11231 — zip

area code & phone number

email

x Gerald White — signature
4-26 — date

mail:
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Manhattan, NY 100007-1866

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Please approve the Red Hook option.

(print)

Douglas — first name
Williams — last name

82 Dwight street — address
4A — apt.#

Brooklyn — city
NY — state
11231 — zip

(718) 902-2701 — area code & phone number

Deefresh110@gmail.com — email

x [signature] — signature
4/26/13 — date

mail:
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Please approve the Red Hook option.

(print)

Henry (first name) Jamison (last name)

464 Columbia St (address) 6B (apt.#)

Brooklyn (city) N.Y (state) 11231 (zip)

(718) 781-0020 (area code & phone number)

(email)

x Henry Jamison (signature) C-26 (date)

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Please approve the Red Hook option.

(print)

Raymond — first name
Hill — last name

15 Bush St — address
3B — apt.#

Brooklyn — city
N.Y. — state
11231 — zip

347 401-2969 — area code & phone number

email

x [signature] — signature
4/26/13 — date

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Please approve the Red Hook option.

(print)

Jakeira — first name
Gonzalez — last name

420 Columbia St — address
2D — apt.#

Brooklyn — city
N.Y — state
11231 — zip

347-600-0879 — area code & phone number

email

x Jakeira Gonzalez — signature
4/26 — date

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Please approve the Red Hook option.

(print)

Hamaan (first name) Eason (last name)

67-15 Kissena Blvd (address) 2B (apt.#)

Flushing (city) NY (state) 11367 (zip)

347 701-6937 (area code & phone number)

Hamaan Eason@gmail.com (email)

X H. Eason (signature) 4.26.13 (date)

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Please approve the Red Hook option.

(print)

Bonnie Boynton — first name

Boynton — last name

464 Columbia St — address

1F — apt.#

Brooklyn — city

NY — state

11231 — zip

11231 - 718-858-2418 — area code & phone number

email

I am 18 years of age or older

x Bonnie Boynton — sign

4/26/13 — date

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Please approve the Red Hook option.

(print)

Frank (first name) Perry (last name)

11 Bush Street (address) 3A (apt.#)

BKLYN (city) N.Y. (state) 11231 (zip)

212-470-0461 (area code & phone number)

FPPmPublishing@gmail.com (email)

I am 18 years of age or older

x [signature] (sign) 4/26/13 (date)

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Please approve the Red Hook option.

(print)

Jamal VAUGHN
first name last name

452 Columbia St
address apt.#

Brooklyn NY 11231
city state zip

718-5969504
area code & phone number

email

x Jamal Vaughn 4/26
signature date

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email:
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Please approve the Red Hook option.

(print)

Tyavan (first name) carter (last name)

417 vanbrunt ST (address) [redacted] IL (apt.#)

NY (city) NY (state) 11231 (zip)

(area code & phone number)

Tyavan_7@yahoo.com
email

I am 18 years of age or older

x Tyavan carter (sign) 4/26/2013 (date)

mail:
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290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

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Please approve the Red Hook option.

(print)

Ar-Malik Spencer
first name last name

80 Dwight St 120
address apt.#

Brooklyn N.Y 11231
city state zip

347 828-5634
area code & phone number

singg80dwight@aol.com
email

x Ar-Malik Spencer 4/26/
signature date

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290 Broadway, 20th Floor
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Fax:
212 637 3966

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Please approve the Red Hook option.

(print)

Kareem moore

first name last name

38 Bush St 2E

address apt.#

Brooklyn NY 11231

city state zip

area code & phone number

email

I am 18 years of age or older

x Kareem moore 4/26/13

sign date

mail:

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Please approve the Red Hook option.

(print)

Jameal — first name
Moore — last name

70 Bush ST — address
2C — apt.#

Brooklyn — city
NY — state
11231 — zip

_____ — area code & phone number

_____ — email

I am 18 years of age or older

x Jameal Moore — sign
4/26/13 — date

mail:
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290 Broadway, 20th Floor
Manhattan, NY 100007-1866

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Please approve the Red Hook option.

(print)

OCTAVIA — first name
DAVIS — last name

791 Hicks St — address
5B — apt.#

Brooklyn — city
NY — state
11231 — zip

347- 573 - 7160
area code & phone number

email
I am 18 years of age or older

x [signature] — sign
4-26-13 — date

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Please approve the Red Hook option.

(print)

Filamae Harden
first name

last name

124 Bush St
address

HD
apt.#

Bklyn
city

N.Y
state

11231
zip

area code & phone number

email

I am 18 years of age or older

x Filamae Harden
sign

4-26-2013
date

mail:
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Please approve the Red Hook option.

(print)

Kelvin — first name

Alford — last name

465 - Columbia St — address

2A — apt.#

BKlyn — city

N.Y — state

11231 — zip

area code & phone number

email

I am 18 years of age or older

x Kelvin Alford — sign

4/26/13 — date

mail:

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Please approve the Red Hook option.

(print)

Tannie Ivery — first name

Ivery — last name

79 Lorraine St. — address

2C — apt.#

Brooklyn — city

N.Y — state

11231 — zip

area code & phone number

email

I am 18 years of age or older

x Tannie Ivery — sign

4/26/2013 — date

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Please approve the Red Hook option.

(print)

Dorothy Williams

first name last name

87 Lorraine Street 5A

address apt.#

Brooklyn NY 11231

city state zip

1-718-797-1697

area code & phone number

email

I am 18 years of age or older

x Dorothy Williams 04-26-13

sign date

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290 Broadway, 20th Floor
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Please approve the Red Hook option.

(print)

James — first name
Ruffin — last name

791 Hicks — address
4F — apt.#

Bklyn — city
N.Y. — state
11231 — zip

area code & phone number

email

I am 18 years of age or older

x James Ruffin — sign
4/26/13 — date

mail:
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Please approve the Red Hook option.

(print)

CLARISSA — first name
MOORE — last name

70 Bush — address
2C — apt.#

Brooklyn — city
N.Y. — state
11231 — zip

347 785 9307
area code & phone number

email

I am 18 years of age or older

x Clarissa Moore — sign
4/26/13 — date

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Please approve the Red Hook option.

(print)

Calvin Williams
first name

last name

82 Dwight St
address

4A
apt.#

Bklyn
city

NY
state

11231
zip

area code & phone number

email

I am 18 years of age or older

x Calvin Williams
sign

4/26/13
date

mail:
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Fax:
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email:
GowanusCanalComments.Region2@epa.gov

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I support the Red Hook Option of the EPA Gowanus Canal Superfund cleanup.

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Please approve the Red Hook option.

(print)

Derrick — first name
Jordan — last name

70 Bush St — address
4e — apt.#

Brooklyn — city
NY — state
11231 — zip

718 237 0419 — area code & phone number

email

I am 18 years of age or older

x Derrick Jordan — sign
4/26/13 — date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

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Please approve the Red Hook option.

(print)

Jasmine Martin

first name last name

70 Bush Street Apt 4B

address apt.#

Brooklyn NY 11231

city state zip

718 - 802 - 1957

area code & phone number

MsDolFgrl@Gmail.com

email

I am 18 years of age or older

X [signature] 4/26/13

sign date

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
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Please approve the Red Hook option.

(print)

Kelsha Myers

first name / last name

70 Bush St #1A

address / apt.#

Bklyn NY 11231

city / state / zip

347 274-5828

area code & phone number

email

I am 18 years of age or older

x [signature] 7/26/13

sign / date

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
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Please approve the Red Hook option.

(print)

Franchon — first name
Russell — last name

22 Mills ST — address
6A — apt.#

Brooklyn — city
N.Y. — state
11231 — zip

917 545-8417 — area code & phone number

email

I am 18 years of age or older

x Franchon Russell — sign
4/26/13 — date

mail:
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290 Broadway, 20th Floor
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Please approve the Red Hook option.

(print) STANLEY MORRISON

first name last name

624 CLINTON STREET 4C

address apt.#

BROOKLYN N.Y 11231

city state zip

area code & phone number

email

I am 18 years of age or older

X 04.26.2013

sign date

mail:
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212 637 3966

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Please approve the Red Hook option.

(print)

Ramona Hernandez _____
first name last name

70- Bush. St. LB
address apt.#

Brooklyn N.y. 11231, N.Y.C. 11231
city state zip

718- 875-3399.
area code & phone number

_____
email

I am 18 years of age or older

x Ramona Hernandez 4/26/13
sign date

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
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Fax:

212 637 3966

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Please approve the Red Hook option.

(print)

Tina — first name
Rentas — last name

791 Hicks St — address
2E — apt.#

BKLYN — city
NY — state
11231 — zip

917 548 8916 — area code & phone number

email

I am 18 years of age or older

X Tina Rentas — sign
4-26-2013 — date

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

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Please approve the Red Hook option.

(print)

Calvin (first name) Shields (last name)

124 Bush ST (address) 2A (apt.#)

Brooklyn (city) NY. (state) 11231 (zip)

718 522-1452 (area code & phone number)

(email)

I am 18 years of age or older

x Calvin Shields (sign) 4/26/13 (date)

mail:

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290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

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Please approve the Red Hook option.

(print)

ANTWOINE (first name) RAHMAN (last name)

70 BUSH (address) 4E (apt.#)

BROOKLYN (city) N.Y. (state) 11231 (zip)

347 862 6525
area code & phone number

email

I am 18 years of age or older

x Antwoine Rahman (sign) 4/22/13 (date)

mail:

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290 Broadway, 20th Floor
Manhattan, NY 100007-1866

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212 637 3966

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Please approve the Red Hook option.

(print) Jack Reese

first name: Jack — last name: Reese

address: 70 Bush — apt.#: 3A

city: Bklyn — state: NY — zip: 11231

area code & phone number: 718 596-1276

email:

I am 18 years of age or older

x Jack Reese — 4/26/13

sign — date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
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Please approve the Red Hook option.

(print) Brenda Singleton

first name: Brenda — last name: Singleton

address: 70 Bush ST — apt.#: 4B

city: Bklyn — state: N.Y. — zip: 11231

area code & phone number: 718 8021957

email:

I am 18 years of age or older

x Brenda Singleton — 4/26/13

sign — date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
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Please approve the Red Hook option.

(print) Yasmin Rahman

first name last name

70 Bush 4E

address apt.#

Brooklyn N.Y. 11231

city state zip

347 862 8734

area code & phone number

minl1231@yahoo.com

email

I am 18 years of age or older

X _____ 4/26/13

sign date

mail:
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Please approve the Red Hook option.

(print)

Jackie — first name
Davis — last name

65 Bush St — address
5A — apt.#

Brooklyn — city
N.Y. — state
11231 — zip

347 242-9184
area code & phone number

email

I am 18 years of age or older

x Jackie Davis — sign
4/26/13 — date

mail:
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Please approve the Red Hook option.

(print) Lou Faure

first name _____ last name

791 Hicks St 6D

address apt.#

Bklyn NY 11231

city state zip

_____

area code & phone number

_____

email

I am 18 years of age or older

x Lou Faure 4/26/13

sign date

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

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Please approve the Red Hook option.

(print)

Douglas — first name
Handy — last name

795 - Hicks St — address — apt.#

Brklyn — city
NY — state
11231 — zip

area code & phone number

email

I am 18 years of age or older

x [signature] — sign
4/26/13 — date

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

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Please approve the Red Hook option.

(print)

Carmen (first name) Santiago (last name)

129 Lorraine St (address) 4E (apt.#)

Brooklyn (city) NY (state) 11231 (zip)

347 856 0627 (area code & phone number)

(email)

I am 18 years of age or older

x Carmen Santiago (sign) 4/26/13 (date)

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

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Please approve the Red Hook option.

(print)

Evelyn Albrant

first name last name

829 Hicks Street 2E

address apt.#

Brooklyn N.Y. 11231

city state zip

area code & phone number

email

I am 18 years of age or older

x Evelyn Albrant 4/26/13

sign date

mail:

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Please approve the Red Hook option.

(print)

Alesha Manning
first name last name

36 West 9th Street 6B
address apt.#

city state zip

area code & phone number

email

I am 18 years of age or older

x [signature] 4/26/13
sign date

mail:

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Fax:

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Please approve the Red Hook option.

(print) Denise Mann

first name last name

606 Clinton St

address apt.#

Brooklyn N.Y NY 11231

city state zip

347-595-1871

area code & phone number

email

I am 18 years of age or older

x Denise Mann 4/26/13

sign date

mail:

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Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

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Please approve the Red Hook option.

(print)

JAMES MATTHEWS
first name last name

92 CENTRE MALL 3A
address apt.#

BKLYN N.Y 11231
city state zip

347 631 - 6499
area code & phone number

GRIFF0820@Gmail.com
email

I am 18 years of age or older

X James Matthews 4/26/13
sign date

mail:
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Manhattan, NY 100007-1866

Fax:
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email:
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Please approve the Red Hook option.

(print)

Celia W — first name
Wellington — last name

93 Centre Mall — address
1A — apt.#

Brklyn — city
NY — state
11231 — zip

718 858-1820
area code & phone number

email
I am 18 years of age or older

x Celia Wellington — sign
4/26/13 — date

mail:
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Fax:
212 637 3966

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Please approve the Red Hook option.

(print) Craig Lyles

first name last name

606 Clinton ST 3E

address apt.#

BKlyn N.Y. 11231

city state zip

area code & phone number

email

I am 18 years of age or older

x Craig Lyles 4/26/13

sign date

mail:

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Manhattan, NY 100007-1866

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Please approve the Red Hook option.

(print)

Ayanah Fain

first name last name

791 Hicks

address apt.#

Brooklyn Ny 11231

city state zip

area code & phone number

email

I am 18 years of age or older

x [signature] 4/26/13

sign date

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
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Fax:

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Please approve the Red Hook option.

(print)

Celina Sostre

first name last name

829 Hicks Street 2E

address apt.#

Brooklyn NY 11231

city state zip

area code & phone number

email

I am 18 years of age or older

x Celina Sostre 4-26-2013

sign date

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
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Please approve the Red Hook option.

(print)

Rosa (first name) Rodriguez (last name)

791 Hicks ST. (address) 3E (apt.#)

Bklyn NY. (city) (state) 11231 (zip)

(area code & phone number)

(email)

I am 18 years of age or older

X Rosa Rodriguez (sign) 4/26/13 (date)

mail:

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Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

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Please approve the Red Hook option.

(print)

EDDIE B. SOTO SR

first name last name

795 HICKS

address apt.#

Brooklyn N.Y 11231

city state zip

646-644-0139

area code & phone number

email

I am 18 years of age or older

x Eddie B. Soto SR 4/26/13

sign date

mail:

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email:

GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

Rec'd 4/26/13

I support the Red Hook Option of the EPA Gowanus Canal Superfund cleanup.

The improvement to an active local maritime industrial business, the economic benefits it will bring, the jobs that it will create, are all important to me and what I believe is best for the majority of the community of Red Hook.

Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community are without harm or risk of such.

Please approve the Red Hook option.

(print)

Melissa (first name) Torres (last name)

17 Lorraine Street (address) 3A (apt.#)

Brooklyn (city) NY (state) 11231 (zip)

347 | 426 · 6330
area code & phone number

Sweettwinlee@gmail.com
email

I am 18 years of age or older

x _____ (sign) _____ (date)

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

"SAY NO TO A TOXIC RED HOOK"
WWW.NOTOXICREDHOOK.COM

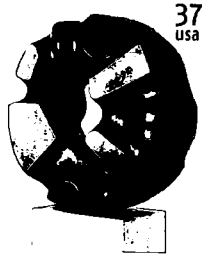
AS A (CIRCLE ONE) RESIDENT, BUSINESS / EMPLOYEE OR USER OF THE PARKS AND RECREATIONAL FACILITIES WITHIN RED HOOK, I AM/ WE ARE STRONGLY OPPOSED TO THE PROCESSING OF TOXIC SLUDGE DREDGED FROM THE GOWANUS CANAL SUPERFUND CLEANUP SITE AT A FACILITY PROPOSED TO BE BUILT RIGHT NEXT TO THE RED HOOK BALL FIELDS AND POOL ON PROPERTY OWNED BY AN INDIVIDUAL WHO HAS INCURRED SERIOUS FINES FOR ENVIRONMENTAL VIOLATIONS IN THE PAST. IT IS THE WRONG SITE FOR THIS IMPORTANT FACILITY. WE VOTE!

SIGNATURE(S)/DATE:

ADDRESS:
5 Delavan ST. #2H
Brooklyn, NY 11231

Rec'd 4/26/17

TO:



Christos Tsiamis
Central New York Remediation Section
U.S. Environmental Protection Agency
290 Broadway, 20th Floor
New York, New York
10007-1866

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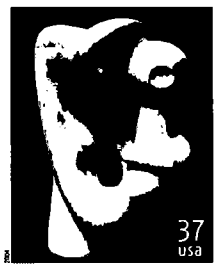
SIGNATURE(S)/DATE:

ADDRESS:
5 DELEVAN ST.
BROOKLYN, NY.

Rec'd 4/26/17

TO:



Christos Tsiamis
Central New York Remediation Section
U.S. Environmental Protection Agency
290 Broadway, 20th Floor
New York, New York
10007-1866

SAY NO TO A TOXIC RED HOOK

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Recd 4/26/13

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SIGNATURE(S)/DATE:

ADDRESS:
5 Delavan ST
Brooklyn, NY 11231

TO:
Christos Tsiamis
Central New York Remediation Section
U.S. Environmental Protection Agency
290 Broadway, 20th Floor
New York, New York
10007-1866

"SAY NO TO A TOXIC RED HOOK"
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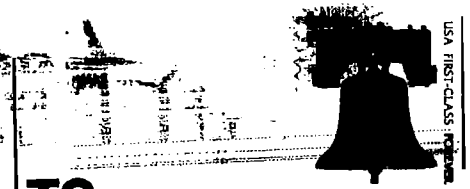
SIGNATURE(S)/DATE: 4/26/2013

ADDRESS:
275 Conover Street 3K
Brooklyn NY 11231



TO:
Christos Tsiamis
Central New York Remediation Section
U.S. Environmental Protection Agency
290 Broadway, 20th Floor
New York, New York
10007-1866

SAY NO TO A TOXIC RED HOOK

WWW.NOTOXICREDHOOK.COM

Thea to: Region2 GowanusCanalComments 04/26/2013 05:07 AM

History: This message has been replied to and forwarded.

We love you plan EPA. Just do it
T S Valvanis

I, the sender, vote that I do not want this project to proceed.

Tiziana Mazziotto to: Region2 GowanusCanalComments 04/26/2013 05:29 AM

History: This message has been replied to.

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Swimmers of all ages
- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--
Tiziana Mazziotto
tizym@yahoo.com

I, the sender, vote that I do not want this project to proceed.

John Staniszewski to: Region2 GowanusCanalComments 04/26/2013 06:32 AM

History: This message has been replied to.

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--
John Staniszewski
Timemight@aol.com
Employee

Gowanus Canal Cleanup
James Takacs to: Region2 GowanusCanalComments 04/26/2013 07:14 AM
Please respond to James Takacs

Having lived within the area of the Gowanus Canal for the past 25 years, i am completely in favor of the project with the EPA. Please get this done. Thank you, Jim Takace

Gowanus Clean Up
Berni Veider to: Region2 GowanusCanalComments 04/26/2013 07:39 AM

History: This message has been replied to.

We love your plan EPA. Just do it!

Signed,

Bernadette V. Nigro

Gowanus Canal
Dena Schultz to: Region2 GowanusCanalComments 04/26/2013 07:40 AM

Christos Tsiamis
Project Manager,
Central New York Remediation Section of the U.S. Environmental Protection Agency
Region 2
290 Broadway, 20th floor
NY, New York 10007-1866

Mr. Tsiamis:

I am writing to register my opposition to the currently proposed location for dewatering the toxic sludge resulting from clean – up of the Gowanus Canal.

I am opposed to any solution which involves stabilizing the sludge on-site and keeping it in Red Hook in any form.

I am concerned that the amount of toxicity released into the atmosphere in the dewatering process has not been studied thoroughly and that the sludge processed at this site and transformed into a concrete form (as planned) could leak toxic materials in the future. According to the EPA's own report, "Tests to assess the leachability of NAPL (toxic contaminants)... would need to be performed (on the concrete)... Permanent institutional controls would be required to ensure the long-term effectiveness of this option..." I do not want a site built with materials potentially leaching toxic contaminants near my home and requiring a permanent monitoring facility where I live and breathe.

The estimated $37 million dollar savings for this method does not benefit the community, but rather reduces the expenses of the clean-up for the original polluters. Additionally, this proposal includes the building of additional waterfront bulkhead land for a private entity, which, by their own admission, has not been thoroughly vetted or designed. I am concerned that once this project is in motion, the requests and the needs of the community will be lost as a private developer seeks to increase profit with no benefit to the community. It appears that all parties in this plan stand to benefit in some way form storing this material in Reed Hook, with the very notable exception of the residents.

The EPA has a list of remedies that involve processing and containment of dredged material off-site for beneficial use such as the capping of landfill sites, I urge the EPA to select any option that involves off-site processing and offsite disposal.

Thank You,

Dena Schultz
44 Coffey Street
Brooklyn, NY 11231

I, the sender, vote that I do not want this project to proceed.
Sandra Lippmann to: Region2 GowanusCanalComments 04/26/2013 07:47 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- Swimmers of all ages
- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--
Sandra Lippmann
SALippmann@mac.com
133 Kane Street
Brooklyn, NY
resident

Comments regarding remediation alternatives for disposal of sediments

luis sturla to: Region2 GowanusCanalComments 04/26/2013 07:48 AM

History: This message has been forwarded.

letter to EPA.rtf

Mr Christos Tsiamis
Project Manager
Central NY Remediation Section
USEPA

Dear Mr Tsiamis
Please find attached my subject comments
for your consideration

Luis R Sturla
29 Dikeman Street Bklyn NY 11231

From: luis sturla <lsturla730@gmail.com>
Subject: email to USEPA

Mr Christos Tsiamis
Project Manager
Central New York Remediation Section
US Environmental Protection Agency
290 Broadway 20th Floor
New York, New York 10007-1866
e-mail: GowanusCanalComments.Region2@epa.gov

Dear Mr Tsiamis

Our community is very alarmed about proposals for the selection of site for processing and disposal of toxic sediments
extracted from the canal, as part of the preferred remedy. We respectfully request that these proposals not be included
in the final rule for reasons explained below.

The Red Hook Community is opposed to the proposed Alternatives E,F,and G These alternatives variously involve on or off
site stabilization and disposal in on site constructed facility. We understand that this involves transporting the non-NAPL dredging
of sediments to a facility owned by Mr Quadrozzi directly adjacent to the Red Hook Park and Playground(a NYC designated Landmark).
At this facility which lies partly inside the Canal the spoils will be used to build a bulkhead inside the canal after stabilization by perhaps
mixing with cement or some other procedure. It is unclear to us whether any NLPA sediments will be treated at
the same on site facility, or whether dewatering will take place at the same facility.

We are severely opposed to these alternatives for various reasons. Depositing the stabilized materials in the canal is a
temporary measure at best. The water flow even at less than 0.5 feet per second will gradually erode and decompose
the materials and the net effect is redepositing the toxins right back in the canal. All that will be accomplished is decreasing the toxic
load in one area of the canal by increasing the toxic load in another area of the canal. Even more troublesome is that Mr
Quadrozzi's company will be given a free hand to dump the spoils back into the canal without any treatment. The lure of profit
will be too tempting and just too convenient at such a convenient location. No amount of

supervision or inspection
will be able to prevent this from happening because of the location and the fact that it may be impossible to differentiate
what has been dumped from the existing sediments. At least it will be very difficult to prove that any overnight dumping
has taken place. In essence our community will be set up to be the policemen with no enforcement capability. Furthermore
there is a general consensus in the community that Mr Quadrozzi's company has been engaged in dumping in the community
for years. We are opposed to any on site treatment of the sediments that may involve dewatering and transportation
of the sediments to any site in the Red Hook Community.

We are also concerned that the investigation of the Superfund Site although quite thorough may not be properly updated to
effects of two major hurricanes to hit NYC, and the ongoing work at the Hamilton Avenue converted Marine Transfer Station(MTS).

We understand that the ramp at the MTS site may be queuing up to 36 sanitation trucks prior to tilting for transfer of garbage
to the barges on the canal. There may be a need for a Conformity Analysis prepared for determination of Hot Spots at the site.
We have been unable to determine if one was prepared or if any review of the impact on dredging for the operation of these barges
has been completed.The converted MTS facility operated for decades as an major incinerator and this is a polluted site for the canal and adjacent area.
This site should be included in any Environmental Analysis prepared for the remediation of the canal including the taking of bores as indicated below.

The sample bores taken for analysis almost 3 years ago may not be representative after the two major hurricanes to hit NYC, most recently
Sandy. There maybe significant change in the composition of the toxic pollution of the canal. It has been reported that the Sandy surge has
been as high as 13 feet. We understand that a few bores were taken after Sandy, but these were very limited in scope.

Luis R Sturla
29 Dikeman Street
Brooklyn NY 11231

Jesus, no - don't build this crap. Are you crazy?
Brook Shepard to: Region2 GowanusCanalComments 04/26/2013 08:02 AM

History: This message has been replied to and forwarded.

Mr. Tsiamis & Team:

Imagine my surprise when I heard about this plan and all of its options.

On the one hand I know you're all explaining highly-complex options to lay-people, and I'm sure that's hard.

On the other - the hubris of walking into a room (like you did at PS 15 in Brooklyn, a borough not known for a lack of self-regard) and saying "I was in Red Hook once for an afternoon four years ago, so I know what the community needs." Can you imagine how your neighbors would feel if I did that in their homes?

> "Oh, Greece, you've got economic problems? Well let me tell you, as a fairly-successful small-business owner I know about job creation, so here's my advice: McDonald's is hiring! Go get jobs at McDonalds! Problem Solved!"

I'd be chased off the stage, and rightfully so!

And then to make part of the plan hinge upon the enrichment of one businessman, to the possible detriment of the entire community? A businessman whose company and officers A) have plead guilty to making illegal payoffs, B) been forbidden from bidding on City contracts and C) fined millions for polluting the waters of Brooklyn?

It's insane!

I try to be polite, and I realize that you've gone out of your way to explain things to the community; but every time I think of this I get more enraged. It's mind-boggling that you could ever think any small number of people would support this plan. I try to be polite and I can't. It makes me fume.

It's crazy, and we're going to do our best to hold you to your on-record quotes saying "we heard you, we ain't gonna build it."

Brook Llewellyn Shepard

General Manager
Mason Interactive
New. Media. Marketing.
p: 347.797.5050
c: 646.408.4157
f: 610.887.5277
e: brook@masoninteractive.com
skype: mason.interactive

PRAP comment
rita miller to: Region2 GowanusCanalComments 04/26/2013 08:05 AM
Please respond to rita miller

My name is Rita Miller. I am a third generation lifelong Carroll gardens resident and property owner living just a couple of blocks away from the Gowanus Canal.

I have served on the CAG since its inception representing CoRD, an organization I co-founded several years ago. I am also a member of FROGG, the larger South Brooklyn Coalition and the 2nd Place Community Transit Garden.

Other than the two residential properties I own on Second Place, I have no other holdings or business dealings in the community. I am, however very interested in the fate and future of the Canal.

It is with a confident and enthusiastic heart that I offer my full support to your Proposed Plan. I totally approve of the Plan which accomplishes the goals we set together from the start--

---a clean and capped Canal bottom, a halt to toxic compound seepage into the water from the surrounding uplands and a solution that addresses, at their source, future chemical recontamination via the CSOs with a bonus for us to boot--since the proposed retention tank solution will alleviate the now constant unhealthy pathogen laden pollution of the canal as well.

Those tanks are the key to satisfying the community's and the CAG's well documented longing for the elimination of CSO discharges. And the proposed locations couldn't possibly be more thoughtful or logical.

I understand the need to disrupt some of the amenities offered currently at the MPG site location at Thomas Greene Park in order to accomplish the necessary upland and water remediation. I do not view this as "losing a park", as some have claimed. Instead, I see this as a positive and much needed cleanup of an unhealthy and unsafe area which unbelievably just happens to be used for recreation at the moment.

I have confidence that we, as a community, can work with EPA, NYS, NYC and National Grid to come up with first a temporary replacement and a more permanent solution later on, for the pool and whatever other amenities are necessary while the toxins are removed and the site's problems properly addressed.

As a parent myself, I find the complete and total remediation of this recreational area an absolute necessity--anything short of that--a fruitless waste of time and money. Frankly, I cannot understand anyone taking a different position. What parent is happy knowing that their child is playing somewhere that is unfit, unsafe and unhealthy? What

parent would advocate keeping that when the alternative is something so much better?

In regard to the CDF proposal, my understanding is that this one particular piece of the Proposed Plan will, as it should, be entirely up to the Red Hook Community.

In closing, I want to say that as both a CAG and individual community member I have found our EPA Region 2 team to be top notch in every way. I want to thank you for that.

So, you go Region 2--- I eagerly await the Record of Decision and look forward to the Remedial Design phase. This has been the most wonderful thing that has ever happened to our community and I want to see it through to the end. Thank you again. Let's keep moving forward!

I, the sender, vote that I do not want this project to proceed.

James Harmon to: Region2 GowanusCanalComments 04/26/2013 08:28 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--
James Harmon
Learningfromnj@gmail.com
66 president st
Brooklyn , Ny
Resident

I, the sender, vote that I do not want this project to proceed.

James Harmon to: Region2 GowanusCanalComments 04/26/2013 08:29 AM

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--
James Harmon
Workshopdesignbuild@gmail.com
92 van dyke st
Brooklyn , Ny
Business

I, the sender, vote that I do not want this project to proceed.

samantha citrin to: Region2 GowanusCanalComments 04/26/2013 08:58 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

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Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--
samantha citrin
samanthajocitrin@gmail.com
192 coffey st
brooklyn, ny
resident and employee of local business

EPA: go ahead on Gowanus cleanup

johngolden_nyc to: Region2 GowanusCanalComments 04/26/2013 09:39 AM

Please respond to johngolden_nyc

History: **This message has been replied to.**

To: Christos Tsiamis Project Manager Central New York Remediation Section U.S. Environmental Protection Agency
I attended one public session on the Gowanus Cleanup plan, and accept all EPA proposals.
Please proceed with your excellent plan.
John Golden

Revised Gowanus CAG Statement - Position #1

Jerry Armer to: Region2 GowanusCanalComments 04/26/2013 09:55 AM
Please respond to Jerry Armer

Mr. Christos Tsiamis,

The following and the attached document reflect the Gowanus CAG's Revised first comment on the Gowanus PRAP. This revised statement corrects typos that were contained in the original statement

Revised Gowanus Superfund Community Advisory Group (Gowanus GAG) Statement To The EPA

On The PRAP

The Gowanus Superfund Community Advisory Group (Gowanus CAG) would like to thank the US EPA Gowanus team at Region 2 for their leadership, transparency, timeliness and their ability to listen to the many & varied concerns, wants, desires and needs of the greater Gowanus community. Their ability to synthesize the various statements into a coherent RAP indicates their commitment to this project.

The CAG would like to remind EPA of the resolution passed unanimously by the full group in 2012. The CAG wants to make certain that the Record of Decision for the Gowanus cleanup gives the EPA sufficient authority to meet the goals of the April 5, 2012 CSO Resolution

The Gowanus Superfund Community Advisory Group fully supports the U.S. Environmental Protection Agency in its finding that New York City's Combined Sewer Overflows are a significant contributor of harmful sediment and Superfund regulated PA Hs and metals to the canal. The CAG takes the position that the total elimination of CSOs into the Gowanus Canal is the only acceptable solution to the problem. The CAG asks that the EPA, under their Superfund authority, take the necessary measures that will ensure protection of the proposed remedy from ongoing CSO sediment solids deposits and the release of PAHs and other toxins."

The CAG requests the inclusion of the entire 5th Street Basin in the EPA Superfund

Remediation Plan CAG Position #1.doc.docx

The Gowanus Superfund Community Advisory Group (Gowanus GAG) Statement To The EPA On The PRAP

The Gowanus Superfund Community Advisory Group (Gowanus CAG) would like to thank the US EPA Gowanus team at Region 2 for their leadership, transparency, timeliness and their ability to listen to the many & varied concerns, wants, desires and needs of the greater Gowanus community. Their ability to synthesize the various statements into a coherent RAP indicates their commitment to this project.

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The CAG requests the inclusion of the entire 5th Street Basin in the EPA Superfund Remediation Plan

The CAG requests the inclusion of the entire 5th Street Basin in the EPA Superfund Remediation Plan.

Proposed Gowanus Clean Up Site
J John to: Region2 GowanusCanalComments 04/26/2013 10:28 AM

History: This message has been replied to.

Christos Tsiamis Project Manager
Central New York Remediation Section
U.S. Environmental Protection Agency
Region 2
290 Broadway, 20th floor
NY, New York 10007-1866

Mr. Tsiamis:

I am writing to register my opposition to the currently proposed location for dewatering the toxic sludge resulting from clean – up of the Gowanus Canal.

I am opposed to any solution which involves stabilizing the sludge on-site and keeping it in Red Hook in any form. I am concerned that the amount of toxicity released into the atmosphere in the dewatering process has not been studied thoroughly and that the sludge processed at this site and transformed into a concrete form (as planned) could leak toxic materials in the future. According to the EPA's own report, "Tests to assess the leachability of NAPL (toxic contaminants)... would need to be performed (on the concrete)... Permanent institutional controls would be required to ensure the long-term effectiveness of this option..." I do not want a site built with materials potentially leaching toxic contaminants near my home and requiring a permanent monitoring facility where I live and breathe. Further I seriously question why the EPA would suggest a site in a known flood zone, especially following the devastation that our neighborhood incurred from hurricane Sandy. No one can say with 100% accuracy that there would not be spillage when another flood occurs.

The estimated $37 million dollar savings for this method does not benefit the community, but rather reduces the expenses of the clean-up for the original polluters. Additionally, this proposal includes the building of additional waterfront bulkhead land for a private entity, which, by their own admission, has not been thoroughly vetted or designed. I am concerned that once this project is in motion, the requests and the needs of the community will be lost as a private developer seeks to increase profit with no benefit to the community. It appears that all parties in this plan stand to benefit in some way form storing this material in Reed Hook, with the very notable exception of the residents.

The EPA has a list of remedies that involve processing and containment of dredged material off-site for beneficial use such as the capping of landfill sites, I urge the EPA to select any option that involves off-site processing and off- site disposal.

Thank You,

Jenna John-Goodman

I, the sender, vote that I do not want this project to proceed.
Meredith Bagerskiu to: Region2 GowanusCanalComments 04/26/2013 11:12 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

- Children
- Numerous public and private schools which use the fields for physical education & sports teams
- Residents of the Red Hook Houses and the surrounding neighborhood
- Soccer, softball, baseball, football, handball, basketball, track & field teams and enthusiasts
- Swimmers of all ages
- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--
Meredith Bagerskiu
hi@meggacorp.com
37 Van Dyke
Brooklyn, NY
Resident

Gowanus Canal Clean up

Brodsky, Laura (NYC-ART) to: Region2 GowanusCanalComments 04/26/2013 11:12 AM

History: This message has been replied to.

"WE LOVE YOUR PLAN, EPA.....JUST DO IT!"

Laura Brodsky

I, the sender, vote that I do not want this project to proceed.

Idra Rosenberg to: Region2 GowanusCanalComments 04/26/2013 11:43 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

- Children
- Numerous public and private schools which use the fields for physical education & sports teams
- Residents of the Red Hook Houses and the surrounding neighborhood
- Soccer, softball, baseball, football, handball, basketball, track & field teams and enthusiasts
- Swimmers of all ages
- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--

Idra Rosenberg
idralr@yahoo.com
543 Carroll St.
Brooklyn, NY
resident

I agree!

Joseph Alexiou to: Region2 GowanusCanalComments 04/26/2013 11:52 AM

History: This message has been replied to.

Dear Christos,

Thank you for your stupendous amount of hard work regarding the Gowanus. I agree with and support your plan for cleanup and remediation!

Sincerely,

Joseph

I, the sender, vote that I do not want this project to proceed.

Samuel Slaton to: Region2 GowanusCanalComments 04/26/2013 11:58 AM

As a new resident of the community of Red Hook, I am strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

- Children
- Numerous public and private schools which use the fields for physical education & sports teams
- Residents of the Red Hook Houses and the surrounding neighborhood
- Soccer, softball, baseball, football, handball, basketball, track & field teams and enthusiasts
- Swimmers of all ages
- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

Best,
Samuel R. Slaton

--
Samuel Slaton
samuelrslaton@gmail.com
64 W. 9th Street, Apt. #3F
Brooklyn, NY
Resident

Comments on the Gowanus Canal Proposed Remedial Action Plan

Renee Crowley to: Region2 GowanusCanalComments 04/26/2013 12:04 PM

History: This message has been replied to and forwarded.

Mr.Christos Tsiamis -

Please accept my attached comments, for the EPA's Gowanus Canal Proposed Remedial Action Plan.

Kind regards,
Renée Crowley

r.crowley - Gowanus PRAP Comments.pdf

April 26, 2013

Christos Tsiamis, Project Manager
U.S. Environmental Protection Agency
290 Broadway, 20th floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

As an individual that works and spends a significant amount of additional time in the neighborhood, please accept my comments on the EPA's Proposed Remedial Action Plan for the Gowanus Canal. My comments focus on three areas of concern:

- Minimize impacts and maximize benefits for all those that live, work and play in the area
- Conduct an Environmental Justice Assessment; identify Communities of Concern in the Gowanus area
- Incorporate climate change impacts and post Sandy mitigation measures in the ROD

Minimize impacts and maximize benefits for all those that live, work and play in the area

The EPA needs to ensure that this Superfund cleanup will minimize impacts and maximize benefits for all those that live, work and play in the area. Additionally, because of on-going gentrification and displacement pressures, which have only worsened with recent developments in the area, there will likely continue to be significant changes in the racial and ethnic make-up of the area that will disadvantage African Americans, Hispanics and Latinos and low income residents from enjoying the social and economic benefits of a clean Gowanus Canal. Since a delayed cleanup could disproportionately disadvantage these communities, we ask that the EPA do everything within its CERCLA authority to expedite a coordinated cleanup for nearby community residents, and to ensure the full and fair participation by all potentially affected communities in the ongoing decision-making processes that will occur as the design phase enfolds. The EPA also needs to take into consideration and examine the Gowanus and Red Hook communities as potential Environmental Justice (EJ) communities. To do this, the Record of Decision (ROD) needs to include an EJ assessment with a Community Involvement Plan (CIP) geared towards the needs of those communities.

As these cleanups proceed the residents that live here must be involved in the planning discussions and resource allocation decisions for the future of their neighborhoods, otherwise they suffer the health risks and cleanup burdens without any guarantees of benefits.

Conduct an Environmental Justice Assessment; identify Communities of Concern in the Gowanus area

In Gowanus, two large residential developments are located as close as 500 feet from the head of Canal. Wyckoff Gardens contains approximately 530 apartments in two, 20-story buildings located north and east of the head of the Canal. The Gowanus Houses, north and west of the Canal, contains over 1,000 apartments in a 12.57-acre complex comprising 14 buildings. Finally, a third smaller NYCHA property, the Warren Street Houses, at 572-574 Warren Street, is located across 3rd avenue from Wyckoff Gardens and comprises 200 apartments. Estimates number around 4,000 official residents in the three Gowanus NYCHA properties in the footprint of the Canal, however it may be that these numbers are low because of the overcrowding that typically takes place in low-income living situations. Furthermore, the Red Hook Houses are Brooklyn's largest public housing complex where more than 6,000 people live. The Houses are situated at the mouth of the canal, and nearby the proposed location of the canal waste facility.

Beyond the NYCHA residents of Red Hook, Gowanus Houses, Wyckoff Gardens and the Warren Street Houses, additional Communities of Concern that should be assessed include the large Hispanic and Latino populations in the Gowanus area that do not speak English that remain uninformed and uninvolved in these cleanup processes due to language barrier constraints. The EPA should assess the need for other EPA programs to take action or provide information to modify implementation of the selected remedy to minimize any disproportionately high and adverse environmental burdens impacting any potential EJ community.

Incorporate climate change impacts and post Sandy mitigation measures in the ROD
Increased flooding from the canal poses a health threat to the all residents who live in the flood zone. Increasing large scale development in the area and surrounding neighborhoods, which also contribute wastewater to the Gowanus watershed, combined with predicted average annual rainfall increases and sea level rise, all contribute to the urgency of the need to address the CSO and toxic sediments cleanups in a timely manner.

When the Gowanus Canal overflowed during Superstorm Sandy, the heavily polluted saltwater corroded two manholes covers and flooded basements in the Gowanus Houses, damaging electrical lines and fuses. As a result the Gowanus Houses were left without power for 10 days after Sandy, and forgotten by most everyone while all the focus went to waterfront areas. A broken water main along Hoyt Street, also left thousands of residents in eight of 14 buildings there without access to clean water.

In the Post-Sandy landscape it is important to consider the updated flood hazard risks. Residents remain under direct threat of exposure to the combined problems of known toxic endocrine disruptors and raw sewage exposure during any large flooding episodes. Annual rainfall and intensity in the area is increasing, presently the NYC average annual rainfall is 45 inches, while CSO abatement plans are based on 38 inches a year, and according to NYC's 2008 Sustainable storm water plan recent annual rainfall records were as high as 65 inches a year. The Gowanus community sits in the 100 year flood plain and is classified as a Zone A area by the Office of Emergency Management (OEM), facing the highest risk of flooding from coastal storms, hurricanes and storm surges. According to NYC's 2008 Sustainable storm water plan, moderate predictions for sea level rises in the city are between 4 to 7 inches by the 2020's, so the time for enforceable action for the protection of Gowanus residents presents a strong case for increased compliance and enforcement measures specific to the Clean Water Act.

As previously commented at recent EPA public meetings, the ROD should include a post Sandy assessment on the sustainability of the remedial design. Superstorm wave velocities and tidal effects on dredging / flooding should be addressed and design protections should be incorporated. Possible effects to the "armor" isolation layers from superstorm effects should also be considered. Overall, strategic flood plain management needs to designed into the ROD and the EPA should provide estimates on how much the remedy will be predicted to lower the canal water depths and incorporate as much flood protection design as the remedies will allow. For these reasons I support opening up the buried basins at First and Fifth Street to help with flood direction issues and planning.

Sincerely,

Renée Crowley

Tsiamis, Christos

From: edith yates [yateseeh@gmail.com]
Sent: Friday, April 26, 2013 12:15 PM
To: Tsiamis, Christos
Subject: Waste to Energy Proposal - Red Hook, Brooklyn

Mr Tsiamis,

I have read the proposal for the Waste to Energy Project for Red Hook Brooklyn and am truly alarmed that the EPA would even consider such a project for the proposed site.

The proposed project site is located in a heavely populated urban area that is prone to flooding.
The proposal does not have even one example of an incinerator like the one proposed operating safely anywhere in the world. The proposal does not site even one enity anywhere in the world that successfully builds this type of incinerator. The proposal does not site even one example of incinerated waste mixed with concrete used safely as land fill. The proposal does not address what impact the placement of fill contiguous to a flood zone will have on future flood events.

I feel that this science project, written by a local university does not qualify for consideration as a viable solution for the remediation of a designated superfund site.

The people that live in Red Hook and adjoining neighborhoods should not be used as guinea pigs as the EPA, New York State, and others experiment with a "cheaper" solution to remediate the Gowanis Canal.

Edith Yates
Red Hook

Support of the PRAP and related comments

bettestoltz to: Region2 GowanusCanalComments 04/26/2013 12:33 PM

History: This message has been replied to and forwarded.

Dear Christos, Natalie, Brian, and Walter;

As someone who has been very actively involved in the Gowanus Canal Cleanup saga since way before the Superfund designation; stayed very actively involved throughout the Remedial Investigation and Feasibility Study Process as a member of the CAG and as a member of FROGG; and will remain very actively involved throughout the Remedial Design Phase as one of the administrators of the TAG Grant; I would like to express my general support for the PRAP as presented to the community and my hope that the ROD will include as many of the methodologies and techniques outlined in it as possible after consideration of community input during the comment period.

That said, I would have liked to see a few things either added or emphasized more strongly in it.

- Specifically, I fear that the size and number of CSO event holding tanks suggested will not be sufficient, especially given the huge amount of new development we will be seeing throughout the entire area that feeds into the Gowanus water treatment/sewer system. I believe that we all know that to be true but also know how politically charged the issue is - and deeply appreciate your addressing it at all in the PRAP, but I wish you could have been stronger in your recommendations.
- I wish you could have found a way to avoid re-contamination of the canal water from upland sources while still creating soft edges and wetland restoration. I know this is almost an oxymoron, but perhaps the next bullet offers a possibility.
- I wish you could have included restoration of the entire Fifth Street basin in the PRAP for two reasons: Given we are living with Climate Change and rising sea levels with the occasional storm surge, the more of the original water holding area we re-create the better our chances are to minimize flooding. Also, and this goes for both the 1st Street Basin and the 5th Street Basin, perhaps their restoration might include soft edges and wetland plantings, maybe even use of toxin removing plants as a scientific experiment.
- As I am sure you are aware, I have been, and still am among those CAG members and actively involved community members who believe that it is time to start trying to solve some of our environmental problems in the places where we made them. I strongly supported and still do, the Red Hook De-watering and CDF proposal and would deeply regret the lost opportunity, especially because it is being opposed in a "don't bother me with the facts - I have already made up my mind" oneupmanship manner. That said I would encourage EPA to continue to seek upland waterfront sites all along the canal for as much as possible of the remediation work to take place. This thought is further explained in the next bullet.
- I am concerned that whatever dewatering and/or remediation processes are used not add to the time required to complete the cleanup within your original projected time frame. I admire the fact that your team has been able to meet its own timetable thus far, and deeply appreciate your hard work. Insofar as possibly having to seek alternative methods for dealing with the dredged sediment I have the following thoughts:

  A. I don't think it should delay the design process because I believe there are plenty of sites where various other options for remediation procedures have already been used and you will not have to invent a "new" wheel, just adapt a known method to the particular site.

  B. I think it may prolong the actual, "in the mud & on the water", cleanup time it will take. When one thinks that the average large dumpster we see in the streets is 20 cubic yards, and 280.000 cubic yards need to be dredged, that is a lot of bargefuls! If we want to dredge onto barges of a size that will fit into the relatively narrow Gowanus Canal - allow the water to separate from the sediment naturally by gravity, then pipe the water onto other barges to treat it before sending c leaned water back into the canal, then get the de-watered sediment out into the harbor to go to NJ or wherever - that is a lot of maneuvering that has to be done in a very narrow waterway. The

barges will need tugs to move into place, etc. That could mean opening & closing the drawbridges at a frequency we have not seen in this generation,possibly causing massive traffic jams. It could also mean no recreational boating will be safe anywhere in the canal during the dredging period of an originally estimated 6 years, which could become much longer for the above described reasons. (No Recreational Use during the entire dredging process might already be a foregone conclusion - I'm not sure about that and would be interested to know.)

Finally, I wish to thank you all for your patience, transparency, thoroughness, and graciousness in dealing with a very diverse and often divisive community. Thank you for dealing with all our personalities, all our annoying habits, the occasional unfair (and untrue) accusations, and most of all for making science the most important part of this whole Superfund process.

Sincerely,

Bette Stoltz

NYC Councilmember Lander's comment on Gowanus PRAP

Zinnel, Catherine to: Region2 GowanusCanalComments 04/26/2013 12:45 PM
Cc: Berry Shore, Natalie Loney

Hi Berry and Natalie,

Congratulations once more on the release of the PRAP and now on the close of the comment period!

Attached you will find NYC Councilmember's comment, which we plan to share with constituents this afternoon.

Thanks again for your hard work,
Catherine

Catherine Zinnel - District Director
NYC Councilmember Brad Lander
Office: 718-499-1090

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Councilmember Lander's comment on Gowanus PRAP.pdf

BRAD LANDER
COUNCIL MEMBER, 39TH DISTRICT

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OF
THE CITY OF NEW YORK

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WATERFRONTS

Comment on the EPA's Proposed Plan for the Gowanus Canal
New York City Councilmember Brad Lander
April 26, 2013

For many years, cleaning up the Gowanus Canal has been a high priority for our community – but one that seemed hopelessly far away. With the EPA's proposed cleanup plan, and I am thrilled to see that day getting much closer. I am enthusiastic about the EPA's Proposed Plan and believe that it puts forward the right steps:

- removing some contaminated sediment from the bottom of the canal;
- stabilizing that contaminated material off-site and identifying a beneficial use for it;
- stabilizing NAPL-contaminated sediment in place; and
- capping dredged areas with layers of clean material.

I agree with the EPA's preference for a remedy that would: restore canal bottom as a natural habitat, provide for appropriate water depths to support current navigation uses, and allow for future maintenance of the remedy and canal infrastructure, including bulkheads.

I am pleased that the EPA's Proposed Plan calls for implementing stormwater runoff control measures to significantly reduce the amount of combined sewer overflows (CSOs) deposited in the Gowanus – so that the canal is not recontaminated after dredging is complete. I share the widely-held goal of improving water quality to a standard that supports the canal's current uses, including contact recreation for children and families. We must work together to realize that goal to the greatest extent possible under CERCLA, and also through the Long Term Control Plan under the Clean Water Act.

To that end, I was encouraged to see that the EPA and DEC are "committed to work together throughout the development of the remedial design and the contemporaneous Long Term Control Plan development process to ensure that both the Superfund and CWA goals are met in a timely, cost-effective manner." I hope this spirit of collaboration can be even further extended – to include not only dredging and water quality improvements, but also bulkheads, shorelines, and wetlands restoration, and to include the City of New York, the Army Corps of Engineers, and other relevant public and private partners.

There are, of course, many important questions that will need to be answered during the three-year design phase: Where will the on-site dewatering and transfer of dredged

sediments will take place? Who will operate the facility? Where will off-site stabilization and beneficial use take place? Where will staging areas be located? Where will CSO controls (e.g. in-line storage tanks) be sited?

These decisions will have a meaningful impact on the surrounding community. I have been very encouraged by the EPA's extensive community outreach to date. The Gowanus Canal Superfund process has been one of the best examples of community engagement in public decision-making that I have seen in my time as an elected official (a remarkable feat for such a complex and technical issue). I am optimistic that the EPA will continue to work closely with, reach out regularly, and listen closely to community stakeholders as these subsequent decisions are made, and I urge them to do so.

I do not support the location of a confined disposal facility in Red Hook for the disposal of contaminated material. While I appreciate the desire to leverage the cleanup for local jobs, it appears to me that the strong majority of Red Hook residents who have engaged in this process are opposed to the proposal, and do not believe that the benefits for the community outweigh the risks. If they do not want to make this trade-off, I believe we should respect their wishes.

The users and neighbors of Thomas Greene Park and the Douglass-Degraw Pool have also expressed concern about the potential loss of this well-used community space should an in-line storage tank be sited there. Before any final decisions are made, we would need extensive conversation and further details about the proposal, the process, and the risks that would be involved.

In addition, my office is partnering with the New York City Department of Sanitation and the Gowanus Canal Conservancy, with the support of Councilmember Stephen Levin and Councilmember Sara González, to construct a community composting system on the "Salt Lot," a City-owned property located at 2nd Avenue and 5th Street—another potential location for an in-line storage tank. This innovative project won funding through the first participatory budgeting vote in District 39 and will turn one ton per day of food waste into usable compost. We are currently working with the project partners to finalize the design of the composting facility and anticipate that construction will begin this summer, pending regulatory approval. Again, before any final decisions are made about the siting of an in-line storage tank, we would need many more details about the proposal, and what the impacts would be.

In order to move forward, many different entities will need to work closely together to make the best decisions about remediation across environmental and regulatory domains, achieve the most effective use of public investments, and bring about a comprehensive cleanup. I was pleased to see the EPA's commitment in the Proposed Plan to coordinate with other government agencies to ensure the best cleanup possible. This includes working closely with the New York State Department of Environmental Conservation (DEC) on the remediation of contaminated upland sites, especially the three manufactured gas plants. There is also strong interest in how standards for bulkhead

replacement and maintenance will be promulgated, including bulkhead height and design, where soft edges are possible, and where wetlands could be restored.

This is an important moment for Gowanus – and one we need to build upon. The EPA's Proposed Plan is a major step toward a cleaner community, but there is more that needs to be done. As made painfully clear during Hurricane Sandy, we need to make difficult but important decisions about public investment in sustainable infrastructure and flood mitigation measures to protect our neighborhoods. I believe we need to move forward together, with all stakeholders at the table, to develop a comprehensive plan for the infrastructure, amenities, and land use regulations needed for a safe, vibrant, and sustainable Canal area. In the coming months, I will be working with other elected officials and reaching out to community stakeholders to begin the conversations for such a planning process.

Let me be clear: this work will not be easy. Stakeholders have different ideas for what they want to see along and around the Canal, and we will need to work through many open questions. The Gowanus future that we want will cost real money—beyond the estimated $500 million to be paid by responsible parties under the Proposed Plan—and it will not be easy to allocate those costs and raise the needed resources.

But I believe it would be a short-sighted mistake to miss this opportunity. With the great work done by the EPA leading to a real plan for cleanup, and with the clarity provided by Hurricane Sandy about the realities of climate change for our future, we have the opportunity to reclaim this toxic corner of our neighborhood, and create an innovative model for low-lying, mixed-use areas on a warming planet. Let's not let it pass us by.

Thank you to the EPA team—especially Judith Enck, Walter Mugdan, Christos Tsiamis, and Natalie Loney—for your diligent work developing this bold and important plan, to the many partners in government—including Congresswoman Nydia Velázquez, State Senator Daniel Squadron, State Senator Velmanette Montgomery, Assemblywoman Joan Millman, Councilmember Stephen Levin, and Councilmember Sara González—who have been pushing for a Gowanus cleanup, and to so many community advocates who have been working tirelessly to get to this point. I look forward to working with all of the stakeholders to see it finalized and implemented, and to build upon it toward a vibrant, sustainable future for the Gowanus in the years ahead.

Red Hook/ Boreum hill
mimi keghida to: Region2 GowanusCanalComments 04/26/2013 01:23 PM

We love your plan EPA, just do it!
Mimi Keghida (who had 2 1/2 feet of smelly, toxic water in her basement during Sandy)

Gowanus Canal Clean-Up
Triada Samaras to: Region2 GowanusCanalComments 04/26/2013 01:33 PM

History: This message has been replied to.

Dear Mr. Tsiamis,

I am in full support of yours and the EPA's plan to clean-up the Gowanus Canal. I feel very fortunate that Carroll Gardens has had such an excellent rapport with the EPA to date regarding the Gowanus Canal cleanup. Since the moment that the Gowanus Canal was declared a Federal Superfund site in my community, I have been confident, having met the EPA team, including yourself, that the EPA will do what is in the best interest of my neighborhood.

I am a firm believer in the EPA plan remedy the CSO's issue along with the rest of the Gowanus Canal cleanup. I feel very fortunate that our EPA recommended Gowanus Canal cleanup plan includes both aspects of the contamination: the chemical AND the CSO's contamination. To me it makes more than perfect sense that the CS owes become toxic when combined with other chemicals in the canal. It makes absolutely no sense to me that the EPA would clean a part of the toxins in the canal but leave the CFOs issue standing. I also feel such a move would be a giant waste of money.

Therefore I highly support the current EPA clean-up plan (the PRAP that has been featured online at the EPA website) and I hope and pray that the EPA will be able to implement this comprehensive clean-up plan.

Warm regards,
Triada Samaras

--
Professor Triada Samaras
tsamaras@kean.edu

Tsiamis, Christos

From: Freeman, David J. [DFreeman@gibbonslaw.com]
Sent: Friday, April 26, 2013 2:06 PM
To: Tsiamis, Christos
Cc: Carr, Brian; Mugdan, Walter
Subject: Gowanus Canal Superfund Site--Proposed Remedial Action Plan
Attachments: 1896002.pdf; 1927601.pdf

Mr. Tsiamis,

Enclosed is a courtesy copy of comments being submitted today with respect to the Proposed Remedial Action Plan for the Gowanus Canal Superfund Site, along with an accompanying cover letter. Hard copies of both documents are being hand delivered to your offices this afternoon.

Sincerely,

David J. Freeman

David J. Freeman
Director, Real Property & Environmental Law
Gibbons P.C.
1 Pennsylvania Plaza, 37th Floor
New York, NY 10119-3701
T: (212) 613-2079
F: (212) 554-9694
dfreeman@gibbonslaw.com

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Via Electronic Transmission and Hand Delivery

April 26, 2013

Mr. Christos Tsiamis
Remedial Project Manager
Central New York Remediation Section
U.S. Environmental Protection Agency
290 Broadway, 20th Floor
New York, New York 10007-1866

Re: Gowanus Canal Superfund Site, Brooklyn, New York (Site)
Comments on Proposed Remedial Action Plan (Proposed Plan)

Dear Mr. Tsiamis:

On behalf of the undersigned entities[1], we are providing the enclosed comments on the Proposed Plan dated December 2012, issued by Region II of the United States Environmental Protection Agency (EPA) for the above-captioned Site.

A number of the comments presented in the enclosure reflect concerns expressed previously by a group of PRPs (by June 19, 2012 letter to the National Remedy Review Board), as well as by others, with respect to the draft Feasibility Study. These comments are repeated here because they were not adequately addressed in the Proposed Plan.

The undersigned PRPs continue to believe that: (a) the conceptual site model remains incomplete; (b) continuing contamination needs to be addressed prior to implementing the Site remedy; (c) alternative remedies (e.g., capping, and monitored natural attenuation) were not evaluated or properly carried through the evaluation process; (d) the proposed remedy has been selected prematurely; and (e) the schedule of remedy implementation is unrealistic.

Our specific comments and concerns are presented in the enclosed document.

Respectfully submitted,

Beam, Inc.[2]
The Dun and Bradstreet Corporation
ExxonMobil Oil Corporation
Hauck Manufacturing Company
Hess Corporation
Honeywell International Inc.

---

[1] Each of these entities has been identified by EPA as a Potentially Responsible Party (PRP) at the Site.
[2] Signatories are listed in alphabetical order.

MRC Holdings, Inc., for itself and on behalf of Citigroup, Inc.
Patterson Fuel Oil Company, Inc.
Rexam Beverage Can Company
SPX Corporation as successor to O-Z/Gedney Co., Inc.
Union Oil Company of California
Verizon New York Inc.

GOWANUS CANAL SUPERFUND SITE
Kings County, New York

COMMENTS ON DECEMBER 2012 PROPOSED PLAN
Prepared by the Small Parties Group

The following provides comments, prepared by the Small Parties Group (SPG),[1] on the Proposed Remedial Action Plan (Proposed Plan) for the Gowanus Canal Superfund Site (the Site) issued by the United States Environmental Protection Agency (EPA) in December 2012. Our comments also address information presented in the January 2011 Remedial Investigation (RI) report, the December 2011 Feasibility Study (FS) report and the December 2012 FS report Addendum as cited in the Proposed Plan. Our comments are organized into two general categories: (I) General Comments, and (II) Specific Comments.

I. GENERAL COMMENTS

1. EPA's Failure To Develop and Analyze Critical Data - EPA Must Develop a Conceptual Site Model That Appropriately and Fully Defines All Current and Future Source Areas Before It Can Select a Remedy

The sources of contamination to groundwater and combined sewer overflow (CSO) into the Gowanus Canal have been inadequately studied by the EPA and are not well understood. Therefore, the current and future impacts on the Site from these continuing sources have not been adequately evaluated in the Proposed Plan.

EPA's failure adequately to assess these impacts is, in part, due to the facts that: (i) the delineation of contamination at and remedial plans for the manufactured gas plant (MGP) sites are still being developed by National Grid, the party responsible for the MGP sites, in coordination with the New York State Department of Environmental Conservation (NYSDEC), and (ii) the details of New York City's plans for addressing its CSOs into the Gowanus Canal are still in flux and have not been finalized. Without these two pieces of critical

[1] Members of the SPG include, in alphabetical order, Beam, Inc.; Dun & Bradstreet, Inc.; ExxonMobil Oil Corporation; Hauck Manufacturing Company; Hess Corporation; Honeywell International, Inc.; MRC Holdings, Inc. for itself and on behalf of Citigroup, Inc.; Patterson Fuel Oil Company, Inc.; Rexam Consumer Plastics, Inc.; SPX Corporation (O-Z-Gedney); Union Oil Company of California and Verizon New York Inc.

information which, as noted above, are in the development stages, an appropriate, cost-effective remedy for the Site cannot be selected or implemented.

The missing information about the planned remediation of the MGP sites and the CSO modifications is critical to selecting an appropriate remedy for the Canal. Additional studies and modeling are necessary to characterize the flux of contaminants of potential concern, including non-aqueous phase liquid (NAPL) from, *inter alia*, the MGP sites and the CSOs. Without the supporting technical studies, it is impossible to know with any certainty how much sediment should be or can be effectively removed, or what cap design is appropriate. Moreover, without this information, the long term effectiveness (a major criterion for evaluating remedial alternatives under Superfund) of any sediment remedy cannot be determined.

2. The FS and Remedy Selection Should Emphasize Capping Over Dredging and Include Monitored Natural Attenuation

It is very unusual that the Proposed Plan carries forward only the No Action and sediment dredging alternatives, all of which are variations on the same theme (soft sediment removal), without also carrying forward a capping-only alternative with pilot scale testing. No consideration is given to dividing the remedy into Operable Units, or to first implementing any Interim Remedial Measures relating to the MGP wastes or CSO outfalls before deciding on an appropriate remedy for the remainder of the Site. Other viable alternatives, such as monitored natural attenuation, should have been but were not thoroughly evaluated.

Capping has been successfully implemented at other water bodies in New York and New Jersey, such as the Port Newark/Elizabeth project, where capping was performed in 1993 and monitoring has confirmed that the cap is stable and protective. This project was described in an EPA cap design document (Palermo, et al., 1998). In addition, capping of sediments is the approved remedial approach for the Geddes Brook and Nine Mile Creek projects located in New York. Sediment can be removed to the extent required to construct the capping system.

Therefore, existing sediment surface elevations and water depths can be maintained.

Natural Attenuation should be considered as part of the Canal remedy and is especially applicable to Reach 3 for the following reasons: (a) NAPL saturation was generally not observed in Reach 3, (b) this Reach has the lowest soft-sediment PAH concentrations relative to the other reaches, and (c) Reach 3 is subject to future maintenance dredging operations.

3. **The Effectiveness of the Selected Remedy Is in Serious Doubt**

The effectiveness and successful implementation of the proposed remedy are doubtful given the lack of adequate treatability testing to date; the ongoing sources of contamination, including mobile dense non-aqueous phase liquid (DNAPL) in the subsurface; and continuing CSO discharges. The "Adaptive Management" approach discussed in the Proposed Plan assumes that a way will somehow be found during the implementation phase of the remedy to address these ongoing sources in a timely fashion. This will require an unprecedented degree of coordination with and cooperation by the NYSDEC and National Grid with respect to abatement of upland groundwater contamination sources and DNAPL from MGP plants, and between the New York City Department of Environmental Protection (NYCDEP) and the NYSDEC with respect to the City's CSO discharge elimination. The Proposed Plan contains no contingency plan if these ongoing sources of contamination cannot be addressed in the time frame anticipated for dredging of the Canal. It should also be noted that the plans currently proposed anticipate only a 34% reduction in CSO discharges. This means that 66% of the current CSO volume will continue to be discharged for a significant period of time.

The remedy includes implementing *in-situ* soil stabilization (ISS) techniques involving delivery of stabilization material to the sediment *in situ*. EPA fails to provide any information about whether this approach has been successfully implemented at similar sites on a full scale. Ebullition of biogenic gas from

organically enriched sediments, such as the Gowanus Canal, has been demonstrated to cause migration of contaminants into the overlying water column. In particular, the migration of NAPLs from sediment to the surface of water bodies has been reported at former MGP sites elsewhere. Gas generation in sediment has the potential to cause failure of sediment caps in tidal and non-tidal rivers by way of breakthrough (channelization), or blockage of hydraulic flow. Additionally, dredging will also bring NAPL to the surface of the water, and it is expected that odorous volatile constituents will be released to the atmosphere from the water surface.

Therefore, unless the selection, design and implementation of the remedy are delayed until all ongoing sources are identified, delineated and contained, EPA's proposed remedy is potentially doomed to failure *ab initio*.

4. **The Selected PRGS Are Too Low**

The PRGs selected by EPA are artificially depressed based on Reference Area (RA) selection and the PRG development process. The PRGs are based on extremely limited sediment sampling in Gowanus Bay and Upper New York Bay. The selection of these locations as RAs reflective of background is highly questionable based on the lack of similar basin size, shape, composition, and industrial development characteristics versus the Gowanus Canal. Consequently, the PRGs selected are skewed low and are not reflective of the industrial purpose and history of the Canal. There are better RA choices for evaluation and comparison, such as the approach currently being utilized at the Newtown Creek Superfund Site, which examines a cross-section of industrial versus non-industrial, and CSO versus non-CSO, reference areas.

With respect to PRGs for protection of the ecological community, the Proposed Plan describes the PRG development process for ecological risks to be based on sediment threshold effects concentrations, arriving at 20 mg/kg Total PAH in bulk sediment. It is not stated how confounding factors, such as ammonia or sulfide toxicity, were considered. The RI data finds that amphipods had only "limited"

toxicity (no survival or growth effects) at 39 mg/kg Total PAH, which is nearly twice the selected PRG. The Proposed Plan should utilize the ESB-TU approach to develop the PRGs for sediment using measured porewater concentrations to appropriately consider PAH bioavailability.

5. **The Impact of Bulkhead Replacements and Upgrades Needs To Be Fully Evaluated Prior to Remedy Selection and Implementation**

The Proposed Plan concedes that existing bulkheads along much of the Canal are degraded and will have to be stabilized, reinforced or replaced for the remedy to be implemented and succeed. The FS Addendum assumes that as much as 80% of the bulkheads in each RTA will require replacement. However, the Proposed Plan does not specify which bulkheads need to be addressed. More importantly, it does not explain how the sediment remedy would deal with new releases of contaminants from behind the bulkheads that may occur if the sediment remedy is implemented before bulkhead replacement or repair, nor whether bulkheads are being considered in some areas as an engineered source control structure. EPA acknowledges that its sediment remedy, namely the cap, addresses only NAPL already present in the Canal sediments. It does not address NAPL entering the Canal by seepage through the bulkheads. EPA, thus, appears to have selected a remedy which relies upon an uncertain design element and thereby risks remedy failure. Bulkhead replacement/upgrade evaluation must be integrated into the Proposed Plan prior to addressing sediments in the Canal and not deferred until the design phase of the remedy, because it represents a component critical to the selection of an appropriate remedy.

6. **EPA Failed To Consider Potential Public Exposure to Airborne Pathogens During Dredging**

The Proposed Plan cites concern over odors during dredging as one reason not to drain the Canal prior to dredging activities. But there has been inadequate study and evaluation of potential odors, and migration and exposure, of airborne bacterial and chemical substances (pharmaceuticals, personal care products, etc.) during dredging under the proposed plan with the Canal not drained. NYCDEP

began oxygenation/aeration in July 2010 that will continue until the flushing tunnel is repaired, and aeration is presently being conducted at the Canal to oxidize odor-causing compounds because of the massive CSO discharges. EPA needed, but failed, to consider recent studies by Columbia University that evaluated air quality during the ongoing in-canal aeration activities by NYC at Newtown Creek. That air sampling confirmed that aeration provides "...a novel pathway of microbial exposure in densely populated urban communities containing contaminated soil and water" that have not been studied or addressed in the proposed Gowanus Canal remedy. Consequently, further study of the potential effect on public health of these impacts must be undertaken before a final decision on the ROD is made.

II. SPECIFIC COMMENTS

1. Purpose of This Proposed Plan

The Proposed Plan, at page 1, states that, "NYSDEC is currently overseeing work being performed by NYC to reduce CSOs to the canal by approximately 34 percent." Stated differently, even if NYC is successful in reaching this reduction, the CSOs will continue to contribute 66% of current loadings into the Canal, thereby resulting in significant recontamination of the post-remediation sediments. The Proposed Plan's failure to account for 2/3 of the future CSOs contribution into the Canal is untenable and demonstrates that the proposed remedy will, in fact, not remedy the targeted contamination.

2. Scope and Role of Action

The Proposed Plan, at page 2, mentions a groundwater mitigation action to be addressed as part of the upland source remediation but does not reference the plan or its timing related to sediment remediation. In fact, little information is provided in the Proposed Plan about source control plans for upland areas. As source control is required before sediment remediation can be effective to prevent recontamination (which is one of EPA's stated goals in the Proposed Plan), this gap in a significant component of the overall restoration cannot be left out of the

remedy selection scope without undermining the basis for EPA's decision. Simply put, EPA's decision to hold in abeyance the evaluation and control of upland sources until after remedy selection is inconsistent with the National Contingency Plan (NCP) and is contrary to established EPA Guidance.

3. **Discharges from Combined Sewer Overflows and Stormwater**

a. The first part of this section, at page 4, describes the current wastewater treatment plants that serve the area, as well as the active CSOs and how they have affected sediment quality. Wholly missing from this analysis is an assessment of how historical CSOs have impacted the sediment quality in the Canal.

b. Paragraph 5 on page 4 of this section states that "the cumulative impact of these projected flow reductions and flushing improvements on sediment transport and deposition throughout the canal cannot be currently predicted with a high degree of confidence." Obviously, this uncertainty has a considerable impact on recontamination potential after the proposed remedy is implemented and is likely to lead to remedy failure. EPA has to clarify whether the uncertainty is related to the reduced particulate loading resulting from the construction, or to the increase in flow that limits deposition of particulates from other sources or some other factors. Without this critical review at this stage, the uncertainty will permeate and taint the remedy selection process.

c. This section also notes on page 4 that "[n]early 250 outfalls were identified in the RI, most of which were pipes located on private property....Twenty-five of these pipe outfalls were observed to be actively discharging during dry weather..." Similar to other statements that the EPA makes throughout the Proposed Plan, this one underscores essential data gaps that, although noted by EPA, are routinely given short shrift, or rather no shrift, in the Proposed Plan. Future loadings from all of these

outfalls need to be fully evaluated and addressed before the remedy can be selected and implemented.

4. **Site Hydrology**

a. The Proposed Plan states at page 5 that "the only fresh surface water inflows to the canal are wet-weather CSO and stormwater discharges." Sheet flow off of land during rainfall and snowmelt is also likely and should have been, but was not, considered as part of the site hydrology.

b. The Proposed Plan notes at page 6 that "intermediate wells screened in the glacial deposits indicate groundwater flow upward toward the canal." What is missing from this section is any analysis of the horizontal direction (source) of the flow and what influence the marsh deposit overburden (peat, etc.) would have on the contaminant concentration in this flow (i.e., possibly to provide a contaminant migration barrier). EPA's evaluation of site hydrology is deficient without that assessment, casting doubt, again, on its ability to select a remedy at this stage of the process.

5. **Sediment Characteristics**

This section notes at page 6 that soft sediments have accumulated since Canal construction. What is missing in this section is any discussion of how the pattern/deposition rate of sediment may have changed since 1850 and the factors responsible. Understanding these factors is crucial to selection of the remedy and source control design/methodologies. EPA's failure to do so undermines the basis for its remedy evaluation and selection.

6. **Results of the Remedial Investigation**

In this section of the Proposed Plan at page 8, EPA states that additional work included "tracing outfall features to their origin." However, there is no reference in the document of where the data from this supposed additional work can be

found. As such, it cannot be evaluated or confirmed and cannot, therefore, be an appropriate underpinning for EPA's decision-making.

7. **Extent of Contamination**

a. The second paragraph of this section at page 8 states that tidal exchanges and the flushing tunnel are the only "surface water" sources. This totally ignores both the CSO discharges and sheet flow surface water sources, which are also major contributing sources.

b. Another portion of this section, also on page 8, briefly describes relative differences in PAH concentration for various sample depths/locations. It may be true that the surface sediment mainly reflects CSO discharges, but as noted in the Proposed Plan, tidal exchanges and the flushing tunnel are also sources of solids. Data on particulate loading of the various sources should be presented to support EPA's claim. Additionally, the PAH trends would be better supported by utilizing the TOC data discussed previously to normalize the data, in order to illustrate differences in loading. Relative to canal surface sediments (~90mg/kg @1% TOC), soft sediments are 3X higher (~300 mg/kg @1%TOC) but also 6X lower than native sediments (~1500 mg/kg @1% TOC). These differences in loading suggest that vastly different sources and rates are involved for each depositional layer.

8. **Groundwater**

In this section of the Proposed Plan, at page 10, EPA discusses using an ESB approach to determine toxic units in groundwater. However, scant information is provided to clarify whether measured groundwater values were used, since the referenced ESB approach uses sediment values and partitioning calculations. EPA must explain its approach in detail.

9. **Sediment Transport and Deposition**

a. This section of the Proposed Plan, at page 10, notes that the "upper canal is the reach most affected by the deposition of solids from CSO discharges." However, EPA fails to provide any explanation of this statement and why the lower reach is not similarly impacted by the CSOs.

b. Another portion of this section, at page 10, suggests that Canal sediments "may be resuspended by currents, propeller wash, dredging and other disturbances." Contrary to this claim, the Proposed Plan notes that currents in the Canal are generally weak and that dredging has not occurred in 3 decades. The Proposed Plan notes further that propeller wash may result in localized re-suspension and re-deposition but that the finest particles are transported further downstream where contamination levels are lower. There is no explanation of why the finest particles would be expected to carry a lower contaminant load, which would have to be the case in order to explain the concentration trends. Again, these internal discrepancies undercut the EPA's position on remedy selection.

10. **Solids Impacts from CSOs**

a. The Proposed Plan, at page 11, notes that the hazardous substances in shallow sediments in the upper reaches are a result of CSO and stormwater discharges, as opposed to releases from MGP sites. However, there is no definition of what is meant by "shallow sediments." Specifically, does this refer to the upper six inches of the soft sediments or some other vertical interval? This missing information is critical to a proper assessment of solid impacts.

b. The Proposed Plan, at page 11, reports that high TOC of about 6% is evidence that the surface 0-2 ft. sediment is dominated by CSO loading. However, Table 2 reports that soft sediment has a substantially higher

TOC average of 11.9%. EPA needs to clarify this section to explain whether the entire soft sediment column is primarily impacted by CSOs or is also impacted by the NAPL associated with the MGP Sites.

c. The Proposed Plan, at page 11, reports that PAH, copper and lead are similar in concentration in the surface sediment and in CSO solids. Although aluminum and iron as crustal elements are mentioned in this section, EPA fails to evaluate their likely sources.

11. **Non-aqueous Phase Liquid Fate and Transport**

a. This section, at page 12, generally describes NAPL dynamics but offers little information on the spatial distribution in the Canal. This missing data is important to EPA's fate and transport analysis.

b. The Proposed Plan, at page 12, states, "NAPL in the canal sediments can be transported upward through the sediments into the water column through several transport mechanisms, including ebullition, seep migration, sheen migration and groundwater advection." EPA needs to estimate the total mass and rate of such transport, given that the selected remedy includes an oleophilic clay treatment layer that is intended to adsorb such residual NAPL after remedy implementation. (Page 21 of the Proposed Plan indicates that the oleophilic clay layer is only 1 foot thick in RTA 1 and RTA 2 and 0.5 feet in RTA 3.) EPA also needs to conduct treatability studies to determine the specific adsorptive capacity of the clay to be used for this treatment layer so that the required depth and associated total volume (and costs) for this clay layer can be estimated. In the event that such calculations show higher NAPL residual masses and/or lower clay adsorptive capacities than envisioned in the remedy, significant modifications to the multi-layered cap design would be needed prior to implementation. Further, if the volume of clay thus estimated were significantly to increase, the entire remedy may be infeasible due either to cost increases or impact on bathymetry (thicker treatment clay layer

interfering with navigational requirements; page 21 indicates a depth of ~16 feet is needed for navigation).

12. **Summary of Remedial Alternatives**

a. This portion of the Proposed Plan, at page 19, mentions sediment disposal options but fails to consider any recommendation for a Confined Aquatic Disposal (CAD) cell. This type of remedy has been used at other Superfund sites in the region, such as Newark Bay. EPA's failure to include this option makes its remedy alternative assessment non-compliant with the NCP.

b. The Proposed Plan, at page 30, states that if the cap treatment layer proves to be inadequate over the life expectancy, then "the remedy may include the replacement of portions of the treatment layer (replacing the treatment layer would also necessitate the removal and replacement of the overlying sand and armor layers)." Although 1,356 CY of "clay import" (at a cost of $271,245/year in 2012 dollars) is included in the annual O&M, this cost does not include larger scale replacement of the clay treatment layer in the event that large areas of the clay layer reach their sorptive capacity for the residual NAPL not removed during remedy implementation. As discussed earlier, EPA has not conducted treatability studies to assess the clay sorptive capacity, nor has it attempted to estimate the total residual NAPL that will need to be treated by the clay layer. Insufficient sorptive capacity of the clay treatment layer will result in recontamination and catastrophic failure of the remedy.

13. **Basis for Remedy Preference**

Alternatives 5 and 7, discussed at page 31, involve placement of an oleophilic clay layer in the Canal. Because active vertical migration of groundwater is noted for the native layer below soft sediments, EPA should have discussed the implications of an impermeable cap that could be subjected to potential uplift,

and/or and/or whether groundwater would be redirected around the cap and result in discharge along preferential pathways, such as bulkhead interfaces.

14. Source Control Components

a. The Proposed Plan, at page 32, indicates that "EPA and NYSDEC are closely coordinating and EPA is confident that these source areas can be appropriately addressed within the anticipated remedial approach and schedule for the canal remedy." Other than to so indicate, EPA offers no tangible evidence of such coordination, such as anticipated implementation schedules for non-MGP upland cleanups, CSO control, and the sediment remedy to be implemented by NYSDEC and NYCDEP. As noted in our general comments, this crucial element--the remedies to be employed to control the CSOs and to clean up the MGP sites--cannot be left to an after-the-fact decision. Such cleanups must be conducted prior to addressing Canal sediments as there is the potential for recontamination of such sediments from these sources.

b. The Proposed Plan, at page 33, indicates that "[p]lanned development in the area has the potential to increase sewage flows further, which can contribute to increases in CSO discharges." However, what are missing from this assessment are any projections from NYCDEP for increases in CSO discharges and whether such projects have been incorporated into the projected 34% reduction of CSO discharges.

c. The Proposed Plan, at page 33, indicates that a separate groundwater remedy is not required as part of this selected remedy. This presumes that NYSDEC will implement the necessary groundwater remediation prior to construction of the sediment remedy by EPA, and that no compatibility issues with that effort (e.g., bulkhead sheet piling) will arise. Selecting the alternative prior to establishing the groundwater control plan is premature and will likely lead to conflicts between the remedies chosen by EPA and NYSDEC.

I, the sender, vote that I do not want this project to proceed.
Maureen Miller to: Region2 GowanusCanalComments 04/26/2013 02:11 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

- Children
- Numerous public and private schools which use the fields for physical education & sports teams
- Residents of the Red Hook Houses and the surrounding neighborhood
- Soccer, softball, baseball, football, handball, basketball, track & field teams and enthusiasts
- Swimmers of all ages
- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--
Maureen Miller
maureenmill@gmail.com
170 Brookline Ave, Apt 323
Boston, MA
former resident

CAG EPA Linda LaViolette.doc

LaViolette, Linda to: Region2 GowanusCanalComments 04/26/2013 02:20 PM

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Thank you.

CAG EPA Linda LaViolette.doc

Linda LaViolette
385 ½ Union Street
Brooklyn, New York, 11231
April 26, 2013

Mr.Christos Tsiamis
Gowanus Remedial Project Manager
Environmental Protection Agency
GowanusCanalComments.Region2@epa.gov

Dear Mr. Christos Tsiamis:

I would like to thank you and the EPA's Gowanus Superfund Team for the leadership and commitment you have demonstrated while working in the Gowanus community during the last several years.

As a long time resident and business person living and working along the banks of the Gowanus Canal I totally support the Proposed Plan to clean up the Gowanus Canal. The EPA's proposed plan reflects careful consideration and shows commitment towards our communities concerns. I support the plans removal of contaminated sediments for the entire width and length of the Canal, to the depth of the native sediments. I support elimination the Combine Sewage Overflow as a potential source of Canal recontamination and the EPA's plans to eliminating the source of pollutants coming from upland sources.

As a member of the Gowanus Superfund Community Advisory Group I can say that our government does work for the people and that the Gowanus Remedial Team is the best example of a government that cares.

Sincerely,

Linda LaViolette
lalaviolette@hotmail.com

NYC
Environmental
Protection

Carter H. Strickland, Jr.
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April 26, 2013

RECEIVED
MAY 08 2013
BY:

Mathy Stanislaus
Assistant Administrator, Office of Solid Waste and Emergency Response
Ariel Rios Building
1200 Pennsylvania Avenue, N.W.
Mail Code: 5101T
Washington, D.C. 20460

Re: Gowanus Canal Superfund Site

Dear Assistant Administrator Stanislaus:

I enclose a copy of the City of New York's ("the City's") comments on the U.S. Environmental Protection Agency's ("EPA's") proposed plan for the remedy of the Gowanus Canal under the Comprehensive Environmental Response, Compensation and Liability Act ("CERCLA" or "Superfund"), which was submitted to EPA Region 2 today. Since at least 2009, and in dozens of meetings since then, the City has been working with the EPA and stakeholders to develop and assess robust technical data and science-based strategies that will lead to sustainable improvements to the Canal. In a similar spirit, the comments submitted to Region 2 today are intended to ensure that the remedy in the Canal will work.

As you know, before the CERCLA process started the City had already made commitments to the State and the public to construct multiple projects to improve water quality, with more than $150 million invested to reduce combined sewer overflow ("CSO") discharges and to make other improvements. This year, we will be reactivating the Gowanus Flushing Tunnel to bring cleaner water from Buttermilk Channel into the Canal, and we will soon be completing upgrades to the Gowanus Pumping Station and force mains to reduce CSO discharges into the Canal. In addition, we will be constructing more than 600 bioswales in the area, which will further reduce CSO discharges and beautify the community, and will be breaking ground on a project to separate the sewer system along 3rd and 4th Avenues. As with all of our projects, the City will extensively monitor water quality to determine the effectiveness of these measures. In addition, the City has begun a pilot program to measure the volume of CSO discharges with the advice of a peer review panel of outside experts, as this is a promising but untested technology.

In light of these significant actions, we welcome the elements of the EPA's Proposed Plan that refer additional CSO control measures to the Long Term Control Plan ("LTCP") process under the oversight of the New York State Department of Conservation ("DEC"), which has delegated responsibility for implementing the Clean Water Act. We believe this is an appropriate allocation of responsibility because the State has decades of experience in

Since the designation of the Canal as a Superfund site we have shared the same ultimate goal – remediating the environmental contamination in the canal as quickly, efficiently, and cost-effectively as possible. I would like to meet with you at your earliest convenience to discuss a path forward that will lead to a feasible and complete remedy of the Gowanus Canal.

Very truly yours,

Carter H. Strickland, Jr.

Enclosure

c: Judith Enck, Region 2 Administrator, U.S. EPA
Caswell Holloway, Deputy Mayor for Operations, New York City

Tsiamis, Christos

From: Mahoney, Eileen [EMahoney@dep.nyc.gov]
Sent: Friday, April 26, 2013 2:46 PM
To: Tsiamis, Christos
Cc: Carr, Brian
Subject: NYC Comments 1 of 2
Attachments: NYCDEPFinalComments_GowanusCanalPRAP.zip

Christos

Attached please find 1 of 2 attachments that comprise New York City's comments on the Proposed Plan for the Gowanus Canal Superfund Site.

I will send the 2nd attachment in a second email.

Regards,
Eileen

Eileen Mahoney, Ph.D./Director, Hazardous Materials Assessment and Superfund Planning and Analysis/
NYC Environmental Protection/Sustainability (O)718-595-4433/ © 917-855-5013/ EMahoney@dep.nyc.gov

Tsiamis, Christos

From: Mahoney, Eileen [EMahoney@dep.nyc.gov]
Sent: Friday, April 26, 2013 2:50 PM
To: Tsiamis, Christos
Cc: Carr, Brian
Subject: NYC Commments #2 of 2
Attachments: NYCDEP PRAP CommentsAppendices.pdf

Christos

Attached please find the second of 2 attachments comprise New York City's comments on the Proposed Plan for the Gowanus Canal Superfund Site

Regards
Eileen

Eileen Mahoney, Ph.D./Director, Hazardous Materials Assessment and Superfund Planning and Analysis/
NYC Environmental Protection/Sustainability (O)718-595-4433/ © 917-855-5013/ EMahoney@dep.nyc.gov

The City of New York

The City of New York's Comments on the Proposed Plan for the Gowanus Canal Superfund Site

April 26, 2013

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Introduction

The City of New York ("City") appreciates the opportunity to comment on EPA's Proposed Plan for the Gowanus Canal Superfund Site (December 2012) ("Proposed Plan"). The City supports a cleaner Gowanus Canal ("Canal"), and has already expended well over $150 million under its Clean Water Act ("CWA") program to achieve this goal. Notably, the City's rehabilitation of the Gowanus Flushing Tunnel, which will bring cleaner water from Buttermilk Channel into the Canal, is slated to be completed this year. In addition, the City will be constructing a large number of "green infrastructure" projects in the neighborhoods surrounding the Canal, with the goal of further improving water quality by reducing the volume of combined sewer overflows ("CSOs").

The City strongly believes that the plan for a cleaner Canal under EPA's Superfund program must be guided by sound science and adherence to the National Contingency Plan ("NCP"). The Proposed Plan must also take into account how it will affect important City resources such as parkland and shorelines. Unfortunately, the current Proposed Plan for the Canal does not yet achieve these fundamental benchmarks. The Proposed Plan is compromised by several major technical flaws, and does not comply with the NCP. The City is concerned that, unless these significant issues are addressed by EPA before it issues its Record of Decision ("ROD"), the Proposed Plan will result in an unnecessary and onerous commitment on the part of City taxpayers and ratepayers, will result in recontamination of the Canal, and will have long-term adverse impacts on the surrounding communities. The City is very concerned that the remedy, as currently proposed, is likely to fail, as the Proposed Plan does not include adequate measures to control the significant sources of contamination (and recontamination) from groundwater contaminated with Non-Aqueous Phase Liquids ("NAPL"), originating from the properties adjacent to the Canal.

The City's primary technical concern is that EPA is proposing a remedy for the Gowanus Canal on the basis of an incomplete conceptual site model ("CSM"). Development of a reliable CSM is one of the most important objectives of a Remedial Investigation/Feasibility Study ("RI/FS") process under the Comprehensive Environmental Response, Compensation, and Liability Act ("CERCLA"). A CSM identifies sources of contamination and describes fate and transport mechanisms. Here, the absence of an adequate CSM has led EPA to overstate the impacts of CSOs on the levels of hazardous substances in sediments in the Canal. Relying on incomplete data and erroneous calculations, EPA concludes that new CSO source controls are necessary for outfalls RH-034 and OH-007 in order to prevent sediment discharged from these outfalls from re-contaminating the remedy. The City disagrees with EPA's interpretation of its limited data and furthermore has collected additional data that show conclusively that existing CSO discharges do not contribute CERCLA hazardous substances at levels that pose unacceptable risks to human health and the environment. Similarly, the City disagrees with EPA's proposed reduction targets for RH-034 and OH-007 of 58 to 74 percent. EPA has based these reduction targets on unsupported assumptions that surface sediment contamination is the result of CSO solids. The City's data demonstrate that CSOs are not the source of elevated contaminants in Canal sediments. The City's data further demonstrate that CSO solids do not exceed EPA's Preliminary Remediation Goals ("PRGs") proposed for the protection of human health and the environment, even though those goals are based on flawed science. Further, EPA's presumptive remedy for two in-line tanks to achieve this reduction is not based on site specific data or modeling, but instead on a single study examining stormwater discharges, not CSO discharges, in an

area near Los Angeles that is not comparable to New York City in terms of topography, rainfall patterns, or land use. This issue requires a site-specific technical analysis, not reliance on a single study whose author questions its applicability to the Canal (*see* Appendix B).

EPA's development of a presumed remedy to meet these flawed reduction targets also fails to comply with the NCP. EPA presumes that two in-line tanks – one for each outfall – would be necessary to achieve the proposed reduction targets, and that these tanks will cost a total of $78 million. EPA's development of this alternative fails to comply with the NCP because, among other things, it fails to properly assess this alternative individually against all nine NCP criteria and comparatively against the other alternatives that survived the screening analysis contained in the Addendum to the Feasibility Study ("FS Addendum"). As just one example, EPA, without explanation, has excluded the costs of operation and maintenance from its cost estimate – a substantial omission given that such an analysis is required by the NCP, and given the high ongoing costs of operating and maintaining these facilities. Furthermore, EPA's analysis incorrectly assumes that the tank proposed for RH-034 can be constructed and located on inalienable public parkland. This assumption not only runs contrary to applicable, relevant and appropriate New York State law, but also does not adequately consider the loss of a valuable parkland resource on the surrounding community. Moreover, EPA has significantly underestimated the capital cost of the proposed facilities.

The Proposed Plan also violates the NCP because it fails to analyze against the NCP criteria the other source control measures EPA concedes are required to implement this remedy. Notably, the Proposed Plan and underlying documents do not evaluate individually or comparatively against the nine NCP criteria the source control measures associated with groundwater contaminated with NAPL from former Manufactured Gas Plants ("MGPs"), contamination on other upland sites, or contaminated groundwater. There is no evaluation of whether the controls, which EPA assumes will take place for these sources, will be sufficient for protecting the remedy from recontamination by NAPL in groundwater and other sources. Because, as EPA agrees, these measures are essential for preventing recontamination of the Canal sediments, EPA must subject these source control measures to a full evaluation under the NCP, and not merely presume that these sources may someday be controlled under an unspecified DEC or other remedial program. Instead, EPA delegates to the State decision-making for these source control remedies, which delegation itself violates the NCP. Indeed, failure to control these sources would effectively negate the effectiveness of the Superfund cleanup, and indeed negate any source control measures related to CSOs.

Despite its deficiencies, the Proposed Plan does make some progress in moving toward a more practical framework. The City is encouraged by EPA's willingness to continue to review new data collected by the City, including data that will be collected following the completion of the current CWA upgrades. The City believes these data are essential for understanding what additional controls, if any, would be needed for CSOs to prevent recontamination of the Superfund remedy. The City is also encouraged by EPA's acknowledgment that the forthcoming Long Term Control Plan ("LTCP") process should be the predominant legal framework for planning and developing CSO control measures, in accordance with, and based upon, the appropriate criteria and schedule that apply to the LTCP process. As described more fully in the comments below, to the extent that the Proposed Plan seeks to impose additional CSO controls under CERCLA in the form of a presumed in-line tank remedy, separate and apart from the LTCP process, the City contends that EPA has not complied with CERCLA's mandatory remedy selection process for that presumed remedy. Furthermore, the City continues to urge EPA to adopt the recommendations of EPA's Contaminated Sediments Technical Advisory Group

("CSTAG"), and develop and issue an Interim ROD focused on the serious NAPL contamination currently impacting the Canal.

Overview of Comments and Reservation of Rights

The City's individual comments on the Proposed Plan and FS Addendum are consecutively numbered and generally categorized by their subject matter. The City expects that EPA will specifically respond to each individual comment, any narrative portion or annexed document elaborating on the individual comment, and to all questions or issues listed under each individual comment. In addition, any attachments to this document should be viewed as fully incorporated herein, and EPA should specifically respond to the issues raised in these attachments. The categories for the comments are for ease of reference and, thus, if an individual comment raises issues relevant to another category, EPA should respond to those issues as well.

Pursuant to 40 C.F.R. § 300.825, the City reserves the right to supplement the administrative record after the public comment period for the Proposed Plan and after the ROD has been signed. First, 40 C.F.R. § 300.825(a)(1) authorizes EPA to add documents to the administrative record after the ROD has been signed if "the documents concern a portion of a response action that the decision document does not address or reserves to be decided at a later date." The Proposed Plan expressly states that several portions of the proposed response action are reserved to be decided at a later date, including but not limited to, selection of the final remedies for the MGP sites, selection of the final remedies for the upland sites, selection of interim remedies for further CSO controls, if any, whether the presumptive remedy for further CSO controls must be implemented, selection of locations for further CSO controls, if any, and selection of the precise further percent reduction of CSOs, if any, needed to meet remedial action objectives. Any documents related to these issues submitted after the ROD is issued should be included in the administrative record.

Second, 40 C.F.R. § 300.825(c) requires EPA to consider comments submitted by interested persons after the close of the comment period to the extent "the comments contain significant information not contained elsewhere in the administrative record file which could not have been submitted during the public comment period and which substantially support the need to significantly alter the response action." As EPA is aware, the City continues to collect and analyze samples relating to current CSO discharges to the Canal and sediments in the Canal. To the extent the City receives such validated analytic data after April 28, 2013, such data may constitute "significant information not contained elsewhere in the administrative record" that "could not have been submitted before the public comment period." In addition, to the extent such data demonstrates that the concentrations of PAHs in the CSOs and/or in the sediment in the Canal do not require further control remedies as specified in the Proposed Plan, the data may "substantially support the need to significantly alter the response action" as currently proposed in the Proposed Plan.

Technical Review of the Proposed Plan And the FS Addendum

Introduction to Technical Section

Before discussing the City's concerns in detail, the City would like to outline its ongoing sampling efforts. The City has conducted an extensive sampling effort in the Canal to understand the nature of contamination in the Canal and alleged contamination in the CSOs that discharge to it. These samples are also intended to address some of the limitations of EPA's data set. In particular, the City has obtained both dissolved and suspended matter samples from each of the four major CSOs to the Canal on at least four separate occasions. These samples represent time-weighted averages of most or all of the discharge during discrete rainfall events that cause overflows at each outfall. The samples have been analyzed for an extensive set of parameters including polycyclic aromatic hydrocarbons ("PAHs"), metals, polychlorinated biphenyl ("PCB") congeners, and many supporting parameters like total suspended solids ("TSS"). Additionally, the City has sampled from the CSO pipes adjacent to National Grid's Fulton MGP facility on two separate occasions. The City has also collected surface sediment samples for use in benthic toxicity tests which the City has also conducted. Finally, the City has collected surface water from within the Canal as well as from Gowanus Bay to examine water column conditions during dry periods when the CSOs are not discharging. The City will continue these sampling programs, plans to expand its surface sediment collection effort, and will continue to provide the results of these studies to EPA. The sample results received to date provide important insights into the nature of contaminant loads to the Canal and have been used extensively in preparing the comments provided below. This document provides a summary of the results and analysis from NYC's field work that are available to date for the physical characteristics and COPC concentrations in the CSOs and WWTPs. The City is continuing the efforts described in the QAPP to further expand our understanding of these discharges. Note that the City is still awaiting additional laboratory results for certain samples obtained from the affected CSO, which will be presented in subsequent data reports.

The Canal has been extensively contaminated by discharges from upland sources. PAH contamination in the sediments of the Canal can be readily tied to the three MGP sites along its banks. However, EPA has not sufficiently quantified the magnitudes of PAH transport via direct seepage of coal tar NAPL from these facilities, PAH transport via groundwater, and PAH transport via the numerous private and unpermitted pipe discharges, to evaluate their relative importance in formulating the Proposed Plan.

Lacking information on the relative importance of the sources of contaminants to the system, EPA has resorted to speculation about the character of CSO discharges relative to surface sediment observations in the Canal. The City notes that the contaminant patterns of several chemicals in the Canal (and the magnitudes of their concentrations) simply cannot be the product of any combination of CSO discharge and harbor solids alone. Significant other sources of contamination exist and these sources must be considered before a reliable chemical mass balance can be completed. Such a mass balance is critical to understanding the role of CSO solids with respect to surface sediment chemistry in the Canal.

While EPA proceeds to remedy selection based on an inadequate CSM, the City has begun an intensive investigation of contamination in the Canal and of the City's allegedly contaminated CSO discharges, and continues to study and sample. Based on the data

developed under its investigations in concert with EPA's data, the City has demonstrated that, while EPA's low PAH cleanup goal is unjustified and technically indefensible, the CSO discharges actually meet that goal. While more work remains to be done to provide a complete understanding of all of the important sources of contamination to the Canal, the City's investigations clearly show that CSO discharges do not contribute unacceptable risk related to contaminant concentrations in the surface sediments. Taken together, the City's findings indicate that there is no technical basis for requiring CSO controls under CERCLA. It is evident from the data that all of the risk related to PAHs and PCBs that warrants CERCLA intervention is attributable to contamination from other sources (*e.g.*, adjacent MGP sites), which may not as yet be fully characterized, or in some cases may not even have been identified by EPA.

Many of the problems with the Proposed Plan that the City has identified have been the subject of ongoing discussions with EPA over the course of a year or more. In the comments below, the City presents the results of its recent sampling efforts which confirm and support the City's concerns. The City believes that the information gathered by EPA does not form a sufficient basis to make reliable decisions regarding the remediation of the Canal. As a result, the City cannot support the remedy described in the Proposed Plan.

NYC Comment 1: There is no basis under CERCLA for requiring a 58 to 74 percent reduction in CSO discharges. The CSO reduction requirement is based on several incorrect assumptions and technically indefensible PRGs, and will fail to achieve the targeted contaminant reductions in surface sediments.

In its FS Addendum, EPA derived estimates of required solids reduction for CSO outfall RH-034 on the order of 58 to 74 percent to meet its PRGs in the Upper Canal for total PCBs ("TPCBs"), total PAHs ("TPAHs"), copper, and lead. In deriving these proposed solids reductions, EPA asserts that CSOs are, and will be, the only source of surface sediment contaminant concentrations in the Upper Canal that will be controlled. Therefore, EPA incorrectly assumes that the only way for surface sediment concentrations to decline is for the CSO loads to decline.

EPA did not measure PAH concentrations on the solids from CSO discharges. Instead, EPA analyzed PAHs in whole water only. EPA then approximated PAH concentrations on the solids from CSOs using the measured whole water concentrations and TSS measurements. In this methodology, EPA simplistically (and incorrectly) assumed that the entire mass of PAHs as reported by a measured whole water concentration was carried by the solid phase and that the dissolved PAH concentration was zero.

In contrast, the City performed a more detailed and comprehensive analysis by collecting and measuring the actual PAH concentrations on the solids from CSO discharges. Based on the City's more refined data set, contaminant concentrations on CSO solids do not exceed the risk-based PRGs developed by EPA. Under CERCLA, if contaminant concentrations do not pose unacceptable risk to human health and the environment, no remedial action is required (EPA,1988; EPA 1999). EPA's preferred remedy will fail to achieve the targeted reduction in surface sediment concentrations in the Canal because EPA has failed to consider the full range of significant sources of contaminants. As discussed in NYC Comment 3, there are important sources of PAHs and PCBs that cannot be ascribed to CSOs. These sources are responsible for the elevated concentrations of PAHs and PCBs in the surface sediments of the upper and middle sections of the Canal. Additionally, the surface sediments that serve as EPA's basis to estimate the percent reductions in CSO contributions are actually more affected by other major contaminant sources that EPA has failed to quantify, or in the case of PCBs and lead, even to recognize. The failure on EPA's part to identify and quantify these additional sources properly is symptomatic of the poor CSM.(*see* NYC Comment 3).

As shown below, no reduction of CSO discharges will be sufficient to reduce surface sediment contaminant levels to the PRG since the CSOs are equivalent to or below the PRG for PAHs and PCBs. In addition, the PRGs that EPA developed for copper and lead are without merit. In preparing this analysis, the City included the reference area data for New York Harbor obtained as part of the Newtown Creek investigation. For the Newtown Creek RI/FS, an evaluation to determine appropriate background locations was conducted by collecting surface sediments at several candidate reference sites for contaminant and physical characterization. These sites were classified into four categories: industrial with CSO input, industrial with no or minimal CSO input, non-industrial with CSO input and non-industrial with no or minimal CSO input. The City determined Background Threshold Values ("BTVs") (*see* NYC Comment 6) for TPAHs, TPCBs, copper and lead (*see* Table 6-1) in each of the four categories of background areas using EPA's ProUCL Version 4.1 software (Singh et al., 2010), and then compared CSO data to the BTVs.

1) CSO solids do not exceed EPA's PRG for Total PAHs.

In the case of PAHs, recent data collected by the City on the solids fraction discharged by CSOs indicate an average TPAH concentration of 30 mg/kg, with a lower confidence limit ("LCL") of 25 mg/kg and an upper confidence limit ("UCL") of 36 mg/kg. This range is significantly lower than the TPAH concentration of 56 mg/kg and confidence bounds of 41 to 78 mg/kg used by EPA (based only on the EPA RI data) to represent CSO discharge solids in determining its proposed solids percent reduction. When the TPAH concentrations in the surface sediments of the Upper Canal are calculated using EPA RI data, EPA's Emergency Response Team ("ERT") data, and the City's data, the average TPAH concentration is 261 mg/kg (LCL 130 mg/kg, and UCL 423 mg/kg), which is significantly greater than the average TPAH concentration on CSO solids (30 mg/kg). This is more clearly demonstrated in NYC Comment 2, where the distributions in CSO solids are directly compared with solids in the Canal and the reference areas. It is clear from these observations that CSO solids are significantly less contaminated than Canal surface sediments.

When the TPAH concentrations on CSO solids are evaluated on an organic carbon-normalized basis, it is clear that these concentrations are well below EPA's PRG. The TPAH PRG set forth by EPA is 20 mg/kg for sediment exhibiting 6 percent total organic carbon ("TOC"). While the City believes that this PRG is not technically defensible, the TPAH concentrations on solids discharged by the CSOs readily meet this threshold. The average observed concentration of TOC on CSO solids is 40 percent, based on recent data collected by the City. The average TPAH concentration on the CSO solids on an equivalent 6 percent organic carbon basis is 5 mg/kg, less than one-quarter of the EPA's PRG of 20 mg/kg in sediments at 6 percent TOC. It is clear therefore that the Proposed Plan is incorrectly focused on CSOs as a substantive source of PAHs when, in fact, CSO solids are already in compliance with EPA's incorrectly calculated PRG (*see* NYC Comment 7 below for the City's major concerns with the development of the PAH PRG).

Based on this information, the City reconstructed the figure from the FS Addendum (*see* FS Addendum 7, Attachment) that EPA used to estimate the required CSO percentage reduction at RH-034 based on TPAHs. This is shown as Figure 1-1. The figure shows EPA's original calculation based on its estimate of TPAH concentrations in the surface sediments of the Upper Canal. Also shown on the diagram are two important additions. First, the TPAH concentration for CSO solids is shown, on a 6 percent TOC basis, *i.e.*, 5 mg/kg TPAH / 6 percent TOC. As noted above, this value is well below the PRG, indicating that CSO solids already satisfy the PRG value. Also shown on the diagram is the City's estimate of surface sediment concentrations in the Upper Canal. This value is more than five times greater than the estimate presented in the Proposed Plan. For the City's estimate, all data available for the Upper Canal were used, including the RI data obtained by EPA, data obtained by EPA's ERT and data obtained by the City during its own investigation of the Canal. The original EPA value was based only on the EPA's RI data, which appears biased substantially lower than the other two data sets.

This revised version of the EPA Percent Reduction Diagram yields two important conclusions. First, that CSOs are already in compliance with the proposed PAH PRG and no further CSO reduction is justified for TPAH control; and second, that surface concentrations and the source(s) of PAH contamination to the Upper Canal are indicative of a much more substantial load of PAHs to the Canal than that delivered by the CSOs, and will require a substantially greater reduction of PAH contamination (92 percent) to meet the EPA PRG than originally estimated in the Proposed Plan. The results for PCBs yield a similar conclusion and are discussed below.

As a last basis of comparison, TPAH BTVs (*see* NYC Comment 6) derived for the four categories of reference sites for Newtown Creek range from 16 to 48 mg/kg on a 6 percent TOC basis. These BTVs are higher than TPAH concentrations observed for CSO solids that discharge to the Canal on a TOC basis. From these data, it is clear that there is no combination of CSO solids and harbor solids that will yield the surface sediment concentrations observed in the Upper Canal. Taken together, these observations indicate that EPA's proposed CSO solids reduction requirement for TPAHs is not warranted.

2) CSO solids do not exceed EPA's PRG for TPCBs.

For TPCBs, recent data collected by the City on the solids fraction discharged by CSOs indicate an average TPCB concentration of 0.42 mg/kg (LCL of 0.31 mg/kg and UCL of 0.54 mg/kg). This TPCB concentration range is slightly lower than the average TPCB concentration of 0.54 mg/kg and confidence bounds of 0.42 to 0.67 mg/kg estimated by EPA to represent CSOs in determining the proposed solids percent reduction. As shown in NYC Comment 2 below, the TPCB concentrations in the surface sediments of the Upper Canal have an average of 0.96 mg/kg (LCL of 0.50 mg/kg, and UCL of 1.57 mg/kg), which is substantially greater than the TPCB concentrations on CSO solids. In the Middle Canal reach, surface sediment PCB concentrations are even greater, averaging around 5.5 mg/kg. Similar to TPAHs, the CSO discharges cannot explain the elevated PCB concentrations in surface sediments in the Canal, which means that there is a much more substantial load of PCBs to the Canal than that delivered by the CSOs. This is even more apparent when viewed on an organic carbon-normalized basis, as shown in NYC Comment 2 below, where it is observed that normalized CSO solids concentrations are more than an order of magnitude less than those for reference area samples. Therefore, it is clear that the CSO solids serve to dilute PCB concentrations delivered by other sources to the Canal. EPA's basis for reducing CSOs to meet its PRG for PCBs is flawed, and again reflects the underdeveloped CSM.

For TPCBs, the City repeated the reconstruction of the figure from the FS Addendum that EPA used to estimate the required CSO discharge percentage reduction at RH-034 (*see* FS Addendum 7, Attachment). This is shown as Figure 1-2. The figure shows EPA's original calculation based on its estimate of TPCB concentrations in the surface sediments of the Upper Canal. The City's figure has two important additions. First, the TPCB concentration for CSO solids is shown at 0.42 mg/kg. As noted above, this value is just below the PRG, indicating that again the CSO solids already satisfy the PRG value. The diagram also shows the City's estimate of surface sediment TPCB concentrations in the Upper Canal. In this instance, the City's value is twice EPA's value, at 0.96 mg/kg. This value was derived in a similar manner as for the TPAH samples, but limited to those samples with reported PCB congener results. Again, the original EPA value was based only on data collected in EPA's RI investigation; these data appear biased substantially lower than concentrations found in the other data sets.

This revised version of the EPA Percent Reduction Diagram yields the same two important conclusions as the TPAH results. First, that CSOs are already in compliance with the proposed PCB PRG and no further CSO reduction is justified for TPCBs control; and second, that surface concentrations and the source(s) of PCB contamination to the Upper Canal are substantially greater and will require a substantially greater reduction to meet the EPA PRG than originally estimated in the Proposed Plan.

The average CSO discharge for TPCBs of 0.42 mg/kg is slightly less than EPA's TPCB PRG of 0.48 mg/kg. However, as EPA's stated purpose was to define a regional signal as the TPCB PRG, it is important to consider the range of BTVs for TPCBs calculated for Newtown Creek candidate reference areas. The BTVs for TPCBs are in the range of 0.16

to 2.7 mg/kg (*see* Table 6.1), further indicating that the CSOs are not different from background. Therefore, EPA's proposed CSO solids reduction requirement is not warranted on the basis of TPCBs.

3) EPA's PRGs for metals are entirely without merit.

EPA's PRGs for copper and lead are scientifically untenable since they are based solely on background levels and not risk. By the agency's own analysis and conclusions, these metals do not pose risk and therefore no remediation is required (*see* NYC Comment 8 below). The Proposed Plan did not, and could not, present evidence of unacceptable risks to humans or the environment due to the presence of these metals in the sediments of the Canal. Although the Proposed Plan states that these metals are the most likely to cause adverse effects, there is no evidence presented to support this. Additionally, the Proposed Plan notes that metals are not bioavailable and therefore do not present toxicity in the sediments:

> "…Based on measured concentrations in sediment, copper and lead were identified as the metals most likely associated with adverse effects. However, geochemical analyses (*i.e.*, SEM/AVS) indicate that these metals currently are not bioavailable and should not cause toxicity." *See* Proposed Plan, p. 17.

Despite the observation that these metals are not bioavailable, the Proposed Plan then goes on to state:

> "However, metals may become bioavailable in the future if geochemical conditions in the canal change and do not favor the formation of insoluble sulfides. Therefore, PRGs for copper and lead are necessary in the event that metals become bioavailable and toxic in the future…." *See* Proposed Plan, p. 17.

As clearly stated here, these PRGs are based on the speculation that geochemical conditions may change in the future. As such, EPA was unable to develop toxicity-based PRGs pertaining to existing site-specific conditions. Developing a realistic understanding of future geochemical conditions posing toxicity would require estimating both the timing and the degree of geochemical changes as well as the changes in bioavailability and toxicity. No attempt has been made for purposes of the Proposed Plan to develop a model capable of predicting these changes. Instead, it is simply asserted that such a change is possible and then PRGs are proposed based on the maximum Gowanus Bay and Upper New York Bay concentrations for the reference stations that showed no overall toxicity, without any demonstration that current or future levels of these metals are toxic. In fact, as part of the Newtown Creek candidate reference area background site assessment, sediment concentrations of copper and lead in the Canal are shown to be comparable to background levels in similar settings throughout New York Harbor.

Additionally, the supposition that geochemical conditions of Canal sediments would become sufficiently oxidized so as to change the bioavailability and toxicity of these metals is without merit. Extensive studies of sediment conditions throughout New York Harbor show that sediments are reducing essentially everywhere in the harbor, with ratios of acid volatile sulfide ("AVS") to simultaneously extracted metals ("SEM") much greater than 1.0. A detailed discussion of harbor AVS and SEM levels is provided in NYC Comment 8

below. It is clear from the above discussion, and from the lack of scientific support for the toxicity of copper and lead in Canal sediments, that the PRGs for these metals do not satisfy EPA's requirements under CERCLA.

NYC Comment 1 Inquiries

The City requests that EPA respond to the following questions:

- Is EPA confident that it has sufficient information to quantitatively decide the degree of CSO reduction for the Canal when it lacks quantitative information on any of the major sources of PAHs or PCBs to the Canal? If so, please provide the technical basis for this, since the reduction analysis in the Proposed Plan for PAHs and PCBs is not valid. *See* NYC Comment 1(1) & (2) above.

- Given that concentrations of TPAHs and TPCBs on CSO solids are below EPA's PRGs for these compounds even before accounting for possible dilution by harbor suspended solids, what would be the technical basis for requiring reductions of CSO discharges?

- Why did EPA develop PRGs for copper and lead given that the agency's data indicate they do not pose risk and similar reducing conditions are characteristic of conditions essentially everywhere in the harbor?

- Why did EPA ignore its own guidance regarding AVS/SEM metal toxicity, guidance that has been extensively tested and has existed for more than 15 years? What is the technical basis that supports superseding this guidance?

- How were projections of future attainment of PRGs evaluated if quantitative models were not used? In order to support its concern about metal toxicity in the future, will EPA develop the necessary geochemical and toxicological models to estimate future conditions?

- Under what conditions does EPA estimate that Canal sediments could become sufficiently oxidized so as to consume the excess AVS and potentially free the sulfide-bound metals? How long would these conditions take to develop? Is there any evidence that these conditions exist in similar areas in the New York/New Jersey Harbor area?

NYC Comment 2: CSO solids cannot be (and have not been) responsible for observed sediment contamination (PCBs, PAHs, and metals) in excess of CERCLA risk-based thresholds.

The data set obtained in the RI process was insufficient to support the necessary analyses for remedial decision-making. A simplistic interpretation of the limited RI data set has led to a failure to recognize the major ongoing sources of the primary contaminants, *i.e.*, PAH and PCB compounds, to the sediments and water column of the Canal. Instead, the Proposed Plan has focused inordinately on the City's CSO discharges which cannot be responsible for the levels of contamination that now exist in the Canal. Failure to properly recognize and address these major sources of contamination will lead to the failure of the remedy, irrespective of any improvements or changes that may be implemented in connection with the City's CSOs since these CSOs are not responsible for this contamination.

For example, the Proposed Plan incorrectly states:

> "CSO and stormwater solids have a significantly greater influence on the quality of sediments in the 0-2-foot depth interval in the upper reach of the canal than incoming sediments from Upper New York Bay." *See* Proposed Plan, p. 11.

Several lines of evidence are cited to support this contention; each one of them is incorrect and indicates an unduly simplistic analysis of a very complex system. Based on these flawed analyses, the Proposed Plan selects a remedy that is almost certain to fail. The City notes the following flaws in the CSM developed for the site:

Throughout the Proposed Plan and FS Addendum, EPA asserts that contaminant concentrations are principally the result of CSO discharges in the upper portion of the Canal. For example:

> "CSO solids contributions dominate the canal's upper reach." *See* FS Addendum, p. 3.
>
> "However, physical and chemical characteristics of the newly deposited sediments indicate that CSO solids have a greater influence on the quality of shallow sediments in the upper reach of the canal than incoming suspended sediments from Upper New York Bay." *See* FS Addendum, p. 4.
>
> "The physical and chemical characteristics of the shallow sediments in the upper reach of the canal more closely resemble CSO solids than reference sediments from Gowanus Bay and Upper New York Bay." *See* FS Addendum, p. 5.
>
> "Multiple lines of evidence indicate that CSOs to the Gowanus Canal adversely affect canal sediment quality and are contributing to unacceptable risks that must be addressed under CERCLA." *See* FS Addendum, p. 11.

EPA based these assertions on the limited data set obtained by EPA for the RI in 2009. It did not include data obtained by EPA's ERT in 2007. Since the Proposed Plan was issued, the City has also received the results of samples (*See* Appendix A1.1 – Summary

of CSO Sampling Program) collected over the past several months from the upper reach, as well as the rest of the Canal. Inclusion of these two additional data sets yields a very different set of conditions than those initially presented by EPA. As a result, many of the assertions made by EPA in the Proposed Plan have been shown to be incorrect and should be replaced with those described in the comments to follow. Findings of the City's evaluation of all the available data relative to EPA's assertions are presented below.

1) Total organic carbon content

The Proposed Plan states:

> "CSO solids have high TOC content. The TOC content of the surface sediment is about 6 percent. Based upon the results of the RI and EPA (1998), the TOC levels in Upper New York Bay sediments are, on average, about 3 percent. Accordingly, if suspended sediments in tidal inflow or Flushing Tunnel flows from Upper New York Bay were contributing the majority of the deposited mass, the TOC of the surface sediment would be closer to 3 percent." *See* Proposed Plan, p. 11.

EPA incorrectly asserts that the 6 percent TOC content found in Upper Canal sediment is sufficiently high relative to the 3 percent TOC levels observed in the Upper New York Bay and Gowanus Bay reference areas, indicating that CSOs are contributing the majority of the sediments in the 0 to 2-foot depth interval in the upper reach of the Canal.

EPA's evaluation of the TOC data in the FS Addendum was based on:

- An assumption that the TOC concentration in the upper reach of the Canal is equivalent to the discharge from the CSO (therefore, EPA provided only a single data plot to describe CSO discharge impacts on the Canal, *i.e.*, Figure 6 in the FS Addendum, which considers only the upper reach of the Canal and the Gowanus Bay reference area); and

- A qualitative solids balance inferred from the surface sediments and the reference area sediments, without consideration of the TOC measured on the solids delivered by the CSOs.

From this limited examination, EPA reasoned that since 3 percent TOC on solids from the reference area is less than 6 percent on surface sediment in the Canal, CSO discharges must dominate the solids contribution. EPA contends that if solids from the reference area were dominating the TOC input, Canal surface sediment would necessarily contain just 3 percent TOC.

Each of these assumptions is incorrect and reflects an underdeveloped CSM, as discussed in greater detail below in NYC Comment 3. As part of the contaminant fate and transport analysis performed by the City using recent TOC data collected from the four largest CSOs, the City observes the following:

- The average concentration of organic carbon on CSO solids is 40 percent as compared to 3 percent on harbor solids (reference area, Figure 2-1) and 6 percent on sediments of the Upper Canal (Upper Reach, Figure 2-1). Thus, Upper Canal surface sediments are significantly closer in TOC content to harbor solids delivered by the Flushing Tunnel or by tidal exchange than they are to CSO solids, indicating they are primarily comprised of harbor solids.

- If an empirical mixing model with two TOC contributors consisting of the CSO solids and the sediments from the reference area is used to explain TOC content on the surface sediments of the Upper Canal (setting aside potential contributions from MGP facilities and other industrial discharges and assuming TOC to be conservative), the TOC from the CSO would have to be diluted about 9-fold with harbor solids to create surface sediments at 6 percent TOC.

- When TOC is used as a normalizer for organic compounds, the results indicate that the CSOs cannot explain the organic chemical contamination in the Canal (*see* comments on PAHs and PCBs below).

Based on these observations, if CSO solids were the dominant contributor of solids, then the TOC concentration on the surface sediments in the Upper Canal would necessarily be much greater than 6 percent.

2) Total PAH concentrations on CSO solids and Canal sediments

The Proposed Plan makes a related assertion:

> "The concentrations of PAHs, copper and lead in the surface sediment and in the CSO solids are similar. The concentrations of these chemicals are much lower in the reference sediments in the harbor; therefore, deposition of suspended sediments in harbor water (or from the Flushing Tunnel which brings in harbor water) could not be the predominant source of high concentration of PAHs, copper and lead in the canal surface sediments." *See* Proposed Plan, p. 11.

EPA incorrectly asserts that the concentrations of TPAH and selected individual PAH compounds in the CSOs are similar to concentrations in Upper Canal sediments. EPA then incorrectly concludes that the CSOs therefore have a significantly greater influence in the Upper Canal surface and soft sediments with respect to PAHs.

In the FS Addendum, EPA's evaluation of PAHs was undermined by:

- Incorrectly assuming that whole water concentrations of all PAHs compounds are entirely particle-bound. This resulted in significant overestimates of the TPAH concentrations on CSO solids and the variability of these concentrations.

- Using these incorrectly derived estimates of TPAHs, acenaphthene, benzo(b)fluoranthene, benzo(k)fluoranthene, and phenanthrene in CSO solids to assert that the CSO solids concentrations were similar to concentrations in the upper reach of the Canal, and significantly higher than reference sediments based on its very limited and apparently not representative data set (*See* Figures 8 and 9 in the FS Addendum Report).

- Conducting an analysis which excluded the data on PAHs, collected by EPA's own ERT, which includes 4 transects collected at the head of the Canal. The average concentration in the surface sediment from these transects is approximately 950 mg/kg, which is significantly higher than solids concentrations of PAHs in CSO discharges. EPA's RI sediment data in the same location as these ERT transects showed an average of 62 mg/kg.

- Basing proposed reductions for CSO RH-034 on the average TPAH value of 56 mg/kg (standard deviation of 40 mg/kg) observed in the surface sediments in the upper reach of the Canal. This value based on EPA RI data is not representative of the area since it is an order of magnitude less than the TPAH concentrations observed in the sediments collected by EPA's ERT team (average TPAH of 950 mg/kg) and also the data collected by the City during the toxicity sampling program (average TPAH of 217 mg/kg). Furthermore, the CSO solids measurements conducted by the City show that the solids from RH-034 have an average value of 30 mg/kg (standard deviation of 12 mg/kg) and hence cannot be responsible for the contamination observed in the Upper Canal since they are much too low in concentration. This is a clear indication that the basis used by EPA to derive conclusions regarding the impact of CSOs on the upper reach of the Canal is inaccurate.

- Failing to consider other sources of PAHs to the system, especially in the middle reach of the Canal, which likely impact sediments in the upper reach of the Canal.

- Incorrectly concluding that these relationships indicate that solids from CSO discharges have a greater influence on surface sediment quality in the upper reach of the Canal than suspended sediment contributions from Gowanus Bay and Upper New York Bay, when it is clear from EPA data alone that other sources of PAHs have far greater influence on Upper Canal sediments than either the CSOs or the reference area.

- Incorrectly concluding that the CSO solids which are asserted to dominate the Upper Canal exceeded the TPAH PRG.

The City collected samples of the CSO discharges and measured the particulate phase of PAHs directly, as shown in Figure 2-2a, the concentrations of TPAHs on CSO solids are substantially lower than those observed in surface sediments. This can be seen spatially in the upper diagram of Figure 2-2a. The City has analyzed the CSO data along with the available Canal sediment data and observes the following:

- Concentrations of TPAHs in CSO solids, which average 30 mg/kg, are substantially lower than surface sediment concentrations in the Upper Canal (average of 270 mg/kg) and Middle Canal (average of 920 mg/kg). Similar patterns exist for acenaphthene, benzo(b)fluoranthene, benzo(k)fluoranthene, and phenanthrene on CSO solids, relative to concentrations in the Canal (*see* Figures 2-3 to 2-6).

- In shallow sediments (0 to 2 feet), concentrations of TPAH, which average 490 mg/kg, are higher than TPAH in CSO solids (*see* Figure 2-2b). Similar patterns exist for acenaphthene, benzo(b)fluoranthene, benzo(k)fluoranthene, and phenanthrene in shallow sediments in the Upper Canal relative to CSO solids (*see* Figures 2-3b to 2-6b). This observation is contrary to the assertion in the FS Addendum that CSOs are responsible for TPAH contamination in shallow sediments.

- The substantially higher PAHs concentrations in the Canal, relative to CSO solids and the reference area, indicate that there are additional sources of PAHs to the Canal's sediments. In particular, Middle Canal sediments are substantially higher in PAH concentrations than Upper Canal sediments which, in turn, are higher than the CSO solids, especially on a TOC-normalized basis. These results demonstrate that surface sediment concentrations are not due to CSO solids

contamination, but rather that there is one or more major sources of these compounds in the Canal, particularly in the Middle Canal area. When normalized using organic carbon content, concentrations of PAHs for the CSO solids are more than an order of magnitude lower than similarly normalized concentrations in the Canal. Therefore, the concentrations of PAHs in the Canal cannot be achieved with a combination of only CSO solids and reference area sediments.

- The concentrations on the sediments of the Canal are at least an order of magnitude greater than those on the CSO solids on an organic carbon basis. The much higher concentrations of the Canal sediments are also apparent in the statistical presentations displayed in Figure 2-2b.

- As discussed in NYC Comment 1, concentrations measured directly on the CSO solids when expressed on a 6 percent TOC basis do not exceed EPA's TPAH PRG. Note that NYC Comment 7 demonstrates that the PAH PRG itself is not technically defensible because of miscalculation in the application of EPA's guidance, as well as uncertainties in the toxicity tests used to derive the PRGs.

Given these observations, the proposed reduction in CSO discharges under CERCLA is not warranted because the CSO solids do not exceed the risk-based TPAH PRG. The City believes that EPA's failure to understand and quantify the effects of other major sources of PAHs to the Canal sediment (including the three MGP sites, unpermitted pipes and groundwater) would significantly affect the performance of the preferred remedy.

3) PCB Concentrations in CSO solids and Canal sediments

The FS Addendum did not compare PCB data from CSOs to PCB concentrations found in the Canal and reference area, perhaps because PCBs were reported as non-detected in the EPA CSO data. Human exposure to PCBs via fish consumption is a significant potential risk associated with the Canal. Yet in the Proposed Plan, EPA dismisses the PCB levels found in the Canal as simply related to sediment contamination, and therefore did not investigate PCB sources. Because PCBs in the CSO solids are at levels comparable to background, EPA's hypothesis that CSOs have a significantly greater influence in the Upper Canal than the reference area and other inputs is not scientifically supported.

The City has evaluated the PCB data collected by EPA for the RI. In the process of analyzing RI PCB data for the Proposed Plan, a number of errors were made, not the least of which was to compare Aroclor results in the Canal sediments with congener results in the reference area. While this comparison is often done on PCB-contaminated sites, it is problematic in this instance due to significant differences between the results reported by EPA for each method. For example, EPA's RI data for matched pairs of Aroclor and congener analysis show the congener results to be as much as 5 times greater than the detected concentration reported by Aroclor analysis. One non-detect Aroclor result at a detection limit of 0.05 mg/kg per Aroclor had a reported congener result at 8.13 mg/kg. In the FS Addendum entitled Preliminary Estimate of Solids Reductions Needed to Achieve Remediation Goals (p. 3), EPA recognized that "PCB congener analysis is more sensitive and accurate than PCB Aroclor analysis." Yet the Proposed Plan states the highest observed PCB concentration in the Canal (3.4 mg/kg) on the basis

of its Aroclor results. The congener total for this sample was 15.1 mg/kg based on the City's review of the data, while EPA's stated congener sum total was 4.03[1] mg/kg.

The City reviewed all of the EPA congener data for comparison with its own congener analyses. In compiling these results, the City maintained consistency in the congener sums across all reported programs. With newly collected congener data on CSO solids discharge, the City has analyzed the fate and transport of TPCBs and offers the following observations:

- TPCB concentrations found in CSO solids average about 0.42 mg/kg. This average concentration is lower than the average concentration in Upper Canal surface sediments of 0.67 mg/kg and lower than EPA's PRG of 0.48 mg/kg. Notably, PCB levels on CSO solids are comparable to or lower than the reference area sediments, so the PCB source to Upper Canal sediments is unrelated to CSO discharge.

- In shallow sediments (0 to 2 feet), concentrations of TPCB, which average 3 mg/kg, are higher than TPCB in CSO solids (*see* Figure 2-7b). This observation is contrary to the assertion in the FS Addendum that CSOs are responsible for TPAH contamination in shallow sediments.

- As can be seen in Figure 2-7, PCB concentrations in the Canal are not comparable to those in EPA's reference area and are, in fact, nearly 10 times greater than the highest reference area sample. Notably, EPA dismissed its highest reference area value for TPCBs (1.7 mg/kg) so that the agency's estimate of background PCB levels based on congener analysis is 0.48 mg/kg.

- There is an as-yet unidentified PCB source in the Middle Canal area resulting in surface sediment TPCB concentrations with an average above 3 mg/kg. The presence of such high PCB levels in areas of the Canal that are depositional is clear evidence for the existence of at least one significant on-going PCB source to the surface sediments of the Canal at approximately 0.8 miles from Gowanus Bay (turning basin across from the Citizens MGP Site).

- Given the high concentrations found in the Lower Canal as well, it is likely that the source in the Middle Canal area is substantial enough to affect concentrations in both the Upper and Lower Canal as indicated in Figure 2-7.

- TOC-normalized TPCB concentrations indicate that the CSO TPCB concentration relative to TOC is more than an order of magnitude lower than in the reference area and in the surface sediments of the entire Canal.

- A principal components analysis of the PCB congener pattern shows that the highest concentrations of PCBs in sediments are associated with a unique PCB pattern, one that is unlike that of the reference area or the CSOs. This pattern is significantly heavier than that associated with CSO or reference area solids and is likely attributable to a source contributing an Aroclor 1260-like mixture. This is

[1] The City has not been able to establish why EPA's sums of PCB congeners as listed in their reports do not consistently equate to the total of the detected congeners reported in their database. However, the sums of the congeners in the EPA database closely match the congener sums of samples collected at reoccupied locations and analyzed by the City.

illustrated in Figure 2-8, which is based on the distribution of solids from CSOs, reference area solids and the surface sediments of the Canal (0-6 in).

Based on these observations, the TPCB data indicate that the existence of one or more important sources of TPCB is not accounted for in the FS Addendum. The hypothesis of a dominant CSO contribution is not supported by TPCB data. The Proposed Plan fails to estimate the needed reduction in an on-going source, whose impact on surface sediments of the Canal is clearly orders of magnitude greater than any CSO contribution. While the remedy described in the Proposed Plan may temporarily reduce surface concentrations of PCBs by dredging and capping, this on-going source of PCBs will serve to re-contaminate the sediment surface of the Canal, presumably to current levels. Failure to address this source of PCBs would be yet another basis for failure of the proposed remedy.

4) Metals concentrations in CSO solids and surface sediments in the Canal

While concentrations of copper and lead are higher in CSO solids than in the reference area, the inference by EPA that solids from CSO dominate the Canal cannot be supported given the significant dilution of harbor solids required to explain copper concentrations in the Canal, as well as the likely presence of additional sources of metals to the system, including active junkyards on the Canal that have been cited for numerous violations.

In the FS Addendum, EPA compared concentrations of copper and lead to reference area and Upper Canal concentrations. EPA also used aluminum and iron as normalizers and determined that concentrations in the Upper Canal are highly enriched with copper and lead as a basis to support its assertions that CSO discharges dominate the 0 to 2-foot (surface) sediments in the Canal. EPA did not consider the impact of other metals sources, and the effect of harbor solids in diluting the inputs of metals discharged from the CSOs. EPA also did not note that the level of enrichment of lead and copper in CSO solids are distinctly different from the enrichment levels in surface sediments of the Upper Canal.

As part of the contaminant fate and transport analysis performed by the City (*see* Appendix A3 – Chemical Concentrations and Mass Balance in Gowanus Upper Canal) using recent data collected from the four largest CSOs, the City makes the following observations regarding metals:

- CSO solids contribute substantially higher copper concentrations (average of 300 mg/kg) to the Upper Canal, but these solids must be significantly diluted by cleaner sediments to achieve an average concentration of 190 mg/kg in the Upper Canal surface sediments and 220 mg/kg in the Upper Canal shallow sediments (*see* Figure 2-9). This dilution is more pronounced when copper is normalized to aluminum (*see* Figure 2-9a).

- In the case of lead (*see* Figure 2-10), concentrations in the CSO solids (average of 295 mg/kg) compare to the surface sediment concentration in the Upper Canal (average of 350 mg/kg). This is inconsistent with the observation of copper where significant mixing of cleaner solids is required to explain Upper Canal concentrations. This indicates that another source of lead is likely contributing to the system. In shallow sediments in the Upper Canal, concentration of lead averages 450 mg/kg, slightly higher than average CSO solids concentrations.

- The likelihood of another source of lead was further explored by looking at the multivariate relationship amongst lead, copper and aluminum for the CSO solids, the reference area sediments and sediments in the Canal. Figure 2-11 presents

a ternary plot used to display three metal components. Note that in this plot each metal component is presented on a scale from 0 to 100 percent, and each sediment or solid displays their fraction of the total. This graphical procedure represents a simple, direct way to grasp the broad characteristics of the entire data set and to see the intrinsic relationships amongst the CSO solids, the Canal sediments and the reference area sediments. From the figure, it is clear that the reference area sediments, which are finer in texture, have a dominant aluminum component. The CSO solids on the other hand are dominated by copper, although they do contribute lead to some extent. However, the sediments in the Canal plot out above the CSO and reference area sediments towards the lead apex of the diagram. This characteristic strongly indicates that another source of lead is likely contributing to the lead burden in the surface sediments in the Canal.

- Three other metals of importance to understanding contaminant fate and transport are cadmium, chromium and cobalt. For all three metals, the CSO solids concentrations are, on average, 50 percent lower than concentrations in the Upper Canal. Furthermore, surface sediment concentrations in the Middle Canal and sometimes the Lower Canal are substantially higher than the CSO solids. Again if the Proposed Plan were correct and the CSO solids were the dominant input to the Canal, concentrations of these metals in the Canal would not be substantially higher than CSOs.

Based on these observations, the City concludes there are other sources of these metals to the Canal that likely also include lead and need to be considered in the selection and design of any remedy.

5) Fecal coliform concentration in surface sediments

In the Proposed Plan EPA states that, "Sewage indicators, such as fecal coliform and steroids are found consistently in surface sediment in the Canal. The highest concentrations are located in the upper portion of the Canal where most CSOs are located." To support this statement, EPA is citing the study conducted by GEI, consultant for National Grid, in 2011 where 10 sediment samples were collected in the immediate vicinity of CSO outfalls (20 – 40 feet from the outfall location). This represents a biased sample set that by its design cannot be spatially representative of the surface sediments of the Canal and thus cannot be used to draw a conclusion regarding the distribution of CSO-related impacts in the Canal.

The City also notes that fecal coliform by its nature is not persistent and therefore is not a conservative tracer for CSO solids. Moreover, modern analytical methods permit the detection of fecal coliform at extremely low levels. Thus, the mere presence of fecal coliform in the surface sediments does not at all indicate that these sediments are derived exclusively from CSOs or even from the CSOs that contribute to the Canal. The City has examined several other compounds that may serve as tracers for CSO-related solids. The results show an extensive series of contaminants whose presence cannot be explained by CSO solids. The analysis also indicates the presence of harbor solids throughout the length of the Canal.

NYC Comment 2 Inquiries

Based on the observations noted in the comments above, the City requests that EPA respond to the following:

- Given this quantitative assessment, does EPA continue to believe that CSO solids (discharged with an average TOC content of 40 percent) can be the dominant component of Canal solids with only 6 percent TOC? If so, on what basis?

- Given the importance EPA placed on TOC in inferring sediment transport in the Canal, please explain why TOC normalization was not used to understand the fate and transport of organic compounds like PAHs and PCBs?

- Please explain why the EPA ERT transect data were not used in the assessment of PAHs.

- Please explain what EPA plans to do before selecting the remedy to quantify the other major sources of PAHs to the Canal and evaluate their impacts under future conditions with respect to the proposed remedy.

- Given the TPCB data presented and the analyses showing that CSO solids have a lower TPCB concentration per unit mass of TOC or per unit mass of solids than any other source (together with other data-based observations presented), does EPA continue to believe the hypothesis that solids from the CSO have a substantially greater influence in the 0 to 2-foot interval of surface sediment in the Upper Canal than any other source? If so, on what basis?

- Does EPA plan to continue to explore metals contamination and sources given the likely presence of other metals sources even though the metals themselves are not bioavailable?

- This evidence clearly shows the processes that produce sediment contamination at the head of the Canal to be far more complicated than that suggested by hypotheses presented in the Proposed Plan. How will EPA address this complex system before selecting the remedy so as to be sure that the selected remedy is successful?

- The distributions of PAHs, PCBs, lead, and other metals indicate the presence of ongoing sources to the Canal that have not been identified or quantified by EPA. How can EPA be confident that its selected remedy will be protective in the absence of quantitative estimates of these loads and an understanding of the processes responsible for them?

- While the Proposed Plan presents only anecdotal evidence of loading from CSO compared to regional sources (*i.e.*, TOC content, copper and lead content, steroids, proximity to CSOs), how will these anecdotal sources be used to establish a quantitative evaluation in the 5-year post remedial evaluations?

NYC Comment 3: EPA's risk management decision-making and remedy development is based on an underdeveloped CSM and incorrect conclusions regarding the nature and extent of the contamination, as well as contaminant fate and transport.

1) The Proposed Plan demonstrates a lack of understanding of contaminant fate and transport and lack of a proper contaminant mass balance to support the CSM.

Development of a CSM is one of the most important objectives and requirements of a CERCLA RI/FS process (*see* EPA, 2005). The CSM should identify sources of contamination and describe fate and transport mechanisms, exposure pathways, and receptors. Contaminant sources and transport pathways are poorly characterized in the RI, FS, and Proposed Plan, and the City believes that the lack of a properly developed CSM that informs risk management decision-making will have serious consequences for the selection and future performance of EPA's proposed remedy.

The inadequate understanding of the magnitude and extent of PAH and PCB sources as presented in the Proposed Plan has led to the assumption that risk drivers can be controlled simply by dredging the Canal, controlling CSO discharges, and relying on upland investigations still underway to identify and control any remaining sources. This approach clearly conflicts with much of EPA guidance, as noted by both of EPA's advisory panels (CSTAG and NRRB). Before a complete understanding of contaminant fate and transport for the Canal can be developed, all sources of contamination must be quantified. The Canal has been extensively contaminated by discharges from upland sources. PAH contamination in Canal sediments can be readily tied to the three MGP sites along its banks. However, the magnitudes of PAH transport via direct seepage of coal tar NAPLs from these facilities, via groundwater, and via the numerous private and unpermitted pipe discharges have not been sufficiently quantified to identify their relative importance.

Lacking information on the relative importance of the sources of contaminants to the system, EPA resorted to speculation about the character of CSO discharges relative to surface sediment observations in the Canal. The City notes that the contaminant patterns of several chemicals in the Canal (and the magnitudes of their concentrations) cannot be the product of any combination of CSO discharge and harbor solids alone. Significant other sources of contamination exist and these sources must be considered before a reliable chemical mass balance can be completed. Such a mass balance is critical to understanding the role of CSO solids with respect to surface sediment chemistry in the Canal.

To improve on the understanding of the CSM that is absent from the Proposed Plan, the City conducted several analyses to assess the solids and contaminant fate and transport in the Upper Canal (*see* Appendix A3 – Chemical Concentrations and Mass Balance in Gowanus Upper Canal). The following is a summary of the City's findings.

- Because hydrophobic organic contaminants and heavy metals typically adsorb strongly to sediment particles, sediment transport is important in understanding the fate and transport of their associated contaminants. Knowledge of sediment transport can be obtained directly through observations of suspended solids, sediment bed stability and numerical modeling, or it can be inferred from a chemical mass balance of contaminant concentrations and patterns. One independent data set that can be used to understand sediment stability is

bathymetry. EPA used two single-beam bathymetric surveys conducted in 2003 and 2010 to map changes in bottom elevation. As discussed in part 6 of this comment, there are many uncertainties in the small-scale bathymetric changes estimated from these surveys. However, hypothetical calculations can be done to determine how the volume of solids from CSO discharges compare to the volume of sediment accumulated on the Canal bottom based on mean bathymetric changes over a large area. Integrating the bathymetric differences in the Upper Canal from 2003 to 2010, the average annual net deposition is estimated as 1,100 cubic yards. Assuming a typical particle density of 0.8 kilograms per cubic/cm^3, the net annual volume change is equivalent to 675 metric tons of solids per year. The total CSO discharge to the Upper Canal, from RH-034 and other CSOs, is estimated as 125 million gallons on an average annual basis. The average TSS concentration in CSO discharge is 200 mg/L (see Appendix A1-Summary of the City's CSO Sampling Program). Given this discharge volume and TSS concentration, the average CSO solids load to the Upper Canal is estimated at 95 metric tons of solids per year. This value is not directly comparable to the net accumulation, however. Before the solids load from CSOs can be compared to the estimated solids accumulation based on bathymetric change, the solids capture efficiency within the Upper Canal is needed. Based on the City's sampling program, the grain size composition of CSO discharge contained an average of 64 percent fines. The majority of these fines will likely not be captured within the Upper Canal due to their tendency to remain suspended in the water column. This is consistent with the observation of a higher sand fraction closer to the head of the Canal. Regardless of what the true capture efficiency is, the simple volume-based comparison given above (675 *vs.* 95 metric tons/yr) indicates that the solids discharge from CSOs are a small component of the estimated net accumulation of solids in the Upper Canal. By inference then, the harbor solids are likely the most significant contributor to the net accumulation of solids in the Upper Canal. While the CSOs and harbor solids are the two principal solids contributor to the canal, there are multiple sources of contaminants (including, groundwater and NAPL flowing upwards through the sediment bed) and these sources of contaminant contribute differently to risk depending on their fluxes and concentrations. Therefore, a mere ratio of solids contribution to the canal is not an appropriate means to determine contribution of risk to the Canal.

- The significant contribution of harbor solids to the Upper Canal is confirmed by TOC observations, although the City cautions that TOC is not a conservative parameter. TOC concentrations on CSO solids average about 40 percent, and a significant addition of harbor solids, which have TOC concentration of about 3 percent, is required to reduce the overall TOC found in the Upper Canal surface sediments to 6 percent.

- To further investigate the relationship between sediment transport and contaminant transport, the City developed an empirical chemical mass balance model for estimating the concentrations of chemicals in surface sediments in the Upper Canal for various hypothetical scenarios of solids contribution from CSOs, based on the enrichment of the chemicals relative to aluminum. In the model, two important solids inputs to the Canal were considered, including, the CSOs and the harbor solids. The chemical mass balance further assumed that the chemical burden on the solids from these two inputs were the only chemical contribution to the Upper Canal. Each solids contributor was represented by the average ratio of the chemical to aluminum. Aluminum was selected as a normalizer to account for differences in particle composition in the system. Using this model, the City tested EPA's assertion of a significant CSO influence by simulating surface

sediment concentrations for copper, lead, chromium, cadmium, zinc, acenaphthene, benzo(b)fluoranthene, benzo(k)fluoranthene, phenanthrene, pyrene, TPAH and TPCB for five hypothetical scenarios of CSO solids contributions: 10 percent, 30 percent, 50 percent, 70 percent and 90 percent. Figures 3-1 through 3-5 present the results of percentage deviation between the model results and observed concentrations for the Upper Canal. Note that a positive deviation indicates that the inputs to the Canal are greater than required to yield the observed surface sediment concentration, while a negative deviation indicates that significant additional sources are needed to yield the observed surface sediment concentration. For each scenario, it was impossible to simulate a mixture of the two inputs that agreed well with the observed data. For much of the time, negative deviations were obtained, indicating that sources to the system are poorly characterized. For a hypothetical scenario of 90 percent CSO contribution, for example, statistical tests of comparison confirm that the surface concentrations simulated are significantly different from the observed surface sediment concentrations, disproving the hypothesis of a dominant CSO influence. The results from this analysis highlight the uncertainties in the solids and chemical balance for the Upper Canal. Regardless of which solids contribution is assumed, the balance of several of the chemicals cannot be explained. This indicates that the process that produces the surface sediment concentration in the Upper Canal is far more complicated than is understood at the moment.

These observations, while disproving EPA's assertions on CSO contribution, provide an indication of how uncertainties in source characterization undermine the CSM and mass balance for the system. The fact that the chemical mass balance model for the Upper Canal cannot simultaneously explain all the chemicals evaluated suggests that large uncertainties exist with regard to the sources of contamination to the Canal. More importantly, it indicates that there is no correlation between sediment inputs and contaminant burden in the Canal. Therefore, any attempt to allocate responsibility for contamination in the Canal based on solids contribution will be incorrect. Failure to develop a complete and technically rigorous CSM for the Canal is inconsistent with EPA's requirements for conducting an RI/FS under CERCLA. Development of the CSM cannot be deferred to the remedial design phase. Given the unknown nature of these large contaminant loads, it is unclear that the current assemblage of upland investigation and remediation efforts will be able to control them all. The City believes that it is highly likely that, given the failure to correctly characterize these on-going sources, the proposed remedy will fail to protect human health and the environment irrespective of any actions taken to address the CSOs, and will waste the resources used in controlling CSO discharges in an attempt to address risks they are not causing.

2) **The Proposed Plan demonstrates a lack of understanding of the inextricable link between surface water and groundwater discharge, which is a critical aspect of the CSM.**

The Proposed Plan states that PAH contamination in the surface sediment in the Upper Canal is from CSO discharge and that only deeper sediments are contaminated by NAPL. The following is an excerpt:

"While the NAPL accounts for the majority of the PAH mass and the highest PAH concentrations in canal sediments, PAH concentrations in the top 6 inches of

> sediments (the bioactive zone) in the upper reach of the canal are primarily associated with contaminants introduced through CSO discharges. Existing sediments in the canal are covered by newer contaminated CSO sediments and, to a much lesser extent, solids transported from the harbor through tidal transport or through the Flushing Tunnel when it is in operation. Thus, surface sediments are newer and deeper sediments are older. The deeper sediments become more heavily contaminated over time by NAPL or NAPL-derived contaminants migrating upward from below." *See* Proposed Plan, p. 9.

This conjecture is speculative and demonstrably incorrect. EPA has not measured or estimated the rate at which NAPL or groundwater-borne contaminants are migrating upward through the sediment column, nor has EPA estimated the mass loading that occurs from the groundwater and NAPL to either the water column or the newly arrived sediment. The City strongly disagrees that CSO solids are the main constituent of surface sediment in the Canal. In fact, evaluation of sediment and surface water data collected by the City shows that discharge of contaminated groundwater and NAPL through the sediments and along the sides of the Canal continues to be the primary source of contamination to surface sediment and the water column (as well as to the deeper sediments below them). By comparison, CSO contributions are minor and inconsequential for the remediation of the Canal sediments. In the analysis below, the City presents evidence for a groundwater link based on surface water observation, and results from sediment coring data.

a. Evidence of the groundwater link from surface water observations

The City has collected dry-weather water column samples (*see* Appendix A 2.1 – Summary of the Surface Water Sampling Program) from the Canal and Gowanus Bay, which were analyzed for PAHs and other parameters during a dry weather period (three-day antecedent dry weather). Figure 3-6 shows where the surface water samples were collected. The TPAH concentrations found in the Canal under these conditions are orders of magnitude greater than those found in Gowanus Bay; the average concentration in samples collected from the Canal is about 3000 ng/L, while the average concentration found in the bay samples is just 118 ng/L.

Figures 3-7 through 3-12 show the concentrations of TPAHs (sum of 17 PAHs) and six other PAH compounds found in the Canal during the dry weather sampling. The surface water samples were collected at least three days (more than six tide cycles) after any potential CSO discharge event. Where the water was 7 feet deep or greater, samples were collected from both 2 feet above the bottom and 2 feet below the surface. Where the water was shallower, only a sample from 2 feet above the bottom was collected. Two samples per station were collected in the reference area (Gowanus Bay) from 5 locations, and from the Canal at Locations 1 through 9 and 12; only one sample per station was collected at Canal Locations 10, 11, and 13 through 15, and in the turning basins.

Note that an average CSO discharge is about 5 million gallons, while at low tide the Canal contains about 200 million gallons of water and 250 million gallons at high tide. The volume of water in the Canal is therefore about 40 to 50 times larger than a CSO discharge event, providing substantial dilution for the CSO discharge. The surface water samples collected after more than 6 tidal cycles following a CSO discharge represent Canal water impacted by contaminants from discharges other than the CSOs. Any contribution by CSOs would have been diluted more than 100 fold by tidal exchange. Rather, the high level of TPAH in the water column of the Canal can only be attributed to

the migration of contaminants with groundwater and NAPL through the Canal sediments, and discharges along the sides of the Canal.

On a simple mass basis, the standing inventory of TPAH as given by the TPAH concentrations in surface water (shown on Figure 3-7) equates to a TPAH mass of about 1.4 kg resident in the water column. Assuming these conditions are typical water column concentrations and that tidal exchange removes water at average Canal concentrations, approximately 20 to 25 percent of this inventory would be lost with each tidal cycle or 0.56 to 0.7 kg/day. This represents a substantial flux of TPAH out of the Canal, which must be regularly replaced to maintain the water column inventory. In comparison, the mass of PAHs delivered from CSOs to the Canal during a CSO discharge event is on average about 0.09 kg, or equivalent to roughly 0.017 kg/day. The elevated concentration of TPAH and corresponding resident mass in the Canal water column when the CSOs are not discharging shows there is continuing influx of PAHs to the Canal on the scale of 0.56 to 0.7 kg/day. It is clear this cannot be the result of CSO discharge and is, in fact, the result of uncontrolled discharges of groundwater and NAPL from the MGP sites. The greatest TPAH concentrations in the surface water of the Canal are found in areas adjacent to MGP plants where NAPL is known to be present in the sediment column. The predominant sources of the PAHs are groundwater discharging to the Canal and, potentially, NAPL bubbling up to the surface (ebullition).

The existence of a substantial PAH flux to the Canal unrelated to CSOs is evident even if the tidal exchange flux is ignored. The most prominent PAH compound found in the Canal surface water during the dry-weather sampling was acenaphthene (*see* Figure 3-8), which had an average whole water concentration of 1,374 ng/L (with a highest concentration of 4,420 ng/L), compared to the average acenaphthene whole water concentration in CSO discharges of 119 ng/L (and a highest concentration of 487 ng/L). Because the CSO acenaphthene concentration is a full order of magnitude less than the concentration resident in the Canal, and the approximate dilution of CSO discharge to the Canal is 40-fold (5MG to 200MG), the CSOs cannot be delivering the mass of acenaphthene found in the Canal. Again, the concentrations of acenaphthene found in the surface water of the Canal during the dry weather sampling event are most likely due to NAPL and groundwater discharge.

The observed patterns of PAHs in the surface water and CSOs further substantiates the City's assertion that the Proposed Plan has failed to identify the major source of PAHs to the entire Canal, MGP-site related groundwater and NAPL. The average mass fractions of the PAHs compounds in surface water were further compared to mass fraction of PAH in groundwater and mass fraction of PAHs in CSO discharge (Figure 3-13). These mass fraction scatter diagrams are intended to demonstrate how the composition of two inputs, groundwater and CSOs, compare to the composition observed of the surface water. In addition, the similarities or differences in PAH composition were quantitatively assessed by the coefficient of divergence ("CD"),[2] which has been used in PAH studies to compare PAH concentrations and composition at different sites (Wongphatarakul *et al.*, 1998; Zhang *et al.*, 2000) as well as in biological studies. If the PAH compositions of the compared media shown in the scatter plot are similar, the points fall close to the 1:1 line and the CD approaches zero. If PAH compositions in the media are very different, the points fall far from the line and the CD approaches one. As seen in Figure 3-13, there is close agreement between the composition in groundwater and that observed in surface

[2] $CD = \sqrt{\frac{1}{p}\sum_{i=1}^{p}\left(\frac{Xisw-Xij}{Xisw+Xij}\right)^2}$, where Xisw and Xij are the average mass fraction of the ith chemical component mass fraction for surface water, and either groundwater or CSO, respectively, and p is the number of chemical components.

water. This good agreement is validated by the low CD of 0.2. Conversely, CSO PAH composition is significantly different from groundwater or surface water composition, with a high CD of 0.71 between CSO and surface water observations. These results indicate that groundwater and surface water PAH patterns are closely linked, identifying groundwater as the major contributor of PAH contamination to the Canal.

b. Evidence of the groundwater link from sediment coring observations

In addition to incorrectly asserting that CSOs are the primary source of PAHs to the Upper Canal, the Proposed Plan also asserts that the NAPL is being buried by new sediment deposition. Due to the different fate and transport properties, mechanisms and processes for individual PAH compounds, some move more quickly through the environment than others or are degraded more quickly than others. A comparison of compounds that make up the low-molecular-weight ("LMW") PAH suite of compounds in the sediment column was conducted to test the Proposed Plan's assertion that NAPL is being isolated by sediment burial. Examination of the sediments of the Canal also shows that groundwater and NAPL are responsible for contamination of the entire sediment column, including the surficial sediment. Evaluation of the proportions of individual compounds making up LMW and high molecular weight ("HMW") PAHs in surface sediment compared to the patterns found at depth in the sediment column show that the relative percentages of the compounds remain consistent when naphthalene is excluded. Naphthalene is more biodegradable, more soluble, and more volatile than the other PAHs and is therefore not conservative in the sediments.[3] (*See* Appendix A2.2 – Evidence for degradation of Naphthalene in the Gowanus Canal System.) The consistency of the patterns of LMW and HMW suites of PAHs exclusive of naphthalene throughout the sediment column shows that sediment in the interval from 0 to 1 foot in depth is contaminated by the same source as at sediment at 8 feet in depth. These patterns are similar to those detected in NAPL samples, but are not similar to those found on CSO solids. Figures 3-14 to 3-16 show the relative proportions of 6 LMW compounds in the lower, middle and upper reaches of the Canal, respectively, while Figures 3-17 to 3-19 present the relative proportions of 10 HMW compounds for the same reaches. This assessment showed that the pattern of the main PAH constituents (except for naphthalene) remains the same from deeper sediments to the surface sediments. Note that even with the introduction of 'urban' PAHs in shallower sediments, there is little change in which PAHs dominate the patterns. The changes that are seen are attributable to variations of transport and fate processes for different compounds, which is the expected condition. This analysis further confirms that CSOs are not responsible for PAH burden in the surface sediments over background.

Given the close link of surface and deep sediment PAH patterns, an analysis was conducted to assess if the distribution of PAHs in the shallow sediments is statistically linked to the presence of NAPL in the deeper sediment. A comparison of shallow sediment (GEI samples from the 0-3 foot interval) TPAH concentration means and standard deviations to the visible presence of NAPL in the sediment column (at any depth,

[3] In environmental fate and transport, a conservative substance is one that is subject to a limited number of physical transport processes whose effects can be easily accounted for. For the purposes here, it is a substance that is strongly associated with suspended matter and sediments. The mass of a conservative substance introduced to a system must be conserved. In this context, the substance is not subject to significant losses due to biodegradation, gas exchange or other processes that significantly change the mass of the substance in the system. Thus, if a substance is introduced to the Canal via particles that originate from the harbor, the concentration of the substance per unit mass of particles remains the same unless additional particles with a different concentration of the substance or the substance itself are added directly to the Canal. Based on the degree of change or lack of change, the presence of additional sources of a substance can be inferred. If a substance is not conservative, then it may be subject to loss from the system, as is the case for naphthalene in this instance.

usually in a deeper core interval) was conducted with two categories: *i.e.*, 'Contains NAPL' in the sediment core, and 'No NAPL' present in the sediment core (the mere presence of a sheen on a sample was not considered to indicate the presence of NAPL). Figure 3-20 shows the results from this analysis. A Tukey-Kramer statistical test shows that the 'Contains NAPL' and 'No NAPL' groups represent statistically different data sets (shown by the circles on the right, representing two standard errors around each mean, having little to no overlap), with the mean of the TPAH concentrations in 'Contains NAPL' samples being significantly higher than the mean of 'No NAPL' sample TPAH concentrations. This shows that the highest concentrations of TPAH in the shallow sediments are correlated with (and most likely controlled by) the presence of NAPL in the subsurface. These processes do not appear to have been contemplated or investigated, and are not considered in the characterization of contaminant sources, FS, or Proposed Plan.

c. Summary of the groundwater link

Based on consideration of both surface water and sediment data, the rate of upward contaminant migration in the sediment and arrival at the water column is greater than the rate of sedimentation. This conclusion is contrary to the conjecture that sediment is being deposited faster than it can be contaminated by groundwater and NAPL. It also shows a significant problem with the remedial strategy described in the Proposed Plan: there is no data-based estimate of the contribution by groundwater and NAPL of contaminants to the proposed cap. Given the results of these analyses, there will be a significant amount of PAHs arriving, which has grave ramifications for the longevity of the cap. As these findings demonstrate, the Proposed Plan incorrectly attributes far more influence of the CSO discharges on surface sediment PAH concentrations than warranted, and ignores the far more critical influence of NAPL releases from adjacent upland MGP sites.

3) The Proposed Plan demonstrates inadequate characterization of CSO solids, undermining the CSM.

To characterize PAH concentrations on the solids from CSO discharges, EPA conducted an analysis of Semi Volatile Organic Compounds ("SVOCs") on a whole water basis, providing no separate information on dissolved and suspended matter concentrations. EPA then approximated PAH concentrations on the solids from CSOs using the measured whole water concentrations and TSS measurements. In this methodology, EPA simplistically (and incorrectly) assumed that the entire mass of PAHs as reported by a measured whole water concentration was carried by the solid phase and that the dissolved PAH concentration was zero. The City, in its comments to CSTAG and NRRB and in meetings with EPA, has previously raised concerns regarding this approach since the whole water data measured by EPA was dominated by LMW PAHs, which are likely to be in the dissolved phase.

The City's previously articulated concern is supported by the data that the City subsequently collected to characterize the suspended solids in CSO discharges. For this investigation, the City analyzed samples from the CSO discharges in separate dissolved and particulate phases. Figure 3-21 provides a comparison of the Total PAH concentration on CSO solids measured by the City with those estimated by EPA for the four largest CSOs. Data collected by the City show that the average TPAH concentration on CSO solids is approximately 30 mg/kg, as compared to the 60 mg/kg derived by EPA using the whole water data and assuming that all of the contaminant mass is on the solids. In addition, EPA's TPAH results show a much higher degree of variability as compared to the measured values. The coefficient of variation ("CV") for the values derived by EPA is

0.9, as compared to the CV of 0.3 on the City's measurements, representing a three-fold decrease in variance by the City's method relative to the EPA's.

This simplistic assumption used by EPA also leads to an incorrect estimate of the LMW fraction of PAHs on the CSO solids. This arises in large part because the compound naphthalene, which comprises an important fraction of the PAH mass, is nearly all in the dissolved phase, but EPA has ascribed the entire PAH mass to the solids fraction of the samples. A comparison among the different PAHs (Figure 3-22) indicates that LMW PAHs account for just 23 percent of the total PAH mass on the solids, based on direct measurements, as opposed to 40 percent calculated based on EPA's assumptions. This clearly demonstrates that the methodology used by EPA to derive TPAH concentrations on solids from CSOs produces estimates that are biased high, two times the actual measured TPAH concentrations. This is a significant flaw in EPA's characterization of CSO solids since the biased estimates are used to make inferences regarding their relationship with the surface sediments in the upper reaches of the Canal.

4) The CSM described in the Proposed Plan reflects an insufficient understanding of groundwater and NAPL transport.

As EPA points out in the Proposed Plan, NAPL exists at all depths penetrated in samples beneath the Canal, and at almost all points along the Canal's length. Given the history of the Canal and of groundwater use in Brooklyn, where saltwater intrusion was induced just as NAPL was being released to the Canal, this is to be expected. The important factor that is missed in the Proposed Plan is that this source of groundwater contamination, which is by far the greatest source, exists *beneath* the Canal, not just adjacent to it. This reservoir of contamination is not being characterized in DEC's upland investigations, and it has not been fully characterized in EPA's investigation. Not only is the NAPL itself potentially mobile, groundwater must pass through the NAPL to discharge into the Canal. EPA has not investigated the occurrence of the NAPL and the movement of groundwater in relation to it. Because of the potential for contaminated groundwater to shorten the effective lifespan of the cap included in the proposed remedy, and the virtually unlimited supply of PAHs represented by the NAPL at depth, this data gap represents a significant shortcoming in the CSM.

5) The Proposed Plan substitutes speculation in the CSM for knowledge about sediment transport processes, mechanisms and their impacts, such as propeller wash, sediment stability, erosion and deposition.

EPA did not conduct the rigorous analysis of sediment transport, deposition and erosion needed for a remedy of this scope and cost and instead provides only speculation on sediment transport mechanisms. Sediment accumulation in sheltered water bodies such as the Canal is controlled largely by tidal currents and bottom topography relative to sea level.[4] An understanding of sediment transport is essential to understanding current solids and associated contaminant loads as well as to understanding future conditions that may result from the Proposed Plan. Yet the Proposed Plan does not provide any rigorous analysis and instead speculates as to the possible causes of sediment accumulation and erosion patterns. For example, the FS Addendum p.5 states:

> "Bathymetric differences between 2003 and 2010 showed an overall lack of sediment accumulation in the middle reach of the canal, even though two major

[4] Perillo, G.M.E. (editor), 1995. Geomorphology and Sedimentology of Estuaries. Elsevier, May 16, 1995.

CSO outfalls are located in this reach (Figure 3). The lack of accumulation in this reach is most likely due to frequent resuspension of solids by vessel propeller wash and redistribution by tidal and possibly flushing tunnel currents."

The suggestion that sediment accumulation over such a large area could be controlled by propeller wash is speculative at best, and highly unlikely given the low level of boat traffic in the Middle Canal area. There is not sufficient evidence to demonstrate that boat traffic, as the Proposed Plan suggests, is truly a significant mechanism for control of sediment deposition and erosion. Net sediment accumulation is a process governed much more by the steady day-to-day tidal processes and solids loads. Thus, the analysis presented in the Proposed Plan is not supported by the data and is incorrect. This concern is symptomatic of the failure to develop a robust CSM.

6) In the Proposed Plan, EPA fails to recognize the uncertainty in its bathymetric analysis and then proposes unlikely mechanisms in its CSM to explain its observations.

The Proposed Plan makes several broad statements concerning the nature of sediment deposition in the Canal and provides very detailed maps of changes in bathymetry over time. In doing so, the Proposed Plan fails to disclose or perhaps recognize that nearly all of the surface elevations being compared are interpolated estimates of bathymetry and not direct measurements. Given the limited coverage, particularly in 2003, the real changes in elevation can only be identified by integrating over much greater distances than those shown in the plan figures. Failure to recognize this uncertainty yields many apparent changes in surface elevation that have little basis in reality.

For example, as shown in Figure 3-23, the survey lines of the 2003 and 2010 EPA bathymetric surveys do not align closely, and the 2003 survey is particularly sparse in coverage. While alignment is not a requirement for a comparison of surveys, use of unaligned surveys does introduce significant uncertainty into the analysis. Offset between survey lines means that there are few, if any, direct comparisons of elevation changes between surveyed locations. Even at this scale, the dots on the figure representing the surveyed points are much larger than the actual area surveyed at each location. Thus as noted above, the vast majority of the bottom is un-surveyed. As a result, nearly all comparisons are between interpolated locations of one survey with interpolated locations of the other. Individual survey uncertainty for a measured point is typically $\pm$3 to 6 inches vertically. However, the uncertainty of interpolated locations is much greater. Thus, given the sparse coverage of the 2003 survey and the lack of close alignment between survey lines, the estimates of changes between surveys on the small scale presented by EPA are highly uncertain and probably not meaningful below 1 to 2 feet of change and possibly more.

Yet the Proposed Plan interprets this information as if it had no uncertainty or error of any concern. For example, Area A (shown on the inset portion of Figure 3-23) indicates erosion with a bathymetric change between 1 and 2 ft. Yet there is only 2010 bathymetry data in this area. The locations where 2003 and 2010 data intersect at the boundaries of the area show no erosion between the survey events. This assertion of an erosional area is an artifact of EPA's interpolation process that fails to account for the uncertainties in the interpolation. Clearly, there is insufficient bathymetric data in this area to indicate such a level of erosion. Failure to recognize this uncertainty has led EPA to provide a highly speculative and unlikely sediment transport process.

In this area, the Proposed Plan identifies Area A and the area north of it as erosional (*see* the blue-green shaded areas in the inset of Figure 3-23) and then speculates on a possible mechanism as well as a subsequent re-deposition process:

> "Currents generated by the Flushing Tunnel apparently eroded sediments near the outlet of the tunnel, but the sediments settled out where the current velocities decreased farther down the canal between Sackett and 3rd Streets." See Proposed Plan, p. 10.

From sediment transport science, the suggestion that sediments eroded from areas near the Flushing Tunnel exit would quickly resettle downstream is without merit. If the water velocity were sufficient to scour the sediments 100 feet or more from the Tunnel outlet, it would also have been sufficient to distribute those sediments throughout the Canal and possibly out to the harbor. Fine grained sediments, which constitute the vast majority of surface sediments in the Canal, require a high shear stress (and high flow velocity) to be re-suspended due to their inter-particle attraction. Once suspended, however, they settle extremely slowly due to their small diameter. Thus, re-suspended fine-grained sediments in the Upper Canal would be widely dispersed throughout the Canal and probably the harbor as well, and not re-deposited between Sackett and 3rd Streets, as stated in the Proposed Plan.

The spatial distribution of these erosional areas in the Upper Canal are also inconsistent with any likely Flushing Tunnel flow regime (*see* Figure 3-23). The Flushing Tunnel delivers water and fine grained suspended matter from Upper New York Bay to the Canal. Given their small size, these particles are unlikely to settle near the entrance to the Canal. Even if this indication of deposition at the Tunnel discharge point is correct, if the flow from the Tunnel were sufficient to cause scour anywhere in the Canal, it would likely occur in the general vicinity of the discharge point, which is also the shallowest area of the Canal, and not hundreds of feet downstream of the discharge point where the turbulence from the Tunnel discharge would already have begun to dissipate.

This discussion highlights both the high degree of uncertainty in EPA's bathymetric analysis and its interpretation. It also points out a much more important deficiency, the lack of a quantitative basis to understand ongoing sediment transport and to predict future conditions in response to any remedial activity. The City believes that the actual nature of sediment transport in the Canal must be better understood if a successful remedy is to be selected and implemented.

7) The radionuclide profiles obtained by National Grid do not indicate a high degree of disturbances from CSOs in the Canal, and EPA's interpretation in the CSM is incorrect.

The Proposed Plan implies that the radionuclide results obtained by National Grid document frequent disturbances from CSOs when the core profiles are typical of profiles obtained elsewhere in the harbor. The profiles also document that the lead-210 result are particularly suspect, an observation EPA fails to note. As noted in FS Addendum:

> "Radioisotope profiles of Cesium-137 and Lead-210 in sediment cores collected by National Grid in the upper reach of the canal (Figure 5) do not resemble the ideal

profiles that would form in an undisturbed depositional environment such as continuous settlement of suspended sediments from the water column. The evidence of disruption in the core profiles is consistent with episodic deposition of solids from CSOs and/or other disturbances." *See* FS Addendum, p. 5.

This assertion is without merit. The City has evaluated the six radionuclide cores collected by National Grid, all from the Upper Canal, and notes that the cesium-137 results in particular are consistent with profiles obtained throughout the harbor, showing a maximum at depth and gradually decreasing in concentration to the surface. In particular, the uppermost portions of the cesium-137 profiles obtained by National Grid are fairly smooth with little layer to layer variation. More importantly, EPA provides no data on levels of cesium-137 present in CSO solids as a basis to know how such discharges would affect these profiles. Thus, the Proposed Plan provides unconfirmed speculation on the existence of disturbances due to CSOs. The lead-210 profiles are not interpretable as they show no decline over time. However, they are very typical of lead-210 profiles seen throughout the New York-New Jersey Harbor.

EPA asserts that the highly variable lead-210 profiles present in the Canal sediments can be used to calculate deposition rates for the Canal and that any inconsistencies in the profile are due to CSO discharges and episodic disturbances. This is not the case. Any episodic disturbances would also be captured in the cesium-137 profile. As an example, National Grid core 1 is shown in Figure 3-24. The "disturbances" in the lead-210 profile are not reflected in the cesium-137 curve, which is relatively smooth over the last 2 meters of deposition, unlike the lead-210. This core is located closest to RH-034 and would have been the most subject to CSO "disturbances," had they occurred. In Figure 3-25 showing National Grid core 12, the cesium-137 profile again shows the expected pattern but the lead-210 significantly increases with depth, making the lead-210 data inconsistent and difficult to interpret. These poor lead-210 profiles are not indicative of CSO events, but rather are characteristic of sediment accumulation levels in the harbor. Figure 3-26 depicts profiles of a core obtained from Newark Bay (Tierra Solutions, 2011[5]) as an example of a core from a slower deposition rate site with interpretable cesium-137 but an inconsistent lead-210 profile. Figure 3-27 presents the profile for National Grid core 88, also from the Upper Canal. This core has some consistency in its lead-210 values in that they generally decline with depth. Nonetheless, the cesium-137 and lead-210 -derived time horizons within the core are inconsistent, again indicative of issues regarding the lead-210 results.

This disagreement between the lead-210 and cesium-137 profiles suggests that it is likely that the lead-210 data in the Canal and elsewhere in the harbor do not appear to satisfy the basic requirements for interpretation, which may be indicative of poor data quality or changes in the nature of depositing solids. These concerns would result in varying levels of lead-210 that were not due to disturbances, but rather due to changes in the Canal drainage watershed and its solids load over time. The above conclusion is supported by work done in other parts of the New York/New Jersey Harbor area, such as Newark Bay. Radionuclide results obtained from cores in Newark Bay indicate that it is challenging to obtain a reliable lead-210 profile that can be used to date the sediment column. On this basis, EPA should not use the radionuclide profiles of lead-210 to infer sediment disturbances. The available cesium-137 profiles suggest typical sediment accumulation processes and do not show evidence of CSO-related disturbances.

[5] Tierra Solutions, Inc., 2011. Final Phase I and Phase II Sediment Deposition Report, Newark Bay Study Area Remedial Investigation. Revision 1. October 2011.

8) EPA's assessment of risks to human health from ingesting fish and crab fails to take into account regional sources of such contamination, which the remedy for the Canal is incapable of addressing.

The Proposed Plan states:

> "The HRRA indicated completed human risk exposure pathways with unacceptable risk levels for surface water/sediment contact and fish consumption." *See* Proposed Plan, p. 14.

However, the stated carcinogenic risks to human health from ingesting fish and crabs identified in the Proposed Plan are not driven solely by chemical quality of sediments in the Canal, but are also driven by regional sources of PCBs in fish and crabs. The regional component of the risks will not change regardless of the remedial action selected for the Canal.

NYC Comment 3 Inquiries

Given the observations above, the City requests that EPA respond to the following:

- Considering the information developed by the City as agreed upon with EPA, will EPA adjust its schedule for issuing a ROD until more data become available and a better understanding of contaminant sources fate and transport can be developed to address the uncertainties identified? If not, why not?

- Since the City's data clearly demonstrate that the Proposed Plan's focus on CSOs as the primary source of surface sediment contamination is incorrect, can EPA be confident that the other, much larger (but of indeterminate magnitude) sources of PAHs and PCBs will be sufficiently controlled by the currently proposed remedy?

- Given the City's observations that surface sediment contamination is correlated with the presence of underlying NAPL, and that surface sediment concentrations are orders of magnitude higher than concentrations on CSO solids, does EPA agree that surface concentration of PAHs are not due to CSO discharges? If not, why not?

- The City's evidence indicates that essentially all surface PAH concentrations over the PRG are due to external sources to the Canal unrelated to CSOs. Does EPA agree? If not, why not?

- Does EPA intend to investigate these PAH sources further before implementing a ROD? If not, why not?

- Given the analysis presented above, does EPA still believe that solids delivered by CSOs will yield surface sediment concentrations above the PRGs? If so, what is the basis for this belief?

- An additional source of contamination to the Canal that is not addressed in the RI/FS or Proposed Plan is direct loading of solids from eroding fill material along the shoreline through broken bulkheads. Fill is known to contain ash and other

wastes that are high in PAHs, metals and other contaminants. What is the current rate of solids and contaminant loading from eroding fill on shorelines in the Canal? How will the effect of fill from eroding shorelines be evaluated during the 5 year post-remedial evaluations?

- If EPA chooses to move forward in spite of the identified uncertainties, when does EPA estimate that conditions in the Canal will meet the PRGs, since the CSOs will clearly not be limiting?

- What are the relative sources of sediment deposition attributable to the sources identified in the Proposed Plan and from regional transport?

- If sediment transport modeling was performed to inform decision making, why was this information not reported in the RI/FS or the Proposed Plan?

- How will the new bathymetric profile to be established after the completion of the dredging component of the remedial action alter the sediment transport dynamics of the Canal and influence recontamination?

- Given the stated importance of solids sedimentation after the remedial action as a potential means to re-contaminate the Canal bottom, why didn't EPA perform sediment transport modeling and why won't this important work be done in the coming months prior to final selection of the remedial action?

- How will the Flushing Tunnel alter rates of sediment influx and loading to the Canal?

- How will the operation of the Flushing Tunnel alter the sediment transport dynamics of the Canal and influence recontamination?

- Given the concerns the City has raised regarding the uncertainties in EPA's interpretation of the bathymetric data, does the EPA plan to revise its analysis so as to obtain better estimates of sediment deposition and its associated uncertainty on a scale supported by the data?

- What are the relative sources of sediment deposition attributable to the sources identified in the Proposed Plan and from regional transport?

- How will the remedial action 5-year evaluations assess recontamination of the Canal if relative inputs of solids are not known and how will improvements be quantified if baseline loadings have not been established?

- What specific investigations will EPA perform, what data will be collected and what evaluation would be performed to verify NAPL/coal tar mobility at specific locations?

- Given that no investigations have yet been performed by EPA deeper than six feet into the native sediments, what investigation criteria will be utilized to determine the lateral and vertical dimensions of NAPL/coal tar in native deposits beneath the soft sediments?

- Without an operable sediment transport model, how can these vital questions be answered by EPA to assure the public that a proper remedial action has been

selected, that the remedial action has not been over-prescribed, or that unforeseen rates of recontamination may not occur?

NYC Comment 4: EPA has failed to recognize the need to control upland sources adequately before implementing sediment remediation; in particular, EPA has failed to document the importance of NAPL release processes originating from MGP sites.

As noted above, the Proposed Plan asserts that the current source of PAH contaminants to the surface sediments is CSO discharges and that solids from the CSOs have buried MGP-contaminated sediments and isolated them, removing them as a source. This assessment is clearly incorrect: the distribution of PAH compounds in the Canal bottom sediment, both vertically and horizontally, and the presence of PAHs at significant concentrations in dry-weather water column samples displaying similar distribution patterns, show that PAHs in the deeper subsurface sediment and groundwater continue to be the major sources of PAHs to the surface sediments. As discussed in NYC Comment 2, CSO solids do not contain PAHs at sufficiently high concentrations nor the correct mixture of PAHs to account for the PAH concentrations and patterns found in the surface sediments. These observations conclusively show that the characterization of contaminant sources presented in the Proposed Plan does not account for the major processes that are currently contaminating surface sediments. Without accurately identifying and quantifying the current PAH loading mechanisms, an appropriate remedial strategy cannot be developed and the efficacy of any proposed strategy cannot be determined with assurance.

1) Impact of groundwater on the Canal

The impact of contaminated groundwater on the Canal has not been evaluated by EPA. As described in NYC comments 3(2) and 3(4) above, EPA has underestimated the impacts of groundwater contamination and NAPL movement. EPA is relying on remedies being implemented under DEC oversight for the MGP sites adjacent to the Canal to control groundwater and NAPL. However, the DEC actions are limited and do not address the mass of NAPL and contaminated groundwater already beneath the Canal. If NAPL and groundwater from the upland sites and beneath the Canal are not adequately controlled when the remedy is implemented, they have great potential to reduce the effectiveness and sustainability of the remedy.

The extent of contamination by coal tar NAPL and its impact on the Canal, groundwater, and CSOs are not known. GEI's coring program found NAPL in the sediment or below the sediment at almost all points in the Canal, but no estimates of the existing mass and flux of contaminants from this source have been made. Anecdotal information on one of the MGP facilities indicates the presence of extensive volumes of coal tar NAPL beneath the site and is supported by observations of coal tar by the City during construction related to Gowanus facilities upgrade. In its RI/FS, EPA has not quantified the flux of contaminants via groundwater to the Canal. The City's analysis shows that the discharge of groundwater to the Canal is approximately 2 cubic feet per second ("cfs"). The concentrations of chemicals of potential concern ("COPCs"), particularly PAHs and metals, observed during the RI in the soils and sediments through which the groundwater flows are orders of magnitude higher than the concentrations observed on CSO solids, as observed both from EPA's CSO solids data and from the CSO data collected by the City. The movement of groundwater through these soils and sediments will continue to deliver these contaminants to the Canal unless measures to control groundwater are implemented. Using the estimated groundwater discharge and the concentrations of PAHs in upland groundwater areas, the City estimated potential groundwater loads of PAHs and compared to them to estimates from the CSOs. Note that the estimated

groundwater loads used are likely the minimum possible loads to the Canal, because as the groundwater is transported, additional PAHs from the NAPL already in the sediments will likely partition to the groundwater and will be transported upwards. Therefore, when the effect of NAPL on the groundwater is considered, the estimated loadings of PAHs to the Canal via groundwater may be significantly higher than the loads presented in Table 4-1.

Table 4-1. Comparison of estimated PAH loads from groundwater and CSOs

Analyte	Mean GW Concentration (ug/L)	Potential Annual Loads from GW (kg/yr)	Mean CSO Concentration (ug/L)	Potential Annual Loads from CSOs (kg/yr)
Acenaphthene	59.7	116	0.26	0.2
Acenaphthylene	10.9	21.2	0.06	0.1
Anthracene	5.9	11.4	0.17	0.1
Benzo(a)anthracene	1.47	2.9	0.46	0.4
Benzo(a)pyrene	1.34	2.6	0.51	0.4
Benzo(b)fluoranthene	0.82	1.6	0.57	0.5
Benzo(g,h,i)perylene	0.6	1.2	0.44	0.3
Benzo(j,k)fluoranthene	0.58	1.1	0.52	0.4
Chrysene	1.47	2.9	0.77	0.6
Dibenz(a,h)anthracene	0.14	0.3	0.12	0.1
Fluoranthene	3.99	7.7	1.24	1.0
Fluorene	17.6	34.2	0.17	0.1
Indeno(1,2,3-cd)pyrene	0.55	1.1	0.40	0.3
Naphthalene	1,340	2,590	1.54	1.2
Phenanthrene	33.4	64.7	0.99	0.8
Pyrene	4.95	9.6	1.2	0.9
Sum of 16 PAHs*	1,480	2,870	9.4	7.4
Sum of 15 PAHs* (excluding naphthalene)	143	278	7.9	6.2

*Data are not available for 2-methylnaphthalene

A comparison of potential PAH loads from groundwater and CSOs to the Canal demonstrates that even lower-bound estimates of the groundwater contributions are several times higher than loads from CSOs. In particular, for benzo(a)pyrene, groundwater loads to the Canal are estimated to be at least four times greater than the corresponding CSO contribution.

Although these are just first-order estimates of PAH loads to the Canal, it should be noted that the estimate of PAHs delivered by groundwater annually either with (2870 kg/yr) or without nonconservative naphthalene (278 kg/yr) identify a load that is comparable to the estimate of PAH transport out of the Canal by tidal exchange discussed in NYC Comment 3(2) (0.56 to 0.7 kg/day or 200 to 260 kg/yr). These analyses are preliminary but provide a

clear indication of the magnitude of the PAH fluxes in and out of the Canal, the dominance of the groundwater contribution to the Canal, and the de minimis contribution by CSOs.

The City also estimated potential loads for several metals from groundwater and CSOs (Table 4-2). The estimated potential groundwater loads for heavy metals are mostly higher than loads from CSOs, except for copper and lead. However, for copper the loads from CSOs will be less than or comparable to the loads from groundwater due to the reductions implemented by the City under the Water Quality Improvement Plan ("WQIP") for the Canal. Also, note that for copper and lead, CSO solids concentrations are comparable to regional background threshold values developed using the candidate reference areas selected for the Newtown Creek Superfund site.

Table 4-2. Comparison of estimated metals loads from groundwater and CSOs

Analyte	Mean GW Concentration (ug/L)	Potential Annual Loads from GW (kg/yr)	Mean CSO Aqueous Concentration (ug/L)	Potential Annual Loads from CSOs (kg/yr)
Arsenic	9	18	4	3
Barium	308	598	57	45
Cadmium	0.7	1.4	1	0.5
Chromium, Total	5	9.5	10	8
Copper	22	42	77	61
Lead	10	19	72	57
Mercury	0.10	0.2	0.23	0.2
Nickel	10	20	7	6
Silver	0.7	1.4	1	1

2) Other sources to the Canal:

The Proposed Plan is premised on a remedial investigation that lacks a complete CSM and, as a result:

- Has failed to identify several significant upland sources of contamination,
- Lacks the information needed to quantify the tentatively identified sources it has identified, and
- Incorrectly applies inadequate data to draw conclusions regarding the current nature of contaminant loads to the Canal.

EPA's Contaminated Sediment Remediation Guidance for Hazardous Waste Sites (EPA, 2005, p. 2-7[6]) states that one of the "essential elements" of the CSM is to "include information about contaminant sources." EPA should further develop the following areas.

a. Upland sources

[6] EPA, 2005. Contaminated Sediment Remediation Guidance for Hazardous Waste Sites. EPA-540-R-05-012, OSWER 9355.0-85, December 2005.

The RI does not adequately characterize current and former industrial, upland properties and processes that have historically contributed and may continue to contribute hazardous substances and petroleum contamination to the Canal. This data gap must be addressed prior to developing remedial alternatives; otherwise, loads to the Canal from these sources may ultimately undermine the remedy. This area has been extensively used by various industries for the past 140 years, but there have been relatively few cleanup activities on upland industrial properties under governmental regulatory programs. Upland sites along the Canal that are currently the subject of remedial investigation or are otherwise regulated include the three former MGP sites and over 20 other properties regulated under the New York State Brownfield Cleanup Program ("BCP"), the Voluntary Cleanup Program ("VCP"), the spill program, the Petroleum Bulk Storage ("PBS") program, the Chemical Bulk Storage ("CBS") program, and the Major Oil Storage Facility ("MOSF") program. The CSM for the Canal should provide, at a minimum, a summary of the current status of the remedial program at each of these sites, and any existing data and information about the contamination, as recommended by EPA's guidance (EPA, 2005, p. 2-7). The City's May 25, 2011 comments on the Draft Remedial Investigation ("City RI Comment Letter") describe several existing sources of information that can be used in this assessment, including a City analysis of upland properties and environmental assessments or other technical documents that were produced in response to its various 104(e) requests. The City is particularly concerned about the progress of the on- and off-site investigations at the former Fulton and Metropolitan MGPs, since full characterization of the location, magnitude, and extent of all coal tar emanating from these sites is an essential component of the investigation of the Canal.

b. Discharges from facilities with SPDES Permits

EPA's contaminated sediment guidance (EPA, 2005, p. 1-2) identifies all "direct pipeline or outfall discharges into a water body from industrial facilities" as potential sources of sediment contamination. While EPA performed sampling of the permitted CSO outfalls, the RI does not evaluate publicly-available information about other discharge points or provide a full examination of other permitted outfalls discharging to the Canal. The City's RI Comment Letter contains an analysis of the State Pollutant Discharge Elimination System ("SPDES") permits for facilities with permitted discharges to the Canal and Gowanus Bay. The City recommends that the CSM be revised to incorporate information regarding these permitted and illegal discharges, because they could contribute to recontamination.

c. Unpermitted outfalls and surface runoff

EPA's contaminated sediment guidance (EPA, 2005, p. 1-2) identifies "direct pipeline or outfall discharges into a water body from … stormwater discharges" as a potential source of contaminants in sediment. As part of the RI, EPA conducted a survey of the Canal and identified 247 outfall features (Phase 1 and Phase 2 combined, not including CSO and municipal stormwater outfalls). However, EPA only performed dry weather sampling of the discharge from 12 of the identified outfall features. As contaminated stormwater from industrial sites is likely to be discharging from these outfalls, the City recommends that EPA also collect and analyze wet weather samples from a representative number of these 247 outfalls. EPA (2005, p. 1-1) also identifies surface runoff or erosion of soil from floodplains and other contaminated sources on land, such as waste dumps, chemical storage facilities or urban areas as a potential source of sediment contamination. There are several scrap yards, bulk storage facilities, and open equipment yards along the Canal which are likely contributing contaminated overland runoff to the Canal during certain wet weather events. The City recommends that EPA attempt to quantify the loadings from contaminated runoff by conducting additional field investigations or, at a minimum,

estimate potential contaminate loadings by using existing data resources such as EPA's National Urban Runoff Program Report ("NURP"). If left unexamined, these potential sources could continue to contribute contaminated runoff into the Canal and interfere with the ultimate remedy.

EPA's contaminated sediment remediation guidance (EPA, 2005, p. 2-20) states that "controlling contaminant sources typically is critical to the effectiveness of any Superfund sediment cleanup." The above-mentioned sources of contamination, including the MGP sites, groundwater, upland sites, and unpermitted discharges, should be fully characterized and controlled.

NYC Comment 4 Inquiries

Given the observations above, the City requests that EPA respond to the following:

- Does EPA agree with the conclusions presented here that there are major sources of PAHs and PCBs that are not well characterized? Does EPA still believe these can be entirely controlled by upland activities or will the remedy for the Canal require additional in-Canal controls that will need further development?

- Does EPA intend to investigate these PAH sources further before issuing a ROD? If not, why not?

- There is almost no discussion or detail on the referenced coordinated schedule, or discussion of what occurs if National Grid does not meet EPA's expected schedule. As the upland remediation plan is essential for the successful remediation of the Canal, EPA needs to provide substantial additional detail concerning management, oversight, and coordination of this work.

- What specific upland properties other than MGP sites have been identified by EPA that are discharging, or have the potential to discharge, hazardous substances to the Canal?

- What is EPA's schedule for cleanup of upland properties that are discharging, or have the potential to discharge hazardous substances to the Canal?

- Have all upland properties with potential to discharge hazardous substances been identified or is further investigation required to identify them?

- What is this schedule for implementation of MGP cleanups?

- If MGP site cleanup is not complete in time, will the Canal remedial action be deferred until the MGP remedial actions are complete?

- If further investigation is required, when will that work be performed and who will perform it? Will this work be done before the ROD is issued?

- What are the calculated rates of discharge of contamination from upland properties other than the MGP sites in groundwater?

- Given that groundwater discharge has a high potential to re-contaminate the sediment remedy, what are EPA's goals for reduction in these rates of hazardous substance discharge to the Canal from upland properties other than MGP sites?

- How will the reduction in these rates be monitored during the post-remedial 5 year reviews?

NYC Comment 5: The 2007 draft NewFields report on PAH forensics that EPA relies upon does not support EPA's conclusion that additional CSO controls are required under CERCLA.

To support its assertion that CSO discharges have the greatest impacts on the shallow sediments in the upper reaches of the Canal near CSO outfalls RH-034 and OH-007, EPA used results of high resolution hydrocarbon fingerprints for shallow sediment samples from the 2007 draft NewFields report.[7] Section 3.5 of this section of the FS Addendum asserts:

> "A subset of sediment samples collected by National Grid in 2005 were analyzed for an expanded list of PAHs and other hydrocarbons to facilitate identification of the likely origins of PAHs in Gowanus Canal sediments (NewFields 2007). Figure 15 presents high resolution hydrocarbon fingerprints for shallow sediments in the upper reach of the canal (0 - 1.5 ft interval). The NewFields analysis concludes that the shallow sediments are dominated by an unresolved complex mixture (UCM) with multiple sources of PAHs. The UCM fingerprint is consistent with impacts from urban runoff in CSO discharges. The fingerprints of the native sediments are characteristic of coal tar." FS Addendum, p. 10.

For the following reasons, the 2007 draft NewFields report and EPA's interpretation of that report do not support EPA's conclusion that additional CSO controls are required under CERCLA:

1) **The NewFields data set is of poor quality, and is incomplete.**

NewFields did not analyze field duplicate, field blank, equipment blank and trip blank samples as part of their high resolution hydrocarbon fingerprinting analysis. While 17 of the 124 samples were analyzed twice as laboratory duplicates, laboratory duplicates are not equivalent to field duplicates. NewField's failure to analyze field duplicate, field blank, equipment blank, and trip blank samples as part of the forensic high resolution hydrocarbon evaluation conflicts with both EPA's standard data validation protocols and accepted scientific methodology for the acquisition of environmental data.

2) **Both NewFields and EPA arbitrarily selected a limited number of samples to draw their respective conclusions that CSOs contribute the bulk of PAHs to the shallow sediments in the Canal.**

Of the 124 samples analyzed by NewFields, 102 sediment samples represented the "shallow sediments (less than 2')," the "soft" sediment (between the shallow sediment and the native sediment), and the "native sediment" as referred to by EPA. NewFields' dataset also includes five soil samples from borings taken from the Canal banks, two product samples[8] from the Citizens MGP, one floating product sample, six pavement samples, and eight seep samples.

The text and illustrations in the 2007 draft NewFields report provide no justification for a limited interpretation of only a portion of the 124 samples that were analyzed. NewFields'

[7] NewFields 2007. "Environmental Forensic Investigation. Gowanus Canal, Brooklyn, New York". Draft Report. Prepared for Tracey Bell, KeySpan Corporation.

[8] In Comment 5, the word "product" is used to refer to the coal tars that were produced at the three MGP facilities.

draft report did not include the interpretation and illustration of half of the transects for the Canal sediment samples; in particular, NewFields omitted illustrations to represent most of the samples taken in proximity to National Grid's MGPs (specifically, NewFields omitted the illustration of sediment samples from transects B, E, I, J, L, M, N, P, Q, S, T, W, X, and Z). The contribution of MGPs and other sources in proximity to these transects are therefore not illustrated or otherwise discussed in the report, even though the vast majority of PAHs in Canal sediments originated in close proximity to the omitted transects.

Similarly, and even more problematic, the FS Addendum relies on only four samples identified in the 2007 draft NewFields report. In particular, EPA compared two shallow sediments (GC-SED-03 (0-1.5') and GC-SED-10 (0-1.5')) to two native sediment samples (GC-SED-01 (19-20') and GC-SED-18 (7-8')). Based on these four samples only, EPA asserts that (i) shallow sediments in the Canal are dominated by an unresolved complex mixture ("UCM"), (ii) the UCM fingerprint is consistent with impacts from urban runoff indicative of CSO discharges, and (iii) the presence of a UCM in the two shallow sediment samples and its absence in the two native sediment samples demonstrate that CSOs are contributing the bulk of PAHs in the shallow sediments in the Canal.

A review of all of the chromatograms presented in the 2007 draft NewFields report demonstrates that UCMs are common and prevalent not just in the shallow sediments, as EPA asserts, but throughout the soft sediments, the native sediments and even the soil samples taken from Canal banks. Therefore, contrary to EPA's assertion, the presence of UCM in the two shallow sediment samples EPA selectively and arbitrarily chose is not diagnostic as to the CSOs and the origins of PAHs in the shallow Canal sediments.

NewFields' and EPA's selective use of the data is not consistent with proper scientific methodology.

3) **Review of the NewFields data also shows that there is an uneven application of the assignment of UCM to the chromatograms used for illustration purposes in the report.**

At low hydrocarbon concentrations a "baseline rise" is a natural part of the chromatographic analysis. The "baseline rise" has nothing to do with the presence of petroleum but instead represents column bleed of the stationary phase from the capillary column. In the 2007 draft NewFields report, there are instances where "baseline rise" has been incorrectly attributed to the presence of a petroleum product. However, as no data have been supplied in the report to allow a determination of what proportion of UCM could be attributed to "baseline rise," the use of the presence of a "UCM" indication as support for a petroleum source in samples was not reliable science.

4) **EPA should not attribute the presence of petrogenic (petroleum-based) PAHs in the shallow sediments primarily to urban runoff associated with CSOs.**

There are multiple potential sources of petrogenic PAHs in the shallow sediments that are unrelated to CSOs, including petroleum spills (large-quantity, documented historical petroleum spills occurred at the MGPs), bulk petroleum storage, leaking underground and above ground fuel tanks, and bilge water from barges and boats. Urban runoff is only one potential source. It is therefore incorrect for EPA to determine that the primary source of petrogenic PAHs in the shallow sediments is likely the runoff from the CSOs. As shown in the ratio analysis below, the PAHs on CSO solids are not petrogenic.

5) Diagnostic PAH ratio analysis of CSO solids data collected by the City shows that CSO PAH fingerprint is different from that obtained by NewFields in Canal surface sediments.

One of the tools used by forensic scientists in understanding and distinguishing pyrogenic sources of PAH is the double ratio scatter plot (Costa and Sauer, 2005[9]). In its report, NewFields used the PAH ratios (FL0/PY0) and (BBF+BKF)/BAP[10] for the purpose of resolving the source specific differences among the pyrogenic PAHs in their field samples. Using this pair of ratios, the City re-created Figures 4f, 4e and 4d of the NewFields report with the following additions: high resolution surface sediments data collected as part of the City's toxicity test, split sediment samples collected by the City during National Grid's program to collect Canal sediments in the vicinity of CSO outfalls, and CSO solids data. The results are given in Figures 5-1 to 5-3. From this figure the City observes the following:

- Canal sediments analyzed for high resolution PAH analysis by the City plot within the cloud of Canal sediments reported by the same high resolution PAH analysis for NewFields. Therefore, both data sets can be combined for quantitative analysis.

- The CSO solids are distinct in their fingerprint compared to the surface sediments in the Canal, the heavy and middle petroleum sources, and the coal tar product used by NewFields to represent the Citizens MGP NAPL product. The same observation applies with respect to the PAH patterns in deeper accumulated sediment and native sediments in the Canal.

- The surface sediments of the Canal as well as the Citizens MGP NAPL product are consistent with the fingerprint defined by NewFields as petroleum tar. On the other hand, the CSO data is more consistent with heavy PAHs including many forms of creosote and building materials.

It is clear from the figure that the surface sediments of the Canal cannot be dominated by the discharges from the CSOs. Rather, the Canal sediments, which are classified as petroleum tars plot more closely to the Citizen MGP signature. Therefore, contrary to EPA's assertion, this plot reveals that most of the PAHs in the Canal were derived from petroleum tar dominated by the Citizen MGP product. In addition to the ratios, the concentrations from the CSO solids are substantially lower than surface sediment concentrations in the Canal, and therefore, CSO discharge cannot be responsible for the high concentrations of PAHs in the Canal.

6) The 2007 draft NewFields report relies on a deficient mixing model that does not properly account for the origin of the PAHs in the shallow sediments.

Mixing processes redistribute PAHs in the Canal both vertically (through compaction, ebullition, turbulence, bioturbation and groundwater discharge to the Canal) and horizontally (through erosion, re-suspension and re-deposition). These mixing processes result in the commingling of older and more recent sources in the Canal. Therefore, having on an accurate mixing model is imperative. As an example, since PAH concentrations in the native sediment and soft sediment attributable to the MGPs (coal tar)

[9] Costa H.J. and T.C. Sauer, 2005. "Forensic approaches and considerations in identifying PAH background." Environmental Forensics. 6: 9-16.

[10] Note: FL0 = fluoranthene; PY0 = pyrene; BBF = benzo(b)fluoranthene; BKF = benzo(k)fluoranthene; BAP = benzo(a)pyrene

are more than an order of magnitude higher than PAH concentrations in the shallow sediments, incorporation of as little as 10 percent of native or soft sediments in to the shallow sediments by mixing can explain the totality of the PAH concentrations in the shallow sediment.

NewFields acknowledges the critical importance of its mixing model in its claim that the precision of its mixing model is on the order of +/- 10 percent. NewFields' assertions regarding the precision of its mixing model have no support in scientific methodology or in the data upon which NewFields relies. In fact, for the following reasons, NewFields' mixing model biases in a way that exaggerates the asserted contribution of PAHs in CSOs to shallow sediments as opposed to PAHs from coal tar related to the MGPs and from other sources:

First, NewFields incorrectly assumes that there are only two sources of PAHs to the Canal sediments, namely the MGPs and the petroleum attributed to runoff/CSOs. The MGPs are the major contributors of PAHs to the Canal sediments; however, by considering the pavement petroleum as the only other contributor, the mixing model mischaracterizes the CSO fingerprint and exaggerates the CSO source contributions. As a threshold matter, this assumption is biased and inaccurate because it does not include many other potential PAH sources, such as fuels, coal and air emissions.

Second, NewFields assumes that the contribution of National Grid's three MGPs can be represented by two product samples collected from one of its three MGPs. This assumption is not supported by sufficient data. It is unlikely that the two selected samples would, in fact, represent the diversity of the three MGPs' contributions.

Third, NewFields assumes that pavement samples represent the petrogenic PAH contributions to the Canal sediments and that this source represents petroleum sources attributable to CSOs. Again, NewFields ignores other more logical and prevalent petroleum discharge sources to the Canal, historical and current, including known petroleum usage at the MGPs and at other petroleum storage facilities.

Fourth, in its mixing model NewFields attempted to quantify the relative contributions of petroleum and coal tar in sediment samples by using only 16 PAH compounds (EPA PAHs subset). This procedure ignores 35 of the 51 PAHs compounds that were analyzed for and are present in the Canal sediments, mostly from the MGPs. Using all 51 PAHs in the mixing model yields very different results. For example, applying the mixing model to SED-90B(6.5-7') using the 16 EPA PAHs yields a contribution of 52 percent to MGP sources compared with 82 percent if one uses the 51 PAHs that GEI actually analyzed. This demonstrates that the mixing model is biased and inaccurate.

Fifth, NewFields' mixing model produces results that allocate more than 100 percent of the PAHs in shallow sediments to one source, demonstrating that their mixing model is not scientific, and yields inaccurate and unreliable results.

The mixing model in NewFields' draft report is deficient, biased, highly uncertain, inaccurate, and therefore unreliable.

7) **A review of the NewFields sediment chemical data as a complete data set, including PAH data, alkyl homologues data and data from the transects in the Upper Canal locations (Transects A-I), the Middle Canal locations (Transects J-V) and the Lower Canal locations (Transects W-AA) demonstrates that both vertically and horizontally, coal tar related to the MGPs is the predominant source of PAHs in the Canal regardless of location.**

In locations near the three MGPs and in the turning basins, the source of PAHs is so strongly related to coal tar from the MGPs that it overwhelms all other hypothetical potential sources. While the data show some limited influence of petroleum-derived PAHs, these can be found in widely separated spots and could be attributable to multiple potential petroleum sources other than just CSOs. In fact, contrary to EPA's assertions, pavement samples were not involved in PAH source mixing within the Canal sediments. Rather, petroleum-derived PAHs appear to be more related to releases of distillate petroleum products to the Canal, in soils and on the banks of the Canal.

8) The 2007 NewFields report is in draft form.

EPA should not base significant conclusions on a draft report containing NewFields' preliminary interpretations.

NYC Comment 6: EPA's selection of reference areas is ill considered.

EPA's Gowanus Bay and Upper Hudson reference area is a poor choice as a background area for the Canal based on two important observations. First, the reference locations are open water areas that are not as protected as the Canal. As a result, the sediments that accumulate in the reference areas are likely to be different from those in the Canal. This concern was recognized as part of the Newtown Creek RI reference/background site study. In response, 14 areas around the harbor similar in hydrodynamic setting to Newtown Creek, (and effectively to the Canal) were selected for background sampling. The Canal reference areas are dissimilar to the Canal in two important respects: (i) given their lack of shelter, these areas tend not to accumulate sediment, so they experience little to no recent deposition, and (ii) these areas are subject to periodic navigational dredging, which may have removed recently accumulated material.

This concern was borne out by the surface sediment radionuclide results obtained by the City in its sediment collection program for its toxicity texts. Beryllium-7 was frequently detected in the surface sediments of the Canal, in approximately 8 of the 12 samples collected, indicating the presence of very recent deposition (less than 1 year old) in these 8 locations (see Figure 6-1). Cesium-137 was detected in 11 of the 12 locations, indicating post-1954 deposition in nearly all areas sampled (*see* Figure 6-2). This is in sharp contrast to EPA's reference areas, which only yielded one confirmed, and one marginal, detection for beryllium-7, while three samples were non-detect. Clearly, the reference areas do not have much very recent deposition. The concern is even greater for cesium-137. Three of the five reference locations were non-detect or nearly non-detect for this radionuclide as well. The absence or very low level of cesium-137 indicates the absence of deposition over the last 60 years. Thus three of the five reference area locations do not represent conditions that would be considered background for the Canal since they have not accumulated any sediment since 1954 (the year of cesium-137 appearance).

Given the lack of post-1954 deposition at three of the five reference sites, and therefore the dissimilarity to conditions in the Canal, the City recommends that EPA use the Newtown Creek reference area study as a basis to establish background concentrations and any related PRGs for the Canal.

Since the Canal is an industrially impacted site with discharges from CSOs and other sources, EPA should consider the data collected as part of the Newtown Creek RI/FS for this type of setting as candidate areas when evaluating background for the Canal. For the Newtown Creek RI/FS, an evaluation to determine appropriate background locations was conducted by collecting surface sediments at several candidate sites for contaminant and physical characterization. These waterbodies were classified into four categories including: industrial with CSO input, industrial with no or minimal CSO input, non-industrial with CSO input and non-industrial with no or minimal CSO input. The City determined BTVs (95th percentile of the upper prediction limit) for these four categories for TPAHs, TPCBs, copper, and lead.[11]

[11] In Table 6-1, data identified by Pro UCL Version 4.1 as outliers were excluded in estimating BTVs.

Table 6-1: Background Threshold Values for Candidate Reference Site in Newtown Creek Area

Chemical	Industrial, No CSOs	Industrial with CSOs	Non-Industrial No CSOs	Non-Industrial with CSOs
TPAH (mg/kg) at 6 % TOC	44	62	16	69
TPCB (mg/kg)	0.16	0.49	0.18	2.72
Copper (mg/kg)	288	388	232	182
Lead (mg/kg)	280	526	157	232

(1) Data identified by Pro UCL as outliers were excluded in estimating BTVs.

The following discusses the City's concerns regarding EPA's analysis on a contaminant-by-contaminant basis. The City performed non-parametric hypothesis testing to determine whether the Canal CSOs are statistically significantly higher than the BTVs. Figures 6-3 to 6-6 show the Canal CSO concentrations, along with concentrations in the four reference area categories for TPAH, TPCB, copper and lead. The BTV for each reference category is indicated in the figures. The following summarizes the City's observations in the Canal relative to the four categories:

- For TPAHs, on a 6-percent organic carbon basis, the CSO concentrations are lower than the BTVs from the various background areas.

- For TPCBs, the CSO median concentrations are higher than the BTVs for industrial with no or minimal CSO input and non-industrial with no or minimal CSO input. PCBs in the CSOs compare with the BTV in the industrial with CSO input category, and are significantly lower than the BTV in non-industrial with CSO input.

- For copper, the CSO median concentration is higher than the BTVs for non-industrial with no or minimal CSO input and non-industrial with CSO input. The CSO median copper concentration compares to the industrial with CSO input and industrial with no or minimal CSO input categories.

- For lead, the CSO median concentration is higher than BTVs for non-industrial with no CSOs and non-industrial with CSOs. CSO median lead concentration compares to industrial with CSO and industrial without CSO.

NYC Comment 6 Inquiries

Based on the observations above, the City requests that EPA respond to the following:

- Does EPA agree that the background sites initially selected by the EPA for the Canal are not appropriate given the differences in estuarine setting and lack of post-1954 deposition in three of the five sites? If not, why not?

- Will EPA consider substituting use of the "industrial sites with CSOs" category from the Newtown Creek site as a basis for the Canal background in lieu of the Gowanus Bay and Upper New York Bay reference areas identified in the Proposed Plan? If not, why not?

NYC Comment 7: The PAH PRG calculated by EPA is flawed.

The PRG calculated in the FS Addendum for total PAHs is undermined by:

- The failure to follow a cited method for the reference envelope approach (Ingersoll *et al.*, 2009[12]);
- The use of toxicity test data derived from samples that exceeded EPA recommended holding times for toxicity test samples by approximately 16 weeks.
- The total disregard for EPA's explicit definition of the No Observed Effect Concentration ("NOEC");
- An erroneous assumption that the variability in the NOEC is reflected in the central tendency of all measured values that are equal to or less than the No Observed Adverse Effect Concentration ("NOAEC");
- An incorrect application of the cited method (NAVFAC, 2010[13]) used recently at a Region 1 EPA Superfund site for calculating a TPAH PRG.

(*See* NYC Comment 7(6) below in which the City provides a calculation of a PRG for TPAHs based on correct application of the cited method (NAVFAC, 2010)).

1) EPA failed to follow a cited method for the reference envelope approach (Ingersoll *et al.*, 2009).

The FS Addendum (section 4.1, p. 14) states that "On each plot, a horizontal line (green) represents the lowest toxicity test result for a reference sample (considered the lower bound of the reference envelope)." This citation of the reference envelope approach derives from EPA's Ecological Risk Assessment guidance (EPA, 2011, section 5.1, p. 5-5) which states that: "Therefore, a baseline of conditions in the reference area was established using a 'reference envelope' approach (Ingersoll *et al.*, 2009) to differentiate between site- and non-site-related toxic responses." EPA applies this approach by using the station with the lowest toxic response among four reference area stations to specify toxicity (EPA, 2011; Table 6-2). EPA then extends this approach into the FS Addendum by incorporating this "lower bound of the reference envelope" into a graphical approach for which the FS Addendum provides no reference to any technical literature or EPA guidance that supports such a "graphical approach."

The method cited by EPA (Ingersoll *et al.*, 2009) uses the reference envelope approach to evaluate samples from the Ashtabula River with respect to toxicity to the amphipod *Hyalella azteca* in 28-day tests. Toxicity was established by comparing the test response (survival or length of amphipods) in site sediments to the response of amphipods exposed to reference sediments. This method designates site samples as toxic if the toxic response in those sediments is lower than the lower limit of the normal range of responses for the reference sediments. That lower limit is defined as the fifth percentile response of organisms exposed to reference sediments, not simply the lowest response value in a reference area sample. The cited method (Ingersoll *et al.*, 2009) is

[12] Ingersoll, C.G., N.E. Kemble, J.L. Kunz, W.G. Brumbaugh, D.D. Macdonald, and D. Smorong. 2009. Toxicity of Sediment Cores Collected from the Ashtabula River in Northeastern Ohio, USA, to the Amphipod *Hyalella azteca*. *Arch. Environ. Contam. Toxicol.* Vol. 57, no. 2. pp. 315–29.

[13] NAVFAC (Naval Facilities Engineering Command). 2010. Record of Decision: Site 2B – Area A Wetland, Naval Submarine Base – New London, Groton, Connecticut. August 2010.

consistent with other applications of the reference envelope approach which depend not on the lowest measured value of a toxic response among reference area samples, but depend upon the toxic threshold based on the statistical distribution of all measured samples from a reference area or reference areas (*see* Appendix A4.1 - Technical Basis for Reference Envelope Approach).

2) The FS Addendum uses toxicity test data derived from toxicity tests encumbered by significant uncertainties.

The PAH-based PRGs are based on highly uncertain toxicity tests and an incorrect application of EPA guidance in the calculation process. Among many concerns, the City notes in that the Proposed Plan EPA:

- Did not use the EPA definitions of the NOEC;
- Incompletely applied a cited method for calculating a PRG for total PAHs (NAVFAC, 2010);
- Used an averaging of the range of values among the non-toxic samples to incorrectly represent variability in the NOEC; and
- Used toxicity test data derived from samples that exceeded EPA-recommended holding times for toxicity test samples by approximately 16 weeks.

As a result, EPA's PAH PRG is not defensible. The City has repeated the toxicity tests conducted by EPA, correctly applied EPA guidance and derived a set of more accurate and supportable NOECs. The City's review of the PAH analysis presented in the FS Addendum for ecological risks uncovered many concerns with regard to the data and procedures used to derive the NOEC value that was applied as the PAH PRG (20 mg/kg on sediments at 6 percent TOC). The FS Addendum uses data derived from toxicity tests encumbered by significant uncertainties (*see* Appendix – A4.3 Critique of EPA Toxicity Test Data) including:

- Employing three "re-starts" due to poor organism health;
- Failing to describe the sample handling, distribution, and storage necessitated by these restarts;
- Exceeding recommended holding times for these toxicity tests by as many as 15 weeks; and
- Failing to address the potential uncertainties introduced into the toxicity testing due to the number of samples that were described as having "heavy" or "tar-like" sheens and odors.

A detailed description of these uncertainties is found in Appendix – A4.3 Critique of EPA Toxicity Test Data. The City was sufficiently concerned about the uncertainties introduced by these analysis issues that it conducted a separate toxicity study of its own, using sediments obtained from the same locations as originally occupied by EPA, and toxicity testing methodology prescribed by EPA in published guidance.[14] This study yielded

[14] EPA, 2001. EPA 600/R-01/020, March 2001, Method for Assessing the Chronic Toxicity of Marine and Estuarine Sediment-associated Contaminants with the Amphipod Leptocheirus plumulosus. Office of Research and Development, Western Ecology Division, U.S. Environmental Protection Agency.

PRGs based on strict adherence to the EPA guidance described in NAVFAC (2010), with values that were substantively different from those obtained by EPA; specifically 138 mg/kg TPAHs in bulk sediment assuming 6 percent TOC in the Canal for the growth endpoint; and 412 mg/kg TPAHs in bulk sediment assuming 6 percent TOC in the Canal for the survival endpoint.

3) The FS Addendum ignored EPA's explicit definition of the NOEC.

EPA's definition for the NOEC in the EPA guidance for toxicity testing using *Leptocheirus plumulosus* is:

> "The highest concentration of a toxicant to which organisms are exposed in a test that causes no observable adverse effect on the test organisms (*i.e.*, the highest concentration of a toxicant in which the value for the observed response is not statistically significantly different from the controls)." *See* EPA, 2001[15] subsection 3.1.1.1.

This definition in its characterization of the NOAEC as the highest concentration that causes no observable effect on the test organisms is consistent with EPA's definition of No Observed Adverse Effect Level (EPA, http://www.epa.gov/risk_assessment/glossary.htm) and EPA's definition of No Observed Effect Level in its Framework for Ecological Risk Assessment (EPA, 1992[16]). Explicit in all these definitions is that the no effect level is the highest concentration in an experiment that is not significantly different from an appropriate control.

For growth and reproduction, the FS Addendum used a "graphical approach." This approach estimated a NOEC by first estimating a Lowest Observed Effect Concentration ("LOEC"). This LOEC was defined as the lowest concentration at a location where the average value of an endpoint was less than the lowest response (most toxic) of that endpoint among reference area samples. The NOEC was then defined as the concentration of TPAHs in a sample that was immediately below the LOEC. This approach ignores the EPA definition of NOEC, which is the highest concentration in a sample in which the value of the observed response is not statistically different from the control. The City was unable to find prior references that employ the "graphical approach" used in the FS Addendum.

The FS Addendum selected 7.8 mg/kg TPAH as the NOEC for growth based on this non-standard definition (*i.e.*, a comparison of an average to a LOEC). This method ignores the EPA definition of a NOEC which requires that the NOEC be the highest concentration of a toxicant in which the value for the observed response is not statistically significantly different from an appropriate control.

If EPA's selection of reference station 333 as the appropriate control is accepted (*i.e.*, the reference response used in EPA's graphical method), then the NOEC (following EPA definitions) should be based on the sample that has the highest concentration of TPAHs and whose value for the growth endpoint is not significantly different from the value at

[15] EPA, 2001. EPA 600/R-01/020, March 2001, Method for Assessing the Chronic Toxicity of Marine and Estuarine Sediment-associated Contaminants with the Amphipod Leptocheirus plumulosus, Office of Research and Development, Western Ecology Division, U.S. Environmental Protection Agency.

[16] EPA, 1992. Framework for Ecological Risk Assessment, Risk Assessment Forum, EPA/630/R-92/001 February 1992.

sample 333. That sample is 303, where the concentration of TPAHs is 39 mg/kg. Note that the toxic response at station 303 is also not significantly different from laboratory controls (EPA, 2011) and is not significantly different from the pooled reference area samples (*see* FS Addendum).

Using similar methods, EPA uses the average value of the reproductive response measured at station 329 as the appropriate control to estimate a reproductive NOEC (*i.e.*, the reference response used in EPA's graphical method). If EPA's selection of reference station 329 as the appropriate control is accepted (*i.e.*, the reference response used in EPA's graphical method), then the NOEC should be based on the sample that has the highest concentration of TPAHs and whose value for the reproduction endpoint is not significantly different from the value at sample 329. That sample is 303 where the concentration of TPAHs is 39 mg/kg. Therefore, the appropriate NOEC for reproduction and growth is 39 mg/kg.

4) The FS Addendum erroneously assumes that the variability in the NOEC is reflected in the central tendency of all measured values that are equal to or less than the NOEC.

The FS Addendum incorrectly identifies the uncertainty in the NOEC as "a measure of (the) central tendency…" of all concentrations in the *L. plumulosus* toxicity testing that were equal to or less than the NOEC. This method is inherently incorrect because:

- It ignores all EPA definitions of NOEC as explained above (*See* NYC Comment 7(3)), and

- It does not address variability in the NOEC; rather it attempts to address the variability in all measured values equal to or less than the NOEC. If the FS Addendum were to address the variability in the NOAEC, it would have to measure the NOAEC in several series of toxicity tests, and calculate the appropriate statistics. The FS Addendum illogically assumes that those values that are less than a defined parameter somehow express variability in the parameter.

5) The FS Addendum incorrectly applies the cited EPA method for calculating a PRG.

The FS Addendum cites a study done in EPA Region I (NAVFAC, 2010) as an example of the method that the FS Addendum used to develop a PRG. However, the cited study used a method that adhered to the EPA definition of NOEC. Specifically, the cited study:

- Used the growth endpoint in estimating NOEC and LOEC;

- Defined toxicity based on a statistical comparison of the results at each site station to the results at combined reference area stations;

- Tabulated all non-toxic samples and their respective TPAH concentrations;

- Selected the sample with the maximum concentration in that group of non-toxic samples as the NOEC;

- Tabulated all the toxic samples and their respective PAH concentrations;

- Selected the LOEC as the lowest concentration in a toxic sample that is greater than the maximum concentration in a non-toxic sample; and

- Calculated the geometric mean of the NOEC and LOEC as the PRG.

The City notes that if the FS Addendum had followed this method:

- Among the Canal stations, the only sample that was non-toxic for growth was the sample tested from station 303, which had a total PAH concentration of 39 mg/kg;

- Therefore, the NOEC is 39 mg/kg;

- The LOEC is derived from station 310 and is 66.9 mg/kg; and

- The geometric mean of these values is 51 mg/kg, which is the PRG using the method cited by EPA in the FS Addendum.

6) The City's calculation of PRGs for TPAH based on valid toxicity test data returned a PRG of 138 mg/kg TPAH in bulk sediment assuming 6 percent TOC in the Canal for the growth endpoint and 392 mg/kg TPAH in bulk sediment assuming 6 percent TOC in the Canal for the survival endpoint.

The City has calculated PRGs based on survival and growth of *Leptocheirus plumulosus* for TPAHs in the Canal using:

- Recently obtained sediment toxicity data (*see* Table 7-1, which reproduces Table 1 from Toxicity Test Appendix A4.2 City of New York Calculation of PRGs for Total PAH) that did not require restarts and was conducted within EPA recommended holding times (2 weeks of sampling date);

- EPA definitions of NOEC and LOEC; and

- A direct application of the method cited by EPA (NAVFAC, 2010) for the calculation of PRGs.

Table 7-2 and Table 7-3 (which reproduces Table 2 from Toxicity Test A4.2 City of New York Calculation of PRGs for Total PAH) provide the estimated PRGs for TPAHs based on survival and reproduction, respectively.

Table 7-1. Toxicity test results – comparison with Pooled Reference Site results

Test Day 28			
Test Sample	**Mean Percent Survival (SD)**	**Mean Dry Weight per Amphipod in Milligrams (SD)**	**Mean # Offspring Per Adult (SD)**
Pooled Reference	**55(34)**	**1.0(0.37)**	**1.9(1.8)**
NYCDEP-GC-TX-303	30(17)	0.47(0.08)**	0.91(0.98)
NYCDEP-GC-TX-307A	2(3)*	NA	NA
NYCDEP-GC-TX-307B	30(19)	0.50(0.36)**	0(0)**
NYCDEP-GC-TX-309	0(0)*	NA	NA
NYCDEP-GC-TX-310	0(0)*	NA	NA
NYCDEP-GC-TX-313	0(0)*	NA	NA
NYCDEP-GC-TX-314	0(0)*	NA	NA
NYCDEP-GC-TX-315	0(0)*	NA	NA
NYCDEP-GC-TX-318	0(0)*	NA	NA
NYCDEP-GC-TX-319	0(0)*	NA	NA
NYCDEP-GC-TX-321	45(9)	0.72(0.28)	0.15(0.29)**
NYCDEP-GC-TX-324	79(20)	1.10(0.33)	1.06(0.85)
Reference Sites			
326	48(26)	0.88(0.45)	48
328	50(39)	0.92(0.43)	50
329	73(41)	1.33(0.29)	73
330	60(38)	1.01(0.44)	60
333	42(41)	0.85(0.17)	42

* Significantly reduced when compared to the Pooled Reference samples. Due to the reduction in survival, the sub-lethal endpoints for this test sample were omitted from further statistical comparisons.

** Significantly reduced when compared to the Pooled Reference samples.

Table 7-2. Ecological PRG development - based on L. plumulosus survival

Sample ID	Sample concentrations		
	Total PAHs (mg/kg)	TOC (ug/g)	Total PAH (mg/kg) TOC Normalized
Non-Toxic Samples			
303	437	110,000	3,973
307B	91	92,000	989
321	64	48,000	1,333
324	43	49,000	878
NOEC(1)			**3,973**
Toxic Samples			
307A	122	96,000	1,271
309	460	160,000	2,875
310	169	120,000	1,408
313	167	5200	32,115
314	6,149	120,000	51,242
315	2,129	81,000	26,284
318	1,508	140,000	10,771
319	936	82,000	11,415
LOEC(2)			**10,771**
Geometric Mean of NOEC and LOEC			**6,542**
Bulk Value (based on 6% TOC in Gowanus Canal)			**392**

(1) Maximum concentration in a non-toxic sample.

(2) Lowest concentration in a toxic sample that is greater than the maximum concentration in a non-toxic sample.

Table 7-3. Ecological PRG development - based on L. plumulosus growth

Sample ID	Sample concentrations		
	Total PAHs (mg/kg)	TOC (ug/g)	Total PAH (mg/kg) TOC Normalized
Non-Toxic Samples			
321	64	48,000	1,333
324	43	49,000	878
NOEC[1]			**1,333**
Toxic Samples			
303	437	110,000	3,937
307B	91	92,000	989
LOEC[2]			**3,937**
Geometric Mean of NOEC and LOEC			**2,301**
Bulk Value (based on 6% TOC in Gowanus Canal)			**138**
No Growth Data[3]			
307A	NA		
309	NA		
310	NA		
314	NA		
315	NA		
318	NA		
319	NA		

(1) Maximum concentration in a non-toxic sample.

(2) Lowest concentration in a toxic sample that is greater than the maximum concentration in a non-toxic sample.

(3) Samples had zero survival and growth could not be measured.

Sources of uncertainty in development of the PRG derive from the nature of the toxicity data. Specifically, there is a small sample size to use in calculating a PRG for PAHs because:

- Most of the Canal stations (seven of 12) cannot be used to estimate a PRG for PAHs because the sample exhibited visible oil in the lab. Therefore the test organisms were potentially affected by the physical effects of oil (*e.g.*, interference with respiration, ingestion of oil) before the toxic effects of PAHs from uptake and exposure would occur;

- Among the remaining five (non-oily) stations, the low survival in the reference areas results in only one toxic sample (for survival endpoints) and only two toxic samples (for growth endpoint) in the Canal (relative to the pooled reference area sample); and

- The survival in the reference area is low and highly variable (*see* Appendix A4.4 Toxicity Tests: Summary of Methods and Results).

NYC Comment 7 Inquiries

Given the observations presented above, the City requests that EPA respond to the following:

- Please explain the ramifications of the rationale for proceeding with the development of a PRG based on toxicity data encumbered by the various uncertainties noted including: employing three “re-starts” due to poor organism health; failing to describe the sample handling, distribution, and storage necessitated by these restarts; exceeding recommended holding times for these toxicity tests by as many as 15 weeks; and failing to address the potential uncertainties introduced into the toxicity testing due to the number of samples that were described as having “heavy” or “tar-like” sheens and odors.

- Given the strict adherence to EPA guidance and the better analytical results obtained by the City, the City requests that EPA adopt the PRGs developed by the City or explain why EPA’s approach should be used instead.

- Please explain why the FS Addendum ignores the EPA definition of NOEC by employing a comparison of an average concentration in direct comparison to a LOEC, rather than using the statistical comparison to a control explicit in EPA definitions.

- Please provide technical references that support the “graphical approach” used in the FS Addendum. Is this approach a standard method employed at other EPA CERCLA sites for estimating a PRG?

- Please explain why the FS Addendum does not follow EPA definitions and select a concentration of 39 mg/kg at station 303 for the NOEC for growth. This concentration fits EPA’s definition of a NOEC based on statistical comparison to either the laboratory control, the reference area selected as the basis of comparison in EPA’s ecological risk assessment (EPA, 2011), or a comparison to pooled reference area results.

- Please explain why the FS Addendum does not follow EPA definitions and select the concentration, 39 mg/kg at station 303, for the NOEC for reproduction. This concentration fits EPA’s definition of a NOEC based on statistical comparison to the reference area selected as the basis of comparison in EPA’s ecological risk assessment (EPA, 2011).

- Please explain the logical or statistical basis upon which the FS Addendum estimates the variability in a well-defined parameter (the NOEC) by averaging a series of values that measure something other than that well-defined parameter.

- Please explain why the FS Addendum attempts to address only the uncertainty in the NOEC and does not similarly attempt to address the uncertainty in the LOEC.

- The FS Addendum ignores data from two stations, 313 and 326. What is the effect on the analysis of maintaining all stations? Specifically, what is the effect of retaining station 326 as a reference station and what is the effect on the analysis of retaining station 313 as a Canal station?

NYC Comment 8: PRGs stated for metals, as well as the future bioavailability analysis, are not scientifically tenable.

EPA should not develop a PRG for lead and copper because EPA's ecological risk characterization demonstrates no bioavailability and therefore no toxicity from benthic exposures to copper and lead. In addition, EPA's selection of PRGs for copper (80 mg/kg) and lead (94 mg/kg) in sediment is based on an assumption regarding future geochemical conditions that is not supported by the available data.

1) EPA should not develop PRGs for copper or lead.

EPA should not develop a PRG for either copper or lead because EPA's risk characterization results indicate that neither is toxic to benthic dwelling organisms. The FS Addendum (Supplemental Section 4.2 p. 17) explicitly states that metals (including copper) should not cause toxicity: "The results of the AVS and SEM analyses provided in the RI report were used to calculate SEM-AVS/f_{OC} for each toxicity test sample. The results are reported in Table 4-7. The results strongly suggest that the metals currently are not bioavailable and should not cause toxicity." The referenced table (Table 4-7) shows that, among 11 stations sampled for AVS/SEM, ten indicated toxicity was unlikely and one indicated uncertain potential for toxicity. None indicated likely toxicity. Therefore, EPA should not calculate a PRG for chemicals (copper and lead) that do not pose a risk in the baseline risk characterization.

2) EPA's development of PRGs for copper and lead is based on an unfounded assumption.

New York Harbor-specific AVS/SEM and fraction organic carbon data (EPA, 1998; NYC DEP, 1992) show that it is unlikely that future geochemical conditions in the Canal will result in exposure to metals that are toxic to benthic organisms. These data indicate that divalent metals are not bioavailable and are unlikely to cause toxicity over a broad spatial range in New York/New Jersey Harbor in general, and in Upper New York Harbor in particular. Future geochemical conditions in the Canal are likely captured by the range of geochemical conditions extant in Upper New York Harbor. (It is unreasonable to assume that future geochemical conditions in the Canal will be unique and outside the broad range of conditions currently encountered). Future geochemical conditions will result in sediments whose properties are not likely to cause toxicity to benthic organisms. Therefore, there is no reason to establish a PRG that is based on the unlikely projection in the FS Addendum that "…metals may become bioavailable in the future if geochemical conditions in the Canal change and do not favor the formation of insoluble sulfides."

a. EPA's development of PRGs for copper and lead

The FS Addendum (Supplemental Section 4.2 p. 17) provides the following rationale for the development of PRGs for metals: "The results strongly suggest that the metals currently are not bioavailable and should not cause toxicity. However, metals may become bioavailable in the future if geochemical conditions in the canal change and do not favor the formation of insoluble sulfides." EPA bases the strong suggestion that metals are "…not currently available and should not cause toxicity" on the probabilities of toxicity at different TOC normalized values of AVS-SEM demonstrated by EPA (EPA, 2005). EPA used this approach for assessing the likelihood of sediment toxicity in the Risk Assessment (EPA, 2011a), the FS (EPA, 2011a) and the FS Addendum (EPA, 2012).

Although EPA acknowledges that current geochemical conditions in the Canal strongly suggest that metals are not currently bioavailable and should not cause toxicity, they make the unsupported projection that future geochemical conditions may change in some manner that does not favor the formation of insoluble sulfides. Therefore, EPA suggests (without explanation) a PRG reflecting copper and lead concentrations in the reference area (80 mg/kg copper and 94 mg/kg lead in bulk sediment). These bulk sediment PRGs are asserted with the full and explicit knowledge that divalent metal toxicity is not dependent on bulk metal concentrations.

b. EPA's basis for predicting bioavailability and toxicity

EPA's current model to explain divalent metal bioavailability relies on equilibrium partitioning theory, which is based on the idea that divalent metals (cadmium, copper, nickel, lead, and zinc) partition in sediment among AVS (principally iron monosulfide), interstitial water, benthic organisms, and other sediment phases such as organic carbon (Di Toro *et al.*, 1990[17]). According to the theory, the availability (and hence, toxicity) of metals depends on the difference between the molar concentrations of the SEMs and AVSs in sediment ("SEM -– AVS"). The model adjusts for the fraction total organic carbon in sediment (f_{OC}) because metals also can bind to organic carbon (EPA, 2005).

This model predicts that toxicity is:

- likely when the (SEM-AVS/f_{OC}) is greater than 3,000 micromoles (µmol) per gram organic carbon (g_{OC}),
- uncertain when the concentration is between 130 and 3,000 µmol/g_{OC}; and
- not likely when the concentration is less than 130 µmol/g_{OC} (USEPA, 2005)

Obviously, the geochemical conditions in this model that predict toxicity from sediment exposures (due to divalent metals) are the various combinations of: concentrations of sulfides, concentrations of extractable metals, and the fraction of organic carbon in sediments reflected in the equation:

$$(SEM\text{-}AVS)/f_{OC} \qquad \text{(Equation 1)}$$

3) Data from New York Harbor do not support EPA's assumptions

The City makes the reasonable assumption that the future geochemical conditions in the Canal expressed as Equation 1 are likely to lie within the range of values found over the broad range of geochemical environments currently occurring in the Upper New York Harbor. That is, the future geochemical conditions in the Canal are not likely to be unique and outside the range of geochemical conditions extant in Upper New York Harbor.

EPA's Regional Environmental Monitoring and Assessment Program ("REMAP") data (EPA, 1998; Figure 8-1) and DEP's 1992 sediment sampling data (DEP, 1992; Figure 8-2) provide the information necessary to calculate (SEM-AVS)/f_{OC} at sediment sampling stations in New York/New Jersey Harbor, and in Upper New York Harbor specifically. An examination of these data demonstrates that it is unlikely that geochemical conditions (f_{OC} and SEM-AVS) will result in effects on benthic communities (as toxicity).

[17] Di Toro, D. M., J D. Mahony, D J. Hansen, K J. Scott, M B. Hicks, S M. Mayr, and M S. Redmond. "Toxicity of Cadmium in Sediments: The Role of Acid Volatile Sulfide." *Environ. Toxicol. Chem.* 9 (1990): 1487-1502.

The City evaluated data from the New York/New Jersey Harbor region (REMAP, 1998; DEP, 1992) with respect to (SEM-AVS)/f_{OC}. The REMAP program measured the parameters of interest (AVS, SEM and TOC) in 167 samples from the New York/New Jersey Harbor region (Figure 8-1). The DEP 1992 sediment sampling program measured the same parameters from 21 additional sites (Figure 8-2). These sampling sites can be viewed together in Figure 8-3. Figure 8-5 shows that the vast majority of the samples (177 of 188, or 94 percent) had (SEM-AVS)/f_{OC} ratios less than 130 umol/g_{OC}, and would therefore be considered unlikely to be toxic. Just 11 of the 188 samples, or 6 percent, had (SEM-AVS)/f_{OC} ratios greater than 130 umol/g_{OC} (toxicity uncertain), and none of the samples had (SEM-AVS)/f_{OC} ratios greater than 3000 umol/g_{OC} (likely toxic).

In Upper New York Harbor in particular, at all sampled stations, the geochemical conditions (expressed as a combination of SEM, AVS, and f_{OC}) indicate that divalent metals are not available and are unlikely to cause sediment toxicity. These stations represent a broad spatial range (Figure 8-4) covering the Hudson River, the East River from Throgs Neck to the southern tip of Manhattan, and various stations in the Upper Harbor to Verrazano Narrows. These data for Upper New York Harbor (Figure 8-5) indicate that only one of the 35 samples had an (SEM-AVS)/f_{OC} ratio greater than 130 umol/g_{OC} (at 233 umol/g_{OC}), and none of the ratios were above 3000 umol/g_{OC}, the level at which toxicity is thought to be likely.

These data demonstrate that there is no widespread combination of geochemical conditions in Upper New York Harbor that would result in the likelihood of divalent metals bioavailability and toxicity. The assumption that future conditions in the Canal will result in some geochemical conditions that are unique to the extant range of conditions is unfounded and, in fact, contradicted by these data. Therefore, EPA's rationale for asserting PRGs for the two divalent metals, lead and copper, based on the assumption that "…metals may become bioavailable in the future if geochemical conditions in the Canal change and do not favor the formation of insoluble sulfides" is not supported by regional-specific data.

NYC Comment 8 Inquiries

Given the observations noted above, the City requests that EPA respond to the following:

- On what empirical basis does EPA assume that future geochemical conditions in the Canal will result in increased bioavailability of metals, given the extensive spatially and temporally diverse data that demonstrates the non-bioavailability of metals (including copper and lead) in New York Harbor?

NYC Comment 9: Conceptual design parameters for the proposed remedy are unrealistic.

EPA's current understanding of the Canal, groundwater watershed, and related processes, as presented in the Proposed Plan, are too simplistic to support a reliable estimate of the impacts of the proposed remedy. EPA fails to incorporate in its evaluation the impact of the improvements in water and sediment quality that will result from the CSO reduction efforts and Flushing Tunnel rehabilitation that the City is undertaking pursuant to its CWA Consent Order with DEC. This failure has resulted in the use of conceptual design assumptions that are unrealistic for addressing actual site risks.

1) Contaminant transport processes identified in the Proposed Plan are too simplistic.

The Proposed Plan attributes surface sediment concentrations to contaminant sources without regard to the natural mixing and transport processes that exist in the Canal, a direct outcome of the lack of a robust CSM. The FS incorrectly identifies CSO solids as the major source of contaminants in surface sediments in the Canal. As a result, the proposed remedial actions place insufficient focus on the true major sources of PAHs to the Canal (*i.e.*, groundwater, NAPL, and seeps). This has significant ramifications for the remedy since sufficient focus will not be brought to bear on the control of the true major sources.

Based on contaminant mass balance and other analyses, the pattern of contaminants accumulating in surface sediments cannot be derived from CSOs or reference area solids and, therefore, must be due to other poorly characterized and un-quantified sources. The analyses provided by the City in these comments provide clear evidence for the existence and relative magnitude of these sources. The Proposed Plan does not consider the potential for these sources to re-contaminate the Canal after a remedy has been implemented or the consequences of implementing the proposed remedy without addressing these sources.

The impact of groundwater on water quality in the Canal has only been given cursory treatment in the FS and Proposed Plan. The FS merely acknowledges the NAPL concentrations in groundwater outside the Canal and does not consider that the groundwater must pass through NAPL at almost all points prior to discharging into the Canal. No attempt has been made to quantify the associated loading.

During construction, following the removal of the soft sediment that currently retards upward groundwater flow, gradients between the groundwater and the Canal will be at their greatest. The influx of contaminated water and NAPL has the potential to deplete the adsorptive capacity of the oleophilic clays planned to control the NAPL, even as the material is placed.

The changes in channel geometry due to deep dredging will drastically change (and likely increase) the ratio of harbor solids to CSO solids accumulating in the Canal. The plan to deepen the Canal as part of the remedy will change the dynamics of sediment accumulation. More harbor sediments will be deposited in the Canal due to the decrease in velocity associated with the deepening. For this reason, any CSO solids that settle in the Canal will be diluted to a greater extent than prior to the remedy. The Proposed Plan fails to consider this important ramification in its requirements for CSO reduction.

The Flushing Tunnel will partially offset the increase in water residence time within the Canal that will result from deepening of the Canal. The Flushing Tunnel will also distribute cleaner harbor solids throughout the length of the Canal. The Proposed Plan does not account for the changes in circulation in the Canal when the Flushing Tunnel is restored (with increased capacity). As a result of restoring the Flushing Tunnel, there will be both a continuous flow out of the Canal and delivery of additional harbor solids to the Canal. This will partially offset the increase in water residence time resulting from the Canal deepening but should still increase the overall sediment accumulation rate by delivering harbor solids to the head of the Canal, and increase the standing inventory of harbor solids in the water column. This will result in less residence time in the Canal of CSO-delivered water relative to the Canal deepening alone, and will provide additional dilution of CSO solids by harbor solids. The Proposed Plan does not acknowledge these mechanisms and outcomes and does not attempt to estimate the quality of sediments that will be deposited after the City has implemented the changes to the CSO system and the Flushing Tunnel that are currently underway. The City notes however, that since CSOs are already compliant with the PRGs for TPAHs and TPCBs, these modifications could only further reduce the already low contaminant levels on CSO solids upon deposition on the Canal bottom (assuming that the actual causes of contamination that are currently present will have otherwise been addressed).

2) Critical technology effectiveness assumptions are unrealistic.

a. Lack of understanding of the performance of oleophilic clay for use in reactive caps to NAPLs

EPA is proposing to use a layer of oleophilic clays to capture NAPL migrating from the groundwater and underlying sediments to the surface sediments above the remedy's cap. However, EPA has not conducted any studies or analyses to understand how such a layer will react under the conditions in the Canal. There is ample supply of NAPL that could quickly expend capacity of the clay to treat further releases. If the clay swells due to adsorption of NAPL (as happens when used to treat other contaminants) and blocks flow paths, contaminated groundwater and NAPL could be diverted to other locations, either in the Canal or into basements, utility corridors, or other subsurface openings around the Canal.

EPA has presented no information or analyses on how the clay will handle dissolved contaminants. Based on the surface water data discussed above (*See* NYC Comments 1 and 2), loading of dissolved PAHs is likely significant. However, because the mass of NAPL associated with the MGP sites is unknown, the required thickness of an oleophilic clay layer in a reactive cap cannot be reliably estimated and the FS did not include any estimate of the depletion rate of oleophilic clay once placed. Since there is a large amount of NAPL that will not be recovered, determining the feasibility of using oleophilic clays requires quantifying depletion rates and understanding the ramifications for costs as well as any unintended consequences that could arise from using the clays. The studies of NAPL seepage that have been done did not consider the removal of soft sediments and the conditions anticipated to prevail during construction, and therefore grossly underestimate the amount of NAPL that may discharge. The proposed replacement of the oleophilic clay layer if found to have an inadequate life is an unacceptable surrogate for knowledge and would effectively require reconstruction of a new cap as a maintenance item.

b. Lack of understanding of potential impacts from in-situ stabilization and the parameters of applicability to the entire remediation target area

EPA provides no technical justification, analytical or pilot testing results, case studies, or other studies that document the benefits of the use of in-situ solidification ("ISS") in its proposed application. Similarly EPA has not evaluated the risks posed by the widespread application of ISS in the Canal. EPA has proposed the use of ISS to stabilize low-strength, native deposits at the base of the Canal following dredging, but prior to capping. While the use of ISS in upland areas is relatively common, its use in a marine setting for the purpose of strengthening underlying soils and creating a low hydraulic conductivity barrier to NAPL migration was not documented in the FS, and the City is not aware of any precedent for such an action. The closest example of its use in a similar setting that was cited in the FS was a pilot study conducted in Newark Bay to assess whether ISS could be used to stabilize the contaminated sediment enough to minimize re-suspension of contaminants during planned dredging operations. This study was not designed to assess the factors that will be important in its proposed application in the Canal.

In Table ES-1 of the FS, EPA acknowledges the lack of technical justification for ISS, stating that "…if additional evaluations and pilot studies indicate that in situ solidification (ISS) is implementable and effective within the canal…" and "this technology is not commercially proven for application to marine environments for the control of NAPL migration.." as well as "is **expected** to provide additional protectiveness" (emphasis added). These or similar qualifiers are repeated a number of times throughout Table ES-1. In the same table EPA acknowledges that "ISS is an emerging technology" and "there are few contractors with a proven performance of ISS implementation in marine environments."

Appendix A of the FS also refers to ISS as a "promising technology" for controlling NAPL in saturated sediments and identified four ***potential benefits*** of this process as follows:

i. NAPL saturation heterogeneity would be homogenized.

This implies that NAPL concentrations, as the result of adding the reagent by mixing, would be more evenly distributed throughout the sediment bed. However, mixing technologies are not perfect in the subsurface, which can result in separation of masses or blobs of the NAPL from the stabilizing agent. Mixing, then, has the potential to mobilize the NAPL within the mixing column, releasing it to the surface water or forming isolated NAPL blobs that might not be captured by the ISS matrix. This is of particular concern in the NAPL-saturated conditions present in portions of the Canal.

ii. NAPL saturation potentially could be lowered to residual levels by ISS, preventing further NAPL migration.

This outcome might be expected where the mixing is occurring in contaminated soils above the water table, a common use for ISS. It is not clear that this would occur in the saturated native sediments present beneath the Canal. Because of the lack of historical data in a similar environmental setting, it is not possible to determine what the impact will be of a large-scale application of ISS such as envisioned in the Canal for the proposed remedy.

iii. Hydraulic conductivity of the ISS treated sediment would be greatly reduced, resulting in reduced upward groundwater velocities that can cause NAPL migration.

While it is possible that the addition of Portland cement to the material will reduce its hydraulic conductivity, the volume of Portland cement required in this setting has not been established and may vary substantially from place to place within the Canal due to variations in the native sediments. It is not proven that reducing the hydraulic conductivity across the majority of groundwater discharge zone(s) to the Canal will be an overall environmental benefit. Reducing hydraulic conductivity in one area is likely to divert groundwater flow to another location, potentially to basements and crawl spaces of houses and buildings in the area. This could distribute the contaminants in the groundwater into previously uncontaminated areas. Differential settling within the sediment could result in cracks in the ISS barrier and create preferential flow paths for contaminants, increasing the upward gradient and hence the migration of contaminant mass. The lack of geotechnical data, geotechnical analyses, and modeling results in a great deal of uncertainty regarding the potential impacts of reducing the hydraulic conductivity into the bed of the Canal.

iv. ISS has been pilot tested on soft sediment using cement deep soil mixing ("CDSM").

The referenced pilot study was conducted in Newark Bay on a small volume of material in an open setting and lasted less than six months. The intent of the program was not to improve the stability of the underlying low-strength material to allow placement of a reactive cap, rather it was intended to stabilize the soft contaminated sediment to allow dredging of the solids and their off-site disposal with minimal re-suspension of contaminants into the water column. This pilot study does not provide a true comparison for evaluating ISS in its planned application in the Canal.

While there was discussion of the potential, although unproven, benefits of the use of ISS, what the FS did not consider were the ***potential risks*** of the process.

- No field data has been gathered on the strength of the native deposits throughout the soil column; FS investigations of the native sediments stopped at a depth of approximately 5 feet. While one of the purposes of ISS is to create a layer that can support the cap, EPA has not documented any investigation as to whether the underlying sediments have the ability to support the weight not only of the cap but of the ISS layer. EPA's proposed approach may just transfer the problem of unstable soils to a greater depth in the soil column. In addition, soil borings suggest that in a number of locations, more granular soils are present at depth; compressing soils deeper in the soil column could result in spreading the groundwater contamination problem downward and outward through more porous soils.

- The justification for the ISS layer is the concern that the cap weight will mobilize the NAPL outward. It is not clear why adding the weight of a five-foot ISS layer across much of the bed of the Canal would not have the same result. In addition, as noted previously, the mixing process used has the potential to mobilize the NAPL in the sediment.

- The uncontrolled hydration of Portland cement by its incorporation into the sediment through the ISS process has the potential to release high pH leachate to the Canal containing toxic levels of heavy metals derived from the cement. The FS documents do not consider the potential risks associated with the addition of large volumes of Portland cement or similar reagents to the Canal. The bench

scale testing currently underway to identify the proposed reagent does not address this question.

- While the FS documents discuss the ISS process as creating a continuous low hydraulic conductivity layer that will prevent contaminated groundwater from entering the Canal, this seems an unlikely outcome. The underlying sediments vary in depth and material characteristics. Different portions of the underlying soils will react differently to the weight that is applied through the cap and ISS layer, resulting in differential settling and the formation of cracks in the ISS layer. These cracks may provide flow paths for contaminated groundwater and gas to enter the surface water of the Canal.

EPA needs to conduct a more complete and thorough evaluation of the ISS process in a marine environment before proposing its use in a large-scale project. This analysis should include a geotechnical evaluation of underlying soils to determine the impact of installing not only a soil cap but an ISS layer as well. This evaluation should include an assessment of the stability of the ISS layer as well as the potential for consolidation of underlying contaminated layers and the redistribution of contaminants; an assessment of the potential impact of the mixing process both on the release of chemicals from the reagent used in the ISS process and the release of NAPL in the native sediment deposits; and modeling of the local hydrogeology to determine the impact of a reduction of the hydraulic conductivity within the base of the Canal on the path of contaminant plumes.

The FS does not provide an evaluation of some of the fundamental assumptions used in the conceptual design for the recommended remedy. The approach taken in the FS to defer these and other critical evaluations until the Remedial Design phase without providing any contingency for addressing problems that will arise at that time is inconsistent with EPA's RI/FS and Contaminated Sediment Remediation guidance (EPA, 1988; EPA, 2005).

3) The conceptual design of the cap is flawed.

The Proposed Plan chose a cap design without considering its efficacy or its consequences to the groundwater system. The chosen cap design includes a 1-foot thick layer of oleophilic clay as an adsorptive barrier to NAPL discharge. The only justification for this choice is that a similar cap was used at the McCormick & Baxter Creosote Superfund Site in Portland, Oregon in 2005. While EPA correctly points out in the FS that there are important hydraulic and contaminant occurrence differences between the McCormick and Baxter site and the Canal (including large differences in the hydraulic and NAPL gradients), it does not mention the most important difference – that of scale of the capping effort. An oleophilic clay mat was used at the McCormick & Baxter site to cover an area of roughly 24,150 square feet and used 600 cubic yards of clay. In comparison, the FS indicates the remedy for the Canal will cover an area of 330,000 square feet and will require over 40,000 cubic yards of clay. The analogy between the sites is weak and does not support the proposed remedy without additional evaluation. Other detailed evaluations of cap effectiveness are needed, but were not presented in the FS. If the oleophilic clay is expended much more quickly than anticipated, removing and disposing of this NAPL-saturated material will be a significant, and expensive, undertaking.

The proposed cap does not consider lateral migration of contaminants in groundwater that discharges into the Canal. The proposed cap would be located 15 to 20 feet below the water surface in most areas of the Canal. Lateral migration of groundwater into the Canal containing NAPL from the upland sites, would be entering the surface water **above** the

reactive cap and would not be treated. This process will lead to recontamination of the cap from the surface. This issue was not addressed in the FS or Proposed Plan.

NYC Comment 9 Inquiries

Given the observations noted above, the City requests that EPA respond to the following:

- The lack of a technically supported, robust CSM for the Canal has resulted in the use of unfounded and undocumented conclusions being drawn not only about the source of the contaminants but about the long-term implications of the proposed remedy. Additional information on the fundamental processes that drive contaminant flow and contaminant deposition and control conditions in the Canal need to be provided.

- The FS and the Proposed Plan contain no evaluation of the effective life of the reactive cap or the timing or costs of its replacement. The FS does not address fundamental questions about the life of the reactive layer in the cap or the cost to replace the cap when the reactive layer fails. Under CERCLA, potential costs that will accrue during the assumed 30 year life of the remedy need to be included in the cost estimate – without an estimate of the life of the cap, this has not happened and it is not clear that enough data has been generated on NAPL flux to make this estimate.

- No consideration is given to the potential impacts associated with the use of ISS in the Canal. The use of ISS is based on unproven assumptions about its potential benefits that have not been verified based on field testing under conditions likely to exist in the Canal. Adequate testing should be conducted in the FS to assess both the potential benefits and the risks of using ISS in the Canal before it is proposed for inclusion in the recommended remedy. At this time, EPA has not established any criteria for acceptable performance of the ISS or means for evaluating lab and pilot scale testing deferred to the Remedial Design phase.

- EPA has left a number of key questions unanswered in the FS about the technical feasibility, and suitability, of the cap design. Additional study and analysis of the ability of the proposed cap design to address site conditions in a cost effective manner need to be performed before it can be included in the proposed remedy.

NYC Comment 10: EPA incorrectly and inappropriately relied on the article by Stein et al. (2006) regarding stormwater runoff to establish its "first flush" standard for CSO discharge capture. EPA should instead use sufficiently representative site-specific measurements to inform remedial decision-making.

As part of the justification for EPA's CSO reduction requirements, the Proposed Plan states:

> "Scientific literature suggests that it can be assumed that the "first flush" comprises approximately 20% of the total discharge volume and contains between 30% and 60% of the total PAH load of the discharge (Stein, 2006)." *See* Proposed Plan, p. 19.

EPA incorrectly uses this observation, which is based on storm water drainage in a western arid region, as a basis to estimate the nature of CSO in a humid, eastern setting. EPA is assuming that 20 percent of the total Canal CSO discharge volume for outfalls RH-034 and OH-007 is equivalent to a storm drainage first flush volume and includes 30 to 60 percent of the PAH loading. This assumption is based on the work of Stein *et al.* (2006).[18] The work of Stein *et al.* is not applicable to the Canal, and EPA should not have relied on it in the Proposed Plan. The work of Stein *et al.* (2006) describes conditions related to stormwater discharge in the Los Angeles area, which are significantly different from the CSO and drainage area and precipitation conditions of the Canal, and produce releases of fundamentally different character. EPA's reliance on Stein *et al*. to characterize the releases from CSOs discharging to the Canal and select remedial actions is not appropriate for the following specific reasons. *See also* Appendix B.

1) Combined sewer systems and separated storm sewer systems have fundamentally different hydrological responses

There are fundamental differences in character between the initial tipping flow for a CSO and the true "first flush" for a separated stormwater system. Typically, combined sewer systems are designed so that approximately two times the dry weather flow is captured and treated. Very often, in a combined sewer system, much of the initial rainfall runoff volume is actually captured and treated rather than released. Only when the rain is sufficiently long in duration and intensity does a CSO tipping event occur. Many smaller rain events do not yield any CSO discharge at all. This is in contrast to separated storm sewer systems, where essentially all rain events that cause surface runoff yield some storm sewer discharge.

Recognition of the capture of "first flush" for CSOs is found in *EPA's Combined Sewer Overflows Guidance for Monitoring and Modeling*, EPA/823-B-99-002 (January 1999) where it says "using overflow quantity and average concentrations, inaccuracies may result, particularly if the 'first flush' is effectively captured by the POTW or storage." Additionally, in a combined sewer system, when a portion of the "first flush" from the stormwater runoff is not captured and is released during initial tipping of the CSO, its contaminant concentrations are the result of surface runoff mixed with sanitary sewage. In contrast, a true "first flush" is released in a separated storm sewer system since there is

[18] Stein, E.D., L.L. Tiefenthaler, and K. Schiff, 2006. "Watershed-Based Sources Of Polycyclic Aromatic Hydrocarbons (PAH) In Urban Storm Water." *Environmental Toxicology and Chemistry.* 25:373–385.

typically no provision for capture or storage of flow, and its associated contaminant concentrations result exclusively from rainfall runoff.

Further, even for a given CSO location, a high level of variation in the solids and contaminant concentrations released during initial tipping of the CSO will exist, depending on storm event conditions (such as intensity, duration, and timing of peak intensity), tidal conditions and the elapsed time since the previous runoff event. These highly variable conditions would require extensive data collection for characterization and determination of the appropriate remedial action. As stated in EPA's *Combined Sewer Overflows Guidance for Long Term Control Plan* (EPA, 1995[19]):

> "Historically, the control of CSOs has proven to be extremely complex. This complexity stems partly from the difficulty in quantifying CSO impacts on receiving water quality and the site-specific variability in the volume, frequency, and characteristics of CSOs."

2) The areas drained by storm sewers in the Stein *et al.*, 2006 study are inherently different from those associated with the Canal

In addition to the fundamental hydrological differences in the highly variable properties and volumes of releases from the blended initial tipping flow from CSOs and the true "first flush" from separated storm sewer systems (especially from widely divergent climates), the stormwater drainage area considered by Stein *et al.* is very different from the Canal drainage area. The nature and volume of any first flush is highly dependent on drainage area. As stated in *EPA's Combined Sewer Overflows Guidance for Monitoring and Modeling*, (EPA, 1999[20]):

> "To characterize first flush, a sample should be collected as close to the beginning of the CSO event as feasible. Appropriate sampling intervals depend on such factors as drainage area sizes, slopes, land uses, and percent imperviousness."

Stein *et al*. considered fourteen individual events across eight stormwater in-river mass emission sites for nine storms occurring between February 2001 and February 2004. In-river mass emission sites are engineered flood control open channels or highly modified rivers that integrate runoff from all the land use types in their contributing watersheds. The in-river mass emission sites considered by Stein *et al*. included both developed and undeveloped land use sites in the arid greater Los Angeles, California region. In addition, 15 homogeneous land use sites were considered. Homogeneous land use categories considered by Stein *et al*. included high-density residential, low-density residential, commercial, industrial, agricultural, recreational, and transportation. Unlike the sites considered by Stein *et al*., the Canal's drainage area does not include in-river mass emission sites nor does it include undeveloped areas. The Canal's drainage area is largely commercial/industrial and does not include all of the land use categories considered by Stein *et al.* More importantly, unlike the sites considered by Stein *et al.*, the

[19] EPA, 1995. *Combined Sewer Overflows Guidance for Long Term Control Plan*, EPA/823-B-95-002, August 1995.
[20] EPA, 1999. *Combined Sewer Overflows Guidance for Monitoring and Modeling*, EPA/823-B-99-002, January 1999.

Canal is not in an arid region and the surrounding impervious surfaces do not accumulate large quantities of wind-blown dust, unlike the areas around Los Angeles.

The Los Angeles drainage area considered by Stein *et al.* is commonly known to be a "closed" basin subject to frequent smog, since it is surrounded by a series of mountain ranges and hills. Many of these mountains reach 10,000 feet in elevation. The hills and mountains create steep slopes and therefore generate high energy in water flowing over land to the in-river mass emission sites sampled by Stein *et al.* The high energy in overland flow has implications for mobilizing particles from the land surface and would be expected to increase particulate phase transport and associated contaminant concentrations in Los Angeles area stormwater, especially during the "first flush." The hills and mountains surrounding the Los Angeles area also have the effect of constraining aerial transport of contaminants in the atmosphere, which is particularly important for PAHs since the dominant source identified by Stein *et al*. is automobile and other vehicle emissions. In direct contrast, the drainage area of the Canal is not enclosed by hills and mountain ranges. Accordingly, unlike the drainage areas considered by Stein *et al.*, the drainage area of the Canal does not have extremely steep slopes, nor does the Canal drainage area experience any buffering or constraining of regional aerial transport of contaminants in the atmosphere. As a result CSO solids discharged to the Canal have shown relatively low variability in contaminant concentrations per unit mass of solids, typically less than $\pm$ 50 percent variability.

3) **The patterns of precipitation in the areas studied by Stein et al. (2006) are intrinsically different from those associated with the Canal, resulting in significant differences in chemical composition and concentration in Los Angeles storm water discharges relative to Canal CSO discharges**

According to Stein *et al.:*

> "The discharge of PAHs from urban watersheds is exacerbated in arid regions. … Moreover, the long antecedent periods without rain in arid regions potentially enhance the dry deposition of PAHs to urban landscapes from these atmospheric sources. When rainfall does occur, the precipitation is often short but intense. Storm flows in urban watersheds from the Los Angeles region can range from 0.5 cubic meters per second (cms) to 1,000 cms in less than 1h. Runoff from these largely impervious urban surfaces efficiently mobilizes deposited material, including PAHs, in the resulting surface runoff."

Not only were Stein *et al.* considering stormwater in an arid region (*i.e.*, just 10 to 12 precipitation events annually), but the PAH measurements in Stein *et al.* are also biased by early rainy-season storm events which emit more PAHs than later-season storm events. The bias is the result of a seasonal flushing of the land that occurs in the Los Angeles area, presumably due to the build-up of aerosol deposition on land surfaces over the dry season. Antecedent conditions for the storm events sampled by Stein *et al.* ranged from 2 to 142 days without measurable rain. As indicated by Stein *et al.*:

> "Antecedent dry period (expressed as cumulative rainfall) was strongly correlated with total PAH concentration, load, and flux in an exponentially nonlinear manner. Early-season storms have significantly higher PAH loads than late-season storms both within and between watersheds, even when rainfall quantity is similar."

For CSOs in the Canal drainage area, there is no evidence of a seasonal flush or bias and an antecedent dry period as long as 142 days would not be expected for any Canal CSO outfalls.

4) **The Stein *et al.* 2006 study has little relevance to the Canal and should not be used to support remedial decisions with regard to the Superfund site; rather, sufficiently representative site-specific measurements are needed.**

In conjunction with the City's concerns over the incorrect application of Stein *et al.* study to the Canal, the City contacted the author for his opinion. The letter from the author is provided as a separate attachment to the City's comments. *See* Appendix B. In his letter, the author confirms that his study results cannot be extrapolated to the Canal study area without substantial additional data related directly to the Canal. Therefore his study is inapplicable to the Canal.

For all of these reasons (*i.e.*, collection system, drainage area, precipitation, and PAH compound differences), the work of Stein *et al.* (2006) should not be used as the technical basis for drawing any conclusions about Canal CSOs. Rather, a statistically significant number of measurements of the discharge of Canal CSO effluent over the course of a representative number of storm events would be appropriate for determining if time-dependent phenomena, such as "first flush", are occurring. The extensive set of Canal CSO discharge measurements do not show the existence of such a phenomena and in fact show a narrow range of contaminant concentrations on CSO solids (most values fall within $\pm$ 50 percent of the mean concentration per unit mass of solids). Such Canal-specific measurements must be considered by EPA before drawing conclusions regarding the purported "first flush" from CSOs.

NYC Comment 10 Inquiries

Given these observations, the City requests that EPA respond to the following:

- Since the Stein *et al*. work clearly does not apply to Gowanus conditions, what other basis does the EPA have to supports its assertions and conclusions concerning "first flush" including the proposed sizes of in-line CSO retention tanks, or the initial tipping flow from CSOs?

- How can EPA reconcile the PAH patterns of the surface sediments of the Upper Canal with those observed in CSO discharges since they are distinctly different from each other and unlike the patterns measured by Stein *et al*.?

- What is EPA's response to the concerns expressed in Dr. Stein's letter, annexed as Appendix B?

NYC Comment 11: The proposed remedy is based on inadequate information and lacks scientific support.

1) Lack of a reliable CSM will result in a high risk of failure of remedial actions.

a. By deferring critical analyses to the remedial design stage, EPA has based its remedy selection on inaccurate and incomplete information, ultimately leading to proposal of a suboptimal alternative with a high risk of failure.

The intent of the RI/FS process is to conduct a thorough site-specific investigation to establish the nature and extent of contaminants that pose a risk to human health and/or the environment, and then to develop and evaluate potential alternatives for addressing the risk. The RI/FS does not meet this standard and is missing key components critical to the selection of an effective remedy for the Canal. The FS acknowledges a number of these significant data gaps in the Executive Summary (p. vii). At a minimum, the following data gaps exist:

- No groundwater model was prepared for the watershed. The lack of a groundwater model means that no contaminant fate and transport/particle tracking assessment of groundwater impacts from contaminated upland sites was prepared nor an assessment of the potential impacts on water quality from the upland sites; no evaluation was prepared on potential impacts to groundwater elevations from installing sheet pile walls around the majority of the Canal, disrupting normal groundwater flow patterns; no assessment was prepared on the effectiveness of the cap and ISS layer in controlling the upward flow of NAPL from contaminated groundwater under the Canal; and no assessment was prepared on the impact to groundwater elevations by installing a barrier to groundwater flow (*i.e.*, the ISS layer) in the Canal.

- No hydrodynamic model of the Canal was prepared. The lack of a hydrodynamic model of flow in the Canal means that there was no evaluation of the impact of the Flushing Tunnel (following the resumption of pumping) on the flow, sediment deposits, or water quality in the Canal; no evaluation was prepared on the impact to flow and scour rates in the Canal during construction from the dredge cell sheet pile walls (when the treatment cells are in place); and no evaluation was prepared on the armor design using flows from the Flushing Tunnel following the resumption of pumping.

- No geotechnical evaluation of conditions in the Canal was prepared. The lack of geotechnical information means that no evaluation of the design assumptions used in the conceptual design of the sheet pile walls (either as reinforcement for the failing bulkheads or for contaminant around the dredge cells) was performed; no assessment was prepared on the strength of the native sediments and the ability to support a soil cap or ISS layer; no assessment was prepared on the hydraulic conductivity of the sediments following capping and/or ISS and the impact on sediment stability; no assessment was prepared on the amount of consolidation or differential settlement in the cap/ISS layers and its impact on the overall effectiveness of the remedy; and no assessment was prepared on alternatives to ISS to stabilize the underlying sediments.

- No estimate was prepared on the flux rate of NAPL through the cap under current conditions, with a cap (sand or reactive media) by itself, or with a cap and ISS layer. No estimate was prepared on the expected effective life of the oleophilic

clay layer in containing NAPL or the estimated time until replacement will be required.

- No evaluation was performed on site-specific conditions at the proposed site for the near-shore confined disposal facility ("CDF"), to determine if the site was suitable for construction of a CDF.

- No waste characterization was conducted for treatment or disposal purposes.

The missing information is critical to evaluating the technical feasibility and constructability of the various components of the alternatives being evaluated in the RI/FS Addendum as well as in assessing the potential benefits and possible risks the technologies present. Without collecting the necessary data and performing the associated analyses, one can only guess at the implications of the planned actions. At a minimum, the lack of geotechnical data represents a serious flaw in EPA's analysis of potential alternatives. For example, without this data, the ability of the sediment to support the ISS and cap cannot be evaluated; the potential for release of NAPL from the sediment due to consolidation cannot be assessed; and the potential for differential settlement and its impact on the long-term effectiveness of the remedy cannot be evaluated. Overly optimistic assumptions about the likely outcomes can lead to the selection of inappropriate or potentially damaging systems that will exacerbate conditions in the area of the Canal not solve them.

b. EPA has not conducted an adequate technical evaluation of either the technical feasibility or implementability of disposing of sediment from RTA 3 through beneficial use or in a near-shore CDF in Gowanus Bay, with the likely result being offsite disposal in a landfill at a substantial increase in the cost compared to the estimated costs in the FS.

The Proposed Plan identifies two potential options for managing the approximately 280,000 cubic yards of sediment generated in Remediation Target Area ("RTA") 3 – either through beneficial use of the material as daily cover at a landfill or disposal in a near-shore CDF to be constructed in the Gowanus Bay area. Neither of these options was evaluated in any meaningful manner in the FS and it is unlikely that either approach could be implemented.

Beneficial Use: The availability of lightly contaminated material that could be used as landfill daily cover far exceeds the demand for the material and landfills can be very selective in choosing material for this purpose. Sediment from a highly contaminated environment such as the Canal is unlikely to be accepted at most facilities. Since daily cover takes up landfill capacity, a tipping fee is likely to be charged for the material – this cost was not included in the cost estimate.

Landfill daily cover is typically a high permeability granular material. EPA proposes to solidify/stabilize ("SS") the contaminated sediment with Portland cement or other pozzolanic material to prevent leaching of contaminants. No testing has been conducted to: 1) determine physical characteristics of the material following SS and whether it is suitable for its intended use; 2) verify mixing ratio; 3) evaluate potential interferences with contaminants in the sediment; or 4) determine hydraulic conductivity following treatment. The Canal sediment is heterogeneous and is likely to remain so following SS, making its suitability as daily cover suspect.

It is unlikely that any landfill site would commit to the use of the sediment as daily cover without extensive testing and evaluation of the final product. This type of evaluation has not been conducted. During the FS, no specific beneficial use sites were identified, no

material characterization (physical or chemical) was conducted, and no material specifications for daily cover as a beneficial use product were established.

CDF: The proposed location for the CDF is not identified in the Proposed Plan, although a location off Columbia Street is mentioned. A draft United States Army Corps of Engineers ("USACE") Technical Memorandum entitled *Gowanus Canal & Bay Navigation Analysis* (August 8, 2007) indicated that Mr. John Quadrozzi was considering developing a CDF at his industrial park at 685 Columbia Street in the Red Hook area (in the Henry Street Basin area). This site is adjacent to the Red Hook Recreational Area, a widely used public park with riparian access to the Henry Street Basin.

There is no information provided in the Proposed Plan or other documents that suggests any site evaluation work has been conducted to determine if the proposed site is suitable for construction of a CDF. At a minimum, the following analyses and studies need to be conducted to determine site suitability.

- Preliminary evaluation of soil stability, depth to bedrock, stability of bedrock, and groundwater flow.
- Bathymetric surveys of the site to assess site slope and potential obstructions.
- Evaluation of tidal impacts on contaminants in the CDF.
- Preliminary historical/archaeological investigation of the proposed area impacted by construction of the CDF. As was noted in the FS Addendum, there are a number of historical sites in the area.
- Material handling procedures of surficial materials removed during CDF construction. These materials are likely to require disposal in a CDF or confined aqueous disposal while the deeper, cleaner soils can go to the Historic Area Remediation Site.
- An Environmental Impact Statement would likely be required, adding one to two years (or more) to the project schedule.

The FS did not address any of these areas in even a peripheral manner, nor does it include the costs for conducting these studies in the cost estimates. Given the proposed location (Gowanus Bay), it is likely a limited number of sites would be available.

Construction of a CDF within Gowanus Bay presents a number of unresolved issues:

- The FS documents did not address the potential impacts of a CDF on the Bay or the surrounding property. No information is provided on the proposed end use of the CDF and its potential impacts on the surrounding land uses, such as traffic.
- The construction of a 10-acre CDF would result in the permanent loss of 10 acres of bay bottom requiring mitigation for the lost habitat at a 3:1 ratio, or 30 acres. The average cost for purchase of credits from a mitigation bank is currently approximately $700,000 per acre, or $21 million. This cost was not included in cost estimate for RTA 3.
- Removing approximately 10 acres of water surface in the Bay may increase channelization of flow within the Canal, exacerbating existing flooding problems.

- The proposed site of the Red Hook CDF is within 250-500 feet of the ball fields at Red Hook Park. The City is concerned about potential impacts from this CDF location on the park.

- The City possesses the riparian rights associated with the shorefront section of Red Hook Park along Henry Street Basin, which have been affirmed in several court rulings. *See, e.g.*, *City of New York v Gowanus Indus. Park, Inc.*, 65 A.D.3d 1071 (N.Y. App. Div. 2d Dep't 2009). Construction of the proposed Red Hook CDF includes filling a portion of Henry Street Basin, with private ownership of the filled land, thus expanding private property on the Brooklyn waterfront and substantially obstructing the City's riparian rights.

Opposition to the proposed construction of a CDF in the Gowanus Bay is likely, based on opposition to the construction of CDFs for contaminated sediment disposal at other sites in the area. Addressing these concerns is likely to increase project costs and lengthen the project schedule, none of which is discussed in the FS.

2) The lack of site specific data on geotechnical conditions and groundwater modeling in the Canal prevent a realistic assessment of bulkhead replacement requirements.

Sheet piling is proposed as a replacement for failing bulkheads around the majority of the Canal. According to Table 1 of the revised cost memorandum in the FS Addendum, in RTA 1 and 2, the costs are based on piles approximately 35 feet long, driven into the native sediment to a depth of 10 feet (including the 3 foot cap results in a total embedment of 13 feet). Slightly longer piles are used in RTA 3.

- A typical "rule of thumb" approach to estimating sheet pile design is that for every one foot of wall above the soil, two feet should be embedded in competent soil (*i.e.*, soil that is capable of supporting the design load of the sheet pile). The conceptual design in the FS inverts this ratio with one foot installed depth for two feet above the soil. No geotechnical calculations are provided to suggest that the system is capable of supporting the anticipated loads.

- No geotechnical investigations have been performed to assess whether the native sediment is even capable of supporting the proposed sheet pile wall (*i.e.*, is competent soil). The purpose of the proposed ISS layer is to strengthen the native sediment under the cap, which suggests that the native sediment is not competent, otherwise no ISS layer would be needed.

- No provisions have been made for controlling groundwater behind the wall and groundwater modeling has not been performed to assess the risk. The Canal serves as a major discharge point for area groundwater and cutting off the flow towards the Canal will result in increasing groundwater levels near the wall; the potential for contaminated groundwater to enter structures, basements, utility vaults, or other similar structures; changes in groundwater flow patterns in the area and the migration of the contaminant plume to new locations; unknown impacts to existing and proposed remediation systems in the area due to changing groundwater flow patterns; potential localized failure of the bulkhead; and other unintended consequences.

- The conceptual design assumes that the 3-foot capping layer will provide additional support to the wall. While this may be true in the long term, the critical

time for wall stability will be during excavation of the sediment when the cap will not be in place.

- The conceptual design does not consider the number of pipelines, utility crossings, and bridges in the Canal that will impact the ability to construct a bulkhead in the manner proposed.

- The conceptual design includes tiebacks to help stabilize the wall. There are a number of locations along the Canal where structures are located such that tiebacks cannot be installed. Given the lack of geotechnical sampling and analysis, the suitability of the upland soil for the use of tiebacks has not been confirmed, and the number and spacing of tiebacks has not been evaluated. Also, given the depth to groundwater in the area, it is not clear that tiebacks can be installed at a suitable depth to stabilize the wall without major excavation on adjacent properties.

- No information is provided as to whether installation would be land-based or water based.

    - If land-based, there are a number of locations where existing structures will impact access in portions of the site. In addition, it is not clear that the existing bulkheads and the material behind the bulkheads are strong enough to support the equipment loads necessary to construct a sheet pile wall. The ability of the upland soils to support the required equipment has not been assessed.

    - If water based, will equipment barges be able to access areas where sediment has accumulated to install the sheet piling. The FS repeatedly states that the reason to dredge portions of the Canal would be to allow access to the upper reaches – what assurances are there that the bulkheads can be installed without first removing the sediment, undermining the integrity of the existing bulkheads.

- The vibrations from sheet pile wall installation can destabilize or damage surrounding structures if constructed on soft materials.

- No evaluation was done assessing the potential impact of reducing the depth of dredging on the need to replace the bulkheads.

- The Proposed Plan refers to a historical and archaeological study conducted as part of the FS. (*See* Proposed Plan, p. 7.) One of the recommendations of the study was removal or stabilization of the timber cribwork bulkheads with documentation of sample bulkheads and potentially mitigation of the adverse effects of remediation. The Proposed Plan also states the following:

> "Where new bulkhead construction is required, bulkhead configurations that are in keeping with the historic character of the setting should be considered." *See* Proposed Plan, p. 8.

Sheet pile bulkheads are hardly in keeping with the historic character of the setting.

3) EPA proposes installing temporary sheet piling around dredge cells to contain contaminants disturbed by remediation activities. The lack of technical analysis in the FS raises serious questions about the effectiveness of these units.

The conceptual design calls for the construction of treatment cells by installing sheet pile walls within the Canal, to isolate areas during sediment removal, ISS (Alternative 7 only), capping, and water treatment.

- Not enough information is provided to effectively evaluate the conceptual design approach presented in Table 1 of the FS Addendum (*see* Technical memorandum – *Revised Cost Estimates for Preferred Remedial Alternatives*). If the piling length is similar to that used for the bulkheads (35 feet in RTAs 1 and 2), and the piling is embedded to a depth of 25 feet, the wall will extend approximately 10 feet above the native sediments; if the piling is embedded to a depth of 15 feet, then the piling will extend approximately 20 feet above the native sediment. (Note: these depths are based on the pricing information backup and were not described in the FS.) No stability evaluation has been prepared on the construction of the sheet pile walls for the treatment cells. As noted previously, the proposed sheet pile wall approach presented for the bulkheads inverts the standard rule of thumb for sheet pile walls and is unclear what the proposed approach will be for the treatment cells. In addition, there are numerous references in the FS regarding the low strength of the native deposits suggesting that this material may not be able to sustain the walls.

- The impact of flows from the Flushing Tunnel on the stability of the treatment cell wells has not been evaluated. No consideration has been given to the rerouting of the Flushing Tunnel around the treatment cells when working in RTA 1.

- A hydrodynamic model will be required to evaluate the potential impacts to flow within the Canal due to the construction of the treatment cells. In essence the cells will cut the width of the Canal by half, which will increase the flow rate and scour in the remaining Canal width. This will be of particular concern immediately downstream of the Flushing Tunnel. In addition, solids deposition may increase immediately upstream of the cell.

- No assessment was made on the impact to navigation in the Canal due to the installation of the treatment cells. In some locations, the width of the Canal will be reduced to less than 50 feet.

- As presented in Appendix E of the FS, the native sediment surface ranges from approximately -12 feet to -26 NAVD88 with an average depth of -19 feet NAVD88. Assuming a 35-foot pile, if embedded 25 feet into the native sediment, the piling will extend only 10 feet above the native sediments. Mean sea level is approximately 3 feet NAVD88, meaning that some of the treatment cells will be inundated the majority of the time. If the piling is embedded to a depth of 15 feet, on average, the piling will extend only 20 feet above native sediments. Approximately 42 percent of the sampling points showed that the top of the native sediments were at depths of -20 feet NAVD88 or greater, suggesting that a significant portion of the treatment cells in RTA 1 and 2 will be inundated during some portion of the tidal cycle eliminating much of the value of the walls.

- No consideration is given to pipelines, utilities, and bridges that will impact the sheet pile installation for the treatment cells.

4) EPA's ill-conceived approach to controlling contaminants during dredging and ISS operations in a treatment cell and dewatering the cell after cap installation will contaminate the cap materials during placement.

The conceptual design calls for pumping two volumes of water out of the treatment cell following dredging and cap placement with the water to be treated and discharged back to the Canal. There are several basic problems with this approach:

- This design assumes that dredge cell water would be removed ***after*** the cap is installed, meaning that the clean material used in the cap will be exposed to the contaminants (primarily NAPL) in the water column, contaminating the cap material and defeating a major purposed of the dredge cell water treatment.

- The section on the treatment cell design states:

> "Sheet piling would be used to contain turbidity and NAPL release during remedial activities but would not be designed to withstand differential head pressures created by lowering water within the cell (except for up to 5 feet differential due to tidal fluctuation). Sheet pile wall joints would not need to be completely water tight because no significant pressure differential would exist." *See* FS Addendum, Table 1, p. 4.

No stability assessment was performed on the ability of the sheet pile walls to withstand the pressure differential that would develop as water was pumped from cell. No evaluation was provided as to the effect of pumping at 750 gallons per minute ("gpm") in a confined area on the cap stability. Because the sheet pile walls will not be watertight, it is anticipated that a significant volume of the water removed from the cell will be replaced by water flowing through the sheet pile wall - no evaluation was provided or discussion on methods that would be used to prevent short circuiting during pumping.

5) Potential remedial alternatives cannot be effectively identified or evaluated based on available information.

a. Initial alternative identification and evaluation arbitrarily eliminated possible alternatives. For example, partial removal of sediment is a viable remediation alternative at a substantial savings as compared to full depth sediment removal but was not adequately evaluated during the FS process.

EPA provided very little analysis or technical justification for the elimination of the partial sediment removal alternatives (Alternatives 2 and 3) before any technical analyses were conducted. The reasoning included in Table 4-2 of the FS is vague, unsubstantiated, and inconsistent with remediation activities at other CERCLA sites. Other unsubstantiated assumptions were used to eliminate alternatives that conflicted with the presumed remedy.

i. <u>Untreated waste is left in the canal (Alternatives 2 and 3).</u>

While the preference under CERCLA is for the removal of untreated waste, this is not an absolute condition in assessing the viability of an alternative, particularly if the remaining

material can be successfully contained. Greater consideration should have been given to the partial dredging options.

ii. An armored sand cap may not be sufficient to control long term flux of contaminants (Alternative 2).

No evaluation of the anticipated flux rate of NAPL contaminants from underlying sediments was provided and no estimate was made of the required depth of the sand layer that would be necessary to provide adequate protection. Until this analysis has been completed incorporating site-specific alternatives, it is premature to eliminate a sand cap alternative.

iii. Numerous technical challenges are associated with successfully capping very soft sediments (Alternatives 2 and 3).

Capping of contaminated sediment has been successfully performed at a number of CERCLA sites as discussed in several EPA documents. No data was collected and no geotechnical evaluations were performed to assess the strength of the soft sediment and its ability to support a cap. No consideration was given to the variety of cap construction procedures that could be used to place the capping material. No consideration was given to alternatives to strengthen the underlying material to allow cap placement. While additional evaluation may have reached the conclusion that capping is impracticable, this evaluation needs to take place based on site-specific conditions.

iv. Future uses of the canal would be restricted to a greater degree by depth limitations (Alternatives 2 and 3).

The only federally authorized navigational channel is located south of Hamilton Ave. Minimal dredging would be required to maintain the authorized navigation depth. In RTAs 1 and 2, there is no navigation channel established and limited justification has been provided for the need to dredge the full depth of the soft sediment. According to a draft of a USACE memo on shipping in the Canal, limited beam at bridges poses as much of a restriction to the commercial use of the Canal as the draft. In addition, there appears to be some question as to the long term development plans for the upper reaches of the Canal, so it appears premature to extend the termination point of the navigation channel.

Although not included in Table 4-2, the justification for eliminating Alternatives 2, 3 and 4 cited in the FS text is based on the following:

> "The physical characteristics of the soft sediments in the canal suggest that they may have insufficient load bearing capacity to support a cap or could be destabilized by the uneven placement of cap material. Capping over these could destabilize any NAPL present in the soft sediments." *See* FS, p. 4-13.

This conclusion was based on very limited physical testing (grain size, bulk density) and no geotechnical analyses. EPA has based its design for the Canal on unproven assumptions that have not been confirmed by site data or analyses.

b. EPA's selection of two essentially identical alternatives for detailed evaluation represents an unwillingness to consider alternatives to site remediation that do not conform to a narrow view of possible solutions.

Two alternatives were selected for detailed evaluated (Alternatives 5 and 7). These alternatives were ranked essentially the same in the FS with the only difference being the presence or absence of the ISS layer in Alternative 7. Except for the cost of the ISS layer, the construction costs were essentially the same for the two alternatives. The Proposed Plan identifies Alternative 7 as the selected remedy for RTAs 1 and 2 because of the supposed (albeit unproven) benefits of the ISS layer. No technical justification or supporting calculations are provided.

This raises several questions and concerns regarding use of the ISS layer and its value in the design:

- If the ISS layer is a critical component of the selected remedy, its technical feasibility (constructability, effectiveness, benefits, risks) should have been assessed during the FS stage. No alternatives to the ISS layer are discussed in the FS in the event that testing does not support the use of ISS.

- If the ISS layer controls the upward migration of contaminants, as suggested in the FS, the need for a reactive layer as part of the cap is not clear – if ISS is effective, only a sand cap may be required to control the flux. However the conceptual design in the FS includes the same capping components for both Alternative 5 and 7.

- If the ISS layer stabilizes the native sediment as claimed in the FS, the cost of cap construction for Alternative 7 should be lower than for Alternative 5. However, the same construction costs are used for cap construction for both alternatives.

The volume and type of capping material are the same for both Alternative 5 and 7, and the two alternatives were ranked the same in the FS screening matrix, suggesting that there is no discernible added environmental benefit to the use of ISS in controlling the release of NAPL to the Canal. This appears contrary to Appendix A of the FS, which stated that ISS would lower the hydraulic conductivity and homogenize NAPL concentrations, both reducing the rate of flux into the cap and stabilizing the sediment. If so, it would suggest that under Alternative 7, the reactive capping requirements could be reduced or eliminated and construction costs would be reduced.

Use of ISS in the proposed remedy adds approximately $20M to the project costs with no apparent savings in other areas and no documentation as to its effectiveness. In Table ES-1, the FS acknowledges that ISS is unproven, stating “if ISS is implementable and effective.” If testing does not verify the technical feasibility and implementability, the default position appears to be to construct the cap without the ISS layer, suggesting that the ISS layer is not critical to the success of the remedy. But if it is technically feasible to construct the cap itself without the ISS layer (*i.e.*, Alternative 5) at roughly the same cost as with the ISS (*i.e.*, Alternative 7), and there are no proven environmental benefits then the value of including ISS in the selected remedy is suspect.

EPA needs to evaluate the technical feasibility of the use of ISS in this setting prior to its inclusion in the proposed remedy. This should include a combination of laboratory and field tests in a marine environment similar to the Canal. Standards for evaluating the results of the testing need to be established based on anticipated outcomes and acceptable performance. Verification that the results can be scaled up to full scale implementation needs to be documented by real world pilot testing.

Capping of sediments has been used as a remedy at numerous contaminated sediment sites and additional documentation (*e.g.* geotechnical evaluation of native sediments) should be provided as to why this approach alone is not applicable in this setting. If testing shows that some support is necessary to maintain the integrity of the cap in this setting, alternatives to ISS that may be more cost-effective than ISS should also be evaluated (*e.g.*, geogrids).

c. Dredging to the proposed depths outlined in the Proposed Plan will negatively impact dissolved oxygen concentrations in the Canal and will reduce the benefits of DEP's NYSDEC-approved Gowanus Canal Waterbody Watershed Facility Plan ("WWFP").

Dredging the Upper Canal to the proposed depths would increase the cross-sectional area of the Canal through which water must pass. This would decrease the amount of flushing that could be achieved in the Upper Canal from the Flushing Tunnel, thus increasing the residence time of pollutants in this area. As a result, organic pollutants within the Upper Canal would undergo oxidation for a longer time period, stressing dissolved oxygen concentrations beyond that planned in DEP's "WWFP".

In addition, dredging the Canal to the proposed depths would decrease the surface area-to-volume ratio, effectively reducing the ability of naturally-occurring processes, such as surface re-aeration, to replace the oxygen consumed by dissolved organic materials and/or organic matter decaying within the sediment.

The City has used the water quality model developed during the preparation of the WWFP to calculate the impacts of the proposed dredging action on Canal dissolved oxygen concentrations. The results of these analyses are provided in Figure 11-1, which supports the following conclusions:

- **Bottom Dissolved Oxygen Concentrations** – The minimum bottom layer dissolved oxygen concentration in the Canal is projected to be reduced by about 0.5 mg/L by dredging the Canal, as planned by EPA. Additionally, Figure 11-1 shows that the minimum dissolved oxygen concentration is projected to be never less than 3.0 mg/L, although it is very close in large sections of the Canal. Nevertheless, achievement of the current DEC Class SD dissolved oxygen criteria would be expected under average conditions.

- **Compliance with Dissolved Oxygen Standards** – For the design year, compliance with the current applicable Interstate Environmental Commission ("IEC") dissolved oxygen standard of 4 mg/L would be reduced about 5 percentage points. DEC has been considering upgrading the water quality classification of Gowanus Canal to Class I, which would also require a dissolved oxygen concentration of no less than 4 mg/L. The proposed dredging would further reduce compliance with the DEC's potential upgrade of the water quality classification.

In summary, the City believes that the extent of dredging proposed by EPA and the resulting water depths would prove detrimental from a dissolved oxygen standpoint, substantially reducing some of the benefits attained by the WWFP. In essence, the dredging activity would counteract the water quality benefits of DEP's current $150 million investment of rehabilitating the Gowanus Pumping Station and Flushing Tunnel.

6) The extent of the sediment removal program appears intended to fulfill other non-remediation objectives.

a. EPA has arbitrarily proposed the excavation of soil and sediment in the former 1st Street Turning Basin at a cost in excess of $20 million, based on very limited data, no evaluation of alternatives, and unrealistic cost estimates.

In the FS (*see* Appendix B, Technical Memo), EPA screened upland sites and identified seven sites that presented NAPL risks to the Canal, five of which are already in DEC-supervised remediation programs. In the FS Addendum (*see* Technical Memorandum-*Supplemental Evaluation of Upland Site*), based on the same screening process, 16 upland sites with potential water quality impacts were identified. Of these 16 sites, the former 1st Street Turning Basin was the only upland site identified proposed for remediation under CERCLA; the other upland sites have either been referred to DEC for future action, or their regulatory status is unclear based on the information provided.

The former 5th Street Basin was another of the 16 sites identified in the FS Addendum and ranked similarly to the former 1st Street Basin. The basin was filled during the same period as the former 1st Street Basin and has a number of similarities. No information is provided in the FS Addendum on the proposed plans for this basin; it was not listed as having been referred to DEC for remediation and it has not been proposed for remediation under CERCLA.

EPA based its decision to excavate the former 1st Street Basin on the analytical results of one groundwater sample collected in MW-27i with a score in excess of 100 (a limit set by EPA based on an undocumented standard) even though:

- The sample from MW-27s (*i.e.*, a sample from the same location but at a shallower depth) was ranked as "no risk";
- Groundwater sampling results from samples taken from MW-26s and MW-26i, also located within the limits of the former basin (approximately 75 feet from MW-27), were ranked as "no risk"'
- Groundwater sampling results from samples taken from MW-25s and MW-25i (located approximately 190 feet from MW-27), were ranked as "no risk." The boring log results (*see* RI Appendix D) suggest that MW-25s/i was filled at the same time as the former basin area using similar material and therefore may have been located within the limits of the basin;
- No additional investigation of the site was conducted or has been proposed to verify the nature and extent of the contamination in the former basin;
- No alternatives to excavation were identified or evaluated if remediation were determined to be necessary; and
- There is no indication that the current property owners were contacted regarding the proposed remediation activities and offered an opportunity to participate in the process.

The cost estimate prepared for the excavation significantly underestimates the remediation costs:

- The design costs are low given the complexity of the work involved.

- There are no provisions for any additional investigations of the site – it appears that EPA is planning a $20 million remediation program based on one sampling point.

- There are no costs included for geotechnical analyses required for the design of the replacement bulkheads.

- A number of costs were not addressed as part of the cost estimate, including the purchase of the land encompassing the basin.

- The former basin area is landlocked and for the construction of a proposed public access for a boat launch as mentioned in the FS Addendum, it would be necessary to purchase additional land to allow street access.

- The costs included for a permanent bulkhead around the perimeter of the basin are based on similar assumptions as the replacement bulkheads elsewhere on the Canal. As noted previously, this design is unlikely to be stable.

- As noted previously, productivity rates for the project are too high based on the limited site access in the Canal. This will be a particular issue in the former basin area where there are structures on either side of the basin and all material must be hauled to the Canal end for removal. This is likely to entail double- or triple-handling material, slowing the work and increasing the costs.

- The dredge cell dewatering costs do not include additional equipment rental time, only additional chemicals. As noted in NYC Comment 12, the dewatering schedule assumes full capacity is required to dewater the treatment cells leaving no additional time for dewatering the 1st Street Basin.

- In general, site access restrictions will increase time and costs.

- Site restoration costs are low. Given site restrictions, it will be necessary to stage some of the work on the adjacent property. These areas will need to be decontaminated and restored as part of the remediation process.

7) By its actions, EPA is proposing expansion of the existing navigation channel into the middle and upper reaches of the Canal as justification for removal of the entire soft sediment in the Canal. This expansion is not justified by current and projected navigational patterns on the Canal.

Alternatives 5 and 7 were developed based on an apparently preconceived need for a deep channel throughout the length of Canal, even though this need is not supported by current use patterns. According to information in the FS (*see* Section 1.2.2, p. 1-4), there are no federal, state, or local requirements to maintain a navigation channel of any particular depth above Hamilton Ave. Between Hamilton Ave and Sigourney Street, the federally authorized channel depth is -21 feet NAVD88; between Sigourney Street and the south end of the study area, the federally authorized depth is -33 feet NAVD88.

In the FS, EPA cites a 2007 memo, based on a 2006 study prepared by the USACE, on navigation in the Canal. (Note: only an early draft of this memo was available to the City.) Given the critical design assumptions that were made based on the information in this document, this memo needs to be provided to the City. The draft memo indicated that primary commercial usage is located south of 9th Street with no commercial navigation north of 4th Street.

- One commercial operation was located north of the 9Th Street Bridge – Ferrara Brothers; other uses were primarily recreational craft and environmental groups monitoring conditions in the Canal.

- Bridges north of 9th Street were opened less than 30 times per year.

- There has been a declining trend in vessel trips in the Canal between 1985 and 2005 with a more than 50 percent decrease in the use of the Canal even during a period when industrial activity and jobs in the area were increasing.

- The typical draft of vessels using the channel was 34 feet until 2000, since then it has generally been less than 30 feet. The typical draft of vessels in the Canal since 1990 has been 13 to 14 feet or less, consisting mostly of tug/tow barges.

- The volume of material shipped through the Canal has been on a downward trend for the last 20 years.

- While the depth of sediment in the Canal has had an impact on the size of vessels using the Canal according to some users, the allowable beam is as much a controlling factor as draft in the use of the Canal for commerce. There is a 45 foot beam limitation with economical payloads. (Note: this information was included in the draft memo available to the City but needs to be confirmed based on the final memo cited in the FS but not provided to the City).

The FS presupposes that removal of the entire column of the soft sediment is required to maintain navigation (*see* Section 2.4.3). This is based on a number of flawed assumptions:

- While maintaining navigation may be important, it is neither a legal nor regulatory requirement north of the Hamilton Ave Bridge. The Canal no longer serves as the means of transport for industries along the Canal. Bridges play a significant role in restricting the commercial use of the Canal.

- While the zoning along the Canal itself consists mostly of manufacturing districts, allowing a variety of commercial and industrial uses, there is also zoning that permits residential development. Additionally, longstanding residential districts are mapped in very close proximity to the Canal. Scattered throughout the manufacturing zoning districts are also long existing, non-conforming residential uses. Based on the historical development of the neighborhood, there are no clear functional boundaries between industrial and residential areas. The long-term development of the area as an industrial area using the Canal for large scale shipping is not supported by current land use.

- The data on the depth of the sediment in the Canal was collected along the shorelines where slow velocities would encourage settlement of solids (*see* FS Figure 3-8a-h) thereby overestimating the depth of the soft sediment in the navigational channel; no samples were collected in the navigational channel (down the center of the Canal). In fact, the bathymetric survey results (*see* FS Figure 3-1 c) for RTA 3B suggest that the depth in the channel meets the authorized depth; for RTA 3A, the depth appears to meet the navigation channel depth for the majority of the channel.

- For both RTA 3a and RTA 3b, to meet the required depth for the navigation channel, only limited dredging is required. The current plan to remove all of the

soft sediment is unnecessary to meet navigational requirements, even with allowances for a soil cap. Some dredging of individual slips may be necessary to provide deep water access.

- For RTA 2, EPA is proposing to remove all soft sediment, not only in the navigation channel but from all of the turning basins. In addition, it is proposed that the native sediment underlying the soft sediment be removed to create a **new** navigation channel with a depth of -16 feet NAVD88. Local businesses currently navigate the Canal without a maintained navigation channel. Across much of this area, the average depth of the top of the soft sediment layer is -5 to -10 feet NAVD88 (as noted above, this was measured along the shoreline and does not necessarily reflect conditions in the center of the Canal). By this action, EPA is proposing to create a navigational channel where one has not existed in the past, and which will require maintenance in the future to ensure its continued use.

- As for the need to remove all sediment in RTA 1, no justification has been provided. The City has proposed maintenance dredging of the upper 800 feet of the Canal such that the top of the cap would be 3 feet below mean lower low water at all times. This will allow recreational boating (which has a limited draft) in the upper reach of the Canal and equipment access for maintenance of the waterway. Because the width of the Canal is only 100 feet in this area, if equipment cannot access the area from the water, land-based equipment can be used for maintenance purposes if necessary.

The proposed removal of all soft sediment from the waterway has no justification based on the need to provide navigational access for the entire length of the Canal, either from a legal or regulatory requirement. From a practical standpoint, where feasible, navigation should be maintained for businesses operating in the area. However, the creation and maintenance of a 16 foot navigation channel for the entire length of the Canal is neither necessary nor warranted by the current and anticipated usage of the waterway. The FS cites two technical memoranda by the USACE to justify the navigation channel in the middle reach of the Canal. These documents are not available online and have not been made available to the City. An early draft of one of the memos does not appear to support such a wide-ranging extension of the navigation channel based on historical usage of the Canal for shipping. Will EPA make these documents available to provided full disclosure on the results of the analyses?

EPA needs to provide greater justification for the need to remove all soft sediment from the waterway along with economic justification for maintenance of a 16 foot navigational channel north of Hamilton Ave.

NYC Comment 11 Inquiries

In addition to the observations above, the City requests that EPA respond to the following:

- To finalize the FS in a technically supportable manner, the studies listed in Comment 11(1)(a) need to be completed **before** alternatives are identified and evaluated. These studies include, but are not limited to, groundwater modeling of the Canal watershed, hydrodynamic modeling of the Canal (including an assessment of the impact of the Flushing Tunnel once it is operable again), and geotechnical investigations of site conditions both in sediments underlying the Canal and in the immediately surrounding upland areas. Once this information is available, alternatives can be identified and appropriately evaluated. The current

FS screening process relied heavily on conjecture and assumptions about site specific conditions and their impact. In evaluating the technical feasibility and implementability of alternatives during the FS process, site specific information needs to be included in the process. This was not done in evaluating either of the alternatives selected for disposal of sediment from RTA3 – beneficial use or a CDF.

- No information was provided on the demand for daily cover at area landfills or the material specifications that would have to be met for its use.

- No testing was performed on the material to determine the chemical and geotechnical properties of the material following SS to verify that it can meet the required material specifications once stabilized.

- No information was provided on the proposed location, its suitability for construction of a CDF, the impacts of the site on the surrounding land use, on the Bay or Canal. No site specific studies were conducted to assess the technical feasibility of the site,

- Because of the lack of specificity in the proposed analysis of the CDF, stakeholders will not have an opportunity to provide meaningful input into the planning process.

- If, as appears likely, neither alternative can be implemented, the fall back will be off-site disposal of the material, increasing the project costs by approximately $35M.

- Both of the alternatives identified in the Proposed Plan were inadequately characterized and have substantial data gaps that need to be resolved before either can be selected.

- The implications of failure of a significant portion of the bulkheads along the Canal due to dredging operations can be catastrophic but are given little consideration in the FS.

- To realistically assess the **cost** and **technical feasibility** of installing a sheet pile bulkhead along the perimeter of the Canal, a geotechnical assessment of in-water and upland soil conditions is critical. This work has not been completed as part of the FS.

- To realistically assess the **impact** of installing a sheet pile bulkhead around the majority of the Canal, effectively cutting off much of the groundwater flow into the Canal, a groundwater model must be prepared. Without the model, the potential impact on groundwater flow patterns and contaminant transport cannot be evaluated; changes in upward migration of contaminants into the surface water cannot evaluated; and the effectiveness of the cap with or without an ISS layer cannot be evaluated.

- Site specific data on conditions in the Canal and a more complete analysis of the technical feasibility and implementability of the use of treatment cells is necessary in the FS. As currently conceived and presented in the FS, the use of treatment cells is unworkable: the system does not appear to be constructible; the length of the piling does not appear adequate to retain TSS with tidal variations in water levels; the impact of the Flushing Tunnel was not evaluated; the restriction in the

width of the Canal will increase scour and the movement of contaminated sediment; no consideration was given to other users of the Canal and their impact on operations; and no consideration was given to the impact of obstructions.

- The conceptual design presented in the FS does not consider any of the ramifications of high pumping rates in an enclosed area to dewater the treatment cells. This raises more questions as to the overall technical feasibility of the alternatives.

- As noted in NYC Comment 11(1)(a), there are significant data gaps in the FS. Only once this information is available can alternatives can be identified and appropriately evaluated. The current FS preliminary evaluation process relied heavily on conjectures and assumptions about site specific conditions and their impact on the technical feasibility and implementability of the various alternatives. Without geotechnical data and modeling results, these conclusions cannot be supported making the entire process suspect.

- The FS failed to evaluate the potential impacts of dredging alternatives on water quality. The failure to develop a hydrodynamic model of the Canal limited the ability of the EPA to effectively evaluate the impact of its proposed remedy on the Canal. The City's model of the Canal, developed as part of ongoing work to address conditions in the Canal, indicates that rather than improving conditions in the Canal dredging the Upper Canal to the depths proposed by EPA will have a detrimental impact on dissolved oxygen concentrations resulting in the inability to meet water quality standards for a SD-classified water.

- The detailed evaluation of the two "remaining" alternatives is not supported by technical data, calculations or systematic analysis. The need for the ISS layer was not evaluated in a meaningful manner in the FS, nor were alternatives to the ISS considered. To justify the inclusion of ISS in the recommended remedy, additional evaluation and testing is required. The lack of specific information on the technical feasibility and implementability of the ISS process makes its inclusion in the recommended remedy questionable.

- The remediation of the former 1st Street Basin is not supported by existing data, is impractical as currently conceived in the FS, and underestimates the project costs. Justification for this activity is weak and not consistent with the handling of other upland sites along the Canal. The decision to excavate the basin does not comply with any remedy selection requirements under CERCLA. Even if additional data supported the need to remediate the area, no alternatives to excavation were evaluated. There is no indication that property owners or neighboring landowners were contacted and offered an opportunity to participate in the process.

- The FS relies upon, and cites, two studies prepared by the USACE on the Canal. An early draft of one memo on navigation in the Canal was available for review but does not appear to support the conclusion presented in the FS. Studies conducted by the USACE on the Canal need to be made available the City for their review and comment if the information is being used to justify decisions on the proposed remedy.

- Expansion of the navigation channel beyond Hamilton Ave is not warranted based on available information. In addition, development along the Canal is in a state of flux and may not be compatible with the EPA's vision of the area. It is

important for the Proposed Plan to acknowledge the presence of residents, workers, and business patrons in close proximity to the Canal, and ensure that the remedy does not preclude the wide variety of activities that occur around the Canal.

NYC Comment 12: The cost estimates included in the FS Addendum and Proposed Plan grossly underestimate the likely project costs.

1) The dredging and sediment management costs consistently underestimate likely costs based on site-specific conditions

EPA has consistently underestimated the costs of implementing the proposed remedy. EPA has estimated that remediation costs will range from $350 to $454 million. Based on analyses by the City, the costs of implementing the proposed remedy are likely to be in a range that is twice those amounts, which is outside the acceptable tolerance for a CERCLA FS compared to the final remedy cost (*i.e.*, -30 to +50 percent). Insufficient site characterization and overly optimistic technical assumptions used to justify the design concepts have resulted in an underestimation of the probable costs for each of the alternatives.

The sections below address individual elements of the cost estimate where issues have been identified. In these paragraphs, "Table 1" refers to Table 1 in the FS Addendum (*see* Technical Memorandum – *Revised Cost Estimates for Preferred Remedial Alternatives*).

a. Institutional controls

Although Table 1 makes reference to institutional controls (maintaining fish advisory, protection of the cap and ISS layer, construction limitations within the Canal, bulkhead maintenance, and navigational dredging) no details are provided on the requirements of the controls and there is no cost estimate for the institutional controls. While some of these items will be relatively inexpensive, others – such as navigational dredging – could be significant, particularly if EPA is successful in extending the navigational channel to the head of the Canal.

b. Predesign sampling and testing

The cost estimate identifies a number of tests that will need to be conducted during the predesign investigation phase, including sediment treatability testing, waste characterization for disposal, and additional (unspecified) characterization for design. The FS assumed that all of these tests could be performed for a cost of $500,000 – ***including sample collection*** which is unrealistic. No information is provided on the number of samples to be collected, length of cores, analyses to be performed, or sampling costs, for example. No information is provided on the purpose of the geophysical testing. Geotechnical analysis is not included in the estimate, although this will be a major concern of the design process and geotechnical sample collection and analysis is substantially more expensive than for chemical analysis or treatability testing. Equipment mobilization/demobilization costs for the sample collection, bathymetry, and geophysical testing costs are not addressed in the estimate.

c. Remedial design

Remedial design costs are estimated at 4 percent of the remediation costs. Based on DEP's experience, typically, design costs range from 5 to 15 percent of the projects costs on environmental remediation projects. The estimated cost is at the low end of the scale for similar projects. According to Table 1, the remedial design budget is intended to cover the following tasks:

- Treatability studies for ex-situ treatment (including sample collection),
- Bulkhead inspection,
- Design phase activities,
- Contractor prequalification,
- Construction plans and specifications, and
- Bidding services.

The estimated cost for remedial design significantly underestimates the likely costs or does not cover the range of activities likely to be necessary.

d. Pre-remediation site work

The pre-remediation site work appears aimed at preparing the staging area, but has a number of costs that are unclear. Costs are included for constructing approximately 24,000 square yards of temporary access roads on a parcel of land near the mouth of the Canal. Given the area, the need for this amount of temporary roadwork is unclear. Streets in the area are already paved as well as many of the properties that may be available for use as a staging area. Approximately 2000 feet of temporary fencing is provided at a cost of $7.13 per linear foot (Means 01 56 26.50.0100). According to the RS Means reference number, this fencing is only six feet tall and can be installed with no equipment. Temporary fencing is typically installed in concrete supports so that it can be moved easily during construction; however, it provides little security for the job site. To allow docking at processing sites, either a temporary or permanent dock will need to be installed unless one is already available at the site. Temporary docking facilities cost upwards of $40,000 per month to rent, or almost $3 million over the life of the project.

e. Upgrading and restoration of bulkheads

Sheet piling is proposed as replacement bulkheads. According to Table 1, the costs are based on piles approximately 35 feet long, driven into the native sediment to a depth of 10 feet with a 3 foot cap (13 feet of total embedment, 22 feet above soil). Based on typical design standards, the length of embedment should be twice the amount above soil, or approximately 44 feet. This standard increases the required length of the pile to approximately 60 feet, or almost twice the current design length, adding $28 million to the sheet piling installation cost−assuming the unit price stays the same, which is unlikely. This estimate also assumes that the native sediment is competent soil.

In pricing sheet piling, no consideration was given to site access, soil stability behind the existing bulkhead, obstructions (pipeline, utilities, bridges), site restoration, or the vibration impact on adjacent older structures from driving pile. Debris removal costs were significantly underestimated based on the linear feet of bulkhead requiring replacement and information on the volume of debris as described in several reports. The cost for the crushed rock (Means 32 11 23.23.1513) placed behind the bulkhead is based on the placement of crushed rock in a large open area such as a roadway or parking lot where large equipment can quickly place and spread the material. This will not be the case in the bulkhead repair work. Smaller equipment will be required to access the site operating around numerous obstructions at each site. In addition, there is no cost estimate for processing/decontaminating or disposing of debris removed from the Canal. Compliance

with the historical and archaeological study recommendations referenced in the Proposed Plan (*see* Proposed Plan, p. 7) would further increase sheet piling costs.

f. Installation / removal of sheet pile cells

The conceptual design calls for the construction of the treatment cells using sheet pile walls within the Canal, to isolate areas during sediment removal, ISS (Alternative 7 only) capping, and water treatment.

- The estimate assumes approximately 15,000 square feet of sheet pile will be purchased and installed at a cost of $39.53 per square feet (ref: RS Means 31 41 16.10.1800). The material will then be extracted and reinstalled several times at a cost of $17.15 per square feet (ref: RS Means 31 41 16.10.1300). According to the RS Means references provided, the cost for the initial installation is based on material being driven to a depth of 25 feet and left in place; the cost for the reinstallation is based on the cost to drive the pile to a depth of 15 feet and then removed and salvaged (*i.e.*, sold for reuse). No information is provided on the planned depth of installation but the permanent bulkheads were embedded to a depth of 10 to 15 feet. These costs are inconsistent with the design concepts presented in the FS for the treatment cells.

- The per-square-foot cost for sheet pile wall installation is roughly 2/3 the cost for the sheet pile installed as the replacement bulkhead. No explanation is provided for the reduced cost for the treatment cells.

- There is no cost estimate for debris removal in the middle of the Canal prior to sheet pile wall installation, nor for processing/decontaminating or disposing of debris removed from the Canal.

g. Sediment removal

Sediment removal costs are based on a production rate of 800 to 1000 cubic yards per day. In May 2012, DEP, as part of its Consent Order with DEC, contracted with a consulting firm to prepare a Basis of Design report (BODR) for dredging the upper 825 feet of the Canal to a depth approximately five feet below mean lower low water. As part of the BODR, a cost estimate was prepared for the work. While preparing this estimate, dredging firms operating in similar canals in the City were contacted regarding equipment requirements and dredging production rates. Based on this information a maximum production rate of 45 cubic yards per hour, and approximately 30 percent down time (*i.e.*, during a 12- hour work day, approximately 8 hours of dredging could be performed) was estimated. The productivity and work schedule is due to the limited space available in the Canal for equipment storage and maneuvering, traffic restrictions based on bridge opening limitations (schedule and heights), and other obstructions in the waterway. This design did not include the use of treatment cells, as proposed in the FS, which would further restrict and slow operations. Based on the BODR, the maximum production rate that should be used in estimating the production schedule is approximately 360 cubic yards per day, or less than half the rate assumed in the FS and FS Addendum. This production rate could be even lower if consideration is given to the constraints imposed by use of the treatment cells (*e.g.*, double handling, increased traffic restrictions in the Canal).

The FS assumed that dredging operations would be performed 7 days per week, 12 hours per day. As noted previously, this does not include down times for equipment movement

or other inefficiencies from operating in a confined spaced like the Canal and does not reflect likely local opposition to the proposed 7-day per week operations. For planning purposes, a more realistic assumption in the production schedule would be 5 days per week, 12 hours per day.

No cost is provided for management (processing, decontamination if appropriate, transport or disposal) of debris removed from the Canal.

Based on a lower production rate, the dredging schedule would increase from approximately 25 months to approximately 75 months, adding a minimum of $10 to $15 million to the project cost. Debris processing and disposal costs would be in addition to this amount.

h. ISS (Alternative 7 only)

- Table 1 indicates that the "*remaining native sediment in targeted areas*" would be treated. Later in the same section, it is noted that "*[r]eagents would be delivered to a depth of 5 feet below the dredge surface.*" Numerous figures in the RI and FS show that native sediments are believed to extend to a depth of more than 40 feet below ground surface (bgs). It is not clear how injecting and mixing the reagent to a depth of 5 feet in the native sediments will treat the remaining native sediments as stated in Table 1.

- The estimate includes a cost to construct an additional 11,732 square yards (2.5 acres) of "temporary access road", in addition to the approximately 5 acres of "temporary access road" mentioned under the Pre-remediation Site Work section of the table. Given the location of the staging area, the purpose of the temporary access roads is unclear.

- The base implementation cost section includes a cost for a "temporary storage area" at a cost of $100,000 per month. For the ISS costs, there is a monthly charge for "temporary storage area" at a cost of $1,000 per month – this appears to be a typographical error since other costs in this category remain the same. For the 7.7 months required for ISS operations (based on the FS estimate), this underestimates costs by $763,000.

- The ISS process is assumed to take approximately 7.7 months based on a production rate of 1,400 square feet per day, assuming 12-hour per day operations, 7 days per week. As noted previously, this operating schedule does not reflect the operating limitations within the Canal due to site and project specific limitations. If the same reduction in productivity was applied to the ISS process as was noted for the dredging operations, productivity would be reduced by one third, to approximately 900 square feet per day, and extending the operating period from 7.7 months to 11.6 months. This would increase the ISS costs by approximately $3 million. Given the complexity of the ISS operations, space limitations, and lack of experienced contractors, this cost is likely to significantly under estimate the actual costs.

- There are a number of questions about the constructability of the ISS layer, based on the information presented in Table 1. Addressing the simple logistics questions posed by the conceptual design presented in the FS would add substantially to the cost of the project.

- According to the work sequence presented in Table 1, all work would be performed within a treatment cell until the water within the cell is pumped out and treated. Based on this approach, it is not clear how the equipment barge would get into the treatment cell to conduct ISS operations. The average width of each treatment cell will be approximately 50 feet (100 feet Canal width divided by 2). Vertical augers such as are typically used for soil mixing operations typically operate close to the equipment platform because of the torque on the drilling arm, which limits the reach of the equipment. Removing a section of the treatment cell wall to allow equipment access would defeat the purpose of the treatment cell. It is not clear that the auger would be able to reach all sections of a treatment cell from outside the cell.

- It is noted in Table 1 that the production rate was based on "two delivery platforms" working simultaneously. Since no discussion is provided suggesting that dredging would be performed in more than one cell at a time, it appears that the plan is for two ISS rigs to operate in one treatment cell at time. It is not clear that this will be feasible given the width is only 50 feet (on average). In addition to the two ISS rigs, some mechanism would be required in the cell to move the barges around as the work progresses. Having more than one rig in the cell at a time would potentially interfere with the movement of the equipment.

- The cost estimate is based on having two teams of support equipment (scow and tug) to deliver reagent to the ISS rigs. This may be adequate if the rigs are working in the same location (*i.e.*, treatment cell). However, if the work locations are separated, a second scow and potentially a second tug would be needed at each site to allow continuous operation. Otherwise, the ISS operation would need to shut down while the reagent stockpile is replenished. Given the proposed staging area (near the mouth of the Canal) and the number of obstacles between the mouth and the headwaters of the Canal (bridges), a single support scow per ISS rig could result in significant delays.

i. Sediment capping

As noted previously, the site restrictions both in working in and around the treatment cells as well as those related to the Canal, will impact the productivity in cap placement.

j. Dredge cell water treatment

- No redundancy is provided in the pumping system design and the system relies on one pump to operate continuously throughout the dewatering process.

- No down time is included for media changeout in the wastewater treatment plant, fueling of the pumping system or other routine repairs to the system.

- The water treatment plant has a capacity of 750 gpm and will be used to dewater barges containing sediment as well as the dredge cell water. To achieve the schedule in the FS, the dredge cells will need to be pumped at a rate of 750 gpm, meaning there is no excess capacity for handling water from the barges. There is no allowance for stormwater management at the staging area. It is anticipated that stormwater from a portion of the staging area will be classified as contact

water and will need to be captured and treated. There is no allowance for equipment decontamination water. There is no allowance for dewatering the former 1st Street Basin.

k. Long-term operations and maintenance cost for sediment cap

There is very little long-term monitoring of the site proposed following remediation – even though contaminants remain in the groundwater and no plan has been proposed to address the contaminant plume in the area. Monitoring is proposed to be conducted once every five years:

- Surface sampling is proposed to check if the surface soils have been re-contaminated at a frequency of one sample per acre of Canal surface.

- Biota sampling is proposed at a frequency of 1 sample per acre of Canal surface.

No monitoring of subsurface soils or porewater is proposed to check for breakthrough of NAPL (for cap replacement) or to monitor the effectiveness of the remedy in controlling the migration of NAPL from native sediment. In addition, because no baseline standards have been set, it is unclear how a determination will be made as to the remedy's effectiveness in controlling NAPL releases from groundwater adjacent to and underneath the Canal.

Essentially, the monitoring program does not address what was identified as the primary concern for the Canal – PAH contamination.

As presented in Tables 1 and 7, the remainder of the operation and maintenance ("O&M") costs is limited to maintaining cap integrity. Table 1 indicates that up to 5 percent of the cap footprint will be replaced every 10 years; the costs in Table 7 show this replacement happening every 5 years. In the cost estimate, costs are limited to the addition of new cap material to address erosion or scour issues. Given the multiple layers in the cap, how this work will be performed is unclear. As noted previously, no flux calculations are provided on the NAPL and no estimate was prepared on the anticipated life of the oleophilic clay. The FS acknowledges that replacement of the clay is likely to be required but no determination is made as to when this will happen. If breakthrough is anticipated to occur during the 30-year cost estimating period under CERCLA, the cost to remove and dispose of the existing layers of material and replace the cap needs to be included in the site maintenance costs. Because the NAPL flux rate was not estimated, the life of the reactive cap material cannot be estimated and therefore, the need to include the cost for replacing the oleophillic materials in the cap has not been addressed.

The initial cost for cap construction is approximately $20 million; the cost to replace the cap once the oleophilic clay has been expended will be many times that amount and will need to include the following costs:

- Design and Construction Oversight related to dredging of Canal and cap construction.

- Dredging of Canal to remove old cap and accumulated sediment.

- Disposal of old cap material and accumulated sediment.

- Placement of new multi-layered cap.

A rough calculation of this cost (using information from the FS) is approximately $200 million per round of replacement. This cost does not consider the potential cost/impact of dredging over the ISS layer.

l. Sediment management

No information is provided on the commercial availability of sites to treat contaminated sediment. Sites that accept this type of material (sediment) for the contaminants of potential concern should be identified. Because sampling to characterize the sediment for use in identifying sites that are permitted to treat and or disposal of the material was not conducted during the FS, it is not possible to verify the availability of potential treatment or disposal sites.

The availability of beneficial use sites is unknown. However, it is unlikely that the material would be accepted at a landfill for use as daily cover without being assessed a tipping fee. There are a large number of waste streams that have been proposed for use as daily cover at landfills. Landfills are aware of the revenue potential for accepting relatively clean material for use as daily cover and will charge accordingly. Material that presents a potential risk to the landfill is unlikely to be acceptable as daily cover at no cost.

2) EPA's approach to controlling CSO discharges to the Canal is arbitrary and does not reflect the ongoing control measures being developed. No consideration was given to the impacts associated with construction of large tanks in a highly urbanized area.

DEP has performed extensive CSO planning, design, and construction over the past several decades as part of its NYC CSO abatement program. Capital investments by the City have included the construction of CSO storage tanks with a total capacity of approximately 120 million gallons of combined sewage, resulting in the capture of more than 2.7 billion gallons in CSO discharges annually. These tanks made sense for certain locations that were either beach sensitive or connected to thousands of acres of sewer drainage areas that drained to large single outfalls and negatively impacted water quality.

DEP's approach to CSO abatement is not limited to designing tanks but includes other cost-effective and innovative grey and green infrastructure to take advantage of existing opportunities on a site-specific basis in terms of topography and infrastructure optimization. For the Canal, this includes the significant expansion of the Gowanus Canal Wastewater Pumping Station and Flushing Tunnel that will reduce CSO discharges by 34 percent from baseline conditions. This work is being performed under a Consent Order with DEC. Construction is scheduled to be completed in 2014 and water quality in the Canal is projected to improve to levels that may support upgrading the waterbody to Class I to support secondary contact recreation. Further planned investments in and around the Canal include green infrastructure for two of the largest outfalls, RH-034 and OH-007, that is projected to achieve an additional 11 percent reduction in CSO discharges. Finally, DEP is constructing high level storm sewers in two phases to reduce an additional 5 percent of CSO discharge volume.

DEP is required to develop and submit to DEC a CSO LTCP in June 2015 to quantify water quality improvements from the ongoing construction on the Gowanus Canal Wastewater Pumping Station and Flushing Tunnel, and to evaluate additional control measures that may be necessary to meet water quality standards. The LTCP process is occurring for waterbodies throughout the City and allows DEP to cost-effectively plan for additional water quality improvements as needed while also balancing the competing

needs and investments in each waterbody and across the DEP water and wastewater systems as a whole. DEP's approach to CSO reduction in the Canal is a microcosm of the City-wide approach being undertaken that includes a practical mix of cost-effective grey and green infrastructure to protect and enhance water quality throughout the City while fulfilling the fiduciary responsibility that DEP has to ensure water rate payer dollars are spent wisely.

a. The FS cost estimate significantly underestimates CSO storage tanks costs

Figure 12-1 presents the DEP's LTCP CSO tank cost curves for design and construction of CSO storage tanks. These cost curves were developed based on the DEP's experience building tanks in New York City and more accurately reflect costs in the City as compared to the estimates presented in the FS Addendum for several reasons.

The LTCP cost curve relies on actual construction costs for CSO tanks built in New York City, specifically the Paerdegat Basin, Alley Creek and Flushing Bay CSO tanks. A comparison of the actual DEP tank costs and the CH2M-HILL planning level estimates shows a wide discrepancy.

The table below shows the estimated costs of constructing the two tanks using the LTCP cost curve, with a total cost for the two tanks of $357 million. EPA estimated that the two tanks would cost $77.7 million to construct: $31.3 million for a 4-MG CSO storage tank for outfall OH-007 and $46.4 million for an 8-MG CSO storage tank for outfall RH-034 (FS Addendum, Technical memorandum *CSO Storage Tanks Draft Cost Estimates, Gowanus Canal, Brooklyn, New York* ("Tank Cost Estimates") (refer to Figure 12-1).

Project Site	NYCDEP Built Tanks Curve	Accuracy	Accuracy
	Probable Construction Cost	-50%	100%
4 MG OH-007	$129 M	$64.5 M	$258 M
8 MG RH-034	$228 M	$114 M	$456 M
Total	$357 M	$178.5 M	$714 M

Note: At this time the costs for CSO tanks at OH-007 and RH-034 are parametric, or capacity, factored estimates. Parametric or capacity factored estimates are considered Estimate Class 5 by the Association for the Advancement of Cost Engineering (AACE), with an expected level of accuracy of -50% to +100%. Based upon DEP experience in building highly complex projects within NYC, as-built project costs typically approach or exceed the higher range of preliminary project Class 5 cost estimates.

While estimated cost for the proposed 4-MG tank at outfall OH-007 is $31.3 million in the FS, the actual construction cost for a similarly-sized CSO storage tank (Alley Creek, 4.6 MG) recently constructed by DEP, was approximately $101 million.

The following is a breakdown of the Alley Creek tank costs:

- **Contract ER-AC1:** Total cost of $98 million for the construction of upstream sewers and the tank, of which approximately $43 million (40 percent) was attributable to the tank. This apportionment is based on a review of contract as-built plans in which the portion of the contract associated with the tank structures was identified; costs for sewers leading to the tank site and other upstream sewer work was removed from the total. Although this contract included considerable

construction of upstream sewers to address drainage and flooding issues, these the costs were not attributed to the Alley Creek CSO tank.

- **Contract ER- AC2**: Total cost of $38 million of which 100 percent is associated with the tank mechanical equipment and internals – screens, air handling equipment, flushing equipment, piping, instrumentation and control equipment, and improvements to the Old Doug Pumping Station for tank pump-out.

- **Contract ER-AC3**: Total $20 million for Alley Park restoration of which 100 percent of these costs are attributed to the Alley Creek tank. As experienced with all other CSO tanks constructed in the City, some level of community amenities can be expected when constructing a CSO facility.

The total construction costs directly attributable to the 4.6-MG Alley Creek CSO tank totaled $101 million ($43 million + $38 million + $20 million).

The costs for constructed projects included on Figure 12-1 were converted to September 2012 dollars so as to be in the same time frame as the costs provided in the FS Addendum. For example, for Alley Creek costs for ER-AC1 were escalated from August 2002 to September 2012; costs for ER-AC2 were escalated from August 2006 to September 2012; and costs for ER-AC3 were escalated from July 2007 to September 2012, using the escalation methodology in the DEP CSO Long Term Control Plan project.

DEP understands that cost estimates are variable but based on DEP's actual final costs of building CSO storage tanks as detailed on Figure 12-1, DEP estimates that it would cost approximately $357 million to construct a 4M-gallon tank at OH-007 and an 8M-gallon tank at RH-034. In other words, construction of both tanks is likely to cost over four times EPA's estimate of $77.7 million. Because DEP's estimate of $357 million is based on its actual experience building tanks in New York City, DEP believes they are more accurate than the estimates presented in the FS Addendum.

b. EPA's cost estimate did not include a number of costs required for construction.

EPA's capital cost estimate for the CSO storage tanks did not include a number of costs typically associated with CSO tank construction including capital cost markups and costs associated with property acquisition, demolition, rebuilding the site surfaces, addressing unknown soil conditions, staging and hauling, and heavy dewatering. In addition, the tank cost estimates did not account for New York City general conditions overhead and contractor profit; enhanced EH&S requirements; construction of appurtenant tank ventilation, flushing, and personnel facilities; site rehabilitation; and difficulty of construction.

In the FS Addendum, EPA presents estimated construction costs for tanks ranging in size from 2 to 17 MG for the RH-034 outfall, and for tanks ranging in size from 2 to 8.2 MG for the OH-007 outfall (*see* Tank Cost Estimates, p.1) assuming a Class 5 planning level estimate as defined by the AACE. The estimates include the following components in addition to the tanks themselves:

- Sewers from the outfall to the storage tanks;

- Coarse screens;

- Pump stations and force mains for tank pumpback;
- Instrumentation and SCADA;
- Odor control; and
- Brownfields remediation.

On page 15 of the Tank Cost Estimates, the Class 5 construction costs estimate assumptions state that "the construction costs accounts for excavation, sheeting and bracing, and backfill…, and dewatering," but exclude "capital cost markups, property costs, demolition, rebuilding of site surface, extra costs from unknown soil conditions, extra costs for staging and hauling, and heavy dewatering." The cost estimates (Tank Cost Estimates, p.10) are based on RS Means cost data, EPA documents and information, in-house cost databases, vendor quotes, and project bid information (such as Metropolitan Sewer District of Greater Cincinnati Engineer's Estimates in 2006). The estimated costs were converted to NYC/September 2012 dollars using the ENR construction cost indexes (*see* Tank Cost Estimate, p. 15)

Considering the significant difference between the DEP actual tank costs and those presented in the Proposed Plan, it appears that several important considerations may not be accounted for in the estimates provided in the FS Addendum.

c. EPA's cost estimate did not include O&M costs.

The CSO storage tank cost estimates in the Proposed Plan and FS Addendum do not include any estimate of O&M costs for the tanks. These costs are significant and must be taken into account. O&M costs should be taken into account for any new capital facility and must also be included in the calculation of a total present worth cost.[21]

d. The FS does not address the issue of implementability of the CSO storage tanks

DEP's years of experience with site selection, engineering, construction and operation of CSO facilities should not be overlooked by EPA. One major technical challenge the DEP has faced with CSO storage tanks is the hydraulic interaction between the existing drainage system and any new end-of-pipe facility. The conveyance of flows to, and through, the tank without impacting the surrounding drainage area is especially critical. Detailed hydraulic models and drainage plan calculations are necessary to ensure no street flooding or basement backups occur. These analyses require large investments in engineering resources to thoroughly understand the existing system and design new facilities that are hydraulically neutral or minimally impact the existing hydraulic grade line. Analyses and designs at this level of detail entail years of work at high cost. To make recommendations with regard to specific tank sizes and locations without understanding the engineering feasibility and cost of these facilities is premature. The City has faced these difficult technical issues over the history of its CSO program and this experience provides the basis for the following comments on the CSO remedy in the Proposed Plan.

e. EPA did not account for the complexities of constructing and operating two multi-million gallon CSO storage tanks in a dense urban neighborhood.

[21] *See* NYC Comment 21 regarding the NCP's requirement that O&M costs be included in cost calculations for remedies.

The Proposed Plan and FS Addendum did not account for a number of significant impediments to construction of large infrastructure works in a dense urban environment, such as: lack of sufficient laydown, staging, and parking areas; excavation/dewatering concerns; maintenance and protection of traffic; buried utilities; community impacts during construction; land use and zoning considerations; and other environmental and logistic impacts. Figures 12-2 and 12-3 depict a possible configuration of each of the proposed tanks at the suggested site, to further illustrate these difficulties described in further detail below.

i. Excavation and dewatering

The close proximity of the proposed tank sites to the Canal would add to the complexity of having to perform deep excavations adjacent to or near open water. As was the case for the Paerdegat CSO Tank, complex slurry walls would be required for construction. The two suggested sites may not afford sufficient space for this type of heavy construction. In addition, groundwater cut off systems requiring extensive dewatering and providing resistance to uplift during excavation would pose costly challenges. For example, configuring a 4-MG tank at the proposed OH-007 site would require a tank depth exceeding 30 feet to enable it to fit on the relatively narrow site while providing the needed volume.

ii. Traffic, Noise and Other Community Disruption

Use of the Douglass & DeGraw Pool/Thomas Greene Playground site for a CSO storage facility to serve outfall RH-034 would require construction of 1,700 linear feet of large combined sewer in City streets to convey the flow from outfall RH-034 to the proposed tank location. EPA's cost estimate does not appear to consider the construction of this new large sewer. This type of project would be very disruptive to traffic and the community. Pile driving, if necessary, could be highly disruptive, causing significant adverse impacts. The proximity of construction to sensitive receptors such as residences, businesses, schools, and medical facilities, would have to be carefully considered and impacts mitigated, particularly as they relate to traffic, parking, maintaining access, noise, dust, and vermin control. Similar considerations concerning traffic and community disruption during construction also apply to the DSNY truck facility site.

Operating and maintaining a CSO facility located beneath a pool would create significant challenges, as multiple access manholes and hatches to the enter the tank from the surface would be needed for O&M of the equipment within the tank. DEP would also need to place permanent above-ground facilities at this location for odor control, pumping and screening facilities, similar to those at its Paerdegat and Flushing Bay CSO tanks.

Similarly, operating and maintaining a CSO facility located beneath the triangular unimproved parcel owned by the City and managed by DSNY, located at 2nd Avenue and 5th Street (Block 977, Lot 3) adjacent to the Canal, would pose challenges. This parcel is currently being used by DSNY as an equipment and plow storage yard and seasonal salt storage location. A community composting facility, which is strongly supported by area Council members and is planned to expand in the near future, is also located here. Making the site usable for DSNY and community composting purposes following construction could also add substantial cost to the CSO structure. The structure would have to be designed with a foundation, walls and a roof capable of supporting the DSNY equipment accessing the site, as well as the weight of salt, composting equipment, and product.

iii. Interference with Underground Utilities

Installing underground tanks and associated sewers in urban areas can involve significant delays and complications relating to existing subsurface utilities. Identifying all such utilities prior to construction can be difficult, and utilities may require relocation, which may not be feasible and/or could cause further neighborhood disruption.

iv. Other Environmental Impacts

An environmental assessment will be required; a full EIS may be needed. In addition to the above issues, the EIS would examine natural and archaeological resources, hazardous materials, water and sewer infrastructure, historic and cultural resources, solid waste and sanitation services, air quality and greenhouse gases, and open space/neighborhood character. Investigation of these issues and preparation of an EIS could be a lengthy process and result in significant costs that should be considered as an additional project cost.

NYC Comment 12 Inquiries

In addition to the observations above, the City requests that EPA respond to the following issues:

The cost estimates significantly underestimate the likely remediation project costs in a number of areas:

- The estimate does not include costs for institutional controls.
- The estimate does not include the additional site investigation activities that were not addressed under the FS. This is a particular issue given the numerous data gaps remaining in the site analysis.
- The estimate does not consider the impact on productivity associated with working in the confines of the Canal.
- The estimate does not consider the reduced working hours/down time likely given the site constraints.
- The estimate does not consider the time losses cost associated with the traffic restrictions due to the low bridges crossing the Canal.
- The estimate does not consider the access restriction on upland properties in installing the bulkheads and other activities.
- The estimate does not consider the double or triple handling of material likely necessary with the use of the treatment cells and other space restrictions.
- The estimate does not consider the equipment requirements for ISS installation and the treatment cells.
- The estimate does not consider the use of unproven technology (ISS) with inexperienced contractor and the impact on the production rates.

- The estimate does not consider the space limitations and the impact on equipment staging and what this will do to the schedule.

- The estimate does not consider seasonal shutdowns due to weather and the cost for restarting construction. Even if year round operations are assumed, winter weather will result in lower productivity at times and it may not be possible to do certain activities during parts of the year.

- The project schedule is based on overly optimistic assumptions. Because a number of the costs are based on the estimated number of days/weeks/months, slippage in the schedule will significantly increase project costs.

The conceptual design presented in the FS does not consider these and other variables that will impact the project schedule and overall project costs.

EPA has significantly underestimated the cost to construct the CSO storage tanks proposed in the FS Addendum, due primarily to a failure to consider site specific conditions. In particular the following items, standard to construction in heavily developed urban areas, were not addressed:

- The Tank Cost Estimates did not include the cost of acquiring and developing property on which to build CSO storage tanks.[22]

- The Tank Cost Estimates did not include the cost of demolishing the existing swimming pool and DSNY garage. The costs of obtaining necessary permits, conducting zoning and land use review, displacement and relocation of the park and garage facilities, and site restoration must be included when estimating construction costs for the proposed tanks.

- The Tank Cost Estimates did not include the cost of rebuilding the existing swimming pool and DSNY garage. These costs should include a new pool and park on top of the proposed RH-034 tank to replace the existing public park, and a new truck garage on top of the proposed OH-007 tank that currently houses a garage.

- The Tank Cost Estimates did not include costs for handling soil and/or groundwater that contains hazardous materials. While the estimate added a 5 percent multiplier for disposal of contaminated soil (nonhazardous), it ignored the potential for hazardous constituents at the sites even though one of the sites is part of the former Fulton MGP. The Tank Cost Estimates should address the cost of properly removing and disposing of soil and groundwater containing hazardous materials, which may be required for the presumed tank locations.

- The Tank Cost Estimates did not include the cost of heavy dewatering even though the sites are located in proximity to the Canal and excavations of plus 40 feet are anticipated, indicating the likely need for heavy dewatering.

- The Tank Cost Estimates did not include New York City general conditions and contractor overhead and profit costs. Under current economic conditions, these factors include 25 percent for general conditions, 10 percent overhead, 5 percent profit, and 3 percent for bonding and insurance.

[22] *See* NYC Comment 13, regarding the reasons why a City-owned park is unavailable for use as the site of a CSO storage tank.

- The Tank Cost Estimates did not include the costs of implementing Enhanced Environmental Health and Safety requirements.

- The Tank Cost Estimates did not include costs for constructing, operating, and maintaining tank ventilation, odor, tank washdown/flushing facilities, and personnel facilities during construction.

- The Tank Cost Estimates did not include costs for handling challenging site conditions, such as existing utilities, small property lots, protection of adjacent lots/structures, poor soils, proximity to receiving waters, and depth to competent rock. For example, the proposed OH-007 tank would be constructed adjacent to Gowanus Canal where water intrusion during construction would have to be addressed and may require significant dewatering.

- The Tank Cost Estimates did not account for subsurface conditions that could entail special foundations and/or construction techniques such as slurry walls since bedrock can be up to 150 feet deep in many locations.

- The Tank Cost Estimates did not consider the additional costs of mitigating impacts to traffic, parking, and noise.

- The Tank Cost Estimates do not address the issue of interim control measures identified in the Proposed Plan as being necessary. No information is provided in the FS on the required control or the associated costs.

- The Tank Cost Estimates did not include the O&M costs for the tank facilities were completely omitted from the Tank Cost Estimates.

- The Tank Cost Estimates did not account for the costs of employing and training staff to operate the tank facilities.

- The Tank Cost Estimates did not account for the costs of preventative and corrective maintenance of the tank facilities.

- The Tank Cost Estimates did not account for the cost of electric power and other utilities necessary to operate the tank facilities.

In addition, O&M costs were not also included in the total present worth analysis for the CSO storage tanks. These costs are significant and result in a heavy burden on the City's expense budget. Over the lifetime of the tank facility, these costs would contribute significantly to the total present worth cost. For example, for the Alley Creek tank, DEP's operating costs have been approximately $1 million per year, and grit removal at the Flushing CSO storage tank facility has cost up to $2 million per year.

The FS failed to consider the technical feasibility or implementability of constructing two large CSO tanks in a highly urbanized environment. There are a significant number of factors that need to be considered, all having substantial cost implications. For example:

- The Proposed Plan does not consider the implementability of or account for the costs of installing slurry walls.

- The Proposed Plan does not consider the implementability of installing two underground tanks where existing subsurface utilities are present.

- The Proposed Plan does not consider the lack of sufficient laydown, staging, and parking areas near the construction sites.

- The Proposed Plan does not consider the implementability of extensive dewatering near the Canal.

- The Proposed Plan does not consider impact of traffic, noise, and other community disruption from installing 1,700 linear feet of large combined sewer in city streets.

- The Proposed Plan does not consider the noise disruption and potential for vibration related damage on older structures from pile driving.

- The Proposed Plan does not include the costs of conducting environmental review.

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Community Impacts

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NYC Comment 13: The Proposed Plan does not adequately address community impacts and siting considerations of locating a CSO in-line tank at Douglass & Degraw Pool/Thomas Green Playground.

As stated above, EPA's presumed remedy for CSOs includes an in-line tank on the site of the Douglass & Degraw Pool/Thomas Green Playground. *See* CH2MHILL, FS Addendum, Technologies for Combined Sewer Overflows Controls, Screening and Evaluation Using Established Criteria Gowanus Canal, Brooklyn, New York ("Technologies for CSO Screening and Evaluation") at 4 and 5; CH2MHILL, Tank Cost Estimate, p. 1. *See also* U.S. EPA Region 2, Gowanus Canal Public Meeting, Presentation, Slide 36. The City takes issue with any assumption that City parkland is available for other uses. Although EPA states its intention to confirm the availability of this location during the design phase of the project, there is no reference to the use of parkland in the Proposed Plan. The reader only finds mention of the park by name in the FS Addendum. Given the constitutional and statutory protection of parkland in New York State discussed in NYC Comment 27, this omission is highly problematic since the Proposed Plan fails to distinguish parkland in any way from other City-owned land. Important considerations for the Douglass & Degraw Pool site include:

- **Loss of Use**. The City has estimated that the construction of a storage tank at the site of Douglass & Degraw Pool would take five to six years. The extended loss of use of the Douglas & Degraw Pool site is an unacceptable burden on the public. Furthermore, there is the possibility that placement of a storage tank underneath the current site of the Douglas & Degraw Pool would effectively eliminate most park uses, including that of a pool, while the storage tank was in place. There has been no evaluation to date as to what type of land use could be located above such a storage tank.

- **Loss of Investment.** The City has invested a total of $4.1 million in recent capital improvements to public parks in this neighborhood. Adjoining the Douglass & Degraw Pool, Thomas Green Park was renovated at a cost of $1.1 million. The loss of this facility that would result from the siting of a storage tank there represents a loss of existing value that is increased by recent investment.

- **Community Need.** The Douglass & Degraw Pool is the nearest public pool for the neighborhoods of Boerum Hill, Cobble Hill and Park Slope. Significantly, 3,500 units of low- and moderate-income NYCHA housing are located nearby at the Wyckoff Gardens, Gowanus and Warren Street housing developments. Although usership statistics for the pool do not include residency information, it is likely that a large proportion of the more than 37,000 annual visitors are drawn from NYCHA housing because of their proximity. The community and local elected officials have strongly supported the pool when it was threatened with closure due to budget shortfalls in recent years. Any loss of use at this facility would be a significant loss of recreational opportunity for the surrounding community.

- **Former Fulton MGP Site.** A portion of this former MGP site coincides with the current site of the Douglass & Degraw Pool. EPA has reviewed the site investigation reports and agreed to coordinate the scheduling of clean-up efforts at this site with DEC. The City has concerns, though, that the site remediation may impact the Douglass & Degraw Pool. Neither DEC nor EPA have clarified how the on-going operation of the pool will be addressed during clean-up of the former MGP. Any plans for significant excavation work at the pool site associated with the clean-up of the former MGP site should ensure the full renovation or replacement of the pool and other recreational amenities that may be displaced. It should also be noted that there are no known health risks associated with the former MGP site that currently impact the pool or pool operations.

NYC Comment 14: The Proposed Plan does not adequately address community impacts and siting considerations of locating a CSO in-line tank at 2nd Avenue and 5th Street (Block 977, Lot 3).

EPA's presumed remedy for CSOs includes an in-line tank retention basin on a triangular unimproved parcel owned by the City and managed by DSNY, located at 2nd Avenue and 5th Street (Block 977, Lot 3). *See* Technologies for CSO Screening and Evaluation, at 4 and 5; Tank Cost Estimate, p. 1.

- **Land use impacts**. This parcel is currently being used by DSNY as an equipment and plow storage yard and seasonal salt storage location. A community composting facility, which is strongly supported by area Council members and is planned to expand in the near future, is also located here. The placement of a CSO storage tank on this site near OH-007 would normally require land use approvals, environmental review, and public review under the New York City Charter. DSNY requests that EPA engage with the City and the local communities to address concerns about potential effects on surrounding land uses and properties.

- **Loss of use**. The construction of a CSO storage tank at this location would make this facility unavailable to DSNY for an extended period of time. Since such construction would require relocation of the DSNY equipment and plow storage yard and seasonal salt storage location, a suitable alternative site must be secured and operational before construction could begin. Similar accommodations would have to be made for relocating the community composting facility, which could be relocated to a separate site.

NYC Comment 15: The Proposed Plan does not adequately address concerns related to siting of the potential Red Hook Confined Disposal Facility ("CDF").

The Proposed Plan states:

> "EPA has identified a potential CDF location on privately-owned property at the Gowanus Bay Terminal on Columbus Street in Red Hook. The CDF could be constructed within an existing slip there or within other areas of the property." Proposed Plan, p. 23.

- **Impacts on Red Hook Park:** The proposed site of the Red Hook CDF is within 250-500 feet of the ball fields at Red Hook Park. The City is concerned about potential impacts from this CDF location on the park. In particular, EPA states in the Proposed Plan that it assumes no leachate collection system will be needed as part of this disposal alternative. No rationale for the absence of either collection or monitoring of leachate is given, even though other long-term monitoring (of the surface capping) will be necessary.

- **Impact on the City's Riparian Rights:** The City asserts the riparian rights associated with the shorefront section of Red Hook Park along Henry Street Basin, and these riparian rights have been affirmed in several court rulings. *See, e.g.*, City of New York v Gowanus Indus. Park, Inc., 65 A.D.3d 1071 (N.Y. App. Div. 2d Dep't 2009). Construction of the proposed Red Hook CDF includes filling a portion of Henry Street Basin, with ownership of the filled land by a private party proposed, thus expanding private property on the Brooklyn waterfront and substantially obstructing the City's riparian rights. The City strongly opposes the siting of the CDF at this location.

NYC Comment 16: EPA Should Consider the Land Use Impacts of Any Changes to Canal Basins

The filling in of land in or near the Henry Street Basin and the excavation and restoration of the 1st Street Turning Basin (discussed in NYC Comment 11) require land use approvals, environmental review, and public review under the New York City Charter. The City requests that EPA engage with the City and the local communities to address concerns about potential effects on surrounding land uses and properties. These may include the creation of land outside the current pierhead line where no zoning district is currently designated, and changes to the ability of future developments to provide required waterfront public access. In light of these changes to the City's shoreline, EPA's engagement with the City is critical to the City's ability to coordinate with local property owners in determining the land use approvals that may be necessary to develop their property.

NYC Comment 17: The Proposed Plan should not preclude the wide variety of industrial, commercial and residential activities in the Canal's vicinity.

It should be noted that the Canal, while an industrial waterway, has significant residential populations in its immediate vicinity. In addition to the long industrial history of the Canal, there is also a long history of a mix of uses including commercial, residential and community facilities. While the zoning along the Canal itself consists mostly of manufacturing districts (which allows a variety of commercial and industrial uses), there is also zoning that permits residential development, notably the mixed-use district (M1-4/R7-2) immediately adjacent to the Canal between 2nd Street and Carroll Street. Additionally, longstanding residential districts are mapped in very close proximity to the Canal, including districts that contain NYCHA developments at the head of the Canal and residential communities to the west in Carroll Gardens and to the east in Gowanus and Park Slope. Scattered throughout the manufacturing zoning districts are also long-existing, non-conforming residential uses, including concentrations on the east side of the Canal near Carroll Street. Based on the historical development of the neighborhood, there are not clear functional boundaries between industrial and residential areas, and people living in the nearby neighborhoods cross the Canal on a daily basis for access to the MTA subway

stations and bus lines, as well as to access jobs, recreation/open space, and goods and services.

Portions of the land along the Canal have a strong industrial character. Commercial and light industrial activities are scattered through much of the area, with the greatest concentration of industrial uses in areas south of 3rd Street. These areas, on the east side of the Canal north of Hamilton Avenue and along both sides of the Canal south of Hamilton Avenue in Red Hook and Sunset Park, are within an Industrial Business Zone, wherein the City has established policies and provided assistance to support business activity.

It is important that in any final remedy for the Canal, EPA acknowledges the presence of residents, workers, and business patrons in close proximity to the Canal, and ensures that the remedy does not preclude the wide variety of activities that occur around the Canal. Specifically:

- **Shoreline Area:** Zoning requires that commercial or residential developments fronting on the Canal provide publicly accessible open space along the edge of the Canal. The remedial design should not compromise the ability of property owners to comply with these requirements.

- **Bulkhead stability:** Remedial activities should account for the need to maintain structurally sound bulkheads and avoid adverse effects on land adjacent to the Canal.

- **Impacts from Remedial Activities:** EPA has proposed to conduct dewatering on either land (in Red Hook) or on barges within the Canal. Any needs identified for localized sites for equipment staging, barge access, and processing of dredge material should be carefully considered. When requirements for on-land activities and barge docking/anchoring are finalized and sites are selected to serve these functions, EPA should work with the City and the local communities to minimize effects on traffic (including bridges), parking, air quality, open space and recreation, and other neighborhood priorities.

- **Long-term Remedial Activities**: If long-term remedial activities are planned on land near the Canal, such as continued operation of extraction wells, the scope and location of these activities should be identified as soon as possible to enable property owners and the City to incorporate them into future land use plans for the area.

- **Remedial Activity Siting**: The siting of land-based remedial operations should consider proximity of residences and open spaces, and minimize adverse effects or disruptions.

NYC Comment 18: EPA Must Ensure that the Proposed Plan Does Not Exacerbate Flooding

The Proposed Plan should take into account its potential effect on flood risk during coastal storm surge events.

- For instance, the proposed excavation of the 1st Street Basin should consider the extent to which it could subject adjacent and nearby properties to increased risks

of flooding. The possibility of excavating the 1st Street basin should also consider the effect on potential future uses of the adjacent properties, which are irregularly shaped and have limited street access.

- The interim and permanent effects of the Proposed Plan and its design should be analyzed to ensure that they do not hamper or preclude measures to reduce risks of flooding from coastal storm surge events, or storm water management measures that the City may implement in the area.

- Replacement or modification of bulkheads should take into account flood hazards and projections for sea level rise, and consider establishing appropriate shoreline elevations to reduce risks of inland flooding.

NCP Compliance

NYC Comment 19: EPA's failure to perform a screening evaluation and/or a detailed evaluation of source control remedies violates the mandatory remedy selection requirements of the NCP.

The Proposed Plan states that four separate categories of source control must be implemented to prevent recontamination of the proposed remedy for the Canal. Specifically, the Proposed Plan states that

> "the upland sources of hazardous substances, including discharges from the former manufactured gas plants (MGPs), combined sewer overflows (CSOs) to the Canal, other contaminated areas along the Canal [upland source areas] and unpermitted pipes along the Canal, *must be controlled.*" *See* Proposed Plan, p. 1 (emphasis added and footnotes omitted).

Consistent with this statement, the Proposed Plan generally discusses potential remedies for each of these four source categories.

With respect to the MGP sites, EPA chooses to rely on New York State regulations governing the State Superfund program. EPA states that those regulations require source removal or control. *See* Proposed Plan at 19, 30. EPA acknowledges that DEC has not even approved a remedy at two of the three MGP sites.[23] However, EPA concludes that it is sufficient that EPA has developed a coordinated schedule with DEC to implement cleanups at the three MGP sites consistent with the remedy for the Canal.[24] *See* Proposed Plan at 19, 30.

With respect to the other upland source areas located adjacent to the Canal, the Proposed Plan states that sites will be "referred to DEC for investigation and remediation, if necessary," under the State Superfund program. *See* Proposed Plan, pp.4, 33.[25]

With respect to CSOs, the FS Addendum screens and retains five potential CSO remedies that are in addition to the CSO controls the City is implementing pursuant to its CWA Consent Order with DEC. The Proposed Plan does not perform a detailed evaluation of each of those potential remedies. Instead, the Proposed Plan states that a reduction of CSO solids loading of between 58 and 74 percent would be required to achieve PRGs for contaminants in the Canal. To meet this percentage reduction standard, the Proposed Plan states that it is

[23] *See* NYC Comment 20 below, regarding the inadequacy of the detailed evaluation of the MGP sites remedy against the nine NCP criteria.
[24] *See* NYC Comment 27 below, which demonstrates that the NCP does not permit EPA to delegate responsibility for remedy selection to the DEC.
[25] *See* NYC Comment 20 below, regarding the inadequacy of the detailed evaluation of the upland source remedy against the nine NCP criteria.

> "presumed that in-line storage tanks would have to be constructed near outfalls RH-034 and OH-007." *See* Proposed Plan, pp.19, 30. [26]

The Proposed Plan also acknowledges, however, that during remedial design of the remedy for the Canal and the City's contemporaneous LTCP process for CSOs under the CWA,

> "these efforts may identify more efficient cost-effective and protective alternatives to achieve the remedial goals." *See* Proposed Plan, pp. 19, 30.

With respect to discharges from the unpermitted pipe outfalls along the Canal, the Proposed Plan states that EPA will work in coordination with the City and DEC to either permit or permanently seal these pipes.

The NCP provides a mandatory, specific procedure for remedy selection as part of the FS, Proposed Plan and ROD. *See* 40 C.F.R. § 300.430(e). Indeed, the "primary objective of the FS is to ensure that appropriate remedial alternatives are developed and evaluated . . ." *See* 40 C.F.R. § 300.430(e)(1). Specific to source control actions, the NCP mandates that the lead agency (here EPA, not the State) develop a range of alternatives. *See* 40 C.F.R. § 300.430(e)(3). These alternatives are then to be screened against three criteria: effectiveness, implementability, and cost. *See* 40 C.F.R. § 300.430(e)(7).

Once the alternatives are screened, EPA must perform a detailed evaluation for each alternative. On this critical requirement, the NCP states:

> *Detailed analysis of alternatives*. (i) a detailed analysis shall be conducted on the limited number of alternatives that represent viable approaches to remedial action after evaluation in the screening stage. *See* 40 C.F.R. § 300.430(e)(9)(i) (emphasis added)

The NCP defines the scope of the detailed evaluation as follows:

> (ii) The detailed analysis consists of an assessment of individual alternatives against each of the evaluation criteria and a comparative analysis that focuses upon the relative performance of each alternative against those criteria. *See* 40 C.F.R. § 300.430(e)(9)(ii) (emphasis added).[27]

EPA is then required to document this alternative evaluation in the Proposed Plan.

At a minimum, the Proposed Plan shall:

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[26] *See* NYC Comment 21, regarding the inadequacy of the detailed evaluation of CSO remedies against the nine NCP criteria.

[27] EPA and New York State must also identify their ARARs related to specific alternatives in a timely manner and no later than the early stages of the comparative analysis. *See*, 40 C.F.R. § 430(e)(8) and (a)(9)(ii). EPA did not identify any ARARs in the FS or the FS Addendum for source control remedies.

> provide a brief summary description of the remedial alternatives evaluated in the detailed analysis established under paragraph (e)(9) of this section. *See* 40 C.F.R. § 300.430(f)(2)(i) (emphasis added).

In sum, the non-discretionary remedy selection process mandated by the NCP requires EPA to perform, at a minimum, the following actions regarding the proposed source control remedies in the Proposed Plan: (1) screening of alternatives against three criteria: effectiveness, implementability, and cost; (2) identifying ARARs for the screened alternatives; (3) performing a detailed evaluation of each of the screened alternatives against the nine NCP criteria; (4) performing a comparative analysis of the screened alternatives that focuses on the relative performance of each alternative against the nine NCP criteria; and (5) providing in the Proposed Plan a summary description of the remedial alternatives evaluated in the detailed analysis.

EPA violated the NCP by failing to follow these mandatory remedy selection procedures for each of the four categories of source controls in the Proposed Plan. For the MGPs, other upland source areas, and unpermitted pipe sources, EPA failed to screen source control remedies, failed to identify ARARs in the FS, failed to perform a sufficiently detailed evaluation of alternatives against the nine NCP criteria,[28] failed to perform a comparative analysis of alternatives relative to performance against the nine NCP criteria, and failed to provide in the Proposed Plan a summary of the remedial alternatives evaluated in the detailed analysis.

For the CSOs, EPA did issue an FS Addendum simultaneously with issuance of the Proposed Plan. The FS Addendum screened seven potential CSO remedies for effectiveness, implementability, and cost and eliminated two of the potential CSO remedies. However, EPA then failed to identify in the FS Addendum ARARs that applied to those remaining potential CSO remedies, failed to perform a detailed evaluation of those potential remedies against the nine NCP criteria, failed to perform a comparative analysis of the alternatives' relative performance against the nine NCP criteria and failed to provide in the Proposed Plan a summary of the remedial alternatives evaluated in the detailed analysis.

NYC Comment 20: EPA did not provide a sufficiently detailed evaluation of the remedial measures necessary to control sources from the three MGPs and other upland sites as required by 40 C.F.R. § 300.430(e)(9)(ii) and (iii).

As stated in NYC Comment 19 above, the NCP requires a detailed evaluation of each alternative remedy against the nine NCP criteria. The NCP requires specifically that this analysis "shall reflect the scope and complexity of site problems and alternatives evaluated and consider the relative significance of the factors within each criteria." *See* 40 C.F.R. § 300.430(e)(9)(iii). In addition to EPA's failures specified above (including failure to screen alternatives, to identify ARARs in the FS and failure to compare alternatives), EPA's evaluation of individual remedial alternatives for control of MGPs and other upland source areas against the nine NCP criteria fails to comply with 40 C.F.R. § 300.430(e)(9)(ii) and (iii).

[28] *See* NYC Comment 20 below which details why EPA's evaluation of MGP and upland remedies, which are not specified does not satisfy the requirements of 40 C.F.R. § 430(e)(9)(ii).

Instead, the Proposed Plan and FS provide only generic statements that the NAPL from the MGPs will be sufficiently controlled through ongoing State-supervised remedial actions. *See* Proposed Plan at 3 - 4. With respect to the MGPs, the Proposed Plan also acknowledges that DEC has not even completed the remedy selection process for either the Fulton or Metropolitan MGP sites. *See* Proposed Plan, at 19.

The Proposed Plan and FS are even less specific regarding source control activities at the dozens of other upland properties, even though EPA states that, based on the results of the RI, additional upland areas were found to have the potential to contribute contaminated groundwater to the Canal and were referred to DEC for investigation and, if necessary, remediation under the State Superfund program.

EPA's evaluation of remedial alternatives for these source controls was deficient for the following reasons. The City therefore requests that EPA respond to each of the following comments, separately.

1) Analysis of Overall Protection of Human Health and the Environment

This NCP criterion requires a detailed evaluation of whether the selected alternative "as a whole, achieves and maintains protection of human health and the environment." *See* Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA, OSWER Directive 9355.3-01, (Oct. 1988), at 6-5 ("OSWER Directive 9355.3-01"). It requires that the agency focus on whether a specific alternative achieves adequate protection, and describe how site risks posed through each pathway being addressed by the FS are eliminated, reduced, or controlled through treatment, engineering, or institutional controls." *Id*., at 6-6.

EPA's evaluation is generic, and offers no detailed analysis of whether the unspecified remedial measures on the upland parcels will be sufficient to maintain the remedy over the long term. Instead, its analysis is limited to the following:

> The upland former MGP source controls (and other upland source areas) that have been or are anticipated to be selected by NYSDEC are expected to be protective of human health and the environment by removing the primary source areas and minimizing migrations pathways to the Canal. *See* Proposed Plan, p. 25.

The City believes that this does not provide even close to enough analysis or information to ensure that the upland remedial actions will be sufficient to protect human health and/or the environment. Therefore, EPA has not provided the following information, and must do so before selecting the remedy:

- How EPA has determined that the remedial techniques EPA *assumes* will be implemented at the upland sites will be capable of achieving adequate protection of the remedy.

- How EPA has determined that the *assumed, unspecified* controls at the upland sites will prevent recontamination from contaminated groundwater or NAPL in groundwater media (a recognized source of contamination in the Canal).

2) Analysis of Long-term Effectiveness and Permanence

This criterion requires EPA to evaluate the magnitude of residual risk remaining at a site. Residual risk is typically measured by numerical standards such as cancer risk levels, or the volume or concentration of contaminants in the waste, media, or treatment residuals remaining on the site. This criterion also requires EPA to evaluate the effectiveness and reliability of controls used to manage any remaining contaminated media. Therefore, EPA has not provided the following information, and must do so before selecting the remedy:

- Whether and how EPA assessed the risk of recontamination from upland sites, including the MGPs, to ensure that residual risks are below the numerical values set forth in the Proposed Plan.

- Whether and how EPA assessed the effectiveness and reliability of controls at upland sites when there has been no evaluation of what controls will even be established on the vast majority of properties adjoining the Canal.

3) Analysis of Reduction of Toxicity, Mobility, or Volume Through Treatment

This criterion addresses "the statutory preference for selecting remedial actions that employ treatment technologies that permanently and significantly reduce toxicity, mobility, or volume of the hazardous substances as their principal element." *See* OSWER Directive 9355.3-01, at 6-6. Pursuant to EPA guidance, each remedial alternative should focus on following specific factors: (i) the treatment processes the remedy will employ; (ii) the amount of hazardous material that will be destroyed or treated, including how the principal threats will be addressed; (iii) the degree of expected reduction in toxicity, mobility, or volume measured as a percentage of reduction (or order or magnitude); (iv) the expected degree to which the treatment will be irreversible; (v) the type and quantity of treatment residuals that will remain following treatment; (vi) whether the alternative would satisfy the statutory preference for treatment as a principal element." *Id.*

EPA does not evaluate any upland site against these factors, including the assumed remedial technologies that will be necessary for preventing NAPL and contaminated groundwater from recontaminating the sediments in the Canal. By not conducting this evaluation, EPA could not have been able to determine whether the remedy satisfies the statutory preference for treatment over other remedial measures. This is particularly true with respect to EPA's presumption that barrier walls will be the primary engineering control at the upland sites. As barrier walls do not treat hazardous substances, but merely contain them, it is unlikely that EPA at this juncture can attest that the remedy has fulfilled the statutory preference for treatment. Therefore, EPA has not provided the following information and must do so before selecting a remedy:

- What treatment technologies, if any, will be employed on each upland site contributing hazardous substances to the Canal.

- The degree of groundwater and/or NAPL treatment that is necessary to prevent recontamination of the Canal remedy.

- The degree (expressed in a percentage or as an order of magnitude) that EPA expects to reduce toxicity, mobility, or volume of groundwater and/or NAPL contamination at the upland sites.

- Whether and how the barrier wall technologies presumed to be implemented for the three upland MGPs fulfill CERCLA's statutory preference for treatment technologies at Superfund sites.

- Any and all evaluations that EPA undertook to document the use of treatment technologies on the upland sites, including the three MGPs.

4) Analysis of Short-term Effectiveness

This criterion "addresses the effects of the alternative during the construction and implementation phase until … a cleanup target has been met." *See* OSWER Directive 9355.3-01, at 6-9. Among the factors that EPA should consider in the assessment of short-term effectiveness are the timing of the various remedial measures, and what environmental impacts are expected during construction and implementation of the alternative, including measures to mitigate any identified impacts.

The Proposed Plan does not provide any assessment of the overall timing of upland remediation projects, nor does the Proposed Plan assess the environmental impacts potentially arising from these actions. Given the dozens of potentially contaminated sites that could be subject to remedial action in and around the Canal, EPA needs to conduct a full evaluation of the cumulative environmental impacts of these activities, especially when combined with the potential impacts of the dredge activities proposed in the Proposed Plan. Potential environmental impacts could include, among other things:

- Traffic impacts arising from contemporaneous response actions on the upland properties, including truck traffic associated with transporting any contaminated soils and equipment;

- Potential air, dust and noise impacts associated with remedial construction at upland sites; and

- Impacts to local groundwater flow through the potential use of technologies such as barrier walls and groundwater recovery wells.

EPA has not provided the following information, and must do so before selecting the remedy:

- A detailed description of potential remedial technologies that will be employed at each parcel adjacent to the Canal, and when remedial measures will be implemented on each parcel.

- A detailed analysis of potential cumulative environmental impacts arising from the upland response actions.

If EPA has conducted this analysis, please provide the analysis in the Responsiveness Summary. If EPA has not conducted this analysis, please provide this analysis.

5) Implementability

The implementability criterion "addresses the technical and administrative feasibility of implementing an alternative and the availability of services and materials required during implementation." *See* OSWER Directive 9355.3-01, at 6-9. The implementability evaluation should include, among other things: (i) an evaluation of the uncertainties associated with constructing and operating a specific remedial technology; (ii) whether a particular technology is reliable or whether there is the potential for construction delays; (iii) the difficulty of undertaking the prescribed remedial measures; and (iv) the steps that are required to coordinate with other agencies, over the short and long term.

EPA did not evaluate the implementability of upland remedial actions, except to vaguely state that

> "[the] former MGP and upland source control actions which have been or are anticipated to be selected are expected to be implemented successfully. Excavation, capping, NAPL extraction and containment wall technologies have been successfully implemented at other MGP sites." *See* Proposed Plan, p. 29.

The Proposed Plan further states that

> "Given the number of affected former MGP and other source areas, extensive coordination among landowners, responsible parties and local, state, and federal agencies will be required." *Id.*

Yet, despite acknowledging that these required efforts will be "extensive," EPA provides no detail on what the activities will actually consist of, where these activities will be implemented, and how this extensive work will be coordinated with the in-Canal remedy. EPA's current plan for the upland sites is so lacking in detailed or specificity, it is difficult to comment on this component of the Proposed Plan.

Therefore, EPA has not provided the following information, and must do so before selecting the remedy:

- Information concerning the "other MGP sites" evaluated by EPA in assessing the implementability criteria, and an explanation of EPA's analysis regarding these sites.

- The amount and location of excavation, capping, and NAPL extraction remedial activities that will be performed at each MGP site in this response, and how EPA determined that these activities are sufficient to protect the remedy in the Canal from recontamination.

- An evaluation of the implementability criteria for each upland site where remedial activities are planned or expected.

6) Cost

The cost criterion requires an evaluation of direct capital costs and annual operation and maintenance costs associated with the remedial action. It typically includes an assessment of the accuracy of the cost estimates, a present worth analysis, and a cost sensitivity analysis. *See* 40 CFR 300.430(e)(9)(iii)(G) (requiring evaluation of capital costs, including both direct and indirect costs, annual operation and maintenance costs, and a net present value of both capital and O&M costs); *see also* OSWER Directive 9355.3-01, at 6-10 – 6-13.

EPA did not undertake any assessment of costs regarding necessary remedial actions on the non-MGP upland sites. The Proposed Plan states:

> The costs to address the other (non-MGP) upland sources will vary from parcel to parcel and will depend on the source control options that may include excavation, cutoff walls, and other measures. EPA has not estimated the costs of remediating these additional parcels as part of the FS and, thus, those costs are not included in the overall remedy costs. However, EPA believes that, in comparison to the overall anticipated canal remedy costs, the costs of addressing these parcels would be small …. *Based upon discussions with property owners willing to implement such measures for redevelopment voluntarily, such measures are likely to cost several million dollars or less per property.* See Proposed Plan, p. 20.

Excluding the MGPs, there are approximately 70 individual parcels of land along the approximately 3.6 miles of shoreline adjacent to the Canal. If the costs of remedial action could *"cost several million dollars"* per property, upland remedial costs could, by EPA's own estimate, exceed $100 million. Indeed, when this figure is combined with the $525 million that EPA estimates the MGP sites will cost, the total cost of remediating the upland sites could actually exceed the amount of the in-Canal remedy. Further, when the in-Canal remedy is combined with this figure, the total cost of the cleanup action could easily exceed $1 billion, which is double the amount that EPA has estimated for the remedy. EPA needs to provide a detailed, thorough cost analysis for each element of the remedy, including remedial actions on the upland properties, so that the total potential costs of this cleanup are fully disclosed and available for public comment.

Therefore, EPA has not provided the following information and must do so before selecting the remedy:

- An analysis of the cost of upland remedial actions necessary to protect the remedy in the Canal.
- Information on how EPA estimated that remediation will "cost several million dollars or less per property."
- Which upland properties EPA evaluated to reach its determination that each upland property would cost several million dollars or less per property.
- The total amount of capital costs and O&M costs that EPA estimates will be expended on upland remedial projects.
- Whether EPA's estimate of "several million dollars or less" included any evaluation of controls necessary to prevent recontamination of the remedy from upland sources above EPA's remedial goals.
- EPA's total estimated cost of the in-Canal remedy, upland remedies (including MGP and non-MGP remedial actions), and CSO source control actions.

NYC Comment 21: EPA did not provide an adequately detailed evaluation of the presumptive remedial measure to further control CSOs.

In addition to EPA's failures specified above (including failure to identify ARARs in the FS and failure to compare alternatives), EPA's detailed evaluation of the presumptive remedial measure for further CSO controls (in-line tanks) against the nine NCP criteria fails to comply with 40 C.F.R. § 300(e)(9)(ii) and (iii). EPA's detailed evaluation of the

presumptive remedy was deficient for the following reasons and therefore the City requests that EPA respond to each of these comments separately.

1) Analysis of Overall Protection of Human Health and the Environment

The Proposed Plan states the following with respect to this NCP criterion:

> "By reducing discharges and accumulation of CSO solids, contaminant concentrations in surface sediments after remedy implementation are expected to meet the PRGs, which are considered protective of human health and the environment." *See* Proposed Plan, p. 25.

EPA's evaluation is highly generic and offers no detailed analysis of how and why in-line tanks will maintain the remedy over the long term. *See also* NYC Comment 10. Therefore, EPA has not provided the following information:

- Why in-line tanks of this size are needed to achieve adequate protection of the remedy.
- Why in-line tanks are needed if the proposed 58 – 74 percent reduction in CSO discharges is based on incorrect assumptions and technically indefensible PRGs. (*See* NYC Comment 1.)
- Why in-line tanks are needed if CSOs are not, and have not been, responsible for observed sediment contamination (PCBs, PAHs, and metals) in excess of CERCLA risk-based methods. (*See* NYC Comment 2.)

2) Analysis of Long-Term Effectiveness and Performance

The Proposed Plan states the following with respect to this NCP criterion:

> "CSO controls can be designed and implemented to provide reliable control of discharges at the selected design criteria, thus, reducing the potential for recontamination and the residual risk after the remedy implementation. . . .
>
> The reliability of CSO solids control would require regular inspections and maintenance of controls to ensure they are operated in accordance with design criteria." *See* Proposed Plan, pp. 26-27.

EPA states that CSO remedies can be implemented to control discharges at the level of "the design criteria" and that operation and maintenance of these CSO controls is necessary. However, the Proposed Plan does not specify the design criteria. Instead, the Proposed Plan merely establishes a performance standard in the nature of a range of 58 to 74% reduction of CSO solid discharges. Moreover, the Proposed Plan specifically excludes costs for operation and maintenance of the CSO controls, while at the same time saying that such operation and maintenance is required. Therefore, EPA has not provided the following information:

- What is the cost of operation and maintenance of the CSO controls.

- What is the scope of operation and maintenance of the CSO controls.

- What are the design criteria for the CSO controls.

3) Analysis of Reduction of Toxicity, Mobility or Volume Through Treatment

The Proposed Plan states the following with respect to this NCP criterion:

> The controls would permanently reduce the mobility of contaminants by capturing and containing solids prior to being discharged to the Canal. The captured solids would then undergo appropriate treatment and/or disposal, with the specific methods to be determined during remedial design . . . CSO reductions needed to achieve the PRG's in surface sediments after remedy implementation are estimated to be in the range of 58 to 74%. *See* Proposed Plan, pp. 27-28.

On its face, the Proposed Plan concedes that EPA has only "estimated" the reduction in CSO volume. The Proposed Plan also concedes that an evaluation of the treatment methods have not been determined, but has been deferred until after issuance of the ROD. As a result, EPA cannot and has not evaluated the CSO controls against the six specific factors set forth in the OSWER Guidance at 6-6. Therefore, EPA has not provided the following information:

- What treatment technologies, if any, will be employed for the CSO controls.

- The exact degree of CSO controls necessary to prevent recontamination of the Canal remedy.

- Any and all evaluations or studies EPA undertook or relied upon to document the use of treatment technology or extent of treatment needed for the CSO controls.

4) Analysis of Short-term Effectiveness:

The Proposed Plan states the following with respect to this NCP criterion:

> "Temporary CSO control measures (*e.g.*, solids capture in upper reach with periodic removal) may be needed to maintain remedy protectiveness while the permanent CSO solids controls are being implemented." *See* Proposed Plan, p. 28.

As stated in NYC Comment 12, EPA fails to identify and evaluate in detail interim CSO controls. Further, EPA does not address the exact timing of these interim CSO controls and their respective environmental impacts, traffic impacts, and potential air, dust and noise impacts.

Therefore, EPA has not provided the following information:

- A detailed description of potential interim CSO controls and the timing for their implementation.

- Whether EPA has conducted any analysis of potential environmental impacts from these interim CSO controls. If EPA has conducted this analysis, please

provide the analysis in the Responsiveness Summary. If EPA has not conducted this analysis, please state the reason for EPA's failure to do so.

5) Implementability:

The Proposed Plan states the following with respect to this NCP criterion:

> Various approaches to CSO solids control exist and have been successfully implemented elsewhere. NYCDEP has demonstrated that CSO discharges can be reduced through successful implementation of various grey and green infrastructure techniques. *See* Proposed Plan, p. 29.

EPA failed to address this criterion at all with respect to the presumptive in-line tank remedy. In fact, the Proposed Plan refers only to the implementability of green and gray infrastructure. In addition, EPA failed to evaluate the four critical factors regarding implementability as set forth in OSWER Guidance 6-9. Furthermore, EPA's Proposed Plan fails to address issues regarding construction of in-line tanks above an existing City park. *See* NYC Comment 13. In sum, EPA's evaluation of the implementability of in-line tanks is so lacking in detail, it is not even possible to comment on this component of the Proposed Plan.

Therefore, EPA has not provided the following information:

- The other CSO controls EPA evaluated in assessing the implementability criterion, and an explanation of EPA's analysis regarding those other controls.
- The other in-line tank sites EPA evaluated in assessing the implementability criterion, and an explanation of EPA's analysis regarding those sites.
- EPA's evaluation of the implementability criterion for each potential location for the proposed in-line tanks.

6) Cost:

See NYC Comment 12.

NYC Comment 22: EPA did not provide an adequate estimate of the cost of constructing two CSO storage tanks, which must include annual operations and maintenance costs pursuant to CERCLA and the cost criterion set forth in the NCP.

CERCLA and the cost criterion of the NCP require EPA to assess the following costs: "(1) capital costs, including both direct and indirect costs; (2) annual operations and maintenance [O&M] costs; and (3) net present value of capital and O&M costs." 40 C.F.R. § 300.430(e)(9)(iii)(G); *see also* 42 U.S.C. § 9621(a) (requiring EPA to select "cost-effective" remedies taking into account short- and long-term costs "including the costs of operation and maintenance for the entire period during which such activities will be required").

EPA presumes that a 3- to 4-million gallon CSO storage tank for outfall OH-007 and a 6- to 8-million gallon CSO storage tank for outfall RH-034 will be constructed. *See* Proposed Plan, at 19. For costing purposes, EPA estimated that construction costs would be $31.3M for the 4-million gallon tank and $46.4M for the 8-million gallon tank. *See* Proposed Plan, at 19; FS Addendum, "CSO Storage Tanks Draft Cost Estimates, Gowanus Canal, Brooklyn, New York," prepared by CH2M-HILL.

However, EPA acknowledges that

> "[t]hese estimates do not include operation and maintenance costs associated with CSO controls." *See* Proposed Plan, at 19.

In the City's experience, CSO storage tanks cost approximately $1 million annually to operate. In addition, grit removal, part of the regular maintenance of a CSO storage tank, costs up to $2 million annually. *See* NYC Comment 12.

Therefore, EPA has not provided the following information and must do so before selecting the remedy:

- The total amount of O&M costs that EPA estimates will be expended to operate and maintain two CSO storage tanks.
- A detailed analysis of the cost of operating and maintaining CSO storage tanks in the present worth analysis in the Proposed Plan.

NYC Comment 23: EPA did not adequately evaluate the cost-effectiveness of the remedy, particularly the presumed construction of two CSO storage tanks.

CERCLA requires that all remedies selected by EPA must be "cost-effective." 42 U.S.C. § 9621(a). To evaluate cost-effectiveness, EPA first evaluates the "effectiveness" of the remedy by considering its long-term effectiveness and permanence; reduction of toxicity, mobility, or volume through treatment; and short-term effectiveness. Then, EPA must compare overall effectiveness to cost to ensure that the remedy is cost-effective. A remedy is "cost-effective" if its costs are proportional to its overall effectiveness. *See* 40 C.F.R. § 300.430(f)(ii)(D), 42 U.S.C. § 9621(a).

In its Proposed Plan and FS Addendum, EPA vastly underestimates the capital costs of constructing two large CSO storage tanks in dense urban neighborhoods, and completely omits any O&M costs in its cost estimate. *See* NYC Comments 12, 22.

Therefore, EPA has not provided the following information and must do so before selecting the remedy:

- An evaluation on the cost-effectiveness of the remedy, including the presumed construction of two CSO storage tanks.

NYC Comment 24: EPA's selection of a range of percentage solid reductions for CSO controls violates the NCP remedy selection requirements.

In the FS Addendum and the Proposed Plan, EPA asserts that a reduction in CSO solids of 58 to 74 percent is needed to attain PRGs for certain contaminants in the Canal. Selecting a percentage reduction as the remedial standard violates the NCP remedy selection requirements.

Specifically, without specifying what actual CSO control alternatives can meet that standard, there is simply no way to evaluate alternatives against the nine NCP criteria, either individually or comparatively. That is why the FS contains no such individual or comparative detailed analysis of further CSO control alternatives and why the Proposed Plan defines one potential alternative, in-line tanks, as only a "presumptive" remedy subject to change during the design phase and the LTCP that the City is implementing under the CWA. The NCP simply does not allow EPA to select a performance standard[29] as the remedy and allow EPA to defer detailed analysis of alternatives until after issuance of the ROD. The proper manner for EPA to deal with such uncertainties is to follow CSTAG's recommendation and, at this juncture, develop and issue an interim ROD focused on the NAPL contamination impacting the Canal.

NYC Comment 25: EPA's determination that it will develop interim CSO controls during the remedial design phase violates the remedy selection requirements of the NCP.

EPA recognizes that the planning and construction of "long term permanent Superfund controls for the Superfund remedy might not take place by the time remedial dredging is carried out." *See* Proposed Plan, at 20. Therefore, EPA states in the Proposed Plan that in consultation with DEC, EPA "would develop interim CSO solids control measures during the remedial design to control the discharges until the permanent measures are implemented." *See* Proposed Plan, at 21, 31. However, EPA does not identify any potential interim CSO solids control measures, let alone screen them, or perform a detailed individual or comparative evaluation of interim CSO solids control measures against the nine NCP criteria as required by the NCP.

NYC Comment 26: The Proposed MGP and upland source controls and interim control remedies are so vaguely defined that they deprive the City of a meaningful opportunity to comment.

The Proposed Plan fails to provide the City and other interested parties with a meaningful opportunity to comment on the controls for the MGP sites and other upland source areas. CERCLA requires that the Proposed Plan "include sufficient information as may be necessary to provide a reasonable explanation of the Proposed Plan and alternative proposals considered." 42 U.S.C. § 9617(a). Similarly, the NCP provides that the purpose of the Proposed Plan is to "provide the public with a reasonable opportunity to comment on the preferred alternative for remedial action, as well as alternative plans under consideration, and to participate in the selection of a remedial action at a site." 40 C.F.R. § 300.430(f)(2). Both of these provisions require EPA to provide the public with sufficient information so that it can intelligently comment on the matter. As a consequence, any deficiencies in EPA's notice raise due process issues.

[29] The FS and the Proposed Plan concede that even the performance standard may be revised in the design phase and in the LTCP process. *See* Proposed Plan at 19, 27-28, 33.

The adequacy of the opportunity to comment is particularly important in light of CERCLA's restrictions on the judicial review of remedies. Section 113(h) generally prohibits judicial review of remedy decisions prior to the institution of a cost recovery or civil enforcement action. *See* 42 U.S.C. § 9603(h). Furthermore, section 113 limits judicial review of remedies to the administrative record. *See id.* § 113(j)(1). Multiple courts considering due process challenges to section 113(h)'s bar on pre-enforcement review have noted that the opportunity for public comment satisfies due process concerns that might otherwise be raised by section 113(h).

The Proposed Plan does not provide the City and other interested parties with adequate notice of the control measures for the MGP sites and other upland source areas. The Proposed Plan only refers to the New York Superfund Program's requirements for "source removal or control," Proposed Plan 19, 30, but fails to discuss the methods by which these sources might be addressed. Without specifying at all how the MGP site contamination and other upland sources could be addressed, the City (and the public) do not know what alternative methods (*e.g.*, contaminant removal or engineering controls) might be used and how the surrounding area could be affected. Likewise, the Proposed Plan fails to even identify what interim CSO remedies will be evaluated. The Proposed Plan effectively requires all interested parties to guess what cleanup approach might be used at the three MGP sites, the upland sources area and as interim CSO remedies. It is precisely when the agency notice turns the comment period "into a guessing game" that agency action violates due process rights.

NYC Comment 27: Under CERCLA, EPA cannot delegate the responsibility for remedy selection to DEC.

The remedy described in the Proposed Plan provides that New York will select the precise remedial measures to be implemented for the former MGP sites and other upland source areas as part of the overall remedy for the Canal. *See* Proposed Plan at 19, 25 – 29, 32. CERCLA and the NCP, however, limit a state's role in remedy selection at EPA-lead sites. They both provide that a state may have input in the remedy selection process, but not select the actual remedy. As a consequence, the measures proposed in the Proposed Plan for the MGP sites and other upland source areas place New York in a role that is contrary to CERCLA and the NCP.

CERCLA provides for a state role in remedy selection that does not encompass actual decision-making authority. Section 121(f) sets out the ways in which states can participate in the development and selection of remedial actions. 42 U.S.C. § 9621(f). None of the ways specified in Section 121(f) include selection of a remedy. Rather, CERCLA provides states opportunities to comment, concur, or, in some instances, intervene in actions in which a consent decree has been proposed. *See*, *e.g.*, *id.* § 9621(f)(1)(E), (2)(A)-(B).

Similarly, the NCP provides that "[t]he lead agency, as specified in § 300.515(e), makes the final remedy decision, which shall be documented in the ROD." 40 C.F.R. § 300.430(f)(1)(ii). In the same subparagraph, the NCP specifies that the lead agency must "review the public comments and consult with the state." *Id.* Read together, this language contemplates EPA, as the lead agency for the Canal, selecting a remedy, while the state is limited to a consulting role, not that of the decision-maker.

The NCP further provides that for "all EPA-lead sites, EPA shall prepare the ROD and provide the state with an opportunity to concur with the recommended remedy." *Id.* § 300.515(c)(2)(i). The state's role is to concur, not develop the actual remedy. The very next subparagraph reemphasizes that the state does not make remedial decisions,

specifying that "state concurrence on a ROD is not a pre-requisite to EPA's selecting a remedy." *Id.* § 300.515(c)(2)(ii).

The preamble to the NCP states that "EPA retains the responsibility for selecting the remedy." 55 Fed. Reg. 8666, 8730 (Mar. 8, 1990). In the preamble, EPA considered the precise question of whether states could select remedies at NPL sites and answered that they could not. EPA explained "that it is not appropriate at this time to turn over final decision-making authority on remedy selection to states." *Id.* Even in those situations in which a state had already taken action under site remediation authorities, the preamble states that "EPA will not be bound by state action" on the issue of remedy selection. *Id.* In sum, EPA intended that states cannot select remedial measures for EPA-lead sites, like the Canal, under the NCP. That is what the EPA has done for the MGP sites and other upland source areas and that violates CERCLA and the NCP.

NYC Comment 28: EPA and New York State failed to identify New York State's constitutional and statutory protection of parkland as an ARAR.

The Proposed Plan does not identify New York State's public trust doctrine that limits parkland alienation as an ARAR. *See* Gowanus Canal Feasibility Study, Table 2-5 (list of location-specific ARARs). The EPA should explain why EPA and New York State did not identify New York State's restrictions on parkland alienation as an ARAR. Applicable Requirements are defined as "those cleanup standards, standards of control, and other substantive requirements, criteria, or limitations promulgated under federal environmental or state environmental or facility siting laws that specifically address a hazardous substance, pollutant, contaminant, remedial action, location, or other circumstance found at a CERCLA site. Only those state standards that are identified by a state in a timely manner and that are more stringent." 40 C.F.R. § 300.5 (2013).

In New York, the public trust doctrine restricting parkland alienation provides that dedicated parkland is "impressed with a public trust for the benefit of the people of the State. Their use for other than park purposes, either for a period of years or permanently, requires the direct and specific approval of the State Legislature, plainly conferred." *Friends of Van Cortlandt Park v. City of New York*, 95 N.Y.2d 623, 631-632 (N.Y. 2001) (internal quotation omitted). This common law public trust doctrine is also codified in state statute. General City Law provides that city-owned parklands are "inalienable" and thus require legislative approval to alienate. 1 N.Y. Gen. City Law § 20(2) (2013). EPA and New York State should identify the public trust protections for dedicated municipal parkland an ARAR because they fall within the NCP definition of ARAR as: "substantive requirements . . . or limitations promulgated under . . . state environmental . . . laws that specifically address a . . . location . . . found at a CERCLA site" and are more stringent than federal protections for municipal parkland. *See* 40 C.F.R. § 300.5 (2013). Though the NCP requires State ARARs to be timely, when the location-specific ARARs were developed for the FS, EPA had not yet developed any remedial alternatives that impacted parkland. *See* 40 C.F.R. § 300.5 (requiring State ARARs to be timely identified).

EPA's failure to identify or consider the public trust doctrine in its proposed CSO remedial components renders the analysis of this proposal flawed, incomplete, and likely to result in serious impacts to much needed community recreational facilities in this neighborhood. *See* NYC Comment 13.

NYC Comment 29: The Proposed Plan fails to address the cost and uncertainty related to legally alienating the Douglas and Degraw Pool/Thomas Green Playground in the cost estimates for constructing an in-line tank there and in the evaluation of its feasibility.

EPA should explain why it did not include the cost and uncertainty related to legally alienating the Douglas and Degraw Pool/Thomas Green Playground in the cost estimates for constructing an in-line tank there, and in the evaluation of its feasibility. It should also be noted that the approval of a City ULURP de-mapping action may be required for the construction of an in-line storage tank at the site because both the Douglass & Degraw pool are mapped parkland. This action would also require approval from the New York State legislature.

The City requests that EPA answer the following questions in the Responsiveness Summary:

- How does EPA distinguish the proposed in-line tank from the water treatment facility in *Friends of Van Cortland Park v. City of New York*, 95 N.Y.2d 623 (N.Y. 2001) given that an in-line tank is a non-park use, construction is estimated to take five to six years, and "some future uses of the land will be inhibited by the presence of the underground structure"? *See id.* at 630, 631.

- What replacement parkland does EPA expect to provide in order to secure State Legislative approval for the temporary alienation of the Douglass & Degraw Pool/Thomas Green Playground during construction and what is the estimated cost of its acquisition?

- What replacement parkland does EPA expect to provide to secure State Legislative approval for the permanent alienation of any permanent above-ground components of the in-line tank and what is the estimated cost of its acquisition?

NYC Comment 30: Information contained in the City's comments requires significant changes to the Proposed Plan, and therefore EPA must issue a revised Proposed Plan, seek additional public comment on the revised Proposed Plan, and submit the revised Proposed Plan to the NRRB.

The NCP directs EPA to issue a revised proposed plan and seek additional public comment in the following circumstances:

> (ii) After publication of the proposed plan and prior to adoption of the selected remedy in the record of decision, if new information is made available that significantly changes the basic features of the remedy with respect to scope performance, or cost, such that the remedy significantly differs from the original proposal in the proposed plan and the supporting analysis and information, the lead agency shall: . . .
>
> (B) Seek additional public comment on a revised proposed plan, when the lead agency determines the change could not have been reasonably anticipated based on the information available in the proposed plan or the supporting analysis and information in the administrative record.

> 40 C.F.R. § 300.430(f)(3)(ii).

As the City's comments demonstrate, the scope, performance and cost of the remedies identified in the Proposed Plan should change significantly. In particular, there must be significant changes to: (1) the scope and cost of the remedies for the MGP sites and upland sites (which EPA says are required for the remedy, but does not identify or evaluate specifically in the Proposed Plan); (2) the scope and cost of interim CSO controls (again, which EPA says may be required, but does not identify or evaluate specifically in the Proposed Plan); and (3) the scope, performance and costs of the CSO remedies (where EPA identified only a presumptive remedy (in-line tanks), but underestimated the capital costs of that remedy by five-fold, failed to include O&M costs for that remedy, and acknowledged that even the performance standards for that remedy, consisting of a range of 58%-74% reduction in CSO solids, may change.)

In addition, the scope of the changes in the Proposed Plan could not reasonably be anticipated pursuant to 40 C.F.R. § 300.430(f)(3)(ii)(B). As the City's comments show, there has been no detailed evaluation of any of these future remedy components. In sum, it is impossible for the public to reasonably anticipate the scope, performance and cost of a remedy component that EPA acknowledges explicitly will be determined in the future. Therefore, the NCP requires EPA to revise its Proposed Plan to include these remedy elements and allow for public comment.

Moreover, the revised Proposed Plan must be submitted to the NRRB. The NRRB review criteria state as follows:

> Board reviews will also occur for NPL sites following changes made after the release of the Proposed Plan where: A different or modified alternative (which was included in the original Proposed Plan) is selected by the region that costs more than 20 percent when compared to the original proposal and these costs trigger review criteria (even when the earlier proposed action had undergone Board review).
>
> (http://www.epa.gov/superfund/programs/nrrb/reviewcr.htm)

Therefore, NRRB review is required where the different or modified alternative will increase costs more than 20%, and that 20% increase amounts to more than $25 million (which is the dollar threshold for triggering review). The City's comments demonstrate that different or modified alternatives for source control will increase costs by more than 20% (it is a five-fold increase) and $25 million. Thus, a second NRRB review is required.

Implementation

NYC Comment 31: The City supports EPA's decision in the Proposed Plan to wait for implementation of any additional permanent CSO controls until after currently planned infrastructure upgrades for the mid and lower reaches of the Canal are completed.

NYC Comment 32: The City supports EPA's decision in the Proposed Plan to evaluate any additional permanent CSO controls as part of the LTCP process.

The Proposed Plan states:

> "EPA is committed to achieving cost savings by working closely with NYCDEP to accomplish an effective Superfund cleanup while also realizing CSO benefits through synergies and economies of scale. NYCDEP will complete full assessment of achieving CWA goals with submission of the LTCP in June 2015 pursuant to the CSO Consent Order." Proposed Plan, at 33.

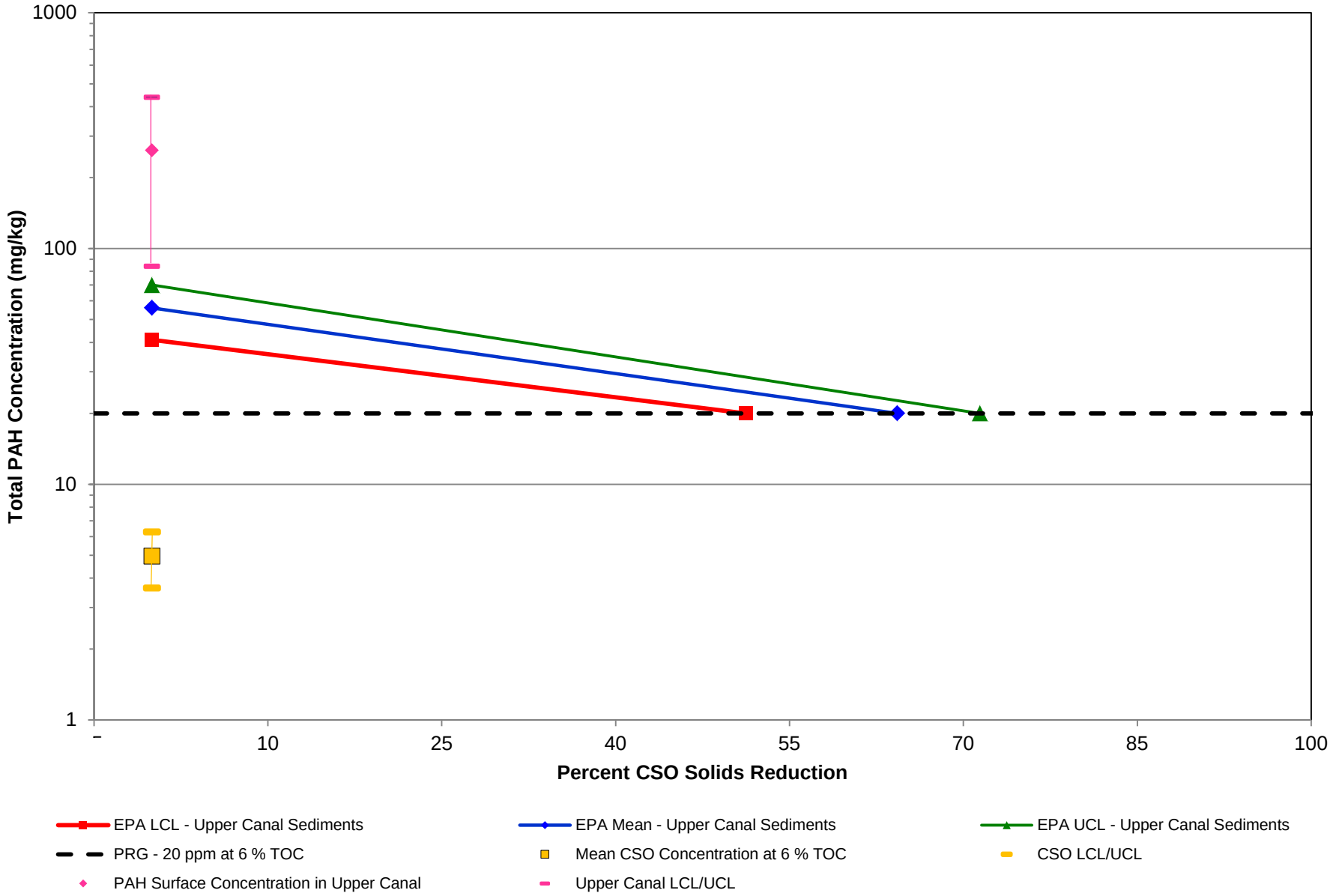
The City supports evaluation of additional CSO controls, to the extent such controls are necessary to address CERCLA risks and are supported by sound science, as part of the LTCP process.

NYC Comment 33: The Proposed Plan does not require any additional permanent CSO controls to be implemented prior to commencement of the preferred remedial alternative for in-Canal sediments. The City supports this approach.

While the City takes issue with EPA's assessment and recommendation regarding permanent CSO controls related to Superfund, the City does support EPA's determination that any additional permanent controls should take place following the implementation of the in-Canal remedy. This determination is more consistent with CSTAG's recommendations concerning the timing of response actions, and it will also allow EPA to focus on the extensive, uncontrolled NAPL contamination currently impacting the Canal.

Figures

Estimated CSO Solids Load Reductions at RH-034 Required to Reduce Chemical Concentrations in Surface Sediments of the Upper Reach



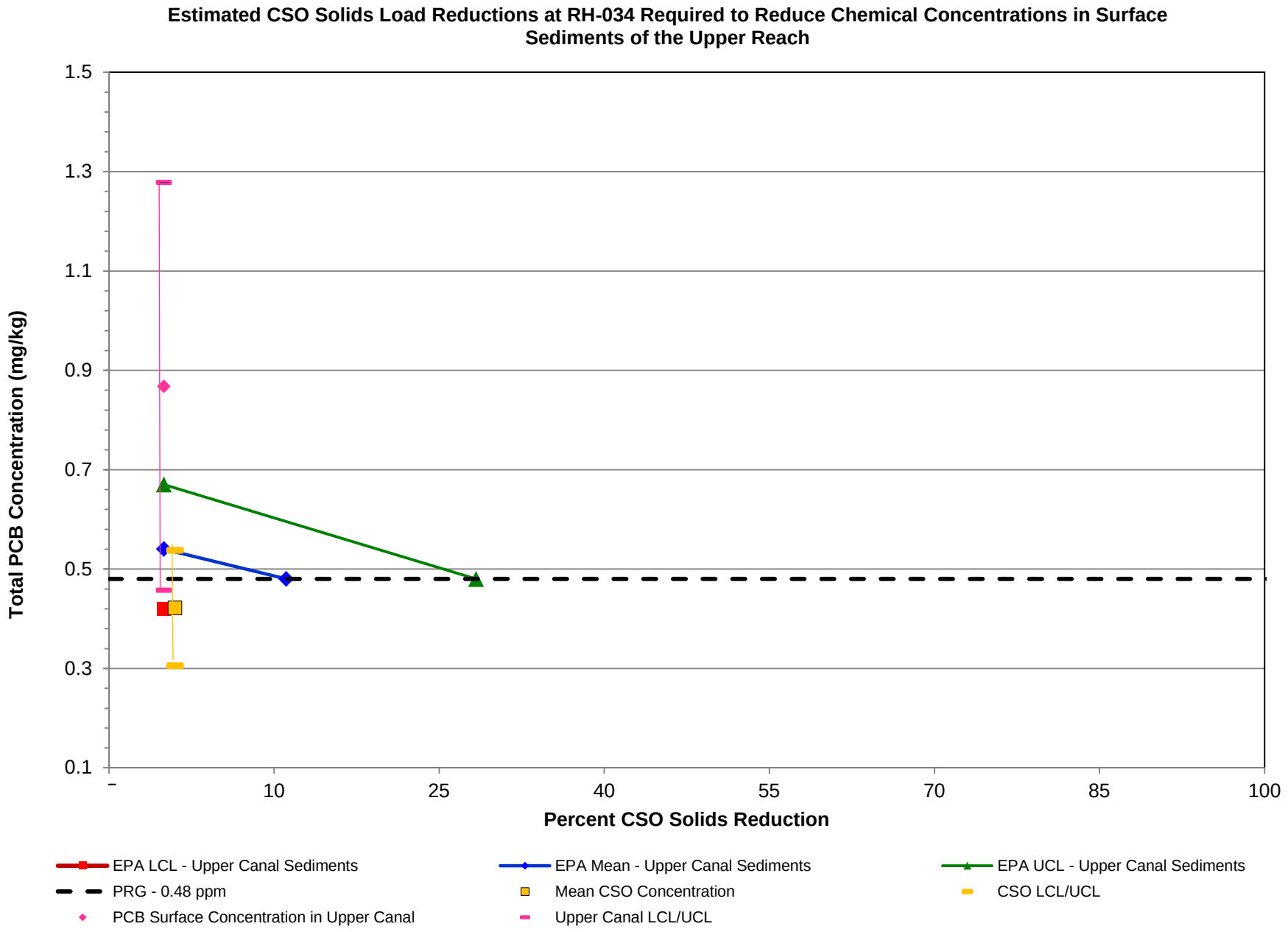
Environmental Protection

Percent Reduction Diagram for TPAH From EPA Addendum to Proposed Plan

Gowanus Canal Superfund Site

Figure 1-1

April 2013



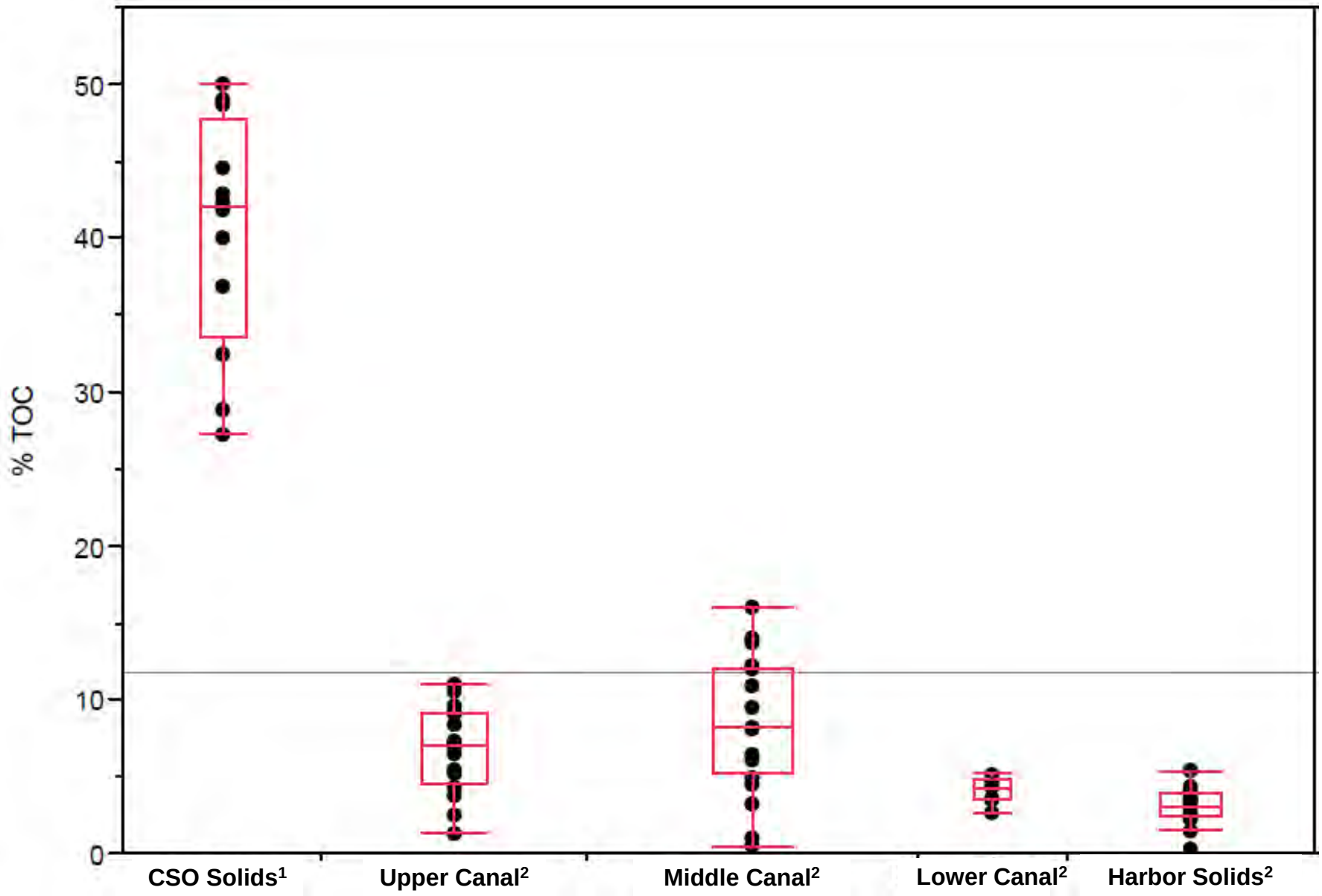
Environmental Protection

Percent Reduction Diagram for TPCB From EPA Addendum to Proposed Plan

Gowanus Canal Superfund Site

Figure 1-2

April 2013



Notes:
1. NYCDEP CSO Solids data.
2. Canal Sediment data are from depths of 0 to 0.5 feet. EPA, ERT, and NYCDEP data.

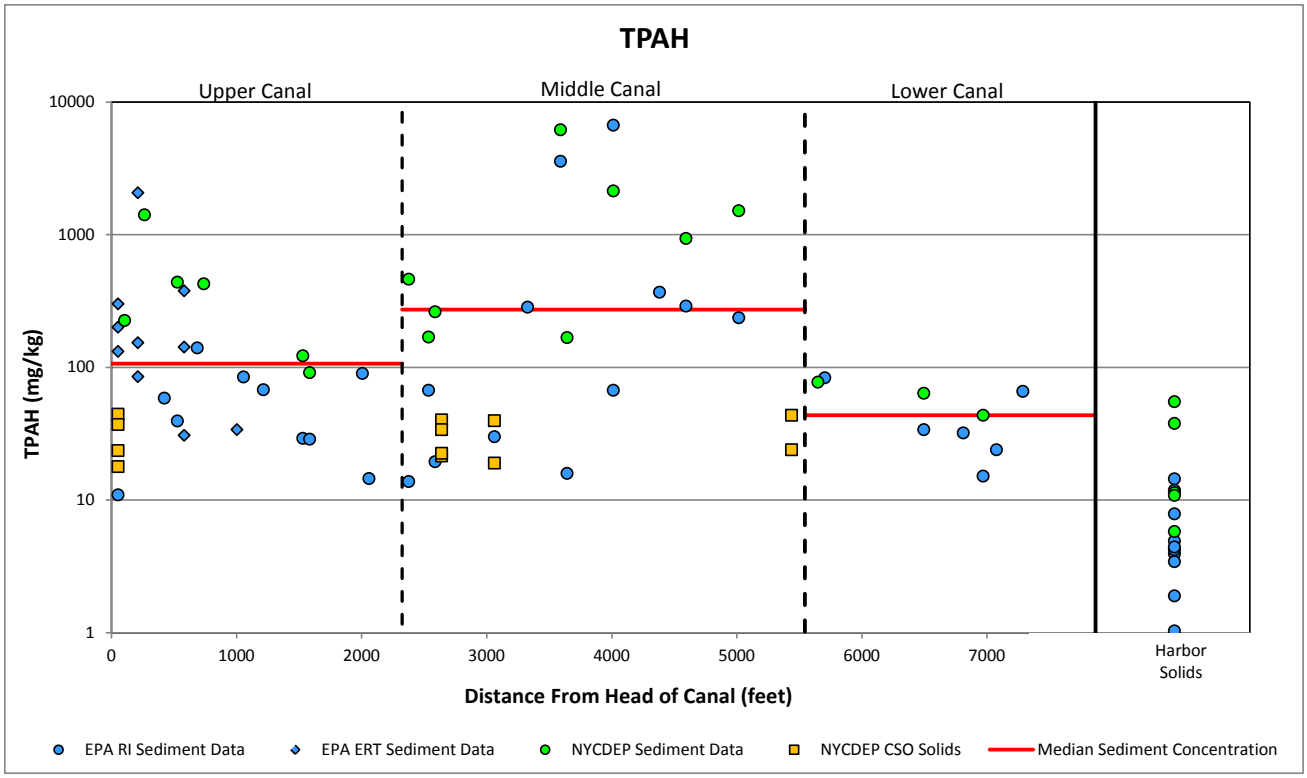
Environmental Protection

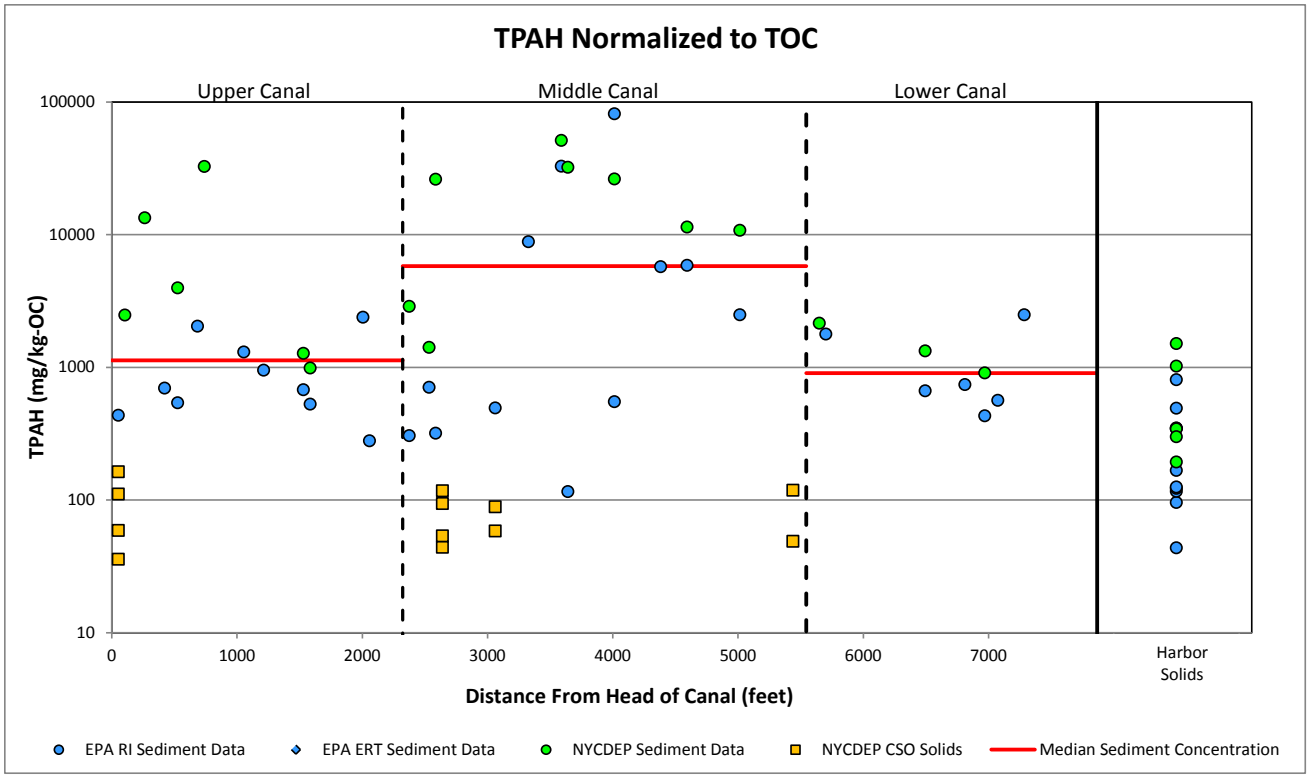
TOC Concentrations in CSOs and Surface Sediments

Gowanus Canal Superfund Site

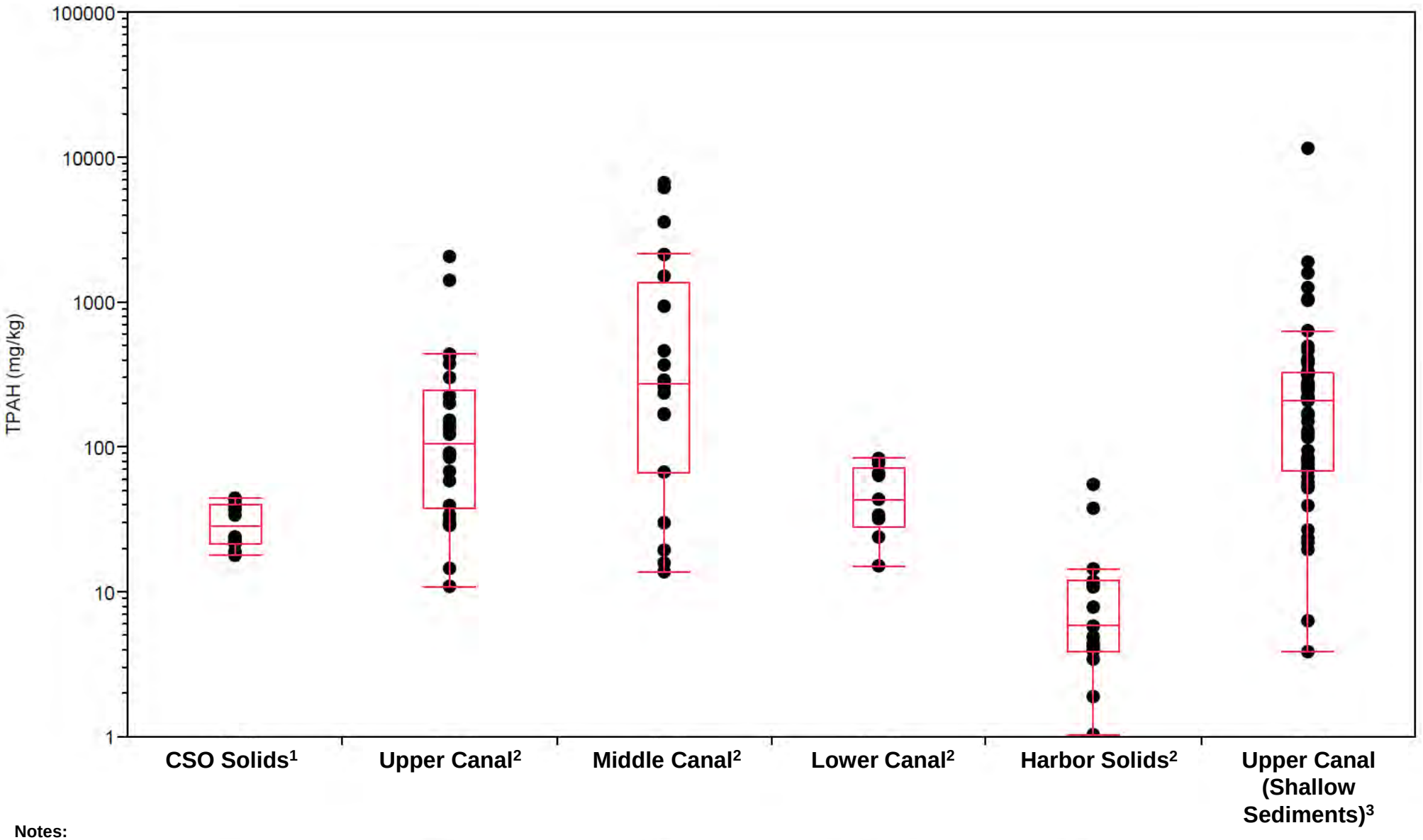
Figure 2-1

April 2013





Environmental Protection	Comparison of TPAH Concentrations in Surface Sediment and CSO Solids *Gowanus Canal Superfund Site*	Figure 2-2a April 2013



Notes:

1. NYCDEP CSO Solids data.
2. Canal Sediment data are from depths of 0 to 0.5 feet. EPA, ERT, and NYCDEP data.
3. Canal Shallow Sediment data are from depths within the 0 to 2 feet horizon (excludes 0-0.5 feet data from Note 1). EPA, ERT, and NYCDEP data.

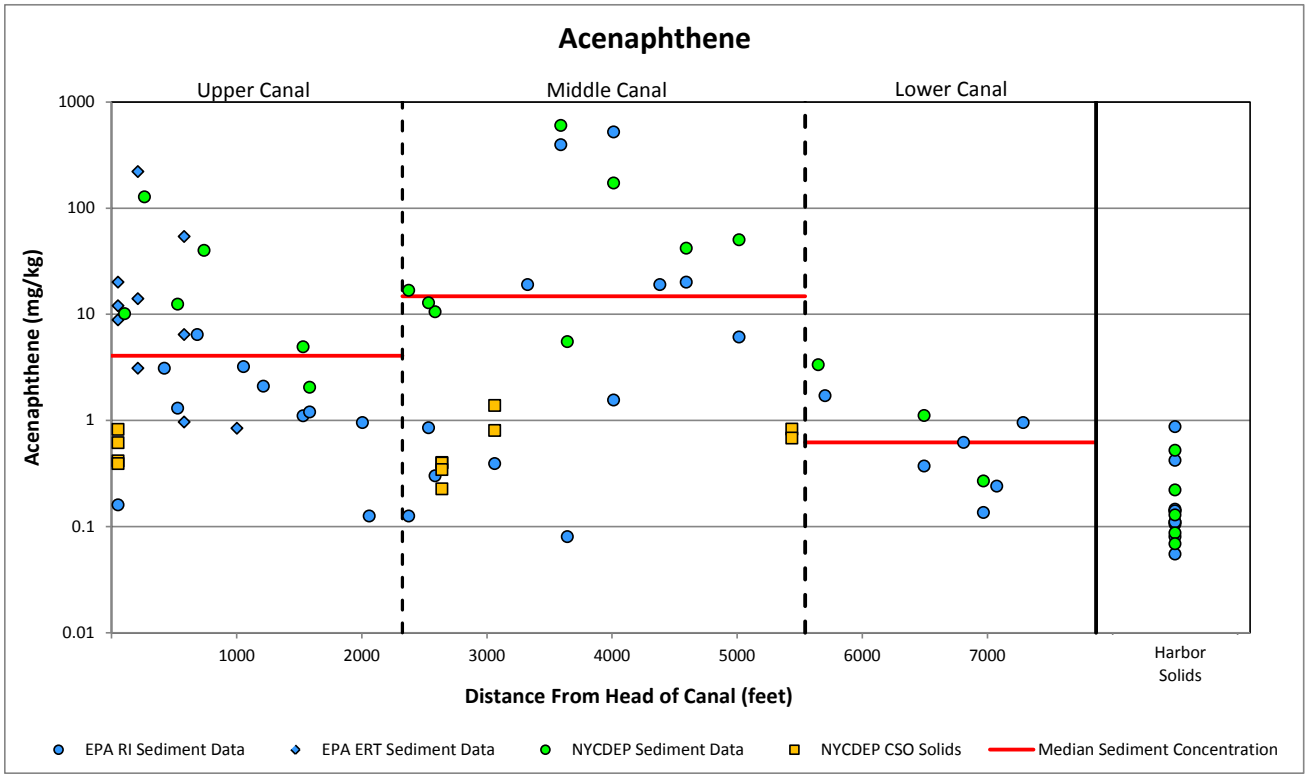
NYC Environmental Protection

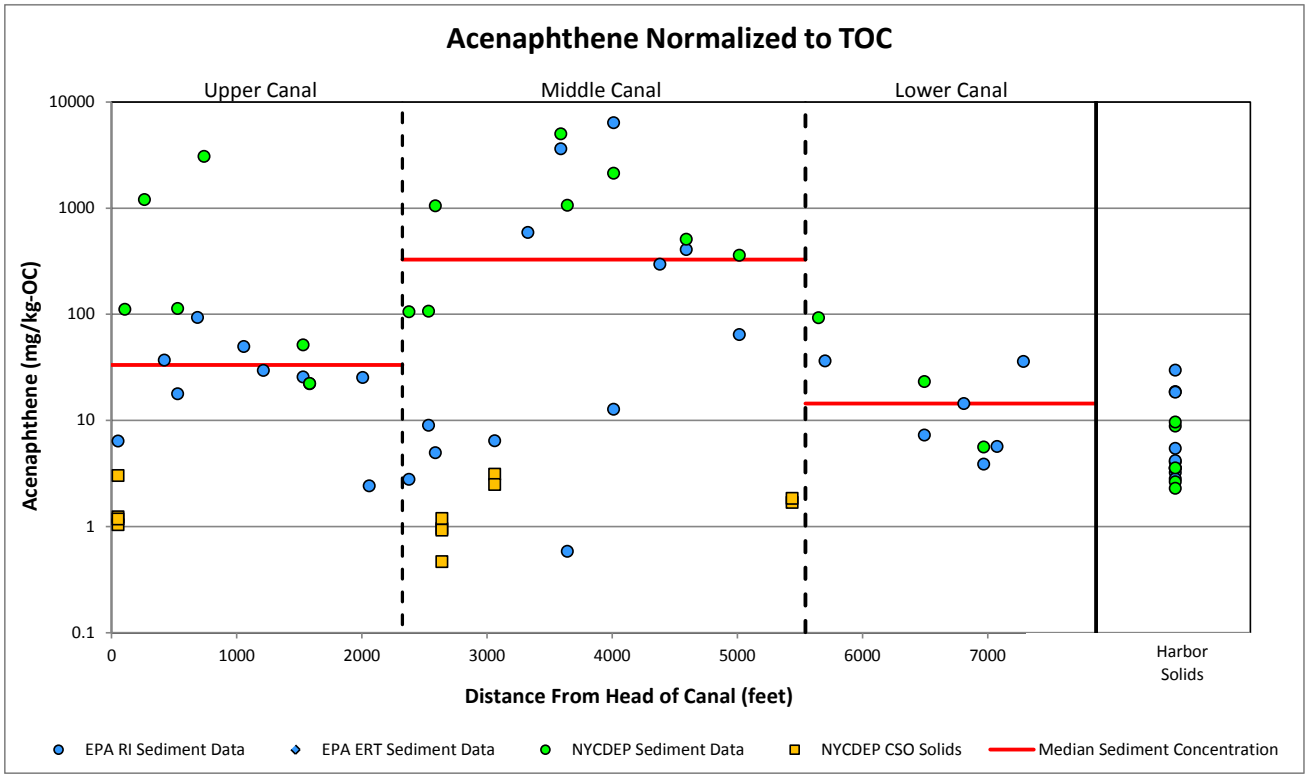
Total PAH Concentrations in CSOs, Surface Sediments and Shallow Sediments

Gowanus Canal Superfund Site

Figure 2-2b

April 2013





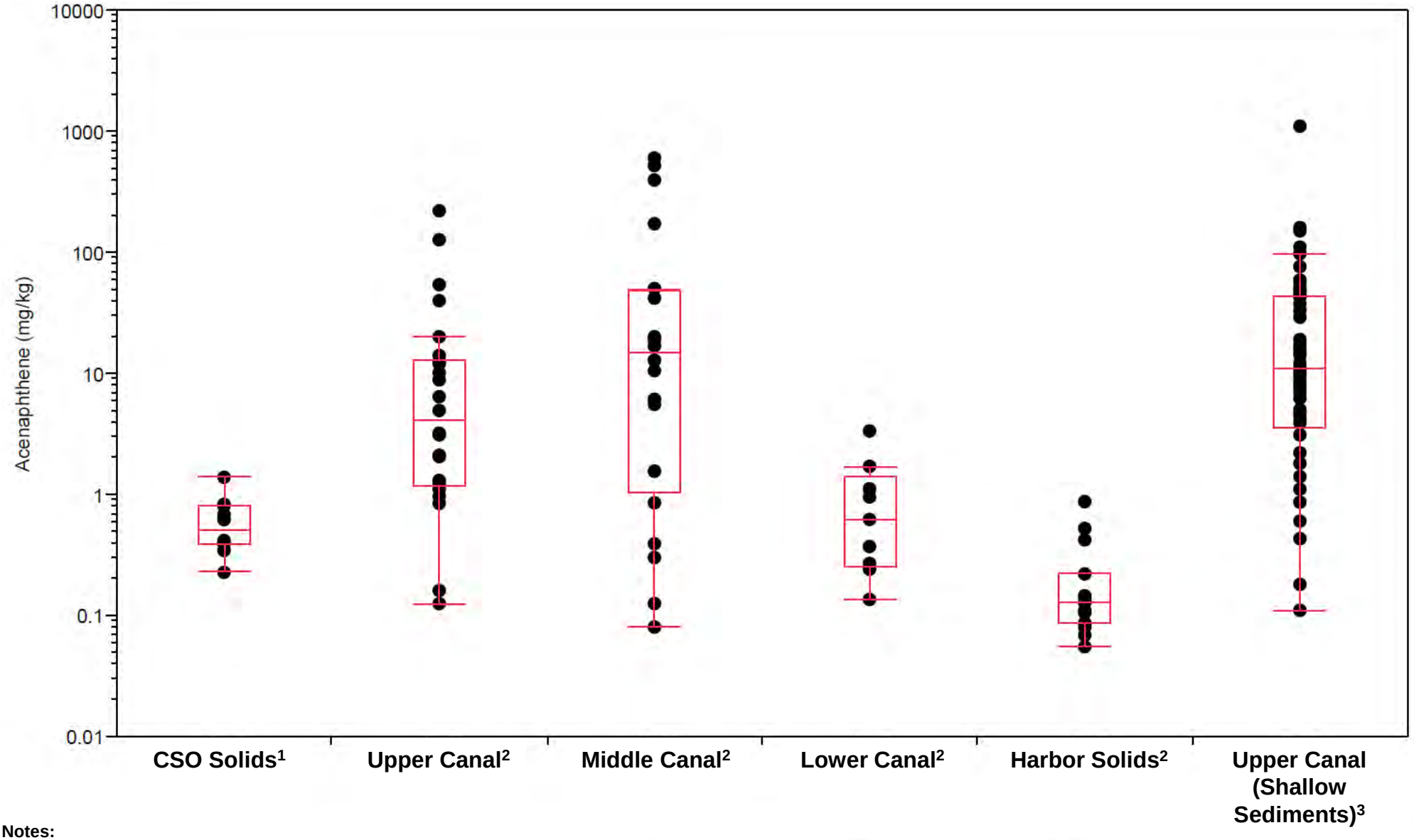
Environmental Protection

Comparison of Acenaphthene Concentrations in Surface Sediment and CSO Solids

Gowanus Canal Superfund Site

Figure 2-3a

April 2013



Notes:

1. NYCDEP CSO Solids data.
2. Canal Sediment data are from depths of 0 to 0.5 feet. EPA, ERT, and NYCDEP data.
3. Canal Shallow Sediment data are from depths within the 0 to 2 feet horizon (excludes 0-0.5 feet data from Note 1). EPA, ERT, and NYCDEP data.

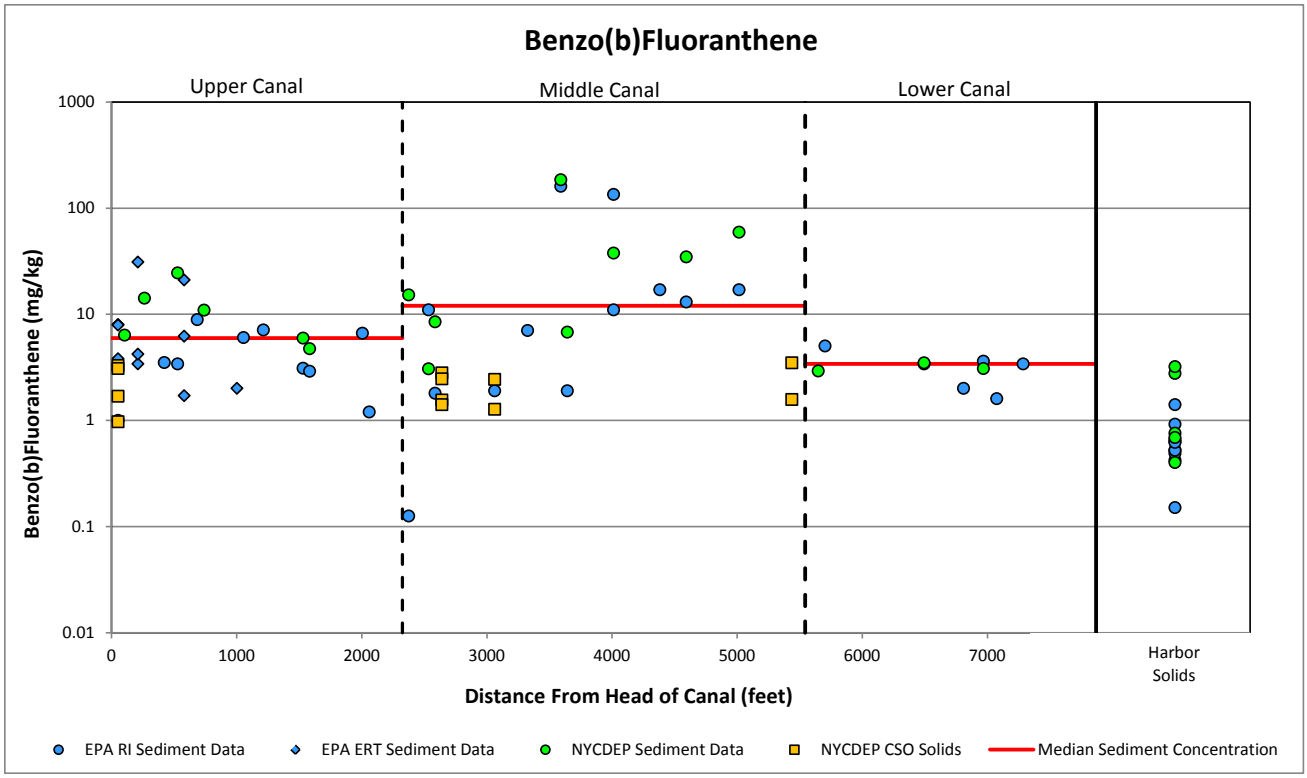
NYC Environmental Protection

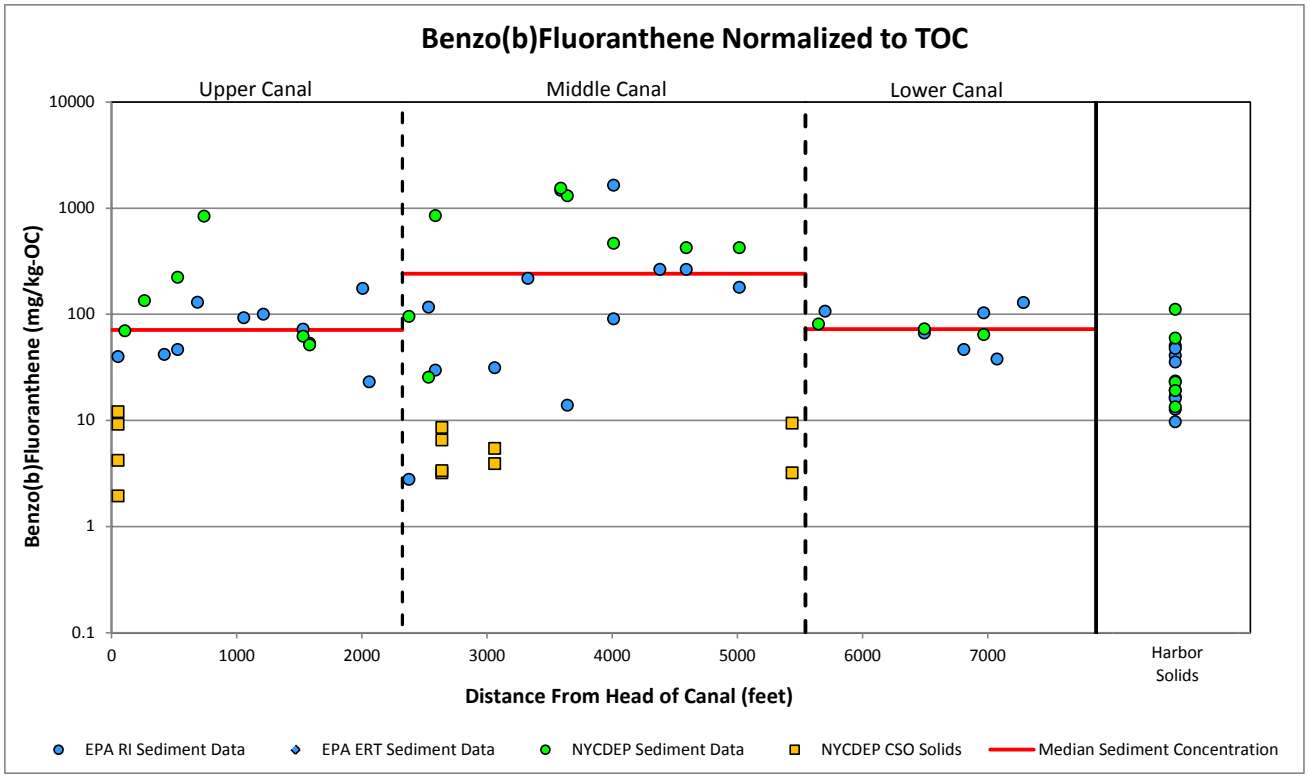
Acenaphthene Concentrations in CSOs, Surface Sediments and Shallow Sediments

Gowanus Canal Superfund Site

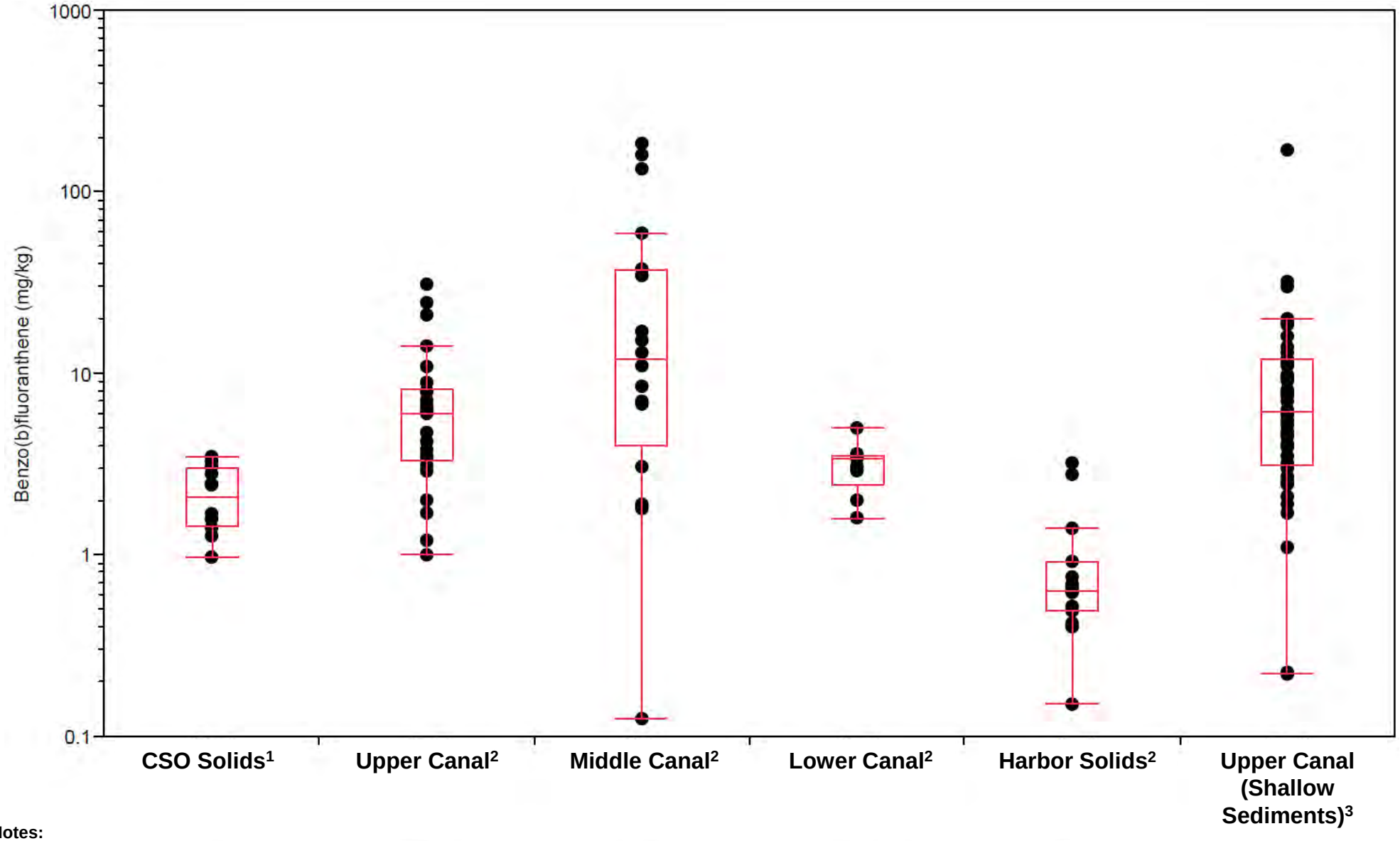
Figure 2-3b

April 2013





NYC Environmental Protection	Comparison of Benzo(b)Fluoranthene Concentrations in Surface Sediment and CSO Solids *Gowanus Canal Superfund Site*	Figure 2-4a April 2013



Notes:

1. NYCDEP CSO Solids data.
2. Canal Sediment data are from depths of 0 to 0.5 feet. EPA, ERT, and NYCDEP data.
3. Canal Shallow Sediment data are from depths within the 0 to 2 feet horizon (excludes 0-0.5 feet data from Note 1). EPA, ERT, and NYCDEP data.

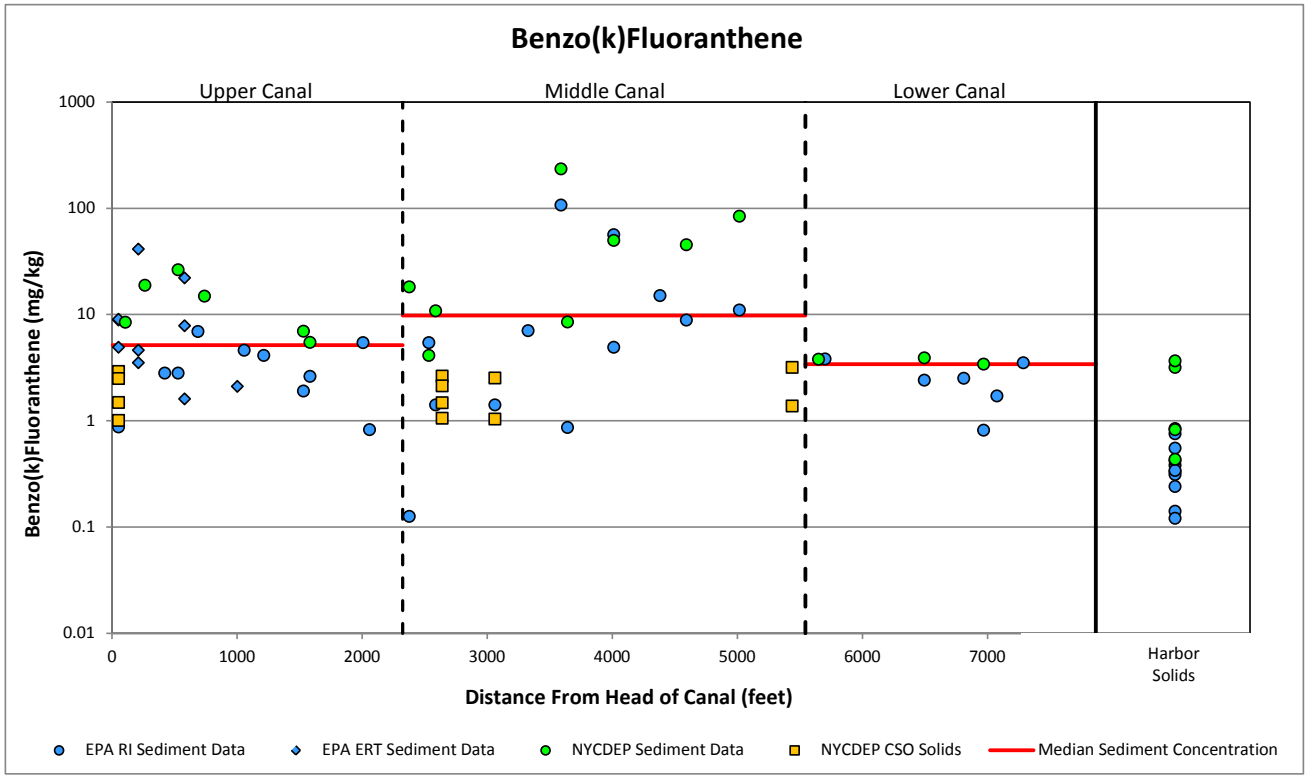
NYC Environmental Protection

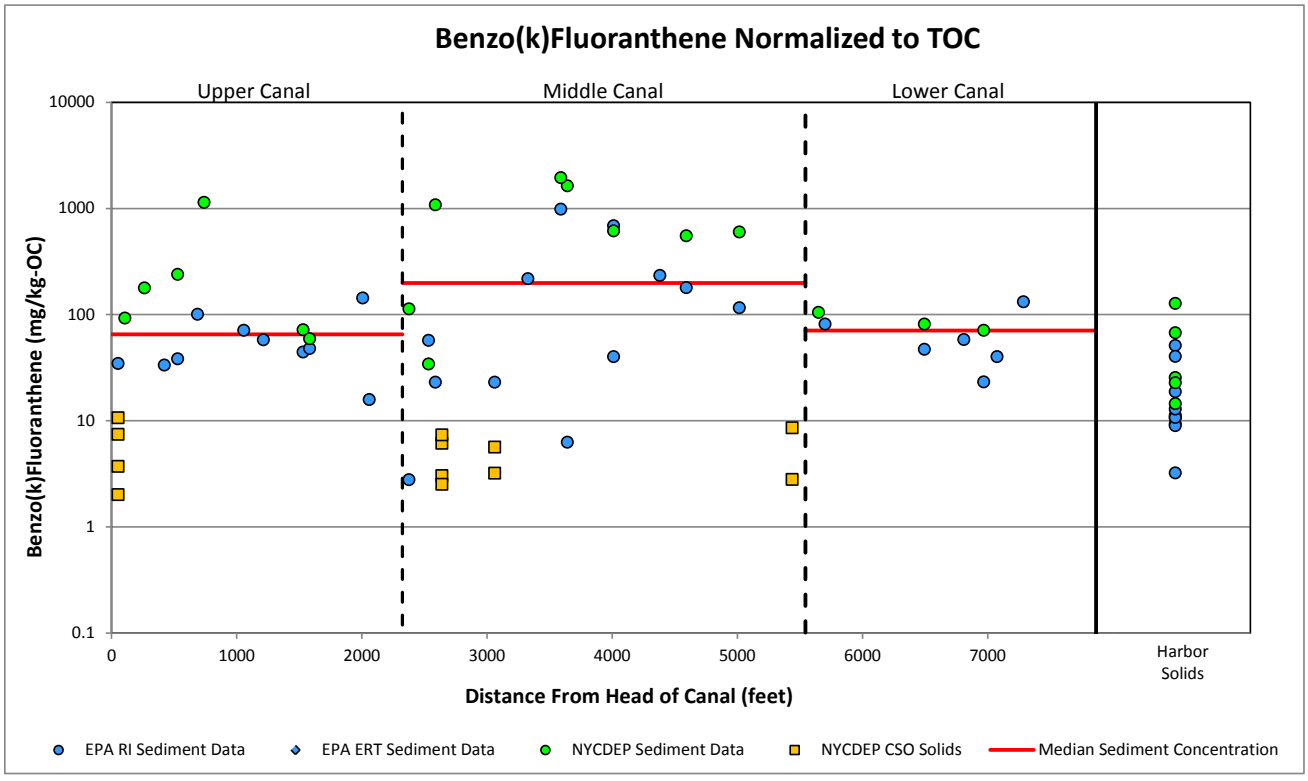
Benzo(b)fluoranthene Concentrations in CSOs, Surface Sediments and Shallow Sediments

Gowanus Canal Superfund Site

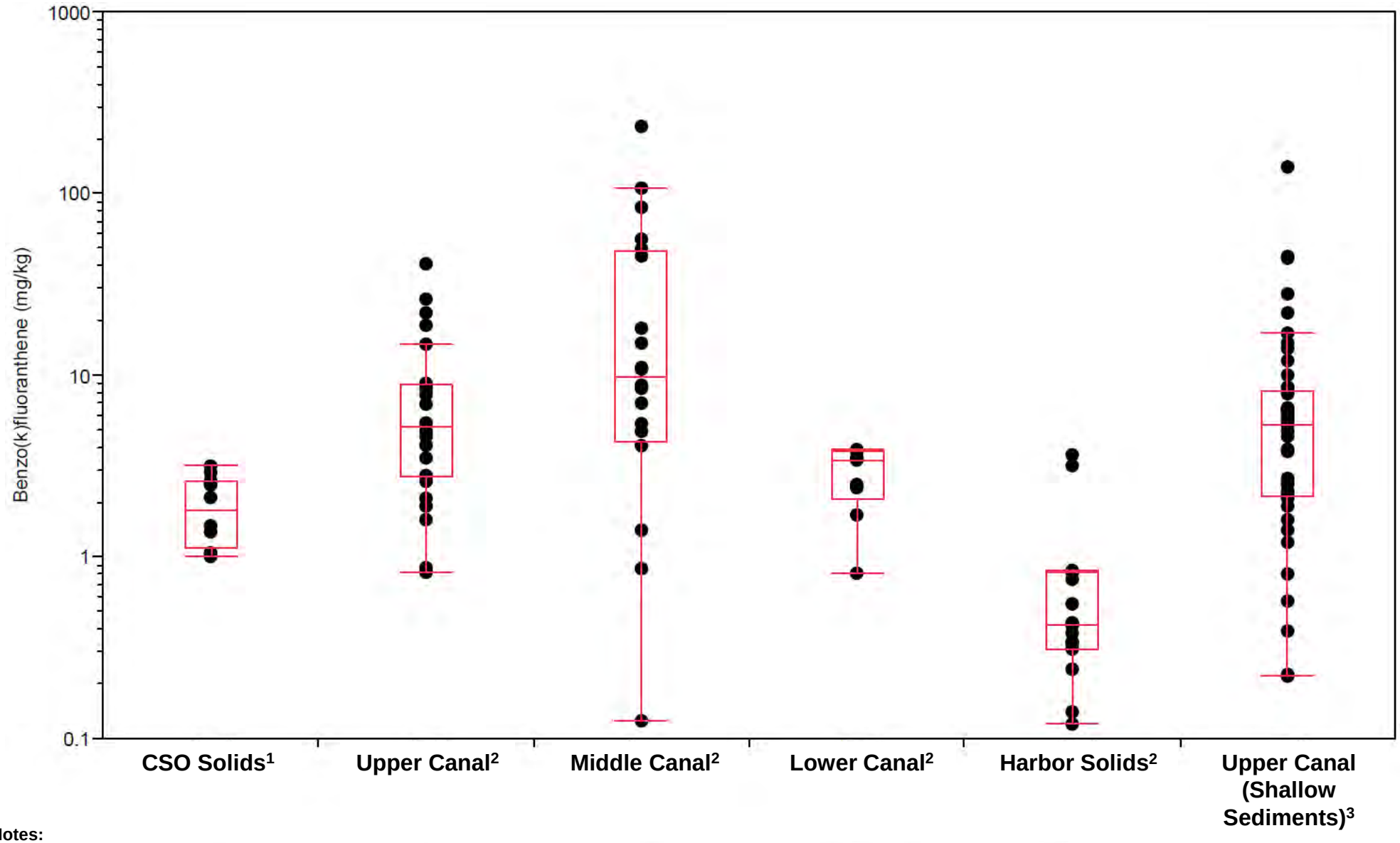
Figure 2-4b

April 2013





NYC Environmental Protection	Comparison of Benzo(k)Fluoranthene Concentrations in Surface Sediment and CSO Solids *Gowanus Canal Superfund Site*	Figure 2-5a April 2013



Notes:

1. NYCDEP CSO Solids data.
2. Canal Sediment data are from depths of 0 to 0.5 feet. EPA, ERT, and NYCDEP data.
3. Canal Shallow Sediment data are from depths within the 0 to 2 feet horizon (excludes 0-0.5 feet data from Note 1). EPA, ERT, and NYCDEP data.

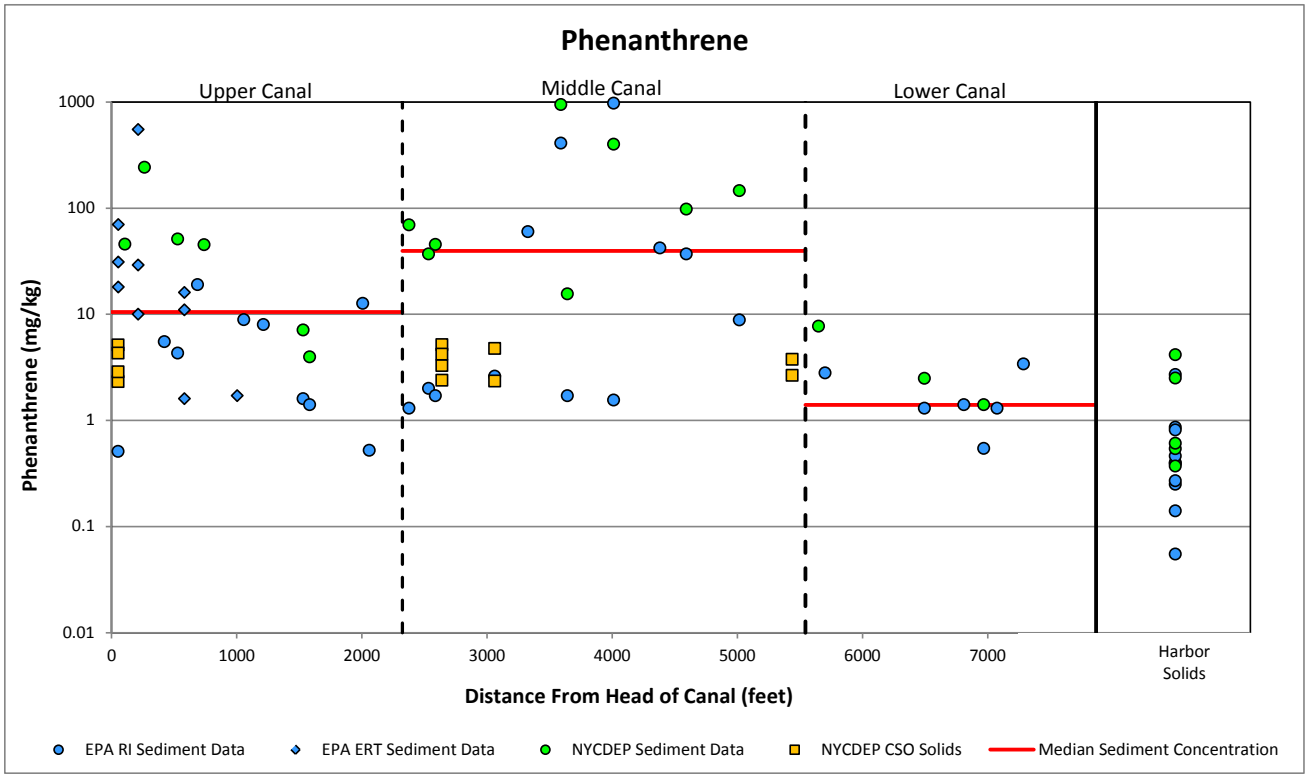
NYC Environmental Protection

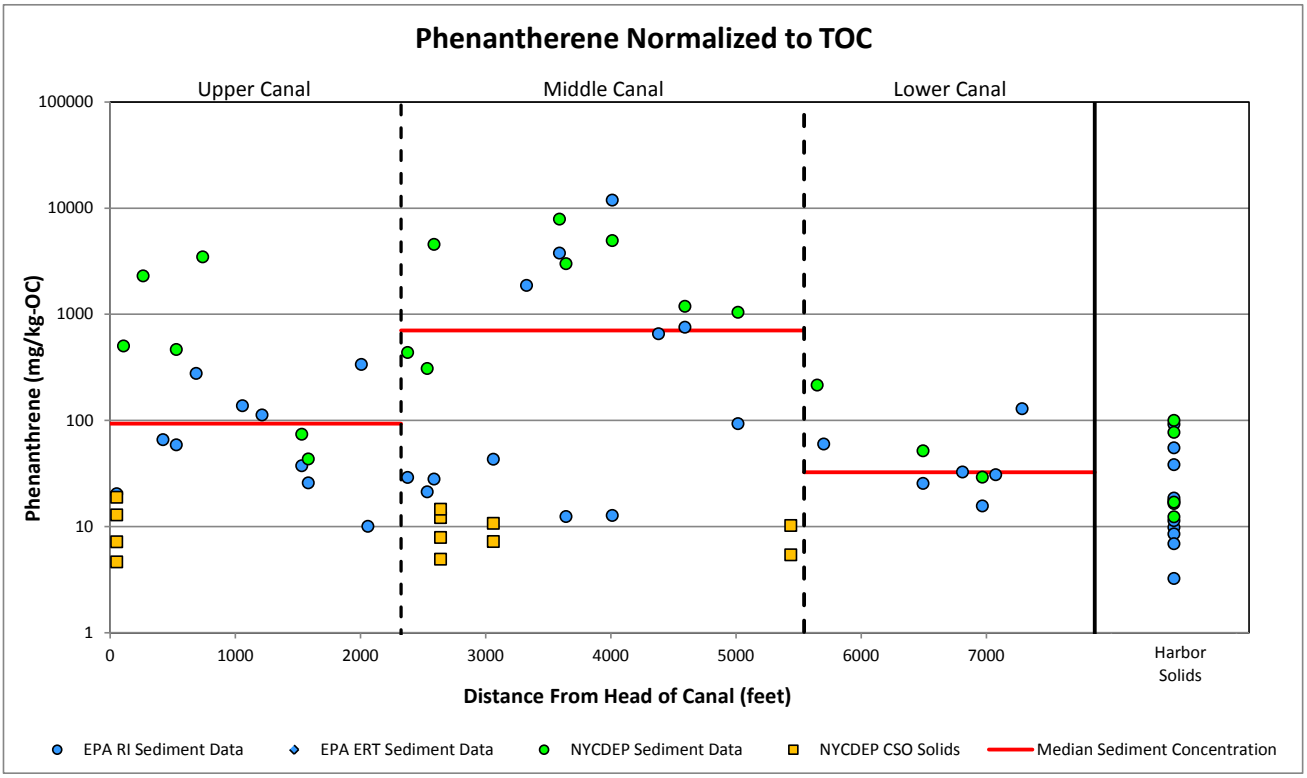
Benzo(k)fluoranthene Concentrations in CSOs, Surface Sediments and Shallow Sediments

Gowanus Canal Superfund Site

Figure 2-5b

April 2013





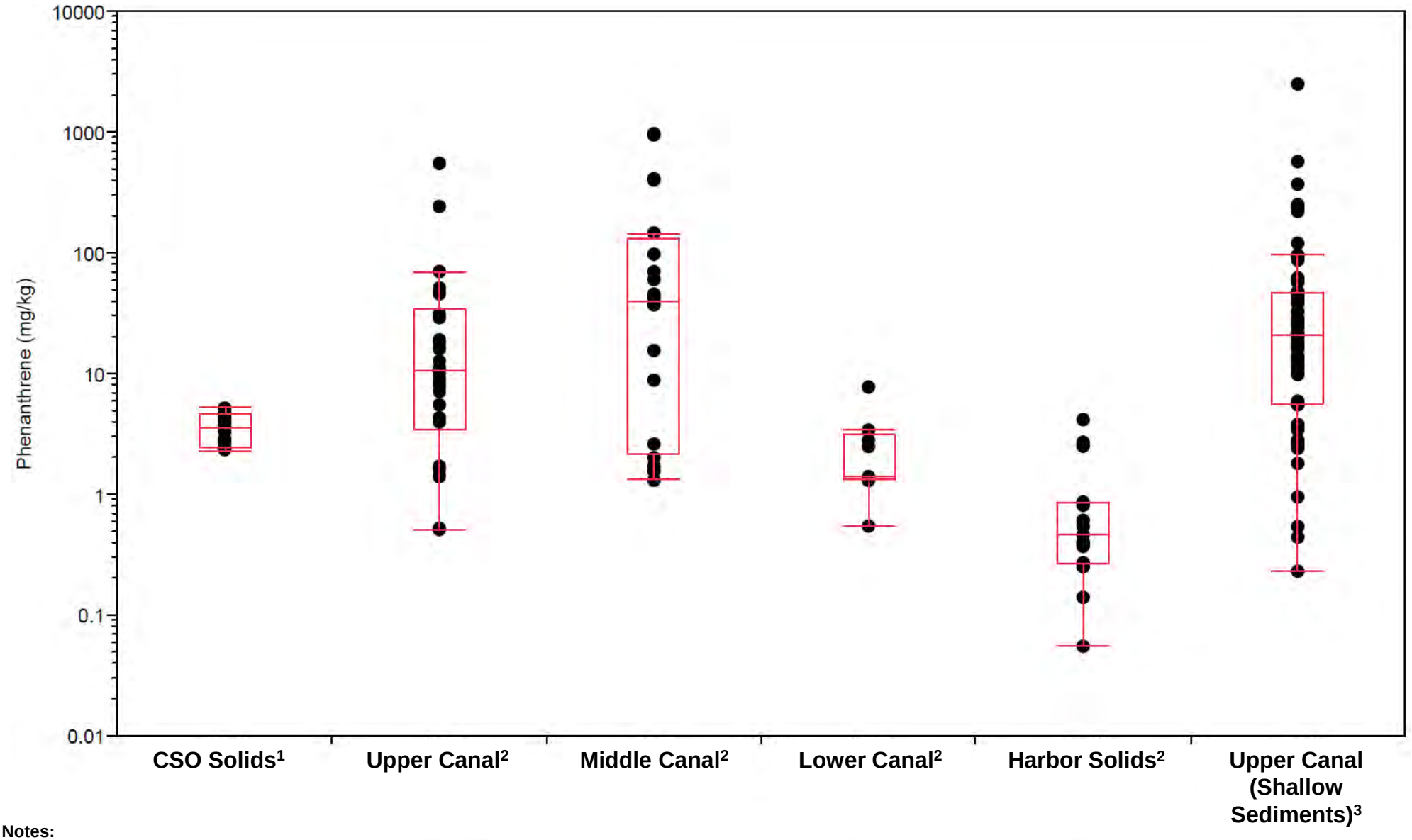
Environmental Protection

Comparison of Penanthrene Concentrations in Surface Sediment and CSO Solids

Gowanus Canal Superfund Site

Figure 2-6a

April 2013



Notes:

1. NYCDEP CSO Solids data.
2. Canal Sediment data are from depths of 0 to 0.5 feet. EPA, ERT, and NYCDEP data.
3. Canal Shallow Sediment data are from depths within the 0 to 2 feet horizon (excludes 0-0.5 feet data from Note 1). EPA, ERT, and NYCDEP data.

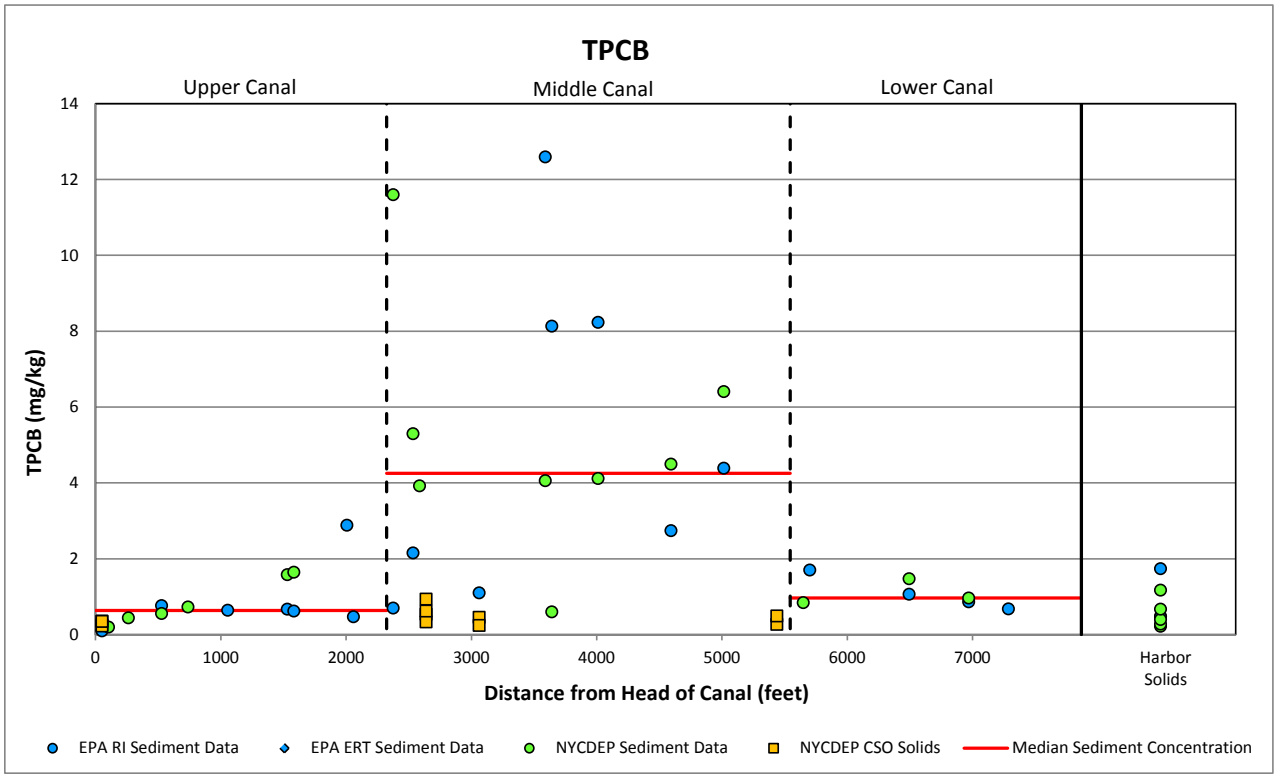
NYC Environmental Protection

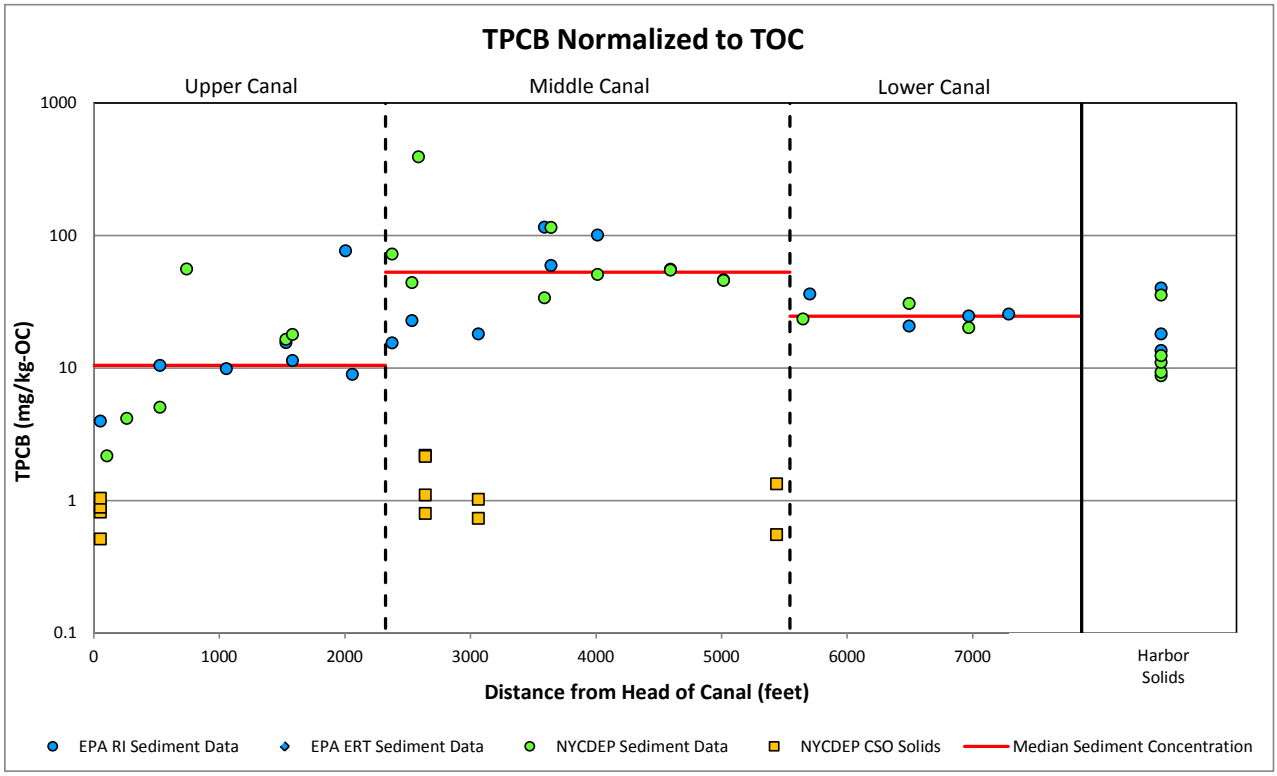
Phenanthrene Concentrations in CSOs, Surface Sediments and Shallow Sediments

Gowanus Canal Superfund Site

Figure 2-6b

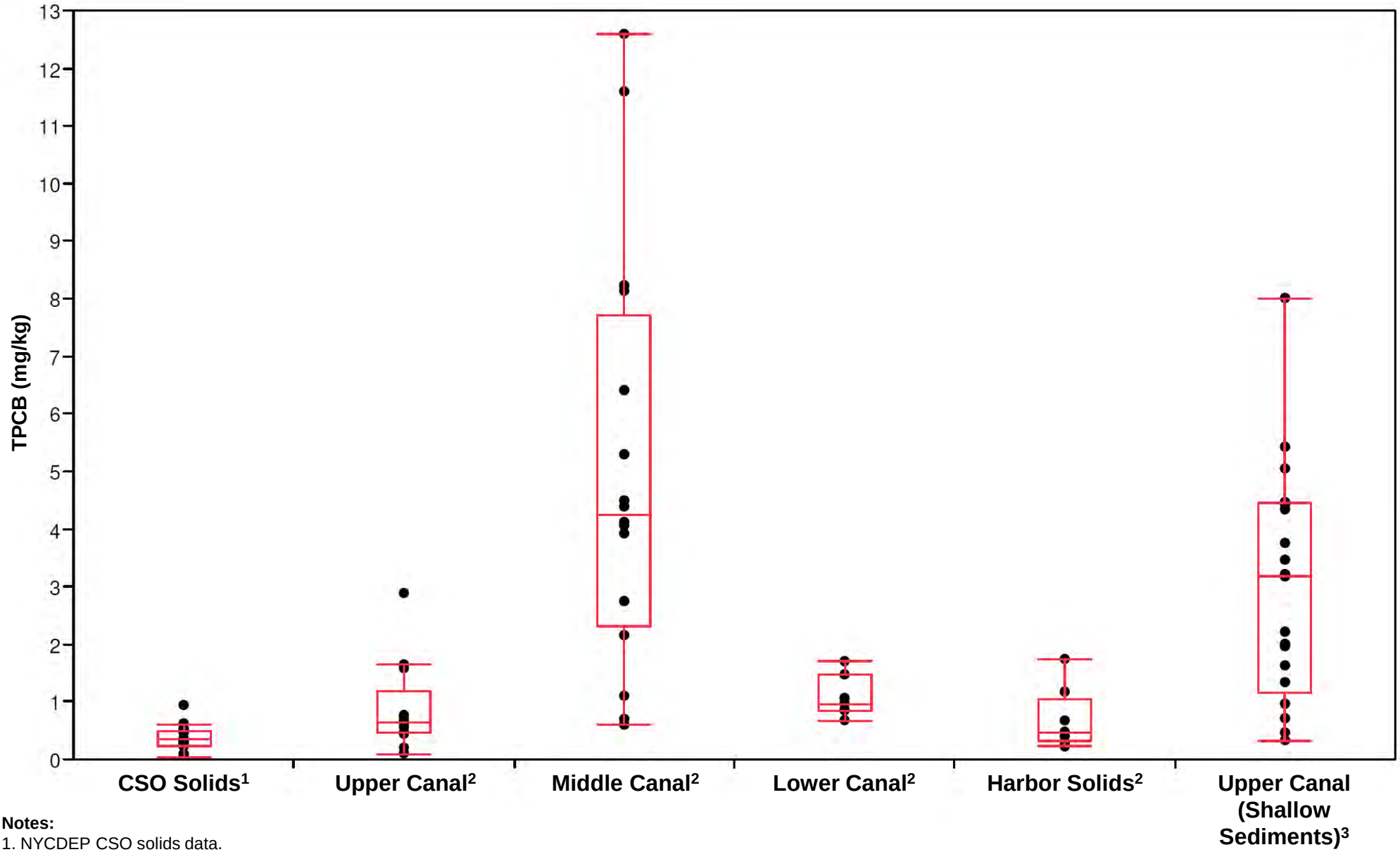
April 2013





Note: TPCB concentrations were calculated as the sum of all PCB congeners.

NYC Environmental Protection	Comparison of TPCB Concentrations in Surface Sediment and CSO Solids *Gowanus Canal Superfund Site*	Figure 2-7a April 2013



Notes:

1. NYCDEP CSO solids data.
2. Canal Sediment data are from depths of 0 to 0.5 feet. TPCB concentrations are the sum of PCB congeners. EPA and NYCDEP data.
3. Canal Shallow Sediment data are from depths of 0 to 2 feet. TPCB congener concentrations were calculated using paired PCB aroclors from EPA data set. TPCB congener data was approximately four times higher than TPCB aroclor data. EPA and NYCDEP data.

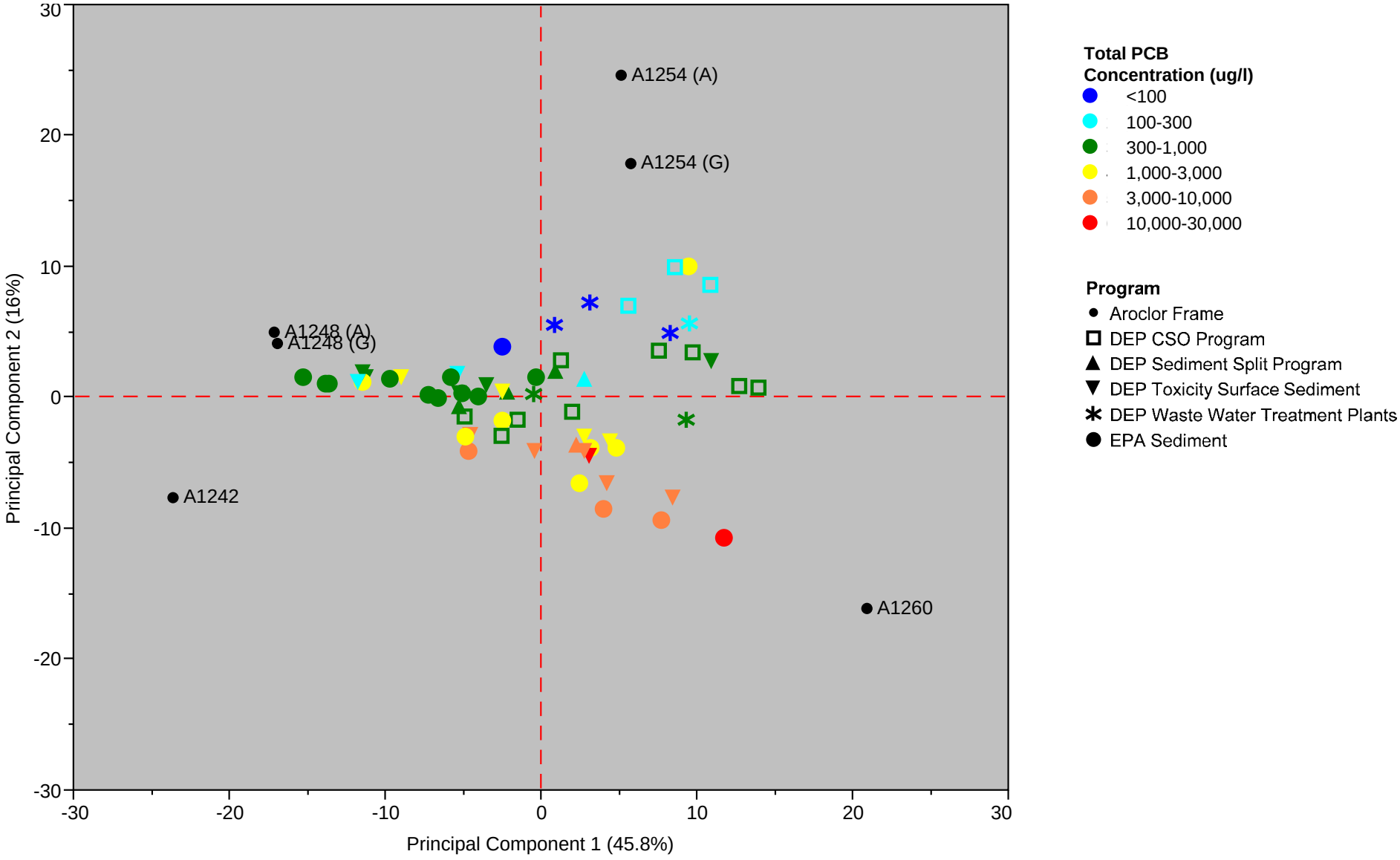
NYC Environmental Protection

Total PCB Concentrations in CSOs, Surface Sediments and Shallow Sediments

Gowanus Canal Superfund Site

Figure 2-7b

April 2013



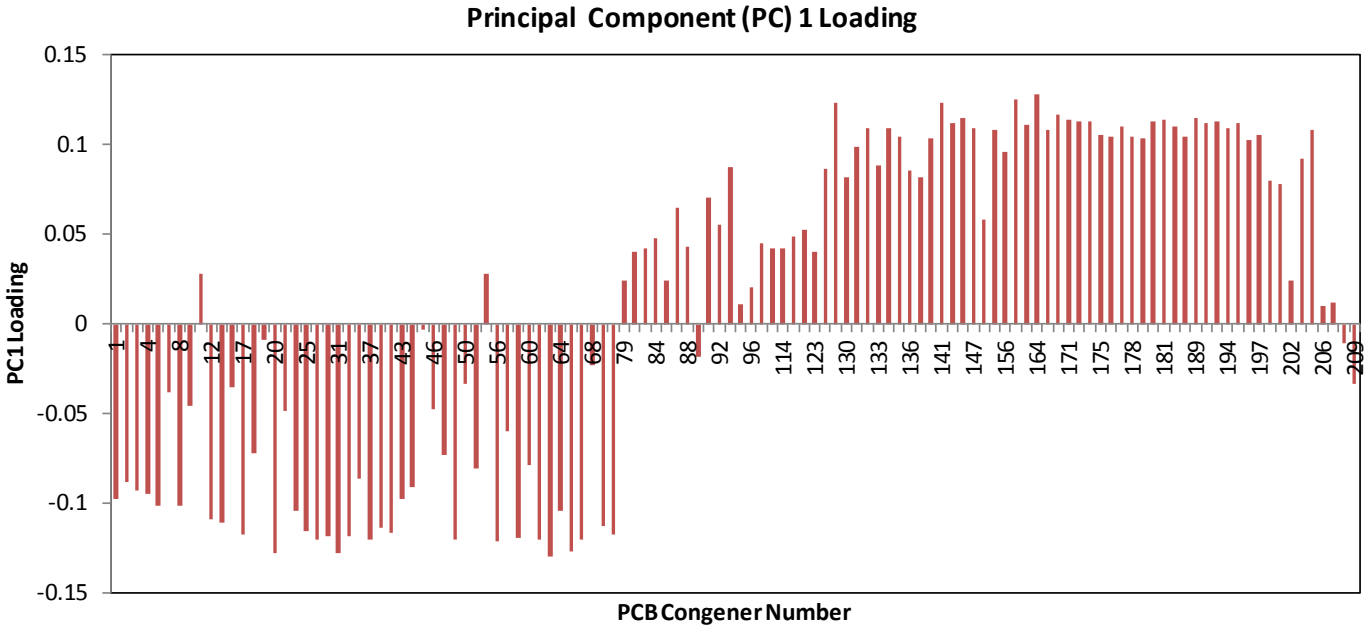
Notes:
(A) and (G) indicate aroclor lot number. Lot A is from AccuStandard (New Haven, CT, USA). Lot G is from Monsanto Corp., St. Louis, MO, USA

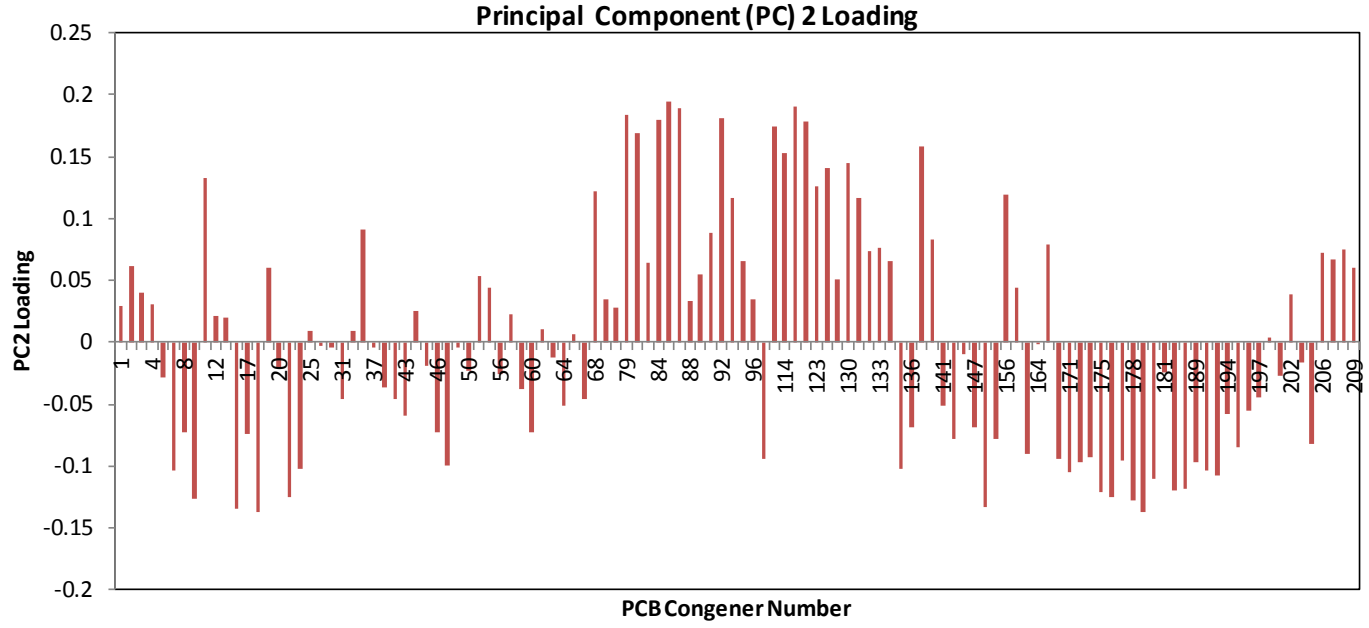
Principal Component Analysis of PCB Concentrations in CSOs and Surface Sediments

Gowanus Canal Superfund Site

Figure 2-8a

April 2013





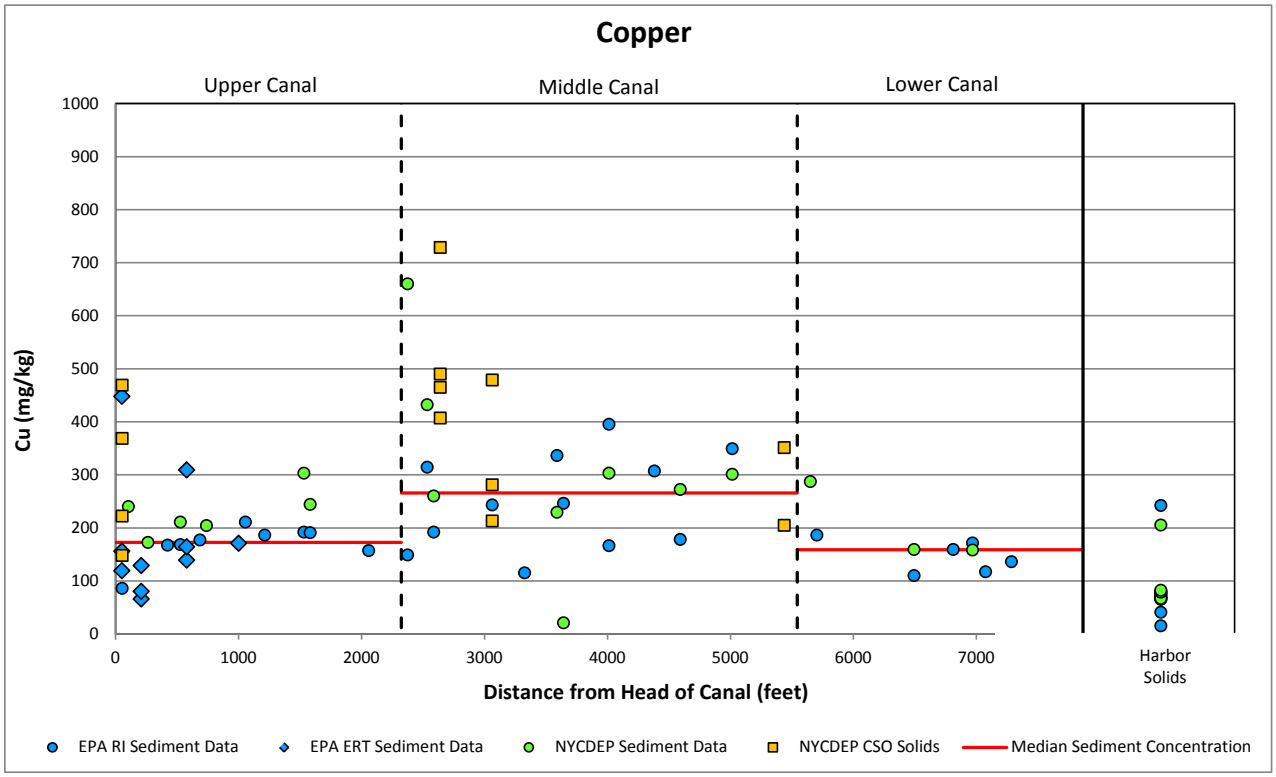
Environmental Protection

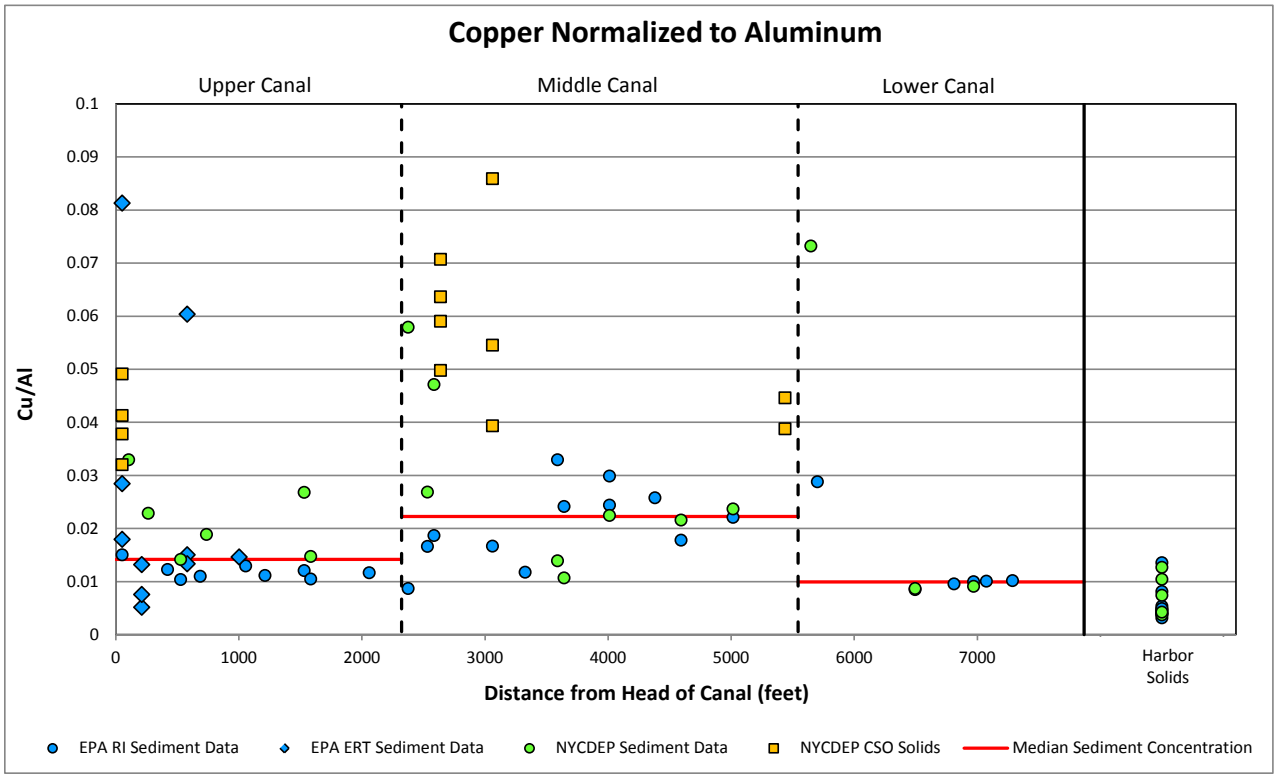
Principal Component Analysis
PCB Congeners

Gowanus Canal Superfund Site

Figure 2-8b

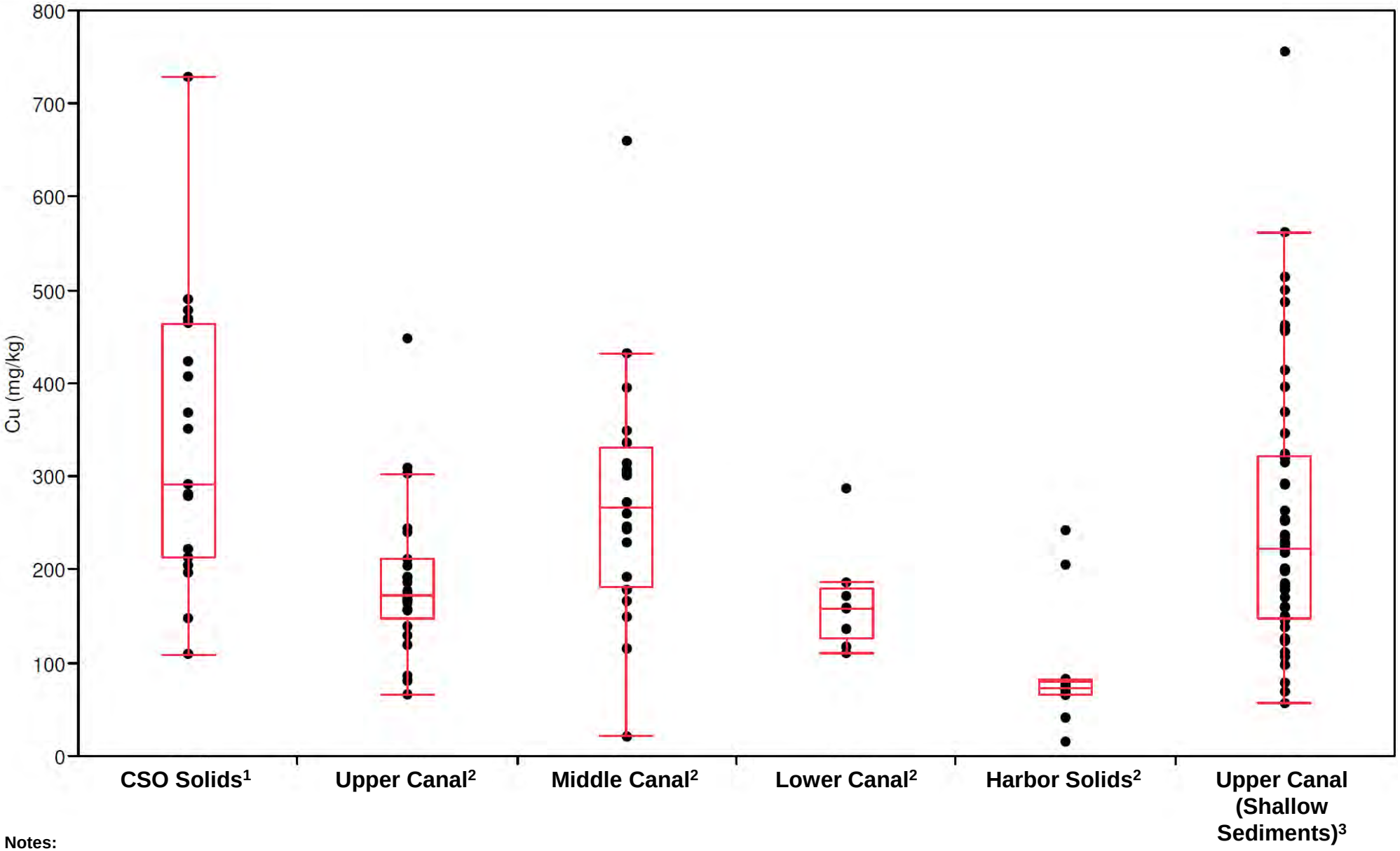
April 2013





Note: EPA RI Sample 308A is an outlier and is not included in the plots above.

NYC Environmental Protection	Comparison of Copper Concentrations in Surface Sediment and CSO Solids *Gowanus Canal Superfund Site*	Figure 2-9a April 2013



Notes:
1. NYCDEP CSO Solids data.
2. Canal Sediment data are from depths of 0 to 0.5 feet. EPA, ERT, and NYCDEP data.
3. Canal Shallow Sediment data are from depths within the of 0 to 2 feet horizon (excludes 0-0.5 feet data from Note 1). EPA, ERT, and NYCDEP data.

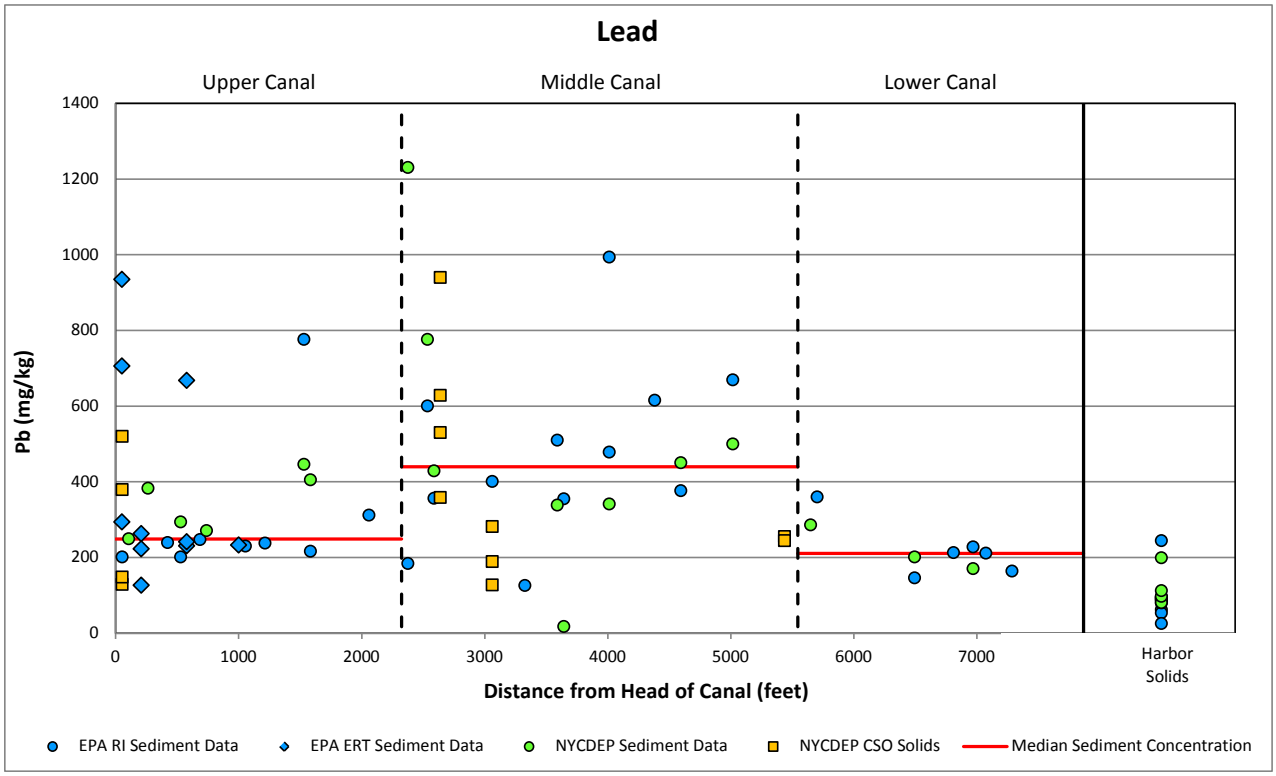
NYC Environmental Protection

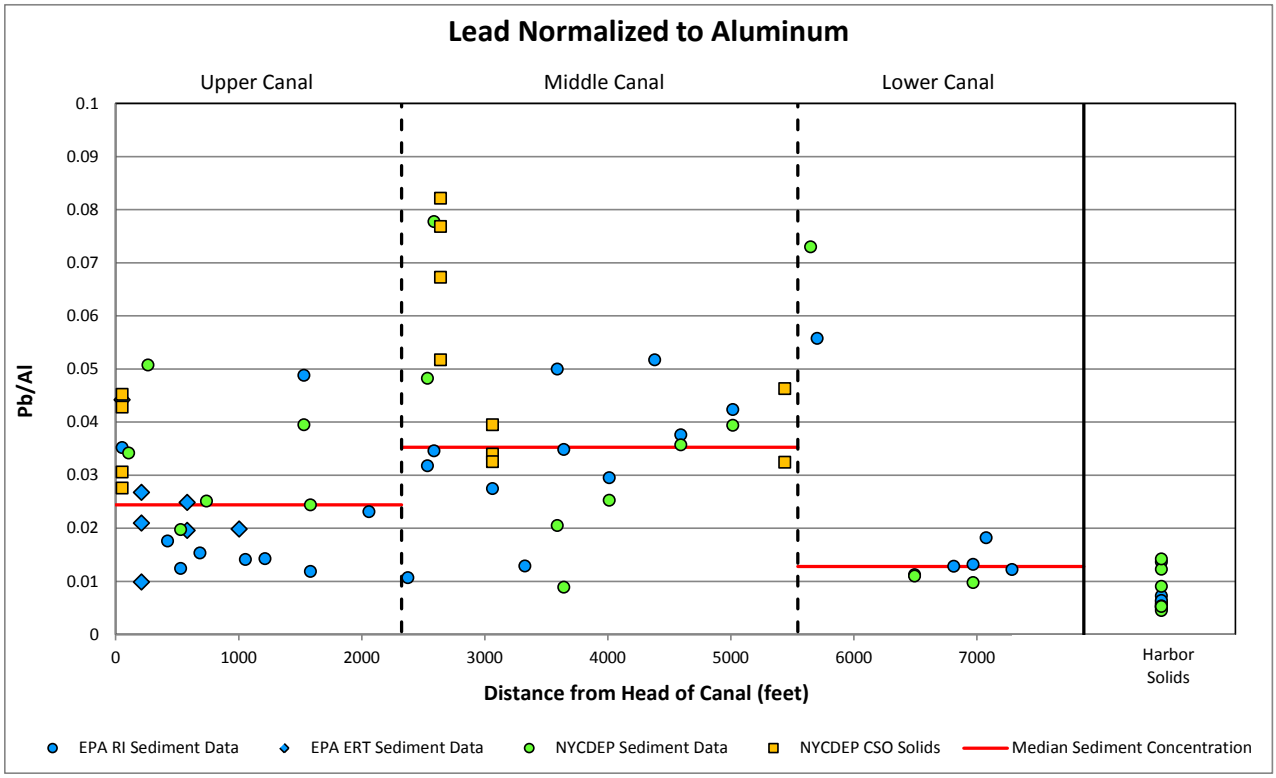
Copper Concentrations in CSOs, Surface Sediments and Shallow Sediments

Gowanus Canal Superfund Site

Figure 2-9b

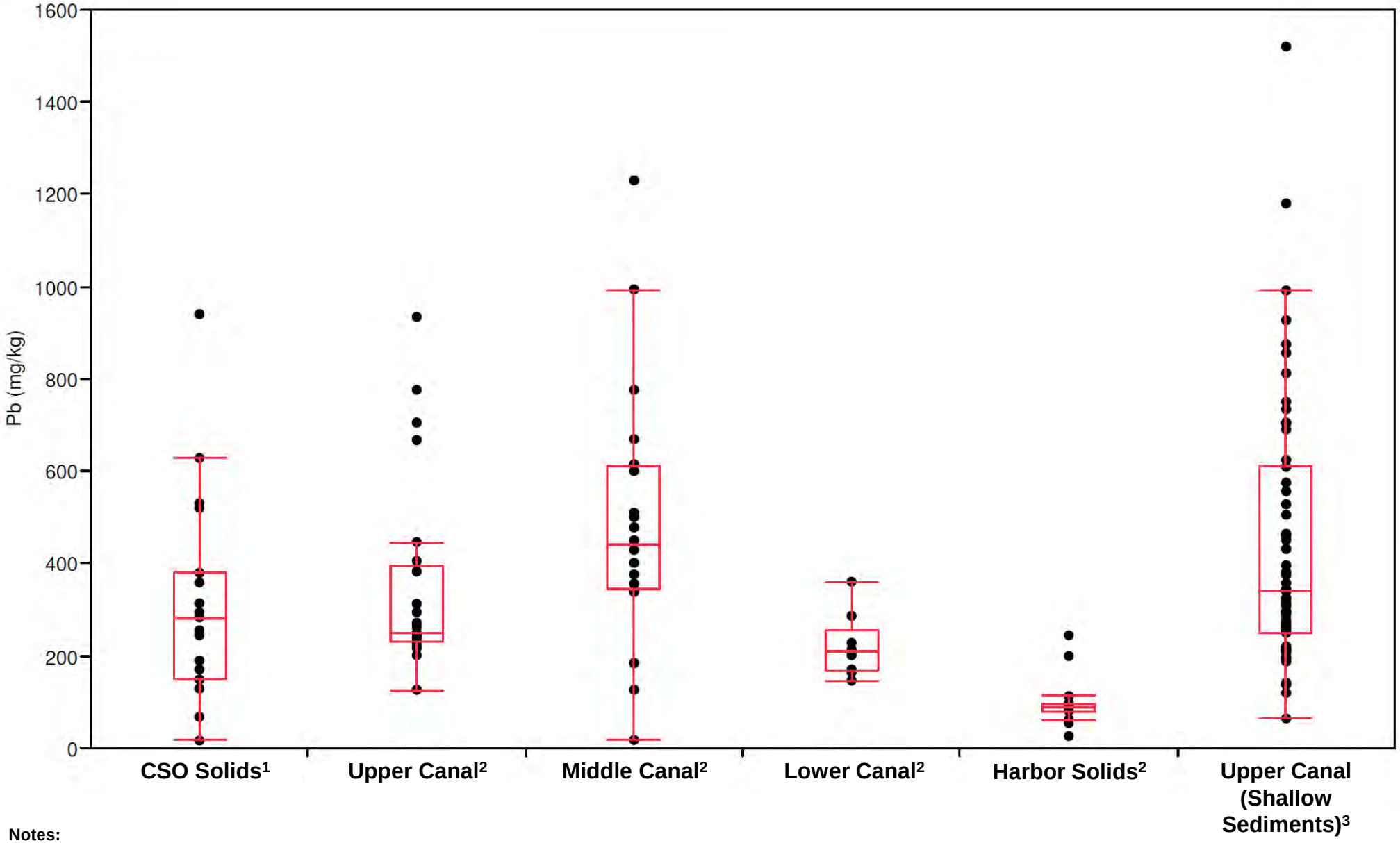
April 2013





Note: EPA RI Sample 308A is an outlier and is not included in the plots above.

NYC Environmental Protection	Comparison of Lead Concentrations in Surface Sediment and CSO Solids *Gowanus Canal Superfund Site*	Figure 2-10a April 2013



Notes:
1. NYCDEP CSO Solids data.
2. Canal Sediment data are from depths of 0 to 0.5 feet. EPA, ERT, and NYCDEP data.
3. Canal Shallow Sediment data are from depths within the of 0 to 2 feet horizon (excludes 0-0.5 feet data from Note 1). EPA, ERT, and NYCDEP data.

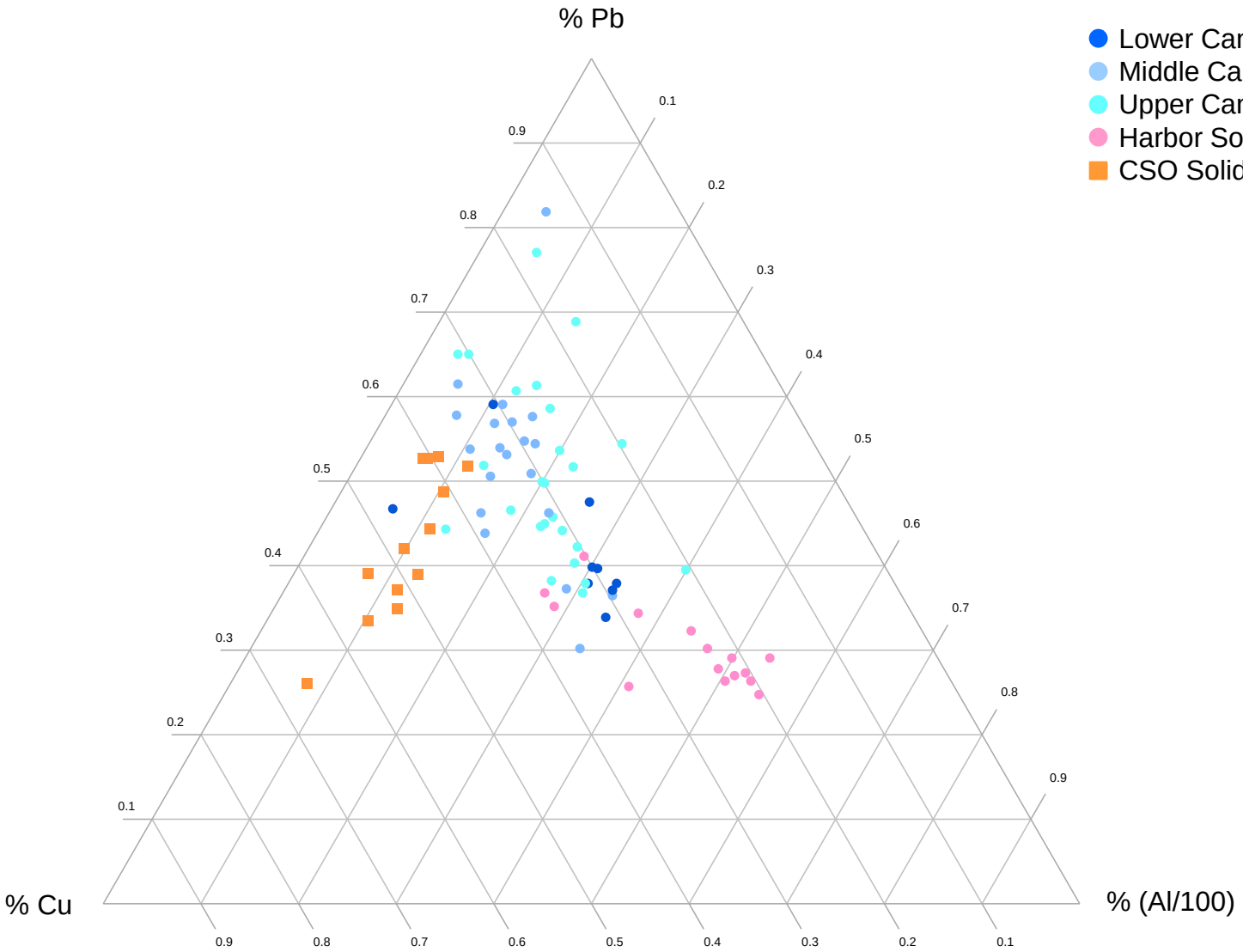
NYC Environmental Protection

Lead Concentrations in CSOs, Surface Sediments and Shallow Sediments

Gowanus Canal Superfund Site

Figure 2-10b

April 2013



Notes:
1. Canal Sediment data are from depths of 0 to 0.5 feet. EPA, ERT, and NYCDEP data.
2. NYCDEP CSO Solids data.

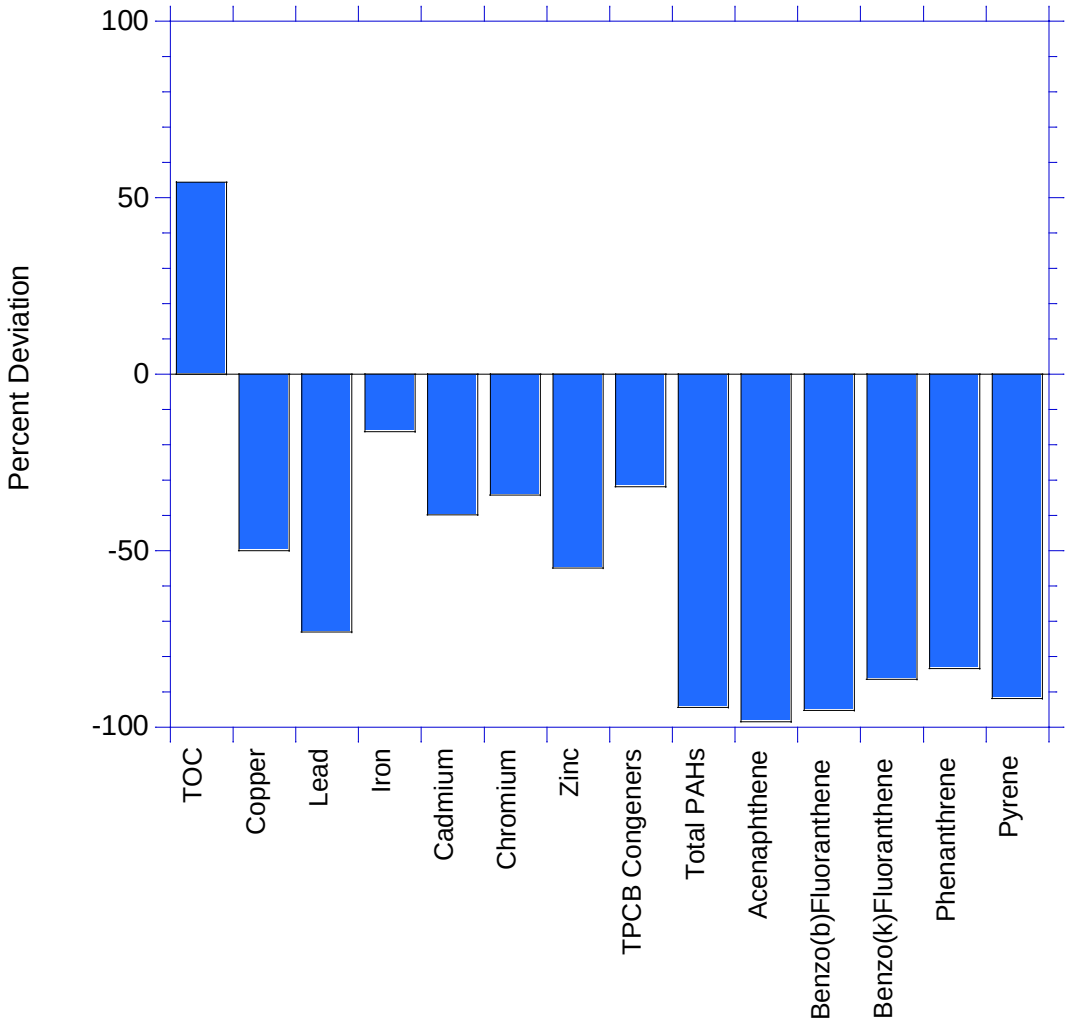
Environmental Protection

Copper, Aluminum, and Lead Comparison in CSOs and Surface Sediments

Gowanus Canal Superfund Site

Figure 2-11

April 2013



Excess Loads

Insufficient Loads

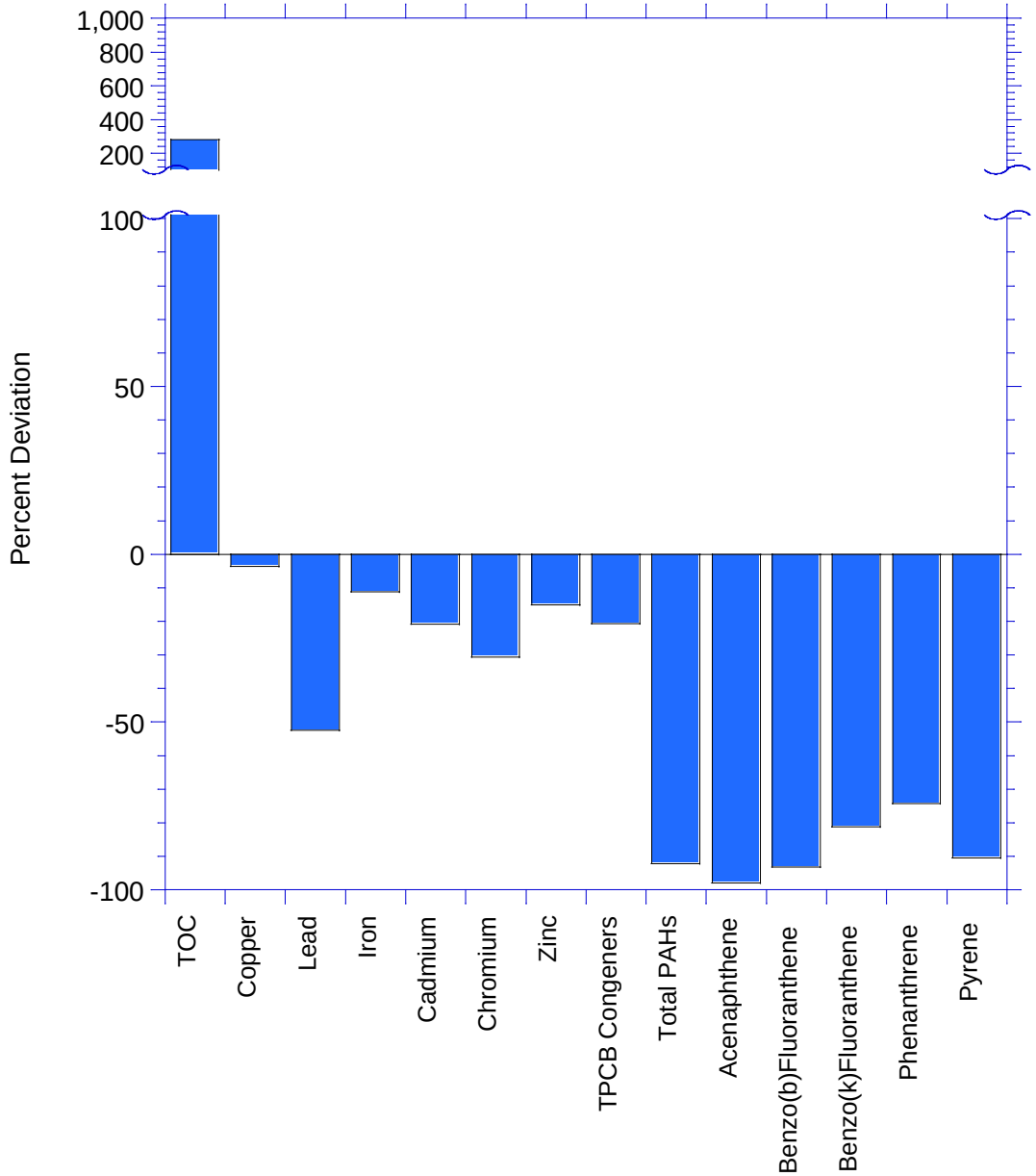
Environmental Protection

Chemical Mass Balance Model Performance for 10% CSO Solids Contribution Hypothetical Scenario

Gowanus Canal Superfund Site

Figure 3-1

April 2013



Excess Loads

Insufficient Loads

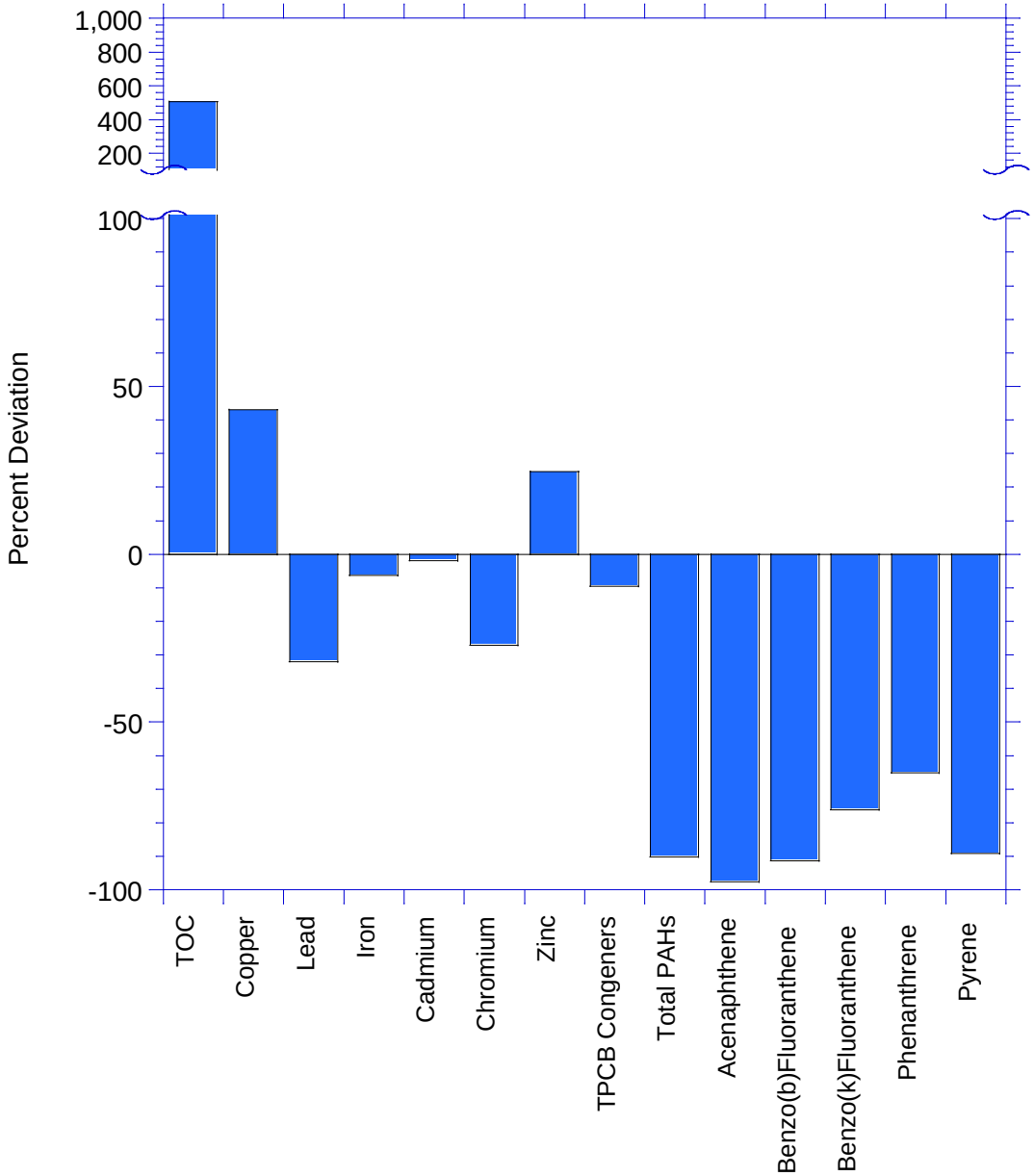
Environmental Protection

Chemical Mass Balance Model Performance for 30% CSO Solids Contribution Hypothetical Scenario

Gowanus Canal Superfund Site

Figure 3-2

April 2013



Excess Loads

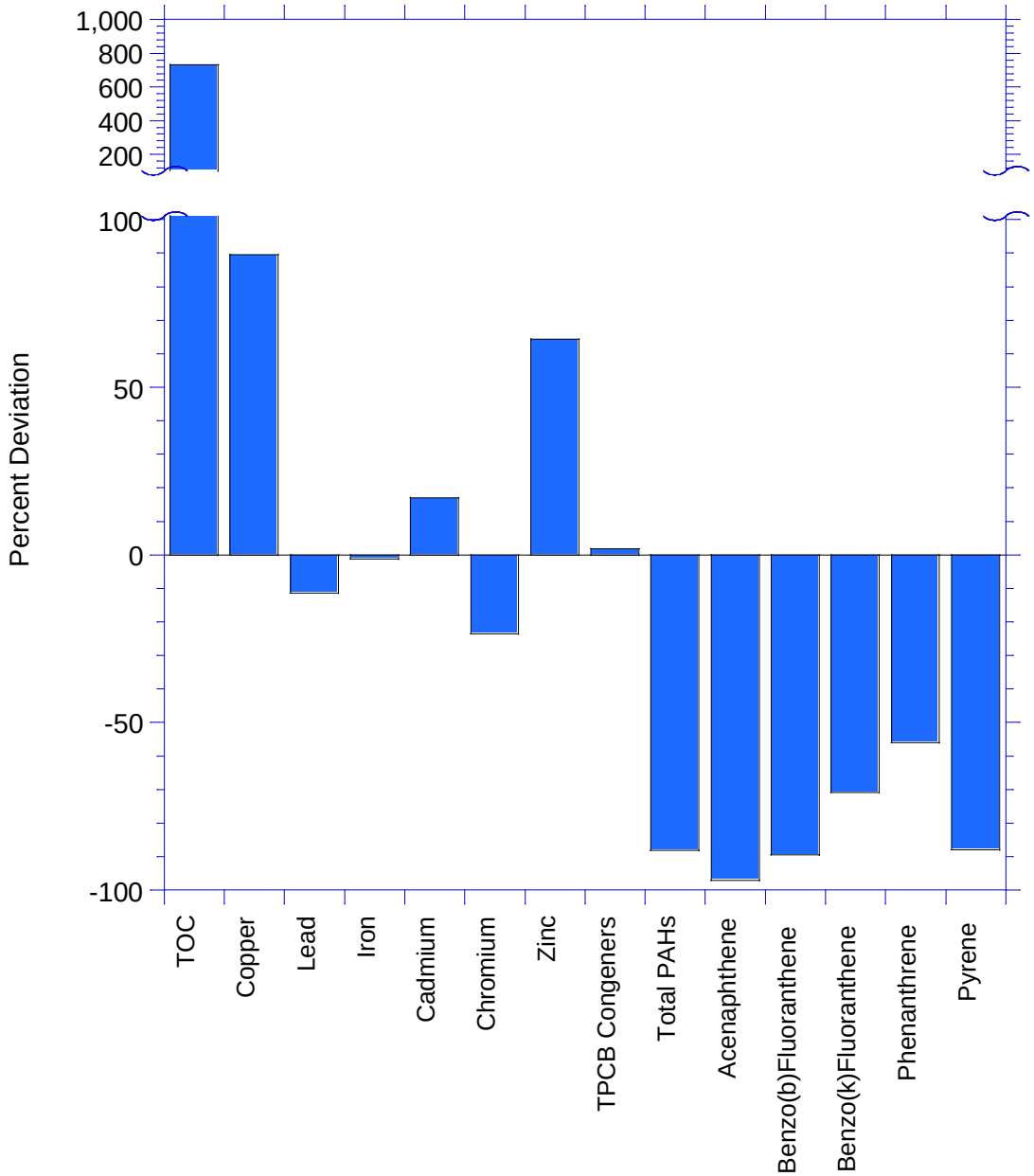
Insufficient Loads

Chemical Mass Balance Model Performance for 50% CSO Solids Contribution Hypothetical Scenario

Gowanus Canal Superfund Site

Figure 3-3

April 2013



Excess Loads

Insufficient Loads

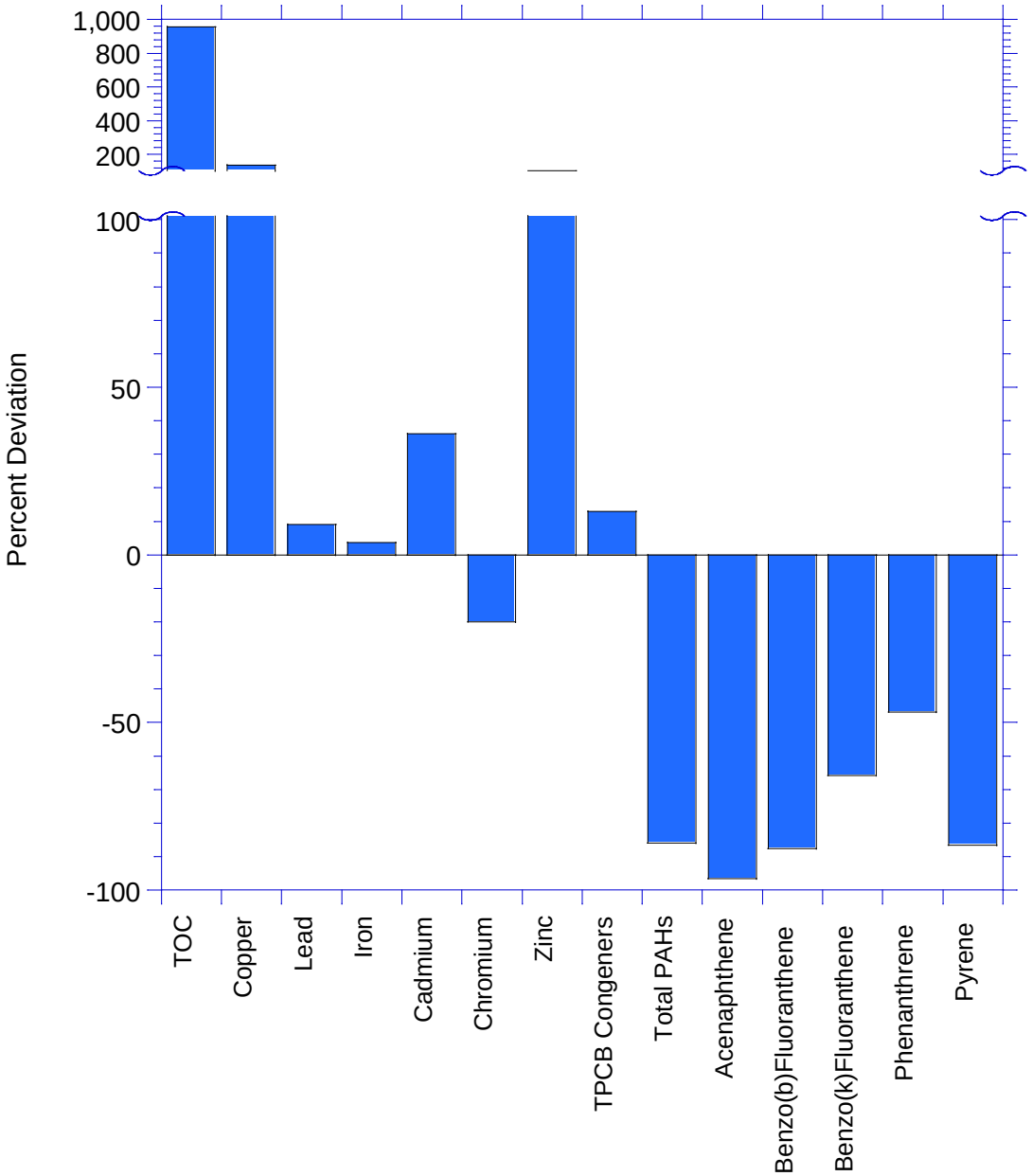
Environmental Protection

Chemical Mass Balance Model Performance for 70% CSO Solids Contribution
Hypothetical Scenario

Gowanus Canal Superfund Site

Figure 3-4

April 2013



Excess Loads

Insufficient Loads

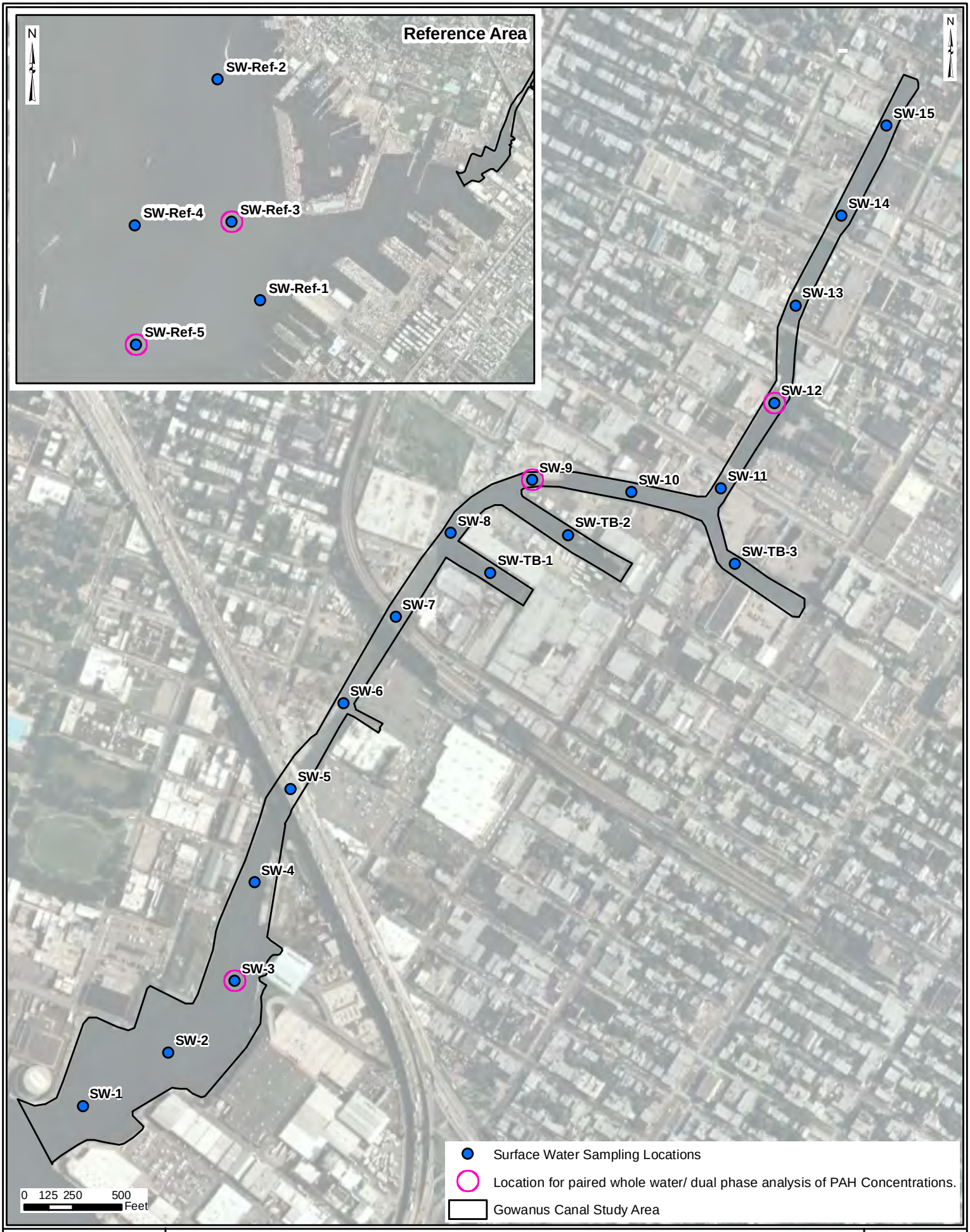
Environmental Protection

Chemical Mass Balance Model Performance for 90% CSO Solids Contribution Hypothetical Scenario

Gowanus Canal Superfund Site

Figure 3-5

April 2013

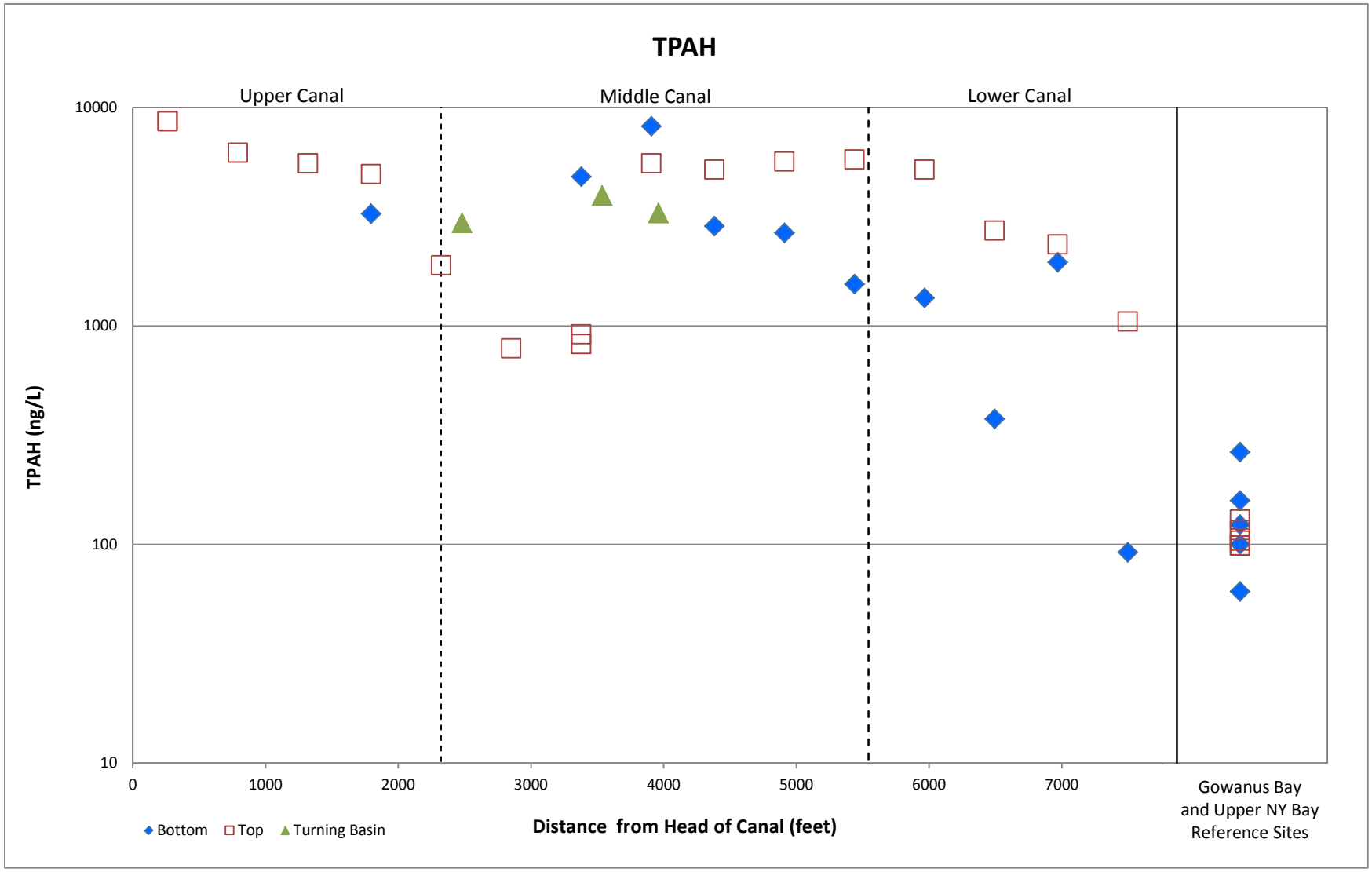


Sampling Locations - Surface Water

Gowanus Canal Superfund Site

Figure 3-6

April 2013



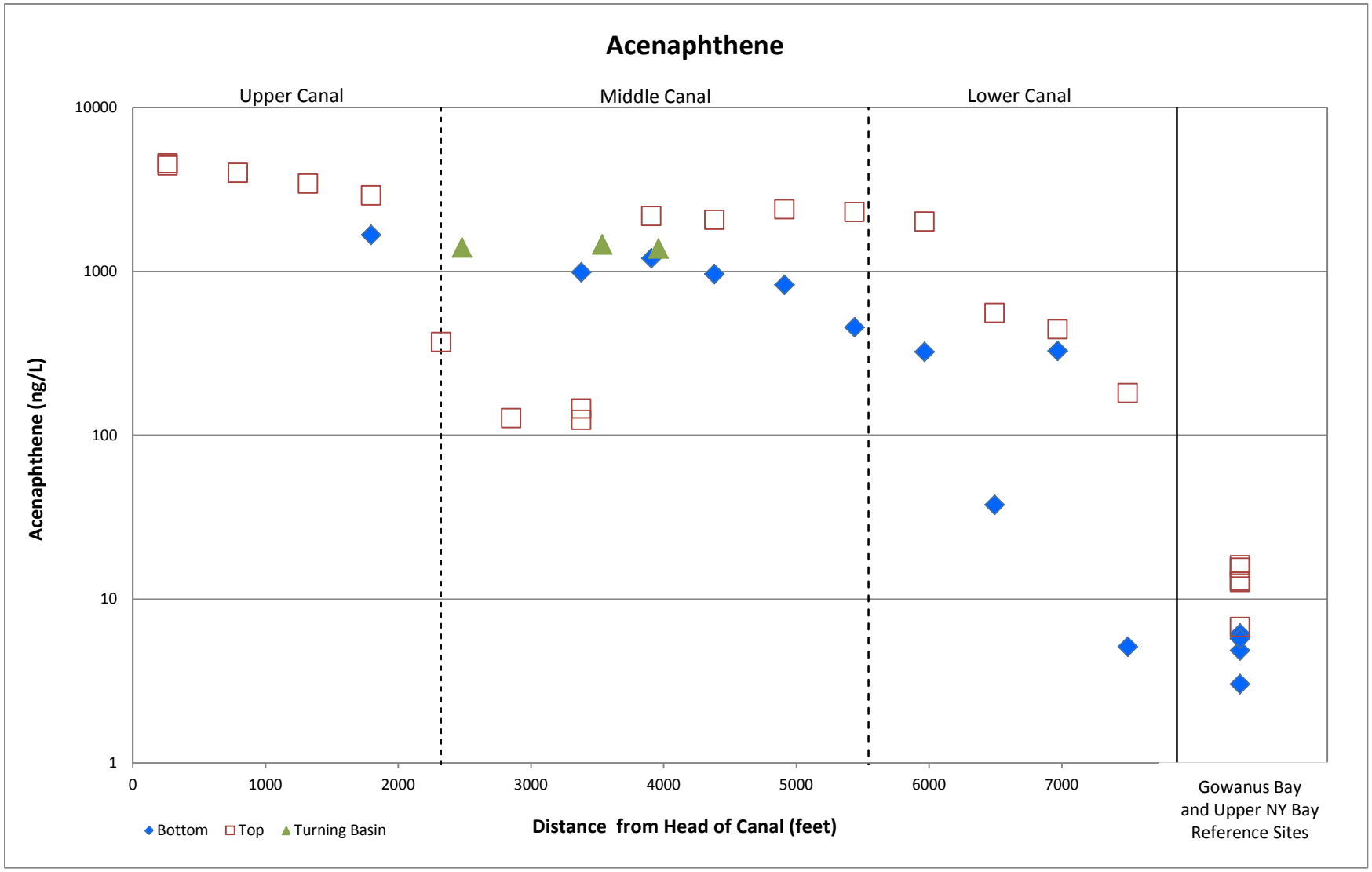
Environmental Protection

Water Column Whole Water Concentrations – TPAH

Gowanus Canal Superfund Site

Figure 3-7

April 2013



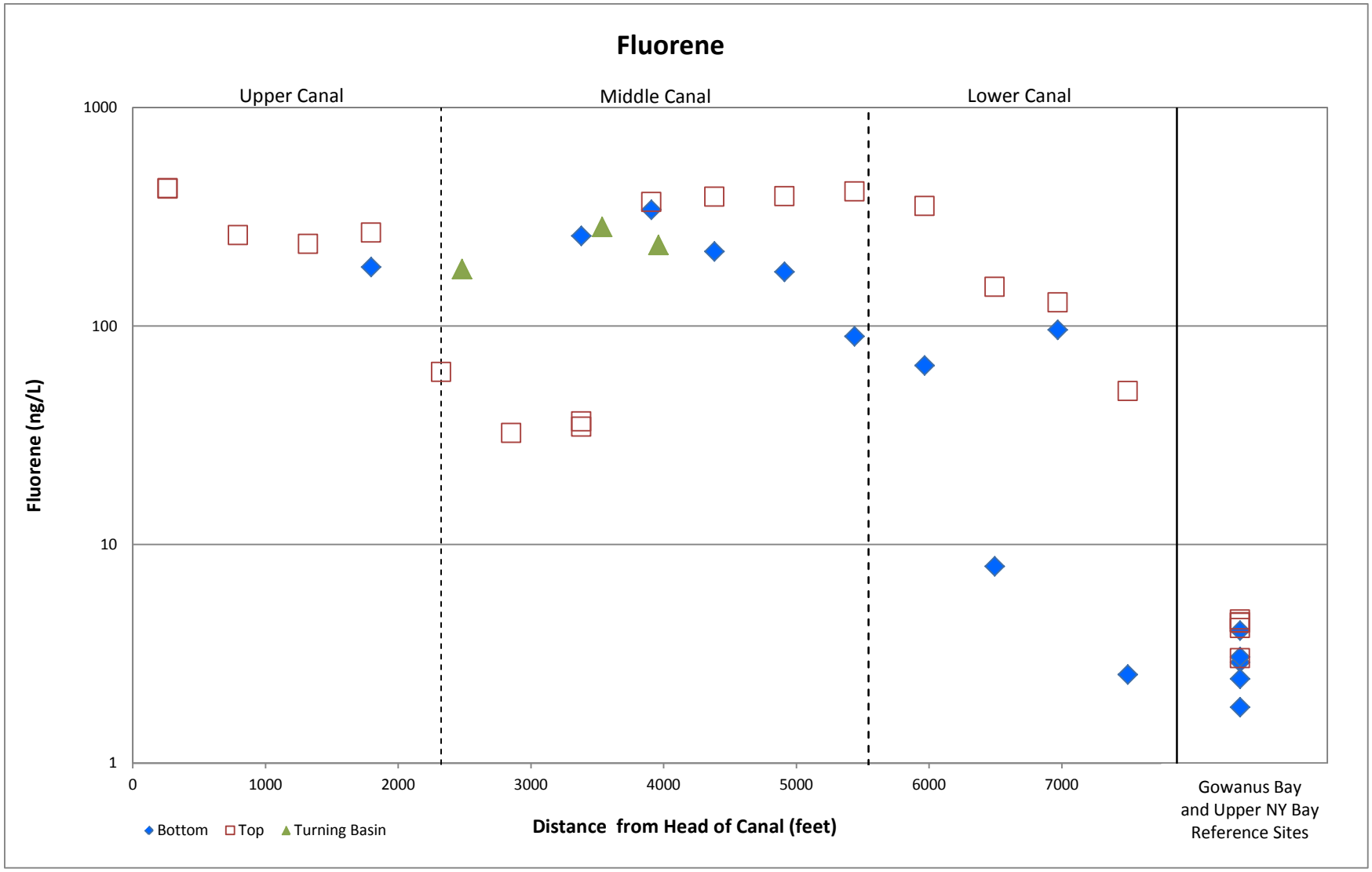
Environmental Protection

Water Column Whole Water Concentrations – Acenaphthene

Gowanus Canal Superfund Site

Figure 3-8

April 2013



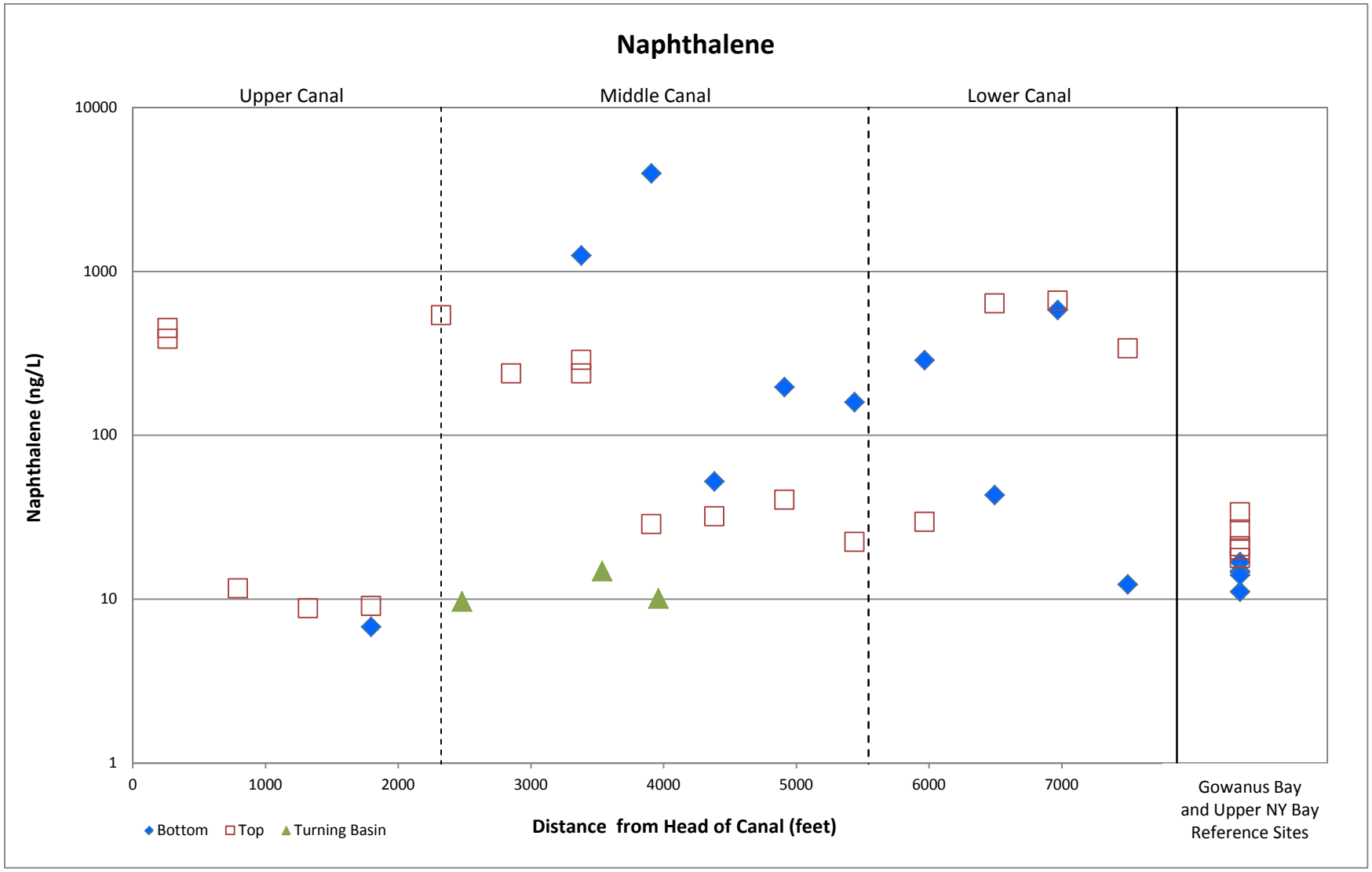
Environmental Protection

Water Column Whole Water Concentrations – Fluorene

Gowanus Canal Superfund Site

Figure 3-9

April 2013



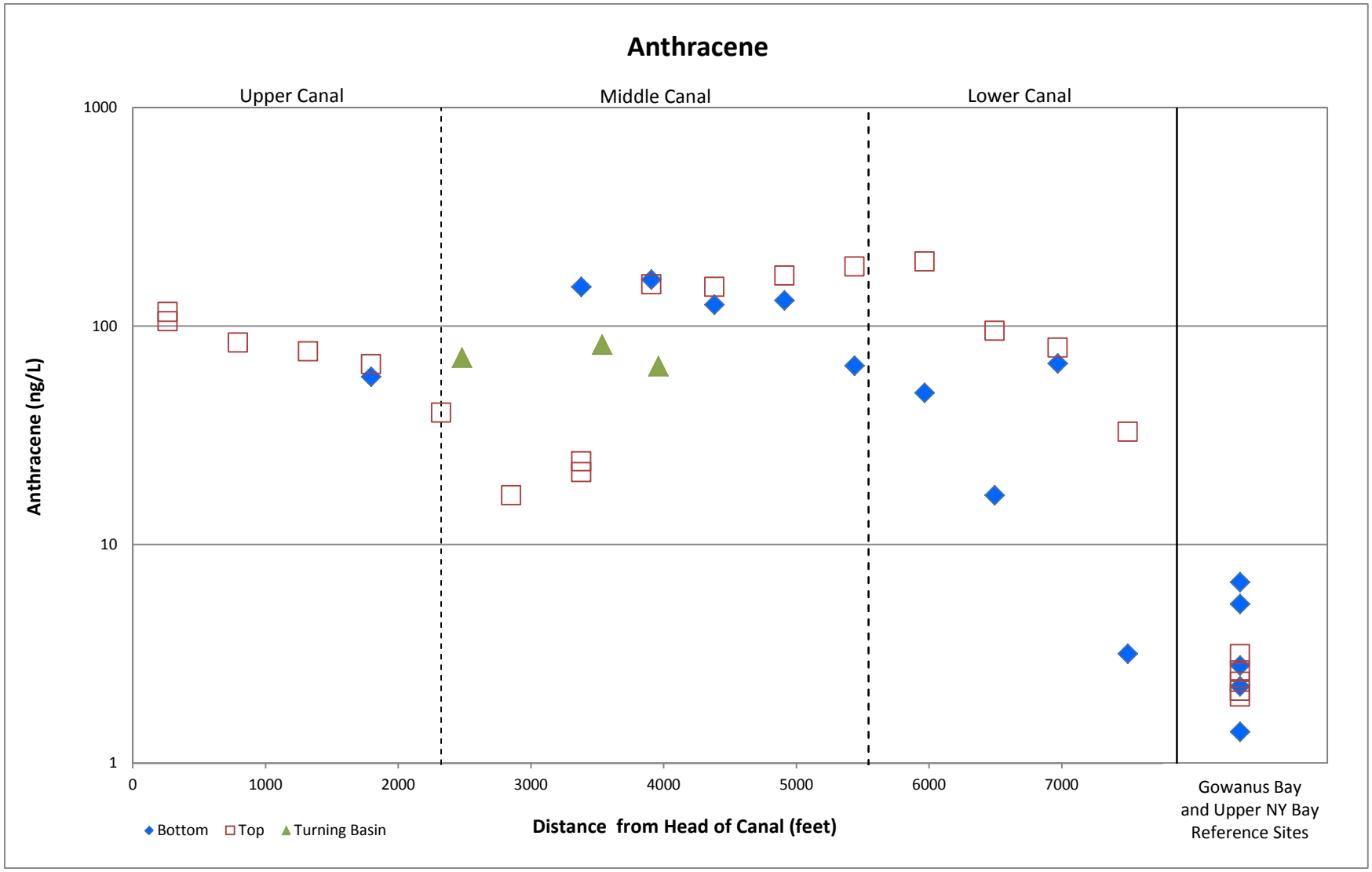
Environmental Protection

Water Column Whole Water Concentrations – Naphthalene

Gowanus Canal Superfund Site

Figure 3-10

April 2013



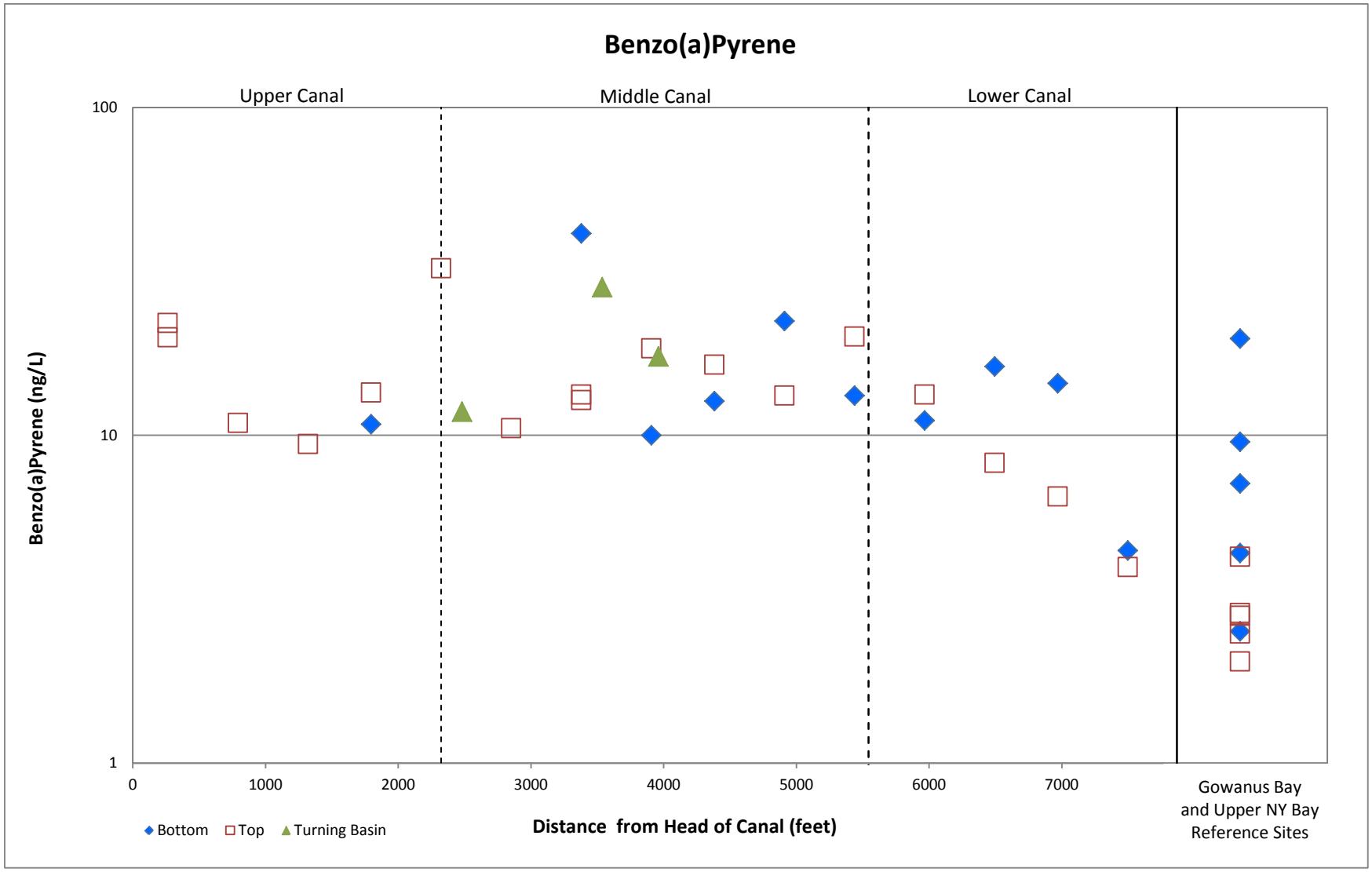
Environmental Protection

Water Column Whole Water Concentrations – Anthracene

Gowanus Canal Superfund Site

Figure 3-11

April 2013



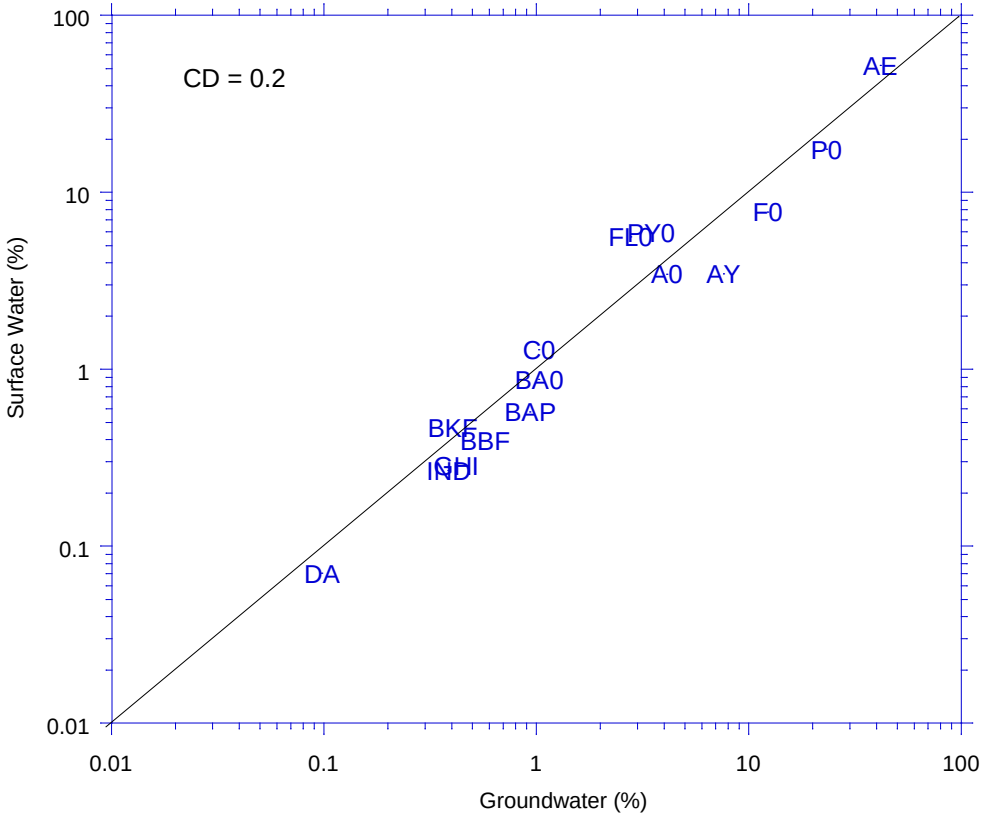
Environmental Protection

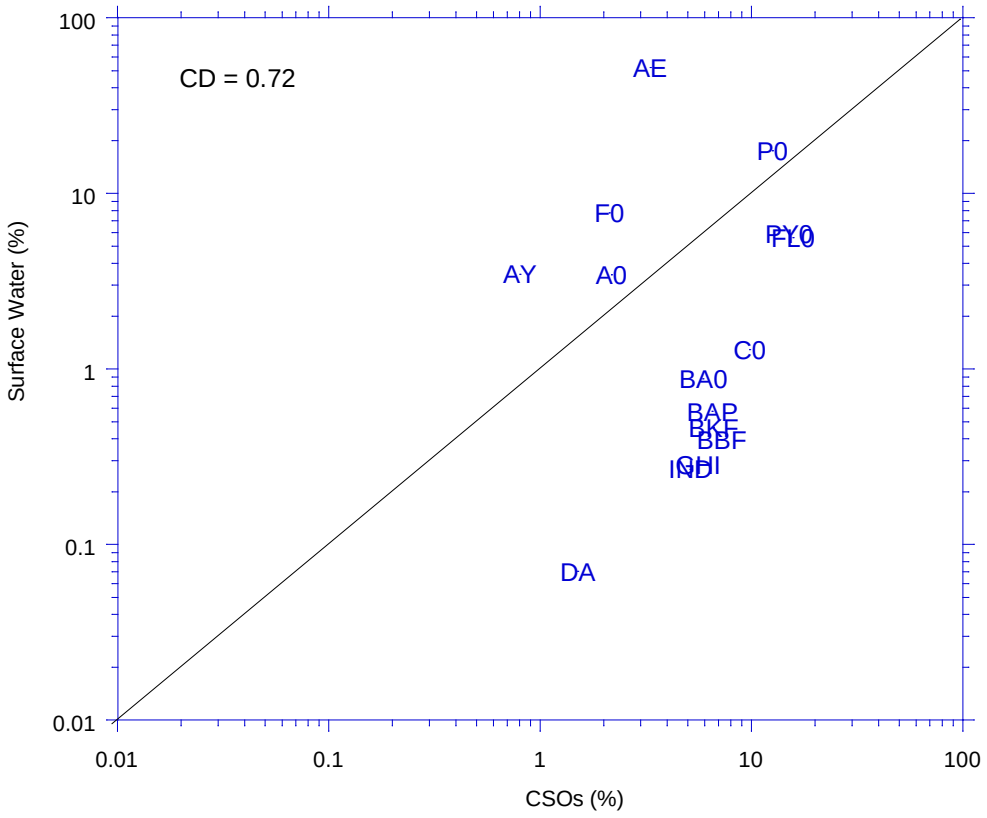
Water Column Whole Water Concentrations – Benzo(a)Pyrene

Gowanus Canal Superfund Site

Figure 3-12

April 2013





Note:

AE - Acenaphthene
AY - Acenaphylene
A0 - Anthracene
BA0 - Benzo(a)Anthracene
BAP - Benzo(a)Pyrene
P0 – Phenanthrene
PY0 – Pyrene
C0 - Chrysene
DA - Dibenz(a,h)Anthracene
FL0 - Fluoranthene
F0 - Fluorene
IND - Indeno(1,2,3-cd)Pyrene
BBF - Benzo(b)Fluoranthene
GHI - Benzo(g,h,i)Perylene
BKF - Benzo(k)Fluoranthene

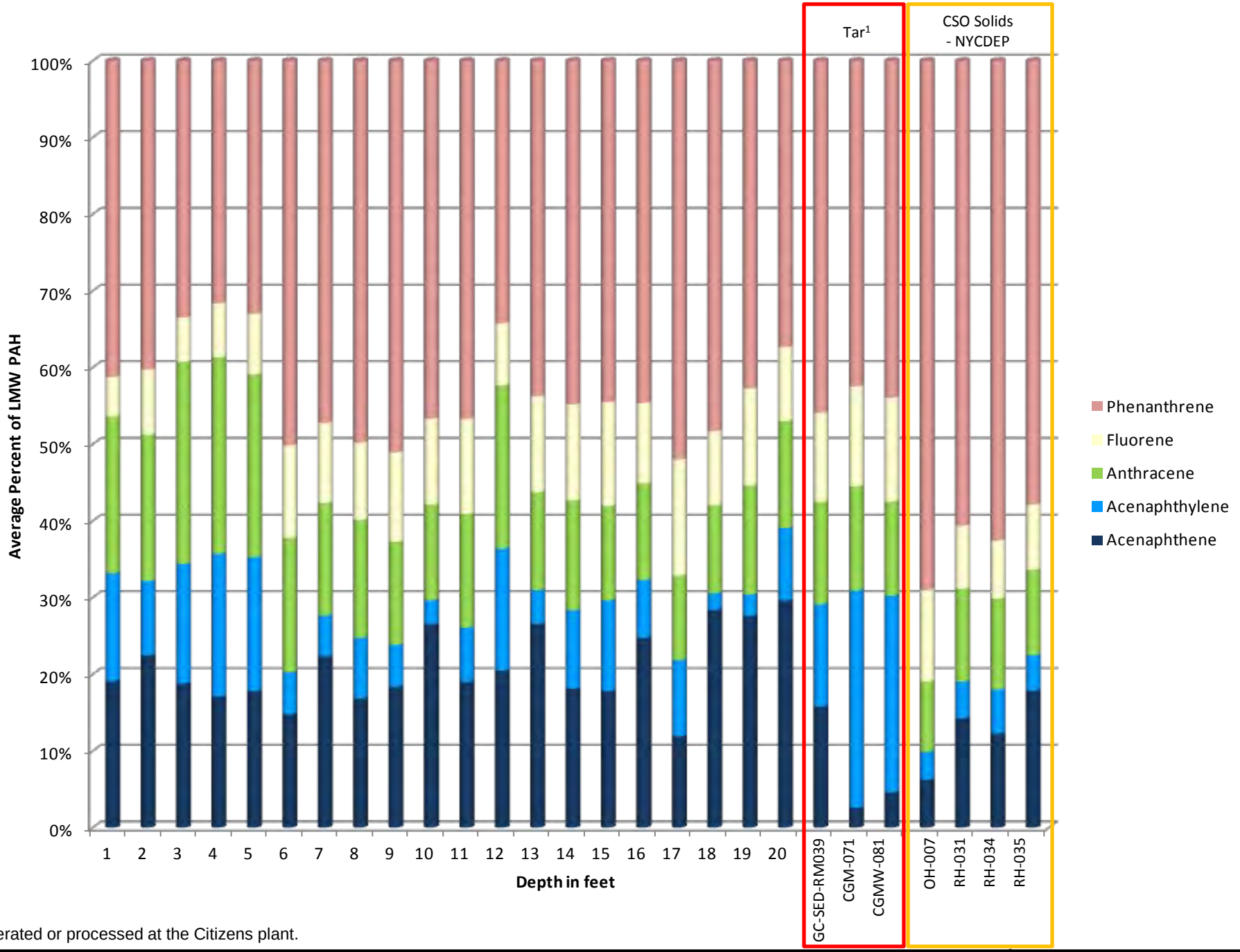
Environmental Protection

Comparison of Observed PAH Patterns in Surface Water, Groundwater, and CSOs

Gowanus Canal Superfund Site

Figure 3-13

April 2013



Notes:
1.Tars generated or processed at the Citizens plant.

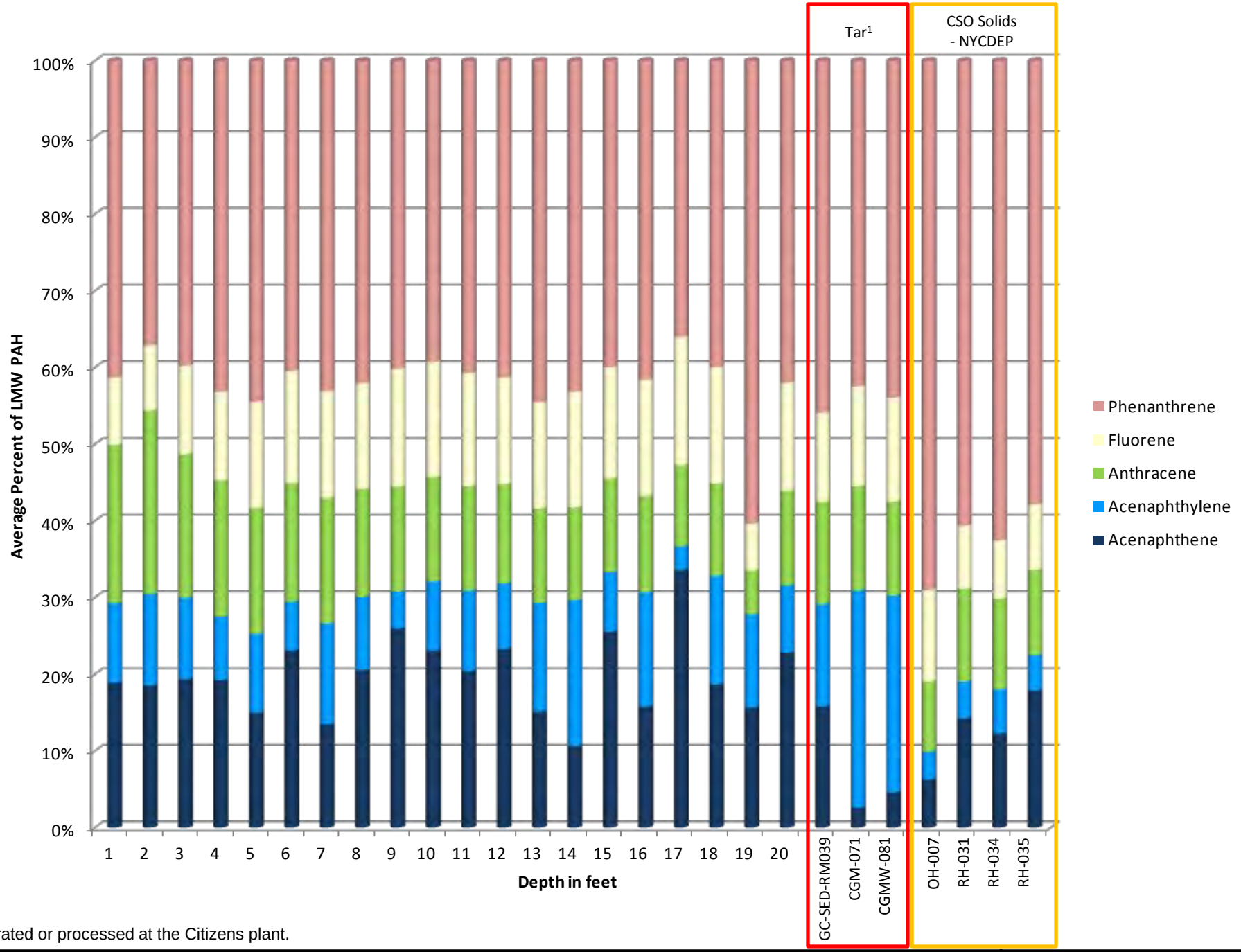
Environmental Protection

Percentage Proportions of LMW Compounds in Sediment, Lower Canal

Gowanus Canal Superfund Site

Figure 3-14

April 2013



Notes:
1.Tars generated or processed at the Citizens plant.

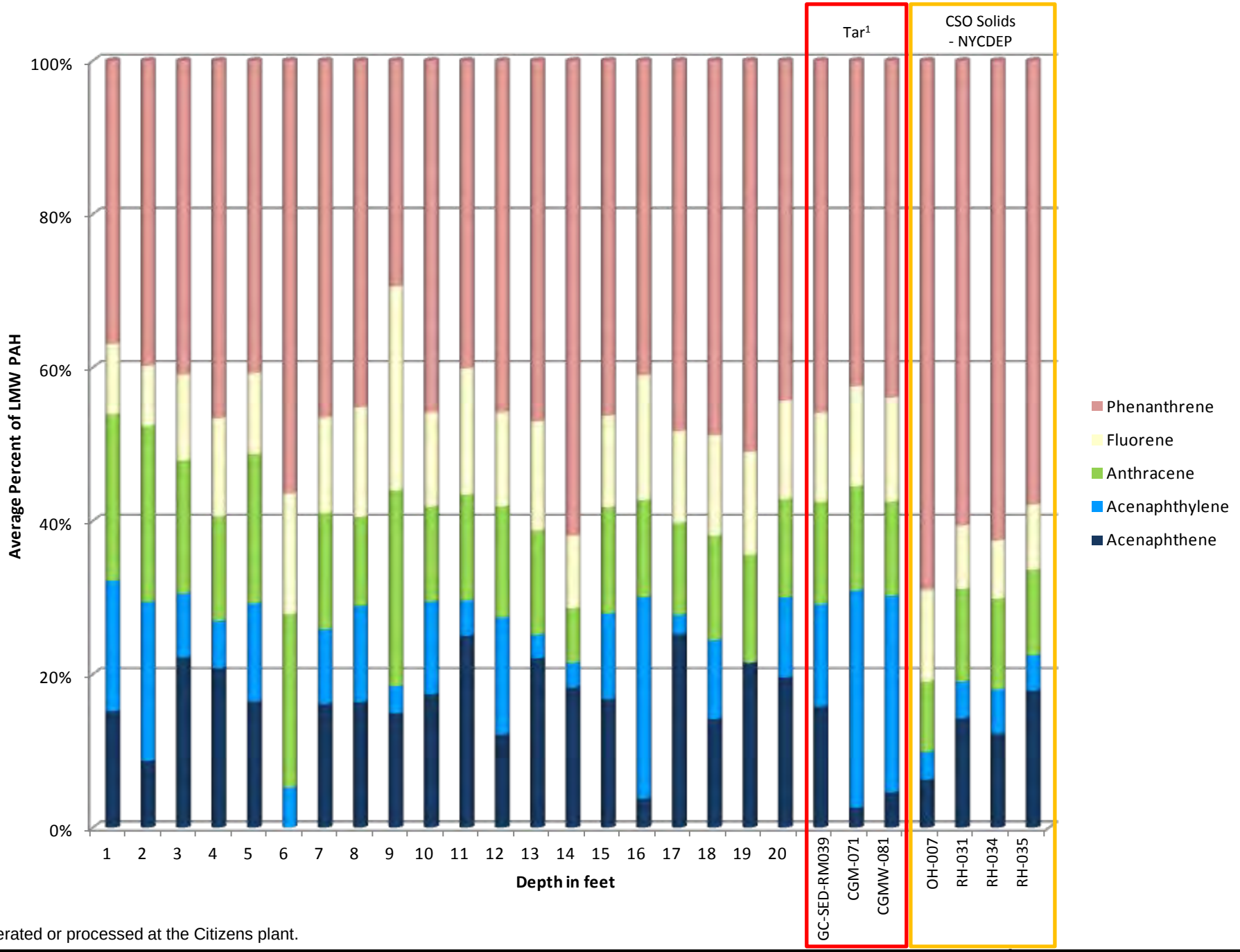
Environmental Protection

Percentage Proportions of LMW Compounds in Sediment, Middle Canal

Gowanus Canal Superfund Site

Figure 3-15

April 2013



Notes:
1.Tars generated or processed at the Citizens plant.

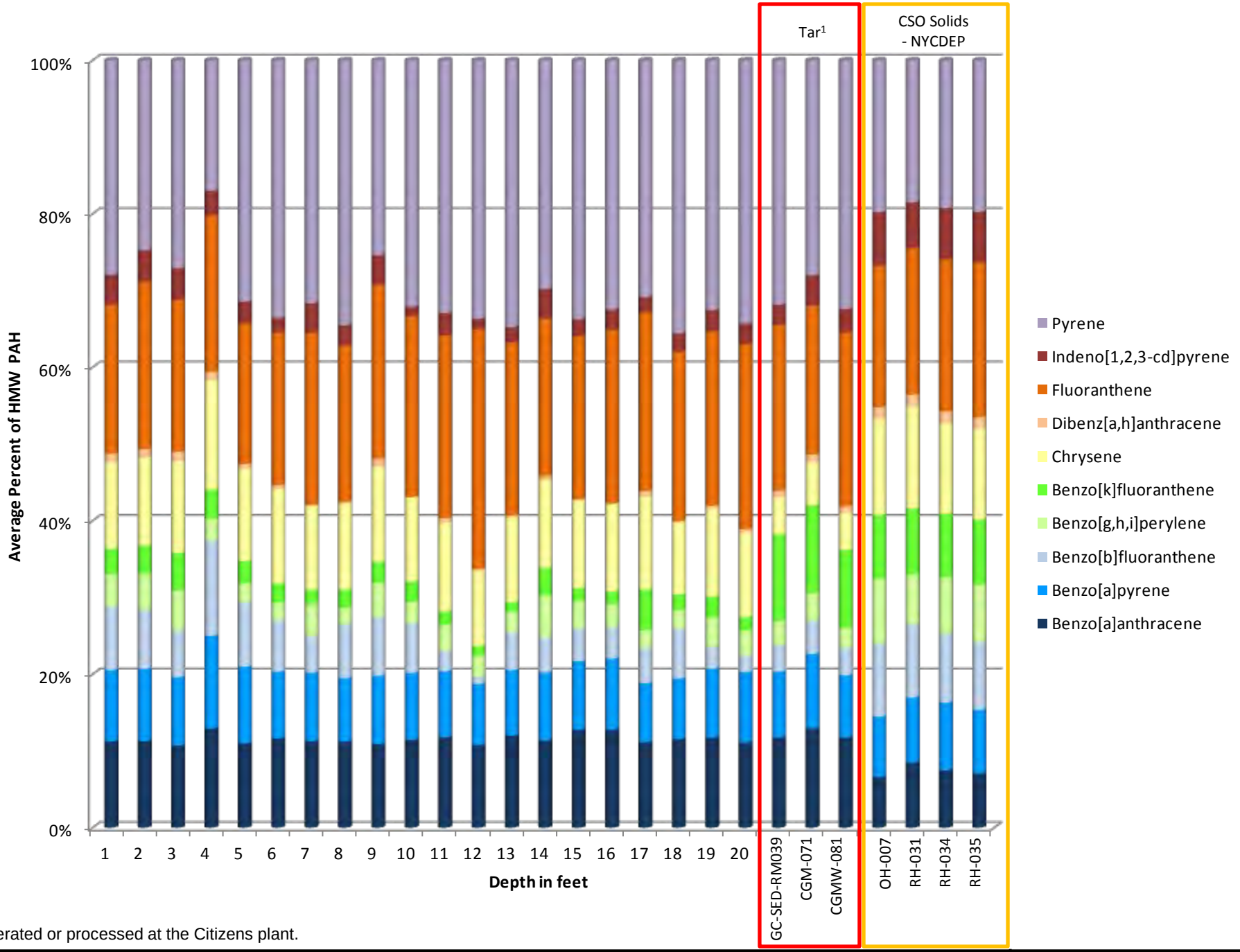
Environmental Protection

Percentage Proportions of LMW Compounds in Sediment, Upper Canal

Gowanus Canal Superfund Site

Figure 3-16

April 2013



Notes:
1.Tars generated or processed at the Citizens plant.

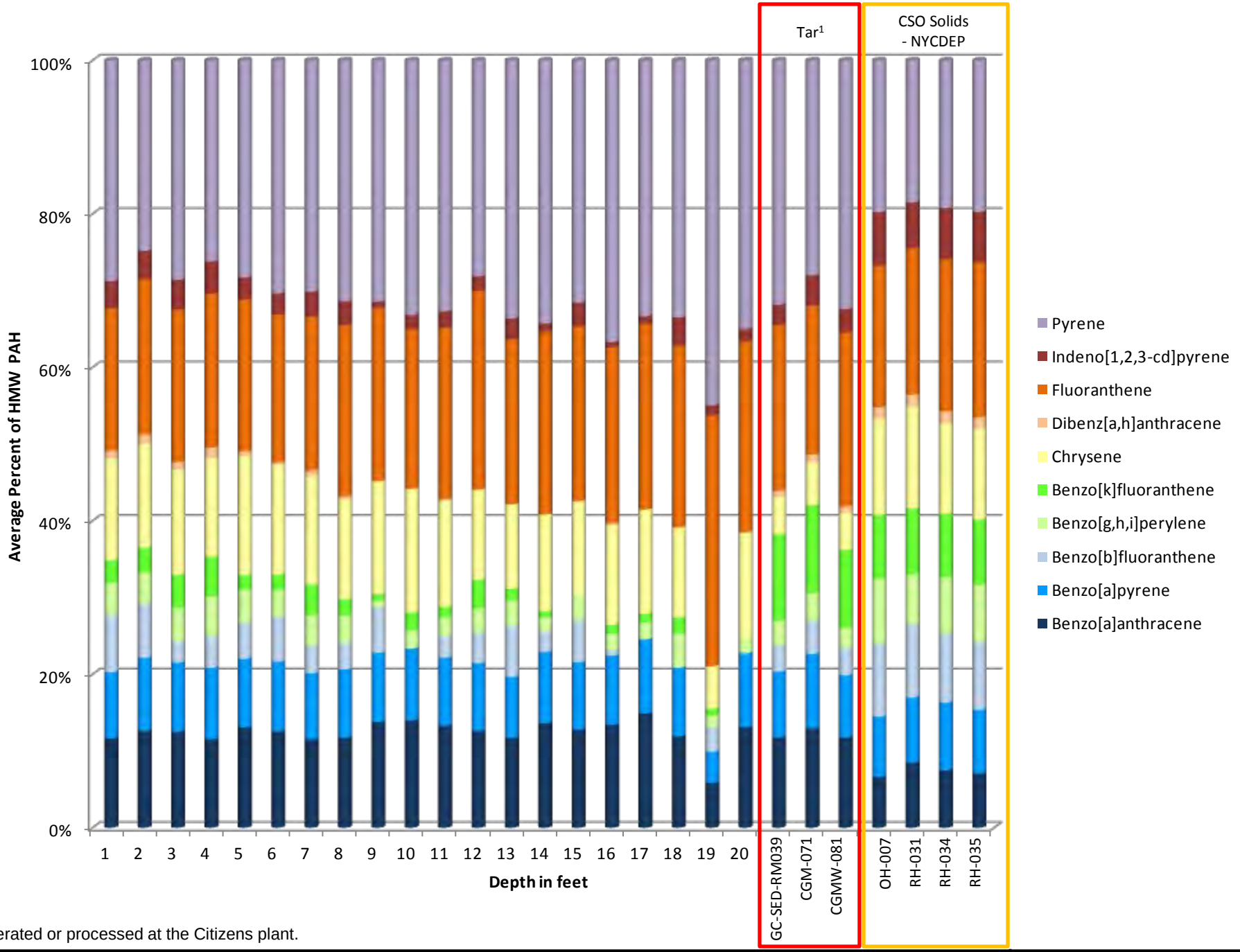
Environmental Protection

Percentage Proportions of HMW Compounds in Sediment, Lower Canal

Gowanus Canal Superfund Site

Figure 3-17

April 2013



Notes:
1.Tars generated or processed at the Citizens plant.

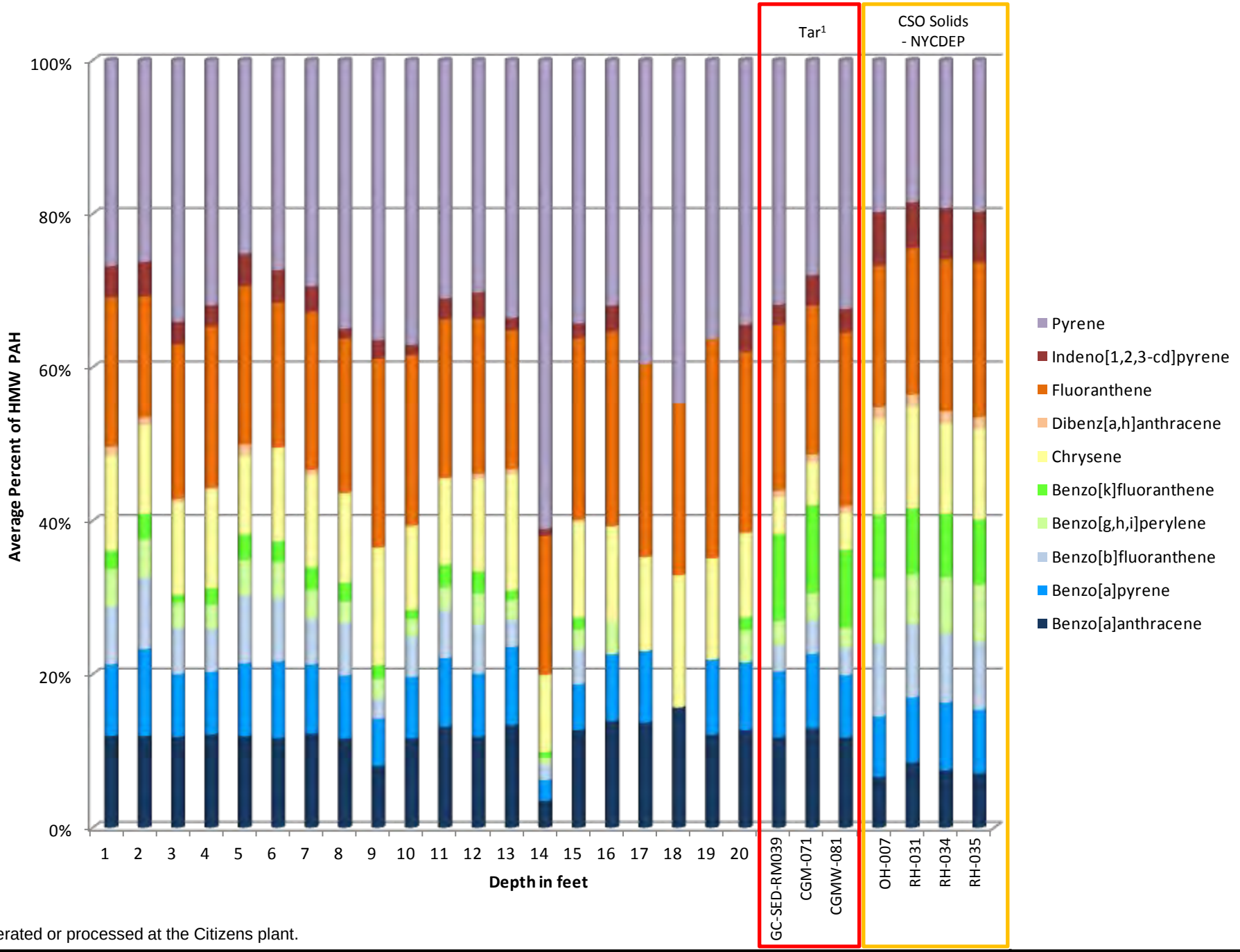
Environmental Protection

Percentage Proportions of HMW Compounds in Sediment, Middle Canal

Gowanus Canal Superfund Site

Figure 3-18

April 2013



Notes:
1.Tars generated or processed at the Citizens plant.

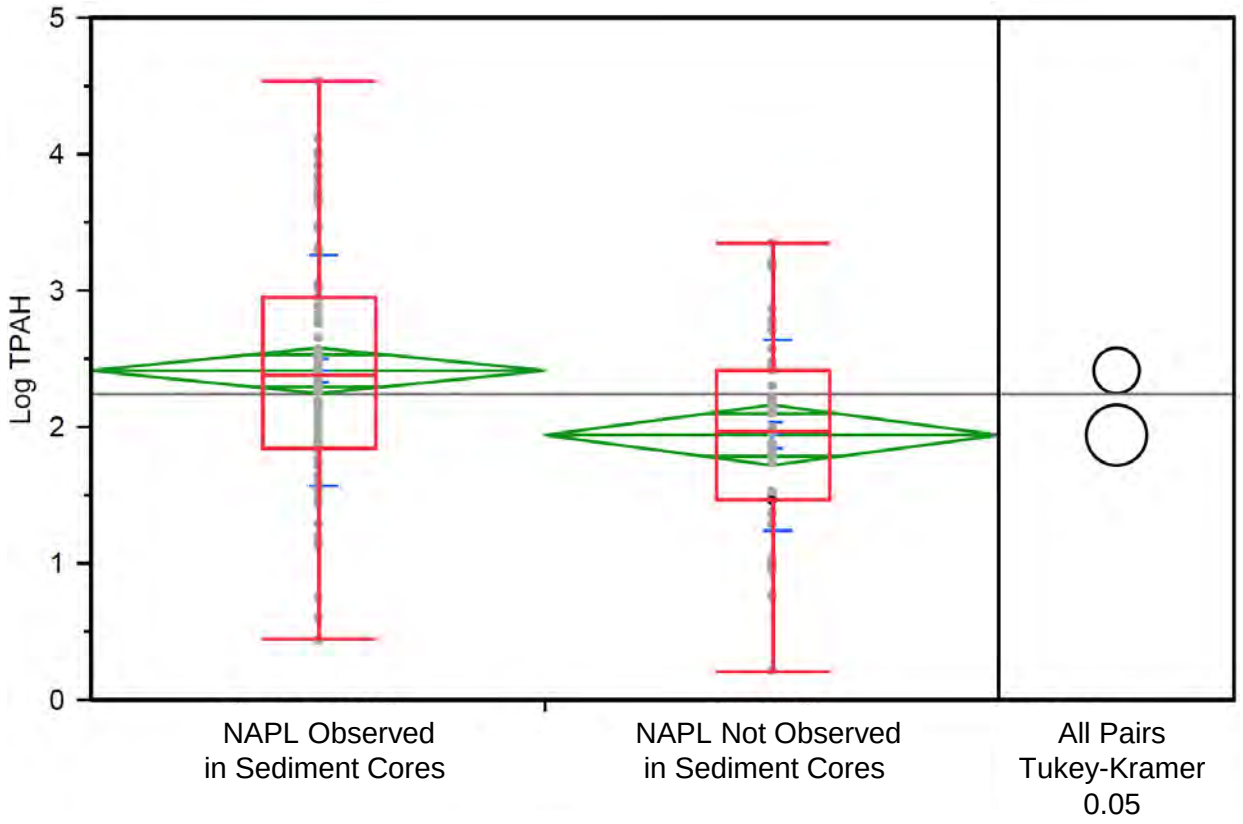
Environmental Protection

Percentage Proportions of HMW Compounds in Sediment, Upper Canal

Gowanus Canal Superfund Site

Figure 3-19

April 2013



Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Contains NAPL	0.439964	1.442661	1.84648	2.384262	2.950449	3.679206	4.537441
No NAPL	0.214022	0.978797	1.463744	1.959995	2.416973	2.852929	3.346666

Oneway Anova

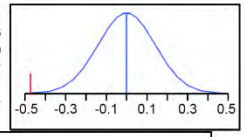
Summary of Fit

Rsquare	0.075573
Adj Rsquare	0.068922
Root Mean Square Error	0.800007
Mean of Response	2.242102
Observations (or Sum Wgts)	141

t Test

No NAPL-Contains NAPL
Assuming equal variances

Difference	-0.47266	t Ratio	-3.37096
Std Err Dif	0.14022	DF	139
Upper CL Dif	-0.19543	Prob > |t|	0.0010 *
Lower CL Dif	-0.74989	Prob > t	0.9995
Confidence	0.95	Prob < t	0.0005 *



Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Ratio	Prob > F
Core Type 2	1	7.272680	7.27268	11.3634	0.0010 *
Error	139	88.961561	0.64001		
C. Total	140	96.234241			

Means for Oneway Anova

Level	Number	Mean	Std Error	Lower 95%	Upper 95%
Contains NAPL	90	2.41306	0.08433	2.2463	2.5798
No NAPL	51	1.94040	0.11202	1.7189	2.1619

Std Error uses a pooled estimate of error variance

Means and Std Deviations

Level	Number	Mean	Std Dev	Std Err Mean	Lower 95%	Upper 95%
Contains NAPL	90	2.41306	0.852660	0.08988	2.2345	2.5917
No NAPL	51	1.94040	0.696506	0.09753	1.7445	2.1363

Means Comparisons

Comparisons for all pairs using Tukey-Kramer HSD

q*	Alpha
1.97718	0.05

Abs(Dif)-HSD

	Contains NAPL	No NAPL
Contains NAPL	-0.23579	0.19543
No NAPL	0.19543	-0.31323

Positive values show pairs of means that are significantly different.

Level		Mean
Contains NAPL	A	2.4130647
No NAPL	B	1.9404030

Levels not connected by same letter are significantly different.

Median Test (Number of Points Above Median)

Level	Count	Score Sum	Expected Score	Score Mean	(Mean-Mean0)/Std0
Contains NAPL	90	53.000	44.681	0.588889	2.906
No NAPL	51	17.000	25.319	0.333333	-2.906

2-Sample Test, Normal Approximation

S	Z	Prob>|Z|
17	-2.90588	0.0037 *

1-way Test, ChiSquare Approximation

ChiSquare	DF	Prob>ChiSq
8.4441	1	0.0037 *

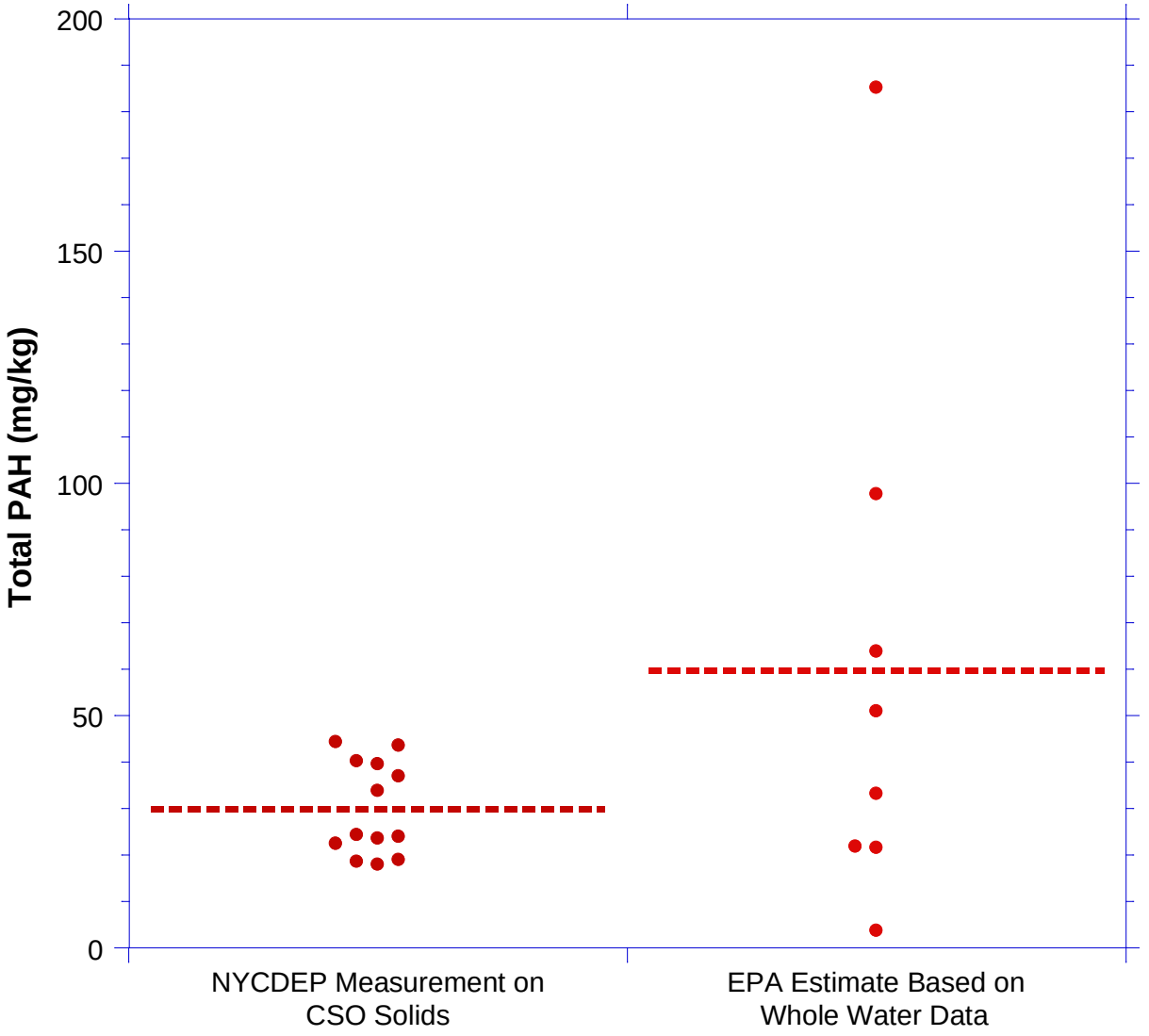
Environmental Protection

Analyses of Means and Standard Deviations of Shallow Sediment TPAH Concentrations

Gowanus Canal Superfund Site

Figure 3-20

April 2013

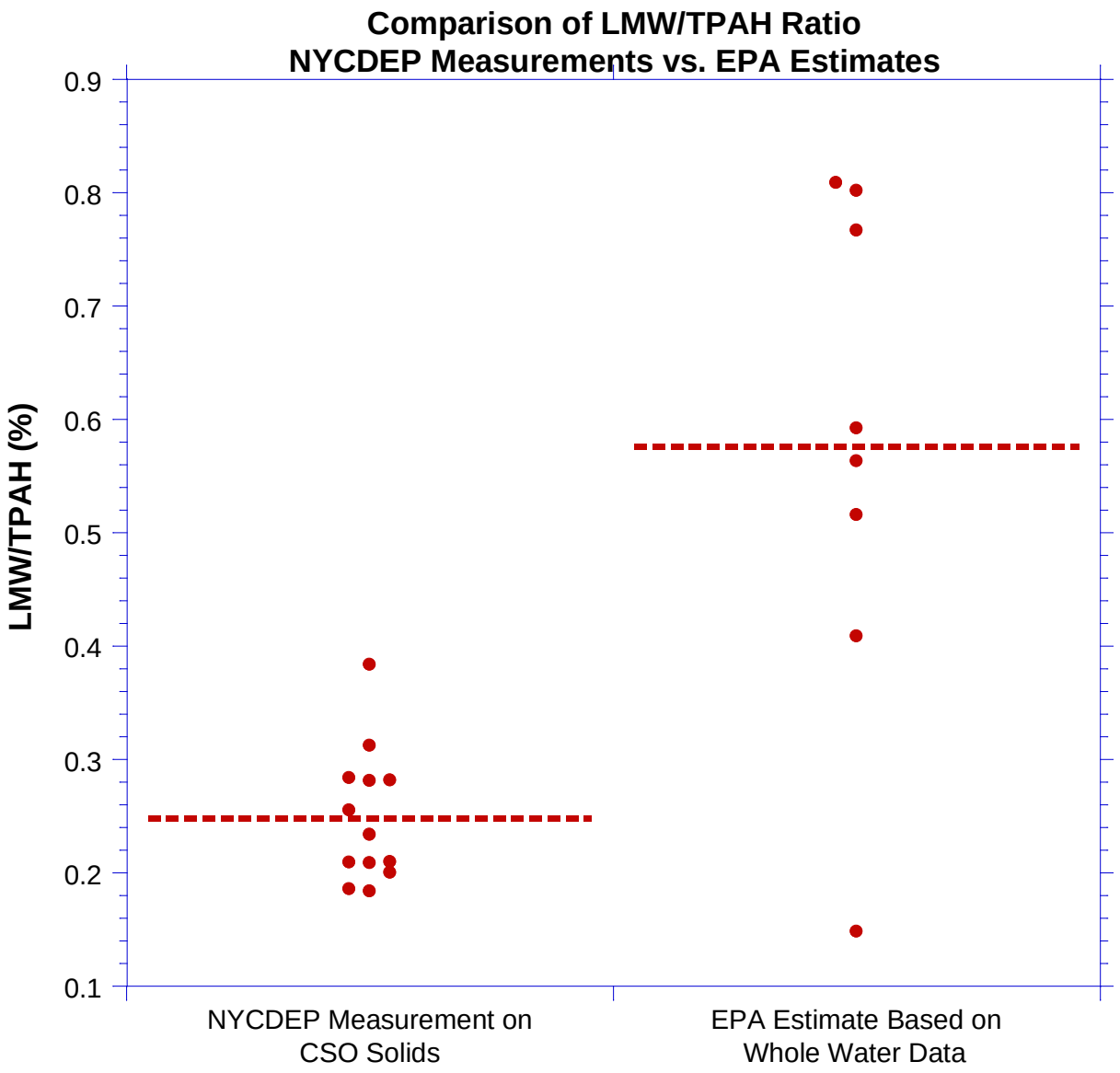


Comparison of Total PAH Concentrations in Solids from CSOs
NYCDEP Measurements vs. EPA Estimates

Gowanus Canal Superfund Site

Figure 3-21

April 2013



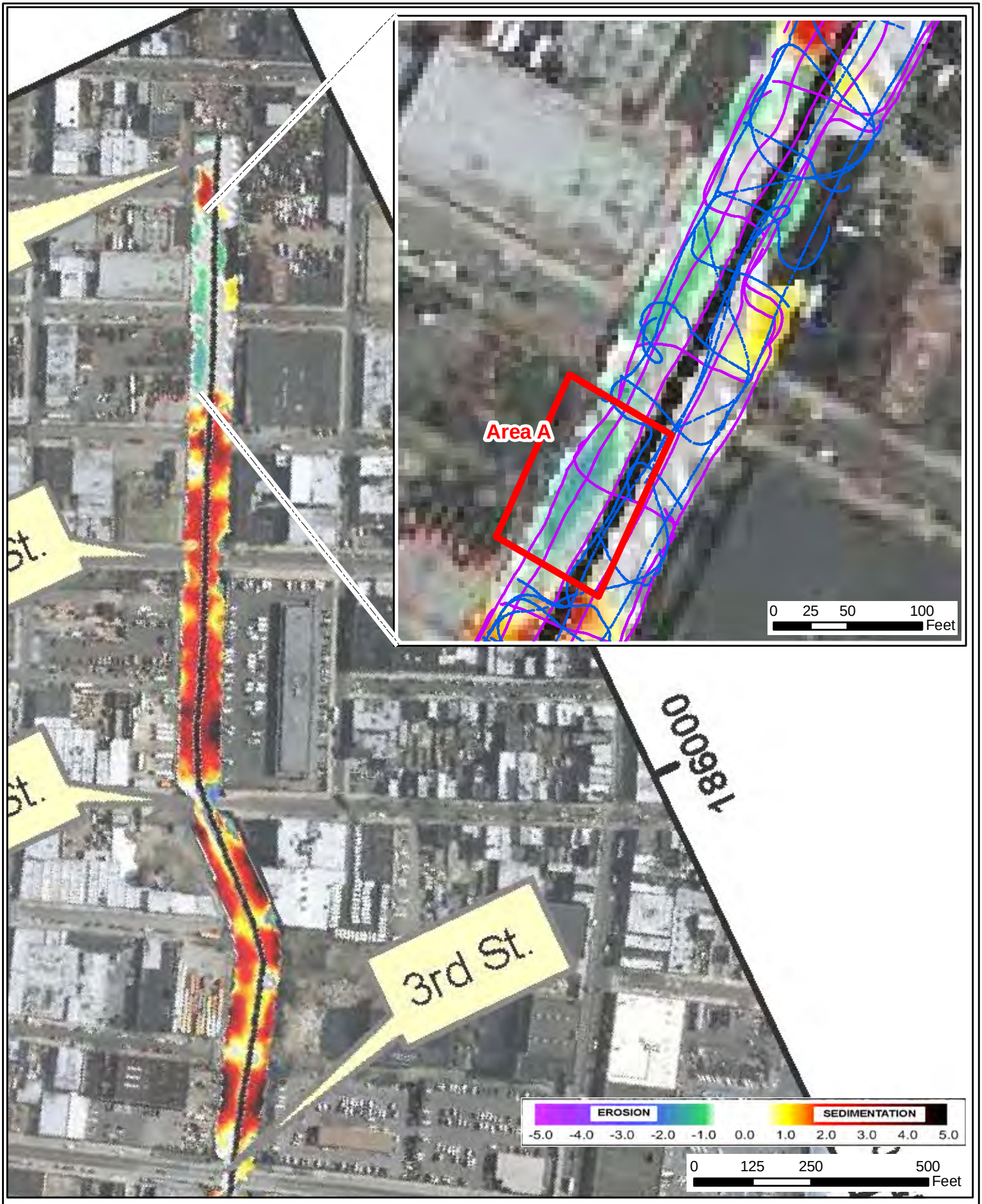
Environmental Protection

Comparison of LMW/TPAH Ratio in Solids from CSOs
NYCDEP Measurements vs. EPA Estimates

Gowanus Canal Superfund Site

Figure 3-22

April 2013



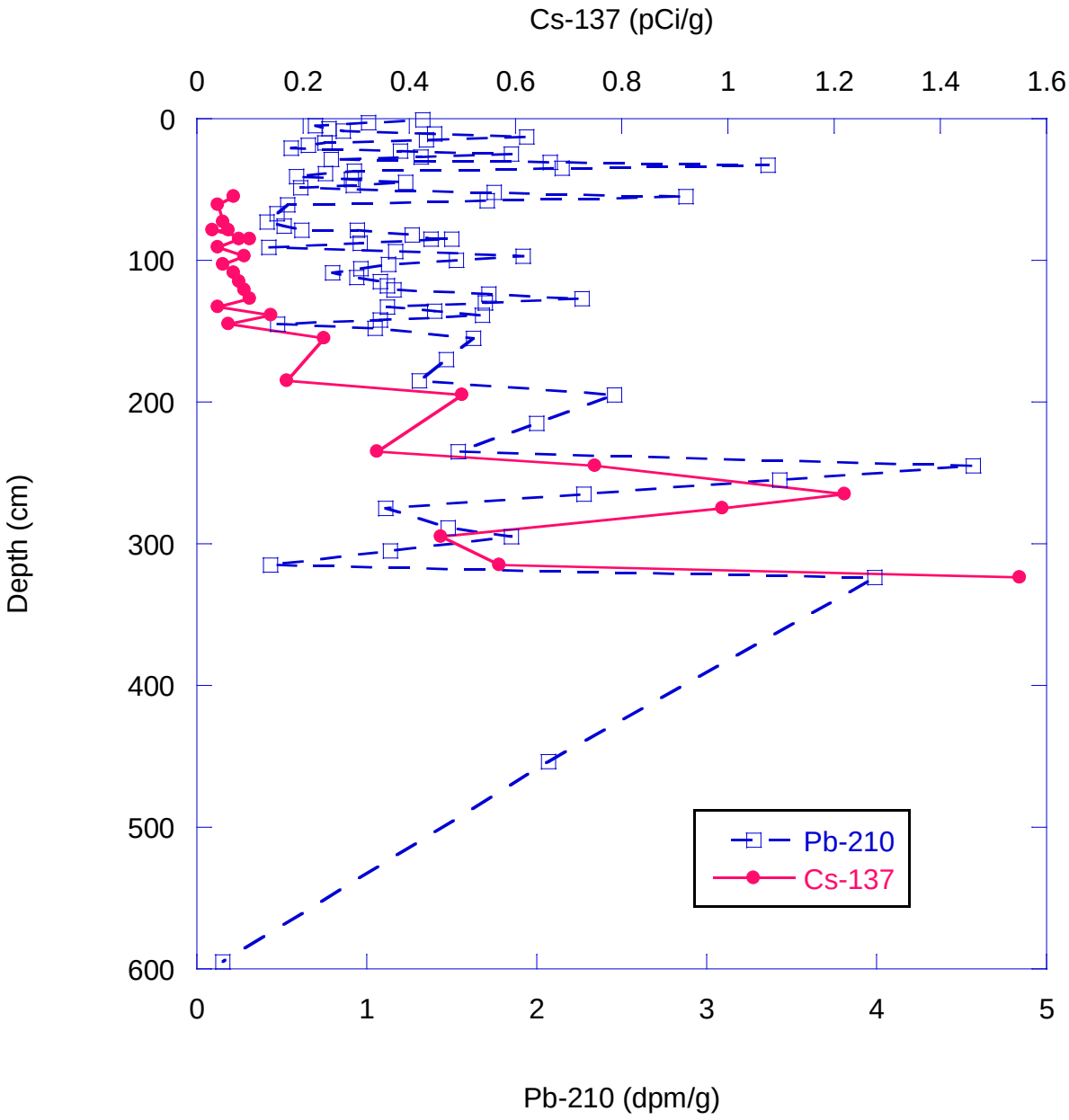
Environmental Protection

Comparison of the 2003 and 2010 Bathymetric Surveys

Gowanus Canal Superfund Site

Figure 3-23

April 2013

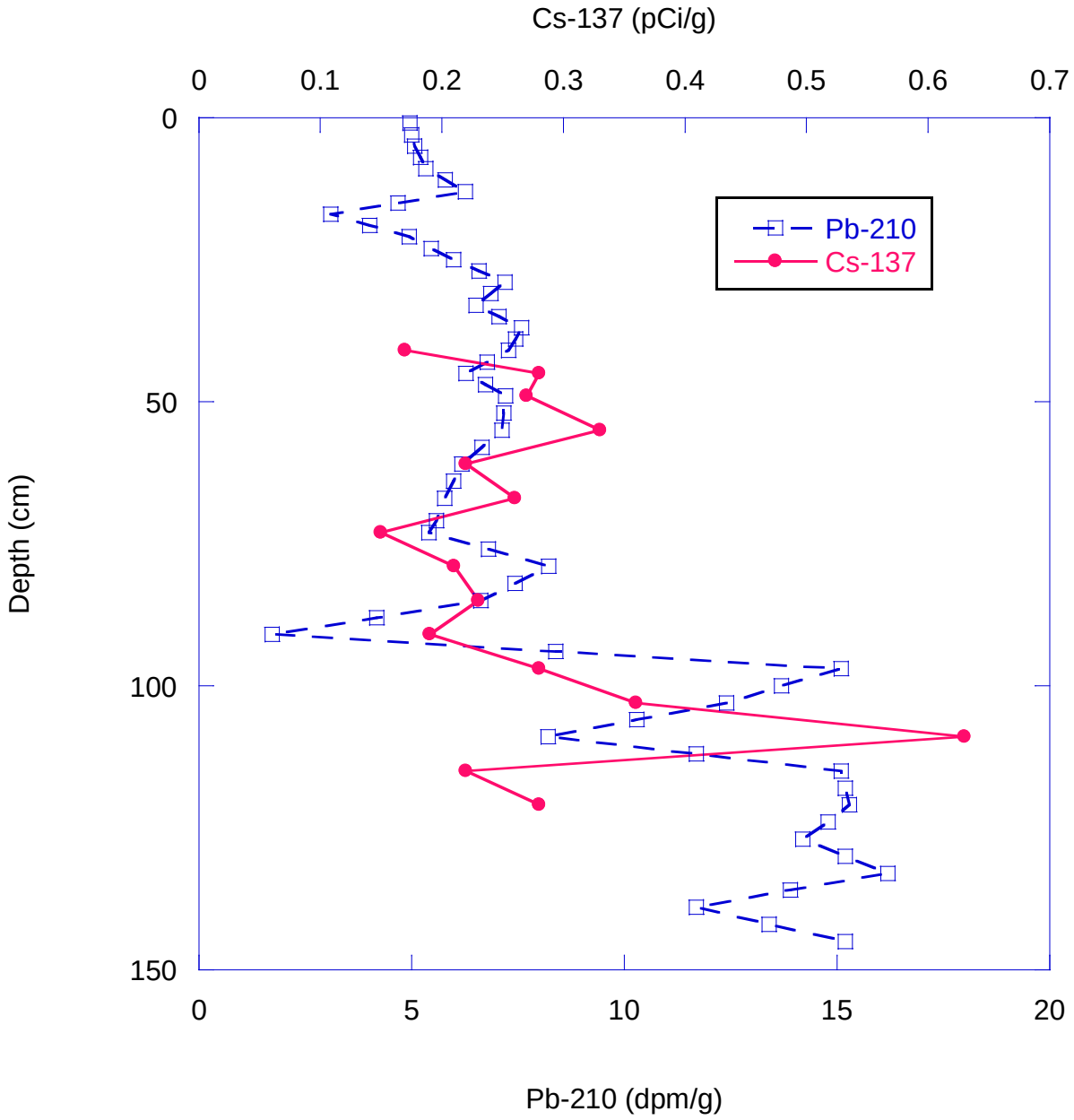


Environmental Protection

Core 1 – Gowanus Canal
Cs137 and Pb210 Radioisotope Profile
Gowanus Canal Superfund Site

Figure 3-24

April 2013

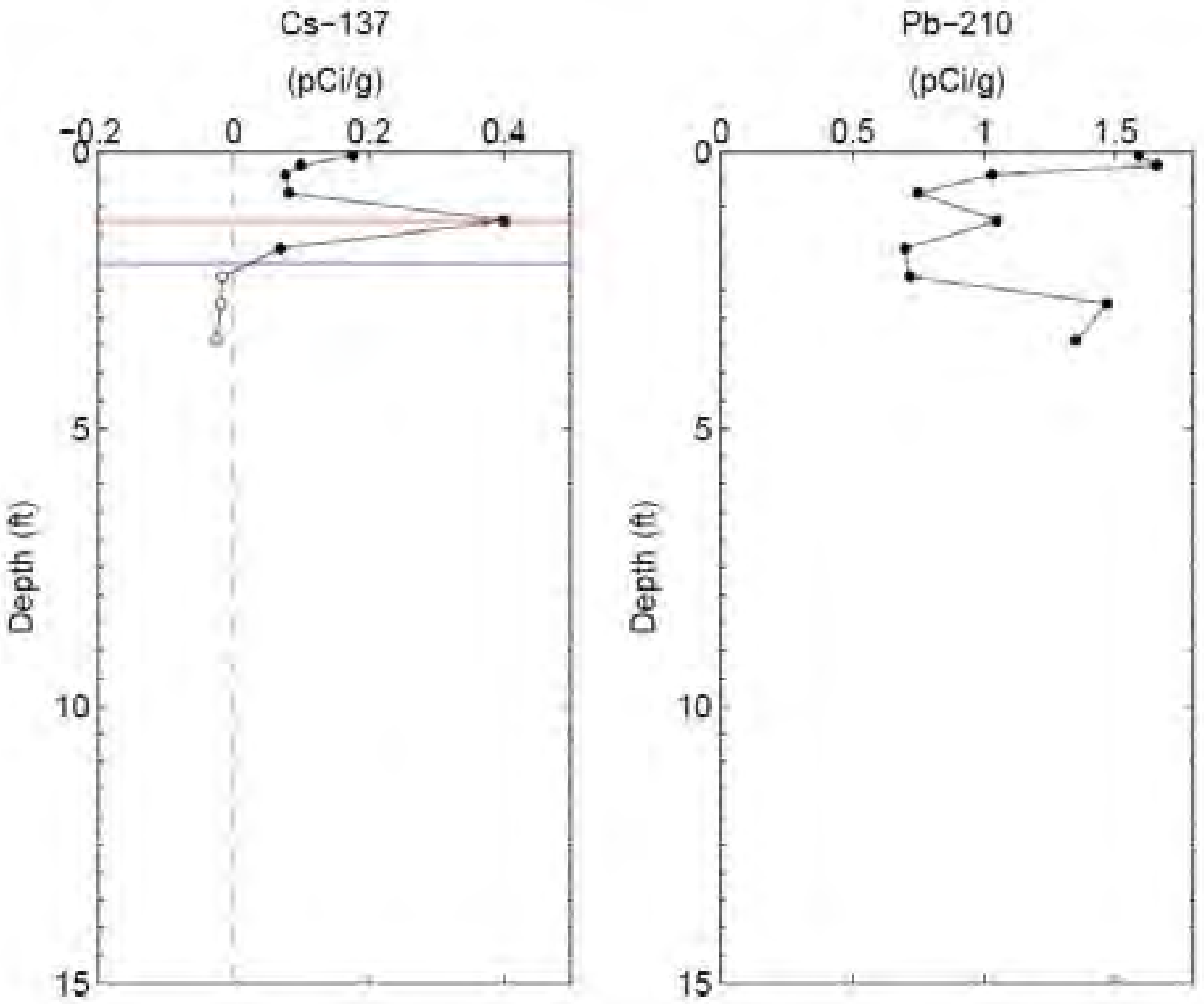


Environmental Protection

Core 12 – Gowanus Canal
Cs137 and Pb210 Radioisotope Profile
Gowanus Canal Superfund Site

Figure 3-25

April 2013



Environmental Protection

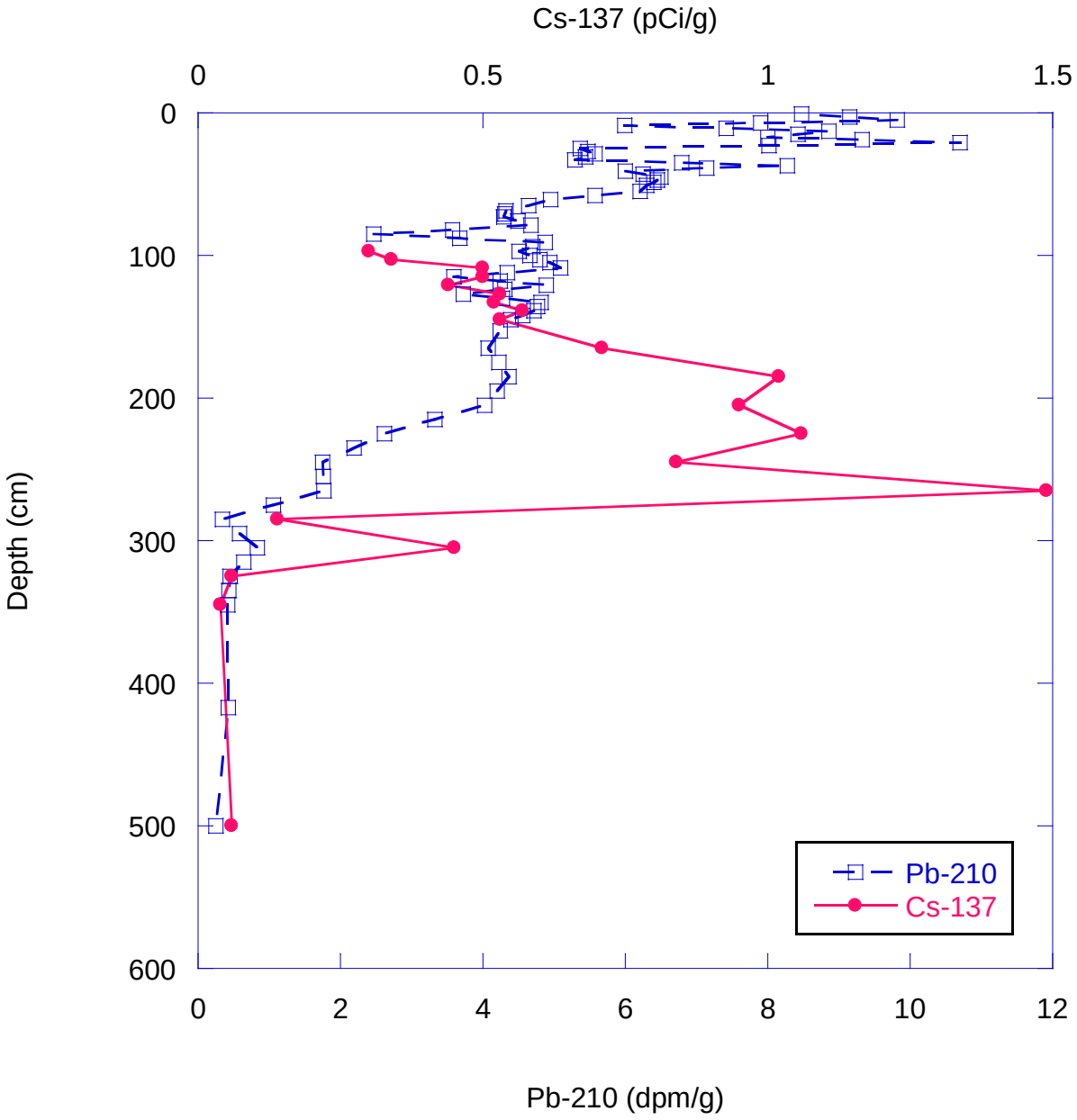
Newark Bay Core 23

Cs137 and Pb210 Radioisotope Profile

Gowanus Canal Superfund Site

Figure 3-26

April 2013

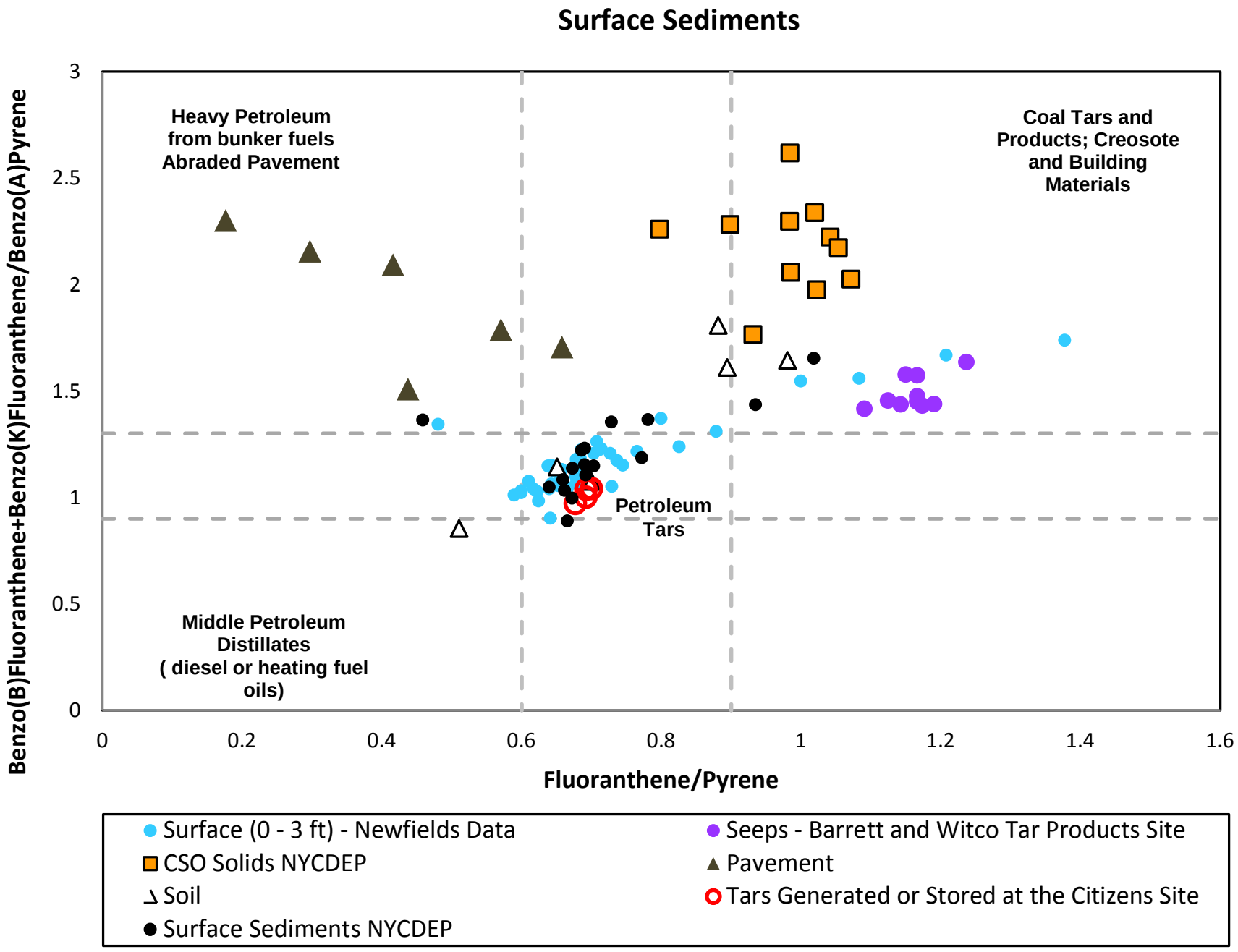


Environmental Protection

Core 88 – Gowanus Canal
Cs137 and Pb210 Radioisotope Profile
Gowanus Canal Superfund Site

Figure 3-27

April 2013



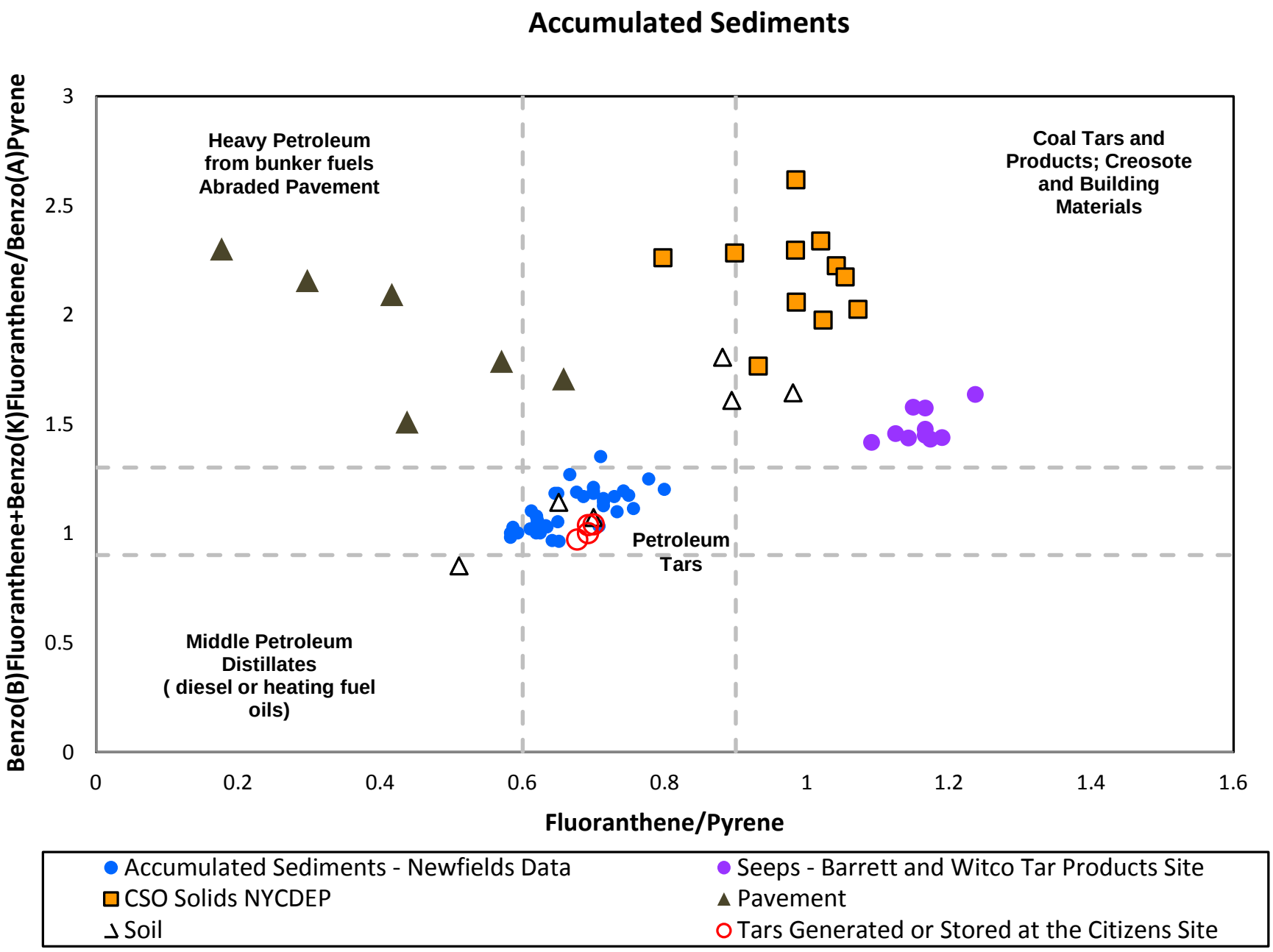
Environmental Protection

PAH Double Ratio Plot – Surface Sediments

Gowanus Canal Superfund Site

Figure 5-1

April 2013



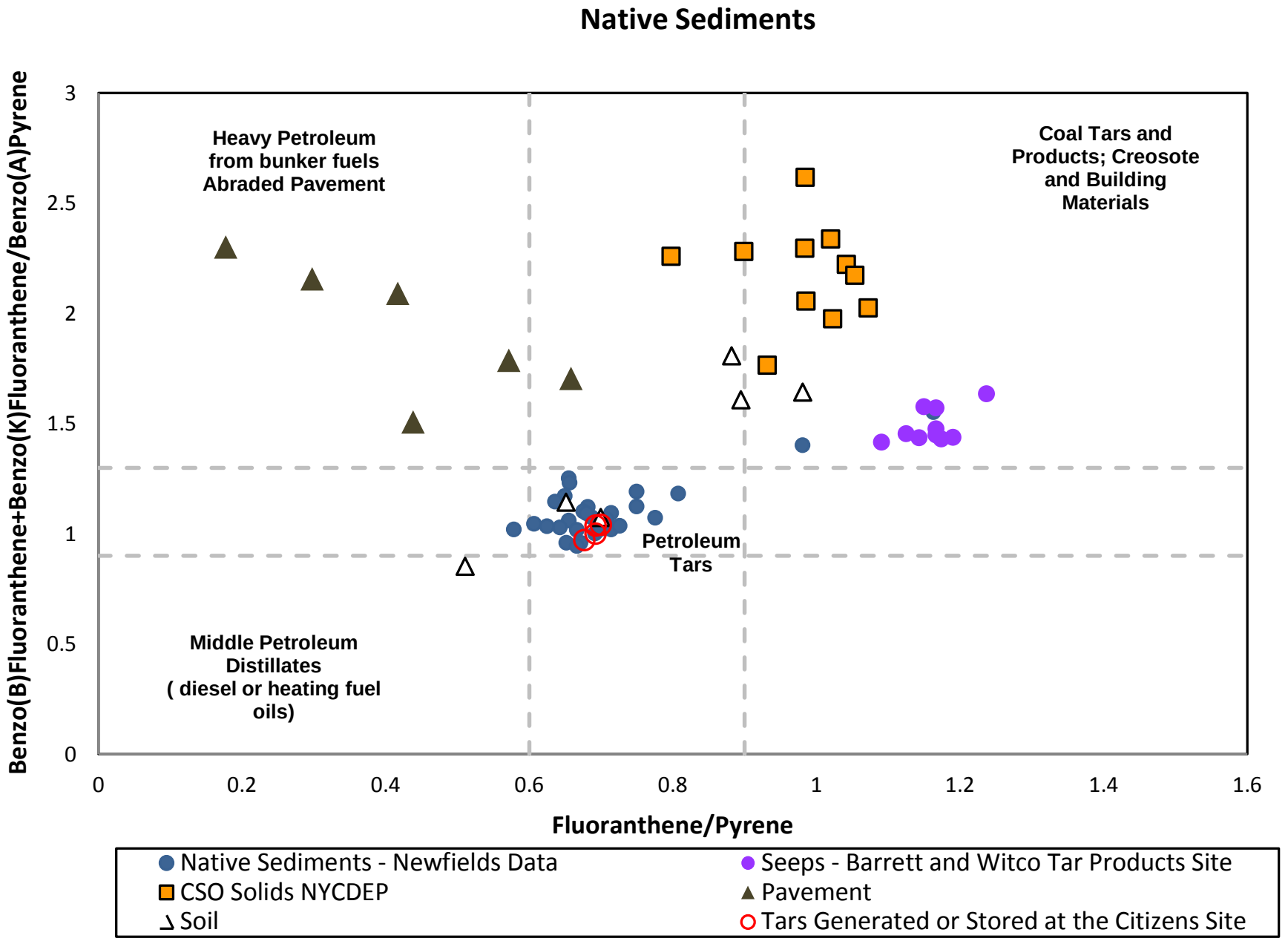
Environmental Protection

PAH Double Ratio Plot – Accumulated Sediments

Gowanus Canal Superfund Site

Figure 5-2

April 2013



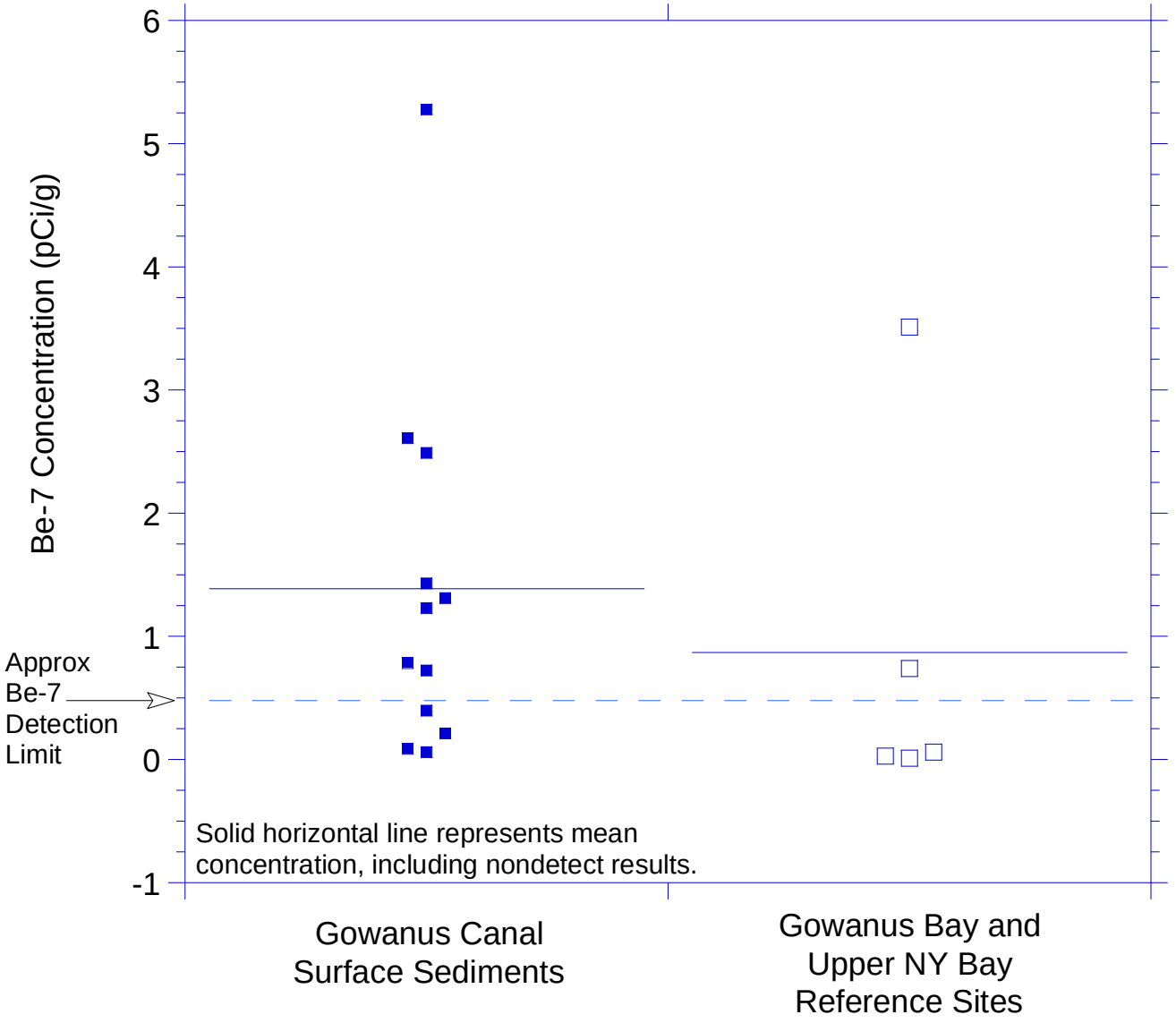
Environmental Protection

PAH Double Ratio Plot – Native Sediments

Gowanus Canal Superfund Site

Figure 5-3

April 2013



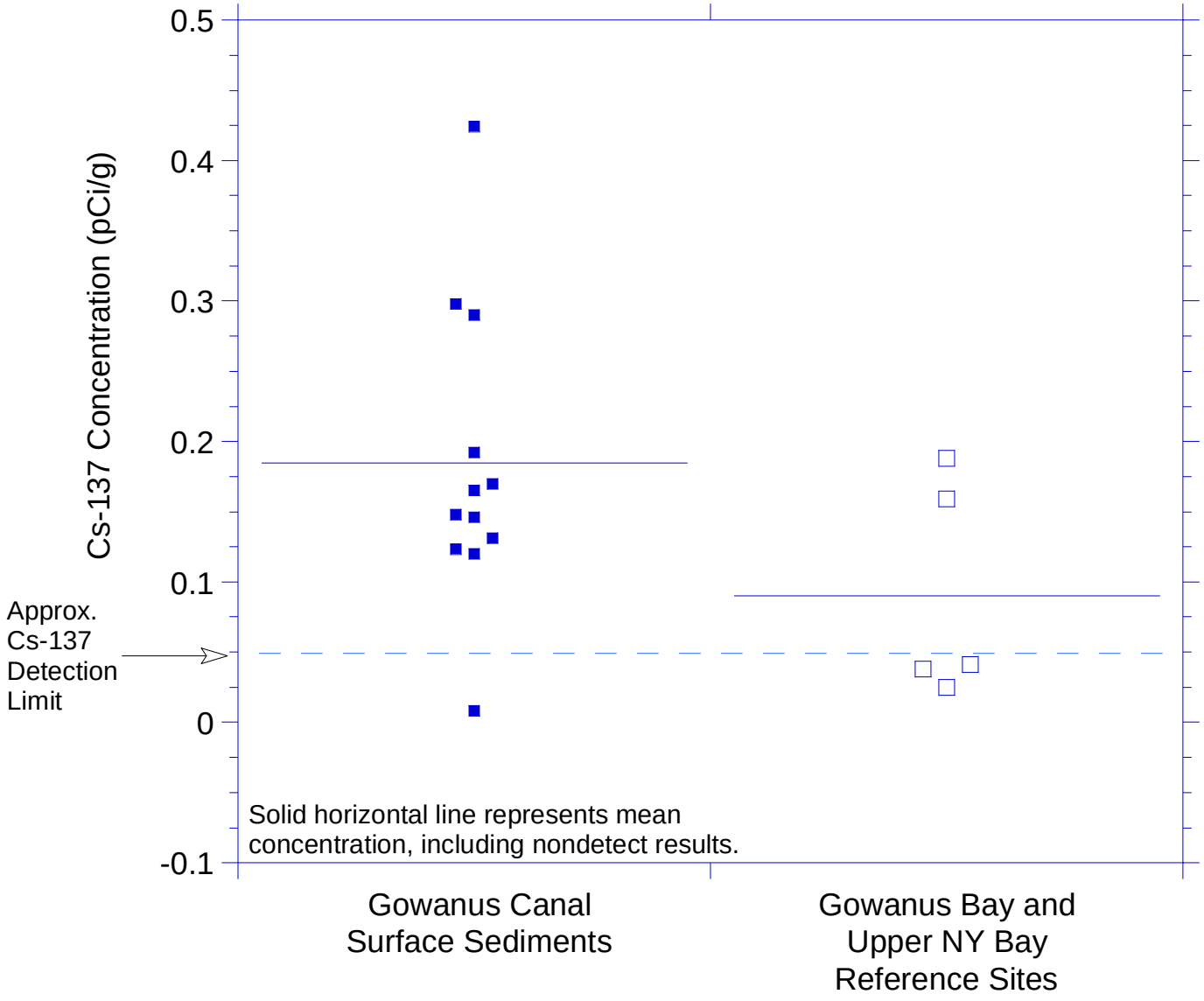
Environmental Protection

Be-7 Concentrations in Surface Sediments (0-2cm)

Gowanus Canal Superfund Site

Figure 6-1

April 2013



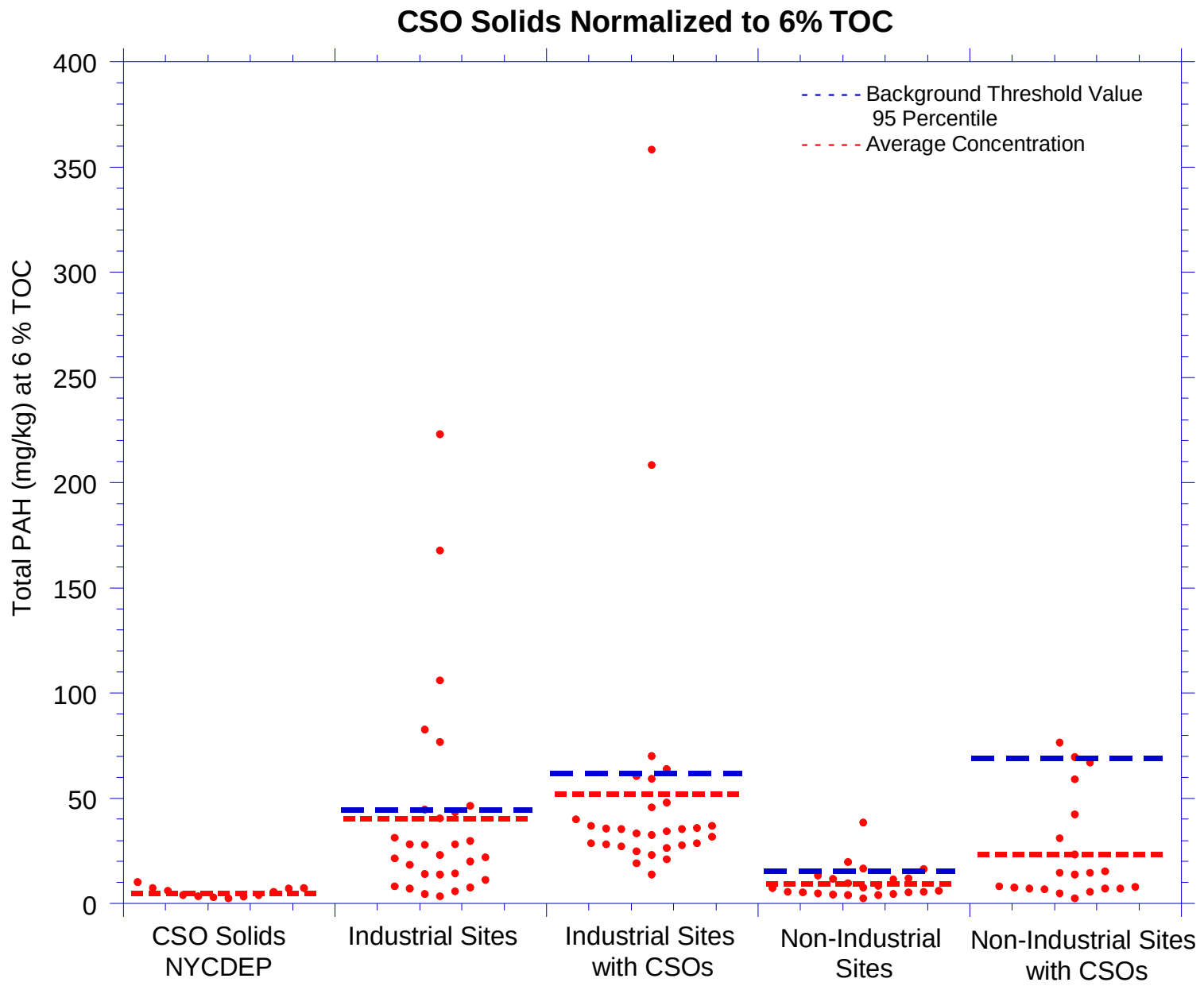
Environmental Protection

Cs-137 Concentrations in Surface Sediments (0-2 cm)

Gowanus Canal Superfund Site

Figure 6-2

April 2013



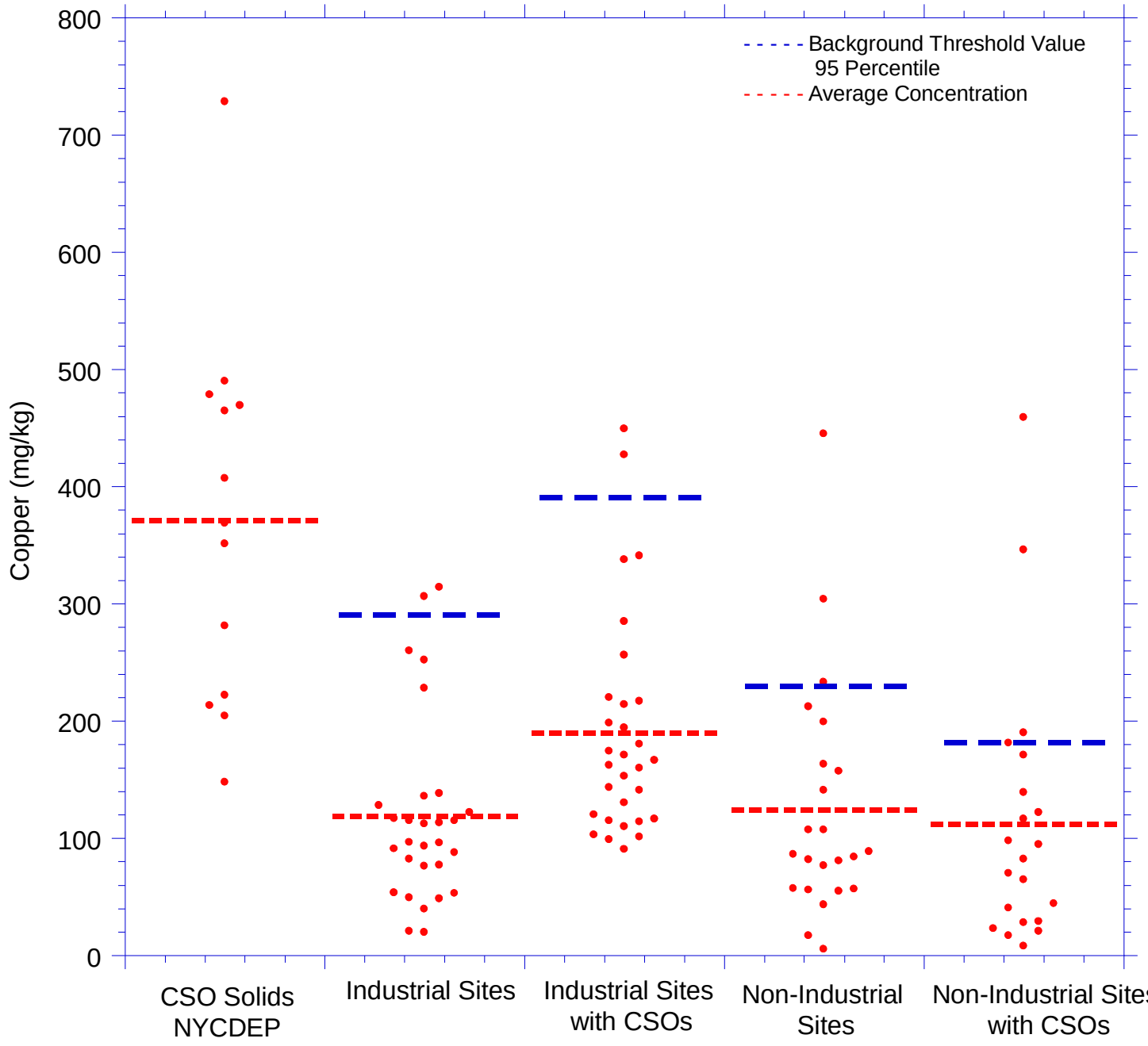
Environmental Protection

Comparison of CSO Solids and Candidate Reference Areas for Newtown Creek – TPAH at 6% TOC

Gowanus Canal Superfund Site

Figure 6-3

April 2013



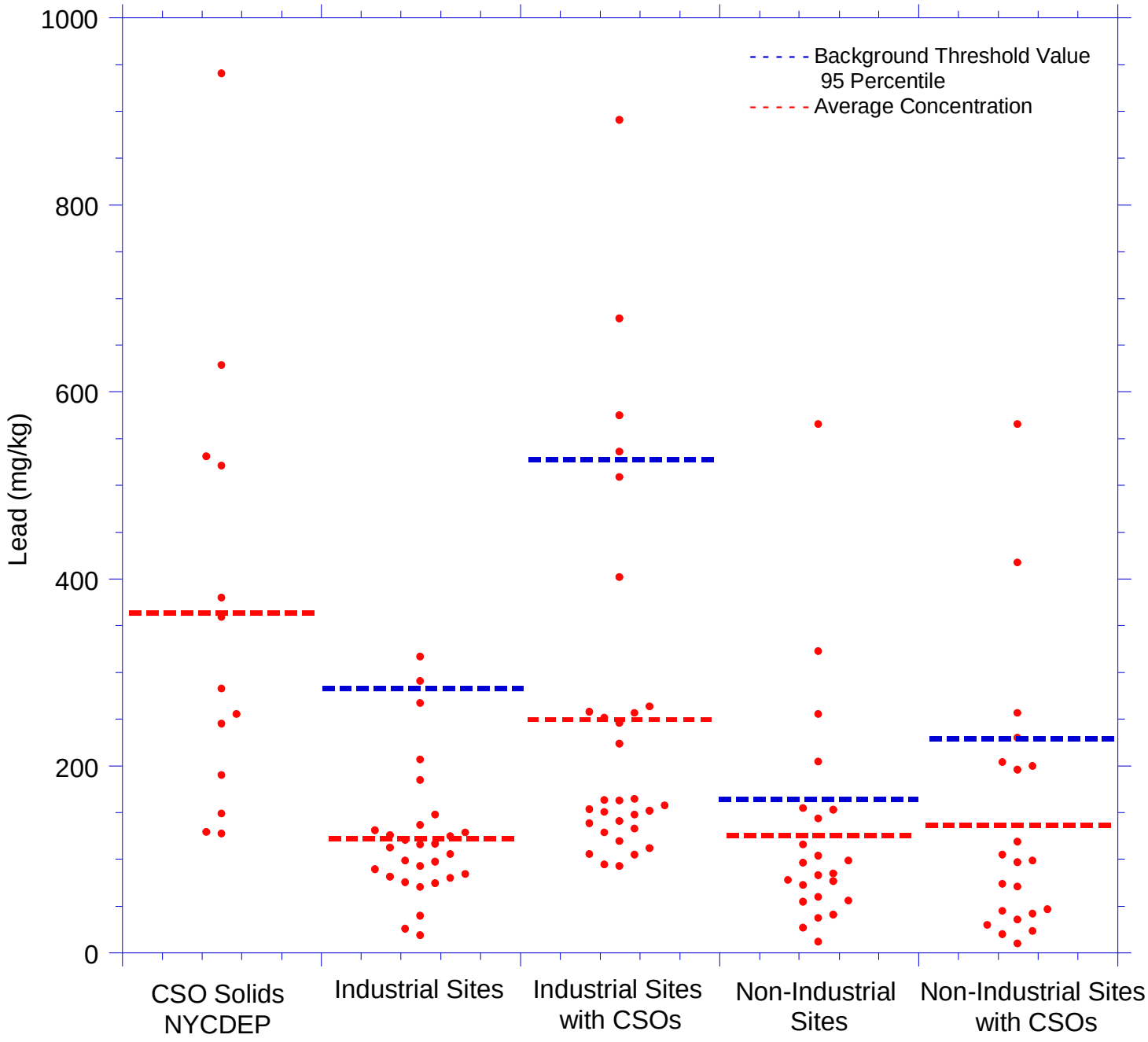
Environmental Protection

Comparison of CSO Solids and Candidate Reference Areas for Newtown Creek - Copper

Gowanus Canal Superfund Site

Figure 6-4

April 2013



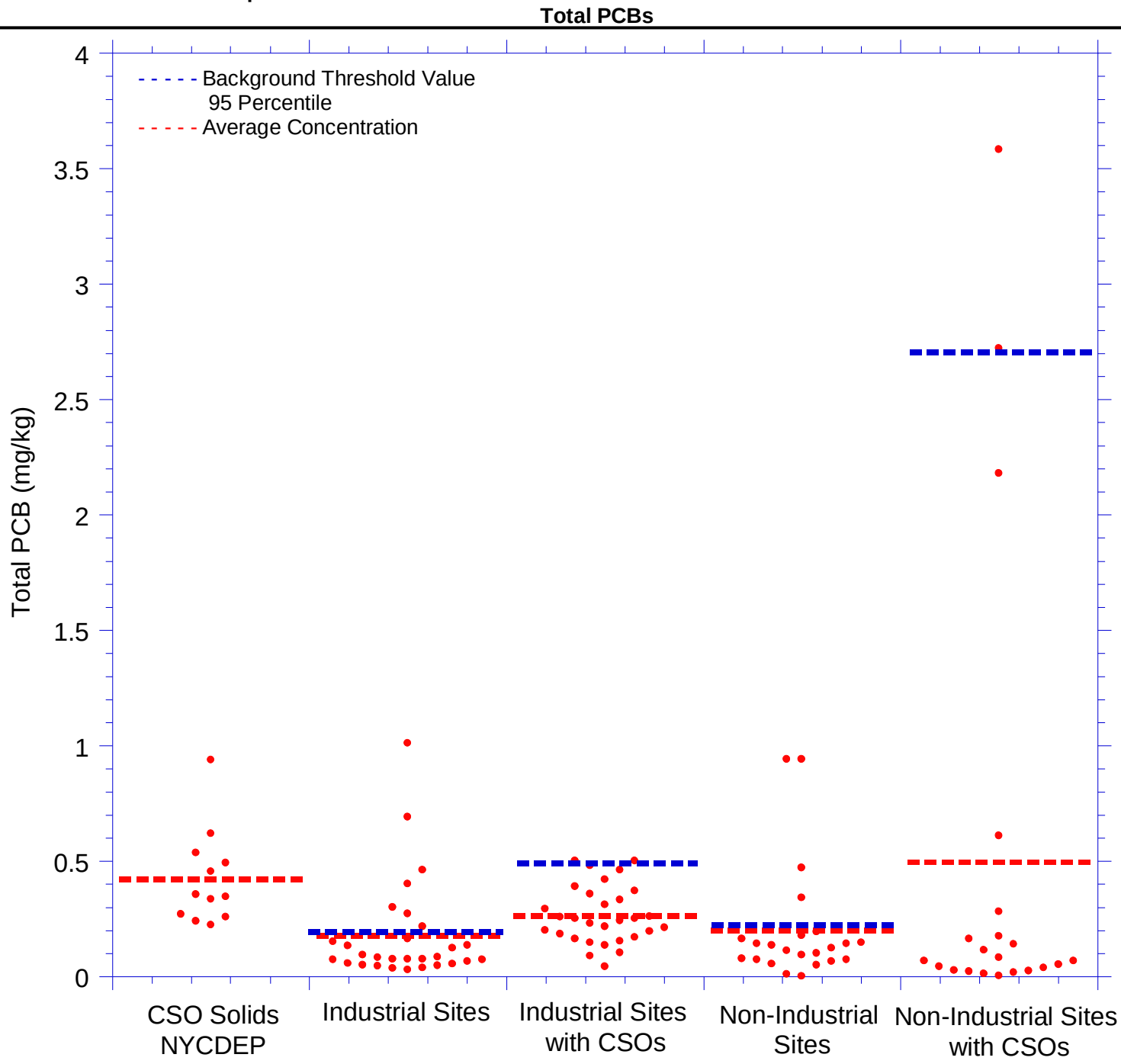
Environmental Protection

Comparison of CSO Solids and Candidate Reference Areas for Newtown Creek - Lead

Gowanus Canal Superfund Site

Figure 6-5

April 2013



Environmental Protection

Comparison of CSO Solids and Candidate Reference Areas for Newtown Creek - TPCB

Gowanus Canal Superfund Site

Figure 6-6

April 2013

Environmental Protection

EPA REMAP Stations in New York and New Jersey Harbors

Gowanus Canal Superfund Site

Figure 8-1

April 2013

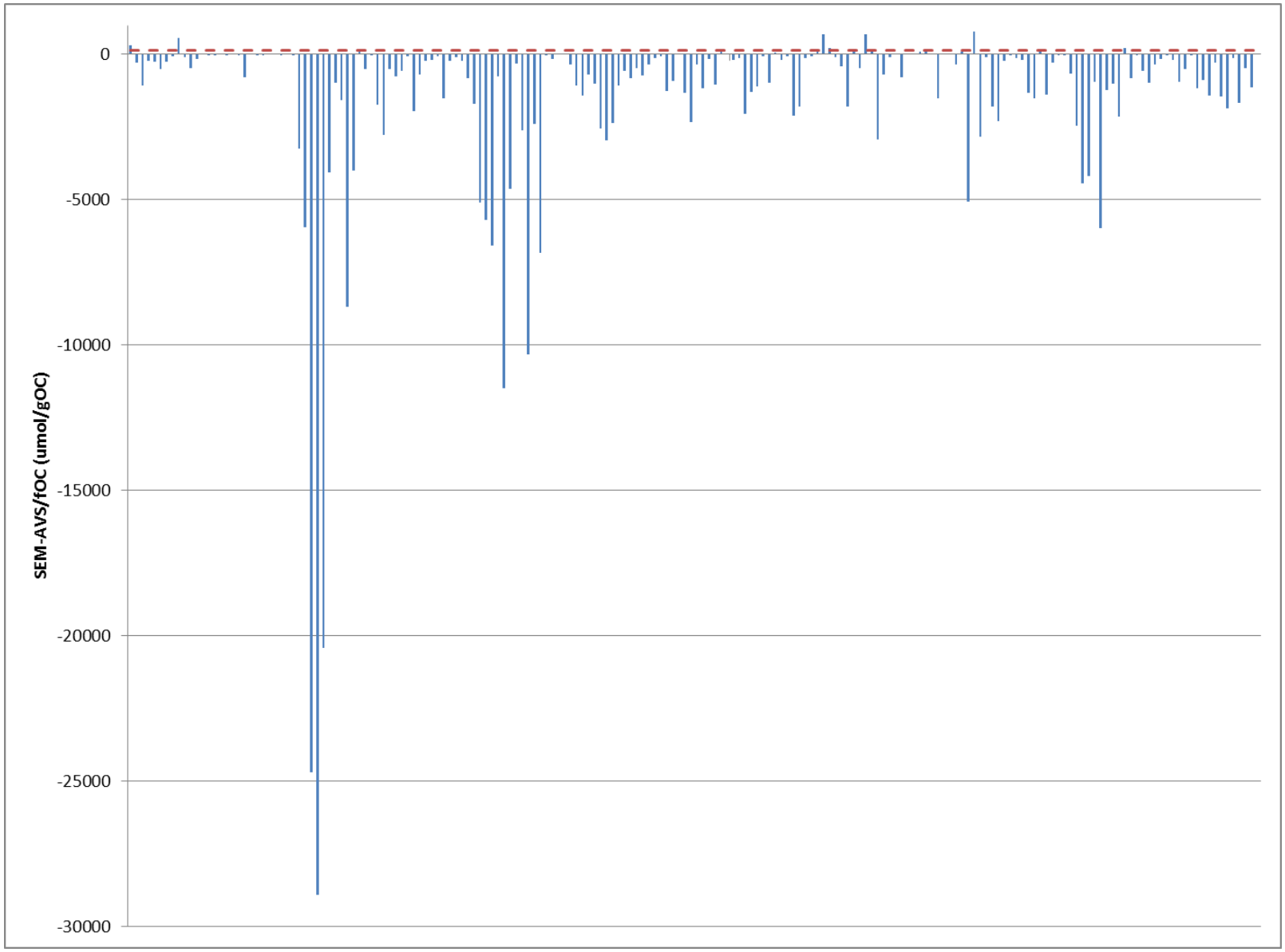
Environmental Protection	New York City Department of Environmental Protection Sediment Sampling Stations from 1992 *Gowanus Canal Superfund Site*	Figure 8-2 April 2013

Note: NYC DEP sampling sites from 1992 are displayed in purple. EPA 1998 sampling sites are displayed in black.

NYC Environmental Protection	All Sampling Stations REMAP 1998 and NYCDEP 1992 *Gowanus Canal Superfund Site*	Figure 8-3 April 2013

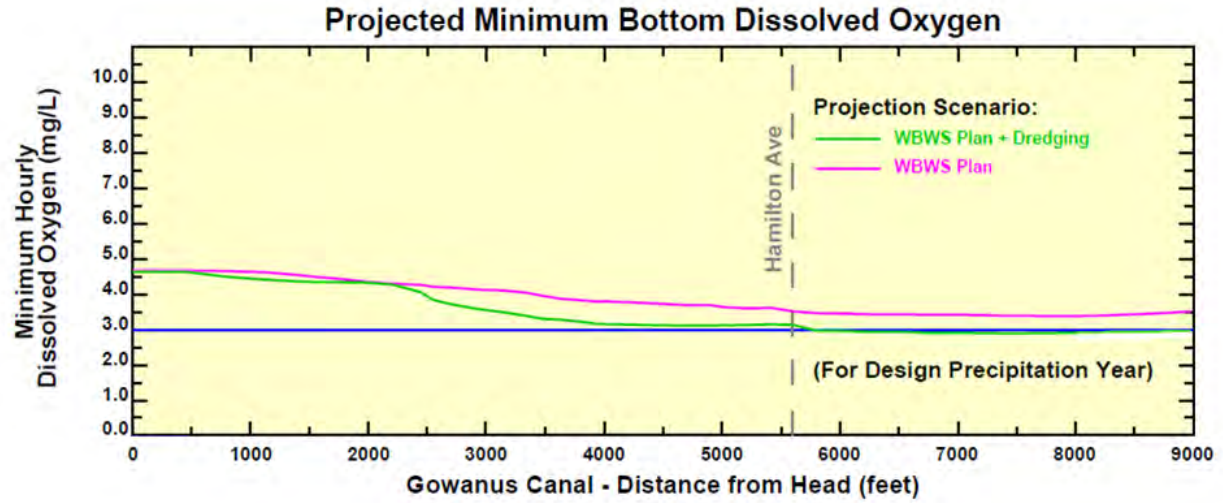
Note: Upper harbor sites are displayed in red. All other sites are displayed in black.

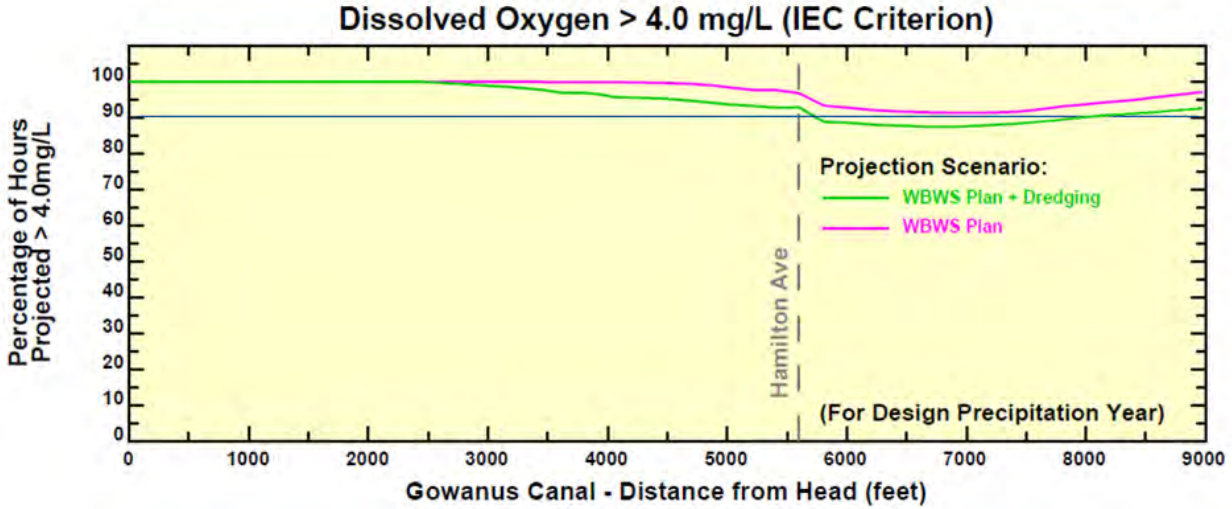
NYC Environmental Protection	Upper Harbor Sites from Combined 1992 and 1998 Sampling Programs *Gowanus Canal Superfund Site*	Figure 8-4 April 2013



Note:
Toxicity is likely when the (∑SEM-AVS)/*f*OC is >3,000 µmol/gOC, uncertain when the concentration is between 130 and 3,000 µmol/gOC, and not likely when the concentration is <130 µmol/gOC (EPA 2005). The red line represents ∑SEM-AVS)/*f*OC = 130. Of a total of 188 samples, only 11 are higher than 130 µmol/gOC, and the maximum value was 775 µmol/gOC (well below the 3,000 µmol/gOC threshold).

NYC Environmental Protection / LB	All New York/New Jersey Harbor Sediment Sampling AVS-SEM Results *Gowanus Canal Superfund Site*	Figure 8-5 April 2013





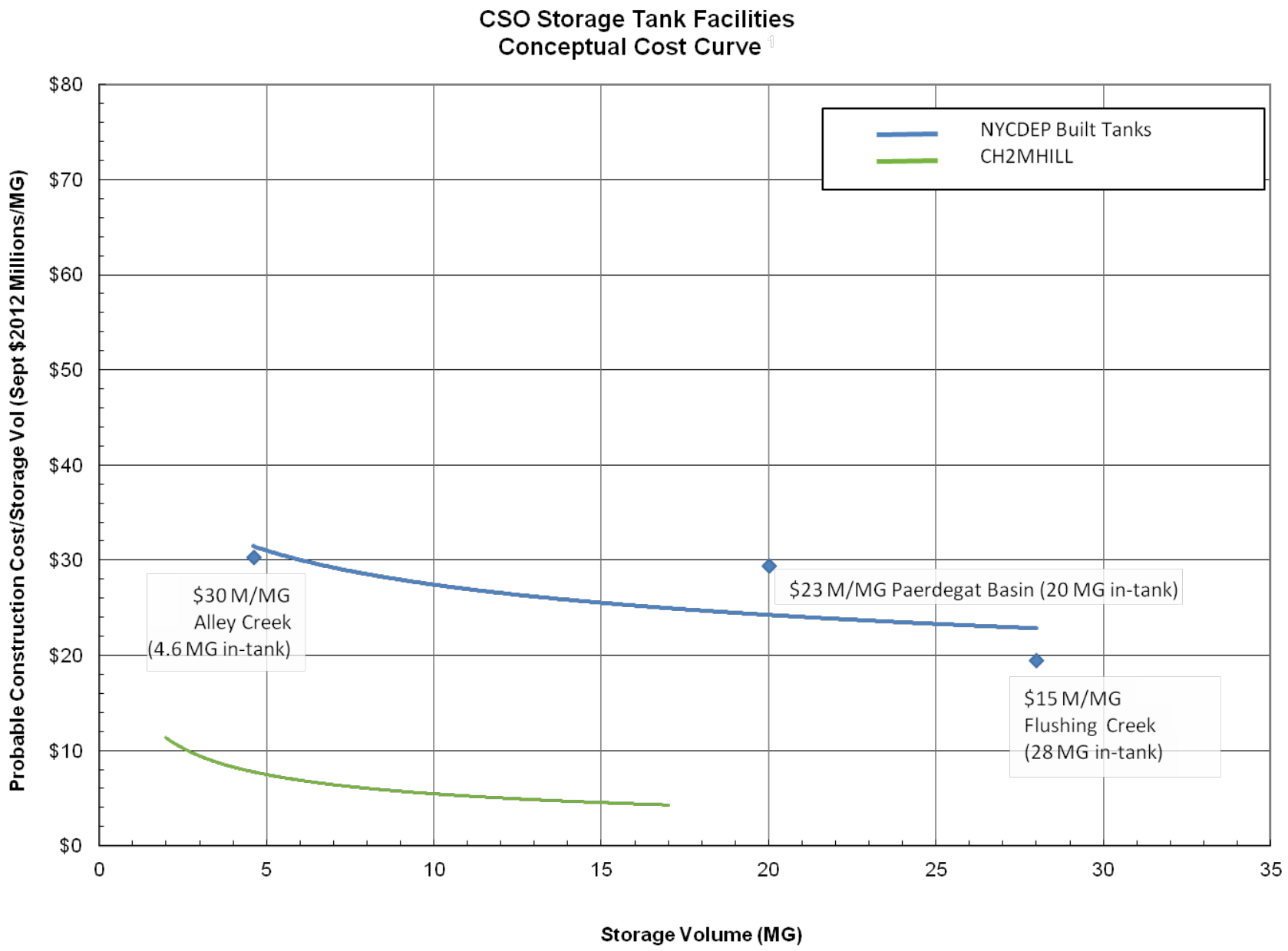
Environmental Protection

Dissolved Oxygen in the Canal Post WQIP

Gowanus Canal Superfund Site

Figure 11-1

April 2013



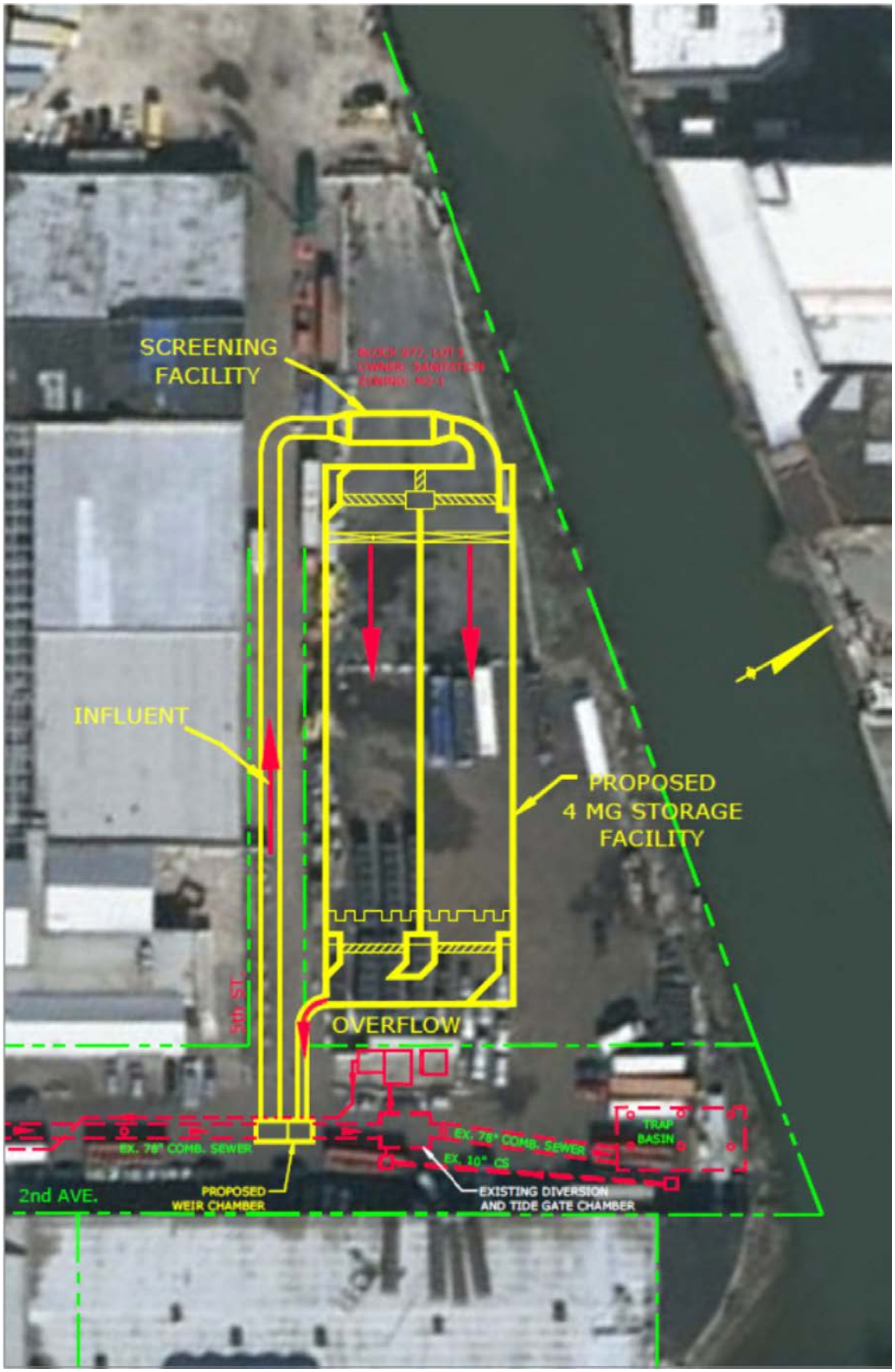
Environmental Protection

DEP LTCP CSO Tank Costs

Gowanus Canal Superfund Site

Figure 12-1

April 2013



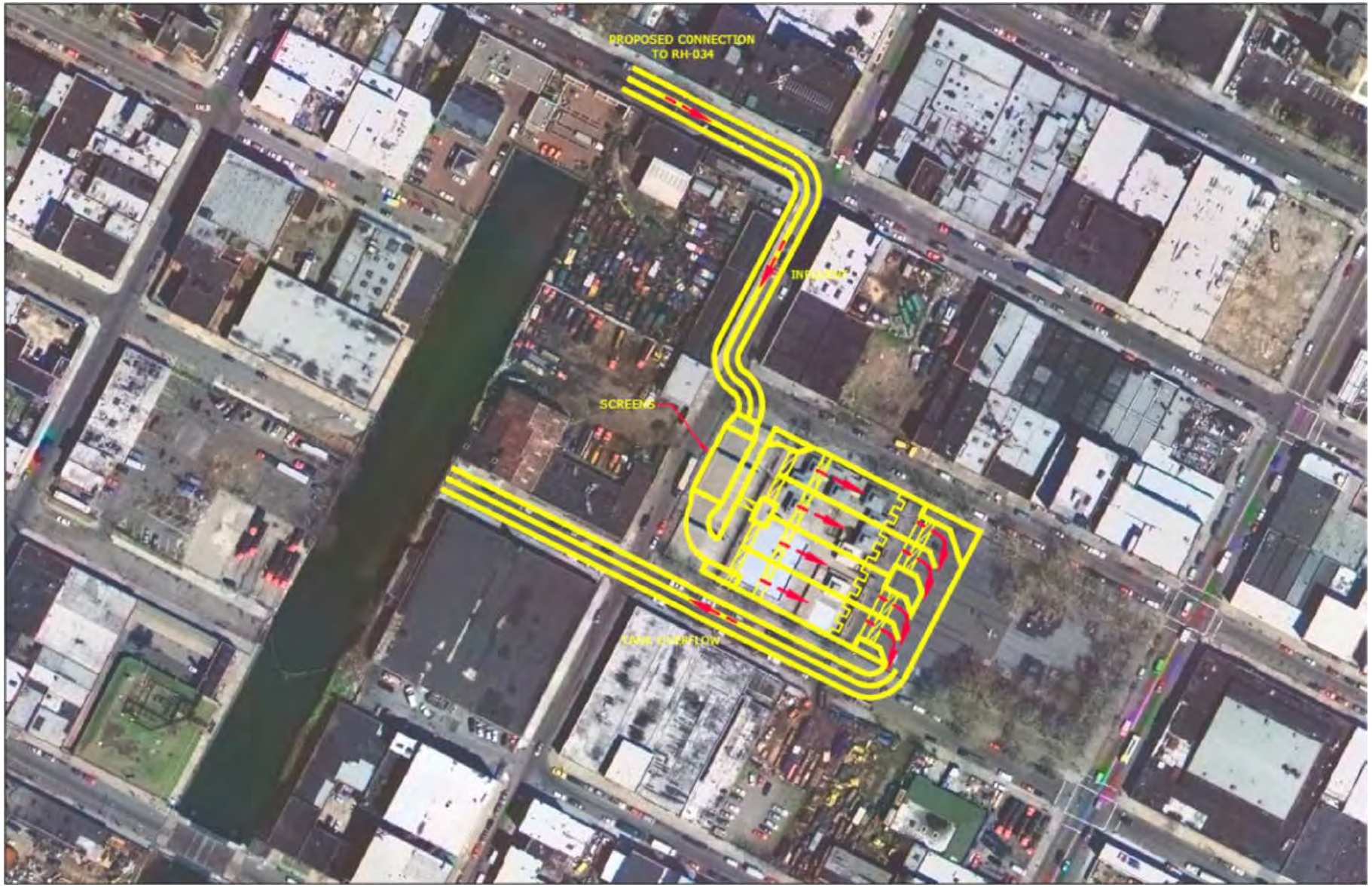
Environmental Protection

Proposed 4-MG CSO Tank at DOS Site

Gowanus Canal Superfund Site

Figure 12-2

April 2013



Configuration of 8-MG CSO Tank at Parks Department Site

Gowanus Canal Superfund Site

Figure 12-3

April 2013

Gowanus Canal Clean Up Plan
Patrick O'Donnell to: Region2 GowanusCanalComments 04/26/2013 02:38 PM

Dear Sirs/Mesdames:

I am writing to support the current EPA proposal for clean up of the Gowanus Canal. I live in Carroll Gardens, just a few blocks from the canal, and believe the current proposal will be the best thing to happen to the Canal since it was created from the creek. Some have expressed concern about the creation of retention tanks at Thomas Greene Park, but this park has to be cleaned up anyway, and the loss of a swimming area for a season or two is a small price to pay. Please do not hesitate to contact me if you have any questions.

Sincerely,
Patrick O'Donnell
284 Smith St., #2
Brooklyn, NY 11231

Gowanus Clean up - Red Hook component
John Battis to: Region2 GowanusCanalComments 04/26/2013 02:52 PM

John Battis
183 Richards Street
Brooklyn NY 11231
April 3, 2013

Christos Tsiamis
Project Manager
Central New York Remediation Section
U.S. Environmental Protection Agency
290 Broadway, 20th Floor
New York, New York 10007-1866
e-mail: GowanusCanalComments.Region2@epa.gov

Dear Mr. Tsiamis,

I am a long time (16 years) resident of Red Hook and I am writing to add my family to the long list of Red Hook residents who are opposed to the EPA proposal to treat and/or permanently place toxic waste in our community.

I appreciate the time you have taken to come to Red Hook and listen to our concerns. I especially appreciate the fact that the EPA made clear at the April 16 meeting in Red Hook that the CDF proposal was off the table, due to overwhelming community opposition. But, we continue to be very concerned about plans for dewatering on land or water adjacent to our homes and recreation areas.

It is difficult for those of us who are not scientists, to pick through the various aspects of an EPA clean up plan. But one thing stood out for me. At the 3 community meetings held in Red Hook, no one from the EPA was prepared to discuss risk in a mature and scientific way. For me, to hear that there is no risk in treating or storing toxic material was just astounding. We are not children who need to be told that everything safe. We know it is not. We assess risk every day in our lives - in what we eat, in raising our children, indeed, choosing to live in Red Hook carries risk. Telling us there is no risk is insulting our intelligence, and is a red flag. I hope that when the EPA presents its final proposal for the Gowanus clean up that you present a true risk assessment of all aspects

of the work.
Sincerely

John Battis

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Please not in Red Hook

Jessica Lee to: Region2 GowanusCanalComments 04/26/2013 03:40 PM

History: This message has been replied to.

If there is any other location for the toxic waste processing/storage site, I hope you will consider revising the Gowanus plan to keep it out of Red Hook. The neighborhood is not in the need of another industrial site, and considering the other development options and the improvement of the neighborhood thats occurring, this would be an unwelcome addition. Its too close to the ball fields and the walkway. I am also concerned that given the flooding, this may be an unsafe location for toxic waste.

I very much want the cleanup to happen--but as it bears the risk of contributing to the industrialization and demoralization of another community, I am very concerned about the current plan. I hope you will strongly consider other options.

Thanks for your consideration,
Jessica

Superfund Cleanup Comments - Friends of Douglass/Greene Park.org
Wolfe, Sue to: Region2 GowanusCanalComments 04/26/2013 03:52 PM

History: This message has been forwarded.

Please find the attachments sent separately from the Friends of Douglass/Greene Park Comment letter to the EPA.

Sue Wolfe, SVP
Senior Vice President
The Corcoran Group
d: 718.923.8037
f: 212.230.7308
m: 917.868.5332
Sue.Wolfe@corcoran.com
124 Montague Street, Brooklyn NY,
11201

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Friends of Douglass Greene Park

change.org

To: U.S. Environmental Protection Agency (EPA) Superfund Region 2

Subject: **make the polluters pay, not our community, save the Double "D" pool!**

Letter: Greetings,

While we, the undersigned, support a comprehensive Superfund cleanup of the Gowanus Canal that includes addressing raw sewage overflows, we also insist that Superfund follow its own principles and make the polluters pay, not our community!

For this reason, we strongly oppose the EPA's proposed placement of a raw sewage retention tank to be built beneath the Douglass and Degraw (Double D) community pool and request that an alternative location for the proposed raw sewage retention tank be identified and selected.

We also ask for guarantees to our community that any displacement or disruption to the Thomas Greene Park and Double D Pool as a result of the cleanup provide for seamless transition of the park facilities (pool, playground, skatepark, basketball courts) and services (the School Food Lunch, Learn to Swim, cooling centers, etc.) at a nearby location.

Comments

Name	Location	Date	Comment
Cathleen Bell	Brooklyn, NY	2013-04-09	We use this pool every summer, nearly every day. In a neighborhood challenged for amenities this is a HUGE bonus.
Richard Kahn	Brooklyn, NY	2013-04-09	This pool is a summer refuge for not only our kids, but for dozens or more kids from the neighboring low-income housing developments.
claudia gwardyak	Bloomfield, CT	2013-04-09	my grandchildren and I enjoy the pool every summer! Please do not transform it into sewage treatment - surely there is another place for that...
Lauri Schindler	Brooklyn, NY	2013-04-09	This is a really important community facility, providing healthy "summer in the city" activities for the residents of the nearby public housing and community at large. The pool is clean, safe, and well managed, and is a place where we all come together in a neighborhood starved for public space. Please keep looking for a more suitable location for the sewerage storage facility.
David Kraus	Brooklyn, NY	2013-04-09	Dear Sir(s) and Madame(s): The community pool is all we have to bring us all together. Without it, we have nothing but a dirty sidewalk and the corner store, nowhere for my wife and daughters to interact with our close neighbors, from different worlds, but with a lot in common. Without it, Brooklyn is dead to all of us. Seriously. Please do not hesitate to call me with any concerns or follow-up questions. I am confident we can find a suitable alternative for the water processing plant. Sincerely, David Kraus 917-301-0443
Catherine O'Malley	Brooklyn, NY	2013-04-10	The pool is an invaluable part of this community. It brings the neighborhood together in a joyful, happy way--it is essential that it remain open.
Rose Latino	Brooklyn, NY	2013-04-10	Our family visits this pool at least 2x weekly!
Atea Martin	Brooklyn, NY	2013-04-10	We need this pool in our community.
Andrea Cherrington	Brooklyn, NY	2013-04-10	We started the Facebook group! This is our neighborhood pool, and we'll fight to keep it open.
Sarah Fader	Brookyn, NY	2013-04-10	I love this pool. My kids love to swim it in every summer.
Marcia Friedland	Brooklyn, NY	2013-04-10	The pool is an important community resource.
Colleen Cruz	Brooklyn, NY	2013-04-10	It's an amazing community resource that allows for people from various walks of life to come together socially. Very few places like this exist in NYC anymore. Let's not destroy this one.
Susie Farrell	Brooklyn, NY	2013-04-10	When my children were young this was a welcome place to visit on hot summer days. I know many young families that use the pool regularly during the summer.
Maaike Bouwmeester	Brooklyn, NY	2013-04-10	My kids love this pool... it's been an incredibly important resource to connect communities with very different economic resources in this area.
gregg mitchell	brooklyn, NY	2013-04-10	i love swimming there with my child
Birgitta Rubin	Brooklyn, NY	2013-04-10	This is a fantastic neighborhood pool, teeming with children (and adults) in the summer -- a little oasis in which to cool off in, learn to swim and just have fun. What a tremendous loss if it were to close. There are no nearby pools, and to have to haul to Red Hook is not an option for most people without a car. I truly hope a closure can be prevented.

Name	Location	Date	Comment
Anne Sherman	Brooklyn, NY	2013-04-10	This is a valued community resource that improves the quality of life for local residents.
Arianne Schaeffer	New York, NY	2013-04-10	There are better locations for a raw sewage tank and pools are hard to come by in the city. Why take something away from a community when it does good like providing meals and swimming lessons. Far too many kids in the summer will open fire hydrants instead sent them to the pool to learn how to swim. NYC stop destroying communities.
Amanda Agudelo	Brooklyn, NY	2013-04-10	Help support a community
Michael DiSanto	Brooklyn, NY	2013-04-10	I'm a member of the nearby Brooklyn Boulders gym and during the summer always see tons of children and families enjoying the pool. It seems like a crime or tragedy to replace it with a sewage facility. There has to be another way.
Evan Shapiro	Brooklyn, NY	2013-04-10	Not enough community pools in NY and this is a really nice one. We use it often. Dont shut it down!
Patrick Phillips	Brooklyn, NY	2013-04-10	My kids have grown up going to this pool and we love it! Don't do this.
Jesse Groom	Brooklyn, NY	2013-04-10	Ive grown up using this pool, and if its going to be closed down 5 more need to be built. but we all know that isnt going to happen. There are already not enough ways for our communities to cool off while still being outside in that crazy nyc summer heat.
theresa jehamy	brooklyn, NY	2013-04-10	I have seen this community change for the better in the last 10 years. My children and i feel safe hear and enjoy spending several hours a week here. One of the only fun summer activity that we can do for free!!!!
Nancey Jo Tolliver	Catlett, VA	2013-04-11	This is my grandchildren's neighborhood pool. I went there with them and was blown away. It is well done and should be preserved.
Charlene Nimmons	Brooklyn, NY	2013-04-11	I don't want EPA to select Thomas Greene Park Pool as the location to install a waste tank. There are other viable sites to use that will not interfere with the summer breakfast and lunch program for our neighboring children and the only local cooling site for our local families.
Seth Harris	Brooklyn, NY	2013-04-11	What is the point in saving Gowanus if you have to destroy its best park in the process?
Tamara Greenfield	Brooklyn, NY	2013-04-11	Why take away one of the few amenities for the people who live nearby?!
Eileen Lynch	Brooklyn, NY	2013-04-11	I use this pool all summer with my family.
Marisa Schwartz	Brooklyn, NY	2013-04-11	My sons learn to swim here - water safety saves lives.
Tamar Smith	Brooklyn, NY	2013-04-11	Because the Double D pool is wonderful and so needed in the community
isak tiner	brooklyn, NY	2013-04-11	We must stand together to fight against corporate greed & planning that is inconsiderate of the needs of each community.
Manuel Carrero	Brooklyn, NY	2013-04-11	I lived my entire in Park Slope, the first 25 years of my life. Douglas pool was the only place in the neighborhood my sisters and I spent most of our summers. This was a place were friends and family go to spend quality time and beat the heat :-) Why is it that whenever there is something being built, the neighborhood children have to pay. Leave the neighborhiod pool and parks alone!
Sharon Chen	Brooklyn, NY	2013-04-12	I believe there are other ways to clean up the Gowanus Canal than taking the community pool away that many go to socialize and hang out at. What will they do once they're stripped of their favorite past time? Obesity is one of the biggest issues that we Americans are struggling to fight. You take the resource that provides and encourage physical activity away, you'll just push people to eat more and move less. You'll cause more problems than solving this one.
Mireille Mclean	Brooklyn, NY	2013-04-13	This pool is the best thing for our neighborhood kids in the summer.

Name	Location	Date	Comment
Denise Morales	Brooklyn, NY	2013-04-14	I'm signing this petition because I've used this pool since I was 13 yrs old. Now that I have my own family, we go to Douglas pool as a family. I would really hate to see this childhood place full of memories be destroyed!
Kristin Mensing	Brooklyn, NY	2013-04-15	My two daughters and I live in Park Slope and spend most of our hot days in Brooklyn at the Double "D". It is the ONLY accessible body of water for so many families, and moreso for for low income families in the community. It is a wonderful community center, where friends & family can cool off and relax during the hot summer months. PLEASE KEEP IT OPEN!!
Lorraine Le Tac	Brooklyn, NY	2013-04-15	This is a wonderful community pool that serves the immediate surroundings and beyond.
Wendy Margulies	Brooklyn, NY	2013-04-15	Great pool, serves as a necessary community resource especially for under-served children who cannot afford "camp" during the summer.
Leah Clarkson	Brooklyn, NY	2013-04-15	This pool is the only pool that can be reached on foot for a large number of Brooklynites--it is not dispensible; indeed, more resources should be devoted to improving this community treasure.
Radha Subramanyam	brooklyn, NY	2013-04-15	This is the only local pool for Park Slope, Gowanus and other neighborhoods
Kerstin Hofmann	Brooklyn, NY	2013-04-15	The children in the area NEED this pool in the summer! Please keep it open!!!
Jane Higgins	Brooklyn, NY	2013-04-15	My son (3) just saw a picture of the pool and said. "I love that cool pool." Keep it for the kids.
Katie Bednark	Brooklyn, NY	2013-04-15	This amenity serves an area where it is much needed!
Theresa Gonzalez	Brooklyn, NY	2013-04-15	Only outside recreational pool within walking distance or public transportation without having to cross a highway (ie Hamilton Ave to go into Red Hook). With little ones the travel to the pool is as big of a deal as the pool itself!
Alison Khalaf	Brooklyn, NY	2013-04-15	This pool is an important community resource.
Cathy Towle	Brooklyn, NY	2013-04-15	We use this valuable resource to beat the hot summer in the city. It's important for the community.
J. Sturm	Brooklyn, NY	2013-04-15	This pool serves a diverse group of Brooklyn residents who NEED and USE this pool all summer long.
amanda magalhaes	brooklyn, NY	2013-04-15	this is one of the best resources in our community
Jen Keiser Gordon	Brooklyn, NY	2013-04-15	My children and I love swimming in the Double D pool. It is a wonderful community resource.
Allan Scholl	Brooklyn, NY	2013-04-15	My children utilize this pool every summer with their friends. They joined the swim team and took lessons there.
Melissa Guion	Brooklyn, NY	2013-04-15	This is my local pool! My family, including my 6 year old daughter, use this pool to cool off in the summer. We can walk there. Please don't close it! It's one of the best community resources we have, and a place where all members of the community come together.
Clement Dargent	Brooklyn, NY	2013-04-15	This is the only swimming pool in the neighborhood... it's important for the community!
Jane Bliss	Brooklyn, NY	2013-04-15	While cleaning up the Gowanus Canal is great for the community, I don't support killing such a valuable community resource to do so.
patrick burns jr	Brooklyn, NY	2013-04-15	Me and my family use this pool almost every day of the summer. It would be devastating to my children, myself and the community, if this pool were to close, especially since the park was just beautifully renovated.
Sarah Lichtman	Brooklyn, NY	2013-04-15	My family uses this pool all the time in the summer. It is an important community resource where different types of people within the community can mix and enjoy spending time together.

Name	Location	Date	Comment
darian Silk	Brooklyn, NY	2013-04-15	My son learned to swim at this pool and it is a valuable community resource. Also the park was just recently re-done at much expense. As the housing increases in the Gowanus area it will be more and more important to have significant park resources available to all residents.
don sparacin	brooklyn, NY	2013-04-15	My daughter learned to swim here. There is ample space along the beautiful shores of the gowanus canal for your sewage treatment facility. Leave the community pool as is.
Bruce Hamilton	Brooklyn, NY	2013-04-15	During the spring and summer, this pool is an invaluable resource for all of the residents in the community. It is managed and maintained very well and compliments the adjoining newly renovated park. I'm pretty sure there are other locations along the canal that could support the treatment plant.
Antonia Martinelli	Brooklyn, NY	2013-04-15	This is the only walkable outdoor swimming facility in my area. The Red Hook Pool is not a pedestrian friendly option. The Double D pool makes the hot summer more tolerable and is the only opportunity my children have to learn how to swim. Why aren't we asking the Lightstone Group to put this storage facility under their buildings?
Sarah Moriarty	Brooklyn, NY	2013-04-16	Because we all deserve a place to cool off on a hot summer day. Because community is not just about working together, it is about playing together.
kathleen hackett	Brooklyn, NY	2013-04-16	The pool is just one of the things that brings people from diverse socioeconomic backgrounds together, which is essential to the health and well-being of the neighborhood and surrounding neighborhoods. It provides a healthy environment for kids in the summer --- most of whom might be left with few options.
Carolynn Di Fiore	Brooklyn, NY	2013-04-16	We have very little for our children in NYC at least let them have this pool.
Margaret O'Keefe	Brooklyn, NY	2013-04-16	We love and rely on the Double D poolas do many of our neighbors
Nancy Dodd	Brooklyn, NY	2013-04-16	My kids love to swim at the pool. It's our only community pool.
Melissa Ennen	Brooklyn, NY	2013-04-16	They are cleaning the canal in order to gentrify the neighborhood (not that it shouldn't be cleaned). Lower-income people get screwed constantly and are suffering most in this economy. Don't take the pool away, too.
Susan Boyle	Brooklyn, NY	2013-04-16	This is a necessary resource for Brooklyn families in the summer.
Louise Sloan	Brooklyn, NY	2013-04-16	I am sure there is some warehouse that could be bought and razed rather than substituting sewage for a beloved and well-used community resource.
Niamh Ring	Brooklyn, NY	2013-04-16	I've been going there for years and now take my 6-year old son there.
Christine Schwartz Hartley	Brooklyn, NY	2013-04-16	My kids and I have been going there for years. It's a great resource and wonderful space for the neighborhood's various communities to share during the summer. Taking it away would make a lot of people very angry. We need free public recreation spaces! More of them, not less!
edgar crutchfield	brooklyn, NY	2013-04-16	this is the only swimming pool in my nabe. we need it.
Boaz Weinstein	Brooklyn, NY	2013-04-16	The Double "D" pool is a valued and valuable community resource for thousands of Brooklynites, particularly in an area with limited park resources as is.
christine dappolonia	ny, NY	2013-04-16	A much used, needed and loved place for kids in the summer
Andrea Rashish	Brooklyn, NY	2013-04-16	This neighborhood deserves more services, not fewer!
patricia stegman	Brooklyn, NY	2013-04-16	Because it serves a highly populated area including large low-income apt. houses whose children need this park and pool very much!
Jennifer Bernstein	Brooklyn, NY	2013-04-16	The pool is a mainstay of our community life.
Tracey Maurer	Brooklyn, NY	2013-04-16	This pool is a vibrant part of our community

Name	Location	Date	Comment
Courtney Black	Brooklyn, NY	2013-04-16	My kids have been going to DD pool for a couple of years now. They love it. DD pool is surrounded by low-income housing. Taking the pool away means that when it comes to the summer-those kids wont have much to do since there isn't much around DD pool.
Roselyn Kopit	Brooklyn, NY	2013-04-16	This is an important resource for the entire neighborhood
Stephanie Church	Brooklyn, NY	2013-04-16	this pool is an amazing resource for the community--for kids and adults alike. a wonderful place to go in the summer.
Brooke Ferguson	Brooklyn, NY	2013-04-17	This is the only pool in our neighborhood!
Linsey Laidlaw	Brooklyn, NY	2013-04-17	Its where we swim!!!
Jessica Hartshorn	Brooklyn, NY	2013-04-17	There are plenty of other spots, you don't need to take away the place our kids go to exercise and be healthy!
Agnes Crane	Brooklyn, NY	2013-04-17	I've been going to the DD pool for 10 years and my 7-year daughters learned to swim there. With so few places to cool off in the summer, it's a terrible idea to close the pool that the whole community enjoys.
Elizabeth Williams	Brooklyn, NY	2013-04-17	This is a valuable r
Jessica Trauner	Brooklyn, NY	2013-04-17	My family and I use this pool all summer long. It is a wonderful local pool that we can walk too and it provides respite and an easy, accessible way to cool off during the hot summers. Many individuals in the community use this pool from diverse backgrounds, and many people do not have easy means to get to another pool (for example, the pool in Red Hook), if this one were to close. We ask that the EPA seek out another site in build a sewage storage facility as part of the Superfund Gowanus clean-up.
kathleen henderson	bklyn, NY	2013-04-17	Our kids need this pool to stay cool in the summer.
David Lengel	Brooklyn, NY	2013-04-17	Removing pools has a signifigant impact on the quality of life of nearby residents. Providing centres such as these are one of the many reasons New York is one of the most livable cities in the world, and pools are one of the best public services in its history. Please find another place for this facility.
Matt Polacheck	Brooklyn, NY	2013-04-17	My kids go to this pool every week with their summer camp, and it would be a shame to close such a valuable resource for our children and the community.
Kate Rope	Brooklyn, NY	2013-04-17	This pool is a valuable, well-used, and well-loved community resource that serves an economically diverse neighborhood. There is no reason the neighbors of the Gowanus canal should lose such an important part of their life in order to clean up the canal. There are many other accessible pieces of real estate to use for the same purpose. How horrible is it to take away a safe and enjoyable summertime activity from kids who need it only to replace it with raw sewage? That's a PR nightmare, EPA!
sandye renz	Brooklyn, NY	2013-04-17	We love the pool and go there often.
Jaime Brackeen	Astoria, NY	2013-04-17	A free public pool offers the potential for interaction between people of many ethnicities, social levels and walks of life to interact in a safe and fun environment. Why take that away?
Valerie Wattenberg	Brooklyn, NY	2013-04-17	This pool is an essential outlet for Brooklyn's children; how can you trash children's needs, and shift the burden from companies that poisoned the Gowanus and government that allowed it?
Isidora Finkelstein	Brooklyn, NY	2013-04-17	I love this pool! It is clean and well-managed. It is one of the most diverse places in Park Slope and the surrounding area. Plus, they just redid the park next to it.

Name	Location	Date	Comment
Jordan Green	Brooklyn, NY	2013-04-17	I live in the area- and the Double D pool is very valuable to our community. Also- when it comes to the super fund site- the polluters should be held accountable- and the community should not suffer from their actions.
Susan Kovar	BROOKLYN, NY	2013-04-17	This pool is such a neighborhood treasure! I visit regularly throughout the summer and love seeing neighbors and children enjoying the summer and taking the opportunity to cool down. Please do't take away our pool!!
Douglas Allen	Brooklyn, NY	2013-04-17	I don't want to live a block away from a raw sewage facility.
Peter Kinoy	Brooklyn, NY	2013-04-17	City pools are vital to democratic city life; the mingling of people all enjoying the same space.
Kyle Vitale	Brooklyn, NY	2013-04-17	We love this pool and swim here multiple times per week in the summer!
Isadora Reisner	New York, NY	2013-04-17	Everyone should have fun in the summer-- not just those who can afford it.
Susanna Yurick	Brooklyn, NY	2013-04-17	Think about community needs before destroying their resources.
Imanigayle Gillison	Brooklyn, NY	2013-04-17	This is important to me because Thomas Greene Park (not "Douglass/Greene" as it is being referred to) was named after my Godfather for his endless community advocacy and service to this district. He would want this park/pool/playground to remain accessible to local Gowanus Houses, Wyckoff Gardens and Warren/Turnkey Houses Community Residents.
Cricket Keys	Brooklyn, NY	2013-04-17	Public Pools are an important part of the community as much as parks. One of the few things tax payers can enjoy!
RK Dillon	Brooklyn,, NY	2013-04-17	This is a wonderful neighborhood asset & wouldn't be duplicated anywhere near if it's demolished.
RENEE FLOWERS	BROOKLYN, NY	2013-04-17	I was there and anticipation was at an all time high when this recreation area was being constructed. This pool has been the fun place to hang out for many years. What's more important is that it has drawn together the community. We live in a super diverse community and having everyone meet each other while engaging in this fun recreation has been an asset to the development of community relations (and that is awesome in itself).
Beth Frey	Brooklyn, NY	2013-04-17	It's in my community and is a wonderful resource to have in the summer for my daughter.
Katy Reitz	Brooklyn, NY	2013-04-17	There are so few places in the city for children to be able to be outside and experience the water. The DD pool is a gem that is well utilized by the community.
Mary Beth Early	Brooklyn, NY	2013-04-17	Come on! This is a great community resource for kids and families!
Greg Tiefenbrun	Brooklyn, NY	2013-04-17	I live nearby and use the pool often.
Mary Bruccoli	Brooklyn, NY	2013-04-17	This is the one amenity in the neighborhood used by everyone... young, old, black, white, rich, poor. There are plenty of open lots by the canal. Please don't take this away from the neighborhood!
Shayna Kessler	Brooklyn, NY	2013-04-17	Places for community members to exercise, play and engage in healthy activities keep communities safe and healthy by providing positive alternatives to unsafe behavior. Please don't harm our community by destroying our pool.
Julius Elinson	Brooklyn, NY	2013-04-17	This is one of the few places in the neighborhood for free and healthy fun in the summer.
Nasoan Sheftel-Gomes	Brooklyn, NY	2013-04-17	I used to live a block away and I used to take my child there. It is an extremely important part of the Park Slope community. There is a playground on the site and the community and it's children should not have to lose a vital community resource to help the Gowanus Superfund clean-up. Make the polluters pay not our community!

Name	Location	Date	Comment
Kayla Chisholm	Fanwood, NJ	2013-04-17	I grew up going to this pool, its pool that keeps kids out of trouble in the summer and gives you something to do .
Antoinette Wannebo	Brooklyn, NY	2013-04-17	It is vital to provide free opportunities for safe, healthy fun for kids and their families during the summer months. This pool severs that purpose and more -- it is well used by the community, provides a venue for free lunch and swim lessons. It is not an acceptable solution to close down a vital public community resource. I also question the environmental and social justice of siting a multimillion dollar raw sewage storage facility in the neighborhood.
J Jackson	Brooklyn, NY	2013-04-17	I frequent this pool with my son and his aunt every summer. It's a well-maintained and well-operated facility, and one of the rare places where the entire Pk Slope/Gowanus community can convene and everyone feels welcome.
Lara Holliday	Brooklyn, NY	2013-04-18	The Double D is a huge part of our community -- a place for all of the children to cool down and have fun in the summer. But more importantly, it gives city kids a chance to learn to swim -- a potentially life-saving skill that everyone deserves a chance to learn. Please save our pool!
Lisa Hickey	Brooklyn, NY	2013-04-18	my child and i use this pool regularly during the summer - the kiddy pool is wonderful and there is not another public pool in our neighborhood.
Steve de Seve	Brooklyn, NY	2013-04-18	The canal must be cleaned and the sewage must be stopped. But the city, state, and National Grid are the problem. They must pay the fll amount, including paying to make a new pool the locals can use --- otherwise it means the local families will be paying with their summer activities, for cleaning pollution others are responsible for. A new, nearby pool site must be acquired. There are a few sites nearby. But the city and the crooked bloomberg administration has to cough up the money and do the right thing.
Lisa Baker, MD	Brooklyn, NY	2013-04-18	Please don't take away community places that are used by all different members of the community. This pools draws from all around it and beyond.
sheelagh appleby	brooklyn, NY	2013-04-18	i great place to take my 3 year old when it's hot outside
Beverly J Kidd	Dayton, OH	2013-04-18	Childeren need safe, and clean places for recreation.
Taryn FitzGerald	Brooklyn, NY	2013-04-18	First the school, now the library, and next the pool? We don't have enough resources as it is, in this community. Enough! Leave our neighborhood alone!
Scott Levy	Brooklyn, NY	2013-04-18	We run a business with multiple locations in the area and this is a valued pool for our families!
Adam Witten	Brooklyn, NY	2013-04-18	This park was just renovated over the winter and the pool is in heavy use all summer. It is a true public space. Please keep this keystone of the community open.
Sergio Fanchiotti	Brooklyn NY, NY	2013-04-18	This is an important service to the neighborhood. Taking it away is really absurd.
David Locke	Cape May, NJ	2013-04-18	There are too few such amenities in this neighborhood to lose this one, even for a few years. Maybe they should put the retention tanks under that huge luxury coop about to be put up on the other side of the canal, what?
Stuart Dryburgh	Brooklyn, NY	2013-04-18	Me and my two boys swim there every day through the summer. And it is alway packed with kids from the neighborhood. Vital!
Basheba Vazquez	Brooklyn, NY	2013-04-18	This is a great community pool. We frequent this pool many times throughout the summer. It also provides free meals for those who need and a great wading pool for the little ones.

Name	Location	Date	Comment
Carolyn Pravda	Brooklyn, NY	2013-04-18	Please save the DD pool! It's an important recreation spot for two family filled neighborhoods!
Stu Anderson	Brooklyn, NY	2013-04-18	I grew up swimming in this pool and I would hate not to be able to share it with future generations. This is a Brooklyn landmark, not a disposable feature.
Henry Carrier	Brooklyn, NY	2013-04-18	I have been to the pool many times with my children. The pool is safe, clean and a welcome relief on a hot day. Public Space is a premium in Brooklyn. Do not take it away.
Deirdre Dolan	brooklyn, NY	2013-04-18	there aren't a lot of ways to entertain kids in brooklyn in the 90 degree heat.
Melissa Fitzpatrick	Brooklyn, NY	2013-04-18	This pool is an important part of an already underserved community -- why take away one of the few benefits they enjoy?
Eva Garriga	Brooklyn, NY	2013-04-18	because it is important for the community to have a place to cool off in the summer.
leslie nuchow	brooklyn, NY	2013-04-18	What would Jesus do? Take a summer pool away from inner-city kids to build a poop tank? Seriously? We need to wake UP to TRUE FAMILY VALUES. What will all of those children do in the hot summer? Do we care? Let's show the children and families that we DO CARE by stopping this closure. When will we see the value in putting our children first?
mike benson	brooklyn, NY	2013-04-18	community, health, chill out factor, connection to a natural element in an urban setting, diverse groups connecting, health and fitness, wellness, access to swimming,
Tom Lino	Brooklyn, NY	2013-04-18	Our family swims at the "Double D" pool to escape the summer heat. We love it!
gilles bransbourg	brooklyn, NY	2013-04-18	This pool serves the entire community and is a key entertainment component of what the neighborhood has to offer during summer, especially for those we don't or can't travel to nice vacation spots. Removing it would be hugely detrimental, especially to the less privileged members of our community.
Ariel Flavin	Brooklyn, NY	2013-04-18	This pool brings our often separated community together. It's a resource for everyone and kids in the city deserve a place to swim and cool off in the summer. It's one of our neighborhoods most valuable resources.
Sharon Guskin	Brooklyn, NY	2013-04-18	This pool is important for the community.
Tonya Thornton	Brooklyn, NY	2013-04-18	Summer would not be the same without the DD pool! This pool is the perfect way to cool off during the hot summer months and enjoy the water with my daughter! Please don't close the pool,
Bomee Jung	Brooklyn, NY	2013-04-18	This is a community facility beloved by families of varying economic means. There's nothing like this pool anywhere near by. Cleaning up Gowanus shouldn't place more burdens on the parents and kids of this community!
Emma Golden	New York, NY	2013-04-18	My kids use thsi pool every summer as do many kids in and around the area
Allison Conner	Brooklyn, NY	2013-04-18	Brooklyn needs it's pools. That's where my step-daughter learned to swim! It's good for the community.
Lucy McNair	Brooklyn, NY	2013-04-18	This is a fabulous small pool perfect for beginners and families and has no other one like it in the city.
Ian Dutton	New York, NY	2013-04-18	Any temporary displacement of public amenities must be rebuilt an replaced in a final state of the project with interim accommodations provided!

Name	Location	Date	Comment
Sabine Aronowsky	Brooklyn, NY	2013-04-18	Friends of Douglass Greene Park (FODGP) supports a comprehensive cleanup of the Gowanus Canal, that includes addressing Combined Sewer Overflows (CSO's) and coal tar waste entering the canal from the uplands area. We ask the EPA to make the polluters pay and not our children and our community. The potentially responsible parties (PRP's) are National Grid and the City of New York. We do not want a raw sewage tank to disrupt our Double D pool and we need clear answers about the level of toxicity of the land beneath the pool. The families that use this Park and Pool deserve remediation and not more obfuscation from the PRP's. There are other locations, closer to the CSO outfall (RH-034), where the tank can go, such as the lot on Nevins and Butler, across the street from the Pump station and the Flushing tunnel. Over $500 M will be spent on this cleanup and we want a Record of Decision that minimizes any possible disruption to the park & pool and provides for any direct costs related to that, including a nearby temporary pool and a permanent replacement, along with all the community services and other park amenities accounted for. Anything less would be considered an environmental justice issue, and there are EPA protocols for this.
Kristin Brady	Brooklyn, NY	2013-04-18	Our family relies on this pool all summer - what a fantastic community resource! We would hate to see it go.
Michelle de la Uz	Brooklyn, NY	2013-04-18	Assuming the pool needs to be disturbed to either properly remediate the Fulton MGP site or as the most appropriate location for a retention tank, then an interim location for a temporary pool MUST be found so there is no loss of access to the local community to this critical community asset AND the community must be involved in redesigning a new, replacement pool (and park if that is impacted too). The cost of the interim pool, design process that includes the community, and new pool should be born by the PRPs responsible. Thanks
Sarah Jefferys	Brooklyn, NY	2013-04-18	In summertime, my kids go to this pool almost every day. It is a life saver in hot weather and a very special spot for city kids to swim. Please save the pool!
Sheri Stein	Brooklyn, NY	2013-04-18	Please don't make local kids who have so few places to go in the summer suffer.
Jayson Haedrich	SUNNYSIDE, NY	2013-04-19	NYC Pools are important for everyone Relief from the summer heat
Anita Keire	Brooklyn, NY	2013-04-19	Love that pool in the summer time!
Michael Cosaboom	Brooklyn, NY	2013-04-19	My family uses the pool practically every day in the summer. It's the best recreational space in the neighborhood and it needs to remain open.
Geri de Seve	troy, NY	2013-04-20	My granddaughters live in the neighborhood and kenjoymthis pool in the summertime. I want to keep it open and I want it to be safe for them and the other neighborhood children who need a
Lisa Bohen	Brooklyn, NY	2013-04-20	This is a important community resource!! Please find another location for the treatment plant.
Ann Armbruster	Brooklyn, NY	2013-04-20	There are only two pools serving all of South Brooklyn. They are both packed in the summer.
Christian Fox	Brooklyn, NY	2013-04-20	The DD pool is a great resource for the community and is anything but underused. Shutting it down would remove a positive activity for many youths and families during the summer months.
Elizabeth Amon	Brooklyn, NY	2013-04-20	We love going to the pool in the summer-- it's close and a relief from the heat.

Name	Location	Date	Comment
Albert Wong	Brooklyn, NY	2013-04-20	This is the only public pool in Park Slope/ Gowanus!
Eva Radke	Brooklyn, NY	2013-04-20	This is a community resource we need preserved!
Nancy Broadway	Brooklyn, NY	2013-04-20	This is an important community resource which is utilized by people from all over the community.
Barbara Hatfield	Brooklyn, NY	2013-04-20	I use the pool and recognize its importance to the community.
David Osorio	Brooklyn, NY	2013-04-20	I owe a business on Degraw street (CrossFit South Brooklyn). Many of our parents take their kids to the pool after classes, it is a great part of our summer experience. It would be a shame to lose this pool as the entire community uses it. Please don't take more away from the housing projects too..
Andrea Lewandowski	Brooklyn, NY	2013-04-21	My kids and many of their friends depend on this using this pool every summer. It is not fair to penalize the community. We need this pool!
Paul Sonn	Brooklyn, NY	2013-04-21	Gowanus has so little park and community space already. It can't afford to lose the little that it has. The Double D Pool is a wonderful resource used by families from a wide range of neighborhoods - please find another alternative!
malcolm varon	new york, NY	2013-04-21	i use this pool often in the summer as a way to escape the heat and to get exercise and recreation. It is convenient, and provides a much needed easy to reach break from my very busy life schedule. I would find closing of this pool a severe damage to my quality of life in my neighborhood. I urge you to reconsider your proposal, and not destroy this much needed and much used pool, playground, and park facility. Yours sincerely, Malcolm Varon
Jim Brennan	Jersey City, NJ	2013-04-22	Plenty of vacant lots and vacated industrial spaces in and around that neighborhood could be used as locations - NYC residents need public pools
jennifer gandia	brooklyn, NY	2013-04-23	Brooklyn needs more, not less recreational spaces for its residents and children. This pool provides a valuable space for outdoor activity in the community. Please find another locaation for your sewage pant - yuck!
Maia Murphy	Brooklyn, NY	2013-04-23	DD pool is a rare example of a public space in a neighborhood short on green spaces. Keep it open!
Francine Pado	Brooklyn, NY	2013-04-24	My family uses the pool every day in the summer. Please don't close it!!!!!
Adria Stokes	Brooklyn, NY	2013-04-25	This is important to me because we need to keep the few neighborhood get-aways that we have.
Teddie Vietor	Brooklyn, NY	2013-04-25	My grandchildren and I frequent the pool during summers
lauren healy	brooklyn, NY	2013-04-25	We love swimming at this pool as one of our main summer activities! great for kids to have somewhere to go in the summer!
Jeannine Cooke	Brooklyn, NY	2013-04-25	Why destroy & dirty (with sewage!!!) a perfect place, to clean up a polluted one? if this happened in another country our government would protest. Everywhere in the world people replace sewage with parks & pools. Why would we do the opposite? Our park & pool are the recreation camp & summer camp for thousands of people from our community who can't go to camps outside the city. With all the unused land around this canal, why would anybody think about destroying our newly restored park & pool?
sarah crichton	brooklyn, NY	2013-04-25	This pool keeps our neighborhood healthy and happy and sane and calm!
Kathy McCullagh	Brooklyn, NY	2013-04-26	The pool keeps us sane in the summer - we can bike there - please don't destroy this pool!

Name	Location	Date	Comment
Amy Freeman	Brooklyn, NY	2013-04-26	Summers are only getting hotter in NYC and everyone needs a place nearby to cool off - especially people who can't get out of the city easily. NYC knows this better than the EPA, and can and should come up with a better, more well thought out plan. Why should the local community suffer the consequences of the polluted canal AND be the ones to pay for it??
Lisa Grocottl	Brooklyn, NY	2013-04-26	With no green space near us this is the closet thing to our local park.
ed lavelle	brooklyn, NY	2013-04-26	take a place where kids play and make it into a raw sewage tank? you're going the wrong way.

Friends of Douglass Greene Park

change.org

To: U.S. Environmental Protection Agency (EPA) Superfund Region 2

Subject: **make the polluters pay, not our community, save the Double "D" pool!**

Letter: Greetings,

While we, the undersigned, support a comprehensive Superfund cleanup of the Gowanus Canal that includes addressing raw sewage overflows, we also insist that Superfund follow its own principles and make the polluters pay, not our community!

For this reason, we strongly oppose the EPA's proposed placement of a raw sewage retention tank to be built beneath the Douglass and Degraw (Double D) community pool and request that an alternative location for the proposed raw sewage retention tank be identified and selected.

We also ask for guarantees to our community that any displacement or disruption to the Thomas Greene Park and Double D Pool as a result of the cleanup provide for seamless transition of the park facilities (pool, playground, skatepark, basketball courts) and services (the School Food Lunch, Learn to Swim, cooling centers, etc.) at a nearby location.

Signatures

Name	Location	Date
Virginia Vitzthum	brooklyn, NY, United States	2013-04-09
Michael White	Brooklyn, NY, United States	2013-04-09
Cathleen Bell	Brooklyn, NY, United States	2013-04-09
Rick Kahn	Brooklyn, NY, United States	2013-04-09
Luke Mondello	Brooklyn, NY, United States	2013-04-09
Lyn Miller	Hanover, NH, United States	2013-04-09
Claudia GWardyak	Brooklyn, NY, United States	2013-04-09
SJ Avery	Brooklyn, NY, United States	2013-04-09
Lorraine Diggory	Webster, NY, United States	2013-04-09
Lauri Schindler	Brooklyn, NY, United States	2013-04-09
Teri West	Brooklyn, NY, United States	2013-04-09
Marilyn Schiller	Brooklyn, NY, United States	2013-04-09
Melissa Stein	Brooklyn, NY, United States	2013-04-09
Doug Gordon	Brooklyn, NY, United States	2013-04-09
David Kraus	Brooklyn, NY, United States	2013-04-09
Darren Mitton	Decatur, GA, United States	2013-04-09
Joseph Entin	Brooklyn, NY, United States	2013-04-09
Concerned Citizen	New City, NY, United States	2013-04-10
Catherine O'Malley	Brooklyn, NY, United States	2013-04-10
Leora Kaye	New York, NY, United States	2013-04-10
Zoe White	Brooklyn, NY, United States	2013-04-10
Laura Saxon	morriston, FL, United States	2013-04-10
Ellie Connolly	BROOKLYN, NY, United States	2013-04-10
Rose Latino	Brooklyn, NY, United States	2013-04-10
Atea Martin	Brooklyn, NY, United States	2013-04-10
Sara Greenfield	Brooklyn, NY, United States	2013-04-10
colleen mullin	brooklyn, NY, United States	2013-04-10
esra dayani	New York, NY, United States	2013-04-10
Jenna Musnicki	Brooklyn, NY, United States	2013-04-10
VALERIE BELL	bklyn, NY, United States	2013-04-10

Name	Location	Date
Andrea Cherrington	Brooklyn, NY, United States	2013-04-10
Amy Herda-DeCoursy	Brooklyn, NY, United States	2013-04-10
Sean Pierce	Brooklyn, NY, United States	2013-04-10
Sarah Fader	Brookyn, NY, United States	2013-04-10
Matthew Cohen	Brooklyn, NY, United States	2013-04-10
Nicole Krieger	Brooklyn, NY, United States	2013-04-10
Adam Cherrington	New York, NY, United States	2013-04-10
Marcia Friedland	Brooklyn, NY, United States	2013-04-10
Nadine Baldasare	Brooklyn, NY, United States	2013-04-10
Colleen Cruz	Brooklyn, NY, United States	2013-04-10
charlie bogen	Junction City, KS, United States	2013-04-10
Francine Simonson	Brooklyn, NY, United States	2013-04-10
Judith Rixner	New York, NY, United States	2013-04-10
Sheva Wolf	Brooklyn, NY, United States	2013-04-10
Susie Farrell	Brooklyn, NY, United States	2013-04-10
Gary Friedland	Brooklyn, NY, United States	2013-04-10
Michele Sonerville	New York, NY, United States	2013-04-10
Anne Ramos	New York, NY, United States	2013-04-10
Aileen Cleary	New York, NY, United States	2013-04-10
Samantha Lobis	Brooklyn, NY, United States	2013-04-10
Emily Phillips	Brooklyn, NY, United States	2013-04-10
Kimberly Greenland	Brooklyn, NY, United States	2013-04-10
Theo Kogan	Brooklyn, NY, United States	2013-04-10
Maaike Bouwmeester	Brooklyn, NY, United States	2013-04-10
gregg mitchell	brooklyn, NY, United States	2013-04-10
Kinjia Hinterland	Brooklyn, NY, United States	2013-04-10
Birgitta Rubin	Brooklyn, NY, United States	2013-04-10
Nikki Waller	Brooklyn, NY, United States	2013-04-10
Anne Sherman	Brooklyn, NY, United States	2013-04-10
Andrea Chu	Brooklyn, NY, United States	2013-04-10
Piper Kerman	Brooklyn, NY, United States	2013-04-10
Seth Phillips	Brooklyn, NY, United States	2013-04-10

Name	Location	Date
gillian conroy	brooklyn, NY, United States	2013-04-10
Jeremy hutchins	Brooklyn, NY, United States	2013-04-10
Katie Cunningham	Brooklyn, NY, United States	2013-04-10
jean golden	east lansing, MI, United States	2013-04-10
Nancy Steinson	Brooklyn, AL, United States	2013-04-10
Julie Sebunya	Brooklyn, NY, United States	2013-04-10
Bernardo Issel	New York, NY, United States	2013-04-10
Arianne Schaeffer	New York, NY, United States	2013-04-10
sharon Sedgwick	New York, NY, United States	2013-04-10
David Franklin	Brooklyn, NY, United States	2013-04-10
Andrea Friedland	Brooklyn, NY, United States	2013-04-10
kristian nunez	Brooklyn, NY, United States	2013-04-10
Adam Caswell	Brooklyn, NY, United States	2013-04-10
Reba Frankel	Brooklyn, NY, United States	2013-04-10
Amanda Agudelo	Brooklyn, NY, United States	2013-04-10
Stephanie Shih	Brooklyn, NY, United States	2013-04-10
Jayson Ramos	Brooklyn, NY, United States	2013-04-10
Michael DiSanto	Brooklyn, NY, United States	2013-04-10
Evan Shapiro	Brooklyn, NY, United States	2013-04-10
Charles Lan	Brooklyn, NY, United States	2013-04-10
Jessica Tolliver	Brooklyn, NY, United States	2013-04-10
andy ollove	Brooklyn, NY, United States	2013-04-10
joanne o'sullivan	New York, NY, United States	2013-04-10
Isla Leaver-Yap	Brooklyn, NY, United States	2013-04-10
Christina Anderson	Brooklyn, NY, United States	2013-04-10
Diana English	Brooklyn, NY, United States	2013-04-10
Patrick Phillips	Brooklyn, NY, United States	2013-04-10
Amelia Holcomb	Brooklyn, NY, United States	2013-04-10
Teri Cunningham	Brooklyn, NY, United States	2013-04-10
Jennifer Minetree	New York, NY, United States	2013-04-10
Daniel Casner	Staten Island, NY, United States	2013-04-10
jesse groom	Brooklyn, NY, United States	2013-04-10

Name	Location	Date
Christine Fitts	Brooklyn, NY, United States	2013-04-10
Andrea Couch	Brooklyn, NY, United States	2013-04-10
Lucy Prather	Brooklyn, NY, United States	2013-04-10
Melissa Maupin	Brooklyn, NY, United States	2013-04-10
Lila Barrett	Brooklyn, NY, United States	2013-04-10
theresa jehamy	brooklyn, NY, United States	2013-04-10
Melissa Komadina	Brooklyn, NY, United States	2013-04-10
Rachel Lynch-John	Brooklyn, NY, United States	2013-04-10
Mary Weatherburn	Brooklyn, NY, United States	2013-04-10
Madeline Peikes	Brooklyn, NY, United States	2013-04-10
AJ Jitchaku	Brooklyn, NY, United States	2013-04-10
Kristen Davis	Brooklyn, NY, United States	2013-04-10
Nancey Jo Tolliver	Catlett, VA, United States	2013-04-11
Charlene Nimmons	Brooklyn, NY, United States	2013-04-11
Seth Harris	Brooklyn, NY, United States	2013-04-11
Austin Reed	New York, NY, United States	2013-04-11
Kevin Osgood	Brooklyn, NY, United States	2013-04-11
chris kidle	brooklyn, NY, United States	2013-04-11
Tamara Greenfield	Brooklyn, NY, United States	2013-04-11
Stephanie Wissinger	Brooklyn, NY, United States	2013-04-11
Eileen Lynch	Brooklyn, NY, United States	2013-04-11
Banafsheh Zand	Brooklyn, NY, United States	2013-04-11
Marisa Schwartz	Brooklyn, NY, United States	2013-04-11
Zoe Pellegrino	Brooklyn, NY, United States	2013-04-11
Sarah Reynolds	Brooklyn, NY, United States	2013-04-11
Tamar Smith	Brooklyn, NY, United States	2013-04-11
Kelly Kelleher	Point Lookout, NY, United States	2013-04-11
Lisanne McTernan	Brooklyn, NY, United States	2013-04-11
isak tiner	brooklyn, NY, United States	2013-04-11
Carla Carrero	Brooklyn, NY, United States	2013-04-11
Erin Kelly	Brooklyn, NY, United States	2013-04-11
Adina Gunsburg	Brooklyn, NY, United States	2013-04-11

Name	Location	Date
Manuel Carrero	Brooklyn, NY, United States	2013-04-11
Brogan Ganley	11231, NY, United States	2013-04-12
Rosie Zexter	New York, NY, United States	2013-04-12
Mariana Aslan	Brooklyn, NY, United States	2013-04-12
Sharon Chen	Brooklyn, NY, United States	2013-04-12
doug shapiro	brooklyn, NY, United States	2013-04-12
Joan Halligan-Wang	Middle Village, NY, United States	2013-04-13
Mireille Mclean	Brooklyn, NY, United States	2013-04-13
Denise Morales	Brooklyn, NY, United States	2013-04-14
Cori Landry	Brooklyn, NY, United States	2013-04-14
Kim Huskey	Brooklyn, NY, United States	2013-04-15
Lance Pinn	Brooklyn, NY, United States	2013-04-15
Melanie Wilkinson	Brooklyn, NY, United States	2013-04-15
Elizabeth Wolfe	Brooklyn, NY, United States	2013-04-15
Naidre Miller	Brooklyn, NY, United States	2013-04-15
Alexandria Rodriguez	Brooklyn, NY, United States	2013-04-15
Garance Wilkens	Brooklyn , France	2013-04-15
Georgia West Stacey	Brooklyn, NY, United States	2013-04-15
Katharine Ogg	New York, NY, United States	2013-04-15
Kristin Mensing	Brooklyn, NY, United States	2013-04-15
Davis Family	Brooklyn, NY, United States	2013-04-15
Grace Nam	Brooklyn, NY, United States	2013-04-15
Lorraine Le Tac	Brooklyn, NY, United States	2013-04-15
Maria Reeves	Brooklyn, NY, United States	2013-04-15
NORA GERSTEIN	BROOKLYN, NY, United States	2013-04-15
Emily Fraser Voigt	New York, NY, United States	2013-04-15
Linda Blyer	Bklyn, PA, United States	2013-04-15
Abigail Bedrick	Brooklyn, NY, United States	2013-04-15
Jessica Weitzman	Brooklyn, NY, United States	2013-04-15
Christa Boeke	Brooklyn, NY, United States	2013-04-15
Elizabeth Stites	Brooklyn, NY, United States	2013-04-15
laurence checler	brooklyn, NY, United States	2013-04-15

Name	Location	Date
Wendy Margulies	Brooklyn, NY, United States	2013-04-15
Michelle Zell	New York, NY, United States	2013-04-15
Leah Clarkson	Brooklyn, NY, United States	2013-04-15
Kate Brash	Brooklyn, NY, United States	2013-04-15
Shanna Hill	Brooklyn, NY, United States	2013-04-15
Radha Subramanyam	brooklyn, NY, United States	2013-04-15
Kerstin Hofmann	Brooklyn, NY, United States	2013-04-15
colleen devery	brooklyn, NY, United States	2013-04-15
Corinne Goodman	Brooklyn, NY, United States	2013-04-15
Rachel Lozoff	Brooklyn, NY, United States	2013-04-15
Jane Higgins	Brooklyn, NY, United States	2013-04-15
Rebecca Stewart	Brooklyn, NY, United States	2013-04-15
Deirdre Chadwick	Brooklyn, NY, United States	2013-04-15
Sarah Way	Brooklyn, NY, United States	2013-04-15
Katie Bednark	Brooklyn, NY, United States	2013-04-15
Theresa Gonzalez	Brooklyn, NY, United States	2013-04-15
Alison Khalaf	Brooklyn, NY, United States	2013-04-15
Jennifer Kulp	Brooklyn, NY, United States	2013-04-15
Gloria Mattera	Brooklyn, NY, United States	2013-04-15
Reyhan Mehran	Brooklyn, NY, United States	2013-04-15
Cathleen Towle	Brooklyn, NY, United States	2013-04-15
Dan Makarov	Brooklyn, NY, United States	2013-04-15
Charlotte Kaiser	Brooklyn, NY, United States	2013-04-15
J. Sturm	Brooklyn, NY, United States	2013-04-15
Christelle Dargent	New York, NY, United States	2013-04-15
amanda magalhaes	brooklyn, NY, United States	2013-04-15
Kevin MacCallum	Brooklyn, NY, United States	2013-04-15
Jen Gordon	Brooklyn, NY, United States	2013-04-15
Laura De Nunzio	Brooklyn, NY, United States	2013-04-15
Hannah Mason	Brooklyn, NY, United States	2013-04-15
Victoria Sullivan	Brooklyn, NY, United States	2013-04-15
hedvig bourbon	brooklyn, NY, United States	2013-04-15

Name	Location	Date
Melissa Guion	Brooklyn, NY, United States	2013-04-15
Katharine James	Brooklyn, NY, United States	2013-04-15
Clement Dargent	Brooklyn, NY, United States	2013-04-15
Jane Bliss	Brooklyn, NY, United States	2013-04-15
Sylvie Grimm	brooklyn, NY, United States	2013-04-15
Savannah Jones	Brooklyn, NY, United States	2013-04-15
Bianca Ellerbe	Brooklyn, NY, United States	2013-04-15
Joelle Ellington	brooklyn, NY, United States	2013-04-15
Naylah Leon	New York, NY, United States	2013-04-15
Maria Bravo	brooklyn, NY, United States	2013-04-15
patrick burns jr	Brooklyn, NY, United States	2013-04-15
Talia Willner	Brooklyn, NY, United States	2013-04-15
Daniela Jung	Brooklyn, NY, United States	2013-04-15
Tanti Rosadi	New York, NY, United States	2013-04-15
Sarah Lichtman	Brooklyn, NY, United States	2013-04-15
Randi Hecht	Brooklyn, NY, United States	2013-04-15
Alison Downey	Madison, WI, United States	2013-04-15
Diana Son	Brooklyn, NY, United States	2013-04-15
darian Silk	Brooklyn, NY, United States	2013-04-15
Sara Thompson	Brooklyn, NY, United States	2013-04-15
Melissa Nusbaum	Brooklyn, NY, United States	2013-04-15
Johanna Bauman	Brooklyn, NY, United States	2013-04-15
Elizabeth Essner	Brooklyn, NY, United States	2013-04-15
Kizzy Jarashow	Brooklyn, NY, United States	2013-04-15
Nick Peterson	Brooklyn, NY, United States	2013-04-15
Wendy Sasser	Brooklyn, NY, United States	2013-04-15
Mary Caplan	Fair Haven, NJ, United States	2013-04-15
don sparacin	brooklyn, NY, United States	2013-04-15
Bruce Hamilton	Brooklyn, NY, United States	2013-04-15
Athena Spelios	Brooklyn, NY, United States	2013-04-15
Rebecca Ralls	Brooklyn, NY, United States	2013-04-15
sonia ruschak	brooklyn, NY, United States	2013-04-15

Name	Location	Date
Daniela Poe	Brooklyn, NY, United States	2013-04-15
Alice Rubin	Brooklyn, NY, United States	2013-04-15
Dohra Ahmad	New York, NY, United States	2013-04-15
Laura Sainz	Brooklyn, NY, United States	2013-04-15
Karen Baker	Brooklyn, NY, United States	2013-04-15
Antonia Martinelli	Brooklyn, NY, United States	2013-04-15
Sarah Moriarty	Brooklyn, NY, United States	2013-04-16
Elizabeth DeHaven	Brooklyn, NY, United States	2013-04-16
Carla Raij	Brooklyn, NY, United States	2013-04-16
Hilda Cohen	Brooklyn, NY, United States	2013-04-16
Abby Hanlon	Brooklyn, NY, United States	2013-04-16
Henry King	Brooklyn, NY, United States	2013-04-16
Nathan Brauer	Brooklyn, NY, United States	2013-04-16
Niki Warin	Brooklyn, NY, United States	2013-04-16
Daphne Bernard	Brooklyn, NY, United States	2013-04-16
Eva Midgley	Brooklyn, NY, United States	2013-04-16
Elisabeth Fearnley	Brooklyn, NY, United States	2013-04-16
Leigh Smith	Brooklyn, NY, United States	2013-04-16
kathleen hackett	Brooklyn, NY, United States	2013-04-16
dnora roback	brooklyn, NY, United States	2013-04-16
Erica Zielinski	Brooklyn, NY, United States	2013-04-16
Marlene Flaton	brooklyn, NY, United States	2013-04-16
Theresa Chinte	Brooklyn, NY, United States	2013-04-16
elizabeth ellis	brooklyn, NY, United States	2013-04-16
Mimi Turner	brooklyn, NY, United States	2013-04-16
David Guion	Brooklyn, NY, United States	2013-04-16
Liz Goldberg	Brooklyn, NY, United States	2013-04-16
Johanna Methusalemsdottir	Brookyln, NY, United States	2013-04-16
KIP MYERS	Brooklyn, NY, United States	2013-04-16
Carolynn Di Fiore	Brooklyn, NY, United States	2013-04-16
Francois Balmelle	Brooklyn, NY, United States	2013-04-16
david rosenthal	brooklyn, NY, United States	2013-04-16

Name	Location	Date
Maria McGrath	Brooklyn, NY, United States	2013-04-16
Margaret O'Keefe	Brooklyn, NY, United States	2013-04-16
Charlotte Phillips	Brooklyn, NY, United States	2013-04-16
sean grandits	brooklyn, NY, United States	2013-04-16
Maggie Romine	Brooklyn, NY, United States	2013-04-16
Nancy Dodd	Brooklyn, NY, United States	2013-04-16
Nancy Blechman	Brooklyn, NY, United States	2013-04-16
Melissa Ennen	Brooklyn, NY, United States	2013-04-16
Patricia Kelley	Brooklyn, NY, United States	2013-04-16
Andrea Moynier	Brooklyn, NY, United States	2013-04-16
Susan Boyle	Brooklyn, NY, United States	2013-04-16
Louise Sloan	Brooklyn, NY, United States	2013-04-16
Karen Mahler	Brooklyn, NY, United States	2013-04-16
Carla Cantone	New York, NY, United States	2013-04-16
Niamh Ring	Brooklyn, NY, United States	2013-04-16
Arthur Schurr	Brooklyn, NY, United States	2013-04-16
Peter Hume	Brooklyn, NY, United States	2013-04-16
Christine Schwartz Hartley	Brooklyn, NY, United States	2013-04-16
Trace Crutchfield	brooklyn, NY, United States	2013-04-16
cynthia Nielsen	Brooklyn, NY, United States	2013-04-16
Katie Dunn	Brooklyn, NY, United States	2013-04-16
Boaz Weinstein	Brooklyn, NY, United States	2013-04-16
Sarah Bradley	Brooklyn, NY, United States	2013-04-16
Buck Broker	Poughquag, NY, United States	2013-04-16
christine dappolonia	ny, NY, United States	2013-04-16
Ingrid Eberly	Brooklyn, NY, United States	2013-04-16
Ethan Hartshorn	Brooklyn, NY, United States	2013-04-16
Andrea Rashish	Brooklyn, NY, United States	2013-04-16
Jelle Wagenaar	Brooklyn, NY, United States	2013-04-16
Nico Jung	Brooklyn, NY, United States	2013-04-16
Michael Dowd	Brooklyn, NY, United States	2013-04-16
Sibel Mete	Brooklyn, NY, United States	2013-04-16

Name	Location	Date
Peter Laughter	Brooklyn, NY, United States	2013-04-16
Marisa Butler	Brooklyn, NY, United States	2013-04-16
Cathy Garrard	Brooklyn, NY, United States	2013-04-16
patricia stegman	Brooklyn , NY, United States	2013-04-16
Eric Albert	Brooklyn, NY, United States	2013-04-16
Jennifer Bernstein	Brooklyn, NY, United States	2013-04-16
Tracey Maurer	Brooklyn, NY, United States	2013-04-16
Betty Feibusch	Brooklyn, NY, United States	2013-04-16
Shari zisman	Brooklyn, NY, United States	2013-04-16
Courtney Black	Brooklyn, NY, United States	2013-04-16
Carlene Scheel	BrooKlym, NY, United States	2013-04-16
Roselyn Kopit	Brooklyn, NY, United States	2013-04-16
Jenna Coplin	Brooklyn, NY, United States	2013-04-16
Marine Putman	Brooklyn, NY, United States	2013-04-16
Little Wing Lee	Brooklyn, NY, United States	2013-04-16
Kaarin Patterson	Brooklyn, NY, United States	2013-04-16
Stephanie Church	Brooklyn, NY, United States	2013-04-16
Jeanette Selles	Brooklyn, NY, United States	2013-04-17
Radha Korman	Brooklyn, NY, United States	2013-04-17
Leslie Budnick	Brooklyn, NY, United States	2013-04-17
Amber Benezra	New York, NY, United States	2013-04-17
Brooke Ferguson	Brooklyn, NY, United States	2013-04-17
Linsey Laidlaw	Brooklyn, NY, United States	2013-04-17
Jessica Hartshorn	Brooklyn, NY, United States	2013-04-17
Lisa Bowstead	Brooklyn, NY, United States	2013-04-17
Barbara Cohen	Brooklyn, NY, United States	2013-04-17
Suzette Cook	Brooklyn, NY, United States	2013-04-17
Agnes Crane	Brooklyn, NY, United States	2013-04-17
carrie Monson	Brooklyn, NY, United States	2013-04-17
Wendy Friedman	Brooklyn, NY, United States	2013-04-17
Amber Troutman	Brooklyn, NY, United States	2013-04-17
Alexandra Rodriguez	New York, NY, United States	2013-04-17

Name	Location	Date
JoAnne Bailey	Brooklyn, NY, United States	2013-04-17
Emily Mason	Brooklyn, NY, United States	2013-04-17
Elizabeth Bulfin	Brooklyn, NY, United States	2013-04-17
Inbar Evron	New York, NY, United States	2013-04-17
M TenHoor	Brooklyn, NY, United States	2013-04-17
jonathan weidlinger	brooklyn, NY, United States	2013-04-17
Ronald Fickelstein	New York, NY, United States	2013-04-17
tim kenefick	Goose Creek, SC, United States	2013-04-17
Anders Thomsen	New York, United States	2013-04-17
Aja Davis	Brooklyn, NY, United States	2013-04-17
Liz Turrigiano	Brooklyn, NY, United States	2013-04-17
Catherine Schwartz	New York, NY, United States	2013-04-17
dominique Doron	Brooklyn, NY, United States	2013-04-17
Elizabeth Williams	Brooklyn, NY, United States	2013-04-17
Jennifer Morello	Brooklyn, NY, United States	2013-04-17
Drew Waters	Brooklyn, NY, United States	2013-04-17
Rose Weber	Brooklyn, NY, United States	2013-04-17
Heather Weber	Brooklyn, NY, United States	2013-04-17
Jessica Trauner	Brooklyn, NY, United States	2013-04-17
Allison Amron	Brooklyn, NY, United States	2013-04-17
Daughtry Carstarphen	Brooklyn, NY, United States	2013-04-17
charles wells	Brooklyn, NY, United States	2013-04-17
kathleeen henderson	brooklyn, NY, United States	2013-04-17
Bethany Martin	Brooklyn, NY, United States	2013-04-17
Christine Yu	Brooklyn, NY, United States	2013-04-17
Miyoung Berger	Brooklyn, NY, United States	2013-04-17
David Lengel	Brooklyn, NY, United States	2013-04-17
Michael Handelman	Brooklyn, NY, United States	2013-04-17
Phoebe Lichty	Brooklyn, NY, United States	2013-04-17
kate furst	Brooklyn, NY, United States	2013-04-17
Matt Polacheck	Brooklyn, NY, United States	2013-04-17
Koseli Cummings	Brooklyn, NY, United States	2013-04-17

Name	Location	Date
michelle hova	brooklyn, NY, United States	2013-04-17
Alexis Adams	Brooklyn, NY, United States	2013-04-17
Dominic Francese	Brooklyn, NY, United States	2013-04-17
Lucinda Rosenfeld	Brooklyn, NY, United States	2013-04-17
Jonathan Glazer	Brooklyn, NY, United States	2013-04-17
Kobria Karim	Brooklyn, NY, United States	2013-04-17
Sharon Miodovsky	Brooklyn, NY, United States	2013-04-17
Jessica Morris	Brooklyn, NY, United States	2013-04-17
Gordon Rovins	Brooklyn, NY, United States	2013-04-17
Kathy Twomey	brooklyn, NY, United States	2013-04-17
Barbara Mathe	Brooklyn,, NY, United States	2013-04-17
Daniel Futterman	Brooklyn, NY, United States	2013-04-17
Maria Victoria Toro	New York, NY, United States	2013-04-17
Christopher Weston	Brooklyn, NY, United States	2013-04-17
fred cray	brooklyn, NY, United States	2013-04-17
Kate Rope	Brooklyn, NY, United States	2013-04-17
Hope Cartelli	Brooklyn, NY, United States	2013-04-17
Daniel Kane	Brooklyn, NY, United States	2013-04-17
Shane Rasco	brooklyn, NY, United States	2013-04-17
Nathaniel Lee	Brooklyn, NY, United States	2013-04-17
Jennifer Selden	Brooklyn, NY, United States	2013-04-17
Parker Krasney	Brooklyn, NY, United States	2013-04-17
Erin Martell	Brooklyn, NY, United States	2013-04-17
Honey Theogene	Brooklyn, NY, United States	2013-04-17
Agnes Grandits	Brooklyn, NY, United States	2013-04-17
Katia LIEF	New York, NY, United States	2013-04-17
adam gonzales	brooklyn, NY, United States	2013-04-17
sandye renz	Brooklyn, NY, United States	2013-04-17
Brett Chalfin	Brooklyn, NY, United States	2013-04-17
Emma Mead	Brooklyn, NY, United States	2013-04-17
Tracy Malloy-Curtis	Brooklyn, NY, United States	2013-04-17
Alan Eisenberg	Brooklyn, NY, United States	2013-04-17

Name	Location	Date
Benjamin Weisgall	Brooklyn, NY, United States	2013-04-17
Alice Fornari	Brooklyn, NY, United States	2013-04-17
Stephanie Golden	Brooklyn, NY, United States	2013-04-17
April Burns	Brooklyn, NY, United States	2013-04-17
Sylvia Rodriguez	Brooklyn, NY, United States	2013-04-17
Emily Welty	Brooklyn, NY, United States	2013-04-17
Daniel Goldberg	Brooklyn, NY, United States	2013-04-17
Johanna Schiller	Brooklyn, NY, United States	2013-04-17
Trina Lester	Brooklyn, NY, United States	2013-04-17
robert braun	brooklyn, NY, United States	2013-04-17
Nev D	Brooklyn, NY, United States	2013-04-17
TaraRose Macuch	Brooklyn, NY, United States	2013-04-17
Dijana Mitrovic	Madison, WI, United States	2013-04-17
Mary Ann Giorgio	Brooklyn, NY, United States	2013-04-17
Olivia Ryan	Brooklyn, NY, United States	2013-04-17
Elizabeth Connor	Brooklyn, NY, United States	2013-04-17
Carmen Taveras	Brooklyn, NY, United States	2013-04-17
Christopher Williams	Brooklyn, NY, United States	2013-04-17
Claudia Santino	Brooklyn, NY, United States	2013-04-17
Jaime Brackeen	Astoria, NY, United States	2013-04-17
Quinn Berkman	Brooklyn, NY, United States	2013-04-17
Ellen Simpao	Brooklyn, NY, United States	2013-04-17
Valerie Wattenberg	Brooklyn, NY, United States	2013-04-17
Valentina Zarya	Brooklyn, NY, United States	2013-04-17
Isidora Finkelstein	Brooklyn, NY, United States	2013-04-17
Jordan Green	Brooklyn NY, NY, United States	2013-04-17
Jonathan Schleifer	Brooklyn, NY, United States	2013-04-17
Susan Kovar	BROOKLYN, NY, United States	2013-04-17
Natalie Grybauskas	new york, NY, United States	2013-04-17
Douglas Allen	Brooklyn, NY, United States	2013-04-17
Peter Kinoy	Brooklyn, NY, United States	2013-04-17
Ronnye Davies	Brooklyn, NY, United States	2013-04-17

Name	Location	Date
Alicia Giambrone	Brooklyn, NY, United States	2013-04-17
Kyle Vitale	Brooklyn, NY, United States	2013-04-17
Isadora Reisner	New York, NY, United States	2013-04-17
Alexander Foley	Booklyn, NY, United States	2013-04-17
Andro Matešić	Zadar, , Croatia	2013-04-17
Nicholas Leddy	Brooklyn, NY, United States	2013-04-17
roger johnson	brooklyn, NY, United States	2013-04-17
Susanna Yurick	Brooklyn, NY, United States	2013-04-17
Kara Joseph	Brooklyn, NY, United States	2013-04-17
Joel Potischman	Brooklyn, NY, United States	2013-04-17
Imanigayle Gillison	Brooklyn, NY, United States	2013-04-17
Cricket Keys	Brooklyn, NY, United States	2013-04-17
NELLY HEREDIA	bklyn, NY, United States	2013-04-17
Beth Baltimore	Brooklyn, NY, United States	2013-04-17
Rosa Perr	BKLYN, NY, United States	2013-04-17
Kahlil Lozoraitis	Brooklyn, NY, United States	2013-04-17
Krit Hutchins	Brooklyn, NY, United States	2013-04-17
RK Dillon	Brooklyn, NY, United States	2013-04-17
Liana Vitale	Brooklyn, NY, United States	2013-04-17
RENEE FLOWERS	BROOKLYN, NY, United States	2013-04-17
Marcia Adams	Brooklyn, NY, United States	2013-04-17
molly block	Champaign, IL, United States	2013-04-17
Beth Frey	Brooklyn, NY, United States	2013-04-17
Katy Reitz	Brooklyn, NY, United States	2013-04-17
Mary Beth Early	Brooklyn, NY, United States	2013-04-17
Joshua Waletzky	Brooklyn, NY, United States	2013-04-17
Renee Herron	Leonardo, NJ, United States	2013-04-17
Greg Tiefenbrun	Brooklyn, NY, United States	2013-04-17
Corey Roberts	Brooklyn, NY, United States	2013-04-17
Tamara Draut	Brooklyn, NY, United States	2013-04-17
Denise Alexander	Brooklyn, NY, United States	2013-04-17
Myriame Mejias	Brooklyn, NY, United States	2013-04-17

Name	Location	Date
Kimberly Neuhaus	Brooklyn, NY, United States	2013-04-17
Mary Bruccoli	Brooklyn, NY, United States	2013-04-17
Jenni Wolfson	Brooklyn, NY, United States	2013-04-17
Alex Ferrigno	Brooklyn, NY, United States	2013-04-17
Shayna Kessler	Brooklyn, NY, United States	2013-04-17
Julia Schwartz	Brooklyn, NY, United States	2013-04-17
abby block	brooklyn, NY, United States	2013-04-17
Jennifer Bilenker	Brooklyn, NY, United States	2013-04-17
Leah Kopperman	New York, NY, United States	2013-04-17
Jenny Schwartz	Brooklyn, NY, United States	2013-04-17
Cynthia Dantzic	Brooklyn, NY, United States	2013-04-17
Julius Elinson	Brooklyn, NY, United States	2013-04-17
Alex Scofi	Allentown , PA, United States	2013-04-17
Nasoan Sheftel-Gomes	Brooklyn, NY, United States	2013-04-17
Sebastián Cucullu	Brooklyn, NY, United States	2013-04-17
Gary Culig	Brooklyn, NY, United States	2013-04-17
Kayla Chisholm	Fanwood, NJ, United States	2013-04-17
Jorge Quinones	brooklyn, NY, United States	2013-04-17
Antoinette Wannebo	Brooklyn, NY, United States	2013-04-17
Hana Feit	Brooklyn, NY, United States	2013-04-17
Sandra DiPillo	Brooklyn, NY, United States	2013-04-17
Sophie Kligler	Brooklyn, NY, United States	2013-04-17
Erin Patterson	Brooklyn, NY, United States	2013-04-17
Mitsuko Verdery	New York, NY, United States	2013-04-17
J Jackson	Brooklyn, NY, United States	2013-04-17
Vanessa Brown	Brooklyn, NY, United States	2013-04-17
Ronald Fliegelman	Brooklyn, NY, United States	2013-04-17
Erin D'Souza	Brooklyn, NY, United States	2013-04-17
christina crespo	Brooklyn, NY, United States	2013-04-17
Sarah Anderson	New York, NY, United States	2013-04-17
Lara Holliday	Brooklyn, NY, United States	2013-04-17
M Singer	New York, NY, United States	2013-04-17

Name	Location	Date
Lisa Hickey	Brooklyn, NY, United States	2013-04-17
Jacqueline Cozzo	Brooklyn, NY, United States	2013-04-17
Michael Gnat	Brooklyn, NY, United States	2013-04-17
McKenna Schneider	New York, NY, United States	2013-04-17
kat johnson	brooklyn, NY, United States	2013-04-17
Howard Kolins	Brooklyn, NY, United States	2013-04-17
steve deseve	brooklyn, NY, United States	2013-04-17
Lisa Baker	Brooklyn, NY, United States	2013-04-17
sheelagh appleby	brooklyn, NY, United States	2013-04-17
Beverly J Kidd	Dayton, OH, United States	2013-04-17
Elizabeth Hallett	Brooklyn, NY, United States	2013-04-17
Ruth Liberman	Brooklyn, NY, United States	2013-04-17
Taryn FitzGerald	Brooklyn, NY, United States	2013-04-17
J Murphy	Brooklyn, NY, United States	2013-04-17
Moira Potter	Brooklyn, NY, United States	2013-04-17
Scott Levy	Brooklyn, NY, United States	2013-04-17
Thomas Witten	Brooklyn, NY, United States	2013-04-17
stacey uria	brooklyn, NY, United States	2013-04-17
Sergio Fanchiotti	Brooklyn NY, NY, United States	2013-04-17
Mona Nicoara	Brooklyn , NY, United States	2013-04-17
alexandra dadourian	brooklyn, NY, United States	2013-04-17
Lily Napach	New York, NY, United States	2013-04-17
Rylan Sylvester	New York, NY, United States	2013-04-17
David Locke	Brooklyn, NY, United States	2013-04-17
ray brannick	new brunswick, NJ, United States	2013-04-17
Cesar Torras	Brooklyn, NY, United States	2013-04-17
Stuart Dryburgh	Brooklyn, NY, United States	2013-04-17
L Rodriguez	Brooklyn, NY, United States	2013-04-17
Meredith Meyers	Brooklyn, NY, United States	2013-04-17
Emily Miller	Brooklyn, NY, United States	2013-04-17
janna turoff	Brooklyn, NY, United States	2013-04-17
Basheba Vazquez	Brooklyn, NY, United States	2013-04-17

Name	Location	Date
nicole gillis	brooklyn, NY, United States	2013-04-17
Magda Cruz	Brooklyn, NY, United States	2013-04-17
Jackie Roebuck	Brooklyn, NY, United States	2013-04-17
Carolyn Pravda	Brooklyn, NY, United States	2013-04-17
Larry Larson	Brooklyn, NY, United States	2013-04-17
Molly Peryer	Brooklyn, NY, United States	2013-04-17
Meghan Wilkins	Brooklyn, NY, United States	2013-04-17
lisa hinshaw	brooklyn, NY, United States	2013-04-17
Matthew Majesky	Brooklyn, NY, United States	2013-04-17
Stu Anderson	Brooklyn, NY, United States	2013-04-18
Christine Harper	Brooklyn, NY, United States	2013-04-18
Jennifer Gilken	Brooklyn, NY, United States	2013-04-18
Carllee James	New York, NY, United States	2013-04-18
Janna Bruner	Brooklyn, NY, United States	2013-04-18
Laura Gahrahmat	Brooklyn, NY, United States	2013-04-18
Rachael Kilian	Brooklyn, NY, United States	2013-04-18
Hannah Abbott	Maplewood, NJ, United States	2013-04-18
Jessica Hochman	New York, NY, United States	2013-04-18
Pascale Denommee	Brooklyn, NY, United States	2013-04-18
Stephanie Cherry	Brooklyn, NY, United States	2013-04-18
David Kalfus	Brooklyn, NY, United States	2013-04-18
Henry Carrier	Brooklyn, NY, United States	2013-04-18
Patricia McDannell	Brooklyn, NY, United States	2013-04-18
Deirdre Dolan	brooklyn, NY, United States	2013-04-18
Melissa Fitzpatrick	Brooklyn, NY, United States	2013-04-18
Kristi Barlow	Brooklyn, NY, United States	2013-04-18
Robyn Mar	Brooklyn, NY, United States	2013-04-18
Eva Garriga	Brooklyn, NY, United States	2013-04-18
Jennifer Masset	Brooklyn, NY, United States	2013-04-18
valerie striar	brooklyn, NY, United States	2013-04-18
Leslie Nuchow	Brooklyn, NY, United States	2013-04-18
Glenn Westrom	Brooklyn, NY, United States	2013-04-18

Name	Location	Date
mike benson	brooklyn, NY, United States	2013-04-18
Amy Huggans	BROOKLYN, NY, United States	2013-04-18
Dara Federman	Brooklkyn, NY, United States	2013-04-18
Thomas Lino	Brooklyn, NY, United States	2013-04-18
gilles bransbourg	Brooklyn, NY, United States	2013-04-18
Audrey Negron	Brooklyn, NY, United States	2013-04-18
cynthia medina carson	brooklyn, NY, United States	2013-04-18
JP Cohen	Brooklyn, NY, United States	2013-04-18
Ashley kent	east brunswick, NJ, United States	2013-04-18
Barbara Blechman	brooklyn, NY, United States	2013-04-18
Nora Marrero	Brooklyn, NY, United States	2013-04-18
Chris Grimm	Brooklyn, NY, United States	2013-04-18
Andrew Kessler	Brooklyn, NY, United States	2013-04-18
Charlene Clarke	Brooklyn, NY, United States	2013-04-18
mia Diehl	brooklyn, NY, United States	2013-04-18
Amy Lehr	Brooklyn, NY, United States	2013-04-18
Shawna King	Brooklyn, NY, United States	2013-04-18
Megan Moorhouse	Brooklyn, NY, United States	2013-04-18
Sandrine Humbert	Brooklyn, NY, United States	2013-04-18
C. Colton	New York, NY, United States	2013-04-18
Jondi Whitis	Brooklyn, NY, United States	2013-04-18
abha palmer	brooklyn, NY, United States	2013-04-18
Kate Reynolds	Brooklyn, NY, United States	2013-04-18
Ariel Flavin	Brooklyn, NY, United States	2013-04-18
Sharon Guskin	Brooklyn, NY, United States	2013-04-18
Tonya Thornton	Brooklyn, NY, United States	2013-04-18
Aimee Morton	New York, NY, United States	2013-04-18
Jenn Busch	Alameda, CA, United States	2013-04-18
Rebecca Zellmer	Brooklyn, NY, United States	2013-04-18
Bridget Hatch	Brooklyn, NY, United States	2013-04-18
Cathy Carver	Brooklyn, NY, United States	2013-04-18
Johanna Schmitt	Brooklyn, NY, United States	2013-04-18

Name	Location	Date
Melissa Morgenlander	Brooklyn, NY, United States	2013-04-18
Katherine Thole	Brooklyn, NY, United States	2013-04-18
Liz Atlas	Brooklyn, NY, United States	2013-04-18
Bomee Jung	Brooklyn, NY, United States	2013-04-18
Andrea Kientz	Brooklyn, NY, United States	2013-04-18
Alicia Patrimonio	brooklyn, NY, United States	2013-04-18
Emma Golden	New York, NY, United States	2013-04-18
Carmen Torres	Brooklyn, NY, United States	2013-04-18
Jennifer Teusch	Brooklyn, NY, United States	2013-04-18
Allison Conner	Brooklyn, NY, United States	2013-04-18
Lucy McNair	Brooklyn, NY, United States	2013-04-18
michael phillip	Brooklyn, NY, United States	2013-04-18
Larry Weissman	Brooklyn, NY, United States	2013-04-18
Ian Dutton	Brooklyn, NY, United States	2013-04-18
Alicia Quigley	Brooklyn, NY, United States	2013-04-18
Sara Kravitz	New York, NY, United States	2013-04-18
Sabine Aronowsky	Brooklyn, NY, United States	2013-04-18
beth klein	brooklyn, NY, United States Minor Outlying Islands	2013-04-18
Dorothea Basile	Brooklyn, NY, United States	2013-04-18
tiffany wienckowski	brooklyn, NY, United States	2013-04-18
Trine Rødgaard	Brooklyn, NY, United States	2013-04-18
irina edelstein	brooklyn, NY, United States	2013-04-18
Rachel Gladfelter	Brooklyn, NY, United States	2013-04-18
Kristin Brady	Brooklyn, NY, United States	2013-04-18
Jeanne Messing	Brooklyn, NY, United States	2013-04-18
Richard Pierce	Brooklyn, NY, United States	2013-04-18
Jon Gibs	Brooklyn, NY, United States	2013-04-18
Janice Torres	Brooklyn, NY, United States	2013-04-18
Maria Milin	Brooklyn, NY, United States	2013-04-18
Jane Halsey	New York, NY, United States	2013-04-18
Sara Champagne	Brooklyn, NY, United States	2013-04-18

Name	Location	Date
Rachel Stein	Brooklyn, NY, United States	2013-04-18
Michelle de la Uz	Brooklyn, NY, United States	2013-04-18
Amy Santamaria	Brooklyn, NY, United States	2013-04-18
Christine vonSpreckelsen	Brooklyn, NY, United States	2013-04-18
Ariel Rey	Brooklyn, NY, United States	2013-04-18
Sarah Jefferys	Brooklyn, NY, United States	2013-04-18
Kevin Ryan-Young	Brooklyn, NY, United States	2013-04-18
Jessica Maroz	Brookyln, NY, United States	2013-04-18
elaine Rodriguez	Brooklyn, NY, United States	2013-04-18
Sheri Stein	Brooklyn, NY, United States	2013-04-18
Max Koltuc	Brooklyn, NY, United States	2013-04-18
Monica Ravinet	New York, NY, United States	2013-04-18
pauline Abd el kader	Brooklyn, NY, United States	2013-04-18
Andrea Ruport	Alameda, CA, United States	2013-04-18
Amy McReynolds	Carbondale, IL, United States	2013-04-18
Marc Finkelstein	Brooklyn, NY, United States	2013-04-18
Anita Bushell	Brooklyn, NY, United States	2013-04-18
Michael Garcia	Houston, TX, United States	2013-04-19
Rick Tonsing	Citrus Heights, CA, United States	2013-04-19
Jayson Haedrich	SUNNYSIDE, NY, United States	2013-04-19
Karen Fuller	Brooklyn, NY, United States	2013-04-19
Richard Haw	Brooklyn, NY, United States	2013-04-19
Hattie Proteau	Brooklyn, NY, United States	2013-04-19
Terri Desai	New York, NY, United States	2013-04-19
liz alessi	brooklyn, NY, United States	2013-04-19
Anita Keire	Brooklyn, NY, United States	2013-04-19
Beth Winson	Brooklyn, NY, United States	2013-04-19
Patricia Braun	Washington, DC, United States	2013-04-19
Limor Gasko	Brooklyn, NY, United States	2013-04-19
Melissa Williams	Brooklyn, NY, United States	2013-04-19
Hani Hong	New York, NY, United States	2013-04-19
Sheryl Victor Levy	Brooklyn, NY, United States	2013-04-19

Name	Location	Date
Karen Zieff	Brooklyn, NY, United States	2013-04-19
Michael Cosaboom	Brooklyn, NY, United States	2013-04-19
Rebecca Odes	new york, NY, United States	2013-04-19
Dierdre Dixon	Brooklyn, NY, United States	2013-04-19
Kathleen Jayes	Brooklyn, NY, United States	2013-04-19
beth reisman	brooklyn, NY, United States	2013-04-19
Nichole McBride	Appleton, WI, United States	2013-04-19
Grace Freedman	Brooklyn, NY, United States	2013-04-19
julius alfonzo	brooklyn, NY, United States	2013-04-20
Roslyn Huebener	Brooklyn, NY, United States	2013-04-20
Liwia Rosamond	Brooklyn, NY, United States	2013-04-20
Edward Dawidowicz	Brooklyn, NY, United States	2013-04-20
Alan Connor	Brooklyn, NY, United States	2013-04-20
Julie Underwood	Brooklyn, NY, United States	2013-04-20
Geri de Seve	troy, NY, United States	2013-04-20
Lisa Bohen	Brooklyn, NY, United States	2013-04-20
Kris Drury	Brooklyn, NY, United States	2013-04-20
Hannah Ratzlaff	Brooklyn, NY, United States	2013-04-20
Noah Barth	Brooklyn, NY, United States	2013-04-20
Beraiah Yisrael	Brooklyn, NY, United States	2013-04-20
Suzanne Burdman	Brooklyn, NY, United States	2013-04-20
Rebecca Potts	Brooklyn, NY, United States	2013-04-20
Zoe Mills	Brooklyn, NY, United States	2013-04-20
Ann Armbruster	Brooklyn, NY, United States	2013-04-20
Christian Fox	Brooklyn, NY, United States	2013-04-20
Mike Antoine	Brooklyn, NY, United States	2013-04-20
Emily Nicolson	Brooklyn, NY, United States	2013-04-20
Juan Soto	Brooklyn, NY, United States	2013-04-20
Elizabeth Amon	Brooklyn, NY, United States	2013-04-20
Glenn De La Cruz	bronx, NY, United States	2013-04-20
Byron Johnson	Brooklyn, NY, United States	2013-04-20
eric hammer	New York, NY, United States	2013-04-20

Name	Location	Date
Renanit Levy	Brooklyn, NY, United States	2013-04-20
rebecca walker	brooklyn, NY, United States	2013-04-20
Albert Wong	Brooklyn, NY, United States	2013-04-20
emoke karonis	Flushing, NY, United States	2013-04-20
Eva Radke	Brooklyn, NY, United States	2013-04-20
Nancy Broadway	Brooklyn, NY, United States	2013-04-20
Therese Ragghianti	Brooklyn, NY, United States	2013-04-20
Barbara Hatfield	Brooklyn, NY, United States	2013-04-20
Joy Newball	JAMAICA, NY, United States	2013-04-20
David Osorio	Brooklyn,	2013-04-20
Andrea Lewandowski	Brooklyn, NY, United States	2013-04-21
Michele Eldon	Brooklyn, NY, United States	2013-04-21
Patrick Greene	Washington, DC, United States	2013-04-21
Daniel Starr	Brooklyn, NY, United States	2013-04-21
Keith Wood	Brooklyn, NY, United States	2013-04-21
Andrea Yost	Brooklyn, NY, United States	2013-04-21
David Lewis-Gever	Brooklyn, NY, United States	2013-04-21
Rachel Jorgensen	Brooklyn , NY, United States	2013-04-21
rich welker	pensylvania, PA, United States	2013-04-21
Paul Sonn	Brooklyn, NY, United States	2013-04-21
Paul Tomaselli	Salinas, CA, United States	2013-04-21
david mcgrath	New York, NY, United States	2013-04-21
Kristen Uhrich	Brooklyn, NY, United States	2013-04-21
Todd Cavallo	Brooklyn, NY, United States	2013-04-21
Wendy Barron	Brooklyn, NY, United States	2013-04-21
David Fung	Brooklyn, NY, United States	2013-04-21
Philip Bender	Brooklyn, NY, United States	2013-04-21
Tiffany R	Brooklyn, NY, United States	2013-04-21
Victor Kaliko	Brooklyn, NY, United States	2013-04-21
Michelle Berrios	Brooklyn, NY, United States	2013-04-21
Kristen Gidlund	Brooklyn, NY, United States	2013-04-21
MALCOLM VARON	Brooklyn, NY, United States	2013-04-21

Name	Location	Date
Asukaya Bailey	Brooklyn, NY, United States	2013-04-21
Bianca Adereth	Brooklyn, NY, United States	2013-04-21
Julie Gaither	Brooklyn, NY, United States	2013-04-21
Daniel Haliloua	Brooklyn, NY, United States	2013-04-22
Taylor Griffin	Brooklyn, NY, United States	2013-04-22
Dan Betz	Maplewood, NJ, United States	2013-04-22
Liz FitzGerald	Brooklyn, NY, United States	2013-04-22
Elizabeth Kahn	Brooklyn, NY, United States	2013-04-22
Mirko Berloso	Brooklyn, NY, United States	2013-04-22
Tameka WIlson	brooklyn, NY, United States	2013-04-22
Ariel Colletti	Brooklyn, NY, United States	2013-04-22
Cara Tuzzolino	Brooklyn, NY, United States	2013-04-22
Grace Moore	Brooklyn , NY, United States	2013-04-22
Jim Brennan	Jersey City, NJ, United States	2013-04-22
McDowell Myers	Brooklyn, NY, United States	2013-04-22
Jennifer Chan	Brooklyn, NY, United States	2013-04-22
Camilla Abder	Brooklyn, NY, United States	2013-04-22
Kate Edmundson	Brooklyn, NY, United States	2013-04-22
Stephen Ryan	Brooklyn, NY, United States	2013-04-22
Kari Smith	Brooklyn, NY, United States	2013-04-22
Jon Vandenburgh	Brooklyn, NY, United States	2013-04-22
Rachel Vining	Brooklyn, NY, United States	2013-04-22
Spencer Brill	Brooklyn, NY, United States	2013-04-22
Casey Soloff	Brooklyn, NY, United States	2013-04-22
paul szaro	easton, PA, United States	2013-04-22
Sascha Alper	Brooklyn, NY, United States	2013-04-23
Joann Dang	Brooklyn, NY, United States	2013-04-23
Tanasia Swift	Brooklyn, NY, United States	2013-04-23
Jennifer Gandia	Brooklyn, NY, United States	2013-04-23
Tanya Garment	New York, NY, United States	2013-04-23
Maia Murphy	Brooklyn, NY, United States	2013-04-23
Rick Yule	Brooklyn, NY, United States	2013-04-23

Name	Location	Date
Cynthia Henley	Houston, TX, United States	2013-04-23
Cynthia Simmons	Brooklyn, NY, United States	2013-04-23
barry sloben	piscataway, NJ, United States	2013-04-23
Francine Pado	Brooklyn, NY, United States	2013-04-24
Addie Suchorab	Brooklyn, NY, United States	2013-04-24
Melissa LoPorto	Brooklyn, NY, United States	2013-04-24
Christanna Springs	brooklyn, NY, United States	2013-04-24
Adria Stokes	Brooklyn, NY, United States	2013-04-25
Rebecca Brown	Brooklyn, NY, United States	2013-04-25
Ross Bonadonna	NY, NY, United States	2013-04-25
carolyn weaver	brooklyn, NY, United States	2013-04-25
Dennis Wong	Brooklyn, NY, United States	2013-04-25
Kathryn Maloney	Brooklyn, NY, United States	2013-04-25
allegra kapovich	brooklyn , NY, United States	2013-04-25
Carolyn Cirillo	Brooklyn, NY, United States	2013-04-25
Dwight Burton	Brooklyn, NY, United States	2013-04-25
Margaret Cusack	Brooklyn, NY, United States	2013-04-25
Nina Galletta	Brooklyn, NY, United States	2013-04-25
K Cusack	Brooklyn, NY, United States	2013-04-25
Teddie Vietor	Brooklyn, NY, United States	2013-04-25
lauren healy	brooklyn, NY, United States	2013-04-25
samantha arcade	brooklyn, NY, United States	2013-04-25
Tracy Pitagorsky	Brooklyn, NY, United States	2013-04-25
lovleen cavanagh	brooklyn , NY, United States	2013-04-25
Jennifer DeLeonardo	Brooklyn, NY, United States	2013-04-25
Michael Zuckerman	Brooklyn, NY, United States	2013-04-25
Sarah Ladner Gomez	Brooklyn, NY, United States	2013-04-25
Mary Beth Bray	Brooklyn, NY, United States	2013-04-25
Joan Bottkol	Brooklyn, NY, United States	2013-04-25
Stana Weisburd	Brooklyn, NY, United States	2013-04-25
Nicole Tu	Brooklyn, NY, United States	2013-04-25
Jeannine Cooke	Brooklyn, NY, United States	2013-04-25

Name	Location	Date
Sarah Crichton	brooklyn, NY, United States	2013-04-25
Billie Carney	Brooklyn, NY, United States	2013-04-25
Deborah Polinsky	Brooklyn, NY, United States	2013-04-25
Emily Stubbs	Brooklyn, NY, United States	2013-04-25
Debbie Gray	Brooklyn, NY, United States	2013-04-25
Josephine Fassari	Brooklyn, NY, United States	2013-04-25
Margie Dotter	Brooklyn, NY, United States	2013-04-26
Laura Curran	brooklyn, NY, United States	2013-04-26
Jane Schneider	brooklyn, NY, United States	2013-04-26
Nora Keane	Brooklyn, NY, United States	2013-04-26
maura donnelly	brooklyn, NY, United States	2013-04-26
cornelia cooley	brooklyn, NY, United States	2013-04-26
Kathy McCullagh	Brooklyn, NY, United States	2013-04-26
elizabeth dundon	brooklyn, NY, United States	2013-04-26
family gianquinto	brooklyn, NY, United States	2013-04-26
Sarah Peterson	Brooklyn, NY, United States	2013-04-26
Katrina Motch	Brooklyn, NY, United States	2013-04-26
Ilene Jaroslaw	Brooklyn, NY, United States	2013-04-26
Amy Freeman	Brooklyn, NY, United States	2013-04-26
Emma Alabaster	Brooklyn, NY, United States	2013-04-26
Nina Shiffman	Brooklyn , NY, United States	2013-04-26
Trudy Katzer	Brooklyn, NY, United States	2013-04-26
Megan Devir	Brooklyn, NY, United States	2013-04-26
Jessica Taraski	brooklyn, NY, United States	2013-04-26
Kirsten Marino	Brooklyn, NY, United States	2013-04-26
Daniele D'Amico	Brooklyn, NY, United States	2013-04-26
Lisa Grocottl	Brooklyn, NY, United States	2013-04-26
Lori Sommerville	New York, NY, United States	2013-04-26
Zachary Katznelson	New York, NY, United States	2013-04-26
Keren Ludwig	New York, NY, United States	2013-04-26
Jodi Schwartz	Brooklyn, NY, United States	2013-04-26
Meg Switzgable	Brooklyn, NY, United States	2013-04-26

Name	Location	Date
Jennifer Chin	Brooklyn, NY, United States	2013-04-26
Terry Baum	Brooklyn, NY, United States	2013-04-26
elliott puckette	brooklyn, NY, United States	2013-04-26
Rica Linders	Brooklyn, NY, United States	2013-04-26
ed lavelle	brooklyn, NY, United States	2013-04-26
emily berleth	brooklyn, NY, United States	2013-04-26
Nancy Schuh	Brooklyn, NY, United States	2013-04-26
Nora Dankner	Brooklyn, NY, United States	2013-04-26
Dwight Weeks	New York, NY, United States	2013-04-26
Gary Dovey	Brooklyn, NY, United States	2013-04-26
Nicole Barriale Wong	Brooklyn, NY, United States	2013-04-26
Sarah Ferguson	Brooklyn, NY, United States	2013-04-26
Deborah Blanchard	Brooklyn, NY, United States	2013-04-26
Karima Elbaz	Brooklyn, NY, United States	2013-04-26
Erica Brody	Brooklyn, NY, United States	2013-04-26

FRIENDS OF
DOUGLASS GREENE PARK

Petition to the EPA Region 2 Superfund regarding the Gowanus Canal Proposed Remediation Action Plan (PRAP).

Make the polluters pay, not our community!

Friends of Douglass Greene Park (FoDGP) would like to thank the EPA for it's hard work and community outreach efforts regarding the Proposed Remediation Action Plan (PRAP) for the cleanup of the Gowanus Canal. While FoDGP supports a comprehensive Superfund cleanup, we, the undersigned, strongly oppose the EPA's proposed placement of a raw sewage retention tank to be built beneath the Douglass and Degraw (Double D) community pool and request that an alternative location for the proposed raw sewage retention tank be identified and selected. We also ask for guarantees to our community that any displacement or disruption to the Thomas Greene Park and Double D Pool as a result of the EPA Gowanus Canal Superfund Cleanup provide for seamless transition of the park facilities (pool, playground, skatepark, basketball courts) and services (the School Food Lunch, Learn to Swim, cooling centers, etc.) at a nearby location.

Name	Address	Telephone	E-mail	Comments
Valerie Bell	272 Wyckoff St	718-594-6012	Valerie Bell59@gmail.com	ONLY PARK with a Handicap lift
JoannyMeyerJoyner	185 Nevins st	718 488 7345	dutchie62@aol.com	keep the pool
Jeanette Robinson	185 Nevins St	347-976-9848	Turtle185@gmail.com	Help The PEOPLE
Gayle Chestnut	275 MARION ST	718 452 7467	gigi30434@aol	Keep the Pool
BRYAN MECHTIAN	222 DEAN	7188556417	BRYANTEE EARTHLINK.net	Keep the pool
LISSA WOLFE	73 COFFEY ST	718-855-0335	michner@gmail.com	love the climbing feature

FRIENDS OF
DOUGLASS GREENE PARK

Petition to the EPA Region 2 Superfund regarding the Gowanus Canal Proposed Remediation Action Plan (PRAP).

Make the polluters pay, not our community!

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Name	Address	Telephone	E-mail	Comments
Scott Steib	557 Atlantic Ave #4A 11217	646-450-1313	boerumhill scott@gmail.com	good place for my son to bike
Hollister White	23 St Marks Pl, Apt 1 11217	347-446-2664	hollisterwhite@hotmail.com	This pool is critical for our community !!!
Jannett A Byka	763 Easter Parkway Brooklyn NY 11213 P-4	718 930 3454	Vanzi.elle@yahoo.com	
Charlene Nimmons	272 Wyckoff St. 15D Brklyn, NY 11217	347-991-1175	Phc.Inc@hotmail.com	Please find other means to resolve this situation by reviewing ~~other~~ alternative options that is being presented by community stake holders
Josh Murphy	189 Degraw st. Brooklyn		Murphy170@hotmail.com	
VIRPI KANERVO	104 8TH AVE NEW YORK, NY 11215		Vkanervo@yahoo.com	

FRIENDS OF
DOUGLASS GREENE PARK

Petition to the EPA Region 2 Superfund regarding the Gowanus Canal Proposed Remediation Action Plan (PRAP).

Make the polluters pay, not our community!

Friends of Douglass Greene Park (FoDGP) would like to thank the EPA for it's hard work and community outreach efforts regarding the Proposed Remediation Action Plan (PRAP) for the cleanup of the Gowanus Canal. While FoDGP supports a comprehensive Superfund cleanup, we, the undersigned, strongly oppose the EPA's proposed placement of a raw sewage retention tank to be built beneath the Douglass and Degraw (Double D) community pool and request that an alternative location for the proposed raw sewage retention tank be identified and selected. We also ask for guarantees to our community that any displacement or disruption to the Thomas Greene Park and Double D Pool as a result of the EPA Gowanus Canal Superfund Cleanup provide for seamless transition of the park facilities (pool, playground, skatepark, basketball courts) and services (the School Food Lunch, Learn to Swim, cooling centers, etc.) at a nearby location.

Name	Address	Telephone	E-mail	Comments
Suzannah Bortner	19 Wyckoff St. Brooklyn		Sgbortner@gmail.com	
Liz Jose	157 Huntington St.		ekjose@gmail.com	
Sarah Chamberlin	228 Clinton #3		SKC@earthlink.net	
Catherine Springs	388 Pacific St.		Catspringer@hotmail.com	
STEPHEN ANTONSON	439 PACIFIC ST		STEPHEN ANTONSON @YAHOO.COM	
Phyllis Argus	185 Nevins St Apt 2A	718-783-1363		

FRIENDS OF
DOUGLASS GREENE PARK

Petition to the EPA Region 2 Superfund regarding the Gowanus Canal Proposed Remediation Action Plan (PRAP).

Make the polluters pay, not our community!

Friends of Douglass Greene Park (FoDGP) would like to thank the EPA for it's hard work and community outreach efforts regarding the Proposed Remediation Action Plan (PRAP) for the cleanup of the Gowanus Canal. While FoDGP supports a comprehensive Superfund cleanup, we, the undersigned, strongly oppose the EPA's proposed placement of a raw sewage retention tank to be built beneath the Douglass and Degraw (Double D) community pool and request that an alternative location for the proposed raw sewage retention tank be identified and selected. We also ask for guarantees to our community that any displacement or disruption to the Thomas Greene Park and Double D Pool as a result of the EPA Gowanus Canal Superfund Cleanup provide for seamless transition of the park facilities (pool, playground, skatepark, basketball courts) and services (the School Food Lunch, Learn to Swim, cooling centers, etc.) at a nearby location.

Name	Address	Telephone	E-mail	Comments
Grace Freedman	37 Saint Marks Place	718-858-1847	grace@sfreedmans.com	FOFA
Cathleen BELL	36 St Marks Pl.	917 848 9164	cathleenDavitt Bell@gmail.com	want to save pools
Tania Vouk	30 Columbia Pl	917-612-1433	Tvouk@yahoo	Save pool
Adam Bradford	228 Clinton St. apt	718-687-6237	adam.bradford gmail.com	
Amy Sutter	61 N. Moore St #2E	917-386-3302	amy.sutter@me.com	
Victor Quinones	207 19th BKLYN 11215	646-203-4540	marka27@minigods.com	

FRIENDS OF
DOUGLASS GREENE PARK

Petition to the EPA Region 2 Superfund regarding the Gowanus Canal Proposed Remediation Action Plan (PRAP).

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Name	Address	Telephone	E-mail	Comments
GAVIN SMITH	204 9th Ave 11215		gavintsmith@mac.com	
RANDI SONG	4 WATKINS ST #3A 11201		gatsbyMRS@gmail.com	
Josh Rosenbaum	46B 4th St Brooklyn NY 11231		[illegible]	
Ben Schuler	119 Smith St. NY 11201		SCHULER@FAS.COM (twice)	
Sue Wolfe	448 Atlantic Ave 11217		SUE.WOLFE@CORCORAN.COM	
Susan Eng-Ma	705 Shore Rd Brklyn 11209		engmasusan@yahoo.com	

FRIENDS OF
DOUGLASS GREENE PARK

Petition to the EPA Region 2 Superfund regarding the Gowanus Canal Proposed Remediation Action Plan (PRAP).

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Name	Address	Telephone	E-mail	Comments
Elizabeth Gaines	1848 Eastern Parkway 2C 11233	347-715-3546	shawngaines90@yahoo	please don't interfere the park/pool
Michael Ray	12 wyckoff st. 11201	2129753110	posterray@yahoo.com	no change pls
Sarah Hill	81 Fort Greene Pl #4 Brooklyn 11217	718.207.9152	sarah.hill@yahoo.com	not under the childrens pool!
Pahu van Riel	"	917 796 3316	pvanriel@nyc.rr.com	
MICHAEL SAWYERS	285 CLERMONT AVE APT 2 BROOKLYN, NY 11205	718-797-5057	wanderersphoto@gmail.com	KEEP IT CLEAN!!
RACHEL SCHNEIDER	288 KOSCIUSZKO ST	212 688 7181	r;54-37@NYU.EDU	

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Name	Address	Telephone	E-mail	Comments
Joe Fiver	1 Hanson Pl 12B Brklyn 11243	646 385 5111	~~Feofes@aol.com~~ Joseph.Fiver@cbcoman.com	
C. Kapozvola	505 PRESIDENTE ST APT 3F	917-863-3375	KAPOZVOLA@AOL.COM	
Josh Eichen	219 DeKalb #2	781-572-6696	josh.eichen@gmail.com	
Charles Davies	519 10th st. Brooklyn		cdavies2000@gmail.com	
Carolyn McIntyre	62 Montague st 3A	718-797-5207	cemac62@aol.com	
Michael D.D. White	11	7145834 6164	MDDWhite@aol.com	

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Name	Address	Telephone	E-mail	Comments
Efrain Ortega	5st. Marks Pl		PacoMastercuts@gmail.com	
Jose Roman	5St. Marks Pl		JoseRoman711@gmail.com	
Reynaldo Sanchez	130 3rd APT 1SK			
Helio Molina	5.St Marks Pl			

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Name	Address	Telephone	E-mail	Comments
Drew Schafer	99 6 Avenue Brooklyn NY 11217		mustbugsy@aol.com	
Rosana Vidal			rosanavidal@me.com	
K. Wilson	295 Berger		kcwilson@gmail.com	
Elise Selinger	346 Butler Apt 3 Brooklyn		selinger.elise@gmail.com	
MARCELOTORCHIO@GMAIL.COM	80 4 AVENUE BROOKLYN, NY 11217		MARCELOTORCHIO@GMAIL.COM	
ADRIAN GUEVARA	495 DEKALB AVE BROOKLYN, NY 11205		SPARKPLUG@HOTMAIL.COM	

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Name	Address	Telephone	E-mail	Comments
Chopper Alexander Sosnoski	78 St. Marks Place	(718) 857-5283	Chopper@skatebrooklynny.com	
Jerome Moore II	78 St. Marks Place	(718)-857-5283	madmanJ71@aol.com	Don't Do It!
Christopher Lica	78 St. Marks Place	(718)-857-5283	ChrisSk8teBKE gmail.com	
Ryan Santiago	78 St. Marks Place	(718) 857-5283	Teabag5up3M3@ aim.com	[redacted]
Nelson Fisher	32 St. Marks Ave	(646) 712-008	icenelson606@ gmail.com	Don't!
CharlieDovey	174 Sackett St	347 4191424	CDovey@BrooklynAspect.org	

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Name	Address	Telephone	E-mail	Comments
Michael Spencer	12 St Mark Pl.	347-388-6401	Ron@Juno.com	The children are our future we must make a way for them.
Victoria A. Rodriguez	238 Bond St	347-799-5227	chocchyubabiie@gmail.com	everyone loves this pool no one would want to see it go
Edivette Perez	381 Douglass St	347 582-4505	div18_29@aol.com	There are other places to put a raw sewage plant.
Barbara Mantack	185 Wyckoff St	917-627-2087	—	Find an empty space to put the raw sewage not where children have play and recreation.

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Name	Address	Telephone	E-mail	Comments
LAZARO LOPEZ	75 OCEAN AVE BROOKLYN, NY 11225	718 216-0141	LZLOPEZ4@GMAIL.COM	STOP MAKING DECISIONS THAT AFFECT CHILDREN AND THEIR SUMMER FUN!
Cindy Helmick	92 5th Avenue Brooklyn NY 11217	718 230 1630	craehelmick@aol.com	no poo under the pool.
ADRIAN DISILVESTRO	92 5TH AVE. BROOKLYN 11217	718-230-1630	GDISILVESTRO@AOL.COM	
NICK PILLAY	366 ST JAMES PLACE	9174033882	PILLAY@gmail.com	NO TOXIC ANYTHING WHERE CHILDREN PLAY

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Name	Address	Telephone	E-mail	Comments
Hayes Smith	23 St Marks Pl #2 Brooklyn, NY 11217	—	hazenyth@hotmail.com	
Nick Olson	23 St. Marks Pl. #3 Brooklyn NY		olson823@gmail.com	
Elaina Berkowitz	23 St. Marks Pl @ #3 Brooklyn NY 11217		elainaberkowitz@gmail.com	
Vincent Milburn	23 St Marks Place #3 Brooklyn NY 11217		VMilburn@gmail	

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Name	Address	Telephone	E-mail	Comments
M Janice Cardona Debra Smock			JJVulcane AOL.com	

We love your plan, EPA - Just do it!

Georgia Juvelis to: Region2 GowanusCanalComments 04/26/2013 03:55 PM

History: This message has been forwarded.

Signed,
Georgia Juvelis & Charlie Foley
Carroll Gardens

Letter EPA from Friends of Douglass/Greene Park.org

Wolfe, Sue to: Region2 GowanusCanalComments 04/26/2013 03:57 PM

History: This message has been forwarded.

Dear Christos,
Please find our comment letter to the EPA attached.
The backup information including our petitions, both from CHANGE.ORG including comments and hand written petition is sent in a separate email today.
Please confirm receipt.
Thank you.
Sincerely, Sue

Sue Wolfe, SVP
Senior Vice President
The Corcoran Group
d: 718.923.8037
f: 212.230.7308
m: 917.868.5332
Sue.Wolfe@corcoran.com
124 Montague Street, Brooklyn NY, 11201

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FRIENDS OF
DOUGLASS GREENE PARK

A NOT-FOR-PROFIT CORPORATION
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BROOKLYN, NEW YORK 11217
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Christos Tsiamis, Project Manager
U.S. Environmental Protection Agency
290 Broadway, 20th floor
New York, NY 10007-1866

April 26, 2013

Dear Mr. Tsiamis,

Friends of Douglass Greene Park (FODGP) would like to thank the EPA for their hard work and dedication over the past three years in support of the Superfund listing, Remedial Investigation and Feasibility Study for the cleanup of the Gowanus Canal. We greatly appreciate the EPA's efforts to clearly and openly communicate with all the varied community based organizations', groups, and concerned residents and businesses in South Brooklyn regarding the Proposed Remedial Action Plan (PRAP). We thank you for helping to restore some of the broken public trust amongst our community regarding remediation of the longtime highly polluted waterway and we support the PRAP in addressing this overdue cleanup.

FODGP is an organizational member of the Gowanus Canal Community Advisory Group (CAG) and we have limited the scope of our comments to addressing our concerns around the potential impacts to the Thomas Greene Park and Douglass and DeGraw, aka Double D Pool, along with the nearby Canal area that will comprise RTA1. As is understood by FODGP at this time, the proposed cleanup plan work to be conducted in

this northern vicinity would comprise dredging, capping and dewatering (EPA), along with a retaining wall to be built (National Grid / DEC), and a proposed raw sewage retention tank (DEP), as well as ongoing work to the Flushing Tunnel and Pump Station (DEP), plus still to be determined further excavation and removal of NAPL that would need to take place on the former Fulton MGP site (National Grid / DEC) .

In regards to all these proposed remediation's and controls, three main comments from our organization to the EPA focus on:

- **Incorporating the entire upland area of the former Fulton MGP site within the EPA Superfund cleanup.**

- **Conducting a thorough review of the Remedial Investigation results at the former Fulton MGP site and addressing new potential exposure pathways with a human health risk assessment.**

- **Providing compensation and guarantees for the potential loss or disruption of the Double D Pool.**

Incorporate the entire upland area of the former Fulton MGP site within the EPA Superfund cleanup

FODGP believes that a Record of Decision (ROD) incorporating the entire upland area of the former Fulton MGP site within the EPA Superfund cleanup will provide for the best coordination, organization, planning and design possible to minimize disruption and impacts to our community. FODGP strongly believes that not coordinating these cleanups continues to make the community pay and will continue to leave too much uncertainty regarding the fate of the Thomas Greene Park and Pool. Without specific timelines, clear communication, meaningful community participation and involvement, and clarification on what specific remedies and risks comprise the former Fulton MGP cleanup in conjunction with the Canal RTA1 site, FODGP and the community of residents that use these public resources face too many uncertainties and possible disruptions that will make any further Park designs and planning impossible.

The Thomas Greene Park and Double D Pool was formerly the site of the Fulton Manufactured Gas Plant (MGP), which National Grid and the City and State are now responsible for investigating and remediating. National Grid has a website, www.fultonmgpsite.com/, which is supposed to provide regular site news and updates, however updates have not been posted since September 2012. National Grid is also required by 6 NYCRR Part 375-1.10 NYSDEC to review and update their Citizen Participation Plan (CPP) to account for significant changes in the Fulton Municipal MGP Project's remedial program. The CPP posted online is over 5 years old and dates to when KeySpan was the responsible party for the site.

National Grid's Remedial Investigation (RI) for the former Fulton MGP site was released in July 2012 and provides detailed results of their investigations into the eight parcels of land which comprise the site. The Park and Pool comprise parcel number two, and directly beneath the Pool are old petroleum tanks from former operations. According to National Grid's summary of their RI, visible coal tar and petroleum impacts were found in soils beneath the site and in areas to the west bordering on the Canal. Subsurface migration of coal tar wastes is also so problematic that it has necessitated expedited design of an Interim Remedial Measure, consisting of a cut off wall to prevent migrating contamination from entering the Canal in support of the Superfund cleanup. A Feasibility Study (FS) to address the contamination impacts as necessary has yet to be released.

Some of the contaminants found in soil and sediment testing from National Grid's RI include benzene, toluene, ethylbenzene, and xylenes (known as BTEX) and polycyclic aromatic hydrocarbons (known as PAHs). BTEX compounds are some of the volatile organic compounds (VOCs) found in petroleum derivatives such as petrol (gasoline). Toluene, ethylbenzene, and xylenes have harmful effects on the central nervous system. PAH compounds are known carcinogens and mutagens and are also responsible for developmental toxicity, resulting in birth defects and adverse impacts to non-human life forms. When the EPA discusses these coal tar derivatives in its proposed cleanup plan, they are referred to as NAPL, non-aqueous phase liquid.

According to National Grid there is supposedly "no risk of exposure" to MGP-related contaminants at this site, unless one digs about five to seven feet down. There is also a concrete barrier at parcel number two, which is supposed to provide protection to the

user's onsite. According to the EPA and the NYS Superfund program, source removal or control for all remedies, will be necessary.

The former Fulton MGP site will require close coordination and oversight between EPA, DEC and National Grid in order to prevent NAPL migration from impacting the remedy. Furthermore, EPA has identified the Double D pool area as a potential location for a 2 to 17 million gallon in line CSO storage tank for outfall RH-034 to address the over 121 million gallons of raw sewage that are estimated to enter the Canal annually from this one outfall alone, and his could impact the integrity of the remedy.

The forthcoming Record of Decision (ROD) must reflect a comprehensive cleanup of the canal and the upland former Fulton MGP area, where all agencies and parties involved work together in a much more coordinated and timely fashion. The former Fulton MGP upland area does comprise RTA1, the first part of the Canal which will be remediated, and this will most likely set the timeline and pace for the subsequent parts of this cleanup. Furthermore, any failure to achieve the Interim Remedial Measure cut off wall would result in recontamination of the canal sediments and could potentially significantly delay the cleanup. The design and location of this interim cut off wall have yet to be presented to the public, so not only is the coordination of this remedy in question, but understanding the impacts of where this NAPL could possibly migrate to if it is prevented from entering the Canal create additional concerns for the safety and health of nearby residents, businesses and park and pool users.

More broadly, in terms of communication and transparency with residents and organizations like the Gowanus Canal Community Advisory Group (CAG); National Grid and the DEC and DEP have not responded to community concerns or public meeting requests, nor followed even the most basic parts of the Citizen Participation Plan as prescribed on the National Grid former Fulton MGP website. While National Grid continues to insist that the Park and Pool are safe, their explanations at times seem to be at odds with the EPA in terms of technical assessment, like NAPL migration for instance, where National Grid insists that coal tar waste only migrates down, yet the EPA's presentations communicate that NAPL can migrate down and up, and very importantly be transported via groundwater, not just into the Canal itself, but depositing around the neighborhood, particularly in the former MGP vicinity. This is naturally of great concern to us.

National Grid and the City of New York are potentially responsible parties (PRP's) and FODGP asks that the EPA use its Superfund authority to enforce the entire upland area cleanup in a coordinated fashion that will not cause multiple disruptions to the community and its resources.

It is for these many reasons that FODGP would like to see EPA use its vast compliance and enforcement authority under CERCLA to include the former Fulton MGP site as part of the remedy. We believe this to be the best way to guarantee source control remediation and proper agency and responsible party alignment that will ensure the protectiveness of the preferred remedy while safeguarding our community and concerns over our beloved Thomas Greene Park and Double D Pool.

Conduct a thorough review and verify remedial investigation results at the former Fulton MGP site and address new potential exposure pathways with a human health risk assessment.

For the safety of the users of the Park and Pool, FODGP insists that the EPA perform a thorough inspection of National Grid's findings regarding risks of exposure at parcel number two of the former Fulton MGP. We would like to see testing done by the EPA on the concrete barrier of parcel number two and the material of the two swimming pools onsite (the toddler pool and the regular pool) that tests for BTEX, PAH's, VOC's and NAPL. We would like to know if there is any issue with the porosity of these materials that could facilitate exposure pathways for these toxics? We would also like to see regular testing for these same chemicals done for the Pool water and the drinking and shower water at the Double D Pool facility. Finally, given the groundwater and storm water runoff contamination concerns, we would like to see groundwater testing done by the EPA onsite at the Park and Pool after wet weather events.

FODGP would also like to bring to the attention of the EPA that the Thomas Greene Park Playground was just recently redesigned and reopened this March. Over 900K in discretionary funding from City Council members was spent by NYC Parks to renovate this playground. The land was not remediated before the new playground went in. This new playground has large tree pits with a lot of exposed dirt, and a new children's sprinkler fountain, both of which should be evaluated as new dirt and groundwater sources onsite. The playground is now experiencing heavy use from neighborhood

residents and the sprinkler will surely be a very big draw for young children this summer. There are very low tree guards delineating the playground from the tree pits, but the reality is that children love to play with dirt and very young children will be digging in this dirt, and inadvertently or sometimes deliberately ingesting it. We again ask that the EPA evaluate that these new Park designs and amenities to ensure that they do not create exposure pathways that could pose health risks to the young children and families recreating onsite.

Provide compensation and guarantees for the potential loss or disruption of the Double D Pool

As part of the proposed cleanup plan, EPA is proposing potentially impacting the Double D pool area to excavate and build a 2 to 17 million gallon raw sewage storage tank. The plan obfuscates the issue in a way that residents reading the PRAP would not even realize that there is proposed threat to the pool in the proposed plan. It is for this reason that FODGP recently began a petition to inform users of the Pool.

In less than three weeks since the petition was launched, response has been tremendous. Local residents and members of FODGP trying to "Save the Pool" have been featured on Channel 12 News, DNA info, Brownstoner, the Brooklyn Paper, and in the New York Times.

The Double D pool was slated to be closed by the Mayor's office in 2010 and the neighborhood residents successfully rallied against this closure to "Save the Pool." Because the EPA understands community acceptance to be very integral to the proposed cleanup plan, FODGP is including the over 1,000 petition signatures we gathered in support of this cleanup, that includes addressing CSO's, but are against a raw sewage tank being placed beneath the Double D pool (www.change.org/petitions/epa-make-the-polluters-pay-not-our-community-save-the-double-d-pool).

We do not feel that enough information and consideration was provided to our organization and community in regards to this proposed location for us to support this proposed location in any way. Should the EPA and DEP be willing to discuss this

proposal further with FODGP and the community, and provide compensation and guarantees to the community at large, with respect to the pool, then perhaps there could be support, but at this time we resoundingly say NO to a raw sewage tank beneath the Double D pool.

The communities that use this Park and Pool also deserve clear communication on what a proposed raw sewage retention tank at this location would mean for our community. We want to see specific health risk assessments and guarantees that there would be no disruption to our facilities and services. Furthermore, FODGP understands that there are other locations, closer to the CSO outfall (RH-034), where the tank can go, such as the lot on Nevins and Butler, across the street from the Pump station and the Flushing tunnel. There are also numerous parcels of land for sale in the immediate vicinity and perhaps this might also be worthy of an eminent domain proposal.

There are hundreds of petition comments that address the communities concerns over this potential loss and demonstrate the importance of this community resource. To be clear these signatures represent that the community of residents who use this facility do not want a raw sewage tank to be built beneath the pool.

The pool primarily serves nearby public housing and neighborhood residents during the summer season, and programs provided at the Pool facility include the School Food Lunch program, which serves free breakfast and lunch while school is out, and the Learn to Swim program, which provides free swimming lessons for children. The pool also serves as a cooling center during heat waves. There is also a second pool, uniquely designed for toddlers, which some of the youngest neighborhood residents enjoy and a handicapped lift which services the main pool to allow for special needs access.

Should the ROD move forward with the retention tank location as put forward in the PRAP, what would be the exact timeline that this resource would be disabled? What compensation will be provided in the ROD for a community losing a recreational open space facility and how would the EPA enforce City open space standards for an already underserved part of the Gowanus community? New York City Planning Standards outlined in the 2010 City Environmental Quality Review Technical Manual encourage a standard of 2.5 acres of open space within half a mile for every 1000 residents. EPA and DEP will have to address what access to Parks is presently provided for in Gowanus compared with the standard requirements. Estimates from a CAG member have put

forth that Northern Gowanus residents only have access to roughly 7 acres of Parks instead of the 70 acres the standard requires.

While FODGP supports a comprehensive Superfund cleanup of the Gowanus Canal that includes addressing raw sewage overflows, we also insist that Superfund follow its own principles and make the polluters pay, not our community. The EPA's proposed placement of the raw sewage retention tank to be built beneath the Douglass and Degraw (Double D) community pool will greatly impact an already underserved community by removing a facility that serves primarily low income populations that already suffer disproportionately from the effects of obesity and lack of access to open space. Furthermore, very serious consideration should be given to what impacts could occur to our most vulnerable elderly and young populations if there is no nearby facility to provide services designed to prevent hunger, and even death during excessive heat. To prevent the denial of, reduction in, or significant delay in the receipt of benefits by minority and low-income populations would disproportionately affect communities of color and violate the U.S. EPA's environmental justice commitments.

Presently there is no specific time frame or incentives being offered in the proposed cleanup plan to the community in the regards to the potential closure of the Double D pool. It is also unclear at this time if there may be additional disruptions to the Thomas Greene Park. Also, due to the aforementioned other reasons regarding why the land in parcel two may still need to be remediated, even without the placement of the retention tank beneath the Double D Pool, it is imperative that EPA carefully consider these same reasons in their ROD before any disabling or disruption of these community resources were to occur. FODGP asks that the ROD include enforceable measures to provide for temporary and permanent relocation of services at a nearby location as needed.

Any temporary displacement or permanent disruption to the Thomas Greene Park and Double D Pool needs to be planned for with a seamless transition of services that includes an expense budget in the ROD for all the park facilities (pool, playground, skatepark, basketball courts) and services (the School Food Lunch, Learn to Swim, cooling centers, etc.) at a nearby location. FODGP would like to see an expense budget for rebuilding the Pool and Park as necessary and a budget for any interim pool and services that are needed. FODGP would also like to see enforceable measures in place

between the PRP's and the Parks Department for any necessary expenses should the new playground be disrupted.

Currently, there is much concern in the area over displacement, gentrification, affordable housing, threats to NYCHA residents housing, along with the potential closures of the Pacific library branch and Long Island College Hospital (LICH). Many longtime daycares and community centers have also lost their funding, so the threatened loss of this community resource combined with these numerous pressures adds to the burdens that neighborhood residents are already experiencing in a historically underserved area.

It is for these reasons that FODGP asks for guarantees in the ROD that minimize any possible disruption to the Double D pool and provide for any direct costs related to that, including a nearby temporary pool and a permanent replacement, along with all the community services and other park amenities accounted for.

Over $500 M will be spent on this cleanup and we want to see a Record of Decision that minimizes any possible disruption to the park & pool and provides for any direct costs related to that, including a nearby temporary pool and a permanent replacement, along with all the community services and other park amenities accounted for. Anything less would be environmentally unjust. Clean up should fall on the responsible parties, not on the backs of our children and our community.

Thank you for all your time and attention to these matters.

Sincerely,

Sue Wolfe

Sue Wolfe, President
Friends of Douglass Greene Park
www.friendsofdouglassgreenepark.org/

cc: Hon. Michael Bloomberg
Hon. Charles E. Schumer
Hon. Kirsten Gillibrand
Hon. Nydia M. Velazquez
Hon. Yvette D. Clarke

Hon. Hakeem Jeffries
Hon. Christine Quinn
Hon. John Liu
Hon. Bill DeBlasio
Hon. Marty Markowitz
Hon. Daniel Squadron
Hon. Velmanette Montgomery
Hon. Eric Adams
Hon. Kevin Parker
Hon. Joan L. Millman
Hon. James F. Brennan
Hon. Felix Ortiz
Hon. Stephen Levin
Hon. Brad Lander.
Hon. Sara M. Gonzalez
Hon. Letitia James

re Red Hook

tom lisenbee to: Region2 GowanusCanalComments 04/26/2013 04:35 PM

History: This message has been forwarded.

Dear EPA:

After carefully weighing the pros and cons, as local residents of the Hook, we must say no to your proposal to process toxic sludge dredged from the Gowanus Canal in Red Hook. The future for Hook is precarious enough as it is without dropping this toxic bombshell into our midst.

Yours,

Tom and Sharon Lisenbee
87 Pioneer Street
Brooklyn NY 11231

Red Hook Civic Association input re: Red Hook

rosemary mcgettrick to: Region2 GowanusCanalComments 04/26/2013 04:40 PM

History: This message has been forwarded.

Thank you for your numerous presentations to our communtiy.
Please read the attached.
Red Hook Civic Association Co-Chairs: Jay McKnight & John McGettrick

civic assos response to EPA.docx

From: **Red Hook Civic Association,**
Jay McKnight, Co-Chair, Public Housing
John McGettrick, Co-Chair, Private Housing

We greatly appreciate the three meetings that the EPA came to in Red Hook to listen to the community, concerning the proposed CDF and the most recent Agency comments indicating that the CDF would not be coming to Red Hook and that dewatering /decanting could then take place on a barge as the preferred option.

Prior to these most recent assurances, which relieved a tremendous amount of anxiety in this community, that suffered so greatly during and after *Sandy*, there had been a number of concerns, including, but not limited to:

- First and foremost, the proposal for a land-based CDF and adjacent dewatering facility at t he GBX site, within a FEMA designated flood zone, right next to the ball fields, park, track, pool and Ikea park would appear to have violated any required, unbiased, *Environmental Justice Analysis.*
  (It should be stressed that Red Hook was very involved in the establishment of these guidelines over 20 years ago – when the community was overrun with noxious uses, including a waste-transfer station, proposed sludge plants and the largest garbage processing facility on the East Coast. After years of struggle, the community prevailed in almost all of these battles.)
- Fear of noxious odors emanating from the dewatering process and the subsequent steps necessary to create the CDF that could spread to the ballfields, park and beyond,
- Concern about contaminated dust and vapors escaping during these decontamination processes and migrating beyond the GBX site, especially during the receiving and dispersal of the toxic sludge. It should also be noted that in recent years winds off the water in this area have increased substantially.
- The filling in of privately owned lands in the Gowanus Bay section of New York Harbor with partially contaminated material, used to create the CDF, could leach from the CDF

and further pollute the harbor. At the same time this action would expose adjacent lands to even greater flooding in the event of another major storm. Not "if " there is another storm, but when one occurs.

- It should be stressed that this filling-in has not been allowed in New York Harbor for more than ½ a Century and would need a full-blown EIS first, if it were ever to proceed.
- *Environmental Justice Guidelines*, in accordance with *NEPA* should prevent the siting of a land-based dewatering facility and an adjacent CDF @ the GBX site. The site is adjacent to ballfields, a popular track, park areas and an Olympic sized swimming pool all of which are frequently used by Red Hook residents and residents of neighborhoods throughout Brooklyn.
- A similar population also primarily occupies residential housing in Red Hook. In contrast, some other communities close to the contaminated canal are more affluent and in some of these areas of the Canal, efforts are underway to rezone industrial land and build mostly luxury housing.
- In addition, the owner of the property proposed for expansion vial filling-in of lands under water for the CDF is an environmental violator, and has proposed additional uses of his enlarged property such as a large concrete plant that would undermine the value of the heavily used adjacent park and recreation areas
- The process proposed for removing toxins from the contaminated sludge is not the most effective for the removal of the heavy metals that make up substantial amounts of the material.
- The composition of the sludge in the contaminated Red Hook sector of the Canal has changed in recent years and become even more toxic as the result of two hurricanes – most especially *Sandy*. This storm scoured the bed of the Canal as the surge receded.
- The ongoing construction of a large Department of Sanitation Marine Transfer Station has disturbed toxic materials deep in the bed of the canal in the same area that was once immediately adjacent to a huge NYC incinerator for years.

- Recent spillage during *Sandy* from the adjacent Hess petroleum site further polluted this area of the Canal and future storm surges are likely to further increase pollution in this area.
- Test bores previously done in this area no longer have validity for use in current analysis.
- Sixty years ago Red Hook had twice as many people and thousands of more jobs. The supporters of the current project proposal have constantly and dramatically over-stated the number of jobs involved in a CDF. They have even gone as far as suggesting that the entire Canal cleanup will not take place is there is no Red Hook CDF.
- Several thousand people have expressed their opposition via signatures on petitions and post cards or in smaller, but almost unanimous numbers showing up in opposition at the 3 meetings the EPA hosted in Red Hook. Clearly from the outset the community indicated that there was no acceptance of the CDF as set forth as a requirement by the Agency. It should be noted that others who use the ballfields and recreation areas were also opposed but did not formally object because of their pending documentation status.
- Others remain puzzled as to why if a land-based dewatering facility was needed, why was one not provided at sites closer to the most contaminated parts of the canal? This could have resulted in fewer raisings of the 9th Street & Hamilton Avenue Bridges, and therefore fewer traffic jams and less air pollution.
- In addition, there was concern that the development of luxury housing along the canal would increase pressure to push current noxious uses on the canal into Red Hook, especially if new land was being created by the proposed CDF and in turn, those uses would create even more pollution near the ballfields, park and nearby Public Housing. This would be accompanied by an increase in heavy truck traffic right through the area.
- The Red Hook Food Vendors, who have permits to sell food in Red Hook, and their customers need a pollution and odor-free environment at the ball fields.

- Asthma rates (much higher than the national average) and cancer rates are already too high in Red Hook. We do not need another potential catalyst.
- The fact that the owner of the GBX site previously had serious environmental issues and a multi-year battle with the New York City Park's Department is a continued concern.
- We were also led to believe that Thermal desorption, which, we understand is the selected treatment mechanism, is not suitable for heavy metals. According to the Federal Remediation Technologies Screening Matrix and Reference Guide (Version 4): -Thermal desorption is a physical separation process and is not designed to destroy organics. Wastes are heated to volatilize water and organic contaminants. - The limitations of the process were described in that document as:
- There are specific particle size and materials handling requirements that can impact applicability or cost at specific sites.
- Dewatering may be necessary to achieve acceptable soil moisture content levels.
- Highly abrasive feed potentially could damage the processor unit.
- Heavy metals in the feed might produce a treated solid residue that requires stabilization.
- Clay and silty soils and high humic content soils increase reaction time as a result of binding of contaminants.

This led one to wonder what was going to happen to residue? How is dewatering to be accomplished? Also - since some of the metal loading would vaporize during thermal treatment – why was there no study of possible air-pollution done first?

Statement against proposed EPA plans for Red Hook

rosemary mcgettrick to: Region2 GowanusCanalComments 04/26/2013 04:51 PM

History: This message has been forwarded.

Dear Mr. Tsiamis:
Thank you for your patient attendance and courtesy at the numerous meetings the EPA held with the Red Hook Community.
I was at them all.
I am opposed to the EPA plan for using the private property of John Quadrozzi which is in a FEMA designated flood zone for any dewatering/decanting, etc., etc purposes.
Toxic waste should not be "treated" so near ballfields, the beautiful olympic-size pool and well-used track.
This community suffered enough during and after Sandy. Please do not make it a toxic dump site.
It is a beautiful waterfront "village" and is enjoyed by so many New Yorkers.
Please use your engineering skills to accomplish the Gowanus clean-up on barges, on the site.
Thank you. Rosemary McGettrick, 178 Coffey St. (23 year homeowner here)

Give Red Hook a break

Beth K to: Region2 GowanusCanalComments 04/26/2013 05:23 PM

April 23, 2013

Christos Tsiamis
Project Manager,
Central New York Remediation Section of the U.S. Environmental Protection Agency Region 2
290 Broadway, 20th floor
NY, New York 10007-1866

Mr. Tsiamis:

I am writing to register my opposition to using Red Hook as a dumping ground from clean–up of the Gowanus Canal.

The EPA has a list of remedies that involve processing and containment of dredged material off-site for beneficial use such as the capping of landfill sites, I urge the EPA to select any option that involves off-site processing and off- site disposal.

Don't even get me started on the topic of even considering any proposal that includes a repeat environmental offender like John Quadrozzi. It's nice that he pays you hefty fines for his nefarious behavior, but that should count against him, don't you think? Or do you just like people who incur (and pay) EPA fines?

Concerned,

Beth Kaiser

6 Dikeman Street

Red Hook Brooklyn, NY 11231

Comments on Gowanus Canal Proposed Plan

Blaise Corrigan to: Region2 GowanusCanalComments 04/26/2013 05:26 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Blaise Corrigan

Apr 26, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I totally support the EPA's plan to comprehensively clean up the Gowanus Canal.
I have 3 children and believe it's best for them and future generations of children to clean up the canal completely... dredge and remove the poisons.. Please don't build piecemeal on the coal tar and toxic sludge and leave the consequences to future generations.
Do it right on the front end.

Thank You

Blaise Corrigan
42 1st St.
Brooklyn , NY 11231

Sincerely,

Mr. Blaise Corrigan
42 1st St
Brooklyn, NY 11231-5002
(718) 237-2538

Proposed Clean Up Plan Comments

Natalie Weinberger to: Region2 GowanusCanalComments 04/26/2013 05:39 PM

History: This message has been replied to and forwarded.

To Whom it may concern,

Please find my comments to the Proposed Clean Up Plan for the Gowanus Canal attached.

Thanks,

Natalie Weinberger

---

natalie weinberger

Development & Communications Coordinator
FIFTH AVENUE COMMITTEE
(718) 237 2017 ext #129

Comments to the Proposed Clean Up Plan_Natalie Weinberger.pdf

April 26, 2013

Christos Tsiamis, Project Manager
U.S. Environmental Protection Agency
290 Broadway, 20th floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I'm a young community development professional currently working in Gowanus. After learning more about the Proposed Clean Up Plan, I have determined that I am in support of the plan on the whole. In addition to the EPA's outlined plans, I would personally like to see the following find its way into the next iteration and actual cleanup plan:

- The Plan needs to link this once in a lifetime investment to workforce development opportunities, especially for local individuals facing barriers to employment.
- The EPA should enforce a more a comprehensive, coordinated and timely cleanup between all agency and responsible party stakeholders involved (EPA / DEC / DEP).
- The Plan should champion diversity and advocating for inclusion and participation for all the communities we work with in the next steps in the process - design phase and as clean up actually behind
- It is essential that the Plan advocate for local residents to be involved in the planning discussions and resource allocation decisions for the future of our neighborhoods.

Thank you for taking these comments into account as you revise the Clean Up Plan.

Sincerely,

Natalie Weinberger

I, the sender, vote that I do not want this project to proceed.

marina Pavlutskaya to: Region2 GowanusCanalComments 04/26/2013 06:32 PM

History: This message has been forwarded.

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

- Children
- Numerous public and private schools which use the fields for physical education & sports teams
- Residents of the Red Hook Houses and the surrounding neighborhood
- Soccer, softball, baseball, football, handball, basketball, track & field teams and enthusiasts
- Swimmers of all ages
- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--
marina Pavlutskaya
marinapavlutskaya@gmail.com
97 pioneer st
Brooklyn, NY 11231

Gowanus Canal Conservancy Superfund PRAP Comments

Hans Hesselein to: Region2 GowanusCanalComments, Natalie Loney 04/26/2013 06:33 PM

Cc: Richard Kampf, Venetia Lannon, Carter Strickland, April Dubison, askmarty, "Walsh, Daniel", Joan Millman, Sara M Gonzalez, Nydia.Velazquez, Brad Lander, Stephen Levin

History: This message has been forwarded.

Dear Mr. Tsiamis and Ms. Loney,
The Gowanus Canal Conservancy wishes to thank you for your hard work in preparing the Gowanus Canal Superfund Proposed Remedial Action Plan and for providing the community with an opportunity to review and comment on the proposed remedy. We are very excited by fact that the EPA is spearheading this important cleanup, which will address more than 150 years of contamination that has accumulated in the Canal's sediments. As a Gowanus stakeholder and watershed stewardship organization, we take our public advocacy responsibilities very seriously and have taken this opportunity to extensively review and comment on the PRAP. Please find our comments and associated figures attached to this e-mail for your review and for inclusion in the public record for this Superfund Site.

Regards,
Hans

Hans Hesselein, LEED AP
Executive Director
Gowanus Canal Conservancy
321 Nevins St, 2nd Floor
Brooklyn, NY 11215

phone: 718 541 4378
GCC Website Facebook Twitter Check out our Blog!

FINAL_PRAP_Comments_042613_sm.pdf

Gowanus Canal
CONSERVANCY

Gowanus Canal Conservancy
321 Nevins St, 2nd Floor
Brooklyn, NY 11215
phone: 718.541.4378
www.gowanuscanalconservancy.org

April 26, 2013

Christos Tsiamis, Project Manager
Central New York Remediation Section
U.S. Environmental Protection Agency
290 Broadway, 20th Floor
New York, New York 10007-1866

Re: Comments on EPA's December 2012 Proposed Remedial Action Plan
Gowanus Canal Superfund Site

Dear Mr. Tsiamis,

As you know, the Gowanus Canal Conservancy is a 501(c)(3) community-based not-for-profit organization founded in 2006 in Brooklyn, New York. Our mission is to serve as the environmental steward for the Gowanus Canal and its watershed, overseeing its transformation into a system that is clean, green, and publicly accessible. As part of our efforts, we are working to improve water quality, preserve open space, and promote public access to the ecological, cultural, and recreational resources of the Gowanus Canal and its watershed.

The Gowanus Canal Conservancy has participated extensively in the Superfund process. We understand that the clean-up will take many years and that many technical questions remain unresolved at this time. Nevertheless, the Superfund clean-up represents a unique opportunity to conduct a long over-due comprehensive clean-up of the Gowanus Canal with the support of a broad coalition of stakeholders.

The Gowanus Canal Conservancy generally supports EPA's December 2012 Proposed Remedial Action Plan for cleaning up the Gowanus Canal. Our comments seek to bring attention to matters that are particularly important to our constituents as well as those that we believe require additional consideration by EPA.

Sincerely,

Hans Hesselein
Executive Director

Richard Kampf
Board Member

cc:
Venetia Lannon, Regional Director, NYSDEC
Carter Strickland, Commissioner, NYCDEP
April Dubison, National Grid
Daniel Walsh, Director, New York City Office of Environmental Remediation
Hon. Marty Markowitz
Hon. Nydia M. Velazquez
Hon. Joan Millman
Hon. Sara M. Gonzalez
Hon. Brad Lander
Hon. Steve Levin

Clean and Green

The Gowanus Canal Conservancy is working with its many public and private partners to transform the Gowanus Canal and its watershed into a functioning urban ecosystem that is clean, green, and publicly accessible. A central part of this vision is to facilitate the creation of a functional waterfront esplanade that embraces the historic industrial character of the neighborhood while providing inspiring and accessible park space. This waterfront park aims to be integrated with a network of green infrastructure consisting of wetlands, rain gardens, and other functional green spaces existing in harmony with the city's urban infrastructure. We are working to bring cleaner water, robust vegetation, and diverse wildlife habitat to Gowanus. The restored green spaces will also buffer the community from the potential impacts of climate change, including sea level rise, storm surge, and flooding.

Today, the Conservancy is leading broad-based community stewardship activities throughout the watershed. Our flagship projects include Cleaning and Greening adjacent land, developing a state-of-the-art compost facility to help manage and reduce New York City waste, and educating young people about the pleasures of the waterfront right here in the heart of Brooklyn. Last year we shared our enjoyment of the Canal and our vision for its future with thousands of community members, volunteers, donors, voters, and fundraiser attendees. The Superfund clean-up, once complete, will provide an important foundation upon which to build in order to realize our vision of a clean, green and accessible waterfront.

The Long Term

As stewards of the watershed, the Gowanus Canal Conservancy seeks to ensure that the remedy is designed properly and functions consistently with the long-term remedial objectives contained in the National Contingency Plan. We hope to have a seat at the table with key stakeholders in the process moving forward. The following comments address ways in which the Proposed Plan may be improved in order to ensure the required long-term permanence and success of the remedy.

Watershed Perspective

One of our fundamental concerns regarding the Superfund process has been that the Remedial Investigation and Feasibility Study Reports do not accurately reflect the importance of the surrounding watershed. A complete and accurate understanding of the dynamics of the watershed, as it relates to the remedy for the Canal, is fundamental to achieving a sustainable and successful clean-up. The watershed and the surface waters of the Canal are inseparably linked through the sewer conveyance system and local and regional groundwater flow. Thus, the natural and man-made systems are interdependent. Accordingly, we request that EPA utilize a watershed-based conceptual site model (CSM) as well as a framework to managing the relevant environmental systems, and the data collected there from, that is consistent with EPA's own Watershed Approach Framework.[1]

EPA's remedial design studies and long-term monitoring programs should be used to continuously refine the watershed-based CSM as new information becomes available. EPA's use of a watershed-based CSM will assist the Agency in identifying and managing changes to the natural and man-made systems of the watershed and their potential impacts on the remedy and, ultimately, the water quality of the Canal.

Performance Monitoring

Given the reasonable likelihood of failure, shortcomings, and / or insufficiency of planned remedial measures for the Gowanus Canal, remedial design studies should fill existing data gaps in the watershed-based CSM and be used to identify potential contingencies for remedial measures that may not perform as planned. A robust plan for monitoring baseline conditions as well as the short- and long-term performance of the remedy is necessary to ensure the efficacy of the clean-up. Proper monitoring is vital to ensuring that the remedy is designed appropriately from the beginning and can adapt to the many

[1]Office of Water, (4501F), EPA-840-S-96-001, June 1996

potential changes to the natural or man-made systems of the watershed, as well as to human behavior. We understand that EPA will be developing a short- and long-term monitoring plan for Gowanus, and we look forward to learning more about the details. At this time, we seek greater clarity about EPA's plans to conduct baseline monitoring. The PRAP falls short on these details.

In addition, going forward, EPA should utilize an adaptive management approach consistent with the Adaptive Management Technical Guide published by the U.S. Department of Interior.[2] This Technical Guide describes adaptive management as an "iterative process of management, monitoring, and evaluation" that "actively engages stakeholders in all phases of a project over its timeframe, facilitating mutual learning and reinforcing the commitment to learning-based management." Adaptive management also involves "ongoing, real-time learning and knowledge creation" with the objective of achieving an "improved understanding and improved management over time." It further explains that:

> "Adaptive management [is a decision process that] promotes flexible decision making that can be adjusted in the face of uncertainties as outcomes from management actions and other events become better understood. Careful monitoring of these outcomes both advances scientific understanding and helps adjust policies or operations as part of an iterative learning process. Adaptive management also recognizes the importance of natural variability in contributing to ecological resilience and productivity. It is not a 'trial and error' process, but rather emphasizes learning while doing. Adaptive management does not represent an end in itself, but rather a means to more effective decisions and enhanced benefits. Its true measure is in how well it helps meet environmental, social, and economic goals, increases scientific knowledge, and reduces tensions among stakeholders."

As part of an adaptive management approach for the Gowanus Canal, any long-term performance monitoring plan should be closely linked to the watershed-based CSM so that the hypotheses and assumptions that led to the selected remedy can be tested and refined.

For example, it is reasonable to predict that climate change may result in sea level rise, increased frequency and intensity of storms, and increased storm surge levels. Such conditions may alter the water budget and raise the levels of both surface and ground water. Therefore, it is important that EPA further evaluate the volume and rate (flux) of groundwater discharge into the Canal. In addition, capping and installing sheet-pile walls in the Canal has the potential to significantly alter the flow of groundwater throughout the watershed, much of which currently discharges into the Canal. It is unclear where all of this water will go under future capped and bulkheaded conditions. The potential for flooding or short-circuiting through preferential pathways of least resistance between the cap and bulkheads or sheet pile walls should concern EPA. We believe that it is important that the remedial design studies acknowledge and address these uncertainties with appropriate monitoring and modeling efforts.

Finally, all data collection efforts must be transparent, with real-time sharing of information among all stakeholders. The Gowanus Canal Conservancy is developing a data clearinghouse to help facilitate the transfer of information relevant to the Gowanus Canal and its watershed. We look forward to working with EPA and other key stakeholders that are collecting data that may be used to refine and improve the remedy.

Watershed Monitoring Well Network

One way to ensure the adequate collection of remedy-relevant data would be to improve the existing monitoring well network within the watershed. A formerly extensive monitoring network has been rendered useless by lack of funding for the replacement of wells that have been destroyed over the past

[2] Williams, B. K., R. C. Szaro, and C. D. Shapiro. 2009. Adaptive Management: The U.S. Department of the Interior Technical Guide. Adaptive Management Working Group, U.S. Department of the Interior, Washington, DC.

several decades[3]. The Conservancy requests that EPA, as part of its remedial design process, improve its understanding of watershed hydrogeology in order to help ensure the efficacy of the remedy.

The United States Geological Survey (USGS) proposes to replace a number of these wells and evaluate watershed hydrology using the data it collects. Please refer to *Attachment 1* which contains the USGS Proposal. The USGS seeks to collect and evaluate data that will be used to accurately represent the present-day shallow groundwater flow system and verify groundwater-surface water interaction and related modeling efforts.

Specifically, USGS proposes to:

1. Characterize groundwater influences on increased flood potential associated with continued water-table recovery, climate change, and the proposed remedial measures;
2. More accurately estimate rates of groundwater infiltration into the groundwater system, including leakage into and out of sewers and water delivery mains;
3. More accurately estimate groundwater seepage velocities into the Gowanus Canal; and
4. More accurately estimate the direction and rate of groundwater flow as it relates to the fate and transport of dissolved phase constituents.

The field data collection objectives of the USGS proposal would be used to establish a baseline understanding of the hydrologic system of the Gowanus Canal watershed and further characterize the need for long-term monitoring. The modeling objectives would advance the understanding of the regional hydrologic processes that may affect the design of the remedy, ecological restoration, and storm water management.

The USGS proposal should be funded and implemented early in the remedial design phase. The Gowanus Canal Conservancy would be happy to help facilitate a meeting between EPA and USGS in connection with this proposal.

Improved Inter-agency Cooperation and Data Sharing

As noted above, it is extremely important to monitor baseline conditions to help evaluate the long-term effects of planned changes in order to inform future decision-making. Various parties have collected data and are preparing numerical models to simulate environmental conditions and make predictions to support future decision-making in the Gowanus watershed. These models include storm water infrastructure models prepared by NYC DEP and its consultants and hydrogeologic, hydrodynamic, and sediment transport models prepared by National Grid and its consultants. EPA should engage an independent third party to review and integrate all environmental and watershed modeling efforts that are used in refining the CSM.

The USGS has extensive experience developing, calibrating, verifying, and integrating a variety of numerical models and has the ability to help integrate these data collection and modeling efforts. The Conservancy requests that EPA consult and coordinate with USGS, or a similarly experienced entity, to utilize its expertise in reviewing and helping to integrate these models into a single, peer-reviewed, publicly available resource that would be used and refined throughout the clean-up process.

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[3] Groundwater monitoring efforts in the Gowanus watershed have declined significantly since the mid-20th century. During the first half of the 20th century, groundwater in Brooklyn was used for drinking water and industrial purposes. Hundreds of monitoring wells were located throughout Brooklyn, including dozens in the Gowanus watershed, to monitor water levels and water quality. Since the 1940s, when groundwater use began to decline, the monitoring well network slowly has been destroyed. Today, there is a single USGS monitoring well located in the Gowanus watershed.

The Gowanus Community

Conservancy Activities at the Salt Lot

One aspect of the proposed clean-up affects a parcel of property located adjacent to the Canal, an underutilized road-salt storage facility at 2 Second Avenue, Brooklyn, 11215, the Salt Lot. This parcel is critical to our community and to Conservancy members and volunteers. Our vision for the Salt Lot is rooted in our strong partnership with the community, the City, and local small businesses and organizations and is consistent with the objectives of the Brownfield Opportunity Area (BOA) program. The site is currently used by the New York City Department of Sanitation (DSNY) to store road-salt.

Through a partnership with DSNY, the Gowanus Canal Conservancy has transformed a portion of the Salt Lot into the focal point for efforts of the Conservancy's robust volunteer gardening, composting, community nursery, and environmental education programs, including our highly successful volunteer neighborhood greening programs. Through this volunteer program, we enable community members to plant and maintain street trees and street side gardens installed in partnership with neighborhood property owners, businesses, and the City. The Conservancy currently maintains Canal-side gardens on the lot and a street-end rain garden at the end of Second Avenue. In 2012, the Conservancy hosted more than 700 volunteers who logged over 3500 hours of service to the community.

The Conservancy also operates a composting facility, which produces high quality compost that is used in parks, gardens, planters, and tree pits throughout the City. In 2012, about a dozen volunteers each month worked to build each windrow by hand, while 3-4 volunteers turned the piles on a weekly basis. Using this manual approach, we processed approximately 100 tons of organic material into usable compost. To date, the Conservancy's compost program has received approximately $400K in capital funding to expand the physical facility.[4] The expanded composting facility will be capable of processing up to 400 tons of organic matter per year, representing the largest community-based facility of its type in Brooklyn. Our volunteer participation in the composting program is projected to double. The compost we produce will be available to the community for use in local landscaping, tree planting, and green infrastructure construction projects. *Attachment 2* presents a schematic drawing of the proposed compost facility.

Our experience at the Salt Lot suggests that industrial operations and ecological improvements are compatible. Our vision for the future of the property includes transformation into a clean, green, and publicly accessible component of a contiguous waterfront park. In our vision, road de-icing and compost waste management activities will serve as points of interest to be observed and learned from by community members. These operations would be surrounded and buffered by extensive Canal-side plantings, providing beauty, habitat, stormwater retention and cleansing functions. A clean, green, and publicly accessible Salt Lot will help us to highlight the importance of industrial operations to the character and economy of the neighborhood and represent a major step toward creating a resilient and healthy watershed and publicly accessible Canal for generations to come. This public space will become a key centerpiece to a contiguous, functional, accessible waterfront park along the Canal. These characteristics have also brought the Salt Lot to the attention of New York State Department of State as well as the Brownfield Opportunity Area (BOA) program.

Proposed CSO Retention Tank at the Salt Lot

EPA, in its Proposed Remedial Action Plan, proposes to install a 4 million gallon underground CSO

[4] The initial grant was provided by Councilmember Brad Lander's Participatory Budgeting initiative that crowd-sourced neighborhood improvement initiatives from community members. In March 2012, District 39 residents voted, as part of this process, to award $165,000 in capital funds to expand the Conservancy's compost facility at the Salt Lot. The project was second in popularity, with 919 votes. Building on the success and popularity of the participatory budgeting initiative, City Council Members Steve Levin and Sara Gonzalez matched District 39's commitment with a combined contribution of $131,000. Brooklyn Borough President Marty Markowitz has pledged $100,000 in additional funding.

retention tank at the Salt Lot. We understand that EPA also proposes to install an 8 million gallon CSO retention tank at the Thomas Greene Park. Both of these spaces are extremely valuable to the community. We understand, however, the importance of finding the appropriate strategic sites for installing these retention tanks to reduce CSOs, which include hazardous materials regulated under CERCLA as well as pathogenic bacteria, suspended solids, nutrients and other water quality impairments. Therefore, we support EPA's conceptual approach in this regard.

It is our understanding that the proposed CSO retention tank would not be constructed in the northwest corner of the Salt Lot because of the unusual shape and dimensions of this portion of the property. As such, we request that EPA consider the plans of the Conservancy and our community partners and design and construct the proposed CSO retention tank such that the Conservancy's community programming, including our composting program in particular, may be allowed to safely continue to operate during construction of the CSO tank.

Further, we request that EPA work with the Conservancy and our community partners to ensure that the Salt Lot is restored to its current use as a shared-space for the ecological and industrial activities of the Conservancy and DSNY after the proposed CSO retention tanks are installed.

Economic Benefits

Community members should be given the opportunity to participate in the economic benefits of the remedy. The clean-up is an opportunity to create blue, green, and white collar jobs in fields such as construction, engineering, and research. There are also significant environmental education opportunities for the community. We are concerned, however, that the Agency's traditional procurement process will result in the hiring of out-of-town and out-of-state firms and workers to conduct much of the work. We are hopeful that the regulatory agencies, elected officials, and PRPs will work with local economic development advocates to develop hiring criteria that will help to ensure that local firms and workers are given preference for contracts related to the clean-up.

Sediment Management

EPA has a unique opportunity to provide leadership on the management of contaminated sediments on a regional scale. We support the use of ecologically sensitive, equitable, and cost-beneficial disposal alternatives that promote local economic and workforce development. Therefore, we reiterate that EPA needs to take a closer look at all opportunities to implement sustainable regional sediment management solutions that involve using contaminated sediments as a resource rather than as a waste.

The Gowanus Canal is one of several contaminated sediment sites in the New York metropolitan region. Others include Newtown Creek, Hudson River, Passaic River, Hackensack River, and New York Harbor. These sites are expected to generate 15 – 20 million cubic yards of contaminated sediment over the next 15 to 20 years. There are potential economies of scale associated with these concurrent remediation projects. Off-site transport, processing and disposal / destruction of contaminated sediments not only is unsustainable, it is also uneconomical. Much progress has already been made in developing viable, cost-beneficial technologies to treat and beneficially re-use these sediments. Further, the opportunity to handle, treat, and re-use these sediments presents a significant economic development opportunity for Brooklyn, the City, and / or the tri-state region. Therefore, we request that EPA keep all potentially viable options for sediment decontamination and beneficial re-use on the table at this stage of the process.

Sediment Barging

Multiple bridges along several highly travelled east-west streets cross the Gowanus Canal. These bridges support significant vehicle, bicycle, and pedestrian traffic and are typically opened just a few times each year. The Gowanus community is concerned that barging sediments to a treatment facility, which will require that the bridges be opened much more frequently, will cause business disruptions and social and economic hardship throughout the community.

The Conservancy request that EPA and National Grid re-consider the use of hydraulic pumping to move the contaminated sediment as a slurry from the point of dredging to the point of treatment. This technology has been used with great success at the Lower Passaic River Superfund Site at which contaminated sediments were hydraulically pumped approximately one mile. In Gowanus, the sediments could be pumped to a treatment facility anywhere in New York Harbor. Any additional costs related to screening out debris may be offset by the absence of any disruption to the community from the opening and closing of bridges. Further, this process may help limit complaints of noise and nuisance odors.

Noise and Odors

Our community has expressed concern about noise and nuisance odors. The community demands that odors as well as volatile organic compounds (VOCs), dust, and particulates, be carefully managed and should be given additional guidance regarding what to expect during the clean-up in this regard. The Conservancy would be happy to assist key stakeholders in the development of a Community Air Monitoring Plan as early in the process as possible.

After the Clean-Up

Clean Water

It is highly unfortunate that the Gowanus Canal has been used as part of the City's sewer system for almost 150 years. This antiquated system has resulted in unacceptable environmental health and safety conditions for the entire community. The vitality of the watershed and community depends on cessation of combined sewer discharges to the Canal and an enhanced, environmentally sustainable, stormwater / wastewater system. The Gowanus Canal Conservancy supports community efforts to achieve total elimination of combined sewer overflows (CSOs). The only practical means of achieving a remedy that is comprehensive, permanent, and sustainable is to address CSO discharge concerns within the duration of the Superfund clean-up. Therefore, we support EPA's efforts to require CSO reduction to the maximum extent allowable, consistent with its authority under CERCLA, and we believe that the CSOs and the hazardous wastes they contain are inseparable. Accordingly, we support EPA's suggested use of CSO retention tanks at the previously noted locations along the Canal to reduce CSOs from discharging at two outfalls, OH-007 and RH-034. We welcome the concomitant reduction of harmful pathogens, and other water quality impairments that are also present in these CSOs.

We understand that the City may retain flexibility in how it meets the remedial objectives specified by EPA. Should the City seek an alternative to the proposed CSO retention tanks to meet EPA's remedial objectives, we are concerned that the CSOs may not be adequately reduced as part of the Superfund clean-up. Further, NYCDEP's August 2008 Waterbody / Watershed Facility Plan for the Gowanus Canal indicates that the upgrades that are presently being made to the Gowanus Pumping Station and Flushing Tunnel will still allow the discharge of 69 million gallons of CSOs every year at outfall OH-007 and 127 million gallons every year at outfall RH-034. In total, over 250 million gallons of CSOs would still be released into the Canal every year, even after the City completes its upgrades. While this is an improvement from the baseline condition of 372 million gallons of CSOs discharging into this water body each year, much more work needs to be done. Further, according to EPA's December 2012 Feasibility Study Addendum, "the CSO reductions planned under the Facility Plan will not reduce the CSO solids that are primarily responsible for sediment accumulation and chemical contamination in the surface sediment in the upper reach of the canal." As a result, EPA states that "additional CSO reductions of 58 to 74 percent should be sufficient to achieve the PRGs [Preliminary Remediation Goals] for the PAHs and for lead, copper and PCBs. Accordingly, the Conservancy supports EPA's plan to require additional CSO reductions at outfalls OH-007 and RH-034.

Regardless of the volume of CSO reduction that is achieved by Superfund, EPA's Office of Water should provide sufficient funding to ensure proper compliance with the Clean Water Act, such that the remaining CSO discharges to the Gowanus Canal are eliminated within the duration of the Superfund clean-up. We

encourage all stakeholders, especially our elected officials, to join us in helping New York City support the Gowanus community in its desire to meet the requirements of the 1973 Clean Water Act by 2023.

Bulkhead Reconstruction

EPA's proposed plan for "bulkhead stabilization throughout the entire canal" has the potential to impair the unique and historic character of the Gowanus Canal and reduce opportunities for ecological restoration. The Canal's shoreline is composed of a mixture of bulkhead types, including cast-in-place concrete walls, stone rip rap, wooden crib-walls, steel sheet piles and others. The wooden crib-walls are of unique historical character and should be protected and / or restored to the degree practicable. They also provide habitat to some aquatic organisms, such as mussels. In contrast, steel sheet-pile walls offer the least ecological value and aesthetic appeal of any edge condition currently in the Canal. We understand that dredging activities may cause dilapidated bulkheads to further weaken and collapse during remedy construction and that the installation of temporary sheet-pile walls during remedy construction may be unavoidable. However, the wholesale reconstruction / replacement of existing bulkheads with steel or wooden bulkheads throughout the Canal is not consistent with the Conservancy's vision for the Canal, nor is it an acceptable remedy.

Any plan to reconstruct bulkheads must consider access, aesthetics, and habitat value. As such, any temporary steel sheet-pile walls must not be allowed to become permanent except, and only to the extent required, as part of the necessary remedial measures at the three upland manufactured gas plant (MGP) sites. Accordingly, the Conservancy requests that EPA require that any permanent bulkhead reconstruction that is implemented as part of the Superfund remedy be conducted consistent with the desires of the community and design parameters set forth by the New York City Department of City Planning. The Conservancy looks forward to participating as a partner with a variety of stakeholders in the bulkhead design process, and integrating this with ecological restoration efforts, as described below.

Ecological Restoration

The Gowanus Canal is mapped by NYSDEC as a tidal wetland. The Gowanus Canal Conservancy supports a remedy that is consistent with, and does not preclude, any and all efforts to restore and enhance the ecological function of the tidal wetland system. The Conservancy strongly supports EPA's plans for dredging and restoring the First Street Turning Basin as described in its Feasibility Study Addendum. We are pleased that the final design of the First Street Turning Basin will include a 30 ft wide central channel sloping up at a 4:1 (horizontal to vertical) ratio on the sides at a 6:1 ratio on the southeastern end. We are also pleased that the Proposed Plan indicates that this approach will accommodate water habitat restoration along the shoreline and a boat launch at its southeastern end. The Conservancy looks forward to working with key stakeholders to help bring this outcome to fruition.

Nevertheless, EPA can and should do much more to support the ecological restoration of the Canal within the Superfund framework. The Gowanus Canal Conservancy is working to plan, design, and build wetlands, consistent with current and future industrial and recreational uses, throughout the Canal and its turning basins, once the remediation is complete. The remedial design process should examine ecological restoration efforts throughout the Canal and its turning basins including, at a minimum, shoreline softening, improving riparian buffers, creating and expanding wetlands, restoring habitat, re-introducing native species, and ensuring no-net loss to existing wetlands. These efforts should also consider NYC's design recommendations for softer edge conditions. Finally, the remedy should be performed in a manner that is consistent with potential future ecological restoration projects and would allow them to proceed unencumbered, and without the need for any additional clean-up activities.

The Conservancy has prepared the drawings and renderings described below to further support our vision for a clean, green, and publicly accessible Gowanus Canal.

Attachment 3 presents the Conservancy's vision for the optimal location of three different shoreline treatments, including: hard bulkheads with ecological adaptation, stepped, or terraced bulkheads, and soft shorelines. Each proposed shoreline condition supports different degrees of ecological restoration, while

allowing for the continued human and industrial use of important commercial activity zones. The Conservancy understands that existing and future commercial use of the waterway requires that specific areas maintain navigable depths and armored bulkheads for the passage and mooring of vessels, while other areas no longer require the same degree of infrastructure and water depth to support these activities. Building on this, the 3 proposed shoreline conditions support different usages in different areas.

Attachment 4 offers the Conservancy's vision for an ecologically supportive, hard bulkhead. These bulkheads consist of a sheet-pile wall that can support barging activities, with a resilient material applied to the surface, which can support greater ecological colonization than a steel-faced sheetpile. Materials that can support ecological activity and withstand barge traffic might include specialized concrete or wood products, either of which provide significantly more habitat value than a steel-face. This bulkhead type has been proposed for locations that continue to receive water-based industrial traffic and in locations where concerns of contaminant transport through groundwater migration require the installation of sealed bulkheads (former MGP sites, for example).

Attachment 5 offers a rendering of a stepped, or terraced, bulkhead. Stepped bulkheads could accommodate tidal wetland or other native plant community and habitat restoration efforts, while offering aesthetic benefits and get-down opportunities in residential areas, especially along the future waterfront park. Terraced bulkheads are also designed to withstand wave action and barge transportation, but are not suitable for large-vessel mooring.

Attachment 6 reflects the Conservancy's vision for the creation of soft shorelines within all of the turning basins along the canal, as well as at the head of the canal, wherever practicable. Soft shorelines offer the greatest habitat value and ecological restoration potential, but should not be sited in areas where heavy shipping traffic is anticipated. The Conservancy proposes locating the soft shorelines in areas that are protected or will receive no water-based industrial traffic.

Attachment 7 identifies salt marsh and mudflat restoration opportunities throughout the Canal, specifically the 4th / 5th Street Basin, 6th Street Basin, 7th Street basin, and 11th Street (Lowe's) Turning Basins. These proposed locations should be used to offer public access and wildlife observation opportunities. The Conservancy requests that EPA modify the Proposed Remedial Action Plan to require that ecological restoration be conducted at all of the Gowanus Canal Turning Basins as well as at the head of the Canal.

In addition, we understand that the United States Army Corps of Engineers conducted a series of studies between 2003 and 2005 as part of its Gowanus Canal and Bay Ecosystem Restoration Project[5]. These studies contemplated various components of ecological restoration including restoration of water flow to enhance aquatic habitat and water quality, integration of ecosystem restoration with local plans, re-establishment of greenway and buffer areas, re-contouring of the Canal bottom to create natural creek depths, and habitat creation and restoration. The findings of these studies, including, but not limited to, its July 2004 Wetland Creation and General Investigation Report, should be considered during the remedial design process and the reports included in the Administrative Record. We look forward to seeing increased EPA coordination with the Army Corps of Engineers in this regard.

The Conservancy also requests that EPA increase its coordination with the appropriate state and federal Natural Resource Trustees for the Gowanus Canal from this point forward. If it has not already done so, we request that EPA formally notify the Trustees of potential injuries to natural resources from releases under investigation in connection with the Gowanus Canal and coordinate its assessments, investigations, and planning with the Trustees as required under CERCLA. We request that EPA's remedial design phase include studies to establish baseline ecological conditions against which to base future ecological restoration requirements. We hope that such coordination will increase the likelihood that selected response actions and settlement agreements will include measures to protect and restore

[5] For examples of potential ecological restoration projects for the Gowanus Canal, please refer to the U.S. Army Corps of Engineers "Gowanus Canal and Bay Ecosystem Restoration Project: Wetland Creation General Investigation Report," 2004.

the natural resources of the Canal. Finally, we hope that our request for Natural Resource Trustee coordination will result in a process that moves forward in a timely manner, is completed within a reasonable timeframe, and involves community input.

Funding

Multiple sources of funding from various levels of government will be required to fund the ecological restoration efforts that will be necessary after the Superfund cleanup has been completed. The Conservancy reiterates its request that EPA continue to work closely with New York State, New York City, our elected officials, and other stakeholders to identify opportunities and sources of funding outside the traditional Superfund PRP framework to support a comprehensive clean-up and restoration of the Gowanus Canal.

The Great Lakes Legacy Act (GLLA) and the Great Lakes Restoration Initiative (GLRI) should be considered as a model for the funding, cleanup, and restoration of the Gowanus Canal as well as other contaminated sediment sites within the New York-New Jersey Harbor Complex. The Great Lakes initiatives have resulted in the development of public-private partnerships among federal, state, and local government, communities, and industry. The Gowanus community should receive similar benefits from such cooperation and funding.

The Conservancy looks forward to working in partnership with EPA to integrate the Gowanus Canal Superfund process with other federal environmental and sustainability programs and initiatives. We also look forward to working with key stakeholders to undertake the necessary acquisition of open space that will support the development of the high quality ecological habitat that Gowanus desperately needs, as well as the installation of green infrastructure and tree planting, that will help reduce CSO and improve air quality throughout the Gowanus Canal watershed.

Concluding Remarks

The Gowanus Canal Conservancy respectfully submits these comments to EPA. A successful clean-up must take into account the function and interaction of the natural and man-made systems that exist within the Gowanus watershed. With this perspective in mind, the Conservancy supports a clean-up that not only considers EPA's nine criteria for remedy selection but that is also consistent with the goals and objectives that have been set forth in New York City's Comprehensive Waterfront Plan, the Hudson-Raritan Estuary Restoration Plan, and New York City's waterfront zoning efforts.

In summary, we request that EPA:

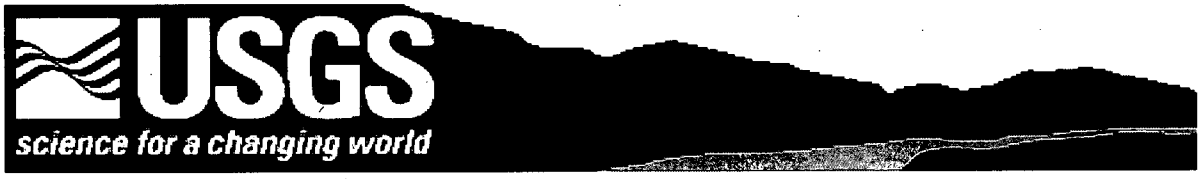
- Utilize a watershed-based conceptual site model,
- Ensure a robust baseline and long-term monitoring program and transparent data sharing as part of an adaptive management process,
- Coordinate with USGS regarding its proposal for data collection and evaluation and to oversee and integrate environmental modeling efforts,
- Consider all potential viable regional sediment management solutions that may utilize contaminated sediments as a resource rather than as a waste,
- Consider access, aesthetics, and habitat value of bulkheads and not allow any unnecessary installation of permanent sheet-pile walls,
- Utilize sediment pumping rather than barging,
- Engage the community regarding potential noise and nuisance odor concerns,
- Fund and enforce the Clean Water Act,

- Explore additional opportunities for ecological restoration and ensure that the clean-up is consistent with future ecological restoration efforts,
- Coordinate with Natural Resource Trustees, and
- Assist the community in obtaining the necessary funding to support the comprehensive clean-up and restoration of the Gowanus Canal.

Finally, we ask that EPA include this letter, and any response from EPA, in the Administrative Record for the Gowanus Canal Superfund Site.

We look forward to receiving the Agency's response to these and other comments. The Conservancy reserves the right, and hopes to continue, to share information on the proposed clean-up plans with EPA and the public and to facilitate public involvement in the process.

Attachment 1



Factors Affecting Groundwater Discharge to Gowanus Canal, Brooklyn, New York

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U.S. Geological Survey Proposal
June 2012

Introduction: The Gowanus Canal is a tidal creek located on the western end of the New York City Borough of Brooklyn, and discharges to Gowanus Bay. During the first half of the 20th century, local groundwater levels showed severe declines resulting from heavy pumping and loss of recharge. As groundwater supplies became impaired by saltwater intrusion and surface-derived contamination, pumping ceased and the water table partially recovered.

Industrial releases have resulted in significant contamination of the Gowanus Canal and its groundwater-contributing area. The Canal continues to receive contaminated groundwater, storm water, and permitted and unpermitted effluent including combined sewer overflows (CSOs) during wet weather events. Flooding is also a significant problem in parts of the watershed.

On March 4, 2010, the U.S. Environmental Protection Agency (EPA) announced that it had placed the Gowanus Canal on its Superfund National Priorities List. The Superfund remedy may include a combination of sediment dredging, capping, and source control and involve significant bulkhead repair and (or) reconstruction. The Superfund remedial measures are scheduled to be implemented beginning in 2015. In addition, a flushing tunnel that connects the inner Gowanus Canal to the Upper New York Bay is scheduled to be reactivated in spring 2013 to improve water quality of the canal. The remedial measures along with infrastructure improvements and land use planning initiatives for the Canal and its watershed may result in significant changes to the natural and engineered systems. In addition, climate change may result in accelerated sea level rise, increased frequency and intensity of storm events, and higher storm-tides during coastal storms. Baseline and long-term monitoring of groundwater and surface-water levels in the Gowanus watershed is necessary to help evaluate the effects of planned and anticipated changes and inform the decision-making processes going forward.

Problem Statement: A lack of understanding and field monitoring of the hydrologic system surrounding the Gowanus Canal has prompted questions about environmental remediation and land-use planning for the area, including the following:

1. inadequate characterization of groundwater influences on increased flood potential associated with continued water-table recovery and (or) effects of climate change, and with proposed remedial measures and potential future ecological restoration projects that may include constructed wetlands and other open spaces;
2. lack of accuracy in estimates of groundwater infiltration into sewers, and leakage from sewers and water-supply mains into the groundwater system;
3. lack of accuracy of the groundwater-discharge component of surface-water hydrodynamic models; and
4. lack of accuracy in estimating fate, transport, and remediation of contaminants traveling along groundwater-flow paths.

Objective: The first objective (phase 1) is to apply standard USGS field-data collection methods to map the water table and local groundwater divides that define the source area of groundwater discharging to the Canal.

The second objective (phase 2) is to apply USGS numerical-flow simulation methods to represent the shallow groundwater-flow system, and to evaluate planned management alternatives identified in the EPA Feasibility Study dated December 2011 (U. S. Environmental Protection Agency, 2011).

Relevance and Benefits: Various parties have prepared, and will continue to refine hydrologic, hydrogeologic, surface-water, and sediment-transport models of both the natural and engineered systems. The field-data collection objective (phase 1) of this project will advance knowledge of the regional-hydrologic system. At present, knowledge of the Gowanus Canal system is limited due to lack of data. The collected data will be part of a nationally consistent unbiased data set that follows USGS techniques and procedures. This data will be used to form a baseline understanding of the hydrologic system and further characterize the need for long-term monitoring.

The modeling objective (in phase 2) of this project will advance the understanding of hydrologic processes that affect the design of constructed wetlands, tidal-flushing systems, calibration and verification of surface-water hydrodynamic models, and efforts to remediate groundwater plumes.

Approach: The USGS currently monitors two groundwater-observation wells within 2 miles of the Gowanus Canal. These wells are monitored for water levels on a monthly basis by the USGS as part of a cooperative program with New York City Environmental Protection. However, the source area of groundwater discharging to the Gowanus Canal may extend several miles inland from the Canal itself.

Thus, to help adequately define the groundwater basin, up to four additional monitoring wells will be installed and monitored monthly by the USGS at selected locations and depths to further characterize local groundwater conditions.

Additional wells within 100 ft of the Canal are currently monitored by other parties, but provide data that likely do not adhere to USGS data-collection procedures and standards. The USGS would request permission to monitor up to five of these wells for synoptic water-level measurements. Field reconnaissance and accurate well-head surveying would be necessary at these wells and the four new USGS wells.

Effects of tidal fluctuations on the local groundwater system are not known; therefore, a continuous groundwater recorder would be installed at some of the wells on a temporary basis. Data would be collected on 15-minute increments or shorter to document changes in water levels due to the tides, as well as the effects of precipitation, and leaking storm sewers and water-distribution pipes.

Water-Table Delineation (phase 1): A baseline characterization of groundwater conditions would be generated by mapping the present configuration of the water table using a 1-ft contour interval. Starting from a previously developed conceptual model of the hydrogeologic framework of the area, groundwater divides and directions and magnitudes of groundwater flow would be generated based on standard assumptions (for example, Freeze and Cherry, 1979) such as that groundwater flowpaths are orthogonal to water-table contour lines. A water budget for the groundwatershed would also be generated. Maps of the surfacewatershed and groundwatershed of the Gowanus Canal will also be developed and compared.

Groundwater Modeling (phase 2): The USGS conducts research in the development and coding of numerical groundwater-model programs and has a long history of applying models to groundwater issues on Long Island. The USGS modular groundwater-flow model MODFLOW would be applied in this approach. A previous application of MODFLOW to the Kings/Queens area (Misut and Monti, 1999) will provide a starting point. The hydrogeologic framework of the groundwater system is represented in this previous model at a coarse scale and would be refined based on analysis of new data collected since the previous model was developed (about 10 years ago), including driller's and geophysical logs. Other sources of new data include recently drilled wells and improved land-surface digital-elevation models. The well-pumping boundary conditions simulated in the model will be updated with the latest New York State Department of Environmental Conservation (NYSDEC) data on pumpage. Groundwater recharge, discharge, and storage processes would be carefully considered in the modeling effort, which would likely contribute to our understanding of the effects of groundwater on stormwater-management systems—including the proposed construction of wetlands.

Expected responses to climate-change factors including sea-level rise and increased precipitation intensity may be evaluated. A detailed water budget would be generated using the computer model and include categories for leakages associated with combined-sewer lines, direct groundwater discharge to the Canal seafloor, groundwater evapotranspiration, and movement of groundwater across deep clay layers. Finally, the USGS particle tracker MODPATH (Pollock, 1994) would be used to delineate recharge-

contributing areas to Canal reaches and the Superfund-related pump and treat operations. The MODFLOW model will be calibrated to match field-measured heads, by varying parameter values, boundary conditions, and the model discretization. Starting from a no-change condition, hypothetical scenarios will be simulated to explore questions about environmental remediation and utility of further data-collection and analysis activities.

Products: Groundwater-level data collected during the course of the investigation will be distributed online annually in the USGS Water-Data Report for Long Island, and through the USGS National Water Information System: Web Interface (NWISWeb) at http://waterdata.usgs.gov/ny/nwis/.

Additionally, the results of the field investigation and phase 1 delineation of the water table and surface-water and groundwatersheds would be disseminated through a short report adhering to the standards of the USGS Scientific Investigations Map (SIM) series.

The results of the modeling investigation (phase 2) would be disseminated through a final report adhering to the standards of the USGS Scientific Investigations Report (SIR) series. The report will help guide decision making. Oral presentations of interim results would also be given to interested parties.

Budget: Estimated costs for the cooperative program are shown below. All costs are estimates and assume a USGS matching contribution of 20% (based on availability of funds when the agreement is signed), and a 3-percent annual inflationary increase. During the course of the agreement, internal adjustments may be made to the funding levels assigned to each work item upon mutual agreement between the USGS and the cooperator. If matching funds are not available, or are available at a reduced level, the funding and extent of effort devoted to each work item will be evaluated and revised in consultation with the cooperator. Work for phase 1 of the proposal would begin in October 2012; phase 2 work would begin in July 2013.

Item	2012	2013
Water-Table Delineation (phase 1):		
Budget for field reconnaissance, well installation, water-level monitoring, baseline characterization of groundwater conditions (water budget), and report production.	$30,430	$58,230
USGS Matching Sub-total	$6,090	$11,650
Cooperator(s) Sub-total	**$24,340**	**$46,580**
Groundwater Modeling (phase 2):		
Budget for development and calibration of groundwater-flow model and report production.	$0	$78,830
USGS Matching Sub-total	$0	$15,760
Cooperator(s) Sub-total	**$0**	**$63,070**
Program Total	$30,430	$137,060
USGS Matching Total	$6,090	$27,410
Cooperator(s) Total	**$24,340**	**$109,650**

Schedule:

Phase 1a:

1. Develop a set of working GIS maps including surfacewatershed, previous water-table delineations, hydrogeologic framework, engineered structures, and all existing wells.

2. Field reconnaissance and selection of existing well sites for monthly and synoptic monitoring; identify proposed drilling sites.

3. Produce a preliminary water-table map from field-reconnaissance data.

4. Surveying of existing wells.

Phase 1b:

1. Drilling of new wells.

2. Surveying of new wells and collection of final data.

3. Produce a final water-table map; delineate flow directions and groundwater contributing areas.

Phase 2:

1. Assemble new model-input data.

2. Rediscretization and calibration of model.

3. Sensitivity analysis of model hydraulic properties.

5. Particle-tracking analysis of recharge-contributing areas.

6. Produce first draft of model report.

7. Publish model report.

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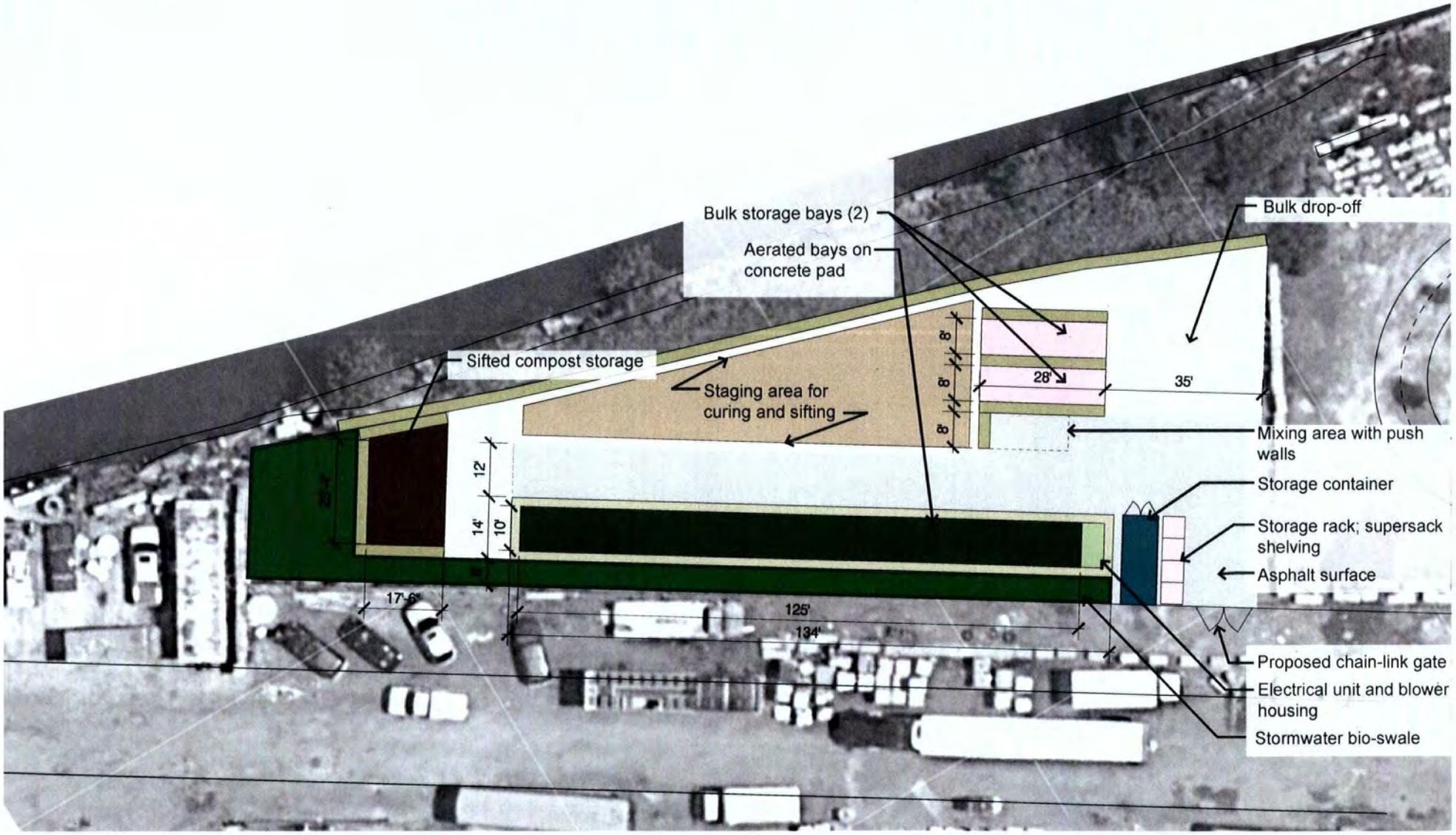
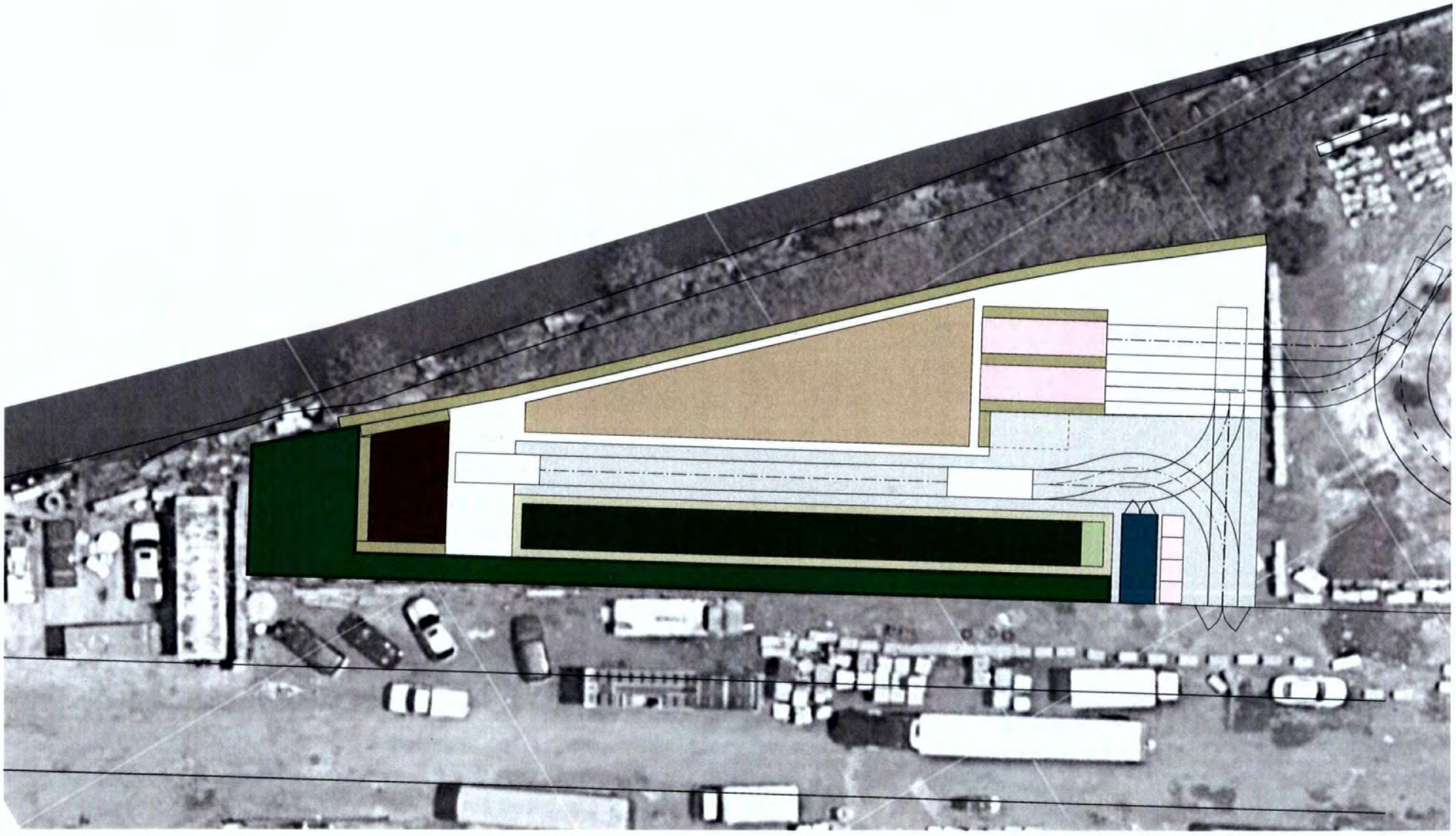
U.S. Environmental Protection Agency, 2011, Draft Feasibility Study Report: Gowanus Canal, prepared by CH2MHILL, ES092211082805WDC.

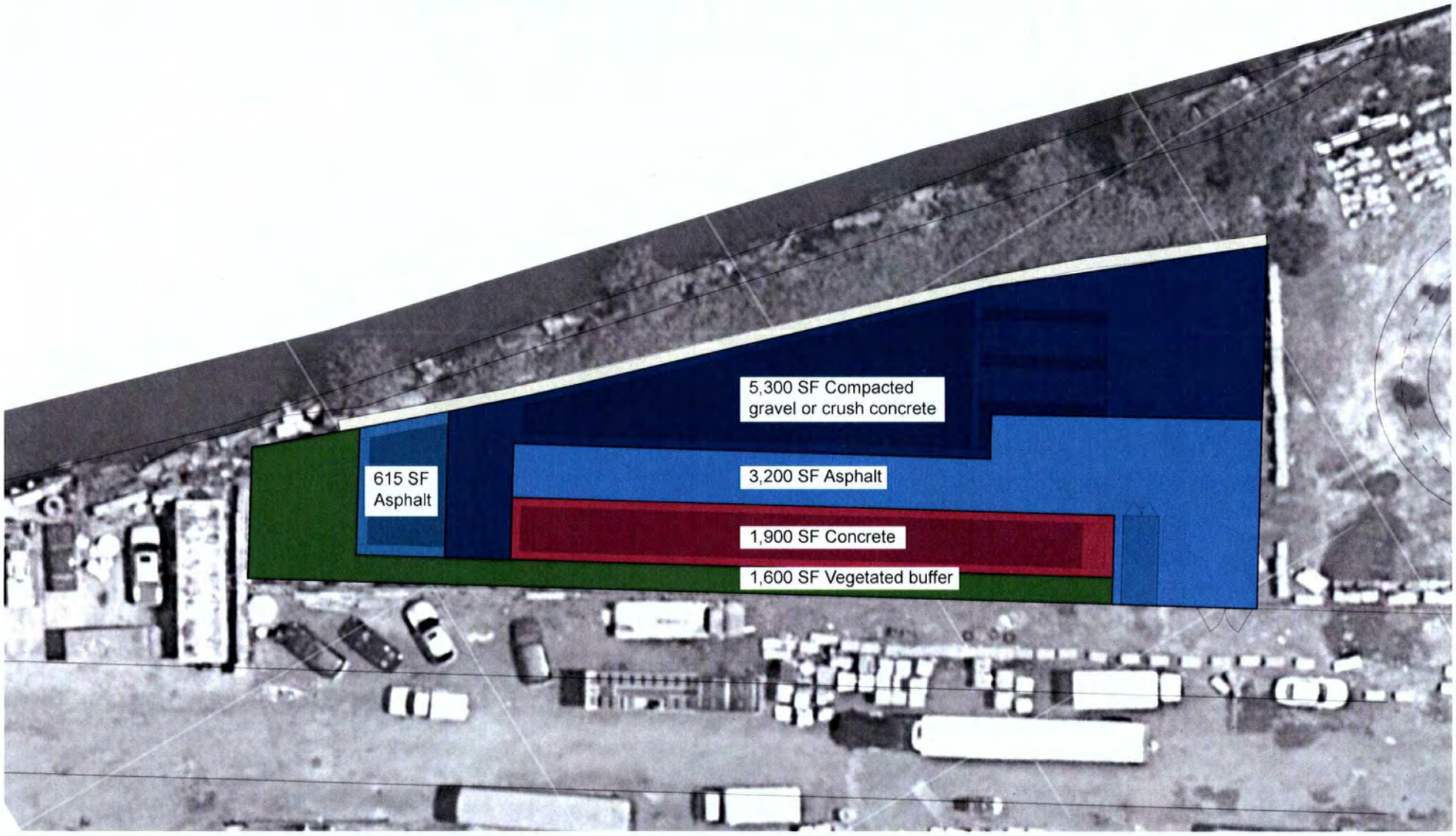
As the nation's largest water, earth, and biological science and civilian mapping agency, the USGS works in cooperation with more than 2000 organizations across the country to provide reliable, impartial, scientific information to resource managers, planners, and other customers. This information is gathered in every state by USGS scientists to: minimize the loss of life and property from natural disasters; contribute to the conservation and the sound economic and physical development of the nation's natural resources; and enhance the quality of life by monitoring water, biological, energy and mineral resources.



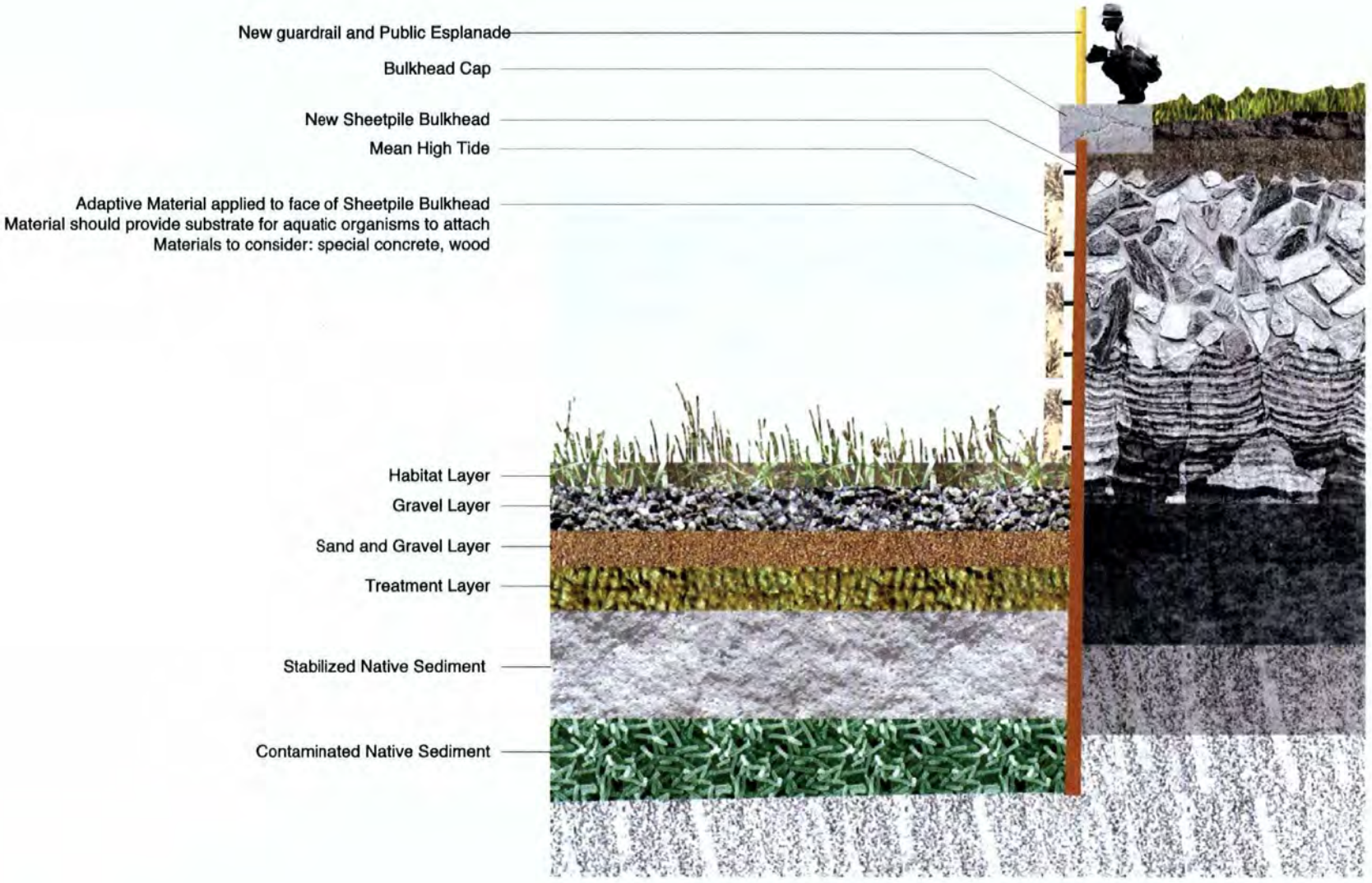
ATTACHMENT 2 This option utilizes a bay system and an aerated floor on a concrete pad. Each bay can accomodate an 8 ton batch held statically for 5 weeks. Every week a new bay is filled and after week 5 the first bay is emptied and windrowed for 3-4 weeks. The curing windrow is sifted and stockpiled for distribution. This technology is used at St. John's university where the school processes 40 tons of greens per year in a similar configuration.



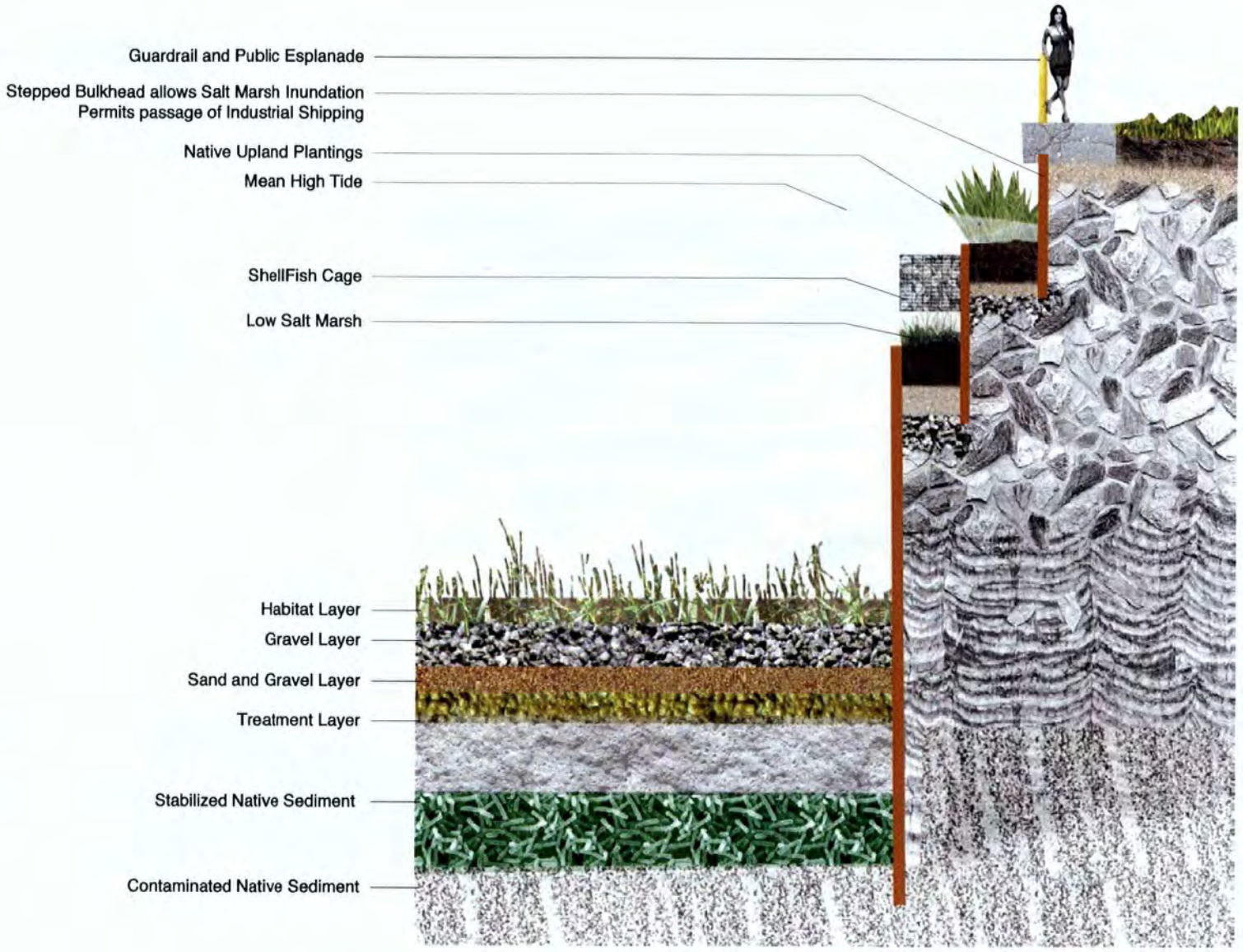
Circulation


5,300 SF Compacted gravel or crush concrete
615 SF Asphalt
3,200 SF Asphalt
1,900 SF Concrete
1,600 SF Vegetated buffer

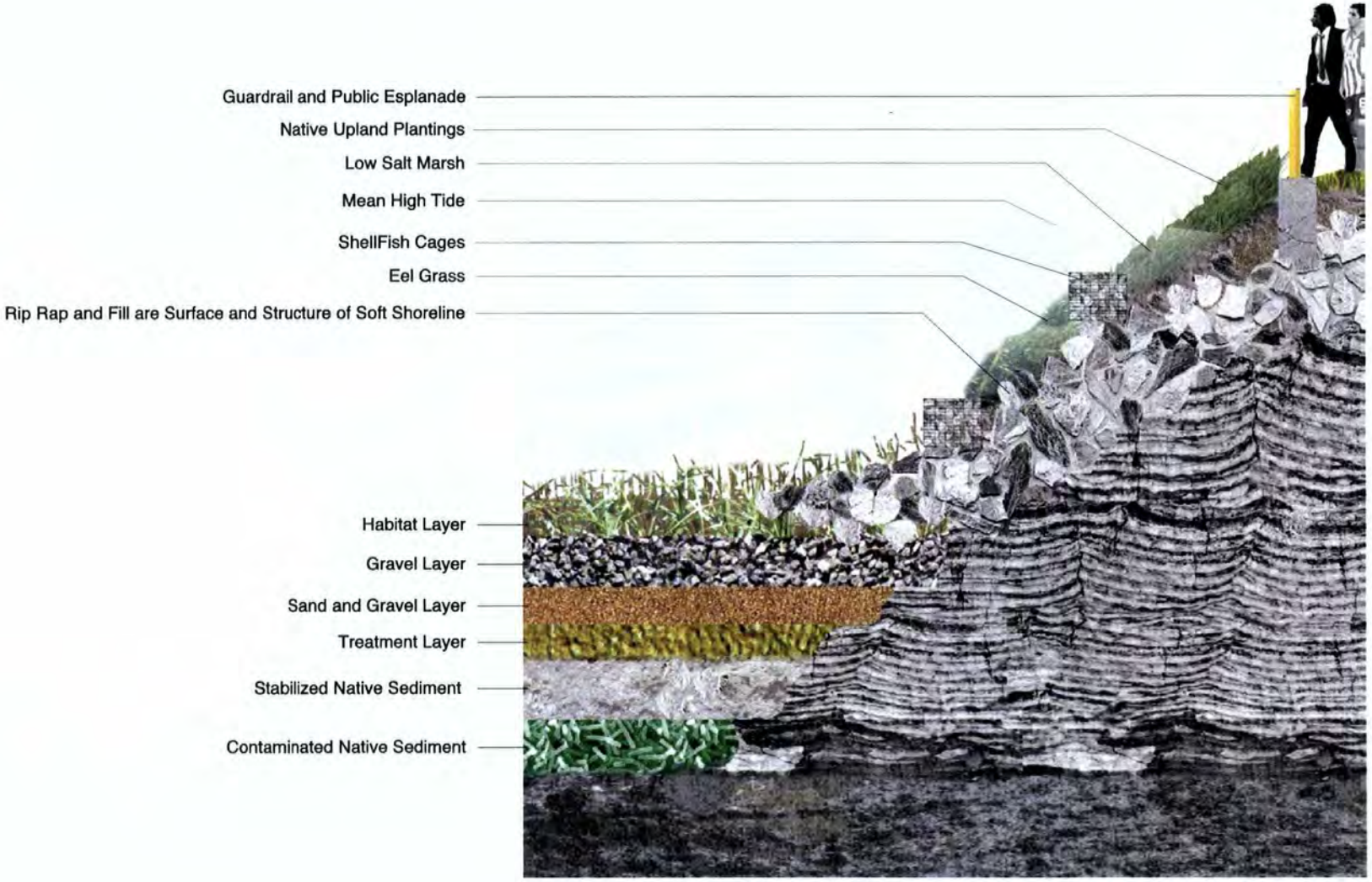
Gowanus Canal CONSERVANCY	Gowanus Canal Conservancy 321 Nevins St, 2nd Floor Brooklyn, NY 11215 Phone: 718 541 4378 www.gowanuscanalconservancy.org	Gowanus Canal Superfund Proposed Remedial Action Plan	ATTACHMENT 3
		Gowanus Canal Conservancy Comments	Shoreline Conditions



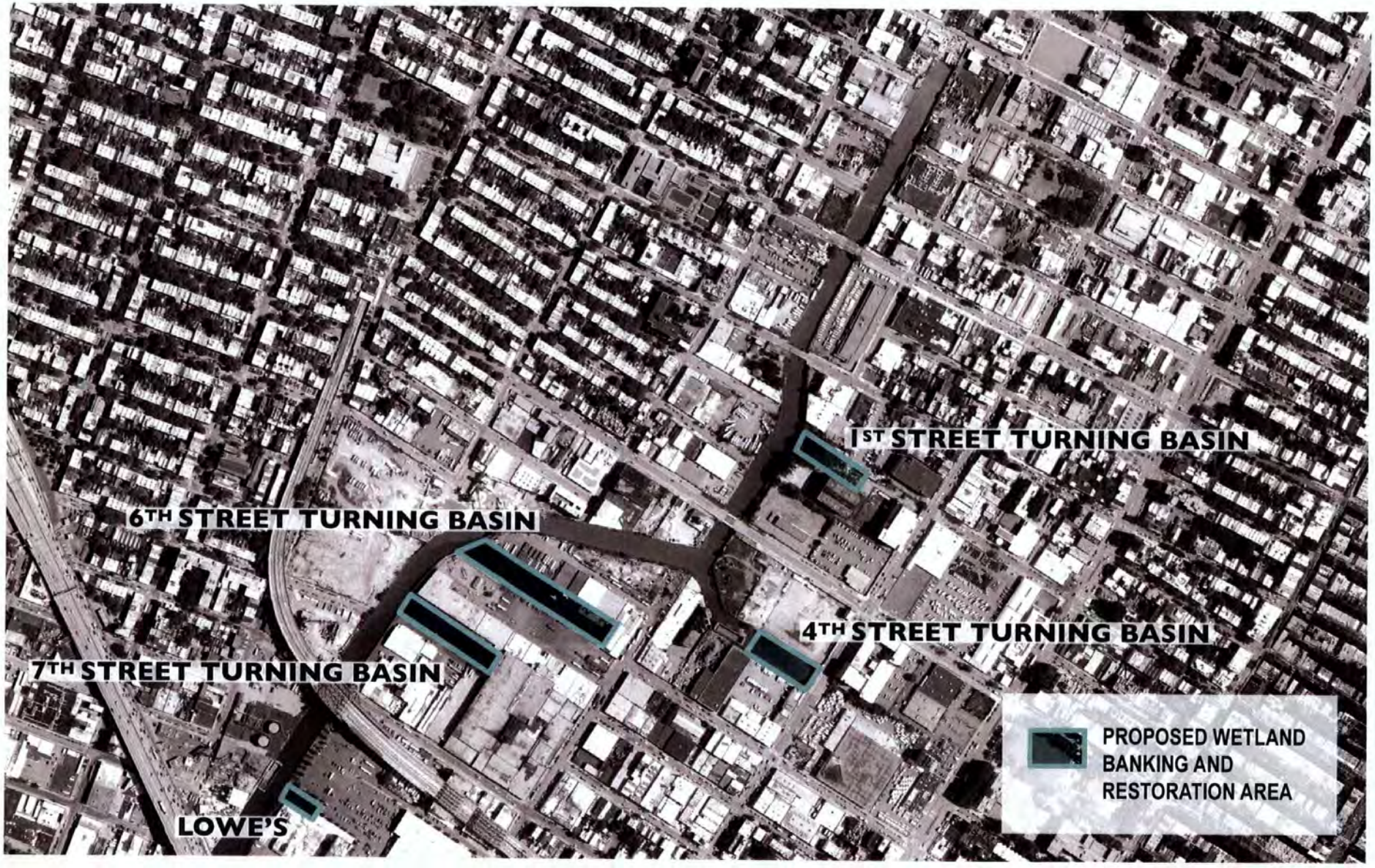
Gowanus Canal CONSERVANCY	Gowanus Canal Conservancy 321 Nevins St, 2nd Floor Brooklyn, NY 11215 Phone: 718 541 4378 www.gowanuscanalconservancy.org	Gowanus Canal Superfund Proposed Remedial Action Plan	ATTACHMENT 4
		Gowanus Canal Conservancy Comments	Hard Bulkhead



Gowanus Canal CONSERVANCY	Gowanus Canal Conservancy 321 Nevins St, 2nd Floor Brooklyn, NY 11215 Phone: 718 541 4378 www.gowanuscanalconservancy.org	Gowanus Canal Superfund Proposed Remedial Action Plan	ATTACHMENT 5
		Gowanus Canal Conservancy Comments	Stepped Bulkhead



Gowanus Canal CONSERVANCY	Gowanus Canal Conservancy 321 Nevins St, 2nd Floor Brooklyn, NY 11215 Phone: 718 541 4378 www.gowanuscanalconservancy.org	Gowanus Canal Superfund Proposed Remedial Action Plan	ATTACHMENT 6
		Gowanus Canal Conservancy Comments	Soft Shoreline



Gowanus Canal CONSERVANCY	Gowanus Canal Conservancy 321 Nevins St, 2nd Floor Brooklyn, NY 11215 Phone: 718 541 4378 www.gowanuscanalconservancy.org	Gowanus Canal Superfund Proposed Remedial Action Plan	ATTACHMENT 7
		Gowanus Canal Conservancy Comments	Wetland Restoration Areas

Sediment Management Work Group's Comments on Proposed Plan for Gowanus Canal

McCulloch, Megan to: Region2 GowanusCanalComments 04/26/2013 06:36 PM
Cc: "Nadeau, Steven C.", Christos Tsiamis

History: This message has been forwarded.

Dear Mr. Tsiamis,

Attached are the Sediment Management Work Group's comments on the Proposed Plan for the Gowanus Canal Superfund Site.

Please let us know if you have any questions about our comments. We would be happy to discuss them with you.

Regards,

Steve Nadeau and Megan McCulloch

Megan Conlon McCulloch
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mmcculloch@honigman.com
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SMWG Comments on Proposed Plan for Gowanus Canal.pdf

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Coordinating Director
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snadeau@honigman.com

Via E-mail

April 26, 2013

Mr. Christos Tsiamis
Remedial Project Manager
Central New York Remediation Section
U.S. Environmental Protection Agency
290 Broadway, 20th Floor
New York, NY 10007-1866
GowanusCanalComments.Region2@epa.gov

Re: Sediment Management Work Group's Comments on the Proposed Plan for the Gowanus Canal Superfund Site, December 2012

Dear Mr. Tsiamis,

The Sediment Management Work Group ("SMWG")[1] is an ad hoc group of industry and government parties actively involved in the evaluation and management of contaminated sediments on a nationwide basis. The SMWG has long advocated a national policy addressing contaminated sediment issues that is founded on sound science and risk-based evaluation of contaminated sediment management options. The SMWG recognizes that the management of sites involving contaminated sediments frequently involves unique and complex scientific and technical issues, including assessment methodologies and evaluation of risk and risk reduction options. As an active participant in the national discussions on sediment management issues, the SMWG welcomes the opportunity to offer comments on the United States Environmental Protection Agency's ("U.S. EPA") Proposed Plan for the Gowanus Canal Superfund Site, located in Brooklyn, New York.

The SMWG previously submitted comments to the National Remedy Review Board on the Gowanus Canal Feasibility Study ("FS"). Those comments are attached (Attachment B) and incorporated by reference here. The Proposed Plan is similar to the FS in that both documents did not provide a meaningful evaluation of a full range of remedial alternatives, which is contrary to the National Contingency Plan ("NCP"). Moreover, like the FS, the Proposed Plan does not comport with the *11 Risk Management Principles for Contaminated Sediment Sites* (U.S. EPA 2002)[2] and the *Contaminated Sediment Remediation Guidance for Hazardous Waste*

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[1] Please see Attachment A for a list of SMWG members.

[2] United States Environmental Protection Agency. 2002. Principles for Managing Contaminated Sediment Risks at Hazardous Waste Sites. OSWER Directive 9285.9-08.

Sites (U.S. EPA 2005)[3] (the "Sediment Guidance"). The Proposed Plan's inconsistency with the NCP and national sediment policy, as embodied in the Sediment Guidance, concerns the SMWG because these regulations and policies are in place to assist in the development, evaluation, and selection of remedial alternatives that effectively protect human health and the environment.

The SMWG understands that the Gowanus Canal is a highly complex urban waterbody with multiple sources of impacts – both historical and ongoing – that presents unique and complicated challenges. Moreover, the SMWG recognizes U.S. EPA's attempt to navigate the intersection of the Comprehensive Environmental Response, Compensation, and Liability Act ("CERCLA") with the Clean Water Act ("CWA"); however, there are certain fundamental principles of the remediation process that have not been followed in arriving at the Proposed Plan. These principles are in place to ensure that the site is fully understood, that the remedy selected is effective, implementable, sustainable, cost-effective, and most importantly, that the remedy selected protects human health and the environment. The NCP requires no less.

Unfortunately, the Proposed Plan does not adhere to these principles in a number of ways. There are three areas of specific concern to the SMWG that will be addressed in more detail below: (1) the need to control sources prior to implementation of the remedy; (2) the important steps of the CERCLA investigation process that have been skipped, resulting in an unrealistic design and remediation schedule; and (3) the role of cost in selecting and implementing the remedy.

I. The Proposed Plan fails to adequately address U.S. EPA's long-standing priority to control sources early, thereby posing a significant risk of recontamination.

Despite U.S. EPA's long-standing priority to control sources early, the Proposed Plan does not adequately address either the source control issue or the associated sequencing of remedial activities issue. Source control prior to remediation is essential to successful remedies. Unfortunately, the Proposed Plan fails to adequately address the significant source control needs at the Gowanus Canal.

A. U.S. EPA's national policy emphasizes the importance of controlling sources prior to remediation.

In its Contaminated Sediment Management Strategy (1998), U.S. EPA stated that "before initiating any remediation, active or natural, it is important that point and nonpoint sources of contamination be identified and controlled." This strategy identified specific point sources as potential contaminant sources, including "combined sewer overflows ("CSOs"), storm water discharges from municipal and industrial facilities, direct industrial discharges of process waste, ... runoff from industrial manufacturing and storage sites, atmospheric deposition of contaminants, and contaminated groundwater discharges to surface water."

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[3] United States Environmental Protection Agency. 2005. Contaminated Sediment Remediation Guidance for Hazardous Waste Sites. OSWER 9355.0-85.

The need to control sources early is further emphasized in the Sediment Guidance, which provides:

> Identifying and controlling contaminant sources typically is critical to the effectiveness of any Superfund sediment cleanup. Source control generally is defined for the purposes of this guidance as those efforts [that] are taken to eliminate or reduce, to the extent practicable, the release of contaminants from direct and indirect continuing sources to the water body under investigation. (p. 2-20.)

The Sediment Guidance, therefore, calls for identification of these potential continuing sources and for the development of a source control strategy before sediment remediation begins.

B. Source control at the Gowanus Canal is challenging and the Proposed Plan does not adequately address the significant issues with the timing and sequencing of sediment remediation and source control efforts.

The Gowanus Canal is especially challenging from a source control perspective. There are nearly 250 unpermitted discharge pipes, 10 CSOs, 3 storm sewer outfalls ("SSOs"), and 5 other permitted discharges into the Gowanus Canal. These are on-going sources of contaminants, with the CSOs and SSOs alone discharging almost 400 million gallons of untreated sewage and runoff per year. These CSO and SSO discharges contain petrogenic and pyrogenic polycyclic aromatic hydrocarbons ("PAHs"), polychlorinated biphenyls ("PCBs"), metals, pesticides, and pathogens all of which contribute significantly to the risk profile of the Gowanus Canal. Unless these numerous sources are controlled before remedial action is taken in the Gowanus Canal, recontamination is a virtual certainty.

As noted by the Contaminated Sediments Technical Advisory Group ("CSTAG"):

> [T]here are long-term plans to reduce releases from lateral inputs and from major CSOs, but...it may be many years if not decades before contaminant releases are reduced to levels that would not present unacceptable risks to human health and the environment. Of specific concern are releases of copper, PCBs, and PAHs from the outfalls and discharge pipes and the non-point releases of PAHs typical of heavily developed urban areas bordering the canal ... CSTAG anticipates there would be significant recontamination of the surface sediment after any sediment remedy is implemented before the needed source control actions for other releases are completed. (CSTAG Recommendations, p. 3.)

Recontamination, therefore, is a significant concern if any remedial action is undertaken before these numerous sources are controlled. This significant likelihood of recontamination should be seriously considered and factored into planning for any sediment remediation. In particular, this consideration should include an evaluation of the impact of recontamination (via ongoing sources such as the CSOs) on the development and achievement of performance

standards. Remedy performance cannot be fairly evaluated without accounting for ongoing sources of contamination.

Moreover, the Proposed Plan does not adequately address either the source control issue or the related sequencing issue (i.e., the timing of sediment remediation versus the timing of source control activities). With regard to the CSOs, the Proposed Plan proposes the installation of large retention tanks to intercept some portion of the CSO discharges during storm events to alleviate some overflows into the Gowanus Canal. While retention tanks may be an appropriate control as a general matter, it is unclear whether they will be sufficient to appreciably reduce the contaminant loadings to the Gowanus Canal from the CSOs. The Proposed Plan recognizes that such retention tanks will take time to design and install and, therefore, proposes to use unidentified interim CSO controls. These interim controls are not identified and other critical information, such as when they will be implemented and their anticipated level of CSO reductions, are not addressed in the Proposed Plan. Given the CSOs' significant contribution to the contamination of the Gowanus Canal on an ongoing basis, this lack of specificity for the interim controls is troubling. Implementation of the sediment remedy prior to control of the CSOs – interim or otherwise – puts the success of the remedy in serious jeopardy.[4] The SMWG believes that the Record of Decision ("ROD") must clearly require implementation of controls for CSOs and other source controls before a sediment remedy is implemented.

II. The accelerated process used to investigate sediment impacts at the Gowanus Canal and to develop remedial alternatives resulted in a Proposed Plan that has inappropriately deferred key issues to the remedial design phase.

The accelerated pace of the Superfund process at the Gowanus Canal is unprecedented, but unfortunately has resulted in an inadequately characterized site with significant unknowns that impacted development and evaluation of remedial alternatives and selection of the remedy. For context on the pace, the Gowanus Canal was listed on the National Priorities List in March 2010. The Remedial Investigation ("RI") was completed in February 2011, and the FS was completed in December 2011. The Proposed Plan was released in December 2012. This accelerated process failed to provide adequate time for key data to be collected and used to develop a comprehensive conceptual site model ("CSM"). CSMs are crucial to the development and evaluation of remedial alternatives and failure to develop an adequate CSM prior to selecting a remedy will create delays in designing and implementing a remedy that is protective of human health and the environment. Additional data collection and refinement of the CSM during remedial design is no substitute for collecting the appropriate information prior to selecting a remedy.

[4] Please see, e.g., Nadeau, S., Skaggs, Jr., M. (2007). Analysis of Recontamination of Completed Sediment Remedial Projects. Proceedings of the Fourth International Conference on Remediation of Contaminated Sediments, Savannah, Georgia. ISBN 978-1-57477-159-6. Battelle Press, Columbus, OH. January 2007.

A. Contrary to the NCP's RI/FS process, key information required to evaluate and select a protective remedy has not been developed yet.

The RI/FS process is intended to result in a full characterization of the site, a pre-requisite to developing and evaluating remedial alternatives, and ultimately, to selecting a remedy. When this RI/FS process is incomplete, additional characterization must take place during the design phase. Deferring collection of key characterization data until remedial design is inappropriate because it is too late in the process to be used to develop and evaluate other potential remedial alternatives. Due to the pace of the RI/FS process at the Gowanus Canal, key information that should have been collected during the RI/FS must now be collected during the remedial design phase in order to fully develop and refine the CSM as well as to design and implement an effective, sustainable remedy. Either the development of the Final Plan should be postponed until this information is collected and used to develop and evaluate the full suite of remedial alternatives or the ROD must include sufficient flexibility to allow for incorporation of the information derived from this additional study. The first option is clearly better because deferring several critical components to the post-ROD design phase side steps the public review and comment required by the NCP and places inappropriate uncertainty and risk on potentially responsible parties who will need to decide whether to implement such an ill-defined remedy with undefined costs and significant consequences for planning.

Key information that will need to be more fully developed during the design phase includes:

- Evaluation of on-going contaminant and particulate loading from the CSOs, SSOs, and other discharge points;
- Assessment of sediment stability and contaminant fate and transport; at a highly complex site, a comprehensive understanding of contaminant fate and transport under current and proposed post-remedy conditions is a necessity;
- Further refinement of a hydrodynamic and sediment transport model, including a more detailed evaluation of the likely effects of wet weather events and the operation of the upgraded Flushing Tunnel (engineered to move over 200 million gallons of water per day) on any potential cap, as well as the chemistry and biology of the Gowanus Canal;
- Evaluation of in-situ solidification technologies;
- Evaluation of alternative approaches to the lower reach of the Gowanus Canal, particularly RTA3b, where sediment removal may be limited to "hot spots;"
- Evaluation of capping technologies; and
- Evaluation of navigational needs and the potential for vessel impacts to the remedy performance following implementation.

This information is critical to completing the CSM, filling in the data gaps left by the accelerated RI/FS process, and ultimately designing a successful remedy. The schedule to design and

implement the remedy should provide adequate time to address outstanding issues from the RI/FS as well to address more typical design-level issues.

Similar to the accelerated schedule for the RI/FS process, the Proposed Plan indicates that the remedial design and implementation will progress similarly quickly. While the SMWG understands U.S. EPA's and other stakeholders' desire in this respect, the efficacy and sustainability of the remedy should not be sacrificed in the name of speed.

The design and implementation schedule established in the ROD must realistically take into account the need for additional study, as described above. Modeling, pilot tests, and sampling all take time to be performed correctly, and are, in the end, necessary for the design of the remedy. In addition, the implementation of this remedy – once designed – must be properly sequenced to account for the unique challenges presented by the Gowanus Canal's urban setting and on-going sources. The limited access to the Gowanus Canal, lack of open space for staging, loading/off-loading, and treatment, tight clearances and space for work within the waterbody, and potential for community disruption will all likely slow the speed of implementation. The schedule established by the ROD should take these implementation challenges into account and set realistic expectations for all stakeholders.

III. The Proposed Plan is inconsistent with the NCP.

The NCP requires that the selected remedial action be cost-effective by having a proportionality between the effectiveness of each remedial alternative in relation to their respective costs: "Each remedial action selected shall be cost-effective" (40 CFR §300.430(f)(1)(ii)(D)). Cost-effectiveness is defined as "costs are proportional to its overall effectiveness." (40 CFR §300.430(f)(1)(ii)(D)). Per the U.S. EPA's 1999 guidance, *A Guide to Preparing Proposed Plans, Records of Decision, and Other Remedy Selection Documents*,[5] "cost-effectiveness is concerned with the reasonableness of the relationship between the effectiveness afforded by each alternative and its costs compared to other available options." Moreover, "if the difference in effectiveness is small but the difference in cost is very large, a proportional relationship between the alternatives does not exist" (Preamble to NCP).[6] These proportionality requirements were reiterated by U.S. EPA in the Sediment Guidance.

The Proposed Plan violates the NCP's cost-effectiveness requirement because it did not engage in an evaluation of cost-effectiveness. For example, CSTAG had recommended that "the Region evaluate the expected limited effectiveness of dredging based on the relatively large amount of debris in the canal and the fact that the deeper sediments are much more contaminated than the surface sediments. Alternatives that focus on capping and minimize removal of sediments may be more effective." (CSTAG Recommendations, p. 5-6.)

Despite this recommendation, the Proposed Plan calls for a significant – and costly – amount of dredging activities, without a real assessment of whether there will be a

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[5] United States Environmental Protection Agency. 1999. A Guide to Preparing Proposed Plans, Records of Decision, and Other Remedy Selection Documents. OSWER 9200.1-23P. EPA 540-R-98-031.

[6] United States Environmental Protection Agency. 55 Federal Register 8728. March 8, 1990.

commensurate level of risk reduction. For example, the Proposed Plan proposes dredging and removal of all soft sediments, ignoring the potential for capping or in-situ stabilization of the soft sediments. These approaches are likely to effectively reduce risk while reducing impacts to the surrounding community and minimizing costs. Relatedly, CSTAG also suggested evaluating the use of monitored natural recovery in the lower reach of the Canal. Such a remedial approach may be highly effective, resulting in significantly decreased disruption to the community. Moreover, it has fewer short term risks, it is effective in the long term and it is cost effective because by incorporating MNR, there would be a significant decrease in the amount of sediment handling and transportation. RTA 3b is a particularly good candidate for this approach, especially when combined with targeted removal. Thus, to adequately evaluate remedial alternatives, including an evaluation of their cost-effectiveness, U.S. EPA should evaluate this alternative and others and compare their cost-effectiveness prior to finalizing the Plan and drafting the ROD.

In addition, the Proposed Plan does not acknowledge the link between a failure to control all sources and increased remedial costs. As noted above, a failure to control sources – including CSOs – prior to the implementation of the sediment remedy virtually guarantees recontamination of the Gowanus Canal. That recontamination may require additional remedial expenditures that could have been avoided by controlling sources prior to implementing the remedial action.

Moreover, the failure to properly characterize and understand the complex dynamics of the Gowanus Canal during the RI/FS will lead to unnecessarily increased costs. Without the development of all necessary information, the design and implementation process will be impeded and will likely require a number of iterations to get to the right approach. An iterative evaluation process should take place during the design phase, not during remedy implementation. This back-tracking and re-doing will cost both time and money.

Finally, the Proposed Plan significantly underestimates the cost of actually constructing the proposed remedy. For example, the FS assumes a work schedule that is not feasible to implement. The FS also fails to account for the volume of wastes requiring disposal as hazardous waste, thereby underestimating the disposal costs.

IV. The process at the Gowanus Canal deviates from the appropriate CERCLA process in key ways that profoundly affect the selection, design, and implementation of the remedy and the resulting issues should be addressed prior to finalizing the Plan and drafting the ROD.

The CERCLA process is intended to provide a scientifically sound, risk-based approach to addressing contaminated sediment sites. Sediment sites present challenging problems, but following this process is necessary to ensure that the selected remedy will reduce risk to human health and the environment and be cost-effective. Thus far, the regulatory actions at the Gowanus Canal deviate from this process in several critical ways, including inadequately addressing the significant source control issues, incompletely characterizing the site, failing to develop adequate information to evaluate all remedial alternatives, and insufficiently considering the cost-effectiveness of the proposed remedy. U.S. EPA should address these issues prior to finalizing the Plan and drafting the ROD. Moreover, the ROD should provide enough flexibility

and time to properly design, sequence, and implement the remedy after sources have been controlled. Without properly sequencing source control efforts and remediation, the site will be recontaminated.

***

The SMWG would be pleased to answer any questions about its comments on the Proposed Plan for the Gowanus Canal Superfund Site. For further information, please feel free to contact the SMWG's Coordinating Director, Steven C. Nadeau, c/o Honigman Miller Schwartz and Cohn LLP, 2290 First National Building, 660 Woodward Avenue, Detroit, MI 48226, (313) 465-7492, snadeau@honigman.com.

Respectfully submitted,

By:

Steven C. Nadeau, Coordinating Director
Sediment Management Work Group

c. Judith Enck, U.S. EPA Region 2 Administrator
Walter Mugdan, Director, Region 2 Emergency and Remedial Response Division
Robert Perciasepe, U.S. EPA Acting Administrator and Deputy Administrator
Mathy Stanislaus, Assistant Administrator, OSWER
James Woolford, Director, OSRTI
Stephen Ells, OSRTI

Attachment A

2013 GENERAL MEMBERS (29)

Atlantic Richfield
(a BP company)

Beazer East, Inc.

Shell Oil
Company

Glenn Springs
Holdings, Inc.

DTE Energy

U.S. Steel Group

Attachment B

SMWG's Comments to the National Remedy Review Board

Sediment Management Work Group

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Via E-mail & U.S. Mail

May 29, 2012

Ms. Amy Legare
Chair, National Remedy Review Board
United States Environmental Protection Agency
One Potomac Yard (South Bldg)
2777 S. Crystal Drive
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legare.amy@epa.gov

Re: Sediment Management Work Group's Comments on the Draft Feasibility Study for the Gowanus Canal

Dear Ms. Legare,

The Sediment Management Work Group ("SMWG")[1] is an ad hoc group of industry and government parties actively involved in the evaluation and management of contaminated sediments on a nationwide basis. The SMWG has long advocated a national policy addressing contaminated sediment issues that is founded on sound science and risk-based evaluation of contaminated sediment management options. The SMWG recognizes that the management of sites involving contaminated sediments frequently involves unique and complex scientific and technical issues, including assessment methodologies and evaluation of risk and risk reduction options. As an active participant in the national discussions on sediment management issues, the SMWG welcomes the opportunity to offer observations and comments on the draft *Feasibility Study* ("FS") for the Gowanus Canal.

The SMWG's review of the Gowanus Canal Draft FS has identified a number of critical areas where the draft FS does not comport with the *11 Risk Management Principles for Contaminated Sediment Sites* (U.S. EPA 2002)[2] and the *Contaminated Sediment Remediation Guidance for Hazardous Waste Sites* (U.S. EPA 2005)[3] ("Guidance"). In particular, the draft FS

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[1] See Exhibit "A" for a list of its Members.

[2] United States Environmental Protection Agency. 2002. Principles for Managing Contaminated Sediment Risks at Hazardous Waste Sites. OSWER Directive 9285.6-08.

[3] United States Environmental Protection Agency. 2005. Contaminated Sediment Remediation Guidance for Hazardous Waste Sites. OSWER 9355.0-85.

does not adequately consider the presence and contributions of significant on-going sources, completely characterize the site, or provide all of the information essential to support development of a full suite of remedial alternatives. Without source controls, any remediated area will be recontaminated and the public will not be protected from pathogens in the water.

The comments below offer more discussion of the significant limitations of the draft FS. Unless these limitations are addressed before a proposed plan is issued, the remedy that ultimately is selected for the Gowanus Canal is unlikely to achieve U.S. EPA's objectives.

I. U.S. EPA's National Contaminated Sediment Policy Is Embodied In The Contaminated Sediment Remediation Guidance For Hazardous Waste Sites.

In December 2005, U.S. EPA issued the *Contaminated Sediment Remediation Guidance for Hazardous Waste Sites*. This Guidance embodies national policy on contaminated sediment and should be followed at all contaminated sediment sites. The Guidance was issued for use "by federal and state project managers considering remedial response actions or non-time-critical removal actions" under CERCLA (p. 1-1). The Guidance provides a risk management decision-making framework to assist with selecting appropriate remedies.

There are at least seven key remedy selection principles in the Guidance:

1) Confirming that the site is ready for remediation by controlling sources to the greatest extent practical before commencing remediation (p. 2-20, 7-17).
2) The focus of remediation should be on risk reduction, not simply on contaminant removal or on the number of cubic yards of dredged sediment (p. 7-1, 7-16).
3) A realistic, site-specific evaluation of the potential effectiveness of each sediment management option, including dredging, capping, and monitored natural recovery, should be incorporated into the selection of remedies at a site (p. 7-3).
4) An appropriate evaluation of the comparative net risk reduction potential of the various sediment management options, including a realistic evaluation of their respective advantages and site-specific limitations should be conducted (p. 7-13, 7-14).
5) At large and/or complex sites, consideration of the use of combinations of remedies may be appropriate (p. 7-3).
6) Adaptive management concepts, which recognize the need for reconsideration of the original remedy chosen where new data and/or results of pilots suggest the appropriateness of revising the original approach, should be applied (p. 2-22, 3-1, 7-16).
7) Comparing and contrasting the costs and benefits of the various remedies is part of the risk management decision-making framework (p. 7-1).

These principles all focus on risk reduction. If applied appropriately, they will lead to a protective remedy that is also cost effective, as required by CERCLA and the National Contingency Plan ("NCP").

In order to comply with these principles of remedy selection and ultimately reduce risk, the Guidance emphasizes the importance of thorough site characterization. Site characterization includes collecting data to develop a conceptual site model, conducting risk assessments, understanding sediment and contaminant fate and transport, and identifying sources (Section 2.1). These data necessarily form the basis of the feasibility study, which subsequently informs the remedial decision (Sections 3 and 7). Thorough site characterization and developing a good understanding of what is driving the risk at the site via development of a conceptual site model are keys to informed decision-making at contaminated sediment sites.

II. The FS Deviates From U.S. EPA's National Contaminated Sediment Policy.

The draft FS deviates from the Guidance in a number of critical areas. These comments highlight some, but not all, of the many areas where the FS deviates from U.S. EPA's national contaminated sediment policy as embodied in the Guidance.

A. Source Control Is A Prerequisite But Has Not Been Adequately Addressed At The Site

Early control of sources has long been a U.S. EPA priority and is essential to successful remedies at contaminated sediment sites. In its *Contaminated Sediment Management Strategy* (1998)[4], the U.S. EPA stated that "before initiating any remediation, active or natural, it is important that point and nonpoint sources of contamination be identified and controlled." This strategy identified specific point sources as potential contaminant sources, including "municipal treatment plants, combined sewer overflows ("CSOs"), storm water discharges from municipal and industrial facilities, direct industrial discharges of process waste, runoff and leachate from hazardous and solid waste sites, agricultural runoff, runoff from mining operations, runoff from industrial manufacturing and storage sites, atmospheric deposition of contaminants, and contaminated groundwater discharges to surface water."

The need to control sources early is emphasized in the Guidance (as well as in the 2002 OSWER Directive 9285.6-08). The Guidance provides:

> "Identifying and controlling contaminant sources typically is critical to the effectiveness of any Superfund sediment cleanup. Source control generally is defined for the purposes of this guidance as those efforts [that] are taken to eliminate or reduce, to the extent practicable, the release of contaminants from direct and indirect continuing sources to the water body under investigation." (p. 2-20). ...

---

[4] United States Environmental Protection Agency. 1998. EPA's Contaminated Sediment Management Strategy. EPA-823-R-98-001.

> [S]ignificant upland sources (including ground water, NAPL, or upgradient water releases) should be controlled to the greatest extent possible before sediment cleanup." (p. 2-21).

The Guidance, therefore, calls for these potential continuing sources to be identified (see Highlight 2-2) and for a source control strategy to be developed before sediment cleanup begins.

Although the FS acknowledges that addressing "contaminant contributions to the canal from upland properties, combined sewer overflows (CSOs) and other pipe outfalls is a prerequisite to a sustainable remedy for canal sediments," the draft FS does not satisfy that prerequisite (FS, p. 1-1). There are over 200 non-permitted discharge pipes, 10 CSOs, 3 storm sewer outfalls ("SSOs"), and 5 other permitted discharges into the Gowanus Canal. These are likely on-going sources of contaminants, with the CSOs and SSOs alone discharging almost 400 million gallons of untreated sewage and runoff per year. Moreover, investigation and remediation activities are underway at three upland former manufactured gas plant sites. Unless these numerous sources are controlled before remedial action is taken in the Canal, recontamination is a virtual certainty.

As noted by the Contaminated Sediments Technical Advisory Group ("CSTAG"):

> "there are long-term plans to reduce releases from lateral inputs and from major CSOs, but ... it may be many years if not decades before contaminant releases are reduced to levels that would not present unacceptable risks to human health and the environment. Of specific concern are releases of copper, PCBs, and PAHs from the outfalls and discharge pipes and the non-point releases of PAHs typical of heavily developed urban areas bordering the canal. ... CSTAG anticipates there would be significant recontamination of the surface sediment after any sediment remedy is implemented before the needed source control actions for other releases are completed" (*CSTAG Recommendations*, p. 3).

Recontamination, therefore, is a significant concern if any remedial action is undertaken before these numerous sources are controlled. This significant probability of recontamination should be seriously considered and factored into any planning for sediment response actions. Developing and evaluating alternatives for sediment remediation prior to implementation of source control activities and understanding their effects on improving sediment and water quality is premature.

B. Site Characterization Is Inadequate.

Sediment site characterization activities are intended to provide the information necessary to permit effective remedial alternatives to be developed, evaluated, and selected. Site characterization is performed through the Remedial Investigation ("RI"). The Guidance specifies that a sediment site RI should accomplish the following goals:

- Identify and quantify the contaminants present in sediment, surface water, biota, and in some cases, ground water;

- Understand the vertical and horizontal distribution of the contaminants within the sediment;
- Identify the sources of historical contamination and quantify any continuing sources;
- Understand the geomorphological setting and processes (e.g., resuspension, transport, deposition, weathering) affecting the stability of sediment;
- Understand the key chemical and biological processes affecting the fate, transport, and bioavailability of contaminants;
- Identify the complete or potentially complete human and ecological exposure pathways for the contaminants;
- Identify current and potential future human and ecological risks posed by the contaminants;
- Collect data necessary to evaluate the potential effectiveness of natural recovery, in-situ capping, sediment removal, and promising innovative technologies; and
- Provide a baseline of data that can be used to monitor remedy effectiveness in all appropriate media (generally sediment, water, and biota). (p. 2-1, 2-2).

To aid in accomplishing these goals, the Guidance provides, as an example, a list of sediment site characterization data that should be collected during the RI. (Highlight 2-1, page 2-5). The data gathered during the RI is then used in a feasibility study, which develops and evaluates alternative methods for achieving the remedial action objectives for the site (p. 3-1).

In contrast to the policy set forth in the Guidance, a complete remedial investigation has not been conducted and site characterization is incomplete at the Gowanus Canal. As a result, few of the data necessary for a feasibility study to develop and evaluate remedial alternatives are available. Collection of these data during design is not a substitute for collection and incorporation of these data into the draft FS.[5]

The significance of the missing information can be illustrated through a few examples where additional information is needed to develop and screen remedial alternatives. These examples are discussed below.

[5] Even if an accelerated approach is viewed as necessary, proceeding with an early action without adequate data also would be inconsistent with the Guidance. Based on the site description and circumstances as described in the FS, however, there appears to be no justification to rush to conduct an early action in the absence of source control and adequate data to evaluate the appropriate early action.

1. Information Required To Adequately Characterize The Site.

In addition to the need to identify and further characterize historic and on-going sources, other key issues that need additional study in order to fully develop and refine the conceptual site model ("CSM"), which will aid in the development and evaluation of a full suite of remedial alternatives, include:

- Evaluation of on-going contaminant and particulate loading
- Assessment of sediment stability and contaminant fate and transport
- Development of a hydrodynamic and sediment transport model, which can evaluate the likely effects of wet weather events and the operation of the upgraded Flushing Tunnel (engineered to move over 200 million gallons of water per day)
- Development of a groundwater model to understand and predict discharges to the canal
- Evaluation of in-situ solidification technologies (bench-scale and field pilot study)
- Bulkhead stability analysis

This information is key to developing an accurate, comprehensive CSM that can be used to develop and evaluate a full suite of remedial alternatives. Without such a CSM, the effectiveness of remedial alternatives cannot be understood or evaluated.

2. Fate And Transport Modeling Suitable To The Site Is Essential To Develop An Effective Remedy.

The Guidance emphasizes the importance of assessing the fate and transport of sediment and contaminants at sediment sites (Section 2.8). Such information is necessary to assess the exposure and risk associated with the contaminants and to evaluate the protectiveness of remedial alternatives (p. 2-23, 2-32). To assess sediment and contaminant fate and transport, modeling is required (p. 2-25). At large or complex sites, the Guidance emphasizes the importance of using mathematical modeling:

> "Mathematical modeling generally is recommended for large or complex sites, especially where it is necessary to predict contaminant transport and fate over extended periods of time to evaluate relative differences among possible remedial approaches" (p. 2-36).

Developing a robust hydrodynamic and sediment transport model is critical to the development of an effective remedy, but it has not been done for the Gowanus Canal. CSOs and SSOs are responsible for a significant portion of the flow in the Canal. Upgrades to the Flushing Tunnel will be coming on-line in the near future and will increase the flow in the Canal. Understanding the effects of wet weather events and additional flows from the Flushing Tunnel is key to developing remedial alternatives and to evaluating their anticipated effects. Without this tool, the analysis of alternatives in the draft FS is incomplete.

The failure to provide appropriate modeling for the site in the draft FS, coupled with the absence of site characterization data, precludes an effective remedial alternatives evaluation process as required by the Guidance. At a highly complex site, a comprehensive understanding of contaminant fate and transport under current and proposed post-remedy conditions is a necessity. More discussion of remedial alternatives development is included below.

C. Inadequate Development Of Remedial Alternatives.

Adequate development and analysis of remedial alternatives cannot be completed without proper site characterization. The Guidance's requirement of collecting and evaluating sufficient baseline data to support a realistic evaluation of remedial alternatives, the remedy's likely ability to reduce risk on a site-specific basis, and to provide realistic cost comparisons was not followed in developing the draft FS (see Sections 2.1, 2.3, 3.1, 3.4, and 3.5 of the Guidance). For these reasons, the draft FS fails to support the development and analysis of robust remedial alternatives.

First, as described above, the current level of site characterization is wholly inadequate to support the remedial alternative selection process under the Guidance. Proper site characterization and completion of necessary data collection tasks is a prerequisite to the development and analysis of a robust suite of remedial alternatives.

Second, the alternatives developed and evaluated in the draft FS did not follow CSTAG's appropriate recommendation that "the Region evaluate the expected limited effectiveness of dredging based on the relatively large amount of debris in the canal and the fact that the deeper sediments are much more contaminated than the surface sediments. Alternatives that focus on capping and minimize removal of sediments may be more effective" (*CSTAG Recommendations*, p. 5-6).

Third, the draft FS did not follow an additional CSTAG recommendation that "the Region consider developing and evaluating a range of remedial alternatives in the FS that include the following additional remedial alternatives:

- Use of a low permeability, reactive capping material to control NAPL migration. Gas ebullition from under the cap that can facilitate NAPL transport through the cap can be addressed with vents and activated carbon to treat gas
- Temporarily draining the canal and redirecting the water flow to allow sediments to consolidate before placing a cap or dredging, this should include consideration of installing a passive French-drain style NAPL collection system under a cap as part of a capping alternative
- Monitored natural recovery (MNR) as a remedial alternative for the lower reach
- For areas where maintaining a minimum navigational water depth is not an issue, evaluate further if a cap can be placed without pre-dredging. Based upon experiences at other sites with soft sediment and low bearing strength, a cap can

be placed by using several thin lifts of sand, allowing time for consolidation between placing lifts

- Retain one or more capping-only remedies that may use different in-situ amendments such as activated carbon or ograno-clays within the cap
- Consider use of in-situ amendments to reduce bioavailability of surface contaminants for other areas of the site." (*CSTAG Recommendations*, p. 6).

Rather than developing and evaluating a full suite of remedial alternatives, only a limited suite of remedial alternatives was developed. The draft FS failed to develop or evaluate any capping-only remedial alternatives.

Finally, the draft FS also failed to quantify risk reduction expectations or to estimate the levels of recontamination that are expected to occur. As such, the draft FS is incomplete and cannot serve as the basis to select a cost-effective remedy that will protect human health and the environment, as required by the NCP.

D. Procedure For Addressing Contaminated Sediment Sites.

USEPA's Sediment Management Principles (2002) and the Guidance state that remedies are to be selected based on site-specific information. This information will not exist until the site is well characterized. Principle 7 of Principles for Managing Contaminated Sediment Risks At Hazardous Waste Sites (OSWER Directive 9285.6-08, February 12, 2002) states:

> "Select Site-specific, Project-specific, and Sediment-specific Risk Management Approaches that will Achieve Risk-based Goals.
>
> EPA's policy has been and continues to be that there is no presumptive remedy for any contaminated sediment site, regardless of the contaminant or level of risk. ... At Superfund sites, for example, the most appropriate remedy should be chosen after considering site-specific data and the NCP's nine remedy selection criteria. All remedies that may potentially meet the removal or remedial action objectives (e.g., dredging or excavation, in-situ capping, in-situ treatment, monitored natural recovery) should be evaluated prior to selecting the remedy. This evaluation should be conducted on a comparable basis, considering all components of the remedies, the temporal and spatial aspects of the sites, and the overall risk reduction potentially achieved under each option." (Guidance, p. A-7).

The Gowanus Canal draft FS does not satisfy this principle.

Moreover, characterization of the dozens of on-going sources that are known to exist in this waterway has yet to be performed. Limited samples were taken prior to the preparation of the draft FS, and the draft FS omitted much of the modeling and analysis traditionally relied on in sediment site remedial decision-making. Further, the draft FS specified that the following studies be undertaken in the remedial design phase:

- Development of a groundwater model for the entire project area
- Additional data collection and analysis to determine NAPL seepage rates
- Additional evaluation of in-situ solidification or other developing technologies that could increase the overall protection and permanence of the remedy
- Additional evaluation and analysis of the sustainability impacts of the selected remedy
- Other data collection activities and surveys such as a bulkhead stability evaluation, bathymetric and sediment-probing surveys to refine volumes and establish baseline conditions prior to remedial action, and sediment chemistry surveys to establish baseline, or pre-remedy, conditions
- Additional bench-scale testing to support disposal options
- Hydrodynamic modeling to support cap design

It seems apparent that much of this work is necessary due to the incomplete site characterization when the draft FS was prepared. It is inappropriate to defer these critical components of site-specific information to the remedial design phase. Much of this information is critical to the remedial alternative development and analysis phases, and could result in selection of a very different remedy than could occur at this time. These significant shortcomings are further examples of inconsistency with the Guidance.

III. Conclusion.

The Guidance provides a scientifically sound, risk-based approach to addressing contaminated sediment sites. Sediment sites present challenging problems, but following the policy and procedures in the Guidance is necessary to assure that the selected remedy will reduce risk and be cost-effective. The draft FS for the Gowanus Canal deviates from the Guidance in several critical ways, including lack of source control, incomplete site characterization, and inadequate information to support development of a full suite of remedial alternatives. As a consequence, the remedial alternatives proposed in the draft FS are not likely to reduce risks to human health and the environment to any significant extent. Rather, significant recontamination of the surface sediment is a virtual certainty. Accordingly, the current draft FS should be withdrawn until sufficient information is developed to prepare a FS that can adequately address the issues presented at the Gowanus Canal.

Moving forward with the draft FS and issuance of a proposed plan in the absence of essential information is premature. Numerous uncontrolled sources pose a significant recontamination risk. It would, therefore, be ineffective to try to address all sediment-related risks at this time. The next step should be to identify and control sources to the greatest extent possible in accordance with the Guidance (Section 2.6). During this important activity, the work

necessary to properly develop site-specific risk management approaches that will achieve risk-based goals under the Guidance should be undertaken and completed.

***

The SMWG would be pleased to answer any questions about its comments on the draft FS for the Gowanus Canal. For further information, please feel free to contact the SMWG's Coordinating Director, Steven C. Nadeau, c/o Honigman Miller Schwartz and Cohn LLP, 2290 First National Building, 660 Woodward Avenue, Detroit, MI 48226, (313) 465-7492, snadeau@honigman.com.

Respectfully submitted,

By: Steven C. Nadeau

Steven C. Nadeau, Coordinating Director
Sediment Management Work Group

c. Stephen Ells
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Exhibit A

SMWG Members

ALCOA, Inc.
Atlantic Richfield (a BP company)
BASF Corporation
Beazer East, Inc.
Boeing Company, The
CBS Corporation
Chevron Energy Technology Company
Dow Chemical Company, The
DTE Energy
E.I. duPont de Nemours and Company
El Paso Corporation
ExxonMobil
FMC Corporation
Freeport-McMoRan Copper & Gold, Inc.
General Electric Company
General Motors Company
Georgia-Pacific Corporation
Glenn Springs Holdings, Inc.
Honeywell International, Inc.
Monsanto Company
National Grid
NW Natural
Port of Portland
Shell Oil Company
Sherwin Williams Co.
Tierra Solutions, Inc.
U. S. Steel Group
WE Energies
American Chemistry Council (ACC)
American Forest & Paper Association
American Gas Association
American Petroleum Institute
Centre for Advanced Analytical Chemistry (CSIRO)
Council of Great Lakes Industries (CGLI)
Electric Power Research Institute (EPRI)
International Zinc Association
National Council of Paper Industry for Air & Stream Improvement
Norwegian Institute for Water
U.S. Army Corps of Engineers, Engineer Research and Development Center
U.S. Navy Space and Naval Warfare Systems Center, San Diego
U.S. Navy Naval Facilities Eng. Command
Utility Solid Waste Activities Group

I, the sender, vote that I do not want this project to proceed.

Alexander Smelson to: Region2 GowanusCanalComments 04/26/2013 06:40 PM

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As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

- Children
- Numerous public and private schools which use the fields for physical education & sports teams
- Residents of the Red Hook Houses and the surrounding neighborhood
- Soccer, softball, baseball, football, handball, basketball, track & field teams and enthusiasts
- Swimmers of all ages
- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--
Alexander Smelson
alsmelson@gmail.com
91 Coffey St, 3R
Brooklyn, NY
Resident

Con Edison Comments on Superfund Proposed Plan for Gowanus Canal Superfund Site

Mitch Bernstein to: Region2 GowanusCanalComments 04/26/2013 07:07 PM

Cc: Brian Carr, Christos Tsiamis, Eric Dessen, Carolyn Jaffe , 'Barry Cohen'

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Gentlemen:

On behalf of Con Edison, attached please find comments on the Superfund Proposed Plan for the Gowanus Canal Superfund Site.

The hard copy original of these comments has been sent to Christos via UPS, for delivery on Monday. A photocopy is enclosed in that package for Brian.

Thank you for your consideration of these comments.

Mitch

Mitchell H. Bernstein
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Con Edison Comments on Superfund Proposed Plan for Gowanus Canal Superfund Site (April 26, 2013).pdf

VanNess Feldman
ATTORNEYS AT LAW
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A LIMITED LIABILITY PARTNERSHIP
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Washington, DC 20007
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April 26, 2013

VIA EMAIL AND UPS

Mr. Christos Tsiamis
Remedial Project Manager
Central New York Remediation Section
U.S. Environmental Protection Agency
290 Broadway, 20th Floor
New York, NY 10007-1866

Re: ***Superfund Proposed Plan***
Gowanus Canal Superfund Site
Kings County, New York

Dear Mr. Tsiamis:

These comments on the "*Superfund Proposed Plan*, Gowanus Canal Superfund Site, Kings County, New York" (SPP) issued by the U.S. Environmental Protection Agency (EPA) in December 2012 are submitted on behalf of Consolidated Edison Company of New York, Inc. (Con Edison).

Introduction and Summary of EPA's Preferred Remedy

The Gowanus Canal is a man-made canal located in Brooklyn, New York, that was added to the National Priorities List in early 2010.[1] EPA conducted a remedial investigation of the sediments in the canal, and a feasibility study of remedial alternatives, with the goal of developing a response action that would "reduce or eliminate unacceptable human health and ecological risks from exposure to the contaminated sediments and to prevent recontamination of the sediments after the remedy is implemented."[2] The SPP describes the remedial alternatives that were considered for the site, identifies EPA's preferred remedy, and provides EPA's rationale for that preference.[3]

The principal focus of EPA's preferred remedy is on the contamination of Gowanus Canal sediments by polycyclic aromatic hydrocarbons (PAHs) and by non-aqueous phase liquid

[1] 75 *Fed. Reg.* 9790 (Mar. 4, 2010).
[2] SPP (at 2).
[3] The administrative record in support of the SPP includes a draft Remedial Investigation Report (RI) dated January 2011; a draft Feasibility Study (FS) dated December 2011; and a Feasibility Study Report Addendum (FS Addendum) dated December 2012. Appendices to the RI include a Human Health Risk Assessment (HHRA) and an Ecological Risk Assessment (ERA).

(NAPL). EPA has established six Remedial Action Objectives (RAOs) to be achieved by the preferred remedy, and five of them address either PAHs or NAPL. Three risk-based RAOs for PAHs were developed based on EPA's conclusion that the PAH contamination presents unacceptable risks to human health and to ecological receptors. Two other RAOs were developed to address potential recontamination by NAPL, either from ongoing sources, or from the residual NAPL that will remain at the site because it is too deep to be practically removed.

To address the human health and ecological risks from PAH contamination identified by EPA, the preferred remedy requires the removal of all soft sediments along the entire length of the canal. EPA also determined that ongoing sources of PAH and NAPL contamination, primarily from the three former manufactured gas plants that were located along the Gowanus Canal, must be controlled in order for the proposed remedy to be effective. And to prevent the residual NAPL remaining in the canal after the remedy is implemented from releasing additional PAHs into the canal sediments, EPA determined that a three-layer cap with a treatment layer will be constructed, and that in-situ stabilization of native sediment will be required in some areas with high levels of NAPL contamination.

The SPP also includes proposed actions to reduce combined sewer overflows from the City of New York's sewer system; the excavation and restoration of a lateral extension of the canal that has been filled in; institutional controls to incorporate an existing fish consumption advisory and to protect the integrity of the cap; and a possible on-site disposal facility. EPA states that it will coordinate with State and local authorities to control ongoing discharges from upland contaminated areas and from unpermitted pipe outfalls.

Overview of Comments

The SPP suggests that, in addition to the PAH and NAPL contamination, concentrations of polychlorinated biphenyls (PCBs) in Gowanus Canal sediments are contributing to unacceptable human health and ecological risks. Consequently, PCBs are identified in two of the six RAOs. However, as discussed in detail in these comments, the underlying analyses used to support those risk-based conclusions are flawed. Thus, EPA's conclusions regarding the risks presented by PCBs in Gowanus Canal sediments, and regarding the need to address those purported risks in the preferred remedy, are not supported in the administrative record.

With respect to human health risks, EPA has not supported its assertion that PCB levels in fish taken from the Gowanus Canal are "about two times higher" than PCB levels in fish taken from the reference area. In addition, the HHRA uses overly conservative and unrealistic assumptions about fish consumption rates, and about the species that are consumed. Further, EPA has not demonstrated that PCBs in Gowanus Canal surface sediments actually contribute to PCBs in fish tissue, or that the proposed remedy will reduce fish tissue concentrations of PCBs.

Moreover, the RAO addressing human health risks is based on the assumption that concentrations of PCBs in Gowanus Canal surface sediments are significantly higher than in reference area surface sediments, when in fact there is no statistically significant difference

between them. And EPA acknowledges that even if the proposed remedy were to be implemented and the RAO were to be achieved, human health risks from fish consumption would not be reduced to acceptable levels, because PCB concentrations in fish and shellfish are and will remain a regional problem. Those risks are currently being addressed by institutional controls, and the same institutional controls would be required even if this remedy were to be implemented. In short, the administrative record does not support the assertion that PCB concentrations in Gowanus Canal surface sediments present human health risks that must be addressed by the preferred remedy.

With respect to ecological risks, EPA's assertion that PCB concentrations in Gowanus Canal surface sediments are statistically higher than in reference area surface sediments disregards the PCB congener data in the administrative record. The environmental consulting firm ENVIRON conducted an analysis using those congener data, and it shows that there is no statistically significant difference between PCB concentrations in Gowanus Canal surface sediments and in reference area surface sediments.

More importantly, EPA's conclusion that PCBs in Gowanus Canal surface sediments are contributing to benthic toxicity is based solely on a comparison of sediment concentrations to a screening value. But screening values are merely tools to determine whether more refined analyses are required; they cannot be used to determine toxicity, because they do not take into account site-specific conditions that affect bioavailability.

EPA apparently found it unnecessary to develop a site-specific risk-based value for PCBs, based on its reasoning that the remediation that is necessary to address benthic toxicity from PAHs in Gowanus Canal surface sediments will also remove the PCBs that "co-occur" with those PAHs. But that begs the question of whether the PCBs in Gowanus Canal surface sediments are, or are not, toxic to benthic organisms. In order to answer that question, ENVIRON relied on several lines of evidence derived from the scientific literature to develop a site-specific risk-based criterion for Gowanus Canal surface sediments based on cause-effect, concentration-response relationships. The PCB concentrations in Gowanus Canal surface sediments are all well below that site-specific risk-based criterion.

Moreover, EPA did not comply with the requirements of the National Contingency Plan (NCP) in its development of the two RAOs that are intended to address human health and ecological risks from PCB concentrations in Gowanus Canal sediments. The RI lacks sufficient data to adequately characterize risks attributable to PCBs, or to support the development of appropriate response actions based on those risks, both of which are required under the NCP. In addition, the FS does not contain remediation goals that "establish acceptable exposure levels that are protective of human health and the environment," also as required by the NCP.

For all of these reasons, Con Edison respectfully submits that the RAOs identified in the SPP should be modified in the Record of Decision (ROD). Specifically, the RAO addressing PCB levels in fish and shellfish should be eliminated in its entirety, and the RAO addressing toxicity to benthic organisms should be revised to eliminate any reference to PCBs.

Comments

I. Statements in the SPP that PCBs in Gowanus Canal Sediments Present Unacceptable Risks to Human Health are Not Supported by the Record, and the Proposed Remedial Action Would be Unnecessary and Ineffectual

The SPP states that human consumption of fish and crabs taken from the Gowanus Canal presents unacceptable health risks, due to the levels of PCBs in edible tissues.[4] EPA also implies, without further support, that PCBs in Gowanus Canal surface sediments have contributed to those tissue levels. EPA thus derived the following RAO:

> Reduce the contribution of polychlorinated biphenyls (PCBs) from the Gowanus Canal to fish and shellfish by reducing the concentrations of PCBs in Gowanus Canal sediments to levels that are within the range of Gowanus Bay and Upper New York Bay reference concentrations.[5]

EPA also established a PRG of 0.48 mg/kg total PCB congeners, which it described as the "maximum concentration in reference area surface sediment."[6]

EPA's analyses and conclusions regarding human health risks from PCBs in Gowanus Canal sediment are flawed. First, the administrative record does not support EPA's characterization of PCB levels in Gowanus Canal fish as "about two times higher" than PCB levels in reference area fish. Second, the HHRA uses overly conservative and unrealistic assumptions regarding fish consumption rates and the species that are consumed. Third, EPA fails to quantify the extent to which PCBs in Gowanus Canal surface sediments contribute – if at all – to PCB levels in fish tissue, and fails to quantify the reduction in PCBs in fish tissue – if any – that would result from achieving the RAO. Fourth, there is no statistically significant difference between total PCB congener concentrations in Gowanus Canal surface sediments and total PCB congener concentrations in reference area surface sediments.

The RAO and PRG are thus based on certain assumptions that are not supported in the administrative record. More importantly, the SPP notes that "game fish and blue crabs do not forage solely in the canal and the PCB concentrations in their tissues reflect cumulative uptake from all of the areas that they inhabit."[7] EPA further acknowledges that consumption of fish and crabs taken from the reference area also present unacceptable human health risks.[8] Consequently, "because of the anticipated unacceptable human health risk associated with the consumption of PCB-contaminated fish and shellfish *after the remedy is implemented,*"[9] the SPP incorporates the existing fish consumption advisory as an institutional control.

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[4] SPP (at 14).
[5] FS Addendum, *Supplemental Evaluation of Remediation Goals* (at 3).
[6] SPP (at 16). Surface sediments are those in the 0-to-6-inch depth interval. *Id.* (at 9).
[7] *Id.* (at 16).
[8] *Id.* (at 14).
[9] SPP (at 31, emphasis added).

In other words, according to EPA, even if the RAO is achieved, it will not reduce to acceptable levels the human health risks from consumption of fish and shellfish. Thus, any remedial action intended to achieve that RAO would not meet the effectiveness criterion of the NCP. Continuation of the existing institutional control is both necessary and sufficient to address the risk pathway from fish consumption, and nothing in the administrative record demonstrates that the proposed response action is required or would be effective. Accordingly, the RAO based on human health risks from PCBs in Gowanus Canal sediments should not be included in the ROD for this site.

A. EPA has not properly compared PCB levels in fish taken from the Gowanus Canal to PCB levels in fish taken from the reference area

The SPP states that the "average concentrations of PCBs in the canal fish and crab samples were about two times higher than the average PCB concentrations in the reference area samples collected from Gowanus Bay and Upper New York Bay."[10] Although the SPP does not provide a reference for that assertion, it appears to come from a statement in the HHRA that "[r]eference area average PCB fish concentrations are about one half the average concentrations identified in canal fish."[11] However, that comparison is neither accurate nor complete.

Table 2-5 of the RI provides a summary of the total number of samples collected for blue crabs and for larger fish species. In the Gowanus Canal, there were 12 blue crab samples (edible tissue), 2 blue crab samples (hepatopancreas), 6 American eel samples, 5 striped bass samples, and 2 white perch samples. In the reference area, there were 8 blue crab samples (edible tissue) and 1 blue crab sample (hepatopancreas), but only 1 American eel sample, and no striped bass or white perch samples. In other words, although blue crabs are represented by data from both the Gowanus Canal and the reference area, American eel is the only fish species represented by data from both the Gowanus Canal and the reference area, and the data used to characterize PCB concentrations in American eel in the reference area were based on a single sample.

The comparisons of average concentrations for PCBs in crab and fish tissue are found in Table 7-3 of the HHRA, for three groupings of PCB congeners used in the risk calculations (dioxin-like, non-dioxin-like, and total PCB congeners), and show the following:

- The comparisons for blue crabs show that the reference area averages range from 61 to 77 percent of the Gowanus Canal averages, which is considerably greater than one half.[12]

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[10] SPP (at 14; at 15).
[11] HHRA (at 9-3).
[12] These percentages are based on the averages reported for the edible tissue and hepatopancreas samples, which were analyzed for PCB congeners. The data reported for "whole body" crabs were calculated from the edible and hepatopancreas data, and were not measured directly. RI (at 4-45).

- The comparisons for fish show that for American eel, the concentrations in the sole reference area sample taken ranged from 54 to 83 percent of the Gowanus Canal averages, which is also considerably greater than one half. And even though concentrations are presented for striped bass and white perch in the Gowanus Canal, it is not possible to make comparisons to concentrations in reference area samples of those fish species, because such data do not exist in the administrative record.

The extremely limited sample size of comparable fish data (*i.e.*, one sample for one species), and the magnitude of the actual percentage comparisons for both fish and crabs, are insufficient support for the blanket statement in the SPP that average PCB concentrations measured in fish and crabs collected from the Gowanus Canal were "about two times higher" than average PCB concentrations in the reference area samples.

B. The HHRA uses inadequately supported assumptions about overall fish consumption rates and about species-specific consumption rates

The HHRA relies on a number of highly conservative upper-bound exposure assumptions to estimate potential risks for reasonable maximum exposure (RME) scenarios. Some of these exposure assumptions appear to be inconsistent with USEPA's definition of an RME scenario as "the highest exposure that is reasonably expected to occur at a site."[13] Such overly conservative assumptions may be appropriate for use in screening-level risk assessments; if the risks estimated in a screening-level assessment are below levels of concern, then further refinement is not warranted. However, when the screening-level risk estimates exceed levels of concern (as in the case of the Gowanus Canal HHRA), it is appropriate to examine the underlying assumptions to identify those that warrant further refinement.

In fact, the SPP acknowledges that the HHRA "assumed fishing/crabbing and ingestion of the fish/crab from the canal at typical recreational angler fish/crab consumption rates, *which is very conservative given the nature of the canal.*"[14] But a thorough review of the HHRA suggests that little effort was made to refine the initial assessment in order to incorporate more reasonable assumptions.[15] Further, while the Uncertainty Assessment section of the HHRA acknowledges that "the resulting risks are likely overestimates,"[16] it does not appear that any effort was made to characterize the degree of overestimation. Thus, the HHRA presents an overly conservative RME scenario that is inappropriate for a CERCLA baseline risk assessment.

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[13] USEPA 1989, *Risk Assessment Guidance for Superfund, Volume I, Human Health Evaluation Manual, Part A, Interim Final.* Office of Solid Waste and Emergency Response. EPA/540/1-89/002

[14] SPP (at 14, emphasis added).

[15] The only significant modification to the exposure scenarios in the HHRA was the addition of a subsistence fisherman scenario in the *Supplemental Evaluation of Remediation Goals* section of the FS Addendum.

[16] HHRA (at 8-2)

1. The consumption rates for Gowanus Canal fish and crabs are unrealistic

The HHRA risk calculations are based on the assumption that all of the fish and crabs consumed by an individual angler are taken from the Gowanus Canal. Considering the frequency of CSO discharges to the Gowanus Canal, the poor water quality in the Gowanus Canal (characteristics unrelated to PCBs), and the current and anticipated future fish consumption advisory, this assumption is unrealistic and highly unlikely to occur.[17]

Section 2.5 of the RI Report indicates that it was necessary to set traps at multiple locations and to combine samples from multiple reaches in order to obtain adequate tissue mass for analysis, due to the paucity of fish and crabs in the Gowanus Canal. In light of the limited number of locations offering public access to the Gowanus Canal, and the proximity of other fishable water bodies that have a greater abundance of fish and crabs than the Gowanus Canal, it would be appropriate to use an adjustment factor – to reduce the anglers' assumed consumption of fish and crabs taken from the Gowanus Canal and to account for their consumption of fish and crabs taken from other surface water bodies in the area.

2. The species-specific consumption rates used in the HHRA are not properly supported

The HHRA is not consistent in its statements regarding the percentages of total fish consumption assigned to each species taken from the Gowanus Canal, nor are those percentages properly supported. At one point, the HHRA indicates that striped bass represent top-level predators, white perch represent mid-level predators, and that "[t]he midlevel predator represents species most frequently harvested and consumed by anglers."[18] Elsewhere, however, the HHRA states that "eel represent bottom feeders with 44 percent of the total fish consumption, striped bass represent the intermediate level with 47 percent consumption, and white perch represent the remaining 9 percent."[19]

These statements are inconsistent regarding the predator level represented by striped bass (top-level vs. intermediate level). More significantly, because the PCB exposure point concentrations in American eel samples from the Gowanus Canal are nearly three times higher than the corresponding concentrations in white perch samples, assignment of 44 percent of total consumption to that bottom-feeding species is inappropriate in light of the statement that mid-level predator species are most frequently harvested and consumed by anglers.

Further, the HHRA indicates that the percentages assigned to those three species are based on a publication that presents data collected by a survey of licensed anglers in New York State conducted more than 20 years ago.[20] These data are unlikely to represent the practices of

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[17] A report by the New York City Department of Environmental Protection (NYCDEP) states that the NYSDEC listed the Gowanus Canal as a high-priority water body in 1998, noting that the levels of dissolved oxygen in the Gowanus Canal were severe enough to prevent fish propagation. This listing is still in effect. NYCDEP. 2008. *Gowanus Canal Waterbody/Watershed Facility Plan Report* (at 1-6).

[18] HHRA (at 4-3).

[19] HHRA (at 5-6).

[20] *Id.*, citing Connelly et al., 1992.

anglers who currently consume fish from the Gowanus Canal, because no license is required to collect fish and crabs from the Gowanus Canal.[21] Instead, the data most likely represent the practices of fresh-water fishermen, not those of Gowanus Canal anglers. Thus, the species-specific consumption rates and the angler practices assumed in the HHRA are unlikely to be representative of those actually occurring in the Gowanus Canal.

C. EPA has not demonstrated that PCBs in Gowanus Canal surface sediments contribute to PCBs in fish tissue or that the proposed remedy will reduce tissue concentrations of PCBs

It is well-established EPA policy that risks associated with background conditions must be properly assessed and taken into account in the development and selection of a proposed remedy, because "the CERCLA program, generally, does not clean up to concentrations below natural or anthropogenic background levels."[22] In the context of the HHRA for PCBs in Gowanus Canal sediments, this means two things: first, that EPA must consider whether, and to what extent, background conditions contribute to the PCB levels found in fish tissue; and second, that EPA must evaluate whether, and to what extent, PCBs in Gowanus Canal surface sediments contribute to the PCB levels found in fish tissue in excess of those background levels.

Although EPA implicitly assumes that PCBs in Gowanus Canal sediments contribute to the PCB levels in fish tissue, there are absolutely no data, analyses, studies or other information in the administrative record that support that key assumption. To the contrary, EPA acknowledges that it has not established any causal link between PCBs in Gowanus Canal sediments and PCBs in fish tissue:

> Additionally, the species targeted in the HHRA (striped bass, white perch, American eel and blue crab) inhabit areas that are larger than the Gowanus Canal, and the PCB concentrations in their tissue reflect contributions from all of the areas in which they forage. Therefore, *the PCB concentrations in fish and shellfish caught in the canal cannot be directly linked to PCB concentrations in the canal sediments alone. . . .PCB concentrations in [canal] sediment cannot be directly linked to the target species that were caught in the canal.*[23]

And even if such linkage could be established from studies or other information not in the administrative record, EPA acknowledges that the amount of any such contribution is uncertain at best:

> [T]he home ranges of the fish and shellfish species evaluated in the HHRA are not restricted to the Gowanus Canal, and the contaminant concentrations in tissue reflect contributions from all of the areas in which they forage. Additionally, the

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[21] HHRA (at 2-1). New York State does not require a license for fishing from marine, coastal district, and tidal waters for "migratory fish from the sea." http://www.dec.ny.gov/permits/6091.html.
[22] USEPA 2002, *Role of Background in the CERCLA Cleanup Program.* OSWER 9285.6-07P.
[23] FS Addendum, *Supplemental Evaluation of Remediation Goals* (at 4, emphasis added).

> ingestion of some fish and shellfish species from the reference area in Upper New York Bay also poses an unacceptable risk. *Therefore, reductions in contaminant concentrations in canal sediments will not necessarily result in reductions in tissue concentrations to levels that do not pose a risk.*[24]

In short, EPA has assumed, but has not demonstrated in the administrative record, that PCBs in Gowanus Canal surface sediments actually contribute to PCB concentrations in fish tissue. And even if such a demonstration could be made, the fact remains – as discussed below – that, according to EPA, background concentrations of PCBs in fish tissue are already unacceptably high, and will not be reduced to acceptable levels by the proposed remedial action. Under these circumstances, any incremental risk reduction that could hypothetically be achieved by reducing PCB concentrations in Gowanus Canal surface sediments cannot be justified under EPA policy, or under the effectiveness criterion of the NCP.

D. The RAO and PRG have been set arbitrarily and will not reduce human health risks to acceptable levels

The RAO to address human health risks from consumption of PCBs in edible fish and shellfish tissues is as follows:

> Reduce the contribution of polychlorinated biphenyls (PCBs) from the Gowanus Canal to fish and shellfish by reducing the concentrations of PCBs in Gowanus Canal sediments to levels that are within the range of Gowanus Bay and Upper New York Bay reference concentrations. [25]

Implicit in this formulation are the assumptions (i) that PCBs from Gowanus Canal surface sediments are in fact contributing to PCB levels in fish and shellfish tissues, and (ii) that reducing PCB concentrations in Gowanus Canal surface sediments will reduce PCB levels in fish and shellfish tissues. But as discussed above, there is no support in the administrative record for either of those assumptions. The RAO has thus been set arbitrarily.

Moreover, there is another embedded assumption in the RAO – namely, that the concentrations of PCBs in Gowanus Canal surface sediments are statistically significantly higher than the reference area concentrations. But that is not the case. As discussed in detail below in Section II.A. of these comments, there is no statistically significant difference between total PCB congener concentrations in Gowanus Canal surface sediments and total PCB congener concentrations in reference area surface sediments, which renders the RAO essentially meaningless.

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[24] *Responses to National Remedy Review Board and Contaminated Sediments Technical Advisory Group Recommendations for the Gowanus Canal Superfund Site, Brooklyn, New York* (Responses to NRRB/CSTAG), Region 2, Dec. 28, 2012 (at 11, emphasis added).

[25] FS Addendum, *Supplemental Evaluation of Remediation Goals* (at 3).

More importantly, even if there were supporting documentation for this formulation of the RAO, EPA acknowledges that achieving the RAO – *i.e.*, reducing concentrations of PCBs in Gowanus Canal surface sediment to levels within the range of Gowanus Bay and Upper New York Bay reference concentrations – will not reduce human health risks from fish consumption to acceptable levels:

> [H]owever, *the PCB concentrations in the reference area samples also result in carcinogenic risks and non-carcinogenic hazards that exceed acceptable levels.* The New York State Department of Health (NYSDOH) has fish consumption advisories for Gowanus Bay and Upper New York Bay that identify PCBs as a COC in fish (NYSDOH, 2010). Because PCB contamination in fish is a regional problem, remediation of the sediments in the canal is unlikely to reduce PCB concentrations in fish tissue to acceptable levels.[26]

> Under current conditions, the PCB concentrations in reference area fish tissue pose a risk. *If the canal is cleaned up to similar concentrations as the reference area, the fish tissue will still pose a risk. While the concentration may not be protective*, it is the best that can be achieved.[27]

Under these circumstances, the RAO for human health risks from PCB contamination in Gowanus Canal sediments cannot be used as a criterion in support of, or to justify, the preferred remedy. Indeed, any RAO that has the sole purpose of reducing PCB concentrations in Gowanus Canal sediments, in the expectation of reducing fish tissue concentrations to acceptable levels of risk, would be futile and would result in remedial action for the sake of remedial action.

The PRG suffers from the same deficiencies, as it is nothing more than a numerical target for achieving the RAO, and it is not derived from any consideration of risk reduction:

> Site-specific risk-based PRGs were not developed for PCBs in sediment or tissue because it is unlikely that the canal remedy will reduce risk from ingesting PCB-contaminated fish and shellfish to acceptable levels. . ..[28]

Instead, the "maximum Gowanus Bay and Upper New York Bay reference area concentration for PCBs in sediment was selected as the PRG. This PRG is 0.48 mg/kg [total PCB congeners]."[29] However, as noted above, this PRG is essentially meaningless, because there is no statistically significant difference between total PCB congener concentrations in Gowanus Canal surface sediments and total PCB congener concentrations in reference area surface sediments.

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[26] *Id.* (at 3-4, emphasis added).
[27] Responses to NRRB/CSTAG (at 14, emphasis added).
[28] FS Addendum, *Supplemental Evaluation of Remediation Goals* (at 4).
[29] *Id.*

E. Existing institutional controls are the best method to address any human health risks that may be presented by PCBs in Gowanus Canal surface sediments

As discussed above, the administrative record does not support the threshold assertion that PCBs in Gowanus Canal surface sediments contribute to unacceptable human health risks. As EPA has acknowledged, PCB contamination in fish is a regional problem and even fish in the reference area have unacceptably high levels of PCBs in their edible tissue.

This regional problem is currently being addressed by a NYSDOH fish consumption advisory. Not surprisingly, the SPP incorporates that institutional control as part of the preferred remedy. However, EPA's statement in support of that action is highly significant:

> The existing fish consumption advisory would be included because of the anticipated unacceptable human health risk associated with the consumption of PCB-contaminated fish and shellfish *after the remedy is implemented.*[30]

In other words, EPA acknowledges that the proposed remedial action will not be an effective means of addressing human health risks (if any) presented by PCBs in Gowanus Canal surface sediments. Continuation of the existing institutional controls (*i.e.*, the fish consumption advisory) will still be required, and nothing in the administrative record demonstrates that any additional response would be necessary, appropriate, or effective in addressing that exposure pathway.

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For all of the foregoing reasons, the RAO based on human health risks from PCBs in Gowanus Canal surface sediments should not be included in the ROD for this site.

II. PCBs in Gowanus Canal Surface Sediments Do Not Present An Unacceptable Toxicity Risk to Benthic Organisms

As part of the RI, EPA conducted an ERA to determine whether contaminant concentrations in Gowanus Canal surface sediments present a risk to ecological receptors. Risks to benthic macroinvertebrate communities were evaluated primarily through the use of laboratory-based sediment bioassays (i.e., toxicity tests), and through comparison of sediment chemical concentrations to literature-based screening benchmarks.[31]

The sediment bioassays indicated "a site-related potential for adverse effects to benthic communities from chemicals in sediment."[32] Because PAHs were "consistently detected in sediment at the highest concentrations relative to their ecological screening benchmarks,"[33] EPA

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[30] SPP (at 31, emphasis added).
[31] SPP (at 14).
[32] *Ibid.*
[33] *Ibid.*

concluded that PAHs "represent the greatest site-related risk to the benthic community"[34] and are "the most likely cause of the toxicity observed in laboratory tests."[35]

Other contaminants were also identified as potential contributors to the observed toxicity to benthic organisms, based on two criteria: they were present in Gowanus Canal surface sediments at concentrations that "exceeded both risk-based screening levels and were statistically higher than reference area concentrations."[36] Based on those two criteria, PCBs and seven metals were designated as COCs with respect to "*potential* site-related risk to the benthic community."[37] Based on the same two criteria, but without further analysis, EPA concluded that the ERA had found that PCBs and the seven metals "*are* toxic to benthic organisms."[38]

EPA thus developed the following RAO for benthic toxicity:

> Reduce the risks to benthic organisms in the canal from direct contact with PAHs, PCBs, and metals in sediment by reducing sediment toxicity to levels that are comparable to reference conditions in Gowanus Bay and Upper New York Bay.[39]

However, a site-specific risk-based PRG was "developed for PAHs only[,] because PAHs are most likely causing the toxicity in the sediments."[40] With respect to PCBs, EPA specifically noted that although concentrations exceeded sediment quality screening values, "the magnitude of exceedances was low. Therefore, the potential contribution of PCBs to observed toxicity relative to PAHs is considered to be low. PCBs co-occur with PAHs and therefore will be addressed through the remediation of the PAHs."[41]

EPA's conclusion that PCBs are contributing to benthic toxicity of Gowanus Canal surface sediment is unsupported. EPA based that conclusion on a simple comparison of sediment concentrations to a screening value. But screening values are merely tools to decide whether more refined analyses are required; they cannot be used to make determinations about cause-effect, concentration-response relationships, because they do not take into account site-specific conditions that affect bioavailability, nor other confounding factors. The mere circumstance that PCB concentrations in Gowanus Canal surface sediments exceed a screening value does not establish that those PCBs are toxic to benthic invertebrate organisms.

In order to make a determination regarding benthic toxicity, it would first be necessary to develop a site-specific risk-based criterion for Gowanus Canal surface sediments, and then to compare the PCB concentrations in Gowanus Canal surface sediments to that site-specific risk-

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[34] *Ibid.*
[35] FS Addendum, *Supplemental Evaluation of Remediation Goals* (at 5).
[36] *Ibid.*
[37] SPP (at 14, emphasis added).
[38] *Id.* (at 15, emphasis added).
[39] FS Addendum, *Supplemental Evaluation of Remediation Goals* (at 4).
[40] Responses to NRRB/CSTAG (at 13).
[41] FS Addendum, *Supplemental Evaluation of Remediation Goals* (at 5). A PRG was not established for either of the two metals of concern (copper and lead) because they "are not likely to be bioavailable." *Ibid.*

based criterion. EPA did not develop such a site-specific risk-based criterion, and therefore cannot properly conclude that PCB concentrations in Gowanus Canal surface sediments are toxic to benthic organisms.

EPA found it unnecessary to reach a definitive conclusion about the benthic toxicity of PCBs in Gowanus Canal surface sediments, as reflected in its statement that the remediation it selected to address benthic toxicity from PAHs in Gowanus Canal surface sediments will also remove the PCBs that "co-occur" with those PAHs. Under EPA's reasoning, the issue of whether those PCBs are toxic to benthic organisms is moot, because they will be "along for the ride" during the remediation that EPA has determined is necessary to address the PAH contamination.

Whether or not this issue is moot, the assertion in the SPP that those PCBs "are toxic to benthic organisms" is wholly unfounded, and finds no support in the ERA or elsewhere in the administrative record. Nor does the administrative record contain a site-specific risk-based criterion for determining the benthic toxicity of PCBs in Gowanus Canal surface sediments.

In order to make a definitive determination as to the matter of benthic toxicity of PCBs in Gowanus Canal surface sediments, ENVIRON developed a site-specific risk-based criterion based on three lines of evidence from the scientific literature. As discussed in detail below in Section II.C. of these comments, ENVIRON derived a value of 41 mg/kg. Because PCB concentrations in all Gowanus Canal surface sediments sampled in the RI are well below that level, the RAO for benthic toxicity should be revised in the ROD to eliminate any reference to PCBs.

A. PCB concentrations in Gowanus Canal surface sediments are not statistically higher than in reference area surface sediments

As a threshold issue, not only is EPA's characterization of the PCB concentrations in Gowanus Canal surface sediments as "statistically higher than reference area concentrations"[42] incorrect, but it is also based on an inaccurate and inconsistent value for PCB concentrations in reference area surface sediments.

Specifically, Table 6-1 of the ERA is entitled "Comparison of Detected Constituents in Reference Sediment Samples to Criteria." Under the heading "Pesticides/PCBs (ug/kg)," the only entry is "*None detected.*"

But "none detected" is inconsistent with the analytical results from the RI and with the statement in the FS Addendum that the "maximum Gowanus Bay and Upper New York Bay

[42] *Ibid.*

reference area concentration for PCBs in sediment" is 0.48 mg/kg.[43] That same value is also reflected in Table 1 of the SPP, "Average Contaminant Concentrations at Reference Stations."[44]

It is likely that the "none detected" entry in Table 6-1 of the ERA was based on analysis for PCB Aroclors, rather than PCB congeners, even though the ERA itself states that "congener-specific data offers a more comprehensive representation of the total PCB concentrations in a medium."[45] Indeed, there are congener data in the RI for three of the five reference area stations that are shown in Table 6-1; instead of "none detected," the total PCB values reported for those three stations are 0.341 mg/kg, 0.466 mg/kg, and 0.476 mg/kg.[46]

The last of those three congener values would be rounded to 0.48 mg/kg, which is the value used in the SPP and the FS Addendum as the maximum concentration in the reference area. The same congener value is established as the PRG for the RAO addressing human health risks, and EPA also used congener data to perform the risk calculations presented in the HHRA and the ERA. Accordingly, instead of the "none detected" value from Aroclor data, congener data should have been used to investigate the potential differences in total PCB concentrations between the Gowanus Canal surface sediments and the reference area surface sediments.

Appendix A to these comments, "Comparison of PCB Congener Concentrations in Surface Sediments in Gowanus Canal and in Reference Area," was prepared by ENVIRON and shows that there is no statistically significant difference between total PCB congener concentrations in the Gowanus Canal surface sediments and total PCB congener concentrations in reference area surface sediments. In support of that analysis, Appendix A also contains a detailed description of the available data sets, and discusses inconsistencies both in those data sets, and in certain analyses in the RI and the SPP.

B. Toxicity determinations cannot be based on comparisons to screening levels

EPA has used a screening value as the sole determinant of the benthic toxicity of PCBs in Gowanus Canal surface sediments. But screening levels are just that – thresholds below which no further analysis is warranted, and above which more refined assessments are required. By their very nature, screening values cannot be used to make determinations about cause-effect, concentration-response relationships, because they do not take into account site-specific conditions that affect bioavailability, nor other confounding factors.

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[43] *Id.* (at 4).

[44] Table 1 shows a "Reference Average" of 0.47 mg/kg, and a "Reference Range" of 0.47-0.48 mg/kg, for "Total PCBs."

[45] "There are 209 individual PCB congeners (compounds), but there are nine Aroclors (Aroclors 1016, 1221, 1232, 1242, 1248, 1254, 1260, 1262, and 1268). . . .Aroclors consist of a mixture of PCB congeners. Since not all congeners are represented in Aroclor mixtures, congener-specific data offers a more comprehensive representation of the total PCB concentrations in a medium." ERA (at 7-4).

[46] The PCB congener data are found in Table I-5A of the RI.

Indeed, EPA acknowledges in the SPP that screening criteria are not determinative of toxicity, and cannot be used to establish target cleanup levels. The SPP includes the following quotation, selected by EPA, from NYSDEC's *Technical Guidance for Screening Contaminated Sediments*:

> Sediments with contaminant concentrations that exceed the criteria listed in this document are considered to be contaminated and *potentially* causing harmful impacts to marine and aquatic ecosystems. *These criteria do not necessarily represent the final concentrations that must be achieved through sediment remediation.* Comprehensive sediment testing and risk management are necessary to establish when remediation is appropriate and what final contaminant concentrations the sediment remediation efforts should achieve.[47]

The screening value used to evaluate benthic toxicity was 0.0598 mg/kg,[48] which is found in the Screening-Level Ecological Risk Assessment (SLERA). As indicated in Table 3-5 of the ERA, "Medium-Specific SLERA Screening Values – Sediment and Surface Water," that value is for total PCB congeners, and the source is identified as MacDonald et al. (2000).[49] That table also references a screening value of 0.0227 mg/kg for individual PCB Aroclors, and total PCB Aroclors, and the source is identified as NYSDEC (1999),[50] although those screening values were based on an earlier publication by Long et al. (1995).[51]

It is widely accepted that empirical sediment quality guidelines (SQGs) such as those presented by Long et al. (1995) and by MacDonald et al. (2000) do not necessarily represent cause-effect, concentration-response relationships between chemical concentrations and biological effects.[52] Rather, their purpose is to provide an indication of whether more detailed analyses (for example, sediment toxicity tests) should be conducted to determine whether sediments are actually toxic. And in sediments contaminated by multiple chemicals, additional information would be needed to determine which chemicals are responsible for any observed toxicity.

The SQGs for PCBs presented in Long et al. (1995) were derived using an empirical approach that relied upon a large database of paired sediment chemistry and biological data collected from sites contaminated by multiple chemicals. There are several limitations to this

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[47] SPP (at 15, fn. 21; emphasis added).
[48] SPP, Table 7 (referenced at 16).
[49] Section 9 of the ERA, "References and Bibliography," does not contain a citation to MacDonald et al. (2000). However, the proper citation is: MacDonald, D.D., C.G. Ingersoll, and T.A. Berger. 2000. Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. *Arch. Environ. Contam. And Toxicol.* 39:20-31.
[50] NYSDEC, *Technical Guidance for Screening Contaminated Sediments*, 1999.
[51] Long ER, MacDonald DD, Smith SL, Calder FD. 1995. Incidence of adverse biological effects within ranges of chemical concentrations in marine and estuarine sediments. *Environ Manag* 19:81–97.
[52] Wenning, R.J., G.E. Batley, C.G. Ingersoll, and D.W. Moore (eds). 2005. *Use of Sediment Quality Guidelines and Related Tools for the Assessment of Contaminated Sediments*. Society of Environmental Toxicology and Chemistry (SETAC) Press, Pensacola, FL.

database. *First*, the specific chemicals that caused the toxicity observed in laboratory tests were not identified; multiple chemicals were present at most sites and may have contributed to the toxicity of the sediments. *Second*, the bioavailability of the chemicals detected in the sediment from each site was not determined; this matters, because site-to-site variation in bioavailability causes site-to-site variation in the levels of PCBs that are toxic to benthic organisms. *Third*, there was substantial variation in sediments from various sites in geochemical characteristics that are known to influence bioavailability (e.g., organic carbon content, and sulfide concentration); this suggests that there was substantial site-to-site variability in the levels of PCBs that would be toxic to benthic organisms.

In addition, a critical evaluation of the "consensus" screening values for PCBs developed by MacDonald et al. (2000) found that those screening values were unreliable in identifying PCB toxicity and suffered from the same limitations noted above.[53] Key deficiencies include: inability to isolate effects caused by PCBs due to the co-occurrence of multiple contaminants in underlying data; inability to distinguish non-causal correlations from cause-effect, concentration-response relationships between chemical concentrations and biological effects; and derivation methods that are influenced by the distribution of concentrations in the underlying data set (regardless of relationship to toxicity) and are thus biased toward background and low PCB concentrations.[54]

Furthermore, the reliability of SQGs for predicting the toxicity of PCBs in sediments has been repeatedly demonstrated to be less than 60%.[55,56,57,58] Because of these limitations, the critical evaluation states that any conclusion regarding the cause of observed toxicity in sediment contaminated by multiple chemicals should be based on site-specific assessments of bioavailability and concentration-response relationships, as well as laboratory determination of causality with spiked sediment studies.[59]

C. The PCB concentrations in Gowanus Canal surface sediments are not toxic to benthic organisms

Screening values are useful as the first step in identifying COCs, but they cannot be used as the sole criterion to conclude that PCBs in Gowanus Canal surface sediments are toxic to

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[53] Becker, D.S. and T.C. Ginn. 2008. Critical evaluation of the sediment effect concentrations for polychlorinated biphenyls. *Integr. Environ. Assess. Manage.* 4:156-170.
[54] *Ibid.*
[55] Long ER, MacDonald DD, Smith SL, Calder FD. 1995. Incidence of adverse biological effects within ranges of chemical concentrations in marine and estuarine sediments. *Environ Manag* 19:81–97.
[56] Long ER, Field LJ, MacDonald DD. 1998. Predicting toxicity in marine sediments with numerical sediment quality guidelines. *Environ Toxicol Chem* 17:714–727.
[57] Smith SL, MacDonald DD, Keenleyside KA, Ingersoll CG, Field J. 1996. A preliminary evaluation of sediment quality assessment values for freshwater ecosystems. *J Great Lakes Res* 22:624–638.
[58] MacDonald DD, Carr RS, Calder FD, Long ER, Ingersoll CG. 1996. Development and evaluation of sediment quality guidelines for Florida coastal waters. *Ecotoxicology* 5:253–278.
[59] Becker, D.S. and T.C. Ginn. 2008. Critical evaluation of the sediment effect concentrations for polychlorinated biphenyls. *Integr. Environ. Assess. Manage.* 4:156-170.

benthic organisms. Screening values do not represent proof of a causal relationship between sediment concentrations and benthic toxicity, primarily because they do not take into account site-specific conditions that affect bioavailability. However, using multiple lines of evidence derived from the scientific literature, it is possible to develop a site-specific criterion based on cause-effect, concentration-response relationships between PCB concentrations in Gowanus Canal surface sediments and their potential effects on benthic invertebrates.

Appendix B to these comments, "Development of a Site-Specific Risk-Based Criterion for PCBs in Gowanus Canal Surface Sediments," was prepared by ENVIRON and describes that approach. The site-specific risk-based criterion was derived from application of the equilibrium partitioning method, from review of spiked sediment toxicity test results, and from analysis of biological data from contaminated sediment sites where PCBs are the primary contaminant of concern. It also used site-specific data from the RI regarding PCB homologue distributions and total organic carbon (TOC) concentrations.

The value derived in Appendix B as the site-specific risk-based criterion for PCB toxicity to benthic invertebrates is 41 mg/kg total PCB concentration, regardless of whether the concentration is generated from congener analysis or from Aroclor analysis. A review of the RI data indicates that all concentrations of PCBs in Gowanus Canal surface sediments are well below 41 mg/kg – the highest reported surface sediment concentration of total PCB congeners was 8.13 mg/kg at location 313,[60] and the highest reported surface sediment concentration of total PCB Aroclors was 3.4 mg/kg at location 314.[61]

Based on the comparison of PCB concentrations in Gowanus Canal surface sediments to the site-specific risk-based criterion determined by ENVIRON, it is clear that PCB concentrations in the Gowanus Canal are not toxic to benthic organisms. The RAO for benthic toxicity should therefore be revised in the ROD to eliminate any reference to PCBs.

III. EPA Did Not Comply with the Requirements of the NCP in its Development of the RAOs for PCBs

The NCP[62] is the blueprint for remedial actions under CERCLA, providing both a framework and specific provisions for responding to releases of hazardous substances. It establishes procedures and standards for conducting the investigation, study, and remediation of such releases. The framework emphasizes a measured process of: characterizing the nature and extent of the hazardous substance releases; assessing the risks posed by such releases, and the

[60] RI, Table I-5A. Table 5-5 of the ERA erroneously indicates that the maximum concentration of total PCB congeners was 15.1 mg/kg, reported at location 314. However, Table I-5A of the RI shows that the concentration of total PCB congeners in duplicate samples at location 314 were 4.03 mg/kg and 6.8 mg/kg, respectively. In any event, the erroneously reported value of 15.1 mg/kg for location 314 is still well below the site-specific criterion of 41 mg/kg.

[61] RI, Table I-4A; ERA, Table 5-5.

[62] 40 CFR Part 300.

need for response; and developing and selecting a remedy to address those hazardous substances that pose an unacceptable risk to human health or the environment.

The NCP sets forth the requirements that govern the conduct of the remedial investigation, the conduct of the feasibility study, and the selection of the remedy. However, EPA did not follow those requirements in its development of the RAOs for PCBs at this site. Accordingly, those RAOs should not be included in the ROD.

A. EPA did not comply with the NCP requirements for remedial investigations

The NCP sets out the purpose and requirements for the conduct of the remedial investigation, and provides in pertinent part as follows:

> The purpose of the remedial investigation (RI) is to collect data necessary to adequately characterize the site for the purpose of developing and evaluating effective remedial alternatives.. . .The RI provides information to assess the risks to human health and the environment and to support the development, evaluation, and selection of appropriate response alternatives.. . .The lead agency shall. . .gather data necessary to assess the extent to which the release poses a threat to human health or the environment.[63]

The NCP also contemplates that "estimates of actual or potential exposures and associated impacts on human and environmental receptors may be refined throughout the phases of the RI."[64]

Neither the SPP nor any of the underlying documents in the administrative record – either individually or in the aggregate – appropriately completed this process in order to support the development of the two RAOs for PCBs. In particular, and as discussed in detail above, the deficiencies include the following:

- EPA failed to collect sufficient information regarding PCB concentrations in fish tissues.
- EPA failed to refine its exposure estimates to reflect more realistic assumptions regarding both overall, and species-specific, fish and shellfish consumption rates.
- EPA failed to properly assess the risks to human health posed by consumption of fish and crabs from the Gowanus Canal.
- EPA failed to demonstrate a nexus between PCB concentrations in Gowanus Canal surface sediments and PCB concentrations in fish tissue.
- EPA failed to show that reductions in PCB concentrations in Gowanus Canal surface sediments will result in reductions in fish tissue concentrations.
- EPA failed to show that PCB concentrations in Gowanus Canal surface sediments are statistically higher than in reference area surface sediments.

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[63] 40 CFR § 300.430(d)(1) and (2).
[64] 40 CFR § 300.430(d)(1).

- EPA failed to refine its initial determination of potential impacts on benthic toxicity that were based only on a screening value for PCBs.
- EPA failed to determine whether PCB concentrations in Gowanus Canal surface sediments are, or are not, toxic to benthic organisms.

In short, it is clear that EPA did not "collect data necessary to adequately characterize the site" with respect to PCB concentrations in Gowanus Canal surface sediments, nor did it "gather data necessary to assess" the extent to which those PCB concentrations pose a threat to human health or the environment. Further, the information in the RI is clearly not sufficient "to support the development, evaluation, and selection of appropriate response alternatives" that are based on a proper assessment of risks posed by PCB concentrations in Gowanus Canal surface sediments. Because of these shortcomings, the two RAOs for PCBs should not be included in the ROD for this site.

B. EPA did not comply with the NCP requirements for feasibility studies

The NCP establishes requirements for the feasibility study, and states that its primary objective is "to ensure that appropriate remedial alternatives are developed and evaluated such that relevant information concerning the remedial action options can be presented to a decision-maker and an appropriate remedy selected."[65] In support of that effort, the NCP directs the lead agency to:

> Establish remedial action objectives specifying contaminants and media of concern, potential exposure pathways, and remediation goals. . . . Remediation goals shall establish acceptable exposure levels that are protective of human health and the environment.[66]

The NCP also provides that "preliminary remediation goals" (PRGs) should be developed based on readily available information and then "modified, as necessary, as more information becomes available during the RI/FS."[67] In addition, the development and screening of remedial alternatives are to be guided by three criteria: effectiveness, implementability, and cost.[68]

As with the RI, EPA did not follow the requirements of the NCP for a feasibility study in its development of the two RAOs for PCBs.

With respect to the RAO based on health risks from PCBs, EPA has not established a PRG with "acceptable exposure levels that are protective of human health." Indeed, EPA has admitted that it is impossible to do so, because PCB contamination in fish is a regional problem, reflecting cumulative uptake from a broad foraging area: "If the canal is cleaned up to similar concentrations as the reference area, the fish tissue will still pose a risk. While *the concentration*

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[65] 40 CFR § 300.430(e)(1).
[66] 40 CFR § 300.430(e)(2)(i).
[67] *Ibid.*
[68] 40 CFR § 300.430(e)(7).

may not be protective, it is the best that can be achieved."[69] This falls far short of meeting the effectiveness criterion of the NCP.

Because EPA anticipates that the preferred remedy will be ineffective and that there will continue to be "unacceptable human health risk associated with the consumption of PCB-contaminated fish and shellfish after the remedy is implemented,"[70] the SPP retains the current, long-standing fish advisory as an institutional control. Clearly, that is the only response action that will effectively address this exposure pathway, and nothing in the administrative record suggests that any other remedial alternative would meet the effectiveness criterion of the NCP.

With respect to the RAO based on ecological risks of PCBs at this site, the deficiency is even more glaring. EPA did not establish any PRG that would "establish acceptable exposure levels that are protective" of benthic organisms. EPA essentially takes the position that it doesn't have to do so, because all of the soft sediment will be removed to address the benthic toxicity of PAHs – and since the PCBs "co-occur" in the soft sediment with PAHs, they will be removed as well. While this "along for the ride" rationale may be appealing, it is an insufficient basis for establishing an RAO under the NCP, particularly where EPA has failed to address the threshold issue of whether PCB concentrations in Gowanus Canal sediments are, or are not, toxic to benthic organisms. PCBs therefore must not be included in the RAO that addresses benthic toxicity.

* * *

In summary, EPA has failed to comply with the requirements of the NCP for remedial investigations, and for feasibility studies, in its development of the RAOs for PCBs at the Gowanus Canal site. Consequently, the RAOs for PCBs should not be included in the ROD.

Conclusion

Nothing in the administrative record supports the assertion that the low levels of PCBs in Gowanus Canal surface sediments are in any way risk drivers for the preferred remedy, which addresses PAH and NAPL contamination. There is no statistically significant difference between total PCB congener concentrations in Gowanus Canal surface sediments and total PCB congener concentrations in reference area surface sediments, and the PCB concentrations in Gowanus Canal surface sediments have not been shown to be toxic to benthic organisms.

Nevertheless, EPA proposes two remedial action objectives based on PCB concentrations in Gowanus Canal surface sediments. The first RAO addresses the potential contribution of PCBs to fish and shellfish that may forage in the Gowanus Canal, and states that the goal is to reduce PCB concentrations in Gowanus Canal sediments to levels "within the range" of reference area concentrations. There are several problems with this approach. EPA has not demonstrated that PCBs in Gowanus Canal surface sediments actually contribute to PCBs in fish tissue, or that reducing surface sediment concentrations of PCBs will reduce tissue

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[69] Responses to NRRB/CSTAG (at 14, emphasis added).
[70] SPP (at 31).

concentrations of PCBs. Moreover, even if those assumptions were correct, no action would be required to achieve EPA's stated goal, because there is no statistically significant difference between the PCB concentrations in Gowanus Canal surface sediments and in reference area surface sediments.

More importantly, EPA indicates that even if the preferred remedy achieves the RAO, it will not reduce to acceptable levels the risks from consumption of PCB-contaminated fish and shellfish. Indeed, because concentrations of PCBs in fish tissue reflect cumulative uptake from a broad foraging area, no remedy addressing Gowanus Canal surface sediments would be effective at doing so; reference area fish and shellfish would continue to have unacceptably high levels of PCBs in their edible tissues following any such action. The only measure that would effectively address the exposure pathway from fish consumption, and the only measure that is needed, is continuation of the existing institutional control.

In these circumstances, the RAO based on this exposure pathway is not well conceived. Many of its underlying assumptions are not supported in the administrative record, and the RAO was not developed in compliance with the requirements of the NCP. For all of these reasons, that RAO should not be included in the ROD for this site.

The second RAO addresses the potential benthic toxicity of PCBs. EPA's development of that RAO began with an incorrect assumption, and ended prematurely without proper analysis. At the outset, EPA used two criteria to identify contaminants as potential contributors to benthic toxicity. The first criterion was whether concentrations of a contaminant in Gowanus Canal surface sediments "were statistically higher than reference area concentrations." EPA concluded that PCBs met that criterion, when in fact there is no statistically significant difference between total PCB congener concentrations in Gowanus Canal surface sediments and total PCB congener concentrations in reference area surface sediments.

The second criterion used to identify PCBs as a COC for benthic toxicity was the fact that the PCB concentrations in Gowanus Canal surface sediments slightly exceeded a risk-based screening level. However, instead of taking the scientifically-required next step – namely, conducting more refined analyses to determine, on a site-specific basis, whether the PCB concentrations in Gowanus Canal surface sediments were in fact toxic to the benthic community found there – EPA stopped the process. Without any further support, EPA simply concluded that benthic toxicity due to PCBs had already been established, when in fact it had not been. Indeed, had EPA evaluated the scientific literature and the available site-specific data regarding PCB homologues and TOC concentrations, it would have reached the opposite conclusion.

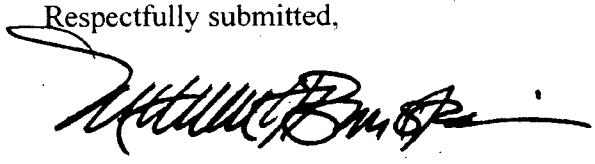
EPA glosses over these shortcomings by saying, in effect, that it doesn't really matter – all of the soft sediments will be removed to address EPA's concerns about the benthic toxicity of PAHs, and since the PCBs "co-occur" with the PAHs, they will be removed as well. But under that reasoning, where the PCBs are merely "along for the ride," they cannot be fairly characterized as a risk driver for the remedial element that will address benthic toxicity. EPA cannot have it both ways: either it must make an affirmative determination about the site-

specific benthic toxicity of the low levels of PCBs in Gowanus Canal surface sediments, or it must delete any reference to PCBs in the RAO. Because there is nothing in the administrative record that would support a finding of site-specific benthic toxicity, the RAO should therefore be revised to eliminate the reference to PCBs.

* * *

For all of the reasons set out in these comments, Con Edison respectfully submits that the RAOs identified in the SPP should be modified in the ROD. Specifically, the RAO addressing PCB levels in fish and shellfish should be eliminated in its entirety, and the RAO addressing toxicity to benthic organisms should be revised to eliminate any reference to PCBs.

Respectfully submitted,



Mitchell H. Bernstein

Attachments:

Appendix A, "Comparison of PCB Congener Concentrations in Surface Sediments in Gowanus Canal and in Reference Area"

Appendix B, "Development of a Site-Specific Risk-Based Criterion for PCBs in Gowanus Canal Surface Sediments"

cc: Brian E. Carr, Esq.

Appendix A

Comparison of PCB Congener Concentrations in Surface Sediments in Gowanus Canal and in Reference Area

ENVIRON

Appendix A – Comparison of PCB Congener Concentrations in Surface Sediments in Gowanus Canal and in Reference Area

Description of the available data sets

The RI Report provides concentration data for PCBs in surface sediments within the Gowanus Canal and in the reference area; PCB data from both areas were generated by two different laboratory methods.[1] All of the surface sediment samples collected by USEPA in 2010 (31 samples collected at 27 locations in the Gowanus Canal and 10 samples collected at 10 locations in the reference area) were analyzed for PCB Aroclors. In addition, 23 of the Gowanus Canal surface sediment samples (collected at 19 of the 27 locations) and 3 of the reference area surface sediment samples (collected at 3 of the 10 locations) were analyzed for PCB congeners. The RI report does not identify any earlier investigations of conditions in the Gowanus Canal and reference area that involved analysis of surface sediment samples for PCB Aroclors and congeners.

PCB Aroclors were detected in only 13 surface sediment samples collected at Gowanus Canal locations (at 10 of the 27 locations), and PCB Aroclors were not detected in any of the surface sediment samples collected at the 10 reference area locations. Thus, the available data set for PCB Aroclors in surface sediments in the Gowanus Canal and the reference area is composed primarily of non-detects (i.e., heavily censored[2]); actual measurements of the levels of PCBs in surface sediments are available for only 13 of the total of 41 samples, taken from only 10 of the total of 37 sampling locations. The results of the Aroclor analysis for the other 28 samples collected at the remaining 27 locations were all non-detects. The reported detection limits (which vary from sample to sample) should be interpreted as upper limits on the actual PCB

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[1] Table I-4A of the RI Report lists data obtained by analyzing surface sediment samples for PCB Aroclors, and Table I-5A of the RI Report lists data obtained by analyzing surface sediment samples for PCB congeners.

[2] Page 130 of the USEPA guidance document titled *Data Quality Assessment: Statistical Methods for Practitioners* (EPA/240/B-06/003, USEPA 2006) says "Data that includes both detected and non-detected results are called censored data in the statistical literature."

concentrations in these samples, which were too low to be measured accurately by the method used to analyze these samples for PCB Aroclors.

By contrast, PCB congeners were detected in all 26 of the surface sediment samples that were analyzed for PCB congeners (23 from the Gowanus Canal and 3 from the reference area), although not all congeners were detected in each sample. The 26 samples analyzed for congeners were collected at 19 of the 27 Gowanus Canal surface sediment sampling locations and at 3 of the 10 reference area surface sediment sampling locations. Thus, compared to the Aroclor analysis, the PCB congener analysis provides measured values for a larger number of sampling locations both in the Gowanus Canal and in the reference area.

The RI Report does not explain why only 3 of the 10 reference area surface sediment samples were analyzed for PCB congeners. Although the field documentation provided in Appendix D-02 of the RI Report indicates that samples for PCB congener analysis were collected at 1 additional location in the Gowanus Canal and 5 additional locations in the reference area, the RI Report does not provide congener data for those samples or explain why they were not analyzed for PCB congeners.

A review of the quality of the PCB congener data is provided in Appendix H of the RI Report. This review says 22 results (of a total of 4,394 results[3]) were rejected by the data validator due to serious QA/QC problems and are not usable as detects or non-detects for any purpose. These 22 rejected results are identified by an "R" flag in the table that presents the complete results of the PCB congener analysis (i.e., Table I-5A in Appendix I of the RI Report). The 22 R-flagged results occur in a total of 7 surface sediment samples, all collected from the Gowanus Canal.[4] Table I-5A provides 169 results for each sample,[5] including results for each of nine homologue parameters and a parameter identified as "Total PCB (Lab)". None of the 22 R-flags in Table I-5A are applied to results reported for the homologue parameters or the Total PCB (Lab) parameter; this indicates that all of the results reported for these parameters are usable.

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[3] The total number of results reported by the laboratory (4,394) is equal to 26 (the number of samples analyzed for PCB congeners) times 169 (the number of parameters addressed by the PCB congener analysis).

[4] The 7 samples qualified with R-flags for one or more PCB congeners are identified in Table 1.

[5] Although there are 209 PCB congeners, some results were reported for groups of congeners that co-elute in the laboratory procedure (e.g., PCB 12/13, PCB 40/41/71, etc.) rather than for individual congeners. All 209 PCB congeners are represented in the 169 results reported for each sample.

Inconsistencies in the data sets and analyses in the RI Report and the SPP

1. Although the results reported for the Total PCB (Lab) parameter in Table I-5A are usable, USEPA apparently calculated and used different values to represent total PCB congeners in some of the surface sediment samples. This is indicated on a page titled "Notes for Statistical Summary Tables" that follows RI Table 4-3. A note at the bottom of that page concerning calculation of total concentrations says, "Total PCB was calculated by summing either detected concentrations of PCB Aroclors, or detected concentrations of PCB congeners. If any constituent had a rejected, or "R"-flagged, result, a total value was not calculated for the sample."

As noted above, 7 of the 23 Gowanus Canal surface sediment samples had at least one R-flagged concentration; this suggests that USEPA calculated total PCB concentrations for the other 19 surface sediment samples (16 from the Gowanus Canal and 3 from the reference area) by "summing. . .detected concentrations of PCB congeners". Table 2.12 Supplement a (which is presented in an attachment to the HHRA) lists congener data and provides sums of the detected congeners for each of the 26 surface sediment samples analyzed for PCB congeners, but that table shows 43 R-flagged results affecting 8 samples; this is not consistent with Table I-5A or the information in Appendix H of the RI Report, which identify only 22 R-flagged results affecting 7 samples. Section 5.3.1 of the HHRA indicates that non-detected congeners and B-flagged congeners[6] were not included in the sums shown in Table 2.12 Supplement a, but no B-flagged results were listed in that table or in RI Table I-5A. In addition, the highest sum shown in Table 2.12 Supplement a (which is equivalent to 10.1 mg/kg[7]) does not match the maximum value of 15.1 mg/kg shown in some of the other tables in the RI Report (e.g., Table H-3.1 and H-3.12 of the attachment to the HHRA, and Table 3-2 and Table 5-5 of the ERA).

Because of these discrepancies, ENVIRON re-calculated the sum of the detected congeners for each surface sediment sample. The R-flagged results identified in Table I-5A were excluded from these calculations; the sums produced by these calculations are provided in Table 1. In addition, the statement that a total value was not calculated for the samples with at least one R-flagged concentration suggests that USEPA used the results reported in Table I-5A for the Total

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[6] Although B-flags are not discussed or applied to the PCB congener data in the Data Quality Evaluation presented in Appendix H of the RI Report, a B-flag is generally used to identify analytical results that are similar to the level of a chemical detected in related quality control blanks.

[7] The values reported in Table I-5A and some of the other tables discussed in this appendix are expressed in ng/kg. To simplify this appendix, all of these values are expressed in mg/kg in this discussion.

PCB (Lab) parameter to represent the total PCB concentrations in those 7 samples; those concentrations are also shown in Table 1.

2. The RI Report does not clearly identify the data that were used to represent total PCB congeners in each of the various analyses and tables presented in the body and appendices of that report. For example, the RI says "Data for PCB congeners that were used in support of the human health and ecological risk assessments are provided in Appendix I, Table I-5" (page 4-5). This statement suggests that USEPA used the results reported for the Total PCB (Lab) parameter in that table to represent the total PCB congener concentrations in surface sediments in the risk assessments. However, Table 5-5 of the ERA indicates that the maximum value for total PCB congeners is 15.1 mg/kg. This maximum value does not appear in Table I-5A; the highest concentration in that table is 8.13 mg/kg, reported for the Total PCB (Lab) parameter for the sample collected at station 313.

Although this discrepancy is not explained in the RI, ENVIRON has determined that the value of 15.1 mg/kg reported in ERA Table 5-5 is the sum of the detected congeners for one of the two samples collected at station 314. Rather than averaging the values for the two duplicate samples, USEPA apparently used only the maximum value in analyses of the total congener values. As a result, the maximum value reported for total PCB congeners in ERA Table 5-5 is nearly twice as high as the maximum concentration reported in Table I-5A, and is also associated with a different sampling location.[8]

3. For some of the surface sediment samples, the total PCB congener values calculated by summing the detected concentrations of congeners are considerably different from the values reported in Table I-5A for the Total PCB (Lab) parameter. Ratios that reflect this difference (calculated as the sum of congeners divided by the Total PCB (Lab) value) are nearly equal to 1 for 12 of the samples and less than 2 for all but 4 of the 26 samples; but the ratios for those 4 samples are much higher (9.8 for the sample collected at station 307A, 5.8 for the sample collected at station 319, 5.1 for the sample collected at station 326, and 3.7 for one of the two duplicate samples collected at station 314). Thus, the difference between the total PCB values calculated by summing the detected concentrations of congeners and the values reported for the Total PCB (Lab) parameter varies substantially from sample to sample.

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[8] Station 313 is in the middle reach of the Gowanus Canal, while station 314 is at the eastern end of the Sixth Street turning basin.

In light of this variation, it is not appropriate to represent the total PCB concentrations in the sediments of interest by the sum of the detected congeners at some locations and by the Total PCB (Lab) values at other locations.

4. Table 1 of the SPP indicates that one station with a total PCB level of 1.7 mg/kg was excluded in determining the range of total PCB levels in the reference area. Although not explained in the RI or in the SPP, ENVIRON has determined that this value is the sum of the detected congeners in the surface sediment sample collected at station 326; the Total PCB (Lab) parameter value reported in Table I-5A for this sample is 0.34 mg/kg. The FS Addendum reports (page 4 in *Supplemental Evaluation of Remediation Goals, Gowanus Canal, Brooklyn, New York*) "The sample from station 326 was not included in the reference area data set because the total PCB congener concentration was more than three times higher than the concentrations in the other reference area samples." Exclusion of valid data merely because the value is substantially higher than other values considered representative of the same area is contrary to USEPA guidance documents (e.g., USEPA 2006, *Data Quality Assessment: Statistical Methods for Practitioners*, QA/G-9S, EPA/240/B-06/003). In this particular case, there are only three samples available to represent the reference area; exclusion of the value for station 326 suggests that conditions throughout the reference area can be adequately represented by the values at the two remaining locations. But the value of 1.7 mg/kg calculated for station 326 is valid, and should not have been excluded from the reference area data set.

Methods and data sets used to compare total PCB levels (Gowanus Canal to Reference Area)

The RI Report indicates that total PCB concentrations in surface sediment in the Gowanus Canal are significantly higher than in surface sediment in the reference area. This conclusion is based on statistical analysis of the data produced by the Aroclor analysis. Table 4-5 of the RI Report shows the results of comparisons of levels in the Gowanus Canal surface sediments to levels in the reference area surface sediments performed using data for three Aroclors and total PCBs (by Aroclor analysis). According to that table, the statistical method used for all four comparisons is Gehan's test, rather than the Wilcoxon Rank Sum (WRS) test; as explained in the RI Report, "The WRS test was used when the detection frequency in each data set was at least 60 percent; otherwise, Gehan's test was used" (page 4-6). Based on these tests, USEPA concludes that the levels of Aroclor 1260 and total PCBs in the Gowanus Canal surface sediment are significantly higher than in the reference area surface sediment (RI page 4-6).

The total PCB levels in surface sediments in the Gowanus Canal and reference area can also be compared using the PCB congener data, which USEPA has acknowledged are superior to Aroclor data. For example, USEPA describes congener data as "more sensitive and accurate" than Aroclor data in the FS Addendum *(Preliminary Estimate of Solids Reduction Needed to Achieve Remediation Goals,* page 3); elsewhere, EPA explains that "congener-specific data offers a more comprehensive representation of the total PCB concentrations in a medium" than do Aroclor data (ERA, page 7-4).

Nevertheless, the congener data are not used in the RI Report to compare the total PCB levels in the Gowanus Canal surface sediments to levels in the reference area surface sediments. Congener data are available for 19 Gowanus Canal locations and 3 reference area locations, which compares favorably to the number of locations represented by measured values (i.e., uncensored data) in the Aroclor data set (only 10 in the Gowanus Canal and none in the reference area). Moreover, USEPA's failure to use congener data for that purpose is inconsistent with its reliance on congener data for the risk calculations presented in the HHRA and the ERA. Accordingly, the congener data also should have been used to investigate the potential differences in total PCB concentrations between the Gowanus Canal and the reference area.

Because the total PCB congener data are not censored, the comparison between PCB levels in the Gowanus Canal and the reference area can be performed using the WRS test as described in the USEPA guidance document named above (EPA QA/G-9S), rather than using Gehan's version of this test method. The earlier sections of this appendix describe several data sets that could be used to compare the total PCB congener levels in the Gowanus Canal to the levels in the reference area, and another data set is suggested by Appendix C to these comments. The three data sets used in this appendix are:

1. The laboratory data set: This data set is based on the values reported in Table I-5A for the Total PCB (Lab) parameter. To provide the best estimate of the total PCB concentration at each location, the locations with duplicate samples are represented in the WRS tests by the averages of the two values reported for the Total PCB (Lab) parameter.
2. The combination data set: Even though ENVIRON does not believe that it is appropriate to use combined data sets in the statistical comparisons, this data set was developed to be consistent with the page titled "Notes for Statistical Summary

Tables" that follows RI Table 4-3. It includes the values reported for the Total PCB (Lab) parameter for the 7 samples with R-flagged congener data; for all other samples, it includes the values calculated as the sums of detected congeners. Because USEPA apparently used the higher of each pair of duplicate sample results in some analyses (e.g., RI Table 6-1 and ERA Table 5-5), the locations with duplicate samples are represented in the WRS tests by the higher of the two sample values.

3. The normalized data set: As explained in Appendix C to these comments, the toxicity of PCBs in sediments to benthic organisms is determined in part by their bioavailability, which is closely related to the level of TOC in the sediments. The normalized data set was developed to represent the level of total PCBs per gram of organic carbon in the sediments at each location. These normalized values were calculated by dividing the values in the laboratory data set (i.e., the values for the Total PCB (Lab) parameter) by the total organic carbon (TOC) values provided for each location in RI Table I-7. To provide the best estimate of the normalized PCB concentration at each location, the locations with duplicate samples are represented in the WRS tests by the averages of the two normalized values.

Only the values in the laboratory data set were found in the RI Report, so the remaining values used for the combination data set were calculated by ENVIRON by summing the results reported for the congeners and co-eluting groups in Table I-5A. The values used to prepare all three data sets are provided in Table 1.

This appendix presents the comparisons performed using the WRS test with all three data sets. As explained above, USEPA excluded the total PCB congener value for station 326 from the data used to represent conditions in the reference area without sufficient justification. Nevertheless, each of the three data sets (the laboratory data set, the combination data set, and the normalized data set) was analyzed both with and without station 326. Thus, six WRS tests are shown in Table 2. Each test was performed at a 5% level of significance with a one-sided region of rejection. The notation and nomenclature used in Table 2 are consistent with the USEPA guidance document cited previously (EPA QA/G-9S).

Results of the comparisons

All six of the WRS tests summarized in the attached table show that there is no statistically significant difference between the mean values of the populations represented by the data.

Contrary to the characterization presented in the RI Report, this shows that the average concentration of total PCBs in the Gowanus Canal surface sediments is not significantly higher than the average concentration of total PCBs in the reference area surface sediments. The RI conclusion was based on a heavily-censored Aroclor data set that does not include any actual measurements in the reference area sediment samples, whereas the conclusion drawn here is based on a congener data set that provides actual measurements for both the Gowanus Canal sediment samples and the reference area sediment samples.

In addition, the comparisons using the normalized data set demonstrate that much of the apparent difference in total PCB levels in surface sediments between the Gowanus Canal and the reference area is due to differences in the levels of organic carbon. Application of the WRS test to the TOC data in Table I-7 of the RI indicates that there is a statistically significant difference between the average TOC level in the Gowanus Canal surface sediments and the average TOC level in the reference area surface sediments. The normalized total PCB concentrations account for this difference in TOC, and the results of the WRS tests performed with the normalized data set indicate that the normalized concentrations of PCBs in the Gowanus Canal surface sediments are not significantly higher than the normalized concentrations in the reference area.

Finally, the same conclusion is supported by analyzing the normalized data set using rank as the metric. When the normalized total PCB concentrations in Table 1 are ranked from lowest to highest, the ranks assigned to the normalized PCB concentrations for the three reference area locations are 3, 10, and 13 (out of 22) when station 326 is included; without that station, the two reference area ranks are 9 and 12 (out of 21). These ranks are not distinctly different than the ranks assigned to the Gowanus Canal locations.

TABLE 1
Alternative values for total PCB congeners in 26 surface sediment samples

Sampling location	Area	Sample type[1]	Laboratory data set[3] (mg/kg)	Sum of detected congeners[4] (mg/kg)	Combination data set[5] (mg/kg)	Normalized data set[6] (µg/gOC)
301	canal	N	0.0995	0.099	0.099	3.96
303	canal	N	0.765	0.765	0.765	10.5
305	canal	N	0.625	0.639	0.639	9.65
307A	canal	N	0.0678	0.667	0.667	1.58
307B	canal	N	0.616	0.618	0.618	11.3
308A	canal	N[2]	1.75	2.81	1.75	46.4
308A	canal	FD[2]	2.29	2.96	2.29	60.7
308B	canal	N	0.465	0.465	0.465	8.94
309	canal	N[2]	0.696	0.696	0.696	15.5
310	canal	N	2.15	2.15	2.15	22.7
312	canal	N	1.10	1.10	1.10	18.1
313	canal	N[2]	8.13	8.13	8.13	59.3
314	canal	N	4.03	15.1	15.1	37.0
314	canal	FD	6.80	10.1	10.1	62.4
315	canal	N[2]	4.77	8.32	4.77	58.3
315	canal	FD	5.42	8.06	8.06	66.3
318	canal	N[2]	4.07	4.39	4.07	42.9
319	canal	N	0.473	2.74	2.74	9.59
320	canal	N	1.25	1.70	1.70	26.7
321	canal	N	0.623	1.06	1.06	12.2
324	canal	N	1.10	1.10	1.10	31.4
324	canal	FD	0.345	0.628	0.628	9.86
325	canal	N[2]	0.380	0.676	0.380	14.3
326	reference	N	0.341	1.74	1.74	7.86
330	reference	N	0.466	0.466	0.466	13.5
333	reference	N	0.476	0.477	0.477	18.0

[1] Sample type as provided in Table I-5A of the RI to identify duplicate samples

[2] Samples with R-flagged results

[3] Values reported for the Total PCB (Lab) parameter in Table I-5A of the RI

[4] Calculated by ENVIRON from results reported in Table I-5A of the RI; R-flagged results were excluded

[5] Samples with R-flagged results are represented by the Total PCB (Lab) value; all other samples are represented by the sum of detected congeners

[6] Ratio of Total PCB (Lab) to total organic carbon content from Table I-7 of the RI

TABLE 2
Comparison of total PCB concentrations in surface sediments in the Gowanus Canal and the reference area using Wilcoxon Rank Sum tests

Test number	1	2	3	4	5	6
data set	laboratory	laboratory	combination	combination	normalized	normalized
value used for duplicate sample locations	average	average	maximum	maximum	average	average
status of station 326	included	excluded	included	excluded	included	excluded
number of locations in the reference area (m)	3	2	3	2	3	2
number of locations in the Gowanus Canal (n)	19	19	19	19	19	19
ranks of reference area locations	3, 6, 8	5, 7	4, 5, 15	4, 5	3, 10, 13	9, 12
sum of the reference area ranks (R_1)	17	12	24	9	26	21
Step 1: null hypothesis	H_0: $\mu_{RA}-\mu_{GC}=0$	H_0: $\mu_{RA}-\mu_{GC}=0$	H_0: $\mu_{RA}-\mu_{GC}=0$	H_0: $\mu_{RA}-\mu_{GC}=0$	H_0: $\mu_{RA}-\mu_{GC}=0$	H_0: $\mu_{RA}-\mu_{GC}=0$
Step 2: alternative hypothesis	H_A: $\mu_{RA}-\mu_{GC}<0$	H_A: $\mu_{RA}-\mu_{GC}<0$	H_A: $\mu_{RA}-\mu_{GC}<0$	H_A: $\mu_{RA}-\mu_{GC}<0$	H_A: $\mu_{RA}-\mu_{GC}<0$	H_A: $\mu_{RA}-\mu_{GC}<0$
Step 3: value of the test statistic (W_0)	11	9	18	6	20	18
Step 4: critical value (W_α) for $\alpha = 0.05$	10	4	10	4	10	4
Step 5: compare W_0 to W_α	$W_0 > W_\alpha$	$W_0 > W_\alpha$	$W_0 > W_\alpha$	$W_0 > W_\alpha$	$W_0 > W_\alpha$	$W_0 > W_\alpha$
Conclusion	do not reject H_0	do not reject H_0	do not reject H_0	do not reject H_0	do not reject H_0	do not reject H_0

Appendix B

Development of a Site-Specific Risk-Based Criterion for PCBs in Gowanus Canal Surface Sediments

ENVIRON

Appendix B – Development of a Site-Specific Risk-Based Criterion for PCBs in Gowanus Canal Surface Sediments

Introduction

The Superfund Proposed Plan (SPP) for the Gowanus Canal Superfund Site includes the following Remedial Action Objective (RAO) related to PCBs in sediments:

> "Reduce the risks to benthic organisms in the canal from direct contact with PAHs, PCBs and metals in the sediments by reducing sediment toxicity to levels that are comparable to reference conditions in Gowanus Bay and Upper New York Bay."

PCBs are included in this RAO because the Ecological Risk Assessment (ERA) suggests that PCBs in Gowanus Canal surface sediments may contribute to adverse effects on the benthic community. This suggestion is based on a comparison of the concentrations of PCBs in Gowanus Canal surface sediment samples to screening values reported in the scientific literature.

The ERA indicates that the levels of PCBs in the Gowanus Canal surface sediments were evaluated by comparing the total PCB concentrations measured in samples of those sediments to two sets of screening criteria. In the first (screening-level) comparison, total PCB concentrations determined by congener analysis (total PCB congeners) were compared to a criterion of 0.0598 mg/kg attributed to MacDonald et al. (2000).[1] The criteria provided in MacDonald et al. (2000) were developed for freshwater ecosystems, not for estuarine waterways such as the Gowanus Canal, and are not specific to either Aroclor or congener data. The concentrations of each of four individual Aroclors and total PCBs determined by Aroclor analysis were compared to a criterion of 0.0227 mg/kg established by the New York State

[1] The criterion applied to the total PCB congener data is listed in Table 3-5 of the ERA as 59800 ng/kg (which is equivalent to 0.0598 mg/kg) and that table lists "MacDonald et al. (2000)" as the source of this criterion. The ERA reference list does not include an entry that corresponds to MacDonald et al. (2000). The source publication for the 59800 ng/kg criterion is listed as MacDonald, Ingersoll, and Berger (2000) in the reference section of this appendix.

Department of Environmental Conservation (NYSDEC) for total PCBs.[2] Table 3-2 of the ERA indicates that these initial screening-level criteria for both congeners and Aroclors were exceeded by the total PCB concentrations in the Gowanus Canal surface sediment samples, and section 4.1.1 of the ERA (page 4-1) indicates that PCB congeners and three PCB Aroclors were identified as chemicals of potential concern (COPCs) on the basis of this screening-level comparison.

According to section 5.2.1 of the ERA (pages 5-6 and 5-7), the PCB concentrations in the Gowanus Canal surface sediments were evaluated further by a two-step process. The first step involved calculating and comparing the 95% upper confidence limits for the mean concentrations to the screening-level criteria (0.0598 mg/kg for total PCB congeners and 0.0227 mg/kg for total PCBs by Aroclor analysis). Chemicals that were identified as chemicals of concern (COCs) by this step are identified in ERA Table 5-5, which lists four PCB Aroclors, total PCBs, and total PCB congeners as COCs. These COCs were evaluated further by comparing the reported concentrations to less conservative baseline criteria, which are listed in Table 5-6 of the ERA (0.676 mg/kg for total PCB congeners and 0.180 mg/kg for total PCBs by Aroclor analysis). Based on this comparison, the ERA includes PCBs in the following statement (page 6-5) "Chemical analysis indicates the presence of organic chemicals (primarily PAHs and PCBs) and metals in sediment at concentrations that are likely to be causing the adverse effects observed in the sediment bioassays."[3]

Because none of the screening values for PCBs used in the ERA account for site-specific conditions, PCB concentrations that exceed those screening values do not establish that the levels of PCBs in the Gowanus Canal sediments are toxic to benthic invertebrates. The purpose of this paper is therefore to develop a site-specific risk-based criterion that can be used to make such a determination.

The site-specific risk-based criterion derived in this appendix is applicable to total PCB concentration data generated by either congener analysis or Aroclor analysis. Congener and Aroclor analyses are different ways of measuring the levels of the same chemical compounds (i.e., the 209 PCB congeners). Differences in total PCB concentrations determined by these

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[2] The criterion applied to the PCB Aroclor data and attributed to NYSDEC (1999) in Table 3-5 of the ERA corresponds to the ER-L ("Effects Range – Low") value for marine and estuarine sediments published in Long et al. (1995).

[3] Note, however, that Table 7 of the SPP indicates that USEPA considers the screening-level criterion of 0.0598 mg/kg for total PCB congeners to be the critical criterion for protection of the benthic community. As indicated earlier, this criterion was developed for protection of freshwater ecosystems.

methods reflect uncertainty (imprecision) in the analytical measurements. The site-specific risk-based criterion is based on the organic carbon content of the Gowanus Canal surface sediments and the PCB composition of those sediments as determined by the distribution of congener homologues, and it can therefore be used to evaluate data generated by either congener or Aroclor analysis.

Basis for the site-specific risk-based criterion for PCBs

The site-specific risk-based criterion for evaluating potential PCB risks to the benthic invertebrate community in the Gowanus Canal is based on analysis described by Fuchsman et al. (2006). These authors identified and reviewed the types of evidence that can be used to characterize cause-effect, concentration-response relationships between PCB concentrations in sediment and effects on benthic invertebrates. The three lines of evidence used to derive the site-specific risk-based criterion for the Gowanus Canal involve application of the equilibrium partitioning method, spiked sediment toxicity test results, and biological data from contaminated sediment sites where PCBs are the primary chemicals of interest.

Equilibrium partitioning

The equilibrium partitioning analysis described by Fuchsman et al. (2006) involved (1) characterizing aquatic (water-only) toxicity of PCBs based on data from extensive controlled experiments, (2) characterizing partitioning of PCBs between sediment particles and pore water, and (3) identifying sediment concentrations that would correspond to safe concentrations of PCBs in sediment pore water. A number of publications have demonstrated that pore water concentrations of hydrophobic organic compounds provide substantially better predictions of sediment toxicity than bulk sediment concentrations (USEPA 2003, Di Toro et al. 1991, Kraaij et al. 2003, McDonough et al. 2010). Fuchsman et al. (2006) proposed alternative sediment quality benchmarks based on this approach. These benchmarks range from 210 to 5,300 micrograms of PCBs per gram organic carbon (µg/gOC), depending on the composition of the PCB mixture, with more highly chlorinated mixtures being less bioavailable and having higher sediment benchmarks. The range of the benchmark values corresponds to PCB concentration ranges of 2.1 to 53 mg/kg dry weight for sediment containing 1% organic carbon, and 12.6 to 318 mg/kg dry weight for sediment containing 6% organic carbon. According to Table 3-1 of the draft Remedial Investigation (RI) Report, the average total organic carbon content of the Gowanus Canal surface sediments is 6.4%.

Spiked sediment toxicity tests

Spiked sediment toxicity tests are controlled experiments that provide direct measurements of chemical toxicity in sediment. Such studies provide valuable cause-effect data, although toxicity thresholds may be unrealistically low (overly conservative) due to slow sorption processes, especially if the study design does not incorporate a stabilization period to allow chemical partitioning to approach equilibrium. Of nine spiked sediment studies with PCBs, most showed no adverse effects at any test concentration, with no-effect concentrations ranging from 81 to 2,560 µg/gOC for PCB mixtures and up to 50,000 µg/gOC for individual PCB congeners. These concentrations correspond to PCB concentrations ranging from 0.81 to 25.6 mg/kg dry weight assuming 1% organic carbon, or from 4.9 to 154 mg/kg dry weight assuming 6% organic carbon. Toxicity was only observed in certain studies that did not incorporate a sediment equilibration period. The lowest PCB concentration associated with toxicity was from DiPinto et al. (1993), who observed reduced copepod reproduction at 100 µg/gOC; this result was not reproducible in a duplicate experiment, however, and the study did not incorporate an equilibration period. The available results of spiked sediment toxicity tests with PCBs are thus generally consistent with the equilibrium partitioning benchmarks described above.

Biological data from contaminated sediment sites

Fuchsman et al. (2006) also reviewed sediment toxicity test and benthic invertebrate community studies for eight contaminated sediment sites where PCBs were the major contaminants of concern. This review provided a "reality check" for the equilibrium partitioning evaluation developed in that paper, and for published sediment screening values. The results were generally consistent with the equilibrium partitioning benchmarks for PCBs and inconsistent with the various sediment screening values used in the Gowanus Canal ERA. Specifically, no-effect concentrations for benthic invertebrates at "PCB sites" generally ranged from 70 to 1,000 µg/gOC, with a lack of toxicity observed at even higher PCB concentrations at one site contaminated with unusually highly chlorinated PCBs. These concentrations correspond to PCB concentrations ranging from 0.70 to 10 mg/kg dry weight assuming 1% organic carbon. By comparison, Table 7 of the SPP indicates that the critical criterion for protection of the benthic community in the Gowanus Canal is 0.0598 mg/kg for total PCBs. Thus, even assuming an organic carbon content that is much lower than the average for surface sediments in the Gowanus Canal, the concentrations associated with no toxicity at PCB sites are more than an order of magnitude higher than the screening criterion considered critical by USEPA.

Derivation of the site-specific risk-based criterion for PCBs

The equilibrium partitioning approach (DiToro et al. 1991) uses the sediment-specific mass fraction of organic carbon content (f_{oc}) and the chemical-specific partitioning coefficient between water and organic carbon (K_{oc}) to calculate equilibrium-partitioning sediment-quality benchmarks (ESBs) from water quality values (WQVs) as follows:

$$\text{ESB (mg/kg)} = \text{WQV (mg/L)} \times K_{oc}\text{ (L/kgOC)} \times f_{oc}\text{ (kgOC/kg sediment)}$$

Dividing both sides of this equation by f_{oc} expresses the ESB in units of milligrams per kilogram organic carbon (mg/kgOC), which are equivalent to micrograms per gram organic carbon (µg/gOC):

$$\text{ESB (µg/gOC)} = \text{ESB (mg/kgOC)} = \text{WQV (mg/L)} \times K_{oc}\text{ (L/kgOC)}$$

Fuchsman et al. (2006) developed a water quality value for total PCBs of 0.54 µg/L (equal to 0.00054 mg/L) using USEPA methodology for developing chronic aquatic life water quality criteria. This water quality value is based on acute (i.e., short term) aquatic toxicity data for 21 invertebrate species and acute-to-chronic ratios (to estimate long-term toxicity thresholds) for 3 invertebrate species. These data represented a comprehensive literature review for Aroclor 1254 toxicity to aquatic and benthic invertebrates (Fuchsman et al. 2006). The invertebrate water quality value is higher than USEPA's ambient water quality criterion of 0.014 µg/L because the USEPA criterion is calculated from a fish tissue PCB concentration for the protection of wildlife, whereas the invertebrate water quality value is based on aquatic toxicity data (USEPA 1980).

The K_{oc} value for total PCBs in Gowanus Canal surface sediments depends on the site-specific composition of PCB mixtures in the sediments. Fuchsman et al. (2006) provide a methodology to estimate the total PCB K_{oc} value based on the distribution of PCB concentrations among different levels of chlorination (homologues). The K_{oc} value for each homologue is assumed to be approximately equal to the octanol-water partition coefficient (K_{ow}); for reasons explained by Fuchsman et al. (2006), this is generally a conservative assumption.[4] The K_{ow} value for the PCB mixture can be calculated based on the distribution of PCB concentrations among different levels of chlorination (homologues) as follows:

[4] A more conservative approach to estimating K_{oc} will result in a lower site-specific risk-based criterion.

$$K_{ow-\text{Total PCB}} = \frac{1}{\sum_{n=1}^{i} \frac{f_{\text{homologue i}}}{K_{ow-\text{homologue i}}}}$$

where $K_{ow\text{-Total PCB}}$ represents the overall K_{ow} for the PCB mixture, $f_{\text{homologue i}}$ represents the fraction of PCB mixture consisting of homologue *i*, and $K_{ow\text{-homologue i}}$ is the K_{ow} for homologue *i*.

The derivation of the site-specific risk-based criterion for PCBs from the relative proportion of the total PCB concentration represented by each PCB homologue in Gowanus Canal surface sediment (as identified in the RI Report, Table I-5A) is shown in Table 1. The PCB composition of Gowanus Canal surface sediments results in a site-specific sediment ESB of 641 µg/gOC. This site-specific benchmark lies near the high end of the range of default benchmarks developed by Fuchsman et al. (2006) because the PCBs in Gowanus Canal surface sediments are relatively highly chlorinated. Based on an average total organic carbon concentration of 6.4% in the Gowanus Canal surface sediments, the site-specific risk-based criterion for PCBs in those sediments is 41 mg/kg. Because this criterion was derived from the proportion of total PCBs found in each homologue group in the Gowanus Canal surface sediments, it is applicable to total PCB concentration data generated either by congener analysis or by Aroclor analysis.

TABLE 1

Calculation of a site-specific risk-based criterion for PCB toxicity to benthic organisms in surface sediments in the Gowanus Canal

PCB homologue	average percentage of total PCBs in sediments (100 x $f_{homologue}$)	homologue $\log_{(10)} K_{ow}$	homologue K_{ow}	ratio ($f_{homologue}$ / K_{ow})
Monochlorobiphenyl	0.15	4.64	43652	3.36E-08
Dichlorobiphenyl	2.49	5.12	131826	1.89E-07
Trichlorobiphenyl	15.18	5.62	416869	3.64E-07
Tetrachlorobiphenyl	15.40	6.04	1096478	1.40E-07
Pentachlorobiphenyl	22.44	6.49	3090295	7.26E-08
Hexachlorobiphenyl	20.57	6.84	6918310	2.97E-08
Heptachlorobiphenyl	11.42	6.98	9549926	1.20E-08
Octachlorobiphenyl	2.76	7.72	52480746	5.27E-10
Nonachlorobiphenyl	5.03	8.24	173780083	2.90E-10
Decachlorobiphenyl	4.57	8.26	181970086	2.51E-10
sum of percentages:	100.00		sum of ratios:	8.42E-07
			K_{ow} for total PCBs:	1187637
			common log of K_{ow} for total PCBs:	6.07
			Water Quality Value (mg/L):	0.00054
			Sediment Quality Benchmark (µg/gOC):	641
			Total Organic Carbon (g/kg):	64.385
			site-specific criterion for total PCBs (mg/kg):	**41**

notes:

1. Methodology, homologue log(10) Kow values, and Water Quality Value are from Fuchsman et al. (2006)
2. The average percentage of total PCBs for each homologue is calculated from the the homologue concentrations in Table I-5A of the Remedial Investigation report
3. Total organic carbon is the average for Gowanus Canal surface sediments as reported in Table 3-1 of the Remedial Investigation Report

Comparison of total PCB data for surface sediments to the site-specific criterion

The total PCB measurements generated by both Aroclor and congener analyses of surface sediment samples collected in the Gowanus Canal and the reference area are listed in Table 2. Values are provided for each sampling location for which a measured value is available; locations at which the only analytical results are non-detects are not shown. The values reported for locations with duplicate samples are averages of the results from each analysis. The values for total PCB congeners are the "Total PCB (Lab)" values in Table I-5A of the RI Report; for locations with duplicate samples, the "Total PCB (Lab)" values were averaged. The levels of total organic carbon (TOC) reported for each location are from Table I-7 of the RI Report.

The total PCB concentrations for each analysis are shown in mg/kg units; these values are all well below the site-specific risk-based criterion of 41 mg/kg. In fact, the maximum reported value (8.13 mg/kg total PCBs by congener analysis at station 313) is only 20% of the site-specific risk-based criterion.

A comparison can also be made to the site-specific sediment quality benchmark (ESB) of 641 µg/gOC that was used to derive the site-specific risk-based screening criterion, by normalizing the total PCB concentrations to account for the variation of TOC from one location to another. The normalized concentrations were calculated by dividing the total PCB concentrations determined by congener analysis by the TOC levels, then multiplying by 1,000 to convert to µg/gOC units, as shown in Table 2. The highest normalized concentration in the surface sediment samples collected in the Gowanus Canal and the reference area is 62.3 µg/gOC at station 315 (in the middle reach of the canal). This is an order of magnitude lower than the site-specific ESB of 641 µg/gOC.

TABLE 2

Total PCB levels and normalized levels for surface sediments at 24 locations in the Gowanus Canal and the reference area

sampling location	RTA number or reference area	total organic carbon[1] (gOC/kg)	total PCB Aroclors[2] (mg/kg)	total PCB congeners[3] (mg/kg)	normalized total PCB congeners[4] (µg/gOC)
301	1	25.1	ND	0.0995	3.96
303	1	73.1	ND	0.765	10.5
305	1	64.8	ND	0.625	9.65
307A	1	43.0	ND	0.0678	1.58
307B	1	54.4	ND	0.616	11.3
308A	1	37.7	0.55	2.02	53.6
308B	1	52.0	ND	0.465	8.94
309	2	45.0	ND	0.696	15.5
310	2	94.6	ND	2.15	22.7
312	2	60.7	0.31	1.10	18.1
313	2	137	ND	8.13	59.3
314	2	109	3.1	5.415	49.7
315	2	81.8	1.8	5.095	62.3
316	2	122	2.2	NA	NA
317	2	64.4	0.85	NA	NA
318	2	94.9	0.73	4.07	42.9
319	2	49.3	0.66	0.473	9.59
320	3	46.9	0.29	1.25	26.7
321	3	51.1	ND	0.623	12.2
324	3	35.0	ND	0.7225	20.6
325	3	26.5	0.23	0.380	14.3
326	reference	43.4	ND	0.341	7.86
330	reference	34.5	ND	0.466	13.5
333	reference	26.4	ND	0.476	18.0

[1] from Table I-7 of the RI Report
[2] from Table I-4A of the RI Report
[3] from Table I-5A of the RI Report
[4] ratio of total PCB congeners to total organic carbon
Concentrations for locations 308A, 314, 315, and 324 are averages of results obtained from duplicate samples
NA indicates that samples from this location were not analyzed for PCB congeners
ND indicates that PCB Aroclors were not detected at this location

References

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moving poison

kathie hopler to: Region2 GowanusCanalComments 04/26/2013 07:17 PM

History: This message has been replied to and forwarded.

You cannot simply move deadly toxins to where the poor live, shame on you!
Find a viable solution, for gods sake.
PEACE
Kathleen Hopler

Comments on Gowanus Canal Proposed Plan

Benjamin Ellis to: Region2 GowanusCanalComments 04/26/2013 07:57 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Benjamin Ellis

Apr 26, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

For 20 years I have lived and worked within half a block of the Gowanus and I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

While the EPA's plan takes the critical step of calling for CSO retention for two of the Canal's worst outfalls many details will not be solidified until New York City submits their CSO Long Term Control Plan in 2015. It is critical for the EPA to stand firm on requiring retention tanks to control CSOs and to work with New York City towards the eventual goal of 100% elimination of CSOs from the Canal.

I support the EPA's commitment to dredge as much as 10 feet of contaminated sediment from the entire length of the canal, build a multi-layer cap on the bottom, and treat and dispose of this contaminated sediment offsite. I also believe that the EPA should listen to the wishes of the community in Red Hook who oppose the building of a CDF on the Red Hook waterfront to dispose of the least contaminated sediment.

Sincerely,

Mr. Benjamin Ellis
460 Sackett St
Brooklyn, NY 11231-5019

In Favor of Clean-up
Elizabeth Kenney to: Region2 GowanusCanalComments 04/26/2013 08:19 PM

Hi,

I'm writing to let you know we are in favor of your plan to clean up the Gowanus Canal. We live one block from the canal and look forward to the day when it will be a source of pleasure for the community and an asset to the neighborhood.

Thank you,

Elizabeth Kenney
Jeff Hinz

112 2nd Street
Brooklyn NY 11231
718-596-3934

Gowanus Canal

cpsimmons to: Region2 GowanusCanalComments 04/26/2013 08:21 PM

Please respond to cpsimmons

I have lived across the street from the Gowanus Canal for over twenty years and support the EPA's plan to comprehensively clean the canal.

Thank you to the Gowanus Canal Region 2 EPA team for their dedication and expertise.

Very truly yours,

Cynthia Simmons

Comments on Gowanus Canal Proposed Plan

Ludger K Balan to: Region2 GowanusCanalComments 04/26/2013 08:27 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Ludger K Balan

Apr 26, 2013

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I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

While the EPA's plan takes the critical step of calling for CSO retention for two of the Canal's worst outfalls many details will not be solidified until New York City submits their CSO Long Term Control Plan in 2015. It is critical for the EPA to stand firm on requiring retention tanks to control CSOs and to work with New York City towards the eventual goal of 100% elimination of CSOs from the Canal.

I support the EPA's commitment to dredge as much as 10 feet of contaminated sediment from the entire length of the canal, build a multi-layer cap on the bottom, and treat and dispose of this contaminated sediment offsite. I also believe that the EPA should listen to the wishes of the community in Red Hook who oppose the building of a CDF on the Red Hook waterfront to dispose of the least contaminated sediment.

Sincerely,

Ludger K. Balan
UDEC
Red Hook Brooklyn,11231

Sincerely,

Mr. Ludger K Balan
Brooklyn
NY, NY 11231

I, the sender, vote that I do not want this project to proceed.

michael c cox to: Region2 GowanusCanalComments 04/26/2013 09:57 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

- Children
- Numerous public and private schools which use the fields for physical education & sports teams
- Residents of the Red Hook Houses and the surrounding neighborhood
- Soccer, softball, baseball, football, handball, basketball, track & field teams and enthusiasts
- Swimmers of all ages
- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--
michael c cox
chris.cx73@gmail.com
93 king st
brooklyn, ny 11231
resident

support your plan
mary hedge to: Region2 GowanusCanalComments 04/26/2013 09:59 PM

Your plan to remediate the Gowanus Canal is excellent. As a homeowner on Hoyt Street, I have listened to the various EPA presentations at P.S.32 and am impressed with your knowledge and dedication. You are a fine example of a federal agency and I completely support all your proposed work.

Mary Hedge
295 Hoyt Street

Riverkeeper comments on Gowanus Canal PRAP

Joshua S. Verleun to: Region2 GowanusCanalComments 04/26/2013 10:00 PM

History: This message has been forwarded.

Dear Christos,

attached please find Riverkeeper's comments on the Gowanus Canal PRAP. If I can provide you with any additional information or clarification please let me know.

Best wishes,

Josh

****

Joshua S. Verleun, Esq., LEED GA
Staff Attorney & Chief Investigator

Riverkeeper, Inc.
20 Secor Road
Ossining, New York 10562
P: (914) 478-4501 x247
F: (914) 478-4527

www.riverkeeper.org

Riverkeeper Comments on Gowanus Canal PRAP.pdf

RIVERKEEPER.
NY's clean water advocate

Sent via email (GowanusCanalComments.Region2@epa.gov)

April 27, 2013

Christos Tsiamis
Project Manager
Central New York Remediation Section
U.S. Environmental Protection Agency
290 Broadway, 20th Floor
New York, New York 10007-1866

RE: Riverkeeper, Inc. Comments on Gowanus Canal Superfund Site, Brooklyn, NY (EPA ID#: NYN000206222) Proposed Remedial Action Plan.

Dear Mr. Tsiamis,

Riverkeeper, Inc. ("Riverkeeper") respectfully submits the following comments on the Proposed Remedial Action Plan ("PRAP") for the Gowanus Canal Superfund Site, Brooklyn, NY (EPA ID#: NYN000206222) which was released for comment on December 27, 2012[1].

Organizational Background and Involvement with Gowanus Cleanup

Riverkeeper is a member-supported, not-for-profit organization, dedicated to protecting the Hudson River and its tributaries, and to safeguarding the drinking water supply for New York City. Since 1966, Riverkeeper has used litigation, science, advocacy, and public education to end pollution, restore ecological health, and revitalize waterfront use and access.[2] Many of

[1] EPA press release announcing availability of Gowanus PRAP and establishing comment period, *available at:* *http://yosemite.epa.gov/opa/admpress.nsf/d10ed0d99d826b068525735900400c2a/40b44a89e9d3b36885257ae100707518!OpenDocument*

[2] For additional information on Riverkeeper's mission and work, go to www.riverkeeper.org.

Riverkeeper's members live in the communities surrounding the Canal including members of the Brooklyn Riverkeeper Action Group ("BRAG").

The Gowanus Canal, located in Brooklyn, NY is one of the most heavily contaminated water bodies in the nation. This 1.8 mile long, 100 foot wide, canal was built in the 19th century and historically was home to many industries including manufactured gas plants, cement factories, oil refineries, tanneries, and chemical plants. After nearly 150 years of use, the canal has become heavily contaminated with PCBs, heavy metals, pesticides, volatile organic compounds, sewage solids from combined sewer overflows, and polycyclic aromatic hydrocarbons ("PAHs").

Riverkeeper is an organizational member of the Gowanus Canal Superfund Community Advisory Group (CAG) and has been actively involved with the Gowanus Canal Superfund site since the Canal was nominated for inclusion on the National Priorities List ("NPL") in 2009. Riverkeeper supported the listing of the Canal and called upon the EPA to undertake a comprehensive cleanup to address the decades of historic contamination in the Canal, ongoing sources of pollution from properties upland of the Canal, and discharges from Combined Sewer Overflows ("CSOs") following the Canal's NPL listing proposal.[3]

In addition to Riverkeeper's involvement with the CAG our Water Quality testing program conducts regular sampling of the Gowanus Canal[4] and our Gowanus Canal Pollution Enforcement Initiative has worked with the New York State Department of Environmental

[3] Riverkeeper Comments on Gowanus Canal NPL listing, *available at* www.riverkeeper.org/wp-content/uploads/2009/07/RvK_Comments_Gowanus_Canal_NPL_Listing.pdf
[4] Riverkeeper Water Quality Testing Locations: Gowanus Canal www.riverkeeper.org/water-quality/locations/nyc-hudson-bergen/gowanus-canal/

Conservation as well as other federal, state, and local agencies to bring environmental law breakers to justice.[5]

Comments on Gowanus Canal Proposed Remedial Action Plan

Riverkeeper supports the PRAP issued by the EPA for the Gowanus Canal Superfund site and commends the Agency for putting forth a comprehensive plan to address multiple sources of legacy and ongoing pollution. The PRAP addresses the many decades' worth of toxic sludge at the Canal's bottom, ongoing pollution from upland sites, and toxic discharges from CSOs. Also critically important to the success of the cleanup is ongoing coordination with the New York State supervised cleanups of the Fulton, Citizen's, and Metropolitan Manufactured Gas Plant ("MGP") sites and other contaminated properties along the canal, coordination with the United States Army Corps on shoreline and bulkhead restoration post cleanup, and Citywide CSO control efforts under the Clean Water Act and the 2012 CSO administrative consent order ("CSO Order") between New York City and the New York State Department of Environmental Conservation ("DEC").

While the EPA's plan takes the critical step of calling for CSO retention for two of the Canal's worst outfalls, many details will not be solidified until the design phase of the Superfund Cleanup and when New York City submits their CSO Long Term Control Plan ("LTCP") in 2015.[6] It is critical for the EPA, New York State, and New York City to work together towards the eventual goal of 100% elimination of CSOs from the Canal and for the EPA to require

[5] http://www.riverkeeper.org/news-events/news/stop-polluters/pollution-enforcement/victory-in-gowanus-canal/
[6] Gowanus Canal Proposed Remedial Action Plan (herein after "PRAP") at 19-20.

sufficient interim CSO control measures to protect the Superfund Remedy once construction begins if prior to implementation of the LTCP.

Since the EPA proposed the Canal for listing on the NPL in 2009 Riverkeeper has been gratified by the Agency's extraordinary level of engagement with the community. Over the course of the past four years the staff of EPA Region 2 has gone to great lengths to work with and educate the community on the Superfund process, while responding to community concerns and desire for a comprehensive cleanup that fully addresses not only legacy contamination, but ongoing discharges from CSOs. The comprehensive nature of the remediation plan set forth in the PRAP reflects this level of engagement. Riverkeeper is also gratified to see the Agency adhere to the timeline for conducting the RI/FS and issuance of a PRAP that was promised to the community when the Canal was added to the NPL in 2010. Riverkeeper looks forward to continuing to work closely with the Agency and other members of the Gowanus CAG during the upcoming Remedial Design and the implementation of the Remedy.

The PRAP addresses contamination of the bottom of the Canal, ongoing contamination from upland sources of pollution, and discusses disposal options for the dredged material. Riverkeeper's comments on each element of the PRAP follow.

1. Remediation of Historic contamination within the Canal

During ongoing patrols of the Gowanus Canal conducted between 2009 and 2012 Riverkeeper staff has documented the extent of ongoing and historic pollution of the canal. Aerial patrols have revealed oil sheens near the canal's head, floating debris, and patches of floating coal tar wastes. Boat patrols have confirmed that the water in the canal is often a toxic cocktail of sewage, coal tar waste, and other pollutants. Furthermore boat patrols have yielded

evidence of collapsing bulkheads, ongoing dumping of waste and debris, and the continued leaching of pollutants from sediments and the canal's bulkheads.

Through the studies conducted as part of the RI/FS the EPA has confirmed high levels of toxic contamination permeating the length and depth of the Canal from historic and ongoing sources of pollution. The FS presented seven alternatives for remediation of the sediment and fully analyzed the Agency's two preferred alternatives, both of which require the dredging of the entire soft layer of sediment in the bottom of the Canal and the construction of a multi-layered and armored cap.[7]

The PRAP proposes the use of Alternative 7 for the Upper and Middle sections of the Canal (labeled as Remediation Target Areas ("RTA") 1 and 2[8]). This alternative involves dredging of the soft sediment column, targeted use of in-situ stabilization ("ISS") of native sediment in areas with potential for upward nonaqueous phase liquid ("NAPL") migration, and construction of a cap with treatment, isolation and armor layers. The EPA is proposing Alternative 5 (dredge entire soft sediment column and cap with treatment, isolation and armor layers) for the Lower Reach of the Canal (RTA 3).[9]

Given the extent and pervasive nature of the contamination in the bottom of the Canal, Riverkeeper supports the EPA's determination to dredge the entire layer of accumulated "soft sediments" which have built up to as much as 10 feet thick on top of the native sediments that formed the original Gowanus Creek. PAHs, metals and PCBs are only found in the soft sediment at concentrations that pose a threat to human health and the environment.[10] In addition

[7] PRAP at 18.
[8] *Id.* at 30.
[9] *Id.*
[10] *Id.* at 31.

given that the NAPL contamination extends into the native sediment to a depth of 100 feet in certain areas the total remediation of the historic NAPL contamination is not technically feasible.

The PRAP will remove the pervasive and highly contaminated soft sediment layer and will prevent future NAPL recontamination through the use of stabilization agents and a multilayer armored cap. In conjunction with long term monitoring to ensure that the integrity of the cap is maintained and the permanent measures to protect the remedy from recontamination from upland sources and CSOs (as discussed below), the Remedy proposed by the EPA in the PRAP will be effective in meeting the goals of remediating the 150 years of historic and ongoing contamination in the Canal and returning this long neglected waterway to the community.

2. Control of Upland sources of pollution

The long term success of the Remedy set forth in the PRAP is closely tied with efforts to halt ongoing sources of contamination that have the potential to recontaminate the Canal. The RI/FS found that the greatest sources of ongoing contamination are the three former Manufactured Gas Plant ("MGP") sites, toxic discharges from CSOs, leaching of contamination from other properties along the Canal, and unpermitted discharge pipes.[11]

a. Remediation of the Manufactured Gas Plant Sites

Riverkeeper has been encouraged by the efforts that the DEC and National Grid have made to coordinate the remediation schedules and work at the three MGP sites with the Superfund cleanup. Many details are still in development regarding interim pollution control measures and the long term cleanup of these sites so it is crucial for the EPA to take the lead on continued coordination between the federal and state cleanups as Remedial Design progresses. The EPA must also reserve all rights to add the MGP cleanups under the umbrella of the

[11] *Id.* at 19.

Superfund cleanup if progress on these sites begins to lag behind what is needed to achieve the full timely implementation of the Superfund Remedy.

b. Combined Sewer Overflows

Riverkeeper along with our partners such as the Natural Resources Defense Council and the SWIM Coalition have been involved for many years in citywide efforts to ensure that New York City lives up to the requirements of the Clean Water Act and takes critical measures to reduce the more than 30 billion gallons per year of sewage that overflows into waterways that surround the City. Riverkeeper supports to 2012 CSO administrative consent order ("CSO Order") between New York City and DEC which mandates the development of the LTCPs as well as specific requirements for grey and green infrastructure projects.[12] Riverkeeper strongly believes that nothing in the CSO order precludes New York City from implementing additional CSO controls beyond what is mandated through the LTCP development process or in any way diminishes EPA's authority under Superfund to address toxics being discharged to the Canal and protect the long term viability of the selected Remedy.

The PRAP and Feasibility Study Report addendum present scientifically and legally sound reasoning for why it is crucial for the Superfund Remedy to include measures to reduce toxic CSO discharges from outfalls RH-034 and OH-007 (which represent 97% of overall CSO discharges into the Canal[13]). When combined with CSO reductions and infrastructure upgrades required under the CSO LTCP the overall reductions in CSOs are projected to be significant (approximately 58 – 74%).[14]

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[12] *See*, www.riverkeeper.org/news-events/news/stop-polluters/nyc-cso-order-1203/

[13] Currently 4 CSOs contribute 95% of all discharges to the Canal. Following the infrastructure upgrades required under the Gowanus Canal Waterbody Watershed Plan OH-007 and RH-034 will account for 97% of all discharges. PRAP at 4.

[14] PRAP at 30-31

The studies conducted as part of the Remedial Investigation and Feasibility Study (RI/FS) found that wet weather CSO discharges contained VOCs, PAHs, PCBs, pesticides and metals. In addition residual sediment samples collected from the CSO pipes contained VOCs, PAHs, PCBs, pesticides and metals that could be mobilized and discharged to the canal during CSO overflow events.[15] The two outfalls identified by the EPA for the installation of control measures also contribute significantly to the sedimentation of the Canal.[16] Significant reductions in discharges from these outfalls are crucial to ensuring the integrity of the remedy.

Riverkeeper strongly supports the EPA's continued position that controlling CSOs is an essential part of the Gowanus canal cleanup. Development of the additional controls that would reduce CSOs by 58 – 74% is a significant step forward, but many details are still unknown and it is essential for the EPA to insist upon retention as the primary means of meeting the EPAs defined remedial performance goals[17] during the Remedial Design and the development of the Gowanus LTCP.

As detailed in the PRAP the Agency screened out various CSO control measures for CSOs OH-007 and RH-034 (including no action; optimization of existing trap chamber in CSO OH-007; constructing a CSO sediment trap at CSO RH-034; silt curtains and/or netting facilities, maintenance dredging; sewer cleaning and CSO storage[18]). The PRAP concluded that to ensure continued protection of the Superfund Remedy that permanent CSO sediment controls would be required to capture twice the amount of the "first flush".[19] It is estimated that this would capture 40% of the overall discharge volume and 60%-120% of the PAH load of the baseline storm event.

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[15] PRAP at 9
[16] *Id.* at 11.
[17] *Id.* at 20.
[18] *Id.* at 19.
[19] *Id.*

Although the PRAP details the PAH load reductions that would be achieved through the capture of twice the "first flush" there are no estimates of reductions in the other contaminants contained in the discharge such as VOCs, PAHs, PCBs, pesticides and metals. Riverkeeper suggests that the EPA quantify the reductions in these additional contaminants and analyze whether additional CSO capture may be required to fully protect the remedy from discharges of these toxics.

In the PRAP that EPA has committed to work with New York City and the DEC as part of the development of the LTCP to achieve remedial goals in a cost-effective manner that is both protective of the Superfund Remedy and the Clean Water Act's requirement to meet Water Quality Standards for the waterbody's "highest attainable use." With the implementation of the Superfund Remedy it is anticipated that greater recreational and ecological uses of the Canal will be attainable beyond the current classification under the State's water quality classification system.

Riverkeeper commends the EPA for their stated commitment to require significant CSO reductions that will be protective of the Superfund Remedy while working with NYC and the DEC to integrate Remedy design and planning with the development of the LTCP.

3. Proposed Confined Disposal Facility and other disposal issues

Because of the varying levels of contamination within the sediments proposed to be dredged from the Canal, the PRAP proposes the use of several methods to treat and dispose of contaminated sediments from RTAs 1-3.

a. Proposed Red Hook CDF

One of the options that the Agency has proposed is for the least contaminated sediments from RTA 3 to be treated and disposed of utilizing a Confined Disposal Facility ("CDF") constructed in Red Hook. The EPA has stated that any proposal to utilize such a facility would be subject to acceptance by the community.[20] Although it appears that the construction of a CDF would be technically feasible and likely protective of the environment the EPA has not presented enough detailed information on the design of any potential CDF for Riverkeeper to fully evaluate any potential impacts. In addition many members of the Red Hook community have expressed opposition to the proposed CDF and significant concern regarding potential impacts to the community.

Although there has been some support within Red Hook for the CDF, with a significant level of opposition it cannot be said that the community accepts this proposal. The EPA should not construct the CDF given the lack of community acceptance.

b. Dewatering and offsite treatment and disposal of dredge material

The PRAP proposes offsite incineration (thermal desorption) and beneficial reuse for NAPL impacted sediments from RTAs 1 and 2 and offsite stabilization and beneficial reuse for non-NAPL impacted sediments from RTA 1 and 3 (if no CDF is constructed).[21] For all options dredge material would need to be dewatered prior to disposal.

EPA staff has stated during public meetings that the details of any required dredge material dewatering will be addressed during Remedial Design. Riverkeeper looks forward to engaging with EPA staff during the Remedial Design to further define how this will be

[20] PRAP at 30.
[21] *Id.*

accomplished in a way that achieves design goals while minimizing community impact, and addressing community concerns.

Conclusion

As set forth in the comments above Riverkeeper supports that EPA's plan to remediate the historic contamination in the Canal's sediments, and proposed measures to halt ongoing pollution from upland sources, and significantly reduce toxic CSO overflows.

Riverkeeper appreciates this opportunity to submit comments. If I may provide any clarification regarding the above, or additional information, please contact me at jverleun@riverkeeper.org or 914-478-4501 x 247.

Respectfully Submitted,

/s/ Joshua Verleun/

Joshua S. Verleun, Esq.
Staff Attorney & Chief Investigator

I, the sender, vote that I do not want this project to proceed.

tom paul to: Region2 GowanusCanalComments 04/26/2013 10:02 PM

History: This message has been forwarded.

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

- Children
- Numerous public and private schools which use the fields for physical education & sports teams
- Residents of the Red Hook Houses and the surrounding neighborhood
- Soccer, softball, baseball, football, handball, basketball, track & field teams and enthusiasts
- Swimmers of all ages
- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--
tom paul
tom@tompaul.com
181 Conover St #4
Brooklyn, NY
Resident, land owner

I, the sender, vote that I do not want this project to proceed.

damien poleshek to: Region2 GowanusCanalComments 04/26/2013 10:04 PM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

- Children
- Numerous public and private schools which use the fields for physical education & sports teams
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- Soccer, softball, baseball, football, handball, basketball, track & field teams and enthusiasts
- Swimmers of all ages
- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--

damien poleshek
evsweetspot@gmail.com
181 Conover St #4
Brooklyn, NY
Resident

Inquilinos Unidos letter to the EPA

Jackie del Valle to: Region2 GowanusCanalComments 04/26/2013 10:15 PM

History: This message has been forwarded.

>
> Christos Tsiamis, Project Manager
>
> U.S. Environmental Protection Agency
>
> 290 Broadway, 20th floor
>
> New York, NY 10007-1866
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>
>
>

IU_Letter_to_EPA_April_26 - Copy.doc

Fifth Avenue Committee
Our Community. Our Future.

April 26, 2013

Christos Tsiamis, Project Manager
U.S. Environmental Protection Agency
290 Broadway, 20th floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am the Director of Organizing and Advocacy at the Fifth Avenue Committee (FAC) and I am writing today in my capacity as a tenant advocate who works with Latino residents from all over South Brooklyn who have their own group called Inquilinos Unidos (IU), which translates in English to Tenant's United. IU are primarily Spanish speakers and longtime renters in the Gowanus / Park Slope neighborhoods and they work with FAC in organizing to strengthen tenant protections and Rent Stabilization laws.

IU holds monthly meetings at our FAC offices and recently we held a workshop on the Gowanus Canal cleanup. Most of the membership had previously not been aware of the proposed cleanup plan or even that the levels of toxicity in the canal posed serious health risks. After the discussion on the cleanup, IU requested that FAC send a letter on behalf of their membership expressing their deepest support for the cleanup.

FAC would like to remind the EPA of the large Latino population that lives in the Gowanus area and that many, like IU's membership, do not speak English. Despite FAC's efforts, we strongly believe that due to language barrier constraints the Hispanic and Latino populations in the area remain mostly uninformed and uninvolved in this cleanup process.

IU and FAC would like to see the EPA ensure that the residents and businesses that will be directly impacted by these cleanups have equal opportunity and access to information about the Superfund public processes happening locally and the opportunity to participate in the planning discussions and meetings involving the future of our neighborhood. Along these lines, we would like to see more direct outreach and engagement done to promote diversity, inclusion and participation amongst our communities as the clean-up moves to the design and implementation phases.

We also encourage the EPA to maximize benefits for the local low and moderate income residents, especially for local individuals facing barriers to employment., so that they can benefit from the nearly $500 million investment in cleaning up our Gowanus Canal.

Sincerely,

Jackie Del Valle

Director of Organizing and Advocacy

Fifth Avenue Committee

621 Degraw Street

Brooklyn, NY 11217

(718) 237-2017, ext 183

jdelvalle@fifthave.org

Support for Gowanus Canal PRAP
CYNOCK to: Region2 GowanusCanalComments 04/26/2013 10:44 PM

History: This message has been forwarded.

I support the proposed plan for the long-overdue cleanup of the Gowanus. The people in the nearby neighborhoods deserve no less. Furthermore, all of us in Brooklyn, not just in the nearby neighborhoods, will benefit from being able to walk through that area and enjoy the waterway without being nauseated by its current aromatic and unsafe condition.

The plan will provide significant cleanup and help to protect against re-contamination. I am grateful to EPA for preparing the proposed plan, and for standing firm against New York City's regrettable efforts to weaken the cleanup.

Cynthia Nockold
9108 Colonial Rd., Apt. D-8
Brooklyn, NY 11209

GOWANUS green

The Bluestone Organization
Fifth Avenue Committee
The Hudson Companies
Jonathan Rose Companies

April 27, 2013

Christos Tsiamis
Remedial Project Manager
Central New York Remediation Section
U.S. Environmental Protection Agency
290 Broadway, 20th Floor
New York, NY 10007-1866

Re: Gowanus Canal Superfund Proposed Plan
Response to EPA Region 2 Proposed Remedial Action Plan (PRAP)

Dear Christos:

Thank you and the entire Region 2 Gowanus Canal Superfund Team for the opportunity to comment on the Proposed Remedial Action Plan (PRAP) for the Canal Cleanup.

As you know, the Gowanus Green team has been designated by the New York City Department of Housing Preservation and Development (HPD) to re-develop the Public Place site once National Grid, under NYS Department of Environmental Conservation's (DEC) oversight, has completed the remediation of the former Manufactured Gas Plant (MGP) site. Gowanus Green is an affordable, mixed income, mixed use development whose design includes public open space, and over 770 units of housing, 70% of which will be subsidized and affordable to families at a range of incomes. Our team has extensive experience redeveloping brownfield sites to the highest sustainability standards while also creating much needed affordable and mixed income housing.

The Gowanus Green team appreciates the time that you and members of the US EPA Region 2 team have spent with us discussing the proposed remedial action plan (PRAP) and how it may impact on the design of our project. It is clear from our discussions that EPA's detailed oversight of the Gowanus Canal cleanup and review of plans for the remediation of the former MGP sites which are contributing to the contamination of the Canal has resulted in a more thorough draft remedy for the former Citizens site, in particular. Our team is hopeful that the final remedy for the Citizens site will be meaningfully improved as a result, leading to a significantly less contaminated parcel that is ultimately to everyone's – the community, National Grid and Gowanus Green's - benefit.

As the Record of Decision (ROD) is finalized and plans move into design, Gowanus Green would like to be substantively involved in discussions with US EPA and NYS DEC about the designs for the Public Place/former Citizens MGP site. Specifically, we'd like to discuss excavation depths, barrier materials, barrier wall and its final location and the location of tie backs for the barrier wall, location of collection wells and any other facility or access connected to the remediation which might ultimately be located on the current

GOWANUS green

The Bluestone Organization
Fifth Avenue Committee
The Hudson Companies
Jonathan Rose Companies

Public Place site. We look forward to working closely with all the stakeholders involved to coordinate Gowanus Green's design and construction.

Finally, Gowanus Green continues to be concerned about additional delays. Though the EPA has kept to its word on the timing of the Remedial Investigation and PRAP, NYS DEC has not been as diligent and ultimately their delays will impact the entire Gowanus Canal cleanup timetable. We respectfully request that EPA consider a Gowanus Canal cleanup timetable that accelerates the design and remediation of the MGP sites. Ultimately, the Gowanus Green team would like the EPA to utilize its authority to advance the most coordinated and timely cleanup of the Gowanus Canal possible.

Our proposal for the Public Place site will provide much needed affordable housing and public open space long sought by the adjacent community. We submit these comments on the PRAP with a strong desire to advance the remediation of the Public Place site and the Canal and its environs which has long been awaited by this community.

Thank you for the opportunity to comment on the PRAP. We look forward to continued work with the EPA as the Canal cleanup moves forward.

Sincerely,

Eric Bluestone
Member
Bluestone Gowanus Green Partners LLC

Michelle de la Uz
Executive Director, FAC
FAC Gowanus Green LLC

David Kramer
Member
Hudson Gowanus LLC

Jonathan F. P. Rose
Member
Rose Gowanus Green LLC

MADE IN BROOKLYN TOURS
See who's makin' it in Brooklyn

April 27, 2013

Christo Tsiamis
USEP Region 2
290 Broadway, 28th Fl
New York, NY 10007

RE: Gowanus Canal Superfund Operations in Red Hook, Brooklyn

Dear Mr. Tsiamis,

Brooklyn's waterfront development historically favored industrial interests over those of the community. In fact, the Gowanus Canal has been an industrial waterway since the Dutch. The toxic waste characterizing it and the failed attempts to take corrective action reflect a lack of concerted community involvement together with an appreciation for the benefits of industry. After all, the Gowanus has been a source of employment for nearly 150 years.

Today, we promote recreation on waterfront that had been the exclusive preserve of industry along with the benefits of recycling. The Gowanus Bay Terminal's Red Hook Option's novel approach combines state-of-the-art hazardous waste recycling with Brooklyn's own prestigious heritage of concrete production. The execution of this alternative will be under intense scrutiny by federal, state and local government enhanced by an actively engaged neighborhood. It's difficult to imagine a project of this magnitude with more attention paid to it.

Brooklyn's tradition of concrete innovation goes back to the Gilded Age and the Coignet Stone Company with offices - not coincidentally - in Gowanus. Quadrozzi Concrete continues this tradition with the building of prominent New York City skyscrapers. That Quadrozzi's high-strength concrete is used to construct the Freedom Tower is a source of pride for many.

Rather than dismiss the Red Hook Option and the role of Quadrozzi Concrete outright, Brooklynites would do well to take an active role in collaborating with all parties for the sake of our community. This is an unprecedented opportunity for Brooklynites to positively influence the development of our waterfront.

Sincerely,

Dom Gervasi, Owner & Producer

April, 27 2013

Vinik Marine, Inc.
85 First Street
Keyport, NJ 07735
(732) 610-9287

EPA Region 2
Central New York Remediation Section
290 Broadway, 20th Fl
New York, NY 10007-1866
Attn: Christos Tsiamis

I fully support and encourage this dredging operation of the Gowanus Canal and use of the Gowanus Bay Terminal in the Red Hook Option for dewatering and construction of a CDF.

As a marine operator of a tug boat company for nearly a decade, I have see a lot of things change. Mainly and sadly, the deterioration of what were operable maritime facilities and/or transition of them to residential development. As a result, it is becoming more and more difficult to find industrial waterfront property to operate a maritime business like ours.

My tug boats have moved several hundred thousand tons of rock salt by barge into GBX under contract for International Salt Company. Because I'm in and out of marine terminals all the time, there was no question when first seeing this terminal reactivated, that there was enormous potential for rock salt and other maritime bulk materials. Wide open land for bulk materials is at a premium in the bulk industry.

Cleanup of the Gowanus Canal would help make the marine environment cleaner and expansion of GBX would make a more viable industrial waterfront that which we need so desperately to maintain a working waterfront infrastructure for the city overall.

Very respectfully yours,

Michael Vinik

BENSON METAL CORP.

543 SMITH STREET

BROOKLYN, NY 11231

April 27, 2013

EPA Region 2

290 Broadway, 20th Floor

New York, NY 10007-1866

Attn: Christos Tsiamis

Re: Gowanus Canal Superfund, Red Hook Option

Sirs,

We are writing to support the EPA Red Hook Option.

We are a scrap metal processing company that occupies space at Gowanus Bay Terminal. The Terminal provides our business with an ideal place to operate. It is logistically advantageous to reach our market, is easy to access with clear and wide truck routes directly off the BQE, Battery Tunnel and Hamilton Avenue, is secure from outside elements and is managed in an organized, clean and safe manner working in concert with the local community.

We are also planning an expansion of our own at the Terminal, and plan to utilize their docks and waterborne commerce to reach our end users.

It is critical that facilities like Gowanus Bay Terminal are encouraged to grow to ensure small businesses like ours have a proper and viable place to exist.

Please approve this important plan for the better of Red Hook and Brooklyn overall.

Regards,

Tom Petrosino

Benson Metals

I support the Red Hook Option of the EPA Gowanus Canal Superfund cleanup.

The improvement to an active local maritime industrial business, the economic benefits it will bring, the jobs that it will create, are all important to me and what I believe is best for the majority of the community of Red Hook.

Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community are without harm or risk of such.

Please approve the Red Hook option.

(print)

EMMANUEL — first name
DIAZ — last name

116 Mill Street — address
1C — apt.#

brooklyn — city
NY — state
11231 — zip

718 - 852 - 1429 — area code & phone number

Mannyfresh5b — email

I am 18 years of age or older

x [signature] — sign
4/27/1 — date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

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Please approve the Red Hook option.

(print)

Thonald — first name

Gadsden — last name

40 Marcus Garvey Blvd. — address

4 — apt.#

Brooklyn — city

N.Y. — state

11216 — zip

(347) 571-7915 — area code & phone number

Mr.Gadsden921@Yahoo.com — email

I am 18 years of age or older

x Thonald Gadsden — sign

4/27/13 — date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

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Please approve the Red Hook option.

(print)

Glenn — first name
Adams — last name

11 Lorraine St — address
5A — apt.#

Brooklyn — city
NY — state
11231 — zip

718 522-7002 — area code & phone number

email

I am 18 years of age or older

X [signature] — sign
4/29/13 — date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
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Please approve the Red Hook option.

(print)

Vanessa — first name

McKnight — last name

82 Dwight St — address

2C — apt.#

Brooklyn — city

NY — state

11231 — zip

area code & phone number

email

I am 18 years of age or older

x Vanessa McKnight — sign

4/27/13 — date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

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Please approve the Red Hook option.

(print)

Deanna (first name) Cherny (last name)

135 Richards St (address) #8-A (apt.#)

Brooklyn (city) NY (state) 11231 (zip)

(718) 787-7001 (area code & phone number)

Cherydeanna@yahoo.com (email)

I am 18 years of age or older

x Deanna Cherny (sign) 4/27/13 (date)

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

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Please approve the Red Hook option.

(print)

Jamsey — first name
Corbett — last name

46 Sullivan St — address
3A — apt.#

Brooklyn — city
NY — state
11231 — zip

341 530-8707 — area code & phone number

email

I am 18 years of age or older

x Jamsey Corbett — sign
4/27/2013 — date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

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Please approve the Red Hook option.

(print)

Tommy — first name

Martinez — last name

464 Columbia — address

4A — apt.#

BKlyn — city

N.Y. — state

11231 — zip

917-202-8607 — area code & phone number

email

I am 18 years of age or older.

X Tommy Martinez — sign

4/27/13 — date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

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Please approve the Red Hook option.

(print)

Maria — first name
Gonzalez — last name

307 Kingsboro 3rd Walk — address
#5E — apt.#

Brooklyn — city
NY — state
11233 — zip

347 365-4756
area code & phone number

Armani8@optonline.net
email

I am 18 years of age or older

x Maria Gonzalez — sign
4/27/13 — date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

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Please approve the Red Hook option.

(print)

Jasmine Hunt
first name last name

414 columbia 4D
address apt.#

NY NY 11231
city state zip

area code & phone number

email

I am 18 years of age or older

X Jasmine Hunt 4-27
sign date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

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Please approve the Red Hook option.

(print)

Sheila — first name
Jackson — last name

80 Dwight St — address
apt.#

Bklyn — city
NY — state
11231 — zip

[redacted] — area code & phone number

email

I am 18 years of age or older

x S Jackson — sign
4/07/13 — date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

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GowanusCanalComments.Region2@epa.gov

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Please approve the Red Hook option.

(print)

BARRIE — first name
OWEN-WILLIAMS — last name

51 DIKEMAN ST — address
apt.#

BROOKLYN — city
NY — state
11231 — zip

718-834-6157
area code & phone number

bow10544@yahoo.com
email

I am 18 years of age or older

x B. Owen-Williams — sign
3/27/13 — date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

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Please approve the Red Hook option.

(print)

Ahijah — first name

Stewart — last name

87 Lorraine st — address

2E — apt.#

Brooklyn — city

NY — state

11231 — zip

347 724-8466 — area code & phone number

email

I am 18 years of age or older

x A. — sign

4/27/2013 — date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

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Please approve the Red Hook option.

(print)

RONNIE — first name
BROWN — last name

428 Columbia St — address
2C — apt.#

Bklyn — city
NY — state
11231 — zip

718 596 6794 — area code & phone number

email

I am 18 years of age or older

x Ronnie Brown — sign
4/27 — date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

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Please approve the Red Hook option.

(print)

Derek (first name) Boomer (last name)

13-B Dwight St. (address) 13B (apt.#)

Brooklyn (city) NY. (state) 11231 (zip)

11231 347-262-5201 (area code & phone number)

Dboomer2007@yahoo.com (email)

I am 18 years of age or older

x D. Boomer (sign) 4-27-13 (date)

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

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Please approve the Red Hook option.

(print)

Travis (first name) Lawrence (last name)

85 Lorraine Street (address) 2E (apt.#)

Brooklyn (city) NY (state) 11231 (zip)

718-313-3145 (area code & phone number)

(email)

I am 18 years of age or older

x [signature] (sign) 4-27-13 (date)

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

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Please approve the Red Hook option.

(print)

Robert — first name
FLOOD — last name

748 HENRY — address
2-F — apt.#

BROOKLYN — city
NY — state
11231 — zip

347 - 262 - 7044
area code & phone number

email
I am 18 years of age or older

x [signature] — sign
4-27-13 — date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

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Please approve the Red Hook option.

(print)

Shirla — first name

Milton — last name

address: 624 Clinton St — apt.#

Brooklyn — city

NY — state

11231 — zip

area code & phone number: 917 933- 9924

email

I am 18 years of age or older 26

x Shirla Milton — sign

4-27 — date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

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Please approve the Red Hook option.

(print)

Dorothy (first name) Parker (last name)

address: 152 Henry St 1B (apt.#)

city: Brooklyn state: NY zip: 11231

area code & phone number: 718 643 6765

email

I am 18 years of age or older

x D. Parker sign 4/27/13 date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

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Please approve the Red Hook option.

(print)

Renee — first name
Hill — last name

754 Henry St — address
4C — apt.#

Brooklyn — city
NY — state
11231 — zip

646-372-0945 — area code & phone number

email

I am 18 years of age or older

x Renee Hill — sign
4/27/13 — date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

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Please approve the Red Hook option.

(print)

Bruce — first name

Wallace — last name

38 Bush St — address

2A — apt.#

Brooklyn — city

N.Y. — state

11231 — zip

1718 596 3033 — area code & phone number

email

I am 18 years of age or older

x Bruce Wallace — sign

4/27/13 — date

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

Recd 4/27/13

I support the EPA Gowanus Canal Superfund - Red Hook option.

The improvement to an active local maritime industrial business, the economic benefits it will bring, the jobs that it will create, are all important to me and what I believe is best for the majority of the community of Red Hook.

Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community is without harm or risk of such.

Please approve the Red Hook option.

(print)

Jessica — first name
Clarke — last name

1092 Bates Ave — address — apt.#

Brklyn — city
NY — state
11221 — zip

646-363-2848 — area code & phone number

email

X [signature] — signature
4/25/13 — date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

Rec'd 4/29/13

I support the EPA Gowanus Canal Superfund - Red Hook option.

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Please approve the Red Hook option.

(print)

Nacho — first name
Aliackbar — last name

421 Columbia St — address — apt.#

Red hook Bklyn — city
NY — state
11231 — zip

area code & phone number

email

x [signature] — signature
4-28-13 — date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
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Please approve the Red Hook option.

(print)

Doris — first name
Williams — last name

795 Hicks St — address
2A — apt.#

Brooklyn — city
NY — state
11231 — zip

area code & phone number

347 298-2176
email

I am 18 years of age or older

X Doris Williams — sign
4/27/2013 — date

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

GowanusCanalComments.Region2@epa.gov

April 26th, 2013 DEADLINE!

I support the Red Hook Option of the EPA Gowanus Canal Superfund cleanup.

The improvement to an active local maritime industrial business, the economic benefits it will bring, the jobs that it will create, are all important to me and what I believe is best for the majority of the community of Red Hook.

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Please approve the Red Hook option.

(print)

Sherron — first name
Paige — last name

741 Hick St Street — address
5A — apt.#

Brooklyn — city
NY — state
11231 — zip

area code & phone number

email

I am 18 years of age or older

x [signature] — sign
4/27/13 — date

mail:

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Manhattan, NY 10007-1866

Fax:

212 637 3966

email:

GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE APRIL 29th

I support the Red Hook Option of the EPA Gowanus Canal Superfund cleanup.

The improvement to an active local maritime industrial business, the economic benefits it will bring, the jobs that it will create, are all important to me and what I believe is best for the majority of the community of Red Hook.

Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community are without harm or risk of such.

Please approve the Red Hook option.

(print)

Pedro Ortiz

first name: Pedro | last name: Ortiz

741 Hicks | apt.#: 4B

address

city: Brooklyn | state: NY | zip: 11231

area code & phone number: NY.

email

I am 18 years of age or older

x Pedro Ortiz | 4/27/13

sign | date

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE APRIL 26th, 2013

I support the Red Hook Option of the EPA Gowanus Canal Superfund cleanup.

The improvement to an active local maritime industrial business, the economic benefits it will bring, the jobs that it will create, are all important to me and what I believe is best for the majority of the community of Red Hook.

Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community are without harm or risk of such.

Please approve the Red Hook option.

(print)

Fredrick — first name
Arlington — last name
671 Bush st — address
apt.#
Brooklyn — city
N.Y. — state
11231 — zip

area code & phone number

email

I am 18 years of age or older

x Fredrick Arlington — sign
4/22/13 — date

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

I support the Red Hook Option of the EPA Gowanus Canal Superfund cleanup.

The improvement to an active local maritime industrial business, the economic benefits it will bring, the jobs that it will create, are all important to me and what I believe is best for the majority of the community of Red Hook.

Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community are without harm or risk of such.

Please approve the Red Hook option.

(print)

Elaine Harris

first name last name

198 Mills St 4c

address apt.#

Brooklyn N.Y. 11231

city state zip

347-535 2463

area code & phone number

email

I am 18 years of age or older

x Elaine Harris 4/27/13

sign date

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

I support the Red Hook Option of the EPA Gowanus Canal Superfund cleanup.

The improvement to an active local maritime industrial business, the economic benefits it will bring, the jobs that it will create, are all important to me and what I believe is best for the majority of the community of Red Hook.

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Please approve the Red Hook option.

(print)

Lucinda — first name
clark — last name

101 CENTRE Mall — address
3B — apt.#

Brooklyn — city
N.Y — state
11231 — zip

347-218-3746
area code & phone number

email
I am 18 years of age or older

x Lucinda Clark — sign
4/27/13 — date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

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Please approve the Red Hook option.

(print)

Monique Leoccadio

first name last name

95 Centre Mall 5B

address apt.#

Brooklyn NY 11231

city state zip

718 522-2173

area code & phone number

email

I am 18 years of age or older

X Monique Leoccadio 4/22/13

sign date

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

I support the Red Hook Option of the EPA Gowanus Canal Superfund cleanup.

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Please approve the Red Hook option.

(print)

Katrina — first name
Mills — last name

101 centre mall — address
4B — apt.#

Brooklyn — city
N.Y. — state
11231 — zip

347 244 2736
area code & phone number

email
I am 18 years of age or older

x Katrina Mills — sign
4/27/13 — date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

I support the Red Hook Option of the EPA Gowanus Canal Superfund cleanup.

The improvement to an active local maritime industrial business, the economic benefits it will bring, the jobs that it will create, are all important to me and what I believe is best for the majority of the community of Red Hook.

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Please approve the Red Hook option.

(print)

DWIGHT — first name
JONES — last name

100 CENTRE MALL — address
apt.#

Brooklyn — city
N.Y. — state
11231 — zip

area code & phone number

718 522-6947 — email

I am 18 years of age or older

X Dwight Jones — sign
4/27/13 — date

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

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The improvement to an active local maritime industrial business, the economic benefits it will bring, the jobs that it will create, are all important to me and what I believe is best for the majority of the community of Red Hook.

Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community are without harm or risk of such.

Please approve the Red Hook option.

(print)

Monique Day

first name last name

94 Centro mall 6A

address apt.#

Brooklyn N.Y 11231

city state zip

347 962-3886

area code & phone number

email

I am 18 years of age or older

x Monique Day 4/21/13

sign date

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

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Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community are without harm or risk of such.

Please approve the Red Hook option.

(print)

Amanda — first name
Jewis — last name

604 Clinton St. — address
3A — apt.#

Brooklyn — city
N.Y. — state
11231 — zip

_____ _____
area code & phone number

_____
email

I am 18 years of age or older

x Amanda Jewis — sign
4/27/13 — date

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

I support the Red Hook Option of the EPA Gowanus Canal Superfund cleanup.

The improvement to an active local maritime industrial business, the economic benefits it will bring, the jobs that it will create, are all important to me and what I believe is best for the majority of the community of Red Hook.

Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community are without harm or risk of such.

Please approve the Red Hook option.

(print)

Derrick Smalls

first name last name

606 Clinton ST 2B

address apt.#

Brooklyn N.Y. 11231

city state zip

area code & phone number

718-289-4126

email

I am 18 years of age or older

x Derrick Smalls 4/27/13

sign date

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

I support the Red Hook Option of the EPA Gowanus Canal Superfund cleanup.

The improvement to an active local maritime industrial business, the economic benefits it will bring, the jobs that it will create, are all important to me and what I believe is best for the majority of the community of Red Hook.

Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community are without harm or risk of such.

Please approve the Red Hook option.

(print)

LIZETTE ALVAREZ _____

first name last name

34 W 9th Street 3D

address apt.#

Brklyn NY 11231

city state zip

347 576-5313

area code & phone number

_____

email

I am 18 years of age or older

x Lizette Alvarez 4/27/13

sign date

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

I support the Red Hook Option of the EPA Gowanus Canal Superfund cleanup.

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Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community are without harm or risk of such.

Please approve the Red Hook option.

(print)

Patronia — first name

Russell — last name

22 Mill St — address

6A — apt.#

Brooklyn — city

N.Y. — state

11231 — zip

_____ area code & phone number

_____ email

I am 18 years of age or older

x Patronia Russell — sign

4/27/13 — date

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

GowanusCanalComments.Region2@epa.gov

2013 DEADLINE!

Rec'd 4/29/13

I support the Red Hook Option of the EPA Gowanus Canal Superfund cleanup.

The improvement to an active local maritime industrial business, the economic benefits it will bring, the jobs that it will create, are all important to me and what I believe is best for the majority of the community of Red Hook.

Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community are without harm or risk of such.

Please approve the Red Hook option.

(print) RAQUEL RIOS

first name last name

95 CENTRE MAIL - 2F

address apt.#

BKLYN NY 11231

city state zip

area code & phone number

718 - 300 - 2517

email

I am 18 years of age or older

x R. Rios

sign date

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

Rec'd 4/27/13

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Please approve the Red Hook option.

(print)

Ronald Walker —

first name last name

606 Clinton 6A

address apt.#

Brooklyn NY 11231

city state zip

area code & phone number

email

I am 18 years of age or older

X _____ _____

sign date

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

Rec'd 4/27/13

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Please approve the Red Hook option.

(print)

Rafael Rosa

first name last name

606 Clinton Apt 1A

address apt.#

BKLYN NY 11231

city state zip

area code & phone number

email

I am 18 years of age or older

X _____ _____

sign date

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

Recd 4/27/13

I support the Red Hook Option of the EPA Gowanus Canal Superfund cleanup.

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Please approve the Red Hook option.

(print)

Nadia — first name
Nova — last name

167 Bush st — address — apt.#

BK — city
NY — state
11231 — zip

347 628 - 0816 — area code & phone number

email

I am 18 years of age or older

X _____ sign _____ date

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

Rec'd 4/29/13

I support the Red Hook Option of the EPA Gowanus Canal Superfund cleanup.

The improvement to an active local maritime industrial business, the economic benefits it will bring, the jobs that it will create, are all important to me and what I believe is best for the majority of the community of Red Hook.

Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community are without harm or risk of such.

Please approve the Red Hook option.

(print)

Jeanette — first name
Lewis — last name

10 Bush Street — address
1D — apt.#

Brooklyn — city
NY — state
11231 — zip

917 652-2498 — area code & phone number

email

I am 18 years of age or older

x Jeanette L — sign
date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

Recd 4/27/13

I support the Red Hook Option of the EPA Gowanus Canal Superfund cleanup.

The improvement to an active local maritime industrial business, the economic benefits it will bring, the jobs that it will create, are all important to me and what I believe is best for the majority of the community of Red Hook.

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Please approve the Red Hook option.

(print)

Jamal — first name
Cherry — last name
80 Bush St — address
apt.#
Brooklyn — city
NY — state
11231 — zip
347 260 - 8934 — area code & phone number
email
I am 18 years of age or older

x Jamel Cherry — sign
date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

I support the Red Hook Option of the EPA Gowanus Canal Superfund cleanup. Received 4/22/13

The improvement to an active local maritime industrial business, the economic benefits it will bring, the jobs that it will create, are all important to me and what I believe is best for the majority of the community of Red Hook.

Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community are without harm or risk of such.

Please approve the Red Hook option.

(print)

LAMel — first name
Snow — last name

135 Dwight — address
7A — apt.#

Brooklyn — city
NY — state
11231 — zip

347 510-869 — area code & phone number

email

I am 18 years of age or older

x LAMel Snow — sign
date

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

Rec'd 4/27/13

I support the Red Hook Option of the EPA Gowanus Canal Superfund cleanup.

The improvement to an active local maritime industrial business, the economic benefits it will bring, the jobs that it will create, are all important to me and what I believe is best for the majority of the community of Red Hook.

Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community are without harm or risk of such.

Please approve the Red Hook option.

(print)

Crystal (first name) Sostre (last name)

748 Henry St (address) 3E (apt.#)

Brooklyn (city) NY (state) 11231 (zip)

718 875-5242 (area code & phone number)

RCSostre gmail.com (email)

I am 18 years of age or older

x [signature] (sign) _____ (date)

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

Rec'd 4/27/13

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Please approve the Red Hook option.

(print)

Marjani Olivia Bowlding
first name last name

748 Henry St. 1B
address apt.#

Brooklyn NY 11231
city state zip

718 237-6898
area code & phone number

Mophousing@Aol.com
email

I am 18 years of age or older

x Marjani Olivia Bowlding
sign date

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

Rec'd 4/29/13

I support the Red Hook Option of the EPA Gowanus Canal Superfund cleanup.

The improvement to an active local maritime industrial business, the economic benefits it will bring, the jobs that it will create, are all important to me and what I believe is best for the majority of the community of Red Hook.

Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community are without harm or risk of such.

Please approve the Red Hook option.

(print)

Juan (first name) Berinos (last name)

754 Henry St 4C
address apt.#

Brookly N.Y. 11231
city state zip

area code & phone number

6624458
email

I am 18 years of age or older

x Juan Berinos (sign) _____ (date)

mail:
US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:
212 637 3966

email:
GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

Rec'd 4/27/13

I support the Red Hook Option of the EPA Gowanus Canal Superfund cleanup.

The improvement to an active local maritime industrial business, the economic benefits it will bring, the jobs that it will create, are all important to me and what I believe is best for the majority of the community of Red Hook.

Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community are without harm or risk of such.

Please approve the Red Hook option.

(print)

Clinton Quinones

first name last name

95 Central Mall 5B

address apt.#

Bklyn N.Y. N.Y. 11231

city state zip

347 729-2037

area code & phone number

CEQuinones83@Yahoo.com

email

I am 18 years of age or older

X _____ _____

sign date

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

Rec'd 4/27/13

I support the Red Hook Option of the EPA Gowanus Canal Superfund cleanup.

The improvement to an active local maritime industrial business, the economic benefits it will bring, the jobs that it will create, are all important to me and what I believe is best for the majority of the community of Red Hook.

Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community are without harm or risk of such.

Please approve the Red Hook option.

(print)

Billy — first name
Mason — last name

80 Bush St — address
6D — apt.#

Brooklyn — city
NY — state
11231 — zip

718 855-2092 — area code & phone number

email

I am 18 years of age or older

x Billy Mason — sign
date

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

Recd 4/27/13

I support the EPA Gowanus Canal Superfund - Red Hook option.

The improvement to an active local maritime industrial business, the economic benefits it will bring, the jobs that it will create, are all important to me and what I believe is best for the majority of the community of Red Hook.

Further, I am confident that any necessary safeguards will be incorporated into the work, monitored and maintained, to ensure the workers and the community is without harm or risk of such.

Please approve the Red Hook option.

(print)

Cheryl Garnett

first name last name

195 Columbia St

address apt.#

Brooklyn NY 11231

city state zip

area code & phone number

email

x Cheryl Garnett

signature date

mail:

US EPA – Remedial Project Manager/Central NY Remediation Section – att: Christos Tsiamis
290 Broadway, 20th Floor
Manhattan, NY 100007-1866

Fax:

212 637 3966

email:

GowanusCanalComments.Region2@epa.gov

IMPORTANT- MUST BE SUBMITTED BEFORE *APRIL 26th, 2013* *DEADLINE!*

"SAY NO TO A TOXIC RED HOOK"

WWW.NOTOXICREDHOOK.COM

AS A (CIRCLE ONE) RESIDENT, BUSINESS / EMPLOYEE OR USER OF THE PARKS AND RECREATIONAL FACILITIES WITHIN RED HOOK, I AM/ WE ARE STRONGLY OPPOSED TO THE PROCESSING OF TOXIC SLUDGE DREDGED FROM THE GOWANUS CANAL SUPERFUND CLEANUP SITE AT A FACILITY PROPOSED TO BE BUILT RIGHT NEXT TO THE RED HOOK BALL FIELDS AND POOL ON PROPERTY OWNED BY AN INDIVIDUAL WHO HAS INCURRED SERIOUS FINES FOR ENVIRONMENTAL VIOLATIONS IN THE PAST. IT IS THE WRONG SITE FOR THIS IMPORTANT FACILITY.

SIGNATURE(S)/DATE:

ADDRESS:

109 Dikeman St. Brooklyn 11231

U.S.POSTAGE
FOREVER

TO:

Rec'd 4/25/11

Christos Tsiamis
Central New York Remediation Section
U.S. Environmental Protection Agency
290 Broadway, 20th Floor
New York, New York
10007-1866

SAY NO TO A TOXIC RED HOOK

WWW.NOTOXICREDHOOK.COM

Comments on Gowanus Canal Proposed Plan

Margaret Maugenest to: Region2 GowanusCanalComments 04/27/2013 12:16 AM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Margaret Maugenest

History: This message has been forwarded.

Apr 26, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing in full support of your proposed plan to clean up the Gowanus Canal.

I have lived along the canal since 1984 in an artists in residence building. Superfund designation is the best things that has happened to our neighborhood. I also live a block away from the De Graw pool where you might place a retention pool. I understand that some voices and forces in my community are saying that they do not want to see that happen - but please bear in mind that these voices are coming from ignorance or hidden agendas. I swam in that pool also once, long ago - until the tenants in my building ordered an environmental report from Toxic Targeting and we found out about the migrating coal tar plume from the former coal gasification plant that had been at the site where the pool is now. I have not been back to the pool since, nor should anyone in their right mind. All this hoopla about trying to save the pool is manipulation. If people were really informed about the facts, they would not argue against the retention pool.

And they would not be arguing for keeping the swimming pool.

I am presenting my support as a Gowanus resident. I have no opinion about the EPA's plan for Red Hook except that I hope the EPA will listen to the community there.

Thank you for giving us hope, and for all you have done for us.

I am a co-founder of FROGG and also a CAG member.

Sincerely,

Ms. Margaret Maugenest
280 Nevins St
Brooklyn, NY 11217-3028

Comments on Gowanus Canal Proposed Plan

daniel cohen to: Region2 GowanusCanalComments 04/27/2013 12:16 AM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to daniel cohen

Apr 26, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

While the EPA's plan takes the critical step of calling for CSO retention for two of the Canal's worst outfalls many details will not be solidified until New York City submits their CSO Long Term Control Plan in 2015. It is critical for the EPA to stand firm on requiring retention tanks to control CSOs and to work with New York City towards the eventual goal of 100% elimination of CSOs from the Canal.

I support the EPA's commitment to dredge as much as 10 feet of contaminated sediment from the entire length of the canal, build a multi-layer cap on the bottom, and treat and dispose of this contaminated sediment offsite. I also believe that the EPA should listen to the wishes of the community in Red Hook who oppose the building of a CDF on the Red Hook waterfront to dispose of the least contaminated sediment.

Sincerely,

Dr. daniel cohen
20983 18th Ave
Bayside, NY 11360-1444

I, the sender, vote that I do not want this project to proceed.

Joy Ferguson to: Region2 GowanusCanalComments 04/27/2013 08:12 AM

As (one of the options above) of the community of Red Hook, I/We am/are strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

- Children
- Numerous public and private schools which use the fields for physical education & sports teams
- Residents of the Red Hook Houses and the surrounding neighborhood
- Soccer, softball, baseball, football, handball, basketball, track & field teams and enthusiasts
- Swimmers of all ages
- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--
Joy Ferguson
joyfergusonian@yahoo.com
128 Coffey St. #3
Brooklyn, ny
resident, park user

Comments regarding EPA with regard to clean up and Douglass Greene Park

LBlyer to: Region2 GowanusCanalComments 04/27/2013 12:58 PM
Cc: Sabine13

Please consider the three main comments outlined by the letter from Friends of Douglass Greene Park in a letter they submitted which 3 areas of focus (below) as you move forward in cleaning up the canal and surrounding areas:

□

* Incorporating the entire upland area of the former Fulton MGP site within the EPA Superfund cleanup.
* Conducting a thorough review of the Remedial Investigation results at the former Fulton MGP site and addressing new potential exposure pathways with a human health risk assessment.
* Providing compensation and guarantees for the potential loss or disruption of the Double D Pool.

Thanks
Linda Blyer
Cobble Hill

Comments on Gowanus Canal Proposed Plan

Lizzie Olesker to: Region2 GowanusCanalComments 04/27/2013 01:07 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Lizzie Olesker

Apr 27, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am a Gowanus homeowner, residing with my family on First Street, one block from the Gowanus Canal. I have spent over 15 years in this neighborhood, smelling the canal and watching its fetid, oil slicked and sewage strewn waters lie tragically unaddressed. My children and I have walked over the Carroll Street Bridge countless times on their way to school, wondering how our powerful city could continually ignore this highly toxic waterway. Now with the historic designation of the Gowanus Canal as a Superfund site, our community has finally been given the hope and possibility for real change concerning this environmental disaster.

I strongly support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution, we finally are being given a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs. The comprehensive clean up of the canal by the EPA is the only way that we might return this egregiously neglected waterway to the community, benefitting the health and well-being of all.

While the EPA's plan takes the critical step of calling for CSO retention for two of the Canal's worst outfalls many details will not be solidified until New York City submits their CSO Long Term Control Plan in 2015. It is critical for the EPA to stand firm on requiring retention tanks to control CSOs and to work with New York City towards the eventual goal of 100% elimination of CSOs from the Canal.

I support the EPA's commitment to dredge as much as 10 feet of contaminated sediment from the entire length of the canal, build a multi-layer cap on the bottom, and treat and dispose of this contaminated sediment offsite. Though I personally support the building of a CDF on the Red Hook waterfront to dispose of the least contaminated sediment as the most environmentally safe and efficient method of disposal, I also believe that the EPA should listen to the wishes of the Red Hook community itself. If the majority of those who live and work in Red Hook oppose the building of a CDF, their demands must be addressed, and an alternative disposal plan pursued.

Sincerely,

Ms. Lizzie Olesker

42 1st St
Brooklyn, NY 11231-5002
(917) 623-9225

Gowanus Canal Comment
Christie Leece to: Region2 GowanusCanalComments 04/27/2013 01:47 PM

Dear Mr. Tsiamis,

I am a resident of Brooklyn, and in recent months have attended several community meetings concerning the proposal for cleaning up the Gowanus Canal. The meetings have been very informative and your team of EPA representatives has taken great pains to explain the particulars of the site and the options for dredging and dewatering.

My concerns with the proposal are not related to the dredging or dewatering, but rather the approach to dealing with the contaminated sediment. The residents of Red Hook have spoken against the onsite CDF, and it is my understanding that this means the sediment will be moved offsite after being stabilized with Portland cement. From there, the sediment may or may not end up at the CESP in Morrisville, Pennsylvania, a co-gen plant in Pennsylvania, an unidentified treatment plant or an unidentified landfill. These treatments, based in adding cement fixers or heat-treating at best, do not seem to truly remediate the soil. What happens when the cement begins to break down? The McCormick and Baxter Superfund site plan is lauded for being designed for a hundred years, as if a hundred years is a long time.

According to myriad studies, including several conducted by the EPAthrough the Superfund Innovative Technology Evaluation Program[i] , more permanent remediation strategies to address the contaminated sediment exist that aren't being addressed in this proposal: phytoremediation and mycoremediation. Fungi have been show to break down the same PCBS and PAHs found in the Gowanus.[ii] They also have the proven ability to accumulate heavy metals in the fruiting body (mushroom caps), and can easily be harvested from the site.[iii] The metals in these mushrooms can then be extracted for new uses. Safety surrounding the treatment of this sediment is of the utmost concern, but it is important to think in the long term to avoid revisiting the Gowanus cleanup down the line. Heavy metals, once extracted with mushrooms or other bioaccumulators do not pose the risk of leaching. Mycoremediation is also significantly less environmentally taxing than heat-treating to rid the soil of PCBs and PAHs.

All of the possible plans described in the Feasibility Study relating to a CDF required extensive monitoring scheduled for years to come. Rather than monitoring a "fixed" system for errors and leaching, why not monitor a living system for remediation markers? If the EPA were to isolate a small portion of the Gowanus sediment, treat it using mycoremediation technologies, and monitor extensively for changes, this study could not only inform future superfund cleanups of this magnitude, but also serve to promote ecologically and economically effective practices. It may take more time than the standard methods to be rid of the toxins, but we would actually be remediating them, not just suspending them for a period of time.

In the course of researching the plans for the Gowanus, I have spent a good amount of

time reading through the Feasibility Study and Remedial Investigation Report. The study is heavy on charts, and while it is wonderful that a digital version of the records is available, I urge you to offer the data in CSV or XML format. Doing any analysis of the data requires parsing the PDF into a usable format, which can be time consuming and inevitably increases the likelihood of transcription errors.

Thank you for your time and consideration on this matter.

Sincerely,

Christie Leece

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[i] http://www.clu-in.org/download/remed/nairt_2000.pdf

[ii] http://www.wsdot.wa.gov/research/reports/fullreports/464.1.pdf

[iii] http://www.tandfonline.com/doi/full/10.1080/03601234.2012.716733, http://www.cem.de/documents/pdf/publikation/digestion/RD138.PDF,

Volcano Partners Comments on Gowanus PRAP (Dec. 2012)

Robert Fabricant to: Region2 GowanusCanalComments 04/27/2013 01:51 PM

Mr. Tsiamis, thank you for the opportunity to submit comments regarding the USEPA Gowanus PRAP issued in December, 2012. I have attached hereto our Gowanus PRAP comments dated 4-27-2013. Also attached is a second document referenced by our comments that was submitted to USEPA as part of the Lower Passaic River Superfund site process. Please also include this document into the record for the Gowanus PRAP as it provides important information and updates regarding our Cement-Lock manufacturing technology. Do not hesitate to call if you have any questions regarding this submission. Thanks. Bob Fabricant, Volcano Partners (908) 370-8063.

Gowanus PRAP Comment - Volcano Partners 4-27-13.pdf

Tetra Tech Memo 11-30-11.pdf

VP VOLCANO PARTNERS LLC

Empire State Building, 350 Fifth Avenue, Suite 5310, NY, NY 10118

April 27, 2013

Christos Tsiamis
Remedial Project Manager
Central New York Remediation Section
U.S. Environmental Protection Agency
290 Broadway, 20th Floor
New York, New York 10007-1866
GowanusCanalComments.Region2@epa.gov

VIA ELECTRONIC MAIL

Re: Comments to United States Environmental Protection Agency Regarding the Proposed Plan for the Gowanus Canal Superfund Site

Dear Mr. Tsiamis:

Volcano Partners, LLC (Volcano Partners) appreciates the opportunity to provide comments on the Superfund Proposed Plan for the Gowanus Canal Superfund Site, Kings County, New York (PRAP) published by the United States Environmental Protection Agency (USEPA), Region 2 in December 2012.

Volcano Partners supports the selection of thermal processing as a treatment/disposal option in the PRAP. However, we are now seeking a clarification of the available thermal treatment options discussed in the PRAP. Specifically, we are requesting that EPA identify high temperature thermo-chemical processing of sediments in the production of cement admixtures as an available treatment/disposal option in the Record of Decision (ROD). As discussed in more detail below, this type of thermal treatment meets the evaluation criteria of the Feasibility Study and PRAP and would be an effective and cost-competitive treatment/disposal alternative for inclusion in the ROD.

I. Volcano Partners Requests High Temperature Thermo-Chemical Processing of Sediments in the Production of Cement Admixtures as a Treatment/Disposal Option in the Record of Decision

Volcano Partners is the owner of the patented Cement-Lock• manufacturing process. Cement-Lock• uses a high temperature thermo-chemical process that effectively destroys organic contaminants in dredged sediments, including petroleum aromatic hydrocarbons (PAHs) and polychlorinated biphenyls (PCBs), and immobilizes any remaining metals in a beneficial use product, Ecomelt•, that serves a substitute for portland cement in the production of concrete. The Cement-Lock• manufacturing facility also captures waste heat from the manufacturing process to generate electricity for use by the facility and for export to the grid.

The contaminants of concern (COCs) to human and ecological health in the sediments at the Gowanus Canal Superfund Site include PAHs, volatile organic compounds (VOCs), particularly benzene, toluene, ethyl benzene and xylene (BTEX), PCBs and seven metals (barium, cadmium, copper, lead, mercury, nickel and silver). According to the PRAP, portions of the site contain concentrations of these constituents, particularly PCBs and lead, that may exceed the capabilities of thermal desorption as a suitable treatment technology. The PRAP acknowledges that treatability testing will be required to identify appropriate handling and disposal options for sediments from those portions of the site. The Cement-Lock• manufacturing process would effectively destroy, immobilize in a beneficial use product, or capture in air pollution control (APC) equipment any and all of these identified COCs without the need for additional treatability testing.

Finally, as discussed in more detail below, the use of the Cement-Lock• manufacturing process would have additional benefits when compared to other thermal treatment options reviewed by EPA in the PRAP. For example, the use of the Cement-Lock• manufacturing process would dramatically reduce the number of truck trips required by the use of technology Option A (thermal desorption). The use of Option A requires:

- Barge transport of approximately 284,000 cubic yards of dredged material to a processing facility where the sediment is amended by portland cement increasing the volume by 7.5 percent.
- Transport of the approximately 307,000 cubic yards of amended material by truck to a thermal desorption facility. Approximately 35,000 truck trips[1] will be required.
- Transport of the approximately 203,000 cubic yards of processed sediment[2] plus treatment process waste materials to a landfill(s), requiring approximately 20,000 additional truck trips.

We believe that the Cement-Lock• manufacturing process is an effective and cost-competitive treatment/disposal alternative for the Gowanus Canal Superfund Site. Therefore, we are requesting

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[1] Assumes a 20 cubic yard-capacity truck travels to or from the destination.

[2] Thermal desorption typically reduces the volume by two-thirds plus baghouse waste. Source: J. Blanchard and Stamnes, R., 1997. *Engineering Forum Issue Paper: Thermal Desorption Implementation Issues*. United States Environmental Protection Agency Office of Emergency and Remedial Response Publication 9200.5-224FS EPA 540/F-95/031 PB95-963315 January 1997.

that USEPA identify high temperature thermo-chemical processing of sediments in the production of cement admixtures as an available treatment/disposal option in the ROD.

II. Cement-Lock• Manufacturing Technology Delivers Sustainable, Integrated Sediment Management

The Cement-Lock• manufacturing technology is a sustainable, integrated sediment management system that supports Remedial Action Objectives (RAOs) for the Gowanus Canal Superfund Site and USEPA guidance supporting the use of innovative, sustainable technology. USEPA guidance[3] urges project managers to utilize innovative technology when such technology offers the potential for comparable or superior treatment performance or implementability, fewer or lesser adverse impacts than other available approaches, or lower costs for similar levels of performance than demonstrated technologies. Additionally, in the course of manufacturing products for which there is a market demand, the Cement-Lock• process meets USEPA treatment criteria for PCBs and dioxins/furans.

Cement-Lock• is a thermo-chemical manufacturing process that produces a high quality pozzolanic material, called Ecomelt•, by using contaminated sediment as a manufacturing process feedstock. Ecomelt• can replace up to 40 percent of portland cement in concrete production. Blended cement composed of Ecomelt• and portland cement is suitable for general construction purposes at lower costs than portland cement alone.

The Cement-Lock• manufacturing process was developed by the Gas Technology Institute, Des Plains, IL, (GTI) under a contract with Brookhaven National Laboratory (BNL), funded by the federal Water Resources Development Act (WRDA) and the USEPA Region 2 Superfund program. Additional funding and project management support was provided by the New Jersey Department of Transportation, Office of Maritime Resources and the Gas Research Institute, Des Plaines, IL (GRI). A demonstration plant was constructed at the International Matex Tank Terminal, Bayonne, New Jersey. Demonstration tests conducted in 2005 through 2007 successfully produced Ecomelt• from sediment from the Lower Passaic River, New Jersey, Newtown Creek, New York and Detroit River, Michigan Superfund sites.

The Cement-Lock• manufacturing process is specifically designed to use contaminated dredged materials as a feedstock raw material for the production of Ecomelt•. After dewatering, the sediments are processed into a homogeneous "filter cake". The patented technology combines the "filter cake" with calcium, aluminum and silica additives necessary for production of a pozzolanic cementitious material. The mix is then run through a high temperature manufacturing process (a natural gas-fired slagging rotary kiln). This process produces a molten mixture that is then quenched in a water bath to create a beneficial use product, Ecomelt•.

The high temperature (2400° to 2600° F) involved in the manufacturing process to create Ecomelt• has the benefit of destroying organic contaminants present in the feedstock, achieving DRE's of 99.9999+ for

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[3] United States Environmental Protection Agency. 2005. *Contaminated Sediment Remediation Guidance for Hazardous Waste Sites*. OSWER 9355.0-85.

compounds such as PAHs, PCBs and dioxin/furans. The thermo-chemical manufacturing process also effectively immobilizes inorganic contaminants, such as metals, in the pozzolanic matrix found in Ecomelt•. Mercury, lead and other volatilized metals are captured in the APC system, as designed by Foster Wheeler Corporation and described in detail in the attached Memorandum, dated November 30, 2011, from TetraTech EC. Ecomelt• is collected from the kiln as vitreous pellets and milled for blending with portland cement for use in concrete.

As described in detail by the 2008 WRDA final report[4], leaching tests conducted during the course of the demonstration project concluded that Ecomelt• readily passed USEPA Toxicity Characteristic Leaching Procedure (TCLP). Ecomelt• can be blended with ordinary portland cement at a 40:60 (Ecomelt• to portland cement) weight ratio.[5] This use is consistent with ASTM C595 (Standard Specification for Blended Hydraulic Cements) and confirmed by the pilot and demonstration project test results. In 2008, a batch of concrete using Ecomelt•, made from Passaic River sediments, was used for a length of sidewalk at Montclair State University, Montclair, New Jersey.[6]

Under this technology option, the dredged material would be screened, dewatered and processed at a single site located in New York-New Jersey harbor complex. Sediment would be offloaded from barges and mechanically screened for debris and oversized material. Debris would be washed and disposed in a landfill. Screened sediment would be run through hydrocyclones to remove sand for recycling. The fine material would be dewatered using membrane filter presses. Ecomelt• would be manufactured from the resulting "filter cake". Finally, the Cement-Lock• manufacturing facility captures waste heat from the manufacturing process to generate electricity for use by the facility and for export to the grid.

III. Cement-Lock• Manufacturing Technology Meets the Evaluation Criteria for Treatment/Disposal Established in the Feasibility Study and PRAP

As discussed above, the use of Cement-Lock• manufacturing technology supports the RAOs established for the Gowanus Canal Superfund Site including the protection of overall human health and the environment and the achievement of applicable or relevant and appropriate standards (ARARs). Cement-Lock• also meets the additional evaluation criteria set forth in the Feasibility Study and PRAP, including short-term effectiveness, long-term effectiveness and permanence, reduction of toxicity, mobility or volume through treatment, implementability, cost, acceptance and sustainability.

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[4] Mensinger, M, 2008. *Sediment Decontaminatian Demonstration Program – Cement-Lock® Technology Final Report: Phase II Demonstration Tests with Stratus Petroleum and Passaic River Sediments.* Endesco Clean Harbors, Inc., July 2008.

[5] Rehmat, A.,A. Lee, A. Goyal, and M.·C. Mensinger,1999. *Construction-Grade Cement Production from Contaminated Sediments Using Cement-Lock Technology* . http://www.bnl.gov/wrdadcon/publications/reports/igt-weda-5-99.pdf

[6] Mensinger, M.,2008. *Cement-Lock® Technology for Decontominating Dredged Estuarine Sediments Topical Report on Beneficial Use of Ecomelt• from Passaic River Sediment* at Montclair State University, New Jersey. Gas Technology institute, Des Plains, IL., 2008.

A. Short-Term Effectiveness

Cement-Lock• manufacturing technology would centralize processing and treatment of the Gowanus Canal dredged material into a single location, minimizing handling and transportation, as well reducing the risk of releases. While meeting required performance specifications, this approach reduces potential impacts to the community, including the reduction of noise and levels of traffic, and dust and odors during the handling, processing and disposal of contaminated sediment. The APC equipment and monitoring instrumentation for lime injection, carbon absorption, NOx capture and stack emissions control have been demonstrated to be fully compliant with all applicable APC standards.

Specifically, the Cement-Lock• manufacturing technology can simplify the remedy and improve the short-term effectiveness of the remedy as follows:

- Because the preparation of dredged material for the Cement-Lock• manufacturing process involves sand separation as part of the dewatering process, the volume of dredged material requiring thermal treatment would be reduced by at least one-third based on the average sand content described in the Remedial Investigation. The treatment of dredged material would not require amendment by portland cement, avoiding the 7.5 percent increase in volume imposed solely to reduce moisture content for transport to the thermal desorption facility.
- The dredged material would be offloaded directly to the manufacturing facility from the barge, eliminating the repeated material handling required by the technology Option A (thermal desorption). Over 35,000 truck trips required to convey material from the processing facility to the treatment facility are eliminated, together with the associated truck traffic impacts to local highways and communities
- Truck trips between the treatment facility and the end use would be reduced because of the comparatively lower volume of material that must be transported.
- Approximately 20,000 truck trips to import portland cement to amend the dredged sediment for the transportation to the treatment facility would be eliminated.
- Because Ecomelt•, the end product of the Cement-Lock• manufacturing process, is a replacement for portland cement that would be used locally, truck trips associated with the mining, processing and transport of raw materials for cement manufacturing of an equivalent volume of Ecomelt• for local construction would be eliminated.
- The eliminated truck traffic would sharply reduce traffic impacts, noise and greenhouse gas emissions associated with the remedy.
- The reduced handing of the dredged material could reduce the volatilization of BTEX and associated risks to workers and the community.
- Process heat from the Cement-Lock• manufacturing process can be captured and used to co-generate electricity to run the facility with a balance available for export to the grid.

B. Long-term Effectiveness and Permanence

The very nature of the higher temperatures involved by the Cement-Lock• manufacturing process, as demonstrated in the WRDA Demonstration Project by the USEPA Region 2, in conjunction with BNL, can improve the long-term effectiveness and permanence of the remedy, minimizing potential exposure pathways and long-term risks. Specifically,

- The Cement-Lock• manufacturing process uses high temperatures that effectively destroy all organic constituents, including PAHs, PCBs and dioxins.
- The unvolatilized metals are immobilized within the Ecomelt• matrix. TCLP test results have demonstrated the immobility of metals in Ecomelt•.[7]
- Lead and other metals volatilized by the high temperature process would be captured by the APC system.
- The mass of contaminants transferred from Gowanus Canal to landfills would be sharply reduced. Only residual material recovered from the baghouse of the APC system, containing a small fraction of original contaminant load found in the in situ volume of dredged sediments would require landfilling. Volcano Partners is actively reviewing recycling options that would eliminate the need to landfill even this small fraction of contaminants found in APC residual.

C. Reduction of Toxicity, Mobility, or Volume Through Treatment

The ability to destroy organics and immobilize metals in the course of manufacturing marketable products from dredged material is the strength of this alternative treatment option. Specifically,

- The high temperatures involved in the manufacturing process irreversibly destroy all organic contaminants, achieving 99.9999+ percent DREs for PAHs, PCBs and dioxins;
- Metals are immobilized in the Ecomelt• pozzolanic matrix. TCLP analyses on Ecomelt• meet EPA and State standards;
- The material dredged from the Gowanus Canal would be used as a feedstock to produce Ecomelt• for use as a portland cement replacement;
- All sediment recommended to be dredged by the PRAP, regardless of COC concentrations, is acceptable feedstock for the Cement-Lock® process for manufacturing Ecomelt•; and
- Volcano Partners is actively reviewing recycling options that would eliminate the need to landfill even the small fraction of contaminants remaining in APC system residual.

D. Implementability

After the successful manufacture of Ecomelt• from Passaic River, New Jersey, Newtown Creek, New York and Detroit River, Michigan Superfund sites was demonstrated during the WRDA Demonstration Project by the USEPA Region 2, BNL and the GTI, operational enhancements were made to the feedstock

[7] Mensinger, M, 2008. *Op.cit.*

delivery and APC systems by Foster Wheeler Corporation (see attached Memorandum dated November 30, 2011, from Tetra Tech EC). Foster Wheeler specializes in the design of high temperature rotary kilns and has over nine facilities currently active in the United States, including the Aragonite, Utah facility that successfully treated dredged material from the Passaic River Phase 1 Removal Project last year.

Cement-Lock• utilizes established technology comprised of components whose efficacy and reliability has been proved by more than 20 years of operational experience. The uniqueness of the Cement-Lock• manufacturing process lies in the additives, the mixture ratios and residence times used to manufacture Ecomelt®, rather than in the thermo-chemical processing equipment. All mechanical systems are "off-the-shelf" and in widespread use worldwide. Foster Wheeler's proprietary rotary kiln designs readily scale-up to meet the removal requirements of the Gowanus Canal Superfund Site. Our engineers estimate that a full-scale manufacturing facility can be operational in 18 months after delivery of a contract guaranteeing a minimum volume of material for processing at a proposed Cement-Lock• manufacturing facility. Based on our preliminary analysis, the amount of dredged material from RTA 1 and RTA 2 (284,000 in situ cubic yards) recommended by the USEPA in the PRAP for treatment by technology Option A (thermal desorption) would be sufficient to support the development of a minimum commercial-scale Cement-Lock• manufacturing facility.

As we outlined above, all dredged material from the Gowanus Canal is suitable for the Cement-Lock• manufacturing process. Therefore, the uncertainties arising from the potential suitability of the dredged material, given the limitations of thermal desorption, are eliminated. Finally, processing and treating the dredged material in a single off-site location would reduce the impacts to the affected community resulting from implementation of the remedy.

E. Cost

The PRAP estimated approximately $365 per cubic yard for treatment and disposal using technology Option A (thermal desorption) for RTA 1 and RTA 2. However, the actual cost may be higher when the full cost to design and implement the proposed technology option and long-term costs to operate and maintain the remedy are considered. For comparison, a recent estimate of approximately $350 per in situ ton for implementation of Cement-Lock• technology for the Passaic River Superfund sediments was submitted to the USEPA (see attached Memorandum, dated November 30, 2011, from Tetra Tech EC). This cost estimate for the Passaic River sediment included material management after barge offloading at site, sand removal, dewatering, water treatment and processing by a Cement-Lock• manufacturing facility. Without providing a specific cost estimate, Volcano Partners' preliminary analysis for processing Gowanus Canal sediment confirms that the use of the Cement-Lock• manufacturing process would be cost-competitive with technology Option A (thermal desorption) based on a contract to process the minimum amount of dredged material identified in Section IIID above.

The use of the Cement-Lock• manufacturing technology reduces overall implementation and long-term costs in several ways:

- The costs for identifying and implementing alternative treatment or placement technologies for material unsuitable for thermal desorption are avoided. All organic COCs can be treated to 99.9999+ percent DREs and remaining metals would be immobilized in the end product, eliminating the need and costs to investigate and utilize additional treatment/disposal technologies for material unsuitable for thermal desorption.
- Costs for transportation from a dewatering facility to a treatment facility would be avoided as the material would be dewatered and processed at a single location. Cost for transportation from the processing facility to a landfill would be sharply reduced.
- Long-term liability costs are sharply reduced or eliminated. As the volume of material requiring placement in a landfill would not be increased by the addition of portland cement for dewatering, the long-term insurance, monitoring, bonding and other costs associated with placement in a landfill would be nearly eliminated.

F. Acceptance

The Cement-Lock• manufacturing process is recommended by the National Advisory Council for Environmental Policy and Technology (NACEPT) as a technology for environmental justice communities and other vulnerable populations.[8] Volcano Partners is committed to developing and implementing a community education and outreach program to keep communities informed and engaged.

G. Sustainability

The Cement-Lock• manufacturing process is consistent with USEPA Region 2 Clean and Green Policy that promotes a more sustainable approach to remediation. The Cement-Lock• manufacturing process is the result of the unprecedented 20-year effort by USEPA Region 2 and public and private stakeholders to identify and deploy a sustainable, green technology capable of producing a beneficial use product from contaminated dredged sediments. Specifically,

- The Cement-Lock• facility uses natural gas for the manufacturing process and waste heat for cogeneration. Coal would not be used as required by technology Option C- Cogeneration;
- Energy used in the manufacturing process would be captured through cogeneration to run the manufacturing facility and exported to the electrical grid;
- The end product of the manufacturing process would be a high quality pozzolanic material that would be beneficially used as a cement admixture to substitute with a portion of portland cement in the production of concrete for construction projects. This process virtually eliminates any need for landfilling of contaminants. Nearly the entire volume of contaminated dredged material would be used in the production of non-hazardous building materials, including sand and Ecomelt•, a pozzolanic cement admixture, for local construction use; and
- Greenhouse gas emissions would be reduced by the elimination of truck transport and by the offset of CO_2 emissions resulting from the beneficial use production of a portland cement

[8] NACEPT, *Technologies for Environmental Justice Communities and Other Vulnerable Populations*, February 15, 2012

replacement and electricity associated with the Cement-Lock• facility. For each ton of Ecomelt• produced, a Cement-Lock• facility eliminates one ton of CO_2 produced by the portland cement industry.

We look forward to working with you and your staff, and the PRPs and other stakeholders, to establish an effective and cost competitive treatment/disposal plan for the Gowanus Canal Superfund Site. We would be happy to provide any additional information you may need regarding the Cement-Lock• manufacturing process, or to meet with you or your staff to answer any questions.

Sincerely,

Al Hendricks

Chairman / Managing Member

(407) 492-9731

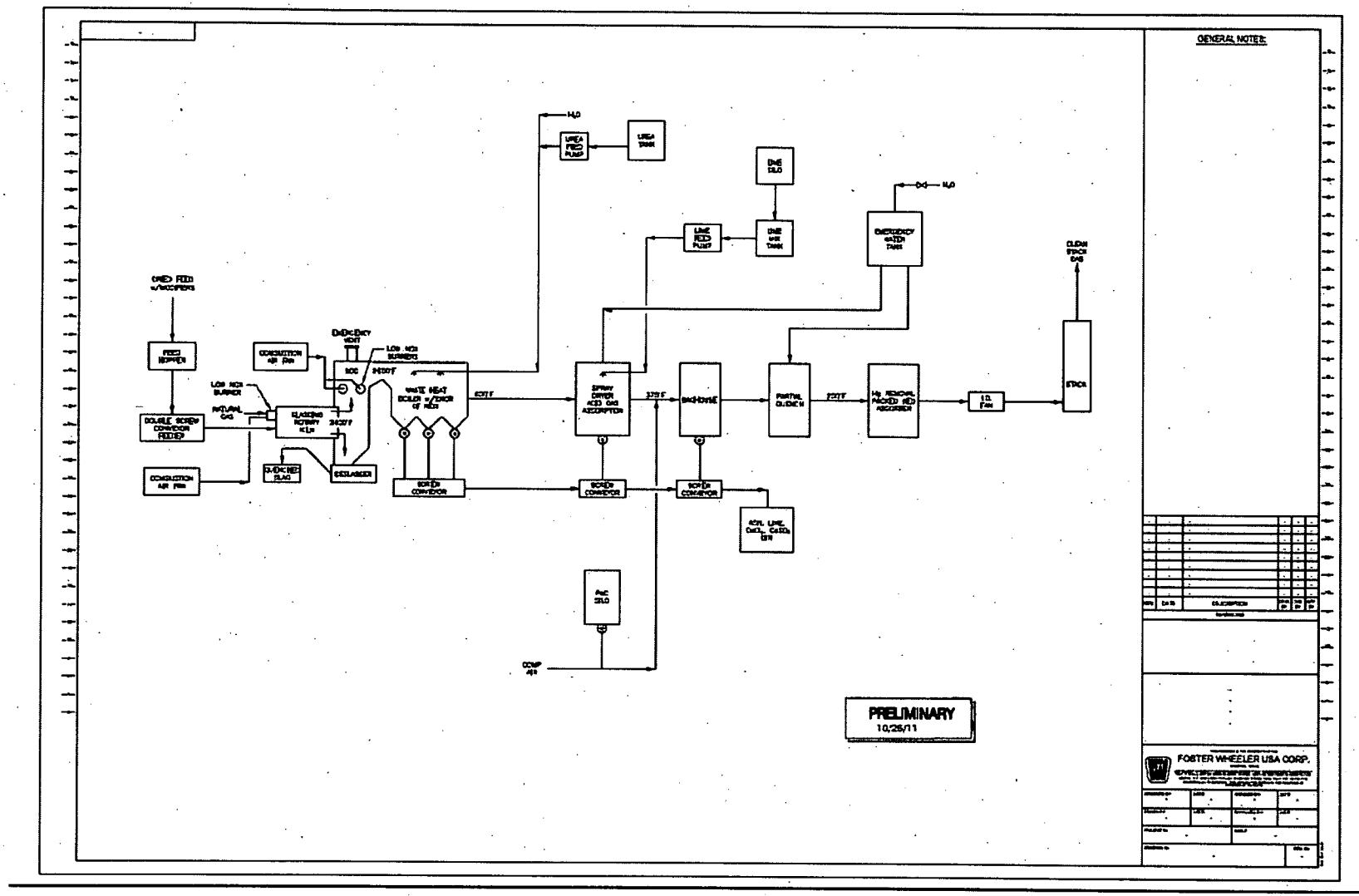
www.cement-lock.com

Robert Fabricant

Counsel

(908) 370-8063

Attachments (1)


GENERAL NOTES:
PRELIMINARY
10/25/11
FOSTER WHEELER USA CORP.

7. Induced Draft Fan, Stack and Continuous Emission Monitoring System

The entire thermal processing and gas cleaning system operates under slight negative draft pressure provided by the induced draft fan which pulls the flue gas through the system and pushes it up the stack where the cleaned gas is vented to the atmosphere. The negative draft pressure ensures that any system leaks will allow ambient air into the system rather than allowing untreated or partially treated flue gas to escape to the atmosphere. The stack will provide adequate lift to the gases to allow for proper dispersion of the cleaned flue gas into the atmosphere. A proven CEMS will be provided to monitor the stack gases to ensure that the thermal processing and gas cleaning system are operating efficiently and within the constraints of the regulations and operating permit requirements for all pollutants.

occurs by selective non-catalytic reduction (SNCR) in the Waste Heat Boiler (WHB) where urea is injected into the flue gases in the zone where the temperature is about 1,800° to 1,700°F. At this temperature the urea reacts to reduce the NOx to N_2 without a catalyst. A reduction of 50 to 70 percent of NOx has been demonstrated in Foster Wheeler's systems. The gas is cooled to about 650°F in the WHB as steam is generated.

- The gas is then further quenched, to a temperature of about 375°F, by spraying a lime solution into a spray dryer absorber. The aqueous lime droplets absorb and react with the acid gas components (HCl , SOx, etc.) to form calcium salts (such as $CaCl_2$ and $CaSO_4$) which are dried and removed from the gas stream in a baghouse. A removal efficiency of 99.9% for HCl and 98% for SO_2 has been demonstrated.

- Fine particulate will be collected in the baghouse together with the lime and salts to achieve maximum achievable control of particulate emissions. Volatile and semi-volatile metals and metal compounds (such as Pb, $PbCl_2$, and PbO) will condense on the powdered lime and salt particles and will also be captured in the baghouse. The vapor pressures of Pb, $PbCl_2$ and PbO at 375 °F (which is the baghouse operating temperature) are less than 10^{-8}, 10^{-7} and 10^{-8} mm Hg, respectively (less than 1 ppm in the vapor phase). The fine particulate, lime, salts, and condensed compounds will be removed from the flue gas stream at over 99.9% efficiency by the bags. Based on Foster Wheeler's experience, the elevated Pb emissions from the demonstration tests were probably due to a damaged bag in the baghouse[13].

- Powdered activated carbon is also injected into the gas stream ahead of the baghouse to remove dioxins or furans (that may be generated in the boiler) and mercury compounds. The baghouse is maintained at a temperature sufficiently above the acid gas dew point to prevent any condensation and consequent plugging of the bags, and corrosion. ADA/Norit Americas expects that a reduction of 90 to 95% of the Hg in the flue gas stream can be achieved in this stage.

- The final step in the gas cleaning system is another partial quench, to a temperature of about 250 °F, by spraying water into the gas and then passing the gases through a packed bed absorber filled with carbon to absorb any mercury (Hg) or mercury compounds still present as vapor. ADA/Norit Americas expects that this Hg removal polishing step is capable of removing an additional 90+% of the Hg compounds. An Hg continuous emission monitoring system (CEMS) will be provided before the guard section of the packed bed to signal when the carbon packing needs to be replaced.

Each of these process components has been demonstrated successfully for the application described in numerous projects and can be provided by several reliable equipment suppliers.

[13] Gas Technology Institute, 2008. Cement-Lock® Technology for Decontaminating Dredged Estuarine Sediments Final Project. Gas Technology Institute, Des Plains, IL., November 2008.

production of thermal NOx at a minimum. A minimum of two burners will be provided in the SCC. They will be arranged to promote turbulence and eliminate dead spaces and/or short circuits within the SCC.

To achieve the required Destruction and Removal Efficiency (DRE) for the thermal processor, Foster Wheeler uses proven guidelines combining residence time, temperature, turbulence, physical arrangement of the secondary combustion chamber (SCC), and type and arrangement of the burners. By following these guidelines all Foster Wheeler designs have surpassed the DRE requirements, as demonstrated, before being placed in service, for all organic components present in the feed, including dioxin and PCBs, whether the DRE is four nines (99.99 percent) or six nines (99.9999 percent). This operating experience demonstrates their capability of exceeding the DRE requirement of the project for any organic components present in Passaic River sediment.

5. Waste Heat Boiler

After the SCC, the hot flue gases enter a Waste Heat Boiler (WHB). The WHB will have a radiant section, designed with wide passes and slag/ash build-up removal capability, followed by a convection section with soot blowing. An aqueous urea solution will be sprayed into the WHB in the proper temperature zone (about 1,800° to 1,700°F) to allow selective non-catalytic reduction (SNCR) of most of the NOx in the flue gas to elemental nitrogen.

6. Flue Gas Cleaning System

The flue gas cleaning system will use proven components for any applicable state or federal air pollution control standards, including Maximum Achievable Control Technology (MACT) or New Jersey SOTA (State of the Art) requirements, for all regulated pollutants, including:

- Acid gases: SOx, HCl/Cl_2, and other halogen species,
- Fine particulate including volatile and semi-volatile metals,
- Mercury,
- Lead,
- NOx (as required), and
- Dioxins and Furans

Each component in the gas cleaning system will be designed to handle the maximum loading of contaminants and maximum flow rates for the process to ensure that all emission standards are met or exceeded.

The system will be a multi-step process and will provide a dry discharge with no waste water to treat. The treatment steps are as follows:

- The generation of fuel NOx in the system will be low due to the small amount of nitrogen in the feed. Thermal NOx will be minimized by the use of low-NOx burners. Further reduction of NOx

2. Feed System

The dewatered sediments that have been mixed with feed additives (slag modifiers) are placed in a feed hopper at the front wall of the rotary kiln. A double screw feeder conveyor (redesigned to address issues raised by the demonstration project) or ram feeder will be used to feed this material through an opening in the stationary front wall of the kiln on a continuous basis. The double screw conveyor creates a seal and restricts the in-leakage of air to the kiln. The heat for processing the sediments is provided by burning natural gas in a low-NOx burner also mounted on the stationary front wall of the rotary kiln. A combustion air fan will provide the proper ratio of air to fuel for efficient combustion.

Foster Wheeler rotary kilns are used routinely to treat widely heterogeneous materials that are often fed in batch mode (drums, boxes, etc.). It is much simpler to handle a single waste stream that will be somewhat homogeneous and fed continuously as is planned for this project. For example, Clean Harbors operates three 4.4 meter diameter x 12 meter long Foster Wheeler slagging rotary kilns at two locations. These kilns average over 10 tons/hour of feed to each one and have obtained onstream factors in excess of 85%.

The operating experience of these kilns demonstrates that the processing of 6-9 tons/hour of sediment modifier mix is well within their capability; especially considering the feed will be relatively homogeneous in nature and fed continuously to the kiln with a vast majority of the heat release from burning natural gas.

3. Wet Deslagger

To handle the slag discharge from the rotary kilns, a wet deslagger is employed. The molten slag falls from the discharge of the kiln and the walls of the secondary combustion chamber into a pool of water where it is quenched and cooled. The design of this slag drop area is extremely important. The proper openings and slopes are critical to the operability of the system. Foster Wheeler has gained this know-how through numerous applications. The slag is carried from the pool with a drag flight or plate-type conveyor. These wet deslaggers have been used on all of the slagging rotary kilns designed with Foster Wheeler technology and have provided excellent, reliable service thereby demonstrating that the removal of quenched slag will not be an issue with this design. Additional natural gas lances can be mounted at the kiln discharge to assist in melting any slag that may solidify and begin to build up in this area.

4. Secondary Combustion Chamber

The SCC must supply additional heat to the process to account for SCC heat losses, air in-leakage, and to heat the water vapor (steam) generated in the wet deslagger to temperatures necessary to obtain the designed DRE for the facility. Low-NOx burners are used in the SCC, as well as the kiln to keep the

1. Rotary Slagging Kiln

The rotary kiln thermal processing technology provided by Foster Wheeler has been used to treat a wide variety of contaminated soils, sediments, sludges, and debris fed through both continuous feeders and in bulk containers (drums). These kilns are routinely operated in slagging mode to ensure that desorption, volatilization and required carbon burn-out of organic contaminants in the solids feed is achieved and maximized. The feed materials, feed additives (slag modifiers), auxiliary fuel(s) and oxygen content are carefully planned and regulated to control the slagging conditions in the kiln. The internal diameter and length of the kiln are carefully chosen to stay within our proven limits for volumetric heat release, kiln gas velocity (to minimize ash carry-over to the secondary combustion chamber (SCC) and waste heat boiler), solids filling factor and residence time. Carefully selecting these design features is important to ensure the feed sediment is heated thoroughly, to completely volatilize organic contaminants that are then oxidized in the Secondary Combustion Chamber (SCC).

Foster Wheeler's thermal treatment technology, experience and know-how was obtained and demonstrated on multiple projects dating back to 1986. Their rotary kiln projects in North America include 13 designed, 12 built and operated, 9 currently operating, including several currently operating units that were designed and demonstrated to meet 99.9999+ percent DRE. Several other facilities were taken to various stages of design but not built for a variety of reasons. A partial list of their completed rotary kiln thermal treatment projects is provided below. We would be happy to provide additional examples of Foster Wheeler's relevant projects upon request.

ROTARY KILN EXPERIENCE

	Client & Location	Rotary Kiln	Start-up Year	percent DRE	Status
1	Dow Chemical Midlands, MI	4.4 m ø x 12 m L slagging	2002	99.99+	in operation
2	Chem Security, Ltd. Swan Hills, Alberta, Canada	4.4 m ø x 12 m L slagging	1993	99.9999+	Swan Hills Treatment Center (SHTC) in operation
3	APTUS Tooele County, UT	4.4 m ø x 12 m L slagging	1991	99.9999+	Clean Harbors in operation
4	Rollins Environmental Deer Park, TX	4.4 m ø x 12 m L slagging	1988	99.99+	Clean Harbors in operation
5	Pyrochem, Inc. Coffeyville, KS	3.6 m ø x 10 m L slagging	1986	99.9999+	Aptus-Laidlaw shut down in 1999

containing sediments is thermal treatment, such as the thermo-chemical process employed by Cement-Lock Technology in the manufacture of Ecomelt®. Thermal destruction has also been demonstrated to destroy organic contaminants such as PCDD/F, PCB, and PAH.

Off-site thermal treatment options are also limited. Only a few facilities in the United States (primarily in Texas, Utah, Nebraska and other western states) and Canada are permitted to treat such materials. All require transport over long distances and considerable material handling. Importantly, residue ash from these facilities all contain mobile metals that requires placement in a hazardous waste landfill, while the Cement-Lock® Technology manufacturing process creates a beneficial use product that immobilizes metals in a pozzolanic matrix.

E. Design Updates for Cement-Lock® Technology Manufacturing Plant.

As discussed above, the efficacy and feasibility of the Cement-Lock® manufacturing process was proved by the 2006 demonstration project in Bayonne, New Jersey that produced Ecomelt® from approximately 500 cubic yards of Passaic River sediment[10]. The demonstration project used a medical waste kiln modified to treat sediment. The demonstration yielded considerable operational data that has been used to refine the engineering design for a commercial-scale manufacturing facility specifically designed for the use of dredged sediments as a feedstock.

This section summarizes the key design developments since that demonstration, including any engineering modifications to address issues encountered in the demonstration project and advances proposed in the APC equipment for the commercial-scale facility.

The Cement-Lock 2006 demonstration identified a number of plant equipment-related problems, including: 1) inconsistent feeding of sediment to the demonstration plant system, and 2) discharging of slag from the drop-out box. Principal among these problems was the inability of the Ecomelt® Generator to continuously discharge slag from the rotary kiln. Slag accumulated in the drop-out box instead of falling into the granulator to be quenched[11]. In part, these problems were the result of the adaptation of a kiln designed for medical waste processing. The subsequent equipment modification design study as part of the New Jersey Department of Transportation/Office of Maritime Resources project[12] recommended modifications that were largely implemented and tested. The recommendations of that study and test results have been reviewed. The current design addresses these issues, as described in more detail below.

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[10] ENDESCO Clean Harbors, Inc., 2006. Sediment Decontamination Demonstration Program: Cement-Lock® Technology Phase I Pilot Test Final Report. August 2006

[11] ENDESCO Clean Harbors, Inc., 2006. Sediment Decontamination Demonstration Program: Cement-Lock® Technology Phase I Pilot Test Final Report. August 2006

[12] ENDESCO Clean Harbors, Inc., 2006. Sediment Decontamination Demonstration Program: Cement-Lock® Technology Report on Task 6 – Equipment Modification Design Study. July 2006

D. Design Specifications for Passaic River Sediments

Cement-Lock® Technology is the first sustainable thermo-chemical manufacturing process specifically designed to manufacture a construction-grade, cementitious building material (Ecomelt®) from contaminated dredged sediments. USEPA has identified Cement-Lock® technology as a potential early action treatment process for contaminated sediments found at the Lower Passaic River Superfund Site. In addition to producing a beneficial use product, the Cement-Lock® Technology manufacturing process employs a thermo-chemical process that is highly effective for the destruction of organic contaminants, such as dioxin and PCBs, and the treatment and immobilization of inorganic contaminants, such as metals, found in dredged sediments.

Volcano Partners is proposing the construction of a 50,000 ton per year Cement-Lock® Technology manufacturing plant in the vicinity of the Lower Passaic River Study Area in New Jersey. The plant design will accommodate additional capacity expansion as needed and will be constructed on a timeline necessary, under an early action plan, to accept contaminated dredged sediments as a manufacturing feedstock for Ecomelt® production. This facility will be dedicated to the treatment of contaminated dredged sediment unsuitable for ocean or upland disposal.

The Passaic River and Newark Bay superfund sites contain an estimated 11 million cubic yards of sediments determined by the USEPA and the state of New Jersey to contain elevated levels of various constituents (including dioxin, PCBs, metals and organics and pesticides)[7]. Concentrations of 2,3,7,8-TCDD in these sediments exceed 5 parts per million (ppm); chromium (363 ppm, average concentration), lead (555 ppm, average concentration) and mercury (7.78 ppm, average concentration) are also detected at elevated levels[8].

Silt and clay are the primary sediment size encountered in this area of the Passaic River. The primary assumptions made for the sediment are "in-situ" solids content of 35 percent. The assumption made for debris, oversize screenings, and sand removal is 17 percent of the mass prior to dewatering. We have utilized a density of 1.21 tons per "in-situ" cubic yard. These assumptions are based upon information received regarding the Phase I early action removal. The financial model for the project is based upon receipts using these assumptions.

The USEPA guidance[9] indicates that, to the extent practicable, clean-up project alternatives should consider the CERCLA preference for treatment over containment or land disposal. The only on-site potential treatment technology applicable for treatment of UTS (Universal Treatment Standard) dioxin

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[7] Malcolm Pirnie, Inc. June 2007. Draft Source Control Early Action Focused Feasibility Study (FFS), Executive Summary, Prepared for US Environmental Protection Agency, et al.

[8] Tierra Solutions, Inc. August 2008. Phase I Engineering Evaluation/Cost Analysis Work Plan CERCLA Non-Time-Critical Removal Action – Lower Passaic River Study Area, revision 1

[9] USEPA. 1993. Guidance on Conducting Non-Time-Critical Removal Actions Under CERCLA. EPA540-R-93-057. August

Rotary Kiln Design /Build - For more than 25 years the Foster Wheeler team, and its predecessor companies, has designed and built slagging rotary kiln technology to treat a wide variety of contaminated materials, including soils, sludges, and debris, fed through both continuous feeders and in bulk containers (drums). Foster Wheeler's design handles the slag discharge from rotary kilns by the use of a wet deslagger. The wet slag falls from the discharge of the kiln and the walls of the secondary combustion chamber into a pool of water where it is quenched and cooled. The slag is carried from the pool with a drag flight or plate-type conveyor.

Ecomelt® Production – The cooled slag is our beneficial use product, Ecomelt®. The use of additives and the control of mixture ratios and residence times used to manufacture Ecomelt® will require simple operational and design modifications to Foster Wheeler's slagging rotary kiln design. As set forth in Section IV below, we are currently working with Foster Wheeler to finalize revisions to its standard slagging rotary kiln design for the production of Ecomelt®. The thermo-chemical process used to produce Ecomelt® has an additional benefit by effectively destroying organic contaminants, including dioxins/furans, PCBs and pesticides/herbicides, found in the feedstock. This thermo-chemical manufacturing process also effectively immobilizes inorganic contaminants, such as metals, in the pozzolanic matrix found in Ecomelt®. Leaching tests have demonstrated that the Ecomelt® product meets TCLP criteria[6].

Air Pollution Control Systems (APC) – Foster Wheeler's slagging rotary kiln designs are fully compliant with all applicable air pollution control standards. ABB and ADA/Norit Americas will assist with the development of APC equipment and monitoring instrumentation for lime injection, carbon absorption, NOx capture, and stack emissions control. Independent companies will be used to conduct air monitoring.

Beneficial Use Product – The primary beneficial use product is Ecomelt® , a glassy, pozzolanic material, which when dried and finely ground, can be used as a partial replacement for Portland cement in the production of concrete. The Cement-Lock manufacturing process is specifically designed to use contaminated dredged materials as a feedstock or raw material for the production of Ecomelt®. Volcano Partners has determined that a market exists for sale of Ecomelt®. Volcano Partners has entered into a letter of intent with U.S. Concrete, a major domestic Redi-Mix concrete manufacturer, to purchase construction-grade Ecomelt® from the Cement-Lock plant.

C. Project Layout Schematic

The proposed project layout as designed by Foster Wheeler is attached hereto in Appendix A. The thermo-chemical processing and APC systems set forth in the schematic are described in more detail in Section IV E. below.

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[6] Gas Technology Institute, 2008. Cement-Lock® Technology for Decontaminating Dredged Estuarine Sediments Final Project. Gas Technology Institute, Des Plains, IL., November 2008.

build basis. In 2011, the Company revenues were $2.6 billion and there are currently over 13,000 employees. Tetra Tech will leverage their successful approach on the $700 million Fox River project to deliver a potential early action for the Lower Passaic River Study Area within the budget and schedule commitments.

Foster Wheeler Corporation -- Tetra Tech EC, Inc. has hired Foster-Wheeler to perform the design engineering. There are nine rotary kilns commercially operating in the United States designed by Foster-Wheeler. These kilns have an exceptional, long-term operating and compliance history. In addition to the rotary kiln and processing facilities, Foster Wheeler design systems include secondary combustion chambers and flue gas cleaning systems.

ABB -- Global leader ABB will be contracted to provide the integrated process controls, instrumentation, and monitoring systems required for plant operation. They presently operate in 200 countries and have over 100,000 employees.

ADA/NORIT Americas JV -- The ADA/NORIT Americas JV will provide the equipment and technology for the capture of trace metals from the flue gas. These firms provide the majority of these systems to the power generation and cement manufacturing industries around the world.

U.S. Concrete -- U.S. Concrete services the United State construction market through two primary business segments. These are Ready-Mix concrete and precast concrete products. The Company has 101 fixed-base facilities and 11 portable Ready-Mix plants. These facilities produced over 4 million cubic yards of Ready-Mix concrete last year. Volcano Partners has entered into a letter of intent with U.S. Concrete to purchase construction-grade Ecomelt® from the Cement-Lock plant.

B. Updated Scope of Project

As set forth above, Volcano Partners has asked us to commence design, permitting and cost evaluation in support of a "project-based" 50,000 ton per year Cement-Lock manufacturing plant. As discussed above, all mechanical systems are "off-the-shelf" and in widespread use worldwide. The permitting, design and construction timeline for such a plant is projected at 18 months.

As proposed, the Cement-Lock Technology manufacturing process involves the following key components:

Front End Materials Handling - Dredged sediments that serve as our manufacturing feedstock will arrive at our site by barge. This material will be offloaded by excavator and conveyed to the processing train. All free carriage water will be pumped directly to the water treatment plant for processing prior to and during sediment off-loading. Our materials management and dewatering vendor will conduct debris separation and dewatering to 50 percent solids content. We are currently evaluating the membrane filter press design for dewatering. Our vendor will then deliver the dewatered sediment to the kiln site. Cement-Lock Technology additives are dry and will be blended with the sediment filter cake to reduce moisture content to 40 percent or below.

We have commenced pre-permitting meetings with NJDEP regarding the proposed 50,000 ton per year plant. The projected permitting timeline is a 6-month period. Design and construction for this proposed plant is projected to require an 18-month period, with some overlap between permitting and design expected.

III. Scalability of Cement-Lock® Technology Manufacturing Plant

As you are aware, the uniqueness of the Cement-Lock process lies in the additives, the mixture ratios and residence times used to manufacture Ecomelt®, rather than in the thermo-chemical processing equipment. All mechanical systems are "off-the-shelf" and in widespread use worldwide. As set forth below, Foster Wheeler's proprietary rotary kiln designs readily scale up from your demonstration scale system to your proposed 50,000 ton per year project capacity requirements. Any of these components can be obtained within a 6 to 9 month lead time. Consequently, the ability to enlarge the facility from the 10,000 cubic yards per year 2006 demonstration facility to a full commercial facility consisting of multiple processing trains is not limited by mechanical considerations.

An increase in production or processing volume could be accomplished through the parallel deployment of additional rotary kiln trains. The base model evaluated by the 2008 Report was for a 125,000 ton per year plant, with the possible addition of three additional 125,000 ton kilns, for a total processing capacity of 500,000 tons per year. As per your direction, the current focus of our efforts has been an economic evaluation of a single 50,000 ton per year plant, but we would be happy to further discuss the cost efficiencies associated with a scaled up plant that would be possible with the dedication of additional feedstock.

IV. Description of Cement-Lock® Technology Design Updates

Please find below a detailed description of Cement-Lock® technology design updates. This description includes: 1) project management and design team, 2) updated scope of project, 3) project layout schematic, 4) design specifications for Passaic River sediments, and 5) design updates for Cement-Lock Technology manufacturing plant.

A. Project Management and Design Team

Volcano Partners, LLC -- Volcano Partners owns the patent to utilize the Cement-Lock Technology for the manufacture of Ecomelt, a Portland cement replacement. They have organized a project team which consists of firms with global experience.

Gas Technology Institute (GTI) -- Volcano Partners is collaborating with the GTI as the inventor of Cement-Lock. GTI is a world leader in the development and deployment of innovative technology solutions, and were the project managers of the original demonstration-scale Cement-Lock field pilots performed from 2005-2008 on contaminated dredged sediment that included Passaic River sediment.

Tetra Tech EC, Inc. --Tetra Tech EC, Inc. is the Program Manager and General Contractor, and will perform the facility Operations & Maintenance. They will implement the project on a fast track, design-

pozzolanic matrix found in Ecomelt®. As set forth in detail by the 2008 Final Report, leaching tests[2] conducted during the course of the demonstration project concluded that Ecomelt® readily passed the U.S. Environmental Protection Agency (USEPA) Toxicity Characteristic Leaching Procedure (TCLP) testing criteria[3]. Ecomelt® can be blended with ordinary Portland cement at a 40:60 Ecomelt®/Portland cement weight ratio[4]. The use is consistent with ASTM C 595 (Standard Specification for Blended Hydraulic Cements) and confirmed by the pilot and demonstration project testing results.

In addition, we have an example of the use of Ecomelt® as a partial replacement for Portland cement. In 2008, the production of a batch of concrete using Ecomelt® was used to pour a length of sidewalk (165 feet long by 6 feet wide) at Montclair State University, Montclair, New Jersey. The pour is readily available for inspection by interested stakeholders.

Finally, Volcano Partners has determined that a market exists for the sale of Ecomelt®. Volcano Partners has entered into a letter of intent with U.S. Concrete, a major domestic Redi-Mix concrete manufacturer, to purchase construction-grade Ecomelt® from the Cement-Lock plant. Based on information received from GTI, a 50,000 ton per year facility will yield more than 20,000 tons/year of Ecomelt® for incorporation in construction-grade cement[5] As a point of comparison, the current price of Portland cement is about $105 per ton.

II. Summary of Proposed Project and Cost Evaluation

We have conducted a preliminary economic project analysis using information provided by F&G, Chicago supporting Volcano Partners determination that a commercial-scale plant is feasible under the following conditions. The plant requires the dedication of a minimum of 300,000 cubic yards of "in-situ" contaminated sediments, with a processing fee of $350.00 for each "in-situ" ton of sediment. With projected process treatments and volume reductions for the contaminated dredged sediment, the resulting "filter cake" and combined process additives requires a minimum plant capacity of 50,000 tons per year. This "project-based" 50,000 ton per year plant is the minimum necessary for a commercial-scale Cement-Lock plant. Notably, as compared to past economic analysis, the proposed project scope includes all costs post barge delivery, including materials management, storage and dewatering costs. As the volume of dedicated "in-situ" contaminated sediments increases, we would expect a decrease in the fee per "in-situ" ton. However, the scope of our current evaluation focuses on the costs related to a 50,000 ton per year plant.

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[2] Toxicity Characteristic Leaching Procedure, EPA Method 1311

[3] Rehmat, A., A. Lee, A. Goyal, and M. C. Mensinger, 1999. Construction-Grade Cement Production from Contaminated Sediments Using Cement-Lock™ Technology . http://www.bnl.gov/wrdadcon/publications/reports/igt-weda-5-99.pdf

[4] Mensinger, M.C., 2008. Cement-Lock® Technology for Decontaminating Dredged Estuarine Sediments Topical Report on Beneficial Use of Ecomelt from Passaic River Sediment at Montclair State University, New Jersey. Gas Technology institute, Des Plains, IL., 2008.

[5] Gas Technology Institute, 2008. Cement-Lock® Technology for Decontaminating Dredged Estuarine Sediments Final Project. Gas Technology Institute, Des Plains, IL., November 2008.

We have also conducted a preliminary economic project analysis supporting Volcano Partners determination that a commercial-scale plant is feasible with the dedication of a minimum of 300,000 cubic yards of "in-situ" contaminated sediments. With a conversion to "in-situ" tons, a minimum "project-based" commercial-scale Cement Lock® manufacturing plant is projected to require a processing fee of $350.00 per "in-situ" ton of sediment. This manufacturing plant would utilize a 4.4 meter rotary kiln operating at 6-9 tons per hour with a projected average capacity of 50,000 tons per year. This facility is projected to require 4 to 5 years to process 300,000 "in-situ" cubic yards of sediment as feedstock. The permitting, design and construction timeline for such a plant is projected at 18 months.

Finally, two important aspects of scalability are addressed by this report. First, as you are aware, the uniqueness of the Cement Lock manufacturing process lies in the additives, the mixture ratios and residence times used to manufacture Ecomelt®, rather than in the thermo-chemical processing equipment. All mechanical systems are "off-the-shelf" and in widespread use worldwide. As set forth below, Foster Wheeler's proprietary rotary kiln designs readily scale up from your demonstration scale system to your proposed 50,000 ton per year project capacity requirements. Second, we are also designing the facility to allow future expansion through the addition of 1-3 rotary kilns and associated equipment placed in a parallel configuration. This would permit the plant to expand if additional feedstock becomes available.

I. Summary of Cement-Lock® Technology Manufacturing Process

According to the inventor, GTI, Cement-Lock technology is the first sustainable thermo-chemical manufacturing process specifically designed to manufacture a construction-grade, cementitious building material (Ecomelt®) from contaminated dredged sediments. The development of a commercial-scale Cement-Lock plant would be the final step in the unprecedented 20-year effort by public and private stakeholders to identify and deploy a sustainable, green technology capable of producing a beneficial use product from contaminated dredged sediments. The primary beneficial use product is Ecomelt®, a glassy, pozzolanic material, which when dried and finely ground, can be used as a partial replacement for Portland cement in the production of concrete. The Cement-Lock manufacturing process is specifically designed to use contaminated dredged materials as a feedstock or raw material for the production of Ecomelt®. After dewatering, these sediments are processed into a homogenous "filter cake." The patented technology then combines the "filter cake" with additives necessary for production of a pozzolanic, cementitious material. The mix is then run through a high temperature manufacturing process (slagging rotary kiln). This process produces a molten mixture that is then quenched in a water bath to create a beneficial use product, Ecomelt®.

The high temperature (2400° to 2600°F) involved in the manufacturing process to create Ecomelt® has the benefit of destroying organic contaminates present in the feedstock. This thermo-chemical manufacturing process also effectively immobilizes inorganic contaminants, such as metals, in the

TETRA TECH EC, INC.

TO: Al Hendricks, Volcano Partners, LLC

FROM: Steve McGee, Tetra Tech, EC

CC: Dean Bybee, Foster Wheeler Corporation

DATE: November 30, 2011

RE: Summary of Project and Design Updates for Cement-Lock Technology Manufacturing Plant

As requested by Volcano Partners, LLC, please find below a response to several questions raised by Mr. Scott Thompson, Louis Berger Group, regarding Cement-Lock® technologies. Mr. Thompson requested additional information on the Cement-Lock® process design and an update on our plans for the development of a commercial-scale Cement-Lock manufacturing plant. Specifically, Mr. Thompson requested an update regarding our cost evaluation, scalability of the system and any additional updates for process design, including air emissions control systems modifications.

As Program Manager for this project, Tetra Tech is pleased to provide a response to the above questions. We have worked closely with our highly experienced team members to prepare this memorandum. In particular, Foster Wheeler Corporation (Foster Wheeler), with a highly experienced team and recognized 25-year track record in the design and construction of slagging rotary kilns, provided key input into design revisions for a commercial-scale Cement-Lock plant. As requested by Mr. Thompson, we are including below a detailed description of the Foster Wheeler design revisions with a particular focus on the engineering and air pollution control (APC) issues presented in the November 2008 Final Project Report (2008 Final Report) [1].

In addition, as per your request, we have incorporated material handling and dewatering components into the front end of our proposed project scope in order to provide turn key management of the project commencing with the barge delivery of our process feedstock, contaminated dredged sediments, to our proposed waterfront facility. We are currently assessing siting feasibility at several waterfront sites in the New York/New Jersey harbor area. As you know, TetraTech has operated in a similar Program Manager capacity at the Lower Fox River Superfund site where material management and dewatering technologies were designed and deployed for the management of more than four million cubic yards of contaminated dredged sediments. Working with input from experienced vendors, we are providing a more detailed description of our proposed materials management and dewatering facilities for this project.

[1] Gas Technology Institute, 2008. Cement-Lock® Technology for Decontaminating Dredged Estuarine Sediments Final Project. Gas Technology Institute, Des Plains, IL., November 2008.

Comments on Gowanus Canal Proposed Plan

Nancy Alexandru to: Region2 GowanusCanalComments 04/27/2013 02:29 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Nancy Alexandru

Apr 27, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

While the EPA's plan takes the critical step of calling for CSO retention for two of the Canal's worst outfalls many details will not be solidified until New York City submits their CSO Long Term Control Plan in 2015. It is critical for the EPA to stand firm on requiring retention tanks to control CSOs and to work with New York City towards the eventual goal of 100% elimination of CSOs from the Canal.

I support the EPA's commitment to dredge as much as 10 feet of contaminated sediment from the entire length of the canal, build a multi-layer cap on the bottom, and treat and dispose of this contaminated sediment offsite. I also believe that the EPA should listen to the wishes of the community in Red Hook who oppose the building of a CDF on the Red Hook waterfront to dispose of the least contaminated sediment.

Sincerely,

Ms. Nancy Alexandru
8511 Lefferts Blvd
Apt 3b
Kew Gardens, NY 11415-3029
(718) 441-8187

Comments regarding Proposed Remedial Action Plan for the Gowanus Canal Superfund Site

montgome to: Region2 GowanusCanalComments 04/27/2013 03:10 PM

I respectfully submit the following comments regarding the Proposed Remedial Action Plan for the Gowanus Canal Superfund Site. Thank you for your consideration.

Senator Velmanette Montgomery
18th NYS Senate District
Chair, Children and Families
Co-chair, Social Services
GowanusCanalComments.Region2@epa.gov

Proposed Remedial Action Plan for Gowanus Canal Superfund Site Comments.pdf

VELMANETTE MONTGOMERY
25TH SENATE DISTRICT

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THE SENATE
STATE OF NEW YORK
ALBANY

SECRETARY, SENATE DEMOCRATIC CONFERENCE
COMMITTEES:
CHILDREN & FAMILIES, RANKING MINORITY MEMBER
AGRICULTURE
CRIME VICTIMS, CRIME & CORRECTION
EDUCATION
FINANCE
HEALTH
RULES

April 27, 2013

Christos Tsiamis
Remedial Project Manager
Central New York Remediation Section
U.S. Environmental Protection Agency
290 Broadway, 20th floor
New York, New York 10007-1866

Re: Proposed Remedial Action Plan for the Gowanus Canal Superfund Site

Dear Mr. Tsiamos:

I am writing today to offer my support for the Proposed Remedial Action Plan developed by the EPA for the treatment of the Gowanus Canal Superfund site in my District. I offer my support with several concerns, very similar to those ably presented by Community Board 6, which I will explain below.

But first I would like to offer my thanks for everything the EPA has accomplished to date. You have given this community hope that the Gowanus Canal, which all of us living here suspected was incredibly polluted, could actually be brought back from the brink. Your thorough and methodic studies documented for us the actual shocking state of the Canal and now you offer us a plan that will not only clean the Canal, but protect it from further pollution from Combined Sewage Overflows. For all of this, you have my deepest thanks.

The major questions about the course of remediation seem to center on the disposal of contaminated material, particularly the possible use of Treatment Disposal Options E, F, or G.

I appreciate that these are not simple decisions. While we cannot be callous about the creation of possible jobs, we must balance these possibilities against the concerns of residents who are envisioning the future character of Red Hook. I support the creation of jobs; I have worked for years to bring employment opportunities to my District. And while the entrance to the Bay is a working waterfront and should remain a working waterfront, there are serious questions about what will happen to a treatment facility and stabilized sediment in the face of another Sandy, or an even greater storm. Onsite treatment and use of stabilized sediment seems to potentially risk further degradation of the environment.

Red Hook has a large and growing residential community, and we must be concerned with what an on-site disposal solution will mean to the current residents and those who are certain to follow. My observation is that there is considerable opposition to the placement of an onsite treatment and storage facility. I am certain you will fully and sensitively consider the opinions of the community residents in your deliberations.

Once again, I thank you for your efforts and look forward to working with you however I can to accomplish the work ahead in finally cleaning the Gowanus Canal.

Sincerely,

Senator Velmanette Montgomery
25th Senate District

Comments

Maria Pagano to: Region2 GowanusCanalComments 04/27/2013 03:29 PM

Cc: CGNA, CarrollGardensPFG, usba, SecondPlaceBlock, LBlyer, jean, rhea436, rwile, "beejay919 beejay919", "simon.joanne simon.joanne", "mac mac", "MdelaUz MdelaUz", "jose jose",

History: This message has been replied to.

Ladies and Gentlemen of the EPA:

Your care and consideration for the Carroll Gardens neighborhood's issues surrounding the Gowanus Canal cleanup has been exemplary. While I have attended more meetings as a "charter" CAG member than for, perhaps any other public/civic interest in my life, I have never failed to be impressed and elevated by the intelligent consideration and active problem-solving presented by the three GrimeFighters, aka, Christos Tsianis, Natalie Loney and Brian Carr.

All levity aside, this project has generated an extraordinary synergy, and I have appreciated every minute of the time and dedication on the part of both the professional and residential members. This has been an extraordinary exercise in civic engagement, with exciting results. Recognizing your standards of excellence, talent and professionalism, I thank you for the opportunity to engage. It is startling, on a personal level.

Knowing that you have provided what looks to be a state-of-the art, thorough scientific remediation, going far beyond the initial parameter (water cleaning only), I will only ask that you get the cleanup going ASAP.

I do have concerns, which have been voiced by several others; I want to make certain that the same level of problem-solving effort is applied to incorporating the "northern Gowanus" neighborhood surrounding the top of the canal and the southern-most neighborhood, Red Hook, into equally viable solutions unique to their neighborhoods.

The canal runs thru all our neighborhoods- and offers a unique opportunity to unite our communities, which is a terrific side benefit of the sanitary remediation.

We are all part of South Brooklyn,linked by the now fetid canal. We're looking to you to turn the "lavender lake" into a blue highway linking our neighborhoods for the benefit of all.

Sincerely,
Maria Pagano

WE LOVE YOUR PLAN, EPA.....JUST DO IT!"

Leo Veuve to: Region2 GowanusCanalComments 04/27/2013 03:32 PM

History: This message has been replied to.

WE LOVE YOUR PLAN, EPA.....JUST DO IT!"
Signed, Leopold Veuve

Dear Mister Tsiamis

Jesse Gates to: Region2 GowanusCanalComments 04/27/2013 03:33 PM

History: This message has been replied to.

"WE LOVE YOUR PLAN, EPA.....JUST DO IT!"

signed, Jesse Gates

Gowanus Canal Cleanup Comments, due 4/27/13
steve deSeve to: Region2 GowanusCanalComments 04/27/2013 04:21 PM
Please respond to steve deSeve

To:
Christos Tsiamis, Project Manager
U.S. Environmental Protection Agency
290 Broadway, 20th floor
New York, NY 10007-1866

From:
Stephen de Seve
111 Court St. #3L
Brooklyn, NY 11201

I support the Superfund cleanup of the Gowanus canal with certain reservations. My comments address a number of points, and include very specific questions; which must be answered thoroughly in order to have a transparent and fair process.

While it is clear that book toxic waste in the canal must be cleaned up, and that the combined sewer overflow's must be dealt with; especially the one that dumps 80% of the sewage into the canal which is located on Butler Street at the head of the canal, there are issues both with the EPA's Plan and its approach at deriving the plan.

Two major PRP's are the City of New York,and the National Grid company which owns the gas monopoly. These two parties have been bad citizens when it comes to their track record regarding voluntary cleanup of their messes.

It is common knowledge that the EPA met with officials from the Bloomberg administration, both here, and in Washington, and that those meetings influenced the plan. But the details of these meetings have not been shared with the public.

This is akin to a judge meeting with a murderer and asking the murderer how he would like to be dealt with by the law, and then not telling the jury the process has been so influenced. It is collusion, it is inappropriate, and it is unproductive. It must now be corrected.

Question one: please list each meeting, formal and informal, with the city of New York and the EPA. Please detail who attended each meeting, the dates of each meeting, and what was discussed. Please list any aspect of the cleanup plan that may have been influenced by these discussions. Please list any alternative approaches that could have been taken. A refusal to answer this question fully would show that the PRP counts far more than the public, and that the EPA protects secret negotiations and resists transparency - that its duty to the public is secondary to its protection of the concerned party with which it held meetings.

Question two: please list each meeting, formal and informal, with national grid and the EPA. Please detail who attended each meeting, the dates of each meeting, and what was discussed. Please list any aspect of the cleanup plan that may have been influenced by these discussions. Please list any alternative approaches that could have been taken instead. A refusal to answer this question fully would show that the PRP counts far more than the public, and that the EPA protects secret negotiations and

resists transparency - that its duty to the public is secondary to its protection of the concerned party with which it held meetings.

The City of New York, and National Grid can never be trusted to do a proper cleanup. I understand the EPA can use eminent domain to seize their properties that are involved in the Superfund cleanup, and take over the cleanup, while making National Grid and the cCity of New York pay the EPA to do this. This is the only appropriate approach to take, given the track record of the entities involved. But, if the EPA feels it can show the National Grid and NYC have done a stellar job of removing toxins from the concerned area, then please convince the public of this.

Question three: did the city of New York at any time request the EPA not take over all superfund related sites by the canal and caused the city to pay while EPA managed the cleanup?

Question four: will the EPA now please take over all lab and waterways associated with the cleanup, disregard any side deals made with the city of New York and national grid, and simply force the city of New York and national grid to pay money to the EPA so that the EPA itself, and not either the city or the gas monopoly, will supervise the cleanup.

Question five: please evaluate New York City's track record of toxic cleanup of the go honest canal since pollution began in the canal. Does the EPA concur that New York City has done a less than optimal job keeping the canal clean? Or, does the EPA belief, from this track record, that the city is flawless and it's taking responsibility and performing adequate cleanups? In other words, is the canal clean now? Since it was the city's responsibility to clean it, one would have to say the canal is clean to say the city is a good bet to clean it.

Question six: for the record, does the EPA have the legal right to take over the entire cleanup site, perform the cleanup, and make the City and National Grid pay? It would seem from the Superfund law that the EPA does have such a right.

My next question has to do with the parcel of land also known as Thomas Green Park and double D pool. This land is so toxic that a retaining wall is slated to be put in, not to protect the park's land from the toxins in the canal, but to protect the canals water from the toxins in the park's land.

Question seven: does the Thomas GreenPark and Double D pool combination constitute enough legally required green space and recreational space as required by any applicable laws, to cover the population that surrounds it? It is my understanding that there is a 90% deficit are required to green space to serve the population of Gowanus. How will the EPA remediate this environmental injustice, or, whether or not an environmental injustice is technically present, how with the EPA protect residents from temporarily or permanently losing their green and recreation space? Will the EPA require a new parcel of land be procured for the duration of the clean-up so that the same meager amount of green space is provided during the cleanup? Or will the EPA clean-up result in the loss, temporarily or permanently, of the green space available to the residents? if not, then please explain why?

Question eight: it is an environmental injustice what is being done to the people in the area that's around the upland section of the canal? Where are the environmental overlays for this environmental justice zone?

Question nine: any shutting down of the double the pool, even temporarily, would

deprive residents of green space and recreation space. How will the EPA protect the jobs of those who work at the pool and park, and protect the rights of the local people to have daily use of their park and facilities?

The City of New York has repeatedly tried to close the so-called Double D pool. The EPAs plan to place a massive sewage tank under the pool will disrupt services of the pool, and could likely lead to the pool never reopening, especially if the project is left in The city's hands. The city has been scofflaw for over a century. It is imperative that the EPA use eminent domain to take over enough land to build a new pool before any cleanup of the land of the pool currently is on begins. Failure to do that would create a new environmental injustice upon the people in that neighborhood. This is not allowed under Superfund regulations. And under other laws.

This next section has to do with the CDF and Redhook. It is not fair or appropriate under any circumstances for the EPA to build a shipping facility that benefits just one person. This would be what would happen if the CDF was built and used to make deep water piers for Mr. Quadrozzi.

Requirement that the new peers and the work on the CDF employ local residents are very difficult to enforce. And, as is usually the case in these situations, a document will be drawn up that will have no economic value to the local residents, save for one resident, named Quadrozzi.

Question 10: Can the EPA use eminent domain to take the land, and underwater land, from Mr. Quadrozzi or any other owner, to place the CDF on it?

Question 11: once the EPA took over ownership of the land associated with the CDF and the CDF itself, can the EPA cede such land to some type of public or private entity to manage it? to own it?

Question 12: can all the residents of Redhook be given shares in the corporation that would own Quadrozzi's former land and the new pier capable waterfront built by the EPA which would include the CDF?

What I am getting at is this: rather than build a deep water potential pier area for one person in Redhook, when all residents of Redhook would share the burden, and one alone will get the benefit; Why not make the new land a collectively held entity so that all residents of Redhook be given ownership in the new peer so that their economic benefit is assured? A precedent for this would be England's discovery of oil in the North Sea and their profit-sharing scheme for North Sea oil with all residents of Scotland.

I have no objection to the CDF, other then the objection that one person would be benefited and others would receive empty promises. Removing the land from its owner, building the CDF, building the piers, and ceding ownership of the land with the piers to public housing residents in Redhook would solve this problem. Will the EPA now do this?

In conclusion, I commend the EPA on its Gowanus Canal cleanup plan. But we need details. The plan needs to have exposition of the players involved in shaping it. We need to know anything that happened behind any door that was open or closed, that influenced the plan. I trust that the answers to my questions will be thorough and complete. The public has been left in the dark far too long on any collusion or co-influencing that may have happened between the EPA and representatives of the

city government.

New York City is incredibly corrupt! This corruption can be seen in its failure to ever have cleaned up the canal. And because of this corruption it should not be involved in any aspect of the Canal cleanup except for handing the EPA the cash to do it.

Without a gun, of some metaphorical kind of course, to the head of New York City officials, they will wriggle and squirm and fail to do anything. This has been their track record for 150 years. That portions of the EPA plan that are invested in the fantasy that the city will do anything at all, will fail. Then, the further environmental injustices perpetrated by the city in the name of attempting to fulfill the EPA plan will be on the EPA's head. The EPA has no business trusting and an entity that has shown itself to be completely useless when it comes to cleaning up the canal. Please present a full Evaluation, going back 150 years, of the city's successes in cleaning the canal. If the state of the canal currently is an indication of these successes, then it is criminal for the E PA to allow the city to do anything but pay.

The same goes double for the gas monopoly, which is now under the umbrella of the National Grid Corporation. Have they been successful at cleaning the land and canals the monopoly polluted? If the current state of the land and the canal are an indication of their success, then it is, once again, criminal for EPA to rely on the gas monopoly to do anything except pay for the cleanup. They will wriggle and squirm and fail. And the resulting environmental injustices and disaster will be on the E PA's head. The EPA has no business dealing with these scofflaws, except to make them hand the EPA cash.

In the EPA Superfund zone around the canal, there are brownfields that house tens of thousands of lower income residents. There are brownfields that are the land parks and recreational facilities are built on. The whole canal is incredibly polluted, and this has continued specifically because of neglect by the City of New York, and by the gas monopoly. And also by other PRP's. How this has not been treated with the full environmental justice zone overlays is beyond comprehension. The canal was DESIGNED to be a sewer and a trench for toxic waste -- and then it was BUILT to fulfill those purposes. All landscaping around it was done to make the Gowanus Canal the lowest point. It has not even been dredged for decades --- leaving residents with a bio-hazard and toxic waste sickness zone-- just to save a little money.

Many business have made unreasonably large profits by polluting and neglecting the canal and the brownfields around it. The City has made a lot of money from the economic benefits of such behavior -- and it has saved a lot of money turning its back on this area and its (mostly poor, mostly black and brown) people. When it came time to build public housing, the housing was built on the toxic land. When it came time to make green space, the same thing happened. This is shirkmanship at its highest level. If the city officials from a hundred years ago could be dug up and imprisoned, then that would be one step in a reasonable treatment of the environmental criminals who profited by doing what they did to the canal. But you have to go after their successors instead. But treat them like crooks, murders, con-men, and poisoners. Don't sit down to meals with them. Don't treat them like professionals, or even as humans. I realize there is a temptation to do so --- but no! These are the bad guys. If you can't lynch them, then charge them -- either with crimes, or with a big fat bill to pay for the clean-up. And don't let them play broke! Make them pay for a pool. Make them pay for hotels for area residents if the clean-up is smelly. These people are responsible for

some horrific stuff.

I feel the EPA forgets, sometimes, how foul and subhuman the things that have been done here, and in other superfund sites, are. I feel the EPA does not go after the lowest of low-lifes with an appropriate attitude. Make the polluters pay. Make the innocent victims of pollution-for-profit get some fair treatment, and not have to beg to be treated with dignity.

Let us know, fully, what the PRPs discussed with you. Reneg on any deals the EPA made with them, and stand up for the non-polluting public.

In Redhook, the problem is that a burden will be shared by many and I benefit will accrue to one person. Only eminent domain seizure of the properties of the one person, which is an appropriate way to obtain the land and waterfronts to build the CDF, must result in shared ownership, not unenforceable Job promises; so that all those who share the burden of the cleanup benefit equally from any and all results of the cleanup. Each resident of Redhook must be a shareholder in the CDF and in the improved waterfront property and commercial ability it represents. Otherwise, there is an appearance of impropriety, with the EP a acting to benefit a very rich land owner. This appearance of impropriety and corruption is enough Reason to prevent VE PA from building the CDF, on its own. Only a shared ownership of the CDF would make it clear that there is no corruption, and there is an equal and real benefit to each and every resident.

One final question:

Question 13: Since the Gowanus Canal and surrounding land parcels contain both chemical and biological pollutants, and since the City continues to dump both into the canal at the Butler St. CSO, will the EPA treat the clean-up of biological toxins the same way as the clean-up of chemical toxins? Will the EPA stop the city from using the CSOs that are continuing pollution to this day?

Please stop treating polluters like kings and the public like beggars, and make a clean canal and area that benefits all residents equally, and treats polluters appropriately.

Thank you.

Steve de Seve
(917) 330-6147

Steve de Sève
917 330 6147

Fwd: Final Letter to the EPA

Marilyn Donahue-Schiller to: Region2 GowanusCanalComments 04/27/2013 04:40 PM

Sent by: **mdonahueschiller@gmail.com**

History: This message has been forwarded.

Hello,

I support the attached letter written
to support Douglass Greene Park and Pool.

Thank you,

Marilyn Schiller

Boerum Hill, NY

FODGP_COMMENTS_to_EPA_4.26.13_Final.pdf

FRIENDS OF
DOUGLASS GREENE PARK

A NOT-FOR-PROFIT CORPORATION
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Christos Tsiamis, Project Manager
U.S. Environmental Protection Agency
290 Broadway, 20th floor
New York, NY 10007-1866

April 26, 2013

Dear Mr. Tsiamis,

Friends of Douglass Greene Park (FODGP) would like to thank the EPA for their hard work and dedication over the past three years in support of the Superfund listing, Remedial Investigation and Feasibility Study for the cleanup of the Gowanus Canal. We greatly appreciate the EPA's efforts to clearly and openly communicate with all the varied community based organizations', groups, and concerned residents and businesses in South Brooklyn regarding the Proposed Remedial Action Plan (PRAP). We thank you for helping to restore some of the broken public trust amongst our community regarding remediation of the longtime highly polluted waterway and we support the PRAP in addressing this overdue cleanup.

FODGP is an organizational member of the Gowanus Canal Community Advisory Group (CAG) and we have limited the scope of our comments to addressing our concerns around the potential impacts to the Thomas Greene Park and Douglass and DeGraw, aka Double D Pool, along with the nearby Canal area that will comprise RTA1. As is understood by FODGP at this time, the proposed cleanup plan work to be conducted in

this northern vicinity would comprise dredging, capping and dewatering (EPA), along with a retaining wall to be built (National Grid / DEC), and a proposed raw sewage retention tank (DEP), as well as ongoing work to the Flushing Tunnel and Pump Station (DEP), plus still to be determined further excavation and removal of NAPL that would need to take place on the former Fulton MGP site (National Grid / DEC) .

In regards to all these proposed remediation's and controls, three main comments from our organization to the EPA focus on:

- **Incorporating the entire upland area of the former Fulton MGP site within the EPA Superfund cleanup.**

- **Conducting a thorough review of the Remedial Investigation results at the former Fulton MGP site and addressing new potential exposure pathways with a human health risk assessment.**

- **Providing compensation and guarantees for the potential loss or disruption of the Double D Pool.**

Incorporate the entire upland area of the former Fulton MGP site within the EPA Superfund cleanup

FODGP believes that a Record of Decision (ROD) incorporating the entire upland area of the former Fulton MGP site within the EPA Superfund cleanup will provide for the best coordination, organization, planning and design possible to minimize disruption and impacts to our community. FODGP strongly believes that not coordinating these cleanups continues to make the community pay and will continue to leave too much uncertainty regarding the fate of the Thomas Greene Park and Pool. Without specific timelines, clear communication, meaningful community participation and involvement, and clarification on what specific remedies and risks comprise the former Fulton MGP cleanup in conjunction with the Canal RTA1 site, FODGP and the community of residents that use these public resources face too many uncertainties and possible disruptions that will make any further Park designs and planning impossible.

The Thomas Greene Park and Double D Pool was formerly the site of the Fulton Manufactured Gas Plant (MGP), which National Grid and the City and State are now responsible for investigating and remediating. National Grid has a website, www.fultonmgpsite.com/, which is supposed to provide regular site news and updates, however updates have not been posted since September 2012. National Grid is also required by 6 NYCRR Part 375-1.10 NYSDEC to review and update their Citizen Participation Plan (CPP) to account for significant changes in the Fulton Municipal MGP Project's remedial program. The CPP posted online is over 5 years old and dates to when KeySpan was the responsible party for the site.

National Grid's Remedial Investigation (RI) for the former Fulton MGP site was released in July 2012 and provides detailed results of their investigations into the eight parcels of land which comprise the site. The Park and Pool comprise parcel number two, and directly beneath the Pool are old petroleum tanks from former operations. According to National Grid's summary of their RI, visible coal tar and petroleum impacts were found in soils beneath the site and in areas to the west bordering on the Canal. Subsurface migration of coal tar wastes is also so problematic that it has necessitated expedited design of an Interim Remedial Measure, consisting of a cut off wall to prevent migrating contamination from entering the Canal in support of the Superfund cleanup. A Feasibility Study (FS) to address the contamination impacts as necessary has yet to be released.

Some of the contaminants found in soil and sediment testing from National Grid's RI include benzene, toluene, ethylbenzene, and xylenes (known as BTEX) and polycyclic aromatic hydrocarbons (known as PAHs). BTEX compounds are some of the volatile organic compounds (VOCs) found in petroleum derivatives such as petrol (gasoline). Toluene, ethylbenzene, and xylenes have harmful effects on the central nervous system. PAH compounds are known carcinogens and mutagens and are also responsible for developmental toxicity, resulting in birth defects and adverse impacts to non-human life forms. When the EPA discusses these coal tar derivatives in its proposed cleanup plan, they are referred to as NAPL, non-aqueous phase liquid.

According to National Grid there is supposedly "no risk of exposure" to MGP-related contaminants at this site, unless one digs about five to seven feet down. There is also a concrete barrier at parcel number two, which is supposed to provide protection to the

user's onsite. According to the EPA and the NYS Superfund program, source removal or control for all remedies, will be necessary.

The former Fulton MGP site will require close coordination and oversight between EPA, DEC and National Grid in order to prevent NAPL migration from impacting the remedy. Furthermore, EPA has identified the Double D pool area as a potential location for a 2 to 17 million gallon in line CSO storage tank for outfall RH-034 to address the over 121 million gallons of raw sewage that are estimated to enter the Canal annually from this one outfall alone, and his could impact the integrity of the remedy.

The forthcoming Record of Decision (ROD) must reflect a comprehensive cleanup of the canal and the upland former Fulton MGP area, where all agencies and parties involved work together in a much more coordinated and timely fashion. The former Fulton MGP upland area does comprise RTA1, the first part of the Canal which will be remediated, and this will most likely set the timeline and pace for the subsequent parts of this cleanup. Furthermore, any failure to achieve the Interim Remedial Measure cut off wall would result in recontamination of the canal sediments and could potentially significantly delay the cleanup. The design and location of this interim cut off wall have yet to be presented to the public, so not only is the coordination of this remedy in question, but understanding the impacts of where this NAPL could possibly migrate to if it is prevented from entering the Canal create additional concerns for the safety and health of nearby residents, businesses and park and pool users.

More broadly, in terms of communication and transparency with residents and organizations like the Gowanus Canal Community Advisory Group (CAG); National Grid and the DEC and DEP have not responded to community concerns or public meeting requests, nor followed even the most basic parts of the Citizen Participation Plan as prescribed on the National Grid former Fulton MGP website. While National Grid continues to insist that the Park and Pool are safe, their explanations at times seem to be at odds with the EPA in terms of technical assessment, like NAPL migration for instance, where National Grid insists that coal tar waste only migrates down, yet the EPA's presentations communicate that NAPL can migrate down and up, and very importantly be transported via groundwater, not just into the Canal itself, but depositing around the neighborhood, particularly in the former MGP vicinity. This is naturally of great concern to us.

National Grid and the City of New York are potentially responsible parties (PRP's) and FODGP asks that the EPA use its Superfund authority to enforce the entire upland area cleanup in a coordinated fashion that will not cause multiple disruptions to the community and its resources.

It is for these many reasons that FODGP would like to see EPA use its vast compliance and enforcement authority under CERCLA to include the former Fulton MGP site as part of the remedy. We believe this to be the best way to guarantee source control remediation and proper agency and responsible party alignment that will ensure the protectiveness of the preferred remedy while safeguarding our community and concerns over our beloved Thomas Greene Park and Double D Pool.

Conduct a thorough review and verify remedial investigation results at the former Fulton MGP site and address new potential exposure pathways with a human health risk assessment.

For the safety of the users of the Park and Pool, FODGP insists that the EPA perform a thorough inspection of National Grid's findings regarding risks of exposure at parcel number two of the former Fulton MGP. We would like to see testing done by the EPA on the concrete barrier of parcel number two and the material of the two swimming pools onsite (the toddler pool and the regular pool) that tests for BTEX, PAH's, VOC's and NAPL. We would like to know if there is any issue with the porosity of these materials that could facilitate exposure pathways for these toxics? We would also like to see regular testing for these same chemicals done for the Pool water and the drinking and shower water at the Double D Pool facility. Finally, given the groundwater and storm water runoff contamination concerns, we would like to see groundwater testing done by the EPA onsite at the Park and Pool after wet weather events.

FODGP would also like to bring to the attention of the EPA that the Thomas Greene Park Playground was just recently redesigned and reopened this March. Over 900K in discretionary funding from City Council members was spent by NYC Parks to renovate this playground. The land was not remediated before the new playground went in. This new playground has large tree pits with a lot of exposed dirt, and a new children's sprinkler fountain, both of which should be evaluated as new dirt and groundwater sources onsite. The playground is now experiencing heavy use from neighborhood

residents and the sprinkler will surely be a very big draw for young children this summer. There are very low tree guards delineating the playground from the tree pits, but the reality is that children love to play with dirt and very young children will be digging in this dirt, and inadvertently or sometimes deliberately ingesting it. We again ask that the EPA evaluate that these new Park designs and amenities to ensure that they do not create exposure pathways that could pose health risks to the young children and families recreating onsite.

Provide compensation and guarantees for the potential loss or disruption of the Double D Pool

As part of the proposed cleanup plan, EPA is proposing potentially impacting the Double D pool area to excavate and build a 2 to 17 million gallon raw sewage storage tank. The plan obfuscates the issue in a way that residents reading the PRAP would not even realize that there is proposed threat to the pool in the proposed plan. It is for this reason that FODGP recently began a petition to inform users of the Pool.

In less than three weeks since the petition was launched, response has been tremendous. Local residents and members of FODGP trying to "Save the Pool" have been featured on Channel 12 News, DNA info, Brownstoner, the Brooklyn Paper, and in the New York Times.

The Double D pool was slated to be closed by the Mayor's office in 2010 and the neighborhood residents successfully rallied against this closure to "Save the Pool." Because the EPA understands community acceptance to be very integral to the proposed cleanup plan, FODGP is including the over 1,000 petition signatures we gathered in support of this cleanup, that includes addressing CSO's, but are against a raw sewage tank being placed beneath the Double D pool (www.change.org/petitions/epa-make-the-polluters-pay-not-our-community-save-the-double-d-pool).

We do not feel that enough information and consideration was provided to our organization and community in regards to this proposed location for us to support this proposed location in any way. Should the EPA and DEP be willing to discuss this

proposal further with FODGP and the community, and provide compensation and guarantees to the community at large, with respect to the pool, then perhaps there could be support, but at this time we resoundingly say NO to a raw sewage tank beneath the Double D pool.

The communities that use this Park and Pool also deserve clear communication on what a proposed raw sewage retention tank at this location would mean for our community. We want to see specific health risk assessments and guarantees that there would be no disruption to our facilities and services. Furthermore, FODGP understands that there are other locations, closer to the CSO outfall (RH-034), where the tank can go, such as the lot on Nevins and Butler, across the street from the Pump station and the Flushing tunnel. There are also numerous parcels of land for sale in the immediate vicinity and perhaps this might also be worthy of an eminent domain proposal.

There are hundreds of petition comments that address the communities concerns over this potential loss and demonstrate the importance of this community resource. To be clear these signatures represent that the community of residents who use this facility do not want a raw sewage tank to be built beneath the pool.

The pool primarily serves nearby public housing and neighborhood residents during the summer season, and programs provided at the Pool facility include the School Food Lunch program, which serves free breakfast and lunch while school is out, and the Learn to Swim program, which provides free swimming lessons for children. The pool also serves as a cooling center during heat waves. There is also a second pool, uniquely designed for toddlers, which some of the youngest neighborhood residents enjoy and a handicapped lift which services the main pool to allow for special needs access.

Should the ROD move forward with the retention tank location as put forward in the PRAP, what would be the exact timeline that this resource would be disabled? What compensation will be provided in the ROD for a community losing a recreational open space facility and how would the EPA enforce City open space standards for an already underserved part of the Gowanus community? New York City Planning Standards outlined in the 2010 City Environmental Quality Review Technical Manual encourage a standard of 2.5 acres of open space within half a mile for every 1000 residents. EPA and DEP will have to address what access to Parks is presently provided for in Gowanus compared with the standard requirements. Estimates from a CAG member have put

forth that Northern Gowanus residents only have access to roughly 7 acres of Parks instead of the 70 acres the standard requires.

While FODGP supports a comprehensive Superfund cleanup of the Gowanus Canal that includes addressing raw sewage overflows, we also insist that Superfund follow its own principles and make the polluters pay, not our community. The EPA's proposed placement of the raw sewage retention tank to be built beneath the Douglass and Degraw (Double D) community pool will greatly impact an already underserved community by removing a facility that serves primarily low income populations that already suffer disproportionately from the effects of obesity and lack of access to open space. Furthermore, very serious consideration should be given to what impacts could occur to our most vulnerable elderly and young populations if there is no nearby facility to provide services designed to prevent hunger, and even death during excessive heat. To prevent the denial of, reduction in, or significant delay in the receipt of benefits by minority and low-income populations would disproportionately affect communities of color and violate the U.S. EPA's environmental justice commitments.

Presently there is no specific time frame or incentives being offered in the proposed cleanup plan to the community in the regards to the potential closure of the Double D pool. It is also unclear at this time if there may be additional disruptions to the Thomas Greene Park. Also, due to the aforementioned other reasons regarding why the land in parcel two may still need to be remediated, even without the placement of the retention tank beneath the Double D Pool, it is imperative that EPA carefully consider these same reasons in their ROD before any disabling or disruption of these community resources were to occur. FODGP asks that the ROD include enforceable measures to provide for temporary and permanent relocation of services at a nearby location as needed.

Any temporary displacement or permanent disruption to the Thomas Greene Park and Double D Pool needs to be planned for with a seamless transition of services that includes an expense budget in the ROD for all the park facilities (pool, playground, skatepark, basketball courts) and services (the School Food Lunch, Learn to Swim, cooling centers, etc.) at a nearby location. FODGP would like to see an expense budget for rebuilding the Pool and Park as necessary and a budget for any interim pool and services that are needed. FODGP would also like to see enforceable measures in place

between the PRP's and the Parks Department for any necessary expenses should the new playground be disrupted.

Currently, there is much concern in the area over displacement, gentrification, affordable housing, threats to NYCHA residents housing, along with the potential closures of the Pacific library branch and Long Island College Hospital (LICH). Many longtime daycares and community centers have also lost their funding, so the threatened loss of this community resource combined with these numerous pressures adds to the burdens that neighborhood residents are already experiencing in a historically underserved area.

It is for these reasons that FODGP asks for guarantees in the ROD that minimize any possible disruption to the Double D pool and provide for any direct costs related to that, including a nearby temporary pool and a permanent replacement, along with all the community services and other park amenities accounted for.

Over $500 M will be spent on this cleanup and we want to see a Record of Decision that minimizes any possible disruption to the park & pool and provides for any direct costs related to that, including a nearby temporary pool and a permanent replacement, along with all the community services and other park amenities accounted for. Anything less would be environmentally unjust. Clean up should fall on the responsible parties, not on the backs of our children and our community.

Thank you for all your time and attention to these matters.

Sincerely,

Sue Wolfe

Sue Wolfe, President
Friends of Douglass Greene Park
www.friendsofdouglassgreenepark.org/

cc: Hon. Michael Bloomberg
Hon. Charles E. Schumer
Hon. Kirsten Gillibrand
Hon. Nydia M. Velazquez
Hon. Yvette D. Clarke

Hon. Hakeem Jeffries
Hon. Christine Quinn
Hon. John Liu
Hon. Bill DeBlasio
Hon. Marty Markowitz
Hon. Daniel Squadron
Hon. Velmanette Montgomery
Hon. Eric Adams
Hon. Kevin Parker
Hon. Joan L. Millman
Hon. James F. Brennan
Hon. Felix Ortiz
Hon. Stephen Levin
Hon. Brad Lander.
Hon. Sara M. Gonzalez
Hon. Letitia James

Comments on Gowanus Canal Proposed Plan

Rosemary Moore to: Region2 GowanusCanalComments 04/27/2013 04:59 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Rosemary Moore

History: This message has been forwarded.

Apr 27, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

While the EPA's plan takes the critical step of calling for CSO retention for two of the Canal's worst outfalls many details will not be solidified until New York City submits their CSO Long Term Control Plan in 2015. It is critical for the EPA to stand firm on requiring retention tanks to control CSOs and to work with New York City towards the eventual goal of 100% elimination of CSOs from the Canal.

I support the EPA's commitment to dredge as much as 10 feet of contaminated sediment from the entire length of the canal, build a multi-layer cap on the bottom, and treat and dispose of this contaminated sediment offsite. I also believe that the EPA should listen to the wishes of the community in Red Hook who oppose the building of a CDF on the Red Hook waterfront to dispose of the least contaminated sediment.

Sincerely,

Ms. Rosemary Moore
393 10th St
Brooklyn, NY 11215-4027

Comments on Gowanus Canal Proposed Plan

Herbert Coles to: Region2 GowanusCanalComments 04/27/2013 04:59 PM

Sent by: **Riverkeeper <info@Riverkeeper.org>**

Please respond to Herbert Coles

Apr 27, 2013

Mr. Christos Tsiamis
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Mr. Tsiamis,

I am writing to support the EPA's proposed plan to clean up the Gowanus Canal Superfund site. After 150 years of pollution a comprehensive plan that addresses the toxic sludge at the bottom of the canal and ongoing pollution from CSOs and upland contamination is critically important to returning this long neglected waterway to the community.

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Sincerely,

Mr. Herbert Coles
136 Beach 117th St
Apt 201
Rockaway Park, NY 11694-2011

The importance of the Douglass Greene Park and DD Pool

Hollister White to: Region2 GowanusCanalComments 04/27/2013 05:06 PM

To whom it may concern,

My family uses the The Douglass Greene Park and the DD Pool. Please find another spot to put the waste. I am all for the clean up, but don't want this vital neighborhood resource taken away for years. By the time they put the pool back my now young children will be teenagers.

If the only place you can put the sewage is under our DD pool, with an impact and possible closing of our newly renovated Douglass Greene Park, please put a temporary pool and playground up within walking distance of the current neighborhood park and pool BEFORE closing our much used Douglass Greene Park and DD Pool.

Please allocate funds for this new temporary pool and park, build it, employ it, and open it before breaking ground on our current public pool and park. Please also put specific funds aside for the rebuilding of our DD Pool at the completion of the construction, and monies to beautify our park. Please take into account inflation and how the Gowanus Canal will be lovely based on your efforts and the DD Pool and Douglass Greene Park will be a lovely extension of everyone's best efforts, only a few short blocks from the end of the Canal.

Your goal to make the Gowanus Canal both clean and a place for the community is wonderful. Please make sure that in the process something that is highly valued by the community, our Park and Pool, won't be interrupted or destroyed to make another clean green space for our Brooklyn community. These two important areas should be complimenting each other, a clean canal with a park and pool.

I feel confident that you can see the importance of protecting a public pool and park, while helping to clean another important resource for our community.

Thank you for your time and consideration.

Best,

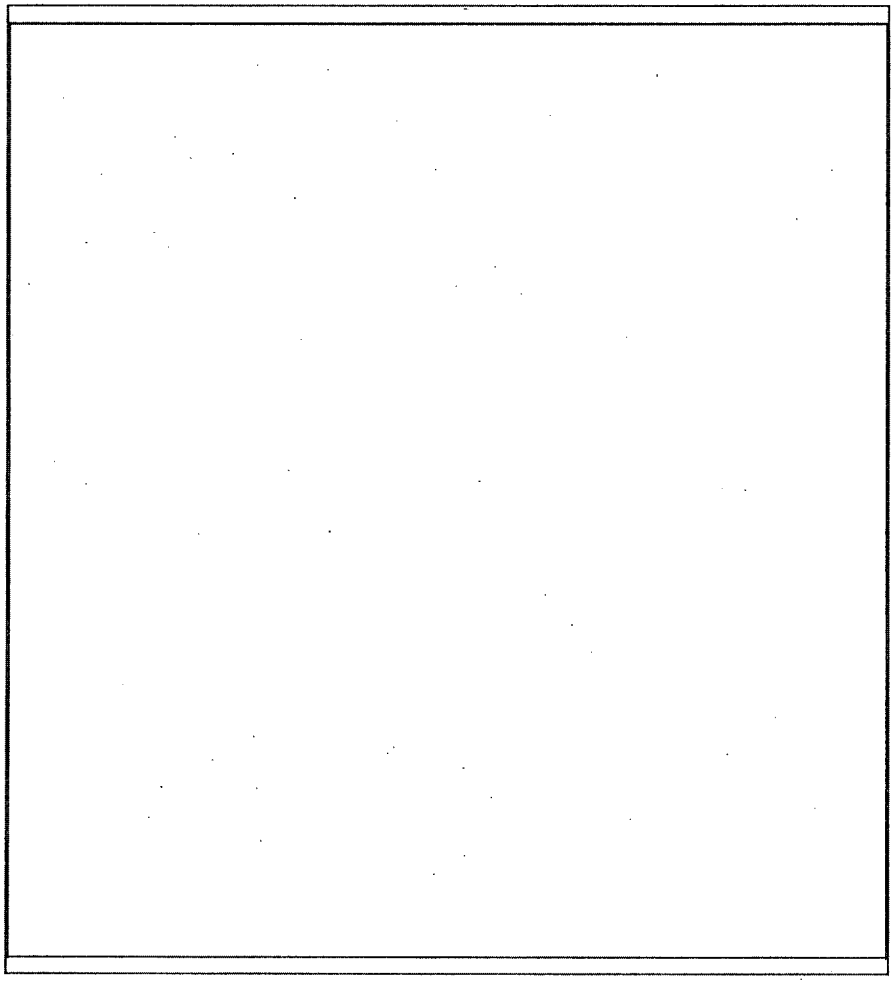
Hollister White
Brooklyn

Alexandra shared a video with you!

Dropbox to: Region2 GowanusCanalComments 04/27/2013 06:36 PM

History: This message has been replied to.

Dear Christos,
I wanted to thank the EPA so much for coming to meet in Red Hook and for acknowledging that our community does not want the CDF in our neighborhood. For your records I am sending a link to a video of the entire meeting.
Thank you again,
Alexandra



EntireMeeting.m4v

© 2013
Dropbox

Gowanus Canal Superfund PRAP Comment
Phaedra Thomas to: Region2 GowanusCanalComments 04/27/2013 07:12 PM

To: Whom It May Concern

I am writing in support of the EPA's PRAP for the Gowanus Canal Superfund, and specifically in strong favor of the "Red Hook Option" including Dewatering and construction of a Confined Disposal Facility (CDF) at GBX • Gowanus Bay Terminal in Red Hook. I own a 2 family home at 213 Van Brunt Street, where I resided from 2001 – 2010, and have worked in the Red Hook community, primarily in the nonprofit sector in community and economic development, for over a decade.

While I am employed as a consultant to the owner of GBX • Gowanus Bay Terminal, I am writing to you in the capacity of a Red Hook stakeholder, that cares deeply about this community, especially the residents of Red Hook Houses. Even when I was not employed at the South Brooklyn LDC or Southwest Brooklyn IDC, I have always volunteered (and continue to do so) for community initiatives that benefit the residents of Red Hook Houses, and know intimately the needs of this community. I have worked very closely with the leadership of the Houses, and the general public there, for 13 years.

I became involved in the Red Hook Option of the Gowanus Canal Superfund, because I knew from the moment I heard about the proposal, that it was the perfect fit for Red Hook. Because GBX is located in a THOUROUGHLY industrial section of Red Hook, zoned M-3, an active marine terminal, next to the largest Bargeport in our region, within NYC's Industrial Business Zone, I thought that expanding industry here would be a no-brainer for All of Red Hook. I have known and worked with the owner of GBX for over 10 years, which is why I knew I could stand by him, and strongly advocate for this project. I met John Quadrozzi, Jr. in 2000 when we started an Illegal Dumping Taskforce together. I was running the Red Hook office of the South Brooklyn Local Development Corporation and was the Administrator of the Red Hook Gowanus Chamber of Commerce.

We began the process of planning for the Red Hook Option by attempting to facilitate a transparent, open, communication forum for residents in both the 'Back' (primarily affluent property owners) and the 'Front" (Red Hook Houses) to discuss the project, and any concerns or questions residents might have had about the project. People were open to the idea, many were optimistic about the Job Training Initiative and job opportunities that would come from the EPA work, and all were invited to engage with us in a visioning process that would plan the new uses that could be placed on the CDF once it was completed.

We met with Mr. McGettrick and Lou Sones repeatedly. All of a sudden the discussions were about 'zero expansion of industrial land in Red Hook' versus whether the project was going to be safe or beneficial to the Red Hook community. Then, prior to the EPA presentation at PS 15, bright orange signs saying "Toxic Sludge Coming To Red Hook" went up on every door in Red Hook Houses, with no organizational affiliation and with no permission from NYCHA or the Resident Associations. Residents who were typically part of Red Hook's anti-industry clique had obviously prepped their cronies to disrupt the meeting and worse, instilled fear into residents of both the "back" and "front" of Red Hook. All people heard was scary, false terminology and all they saw was fear and anger on people's faces. We were victims of sabotage. Red Hook Houses residents were again victims of a Great Social Injustice, and it was brought against them by their own neighbors. The whole experience has been extremely

disheartening and sad. I too was a victim of Sandy, and had been experiencing great personal tragedy in my own family, but I stayed with this project because it's the right thing to do. Now it is not only the right project for the right community, the Red Hook Houses community and their local employers, it is a matter of JUSTICE.

I am not in this for myself, and never was. Red Hook deserves this project to happen, please have the courage to fight for it with us.

Yours Truly,

Phaedra Thomas, Owner
213 Van Brunt Street
Brooklyn, New York 11231
(917) 859-2949

Written comments on the proposed plan
Josh Skaller to: Region2 GowanusCanalComments 04/27/2013 07:44 PM

Christos Tsiamis
Project Manager
Central New York Remediation Section
U.S. Environmental Protection Agency
290 Broadway, 20th Floor
New York, New York 10007-1866

My Name is Josh Skaller, I live in Park Slope, and I have been actively participating in the discussion surrounding the cleanup of the Gowanus Canal for many years now.

I strongly support the proposed plan, and look forward to continuing with the EPA to make sure all of our community concerns continue to be addressed.

When the EPA first began looking into designating the canal as a Superfund site, there was both a great deal of excitement from the community at the prospect of a real clean up, and of course many questions about what to expect during the process, and what the final cleanup would entail. In addressing these concerns, the region 2 team of the EPA has been a model of good government, and truly a joy to work with.

As a parent in the neighborhood, I look forward to having a clean and safe waterway - what parent wouldn't. The proposed plan is to be commended not only on the thoroughness of the cleanup, but also for the proactive approach towards keeping the canal clean for the future.

In particular addressing the combined sewage overflow issues and committing to deep and meaningful cuts in discharge levels will have a real impact on residents and should remain a high priority in the plan. I urge the EPA to continue to work with the city towards finding ways to minimize or eliminate where possible the short term impacts any work might have in pursuing the needed discharge remediation.

I also believe that any processing as a result from dredging, including dewatering, be done in a fair and open manner, that no community should be unfairly burdened with the clean-up, and that all remediation efforts go forward only with continued community input. In the case where there is widespread opposition to processing, the epa should either find alternative means to address the issue, or find a more suitable, remote location.

In closing I would like to reiterate both my support of the plan, and my appreciation for the fantastic job the Region 2 team has done thus far. I look forward to the Record of Decision, the Remedial Design Phase, and ultimately, a clean, safe waterway that has been transformed from albatross to asset.

Support for the Red Hook Option of the Gowanus Canal Superfund Cleanup Plan

Ray Hall to: Region2 GowanusCanalComments 04/27/2013 07:48 PM

Cc: Christos Tsiamis, Natalie Loney, Brian Carr

To: Whom It May Concern

Please find attached a letter of Support for the Red Hook Option of the Gowanus Canal Superfund from the Red Hook Houses Community Action Coalition.

Sincerely,

Ray Hall

On behalf of the Red Hook Houses Community Action Coalition RHCAC-LOS.pdf

RED HOOK HOUSES COMMUNITY ACTION COALITION

RED HOOK RISE ORGANIZATION, RED HOOK EAST & WEST RESIDENT ASSOCIATIONS

April 25, 2013

Christos Tsiamis, Project Manager
Central New York Remediation Section
U.S. Environmental Protection Agency
290 Broadway, 20th Floor
New York, New York 10007-1866

Dear Mr. Tsiamis:

We are writing to you in support of the Environmental Protection Agency's Proposed Plan for the Gowanus Canal Superfund, and in particular, in strong support of stabilizing Red Hook dredge (RTA-3a&3b) on-site, and subsequently placing it in an on-site Confined Disposal Facility at Gowanus Bay Terminal in Red Hook (the "Red Hook Option"). We truly appreciate the Red Hook Option, as our community is ready to play our part in the long-awaited cleanup of the Canal, and our residents would glean great benefit from the Job Training Initiative and Superfund employment opportunities.

Our organizations have joined together in an act of solidarity to fight for the Red Hook Option because people from the 'back' of Red Hook, many of whom own their own homes, have organized an outspoken and misguided campaign against it. This group Does Not represent the majority of Red Hook, and to the contrary, represents the minority. Their campaign has involved misrepresentations and lies about the nature and safety of the Red Hook Option. The 'No Toxic Red Hook' literature and website have robbed many of our residents' right to factual information, self-determination and the pursuit of bettering their own community. There was a bright orange sign Illegally posted on every one of our buildings' doors saying "Toxic Sludge Coming to Red Hook?". At public meetings where residents came to hear your Agency's proposal, hecklers and ill-mannered speakers scared our residents away from even daring to ask any normal questions about the activities that will be involved in the Red Hook Option.

We IMPLORE you not to allow this small, yet politically savvy, overly empowered elitist group to dictate the future of our community. Some people have just joined into the mob mentality, lighting the torches out of misplaced fear. But the *leaders*, who know the project is perfectly safe, but are using this as an opportunity to get renewed name recognition and to stop ANY growth of industry and the jobs industry provides, are guilty of orchestrating a great social injustice on a community that desperately needs the real opportunities that a project like this would afford our residents.

As you may know Red Hook Houses is the 2nd largest Housing development in NYC. Census 2010 counted our unemployment rate at about 23%. We believe it to be over 30%. Red Hook Houses wants a seat at the Superfund table to begin real dialogue with the EPA, Responsible Parties, elected officials and other government agencies on how we will be able to shape the JTI program and maximize the amount of local residents that can get Superfund related jobs; in Red Hook for Red Hook Houses residents, and in the rest of the Canal area for Red Hook and Gowanus/Wyckoff residents.

There has been a deliberate attack on John Quadrozzi, Jr.'s character which has also been appalling. We have known and worked with John for over 10 years. We know him to be an active Advocate for a cleaner environment, not an environmental criminal. Not only did he clean up his own property (which was the center of all negative activity in Red Hook in the 80's and 90's), he has always worked on improving and cleaning ALL of Red Hook. He has sponsored greening initiatives, fought illegal dumping with a personal partnership with the NYC Department of Sanitation Police, and insists on impeccable cleanliness from his tenants at the Terminal. John has Always delivered on his word including delivering turkeys on thanksgiving, presents on Christmas, horses on National Night Out Against Crime, basketballs and books for Summer programs, and countless other acts of charity and partnership. John always hires Red Hook Houses residents, and prides himself on providing opportunities for people to better their lives through honest work. We look forward to working with Mr. Quadrozzi on this exciting project and know that you can have full confidence that he will continue his stellar record of being a great neighbor and friend to all of Red Hook's residents.

It is of NO small significance that our groups have joined as one. We, as a group, represent Red Hook Houses. We all live here, or have spent the vast majority of our lives here. Red Hook East and West Resident Association Officers were elected by Red Hook Houses residents to represent them. Red Hook Rise has held the confidence of thousands of young people and their families for well over a decade now, touching countless lives through youth programming, and through fighting for local employment opportunities for residents. We represent Red Hook Houses, and we support the Red Hook Option.

Thank you Mr. Tsiamis for proposing the Red Hook Option. Rest assured you did the right thing. We will stand with you, Natalie and Brian proudly. We expect to accomplish many great things, together.

Yours Truly,

Raymond Hall, Cofounder
Red Hook Rise Organization

Dorothy Shields, President
Red Hook East Resident Assoc.

Lillie Marshall, President
Red Hook West Resident Assoc.

Earl Hall, Cofounder
Red Hook Rise Organization

Mickey Reid, VP
Red Hook East Resident Assoc.

Anthony Watson, VP
Red Hook West Resident Assoc.

Cc: Congresswoman Velazquez
NYS Senator Montgomery
NYS Senator Eric Adams
NYS Assemblymen Ortiz
NYS Assemblyperson Millman
NYC Councilmember Sara Gonzalez
NYC Councilmember Brad Lander
NYC Councilmember Steve Levin
Brooklyn Borough President Marty Markowitz
Venetia Lannon, NYS Department of Environmental Conservation
Kenneth Adams, Empire State Development
Cas Halloway, Deputy Mayor, City of New York
Seth Pinsky, President, NYC Economic Development Corporation
Daniel M. Kummer, Chair, Brooklyn Community Board 6
Community Advisory Group, Gowanus Canal Superfund

Drinking water concerns

Sabine Aronowsky to: Region2 GowanusCanalComments 04/27/2013 08:41 PM

History: This message has been forwarded.

Hello,

Given that the levels of bacterial and industrial contamination are so high in the Gowanus canal, have there been or can there be any testing by the EPA into nearby residents and businesses tap water for cross-contamination?

I am a Gowanus resident, and a renter, and I have tested my own tap water with the hardware store water testing kits and my building tap water has tested high for pesticides and bacteria.

Please test local residents, especially renters, tap water and the nearby public water supply system around the Gowanus Canal Pump station, former MGP sites and major CSO outfalls, to ensure Is there is no potential exposure pathway being generated from local contaminated groundwater impacting our drinking water supply.

Thank you.

susan handler to: Region2 GowanusCanalComments 04/27/2013 09:17 PM

History: This message has been replied to.

Dear Mr. Tsiamis,
The EPA has done an amazing job advocating a comprehensive clean up for the Gowanus Canal. I have been very impressed to see the remedy of the CSOs in your plan. I support the current EPA Plan wholeheartedly.
Sincerely,
Susan Handler
Author of youtube video Magnificat Gowanus.

Gowanus Canal Cleanup Comments from Sabine Aronowsky

Sabine Aronowsky to: Region2 GowanusCanalComments 04/27/2013 09:23 PM

History: This message has been replied to and forwarded.

Hello,

Please accept my attached comments for the EPA's Gowanus Canal Proposed Remedial Action Plan. If possible, please confirm receipt.

Thank you,

Sabine

Aronowsky_COMMENTS_EPA.pdf Gowanus_Canal_Demographics_Outreach.pdf

Sabine Aronowsky
41 St. Mark's Place, apt 3
Brooklyn, NY 11217
917-657-2922
Re: EPA Region 2 Superfund Gowanus Canal PRAP Comments

VIA E-MAIL

Christos Tsiamis
Project Manager
U.S. Environmental Protection Agency
290 Broadway, 20th floor
New York, NY 10007-1866

April 27, 2013

Dear Christos,

I would like to thank the EPA Region 2 team for their hard work and dedication over the past four years in support of the Superfund listing, Remedial Investigation, Feasibility Study, and Proposed Remedial Action Plan (PRAP) for the cleanup of the Gowanus Canal. I sincerely appreciate the EPA's efforts to openly communicate and support dialogue with all the varied community based organizations', groups, and concerned residents and businesses in Southwest Brooklyn and beyond. Thank you to Region 2 for helping to restore some of the broken public trust amongst our community regarding remediation of this longtime highly polluted waterway and I support the PRAP in addressing this overdue cleanup.

My comments regarding this cleanup are driven from multiple community based perspectives and active participation in this process. I am a videographer who produces original content, independent media and television shows for my own media program called Freddy's Brooklyn Roundhouse (FBR), which broadcasts on Brooklyn Community Access Television (BCAT) and on Youtube. In 2009, I produced several videos featuring Friends and Residents of Greater Gowanus (FROGG) efforts to bring attention to the issue of the Gowanus Canal cleanup in support of the EPA Superfund designation. Walter Mugdan, the EPA Region 2 Director of the Division of Environmental Planning

and Protection (DEPP), credited FROGG's video campaign with generating public attention and support for the 2010 National Priority Listing (NPL). A Brooklyn College professor teaching and researching Environmental Sciences commented that "Superfund Gowanus" was one of the best persuasive videos he and his class had seen.

When the EPA's Superfund designation of the Gowanus Canal became official, I joined the EPA CAG (Community Advisory Group) as an at-large member to discuss pertinent issues in this EPA cleanup process and to offer my media services to continue to bring attention to this very necessary cleanup. Beyond the over 150 years of contaminated industrial wastes deposited at the bottom of the canal, I became quite distressed to learn that three former Manufactured Gas Plant (MGP) sites were still discharging toxics into the Canal, and that close to 500 million gallons of Combined Sewer Overflows, CSO's, were also entering the Canal annually.

As the EPA Gowanus Canal Remedial Investigation results were being released and discussed, I entered school to obtain my Masters in Public Administration and Nonprofit Management from CUNY Baruch. I spent time in academic circles researching and discussing Superfund and the Clean Water Act, water quality standards and classifications, the State Pollutant Discharge Elimination System, combined sewer systems, and how the Gowanus Canal cleanup exemplifies a paradox of loopholes where the City, State and Federal accountability for the level of high concentrations of bacteria, pathogens and toxics that pose significant public health risks can continue almost unabated despite decades of environmental protections and regulations in place.

At Baruch, I also focused on community development issues and environmental justice concerns specific to the demographic populations that live in the Gowanus Canal area. As this cleanup proceeds I believe a new Environmental Justice assessment for Red Hook and Gowanus will be necessary. I think Communities of Concern should be reevaluated in the overall Record of Decision (ROD) to ensure a Community Involvement Plan (CIP) is specifically geared towards the needs and input from those communities. Additional Communities of Concern that should be assessed include the large Hispanic and Latino populations in the Gowanus area that do not speak English that remain uninformed and uninvolved in these cleanup processes due to language barrier constraints. The EPA should assess the need for other EPA programs to take action or provide information to modify implementation of

the selected remedy to minimize any disproportionately high and adverse environmental burdens impacting any potential EJ community.

Southwest Brooklyn also represents my hometown. I was born and raised in Park Slope, and my stepfather has had a stained glass studio business in Gowanus for over 30 years. My mother and stepfather have lived for the same amount of time in Gowanus, right near the former Metropolitan MGP site. I am also the mother of a 21 month old toddler and now a Gowanus resident for 9 years, who lives within 4 blocks of the head of the Canal on Butler Street, which is also near the former Fulton MGP site. As such, my family and I are very personally invested in making sure this cleanup happens in a coordinated and timely manner that safeguards our health, minimizes impacts to our daily lives and business and also benefits and considers those of us that presently live here along the polluted waterway.

As these cleanups proceed the residents that live here must be involved in the planning discussions and resource allocation decisions for the future of our neighborhoods, otherwise we suffer the health risks and cleanup burdens without any guarantees of benefits. I am including a demographic breakdown of the Gowanus area produced by the CAG Outreach and Engagement Committee to show some of the 2011 ACS census information that highlights the demographic details of the communities that live in the census tracks immediately surrounding the canal. Around 80% of the populations, in the immediate canal area are renters; about 40% of the total population in the Gowanus Canal area speaks English less than very well. Simply put, issues of affordable housing and displacement, along with communication, will grow for the majority of the populations in the area, alongside this cleanup. I want my family and neighbors to be able to afford to live and work here once this cleanup is complete and to understand that there are real opportunities for participation in planning discussions and resource allocation decisions for the future of our neighborhoods happening now. I believe there should be some Federal monitoring of the demographic shifts that will take place along side this cleanup and support for a broader community involvement plan that can focus on these issues.

At the beginning of this year, when the CAG charter decreed that there could be no dual representation amongst organizations on the CAG, I transitioned from an at-large member to an organizational representative for Friends of Douglass Greene Park (FODGP). FODGP has found itself in the difficult place of

being an advocate for the Superfund cleanup while still learning the level of detail in which the Thomas Greene Park and Douglass and Degraw Pool could be impacted by this cleanup.

It is therefore from all these personal and community based perspectives that my comments to the EPA Superfund are based. I also just recently began employment with the Fifth Avenue Committee (FAC), a nonprofit community development corporation that is also involved on the CAG and with community development throughout South Brooklyn. I hope the EPA Region 2 and whomever else decides to read these comments will strongly consider these comments, not just from a single individual perspective, but from a CAG member who has tried to be as informed as possible on the PRAP, while authentically attempting to engage and solicit input from all the varied constituencies and interests in this cleanup process.

In regards to the PRAP's proposed remediation's and controls, my main comments ask the EPA to consider the following within the forthcoming Record of Decision:

1) Incorporate the entire upland area of the former Fulton MGP site within the EPA Superfund cleanup.

I support FODGP's position that a Record of Decision (ROD) incorporating the entire upland area of the former Fulton MGP site within the EPA Superfund cleanup will provide for the best coordination, organization, planning and design possible to minimize disruption and impacts to our community. I agree that not coordinating these cleanups continues to make the community pay and will continue to leave too much uncertainty regarding the fate of the Thomas Greene Park and Douglass and Degraw Pool. Without specific timelines, clear communication, meaningful community participation and involvement, and clarification on what specific remedies and risks comprise the former Fulton MGP cleanup in conjunction with the Canal RTA1 site, the vast community of residents that use these public resources face too many uncertainties and possible disruptions that will make any further Park designs and planning impossible.

The Thomas Greene Park and Double D Pool was formerly the site of the Fulton Manufactured Gas Plant (MGP), which National Grid and the City and State are now responsible for investigating and remediating. National Grid has a website,

www.fultonmgpsite.com/, which is supposed to provide regular site news and updates, however updates have not been posted since September 2012. National Grid is also required by 6 NYCRR Part 375-1.10 NYSDEC to review and update their Citizen Participation Plan (CPP) to account for significant changes in the Fulton Municipal MGP Project's remedial program. The CPP posted online is over 5 years old and dates to when KeySpan was the responsible party for the site.

National Grid's Remedial Investigation (RI) for the former Fulton MGP site was released in July 2012 and provides detailed results of their investigations into the eight parcels of land which comprise the site. The Park and Pool comprise parcel number two, and directly beneath the Pool are old petroleum tanks from former operations. According to National Grid's summary of their RI, visible coal tar and petroleum impacts were found in soils beneath the site and in areas to the west bordering on the Canal. Subsurface migration of coal tar wastes is also so problematic that it has necessitated expedited design of an Interim Remedial Measure, consisting of a cut off wall to prevent migrating contamination from entering the Canal in support of the Superfund cleanup. A Feasibility Study (FS) to address the contamination impacts as necessary has yet to be released.

Some of the contaminants found in soil and sediment testing from National Grid's RI include benzene, toluene, ethylbenzene, and xylenes (known as BTEX) and polycyclic aromatic hydrocarbons (known as PAHs). BTEX compounds are some of the volatile organic compounds (VOCs) found in petroleum derivatives such as petrol (gasoline). Toluene, ethylbenzene, and xylenes have harmful effects on the central nervous system. PAH compounds are known carcinogens and mutagens and are also responsible for developmental toxicity, resulting in birth defects and adverse impacts to non-human life forms. When the EPA discusses these coal tar derivatives in its proposed cleanup plan, they are referred to as NAPL, non-aqueous phase liquid.

According to National Grid there is supposedly "no risk of exposure" to MGP-related contaminants at this site, unless one digs about five to seven feet down. There is also a concrete barrier at parcel number two, which is supposed to provide protection to the user's onsite. According to the EPA and the NYS Superfund program, source removal or control for all remedies, will be necessary.

The former Fulton MGP site will require close coordination and oversight between EPA, DEC and National Grid in order to prevent NAPL migration from impacting the remedy. Furthermore, EPA has identified the Double D pool area as a potential location for a 2 to 17 million gallon in line CSO storage tank for outfall RH-034 to address the over 121 million gallons of raw sewage that are estimated to enter the Canal annually from this one outfall alone, and this could impact the integrity of the remedy.

The forthcoming Record of Decision (ROD) must reflect a comprehensive cleanup of the canal and the upland former Fulton MGP area, where all agencies and parties involved work together in a much more coordinated and timely fashion. The former Fulton MGP upland area does comprise RTA1, the first part of the Canal which will be remediated, and this will most likely set the timeline and pace for the subsequent parts of this cleanup. Furthermore, any failure to achieve the Interim Remedial Measure cut off wall would result in recontamination of the canal sediments and could potentially significantly delay the cleanup. The design and location of this interim cut off wall have yet to be presented to the public, so not only is the coordination of this remedy in question, but understanding the impacts of where this NAPL could possibly migrate to if it is prevented from entering the Canal create additional concerns for the safety and health of nearby residents, businesses and park and pool users.

More broadly, in terms of communication and transparency with residents and organizations like the Gowanus Canal Community Advisory Group (CAG); National Grid and the DEC and DEP have not responded to community concerns or public meeting requests, nor followed even the most basic parts of the Citizen Participation Plan as prescribed on the National Grid former Fulton MGP website. While National Grid continues to insist that the Park and Pool are safe, their explanations at times seem to be at odds with the EPA in terms of technical assessment, like NAPL migration for instance, where National Grid insists that coal tar waste only migrates down, yet the EPA's presentations communicate that NAPL can migrate down and up, and very importantly be transported via groundwater, not just into the Canal itself, but depositing around the neighborhood, particularly in the former MGP vicinity.

National Grid and the City of New York are potentially responsible parties (PRP's) and the EPA should use its Superfund authority to enforce the entire

upland area cleanup in a coordinated fashion that will not cause multiple disruptions to the community and its resources. These are just some of the reasons why I believe the EPA should use its vast compliance and enforcement authority under CERCLA to include the former Fulton MGP site as part of the remedy. I believe this to be the best way to guarantee source control remediation and proper agency and responsible party alignment that will ensure the protectiveness of the preferred remedy while safeguarding our residents and concerns over our community resources.

2) Conduct a thorough review of the Remedial Investigation results at the former Fulton MGP site and address new potential exposure pathways with a human health risk assessment.

For the safety of the users of the Park and Pool, and residents in the nearby vicinity, the EPA should perform a thorough inspection of National Grid's findings regarding risks of exposure at all parcels of the former Fulton MGP. In particular, at parcel 2, testing should be done by the EPA on the concrete barrier and the material of the two swimming pools onsite (the toddler pool and the regular pool) that tests for BTEX, PAH's, VOC's and NAPL. The EPA should determine if there is any issue with the porosity of these materials that could facilitate exposure pathways for these toxics? Regular testing for these same chemicals should also be performed regularly for the Pool water and the drinking and shower water at the Double D Pool facility. Finally, given the groundwater and storm water runoff contamination concerns, additional groundwater testing should be conducted by the EPA onsite after wet weather events.

The Thomas Greene Park Playground that is part of parcel number 2 was just recently redesigned and reopened this March. Over 900K in discretionary funding from City Council members was spent by NYC Parks to renovate this playground. The land was not remediated before the new playground went in. This new playground has large tree pits with a lot of exposed dirt, and a new children's sprinkler fountain, both of which should be evaluated as new dirt and groundwater sources onsite. The playground is now experiencing heavy use from neighborhood residents and the sprinkler will surely be a very big draw for young children this summer. There are very low tree guards delineating the playground from the tree pits, but the reality is that children love to play with dirt and very young children will be digging in this dirt, and inadvertently or sometimes deliberately ingesting it. The EPA should also evaluate that these new Park designs and amenities to ensure that they do not create exposure

pathways that could pose health risks to the young children and families recreating onsite.

3) **Ensure that if a combined sewer overflow (CSO) retention tank is ultimately placed in Thomas Greene Park under the D&D pool, that the pool and any park must be replaced, at the cost of the responsible party; the design of the replacement pool and/or park must meaningfully involve the local community and, finally, that interim pool and park uses must be provided for the entire time that there is disruption to this critical community resource.**

As part of the proposed cleanup plan, EPA is proposing potentially impacting the Double D pool area to excavate and build a 2 to 17 million gallon raw sewage storage tank. The plan obfuscates the issue in a way that residents reading the PRAP would not even realize that there is proposed threat to the pool in the proposed plan. It is for this reason that a petition campaign was started very recently to inform users of the Pool about the potential I disruption to this valuable community resource.

In less than three weeks since the petition was launched, over 1,000 petition signatures gathered online and offline in support of this cleanup, but against the disabling of the Double D pool (www.change.org/petitions/epa-make-the-polluters-pay-not-our-community-save-the-double-d-pool). Because the EPA understands community acceptance to be very integral to the proposed cleanup plan, the EPA should read the hundreds of petition comments that address the communities concerns over this potential loss and demonstrate the importance of this community resource. To be clear these signatures represent that the community of residents who use this facility do not want a raw sewage tank to be built beneath the pool.

While a lot of questions were raised with the EPA and the PRP's in regards to the potential impacts to the community as to the proposed siting of the CSO retention tank for outfall RH-034, not enough information and consideration was provided in support of this proposed location. Should the EPA, DEC and DEP be willing to discuss this proposal further with the community, in the context of the overall cleanup, and provide compensation and guarantees to the community at large, with respect to the pool, then perhaps there could be

support, but at this time residents have resoundingly said NO to a raw sewage tank beneath the Double D pool.

As part of that discussion, communities that use this Park and Pool also deserve clear communication on what a proposed raw sewage retention tank at this location would mean for our community. It is important to see specific health risk assessments and designs that demonstrate how this CSO remedy would be protective of human health, along with guarantees that there would be no disruption to the facilities and services provided. Furthermore, why aren't other locations, closer to the CSO outfall (RH-034), being considered either for the siting of the raw sewage tank or as a site for relocation of the Pool and services? The empty Con-Ed lot on Nevins and Butler, across the street from the Pump station and the Flushing tunnel is a prime example. There are also numerous parcels of land for sale in the immediate vicinity and perhaps this might also be worthy of an eminent domain proposal.

The pool primarily serves nearby public housing and neighborhood residents during the summer season, and programs provided at the Pool facility include the School Food Lunch program, which serves free breakfast and lunch while school is out, and the Learn to Swim program, which provides free swimming lessons for children. The pool also serves as a cooling center during heat waves. There is also a second pool, uniquely designed for toddlers, which some of the youngest neighborhood residents enjoy and a handicapped lift which services the main pool to allow for special needs access.

Should the ROD move forward with the retention tank location as put forward in the PRAP, what would be the exact timeline that this resource would be disabled? What compensation will be provided in the ROD for a community losing a recreational open space facility and how would the EPA enforce City open space standards for an already underserved part of the Gowanus community? New York City Planning Standards outlined in the 2010 City Environmental Quality Review Technical Manual encourage a standard of 2.5 acres of open space within half a mile for every 1000 residents. EPA and DEP will have to address what access to Parks is presently provided for in Gowanus compared with the standard requirements. Estimates from a CAG member have put forth that Northern Gowanus residents only have access to roughly 7 acres of Parks instead of the 70 acres the standard requires.

While there is large community support for a comprehensive Superfund cleanup of the Gowanus Canal that includes addressing raw sewage overflows, Superfund must follow its own principles and make the polluters pay, not our community. Furthermore, to prevent the denial of, reduction in, or significant delay in the receipt of benefits by minority and low-income populations would disproportionately affect communities of color and violate the U.S. EPA's environmental justice commitments.

Presently there is no specific time frame or incentives being offered in the proposed cleanup plan to the community in the regards to the potential closure of the Double D pool. It is also unclear at this time if there may be additional disruptions to the Thomas Greene Park. Also, due to the aforementioned other reasons regarding why the land in parcel two may still need to be remediated, even without the placement of the retention tank beneath the Double D Pool, it is imperative that EPA carefully consider these same reasons in their ROD before any disabling or disruption of these community resources were to occur. The ROD should include enforceable measures to provide for temporary and permanent relocation of services at a nearby location as needed.

4) Incorporate climate change impacts and post Sandy mitigation measures in the ROD.

Increased flooding from the canal poses a health threat to the all residents who live in the flood zone. Increasing large scale development in the area and surrounding neighborhoods, which also contribute wastewater to the Gowanus watershed, combined with predicted average annual rainfall increases and sea level rise, all contribute to the urgency of the need to address the CSO and toxic sediments cleanups in a timely manner.

When the Gowanus Canal overflowed during Superstorm Sandy, the heavily polluted saltwater corroded two manholes covers and flooded basements in the NYCHA Gowanus Houses, damaging electrical lines and fuses. As a result the Gowanus Houses were left without power for 10 days after Sandy, and forgotten by most everyone while all the focus went to waterfront areas. A broken water main along Hoyt Street, also left thousands of residents in eight of 14 buildings there without access to clean water.

In the Post-Sandy landscape it is important to consider the updated flood hazard risks. Residents remain under direct threat of exposure to the combined

problems of known toxic endocrine disruptors and raw sewage exposure during any large flooding episodes. Annual rainfall and intensity in the area is increasing, presently the NYC average annual rainfall is 45 inches, while CSO abatement plans are based on 38 inches a year, and according to NYC's 2008 Sustainable storm water plan recent annual rainfall records were as high as 65 inches a year. The Gowanus community sits in the 100 year flood plain and is classified as a Zone A area by the Office of Emergency Management (OEM), facing the highest risk of flooding from coastal storms, hurricanes and storm surges. According to NYC's 2008 Sustainable storm water plan, moderate predictions for sea level rises in the city are between 4 to 7 inches by the 2020's, so the time for enforceable action for the protection of Gowanus residents presents a strong case for increased compliance and enforcement measures specific to the Clean Water Act.

As previously commented at recent EPA public meetings, the ROD should include a post Sandy assessment on the sustainability of the remedial design. Superstorm wave velocities and tidal effects on dredging / flooding should be addressed and design protections should be incorporated. Possible effects to the "armor" isolation layers from superstorm effects should also be considered. Overall, strategic flood plain management needs to designed into the ROD and the EPA should provide estimates on how much the remedy will be predicted to lower the canal water depths and incorporate as much flood protection design as the remedies will allow. For these reasons I support opening up the buried basins at First and Fifth Street to help with flood direction issues and planning.

5) Conduct a new Environmental Justice Assessment; reevaluate Communities of Concern in the Gowanus area based on the Record of Decision (ROD) and ensure a Community Involvement Plan (CIP) is specifically geared towards the needs and input from those communities.

In Gowanus, two large NYCHA residential developments are located as close as 500 feet from the head of Canal. Wyckoff Gardens contains approximately 530 apartments in three, 21-story buildings located north and east of the head of the Canal. The Gowanus Houses, north and west of the Canal, contains over 1,000 apartments in a 12.57-acre complex comprising 14 buildings. Finally, a third smaller NYCHA property, the Warren Street Houses, at 572-574 Warren Street, is located across 3rd avenue from Wyckoff Gardens and comprises 200 apartments. Estimates number around 4,000 official residents in the three

Gowanus NYCHA properties in the footprint of the Canal, however it may be that these numbers are low because of the overcrowding that typically takes place in low-income living situations. Furthermore, the Red Hook Houses are Brooklyn's largest public housing complex where more than 6,000 people live. The Red Hook Houses are situated at the mouth of the canal, and nearby the proposed location of the proposed Confined Disposal Facility (CDF).

I believe the EPA should conduct a new EJ analysis that includes a preliminary burden analysis with respect to the raw sewage tank and disruption to the Park and Pool services, as well as the CDF, and the environmental burdens that would result to the particular Communities of Concern (COC).

Beyond the NYCHA residents of Red Hook, Gowanus Houses, Wyckoff Gardens and the Warren Street Houses, additional COC's that should be assessed include the large Hispanic and Latino populations in the Gowanus area that do not speak English that remain uninformed and uninvolved in these cleanup processes due to language barrier constraints. The EPA should assess the need for other EPA programs to take action or provide information to modify implementation of the selected remedy to minimize any disproportionately high and adverse environmental burdens impacting any potential EJ community.

6) Continue to support the Gowanus Canal Community Advisory Group (CAG) and facilitation at the general and committee levels.

As mentioned previously, I am an organization representative on the CAG and I participate in the Outreach and Engagement (O&E) committee. The Gowanus Canal CAG is now the largest Superfund CAG in the nation and I believe that this is justified to adequately reflect the diversity of community interests regarding site cleanup and reuse. As a member of the O&E committee., I primarily view my role within the CAG to expand public participation and to the extent possible, to ensure that the membership of the CAG reflect the composition of the community near the site and the diversity of racial, ethnic, and economic interests in the community.

As part of the Superfund process, the EPA presented a choice of neutral facilitators, and Jeff Edelstein was selected as the Gowanus Canal CAG facilitator. The role of neutral facilitator has been a critical component to ensuring the equal opportunity for participation, process and dialogue amongst such a large group. Previously, the facilitator was engaged in all CAG meetings,

down to the Committee level, but has since scaled back his facilitation to General CAG meetings, at the request of the EPA.

I strongly support full CAG facilitation, down to the Committee level, to be supported by the EPA. The reasons for this are because historically, minorities have been absent from the rank and file membership of mainstream environmental associations, and the Gowanus Canal CAG is no exception. Compositionally, the CAG is primarily representative of Environmentalists and home owners, from the middle and upper class, geographically situated in Carroll Gardens. Ideologically, intentional or not, this creates barriers to more demographically representative and diverse participation. To engage more environmental justice communities and ensure meaningful public involvement from all segments of society impacted by the continuing phases of cleanup of the site, strong facilitation that promotes inclusivity and equal access and participation is needed.

7) Carefully review the potential siting of the CDF – disposal facility – in Red Hook and let the Red Hook Community decide.

Since the EPA has repeatedly stated that community acceptance would drive the remedy, treatment and disposal selection process, I do believe that in regard to the CDF proposal, the decision should be entirely up to the Red Hook Community.

As a CAG member who attended the meetings in Red Hook, I have definitely witnessed the vocal and contentious opposition to the construction of a CDF for beneficial use onsite at the privately-owned Gowanus Bay Terminal (GBX). With this in mind, I have also heard complaints from Red Hook Rises that encapsulate the crux of the argument that fair participation by all potentially affected communities in the treatment and disposal decision-making process has not been achieved.

Since the potential siting of the CDF pertains to the last part of the remedy, namely RTA3a and 3b, I believe there is enough time to postpone a specific decision on this remedy, while still moving forward with the ROD. In this manner there would be no delays in the forthcoming remedial designs for RTA1 and 2 and there would still be an opportunity for all concerned parties to meaningfully engage on this matter, hopefully, in a non confrontational setting.

From an Environmental Justice perspective, historically supporters of economic growth have taken advantage of environmentalists' neglect of minorities and at times they have convinced minority leaders looking to improve their communities that the economic benefits of industrial facility and the increase in the number of jobs are worth the health risks. Although, this may not be the situation in regards to the safety of the remediated sediments for the CDF, this certainly represented the overall opinion of some of the Red Hook community, as they galvanized around the "No Toxic Red Hook" campaign.

With this in mind I believe that any future remediation proposals in particular communities of concern should be as transparent as possible and engage from the onset Community Benefits Agreements that represent equitable distribution of the benefits, along with the community burdens of the cleanup.

For example, since close to 60% of the Red Hook population lives in public housing, and John Quadrozzi Jr. of GBX is only one person, delivering a result of the cleanup that only benefits Mr. Quadrozzi clearly would not represent equitable distribution of the benefits. If the EPA could first and foremost gain public acceptance that this process is safe, they could negotiate a MOU or establishment of Corporation to share ownership of the deep sea port that the CDF would facilitate being built, (reasons for this are the shore line is a public good and using the EPA to change the shoreline is an end run around public processes). Then perhaps the Red Hook residents might consider the proposal. Also, a promise of jobs is not assured and in my opinion, not a compelling enough community benefit to justify support. Community members might not have proper qualifications, and elderly or special needs populations could not be considered, plus community job numbers are usually lower than forecasted. While workforce development, through the JTI, should absolutely be an integral part of the Superfund cleanup and jobs should be written into a CBA, the best way to share the proceeds of any public good resulting from the EPA cleanup would be collaborative ownership and dividend payments associated with the public good.

8) RTA 1 and RTA 2 - Treatment and Disposal Options

Given the high level of toxicity in the sediments of RTA1 and RTA2, only options A, B or C, as laid out in the evaluation criteria of the PRAP, would prove a viable remedy in terms of long term effectiveness and

implementability. I support the selection of whichever of these three options gains widest community acceptance for overall sustainability.

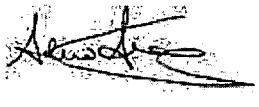
Since all of these treatment/disposal options include barging of the dredged sediment to a local, onsite dewatering and transfer facility, I believe the acquisition of critical parcels both for cleanup and dewatering staging operations should have been more directly addressed within the PRAP and must be clearly presented in the ROD.

9) Utilize Notify NYC procedures for public notification and Emergency Management.

Finally, I would like to see the ROD adopt the "Notify NYC" system to quickly notify the public of any potential health and safety concerns regarding the Gowanus Canal cleanup, including but not limited to, flooding, air quality, accidents and spills that may occur under any of the responsible parties or agencies involved in the cleanup.

Thank you for all your time and attention to these matters. I hope Region 2 recognizes the importance of their role in delivering a just, cooperative, enforceable and accountable ROD that will allow for the most protective and comprehensive cleanup moving forward. In line with the EPA's plans to address this cleanup of the toxic sediments and raw sewage in the canal and upland areas I look forward to the continued building momentum that will minimize impacts and maximize benefits for the communities that live, work and play in the area.

Sincerely,



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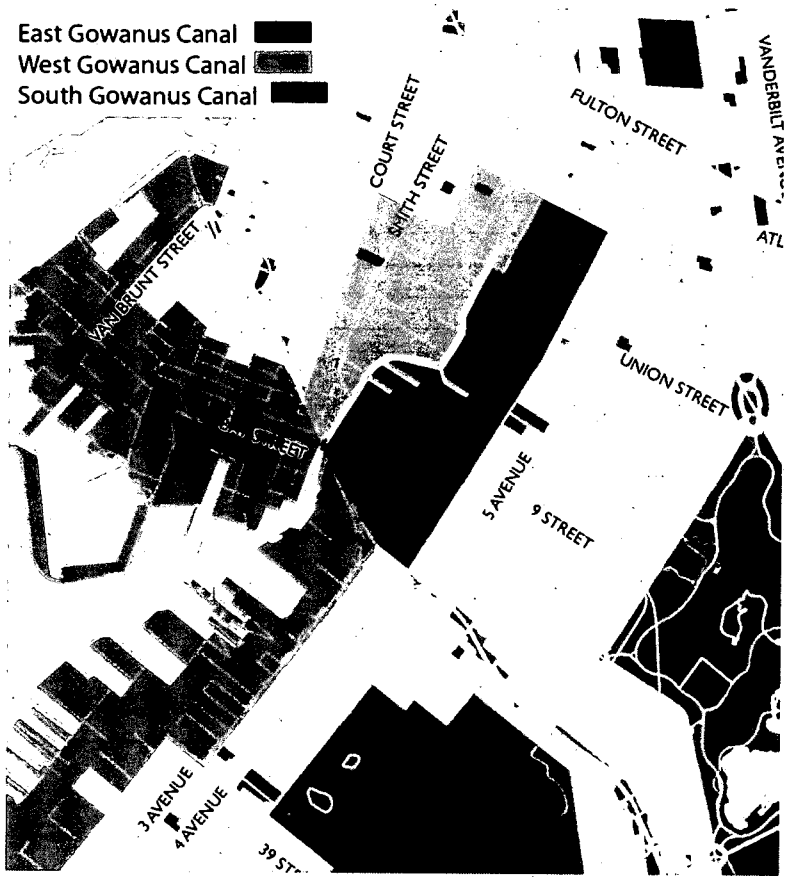
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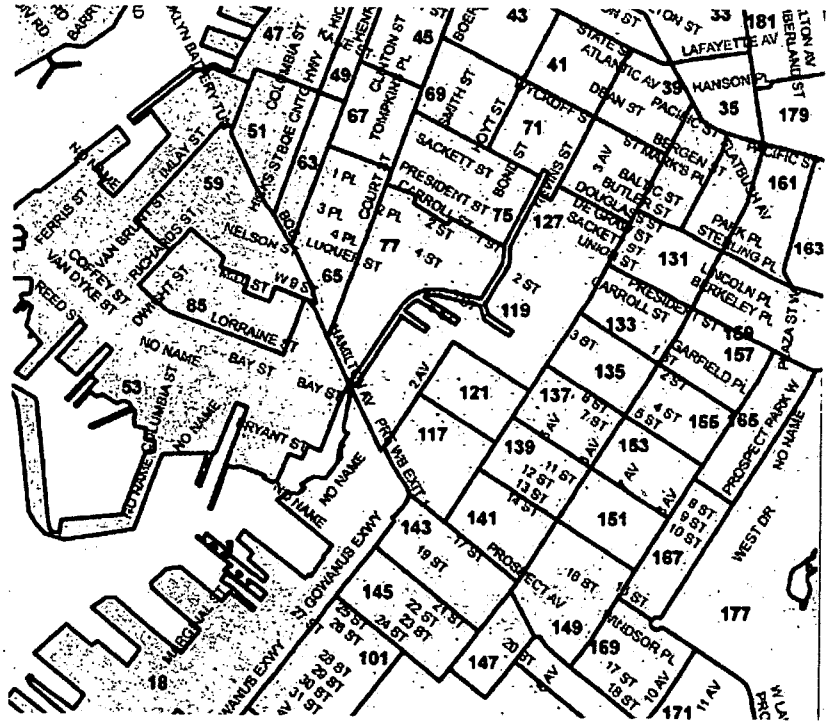
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Gowanus Canal Area **Demographic Details**

	West	East	South
Subject	2011	2011	2011
EDUCATIONAL ATTAINMENT			
Population 25 years and over			
Less than 9th grade	6.22%	9.70%	15.19%
9th to 12th grade, no diploma	8.37%	11.42%	22.68%
High school graduate (includes equivalency)	12.24%	21.50%	24.50%
Some college, no degree	11.17%	10.34%	15.58%
Associate's degree	4.62%	4.32%	5.33%
Bachelor's degree	31.22%	26.63%	13.08%
Graduate or professional degree	26.16%	16.10%	3.64%
LANGUAGE SPOKEN AT HOME			
Population 5 years and over			
English only	67.21%	61.76%	52.10%
Language other than English	32.79%	38.24%	47.90%
Speak English less than "very well"	29.06%	42.09%	47.80%
Percent of those that speak Spanish	62.50%	74.85%	85.47%
Speak English less than "very well"	26.70%	45.37%	50.60%
EMPLOYMENT STATUS			
In labor force			
Employed	89.25%	90.25%	79.67%
Unemployed	10.75%	9.75%	20.33%
MEDIAN HOUSEHOLD INCOME	$98,646	$68,858	$45,484
HOUSING TENURE			
Total Occupied housing units			
Owner-occupied	29.22%	24.15%	4.30%
Renter-occupied	70.78%	75.85%	95.70%
PERCENTAGE OF FAMILIES LIVING BELOW POVERTY	11.20%	11.53%	21.47%
PERCENTAGE OF POPULATION LIVING IN PUBLIC HOUSING	18.96%	11.87%	49.07%
RACE AND ETHNICITY			
Total Population	14,607	9,774	12,508
White alone	54.52%	38.65%	10.31%
Black or African American alone	14.56%	15.98%	34.81%
American Indian and Alaska Native alone	0.00%	0.21%	0.19%
Asian alone	6.89%	6.75%	1.82%
Native Hawaiian and Other Pacific Islander alone	0.00%	0.00%	0.00%
Some other race alone	0.25%	0.11%	0.58%
Two or more races	1.14%	1.01%	1.09%
Hispanic or Latino	22.63%	37.27%	51.21%
AGE DISTRIBUTION			
Total Population			
Under 18	21.21%	17.43%	24.27%
18 - 29	17.17%	21.23%	20.47%
30 - 44	30.60%	29.64%	26.03%
45-64	20.98%	22.33%	22.35%
65 and over	10.04%	8.93%	6.88%

CIVILIAN ENVIRONMENTAL CORPS. COMMENTS TO GOWANUS REMEDIATION PROPOSAL

Kristian Larsen to: Region2 GowanusCanalComments 04/27/2013 09:43 PM

Cc: Christos Tsiamis

History: This message has been forwarded.

Please find the attached comment letter along with Exhibits A through E in response to the Proposed Gowanus Remediation Plan.

We are also sending this directly to Mr. Tsiamis because we have found the contact email provided by the EPA to be non-responsive and/or broken.

Please feel free to contact me directly regarding the substance of the comment letter or regarding any questions you have.

I look forward to speaking with you all.

Best regards,

Kristian Karl Larsen

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Email: Klarsen@LarsenAdvocates.com

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CEC EPA Comment Letter 042713.pdf EXHIBIT A (Camillus Complaint)[1] copy.pdf

EXHIBIT B (Camillus Report)[3] copy.pdfEXHIBIT C (HHRA for Onondaga Lake)[6] copy.pdf

EXHIBIT D (HONEYWELL MOTION TO DISMISS).pdfEXHIBIT E (HONEYWELL MOTION TO DISMISS).pdf

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April 27, 2013

Christos Tsiamis
Project Manager
Central New York Remediation Section
U.S. Environmental Protection Agency
290 Broadway, 20th Floor
New York, New York 10007-1866
e-mail: GowanusCanalComments.Region2@epa.gov
tsiamis.christos@epamail.epa.gov

Re: *Civilian Environmental Corps (CEC) – The Brooklyn Brigade - and its Coalition Partner's Comments to EPA Gowanus Remediation Plan*

Dear Mr. Tsiamis:

On behalf of the Civilian Environmental Corps (CEC) – "the Brooklyn Brigade" - and our coalition partners, I submit the following comment letter concerning the remediation of the Gowanus Canal. The CEC, is a not-for-profit environmental organization formed by concerned civilian community members in response to the proposed remediation of the Gowanus Canal and the contributing upland sites.

The CEC has formed a coalition with other concerned groups such as the Gowanus Community Development Corp., numerous residents of the Gowanus, Wyckoff and Red Hook Public Housing Projects, numerous residents and property owners residing along the banks of the Gowanus Canal and the contributing upland sites and numerous individual residents and business owners within the broader neighborhoods that will be negatively impacted by the remediation if our concerns are confirmed.

Other individuals, community groups, business owners and organizations have expressed interest in joining this letter but have not had the opportunity to review its contents as of this date. It is anticipated that these groups will submit their own letters joining in this comment letter within the coming days

Our comments first focus on air pathway issues associated with the Gowanus Canal remediation as well as the issues associated with the treatment of the waste material at a proposed waste treatment facility we believe is planned for banks of the Red Hook shore in proximity to residents and businesses in Red Hook and Sunset Park.

If our concerns are not taken into account we fear that there will be disastrous and acute health impacts upon an unsuspecting community that has not been adequately informed of such risks.

We are also very concerned with the legal and technical responses/denials that have recently been made in connection with a similar ongoing, highly contentious Onandaga Lake remediation in upstate New York, in which there are issues and circumstances very similar to those surrounding the Gowanus Canal remediation. We strongly believe that the situation (as well as the legal/technical denials) taking place in the Onondaga Lake remediation is proof positive of what will happen if our concerns are not taken seriously here – except on a far greater scale.

There is a highly relevant pending lawsuit in connection with the Onondaga Lake remediation in which numerous people are suffering serious health effects. Media reports confirm that there is no doubt that people are getting sick in the Camillus community in a remediation that pales in scope, toxic acuity and urban density to the Gowanus area.

So far the responses and denials from responsible parties – including the very government agency charged with overseeing and protecting public health – has been inadequate and defensive at best.

Indeed, there has been virtually no expression of concern for the health of the community. The only expressed concern is supposedly meeting statutory requirements, the very purpose of which is to protect human health. We see the situation rapidly degenerating into litigation to mitigate liability – rather than protect human health and life – which is and should be the overarching purpose of any remediation and the applicable federal, state and local laws and regulations concerning same. If these don't achieve their only purpose, they are of little to no utility in our democratic society.

We hope to avoid this unnecessary dialogue by participating in the process. We believe there are easy, cost-effective solutions to all of our concerns – but given the large degree of skepticism and mistrust, our informed input to the process is essential.

The Onondaga Lake Remediation

On March 18, 2013, the Camillus Clean Air Coalition (CCAC) filed a Complaint seeking a temporary injunction against Honeywell International in connection with Honeywell's remediation of Onondaga Lake, a Superfund site near Syracuse, New York. The injunction seeks to stop the piping of highly contaminated, dredged lake-bottom sediments for treatment and disposal in the nearby Town of Camillus (**Exhibit A**).

The Complaint, based on numerous incidences of adverse health effects consistent with acute exposure to toxic airborne contaminants, cites an April 18 report prepared jointly for the Town of Camillus and CCAC by their consultant (**Exhibit B**). This report shows that air toxic concentrations are pervasive throughout the local community, far exceeding long-term and especially short-term safe levels.

The report also provides irrefutable proof that EPA's 2010 Supplemental Human Health Risk Assessment (HHRA) prepared at the request of Senator Charles Schumer and Congressman Daniel Maffei prior to remediation start-up, is severely flawed (**Exhibit C**). The HHRA erroneously concluded that residential risks associated with the treatment and disposal of the contaminated sediments in Camillus would be well within acceptable ranges when, as it would later be shown, quite the opposite was true. Still, the local community and elected officials, satisfied at the time with EPA's conclusions, offered no further

resistance to the dredged-sediment piping until residents began to suffer intense odors and symptoms of acute airborne exposure coinciding with remediation start-up last July.

One reason that EPA was asked to perform the HHRA is that an air pathway analysis (APA) was never performed for this remediation, even though: (a) detailed project planning documents specified an APA (**Exhibit C, Appendix C**); and (b) an APA is required under Superfund.

On April 4, Honeywell filed a Motion to Dismiss the CCAC Complaint (**Exhibit D**). In its Preliminary Statement, Honeywell argued that the Court is without subject matter jurisdiction to hear the CCAC claims, and that these claims must be dismissed pursuant to Federal Rule of Civil Procedure 12(b)(1). Honeywell argued that Congress has expressly removed jurisdiction from courts to hear such challenges prior to completion of the cleanup, owing to the serious impediment to cleaning up contaminated sites brought about by the "never-ending litigation by third parties challenging EPA's remedial decisions. . ." Honeywell further argued that such challenges must be raised during the Public Comment period. And therein is the Catch-22 for the Camillus residents. The Complaint is scheduled to be heard in U.S. District Court, Northern District of New York, on May 15.

The Gowanus Canal Remediation

CEC is fiercely committed that the situation occurring in Camillus is not repeated here in Brooklyn, especially since the Canal wastes are at least equally toxic and the residents are in much closer proximity to this hazardous toxic site.

The EPA has failed to perform an APA for the Gowanus Canal Remediation

Based on extensive review of available project documents, be advised that CEC hereby asserts that: (a) EPA has failed to perform an APA for the Gowanus Canal Remediation; (b) the selected remedy for this site (and the upland sites) is, therefore, not in accordance with the law; and (c) if an APA were to be performed, it would clearly show unacceptable risks to nearby residents owing to very high predicted levels of airborne exposure.

A Waste Treatment Facility Poses a Threat to the Residents of Red Hook

Although contradictory and confusing information has been disseminated by the EPA with respect to a planned construction of a waste treatment/sludge dewatering facility (the "Proposed Facility") on the banks of the shore of Red Hook, we are against such construction for numerous reasons: (a) the Proposed Facility would be at great risk of spreading contaminated sludge through the streets of Red Hook in the event of a storm surge like the one that has occurred in Red Hook during Hurricane Sandy; and (b) it is not clear what impact the dewatering of contaminated material will have on the air quality, because, as with the Gowanus remediation itself, no APA has been performed in connection with such Proposed Facility.

Risks to Human Life and Health in the Adjoining Communities Are Paramount

The potential disastrous effect of proceeding with a remediation and treatment of the Gowanus Canal site are enormous – not only to the immediately communities of the Gowanus basin, Red Hook, Carroll Gardens, Cobble Hill, Park Slope and Sunset Park – but also to any community within a reasonable up or downwind distance of the contaminants that may be released during the process. We recall with distress the distance that particulate matter and gaseous vapors travelled in the wake of 911 – reaching distances as far as Staten Island and Coney Island and farther. Unlike Camillus, Brooklyn is a dense urban environment with nearly three million residents all easily within range of a release of a

contaminated release from Gowanus. The risk of exposure warrants extreme caution, concern and scrutiny, and every potentially affected individual has a right to protect the health of their family and community.

The Legal and Technical Responses to the Camillus' Complaint are Inadequate and Similar Responses Will Not Be Accepted by the Communities Affected Here

As the Complaint alleges, numerous people are suffering serious physical effects from a poorly planned and executed cleanup of the same contaminants in a far less contaminated site in a far less densely populated area.

The Motion to Dismiss the Complaint interposed by Honeywell can be summed up as: (a) we did everything the EPA required; and (b) Federal environmental law limits and actually prohibits the federal courts from exercising jurisdiction once a cleanup of superfund site is already underway. This position is deeply troubling and will not be accepted by families who experience serious health effects like those currently impacting the Camillus' cleanup area.

Similarly, the New York State Department of Environmental Conservation (the "DEC"), has submitted a response to the Air Exposure Study that the Town of Camillus commissioned **(Exhibit B)** that consists of meritless denials, demurrer's and mischaracterizations of fact in response thereto. A copy of the DEC's Response is attached hereto as **Exhibit E.** Nowhere in the DEC's Response is any hint at concern or sensitivity to the legitimate health concerns raised in the Air Exposure Study and the Complaint. This is simply government at its insensitive worst and it will not be tolerated by the CEC and its coalition partners in connection with the Gowanus Remediation.

Proven Solutions Exist

The CEC has identified some extremely cost-effective and technically persuasive approaches to the remediation that we would like to share with appropriate EPA personnel at the earliest possible date. The CEC has consulted with numerous domestic and international experts in a variety of highly relevant industries and believe that there are solutions that can minimize the potential risks to public health and actually reduce the overall time and cost of the remediation.

The CEC and its partners support the Gowanus remediation and commend the EPA for its hard work. But we believe that the community has a right to raise its concerns, to consult with proven experts for a second and third opinion, and to have its suggestions taken into account in solving what we believe to be very soluble concerns. We therefore implore EPA to perform an APA and, based on its results, re-evaluate the selected remedy for the remediation of the Gowanus Canal with our input.

Thank you for the opportunity to submit these comments.

Kristian Karl Larsen, Esq.

On behalf of
The Civilian Environmental Corps. – The Brooklyn Brigade

EXHIBITS A THROUGH E INCLUDED

Complete cleanup of Gowanus desperately needed

Jessica Weiss to: Region2 GowanusCanalComments 04/27/2013 09:51 PM

Dear EPA-

As a home owner in Brooklyn living one block from the Gowanus Canal I support a comprehensive clean up of the Canal with the reduction of Combined Sewer Overflows into the Canal.

Thank you.

Jessica Weiss
374 Bond Street
Brooklyn, NY 11231

Comments from Victoria Hagman - CAG member and Red Hook resident

Victoria Hagman to: Region2 GowanusCanalComments 04/27/2013 10:07 PM
Please respond to victoria.hagman

Dear EPA,
Thank you for the time and energy you have invested in the clean up of the Gowanus Canal.
Recommendations:
- the 5th street basin should be included in the clean up
- I support the CDF and dewatering facility being located in Red Hook
- the EPA should mandate that with any addition of new housing in the area that those new developments not add to to the cso over flows and that waste should be handled on site and not contribute to the gowanus canal cso pollution.
- new developments should take extensive flood precautions that boarder the canal

Thanks you
Victoria Hagman
91 King Street
Brooklyn, NY 11231

Fifth Avenue Committee's Comments on Gowanus Canal PRAP

Michelle de la Uz to: Region2 GowanusCanalComments 04/27/2013 11:06 PM

History: This message has been forwarded.

Please accept these comments on the Gowanus Canal Superfund PRAP.

Thanks!

Michelle FAC's_PRAP_Comments_FINAL.pdf

Fifth Avenue Committee
Our Community. Our Future.

April 27, 2013

Christos Tsiamis
Remedial Project Manager
Central New York Remediation Section
U.S. Environmental Protection Agency
290 Broadway, 20th Floor
New York, NY 10007-1866

Re: Gowanus Canal Superfund Proposed Plan
Response to EPA Region 2 Proposed Remedial Action Plan (PRAP)

Dear Christos:

Thank you and the entire Region 2 Gowanus Canal Superfund Team for the opportunity to comment on the Proposed Remedial Action Plan (PRAP) for the Canal Cleanup.

As you know, Fifth Avenue Committee (FAC) is a 35 year old nonprofit comprehensive community development corporation in South Brooklyn that advances economic and social justice by building vibrant, diverse communities where residents have genuine opportunities to achieve their goals as well as the power to shape the community's future.
FAC is a nationally recognized nonprofit community development corporation formed in 1978 that works to transform the lives of over 5,500 low and moderate income New Yorkers annually so that we can all live and work with dignity and respect while making our community more equitable, sustainable, inclusive and just.

To achieve our mission, FAC develops and manages affordable housing and community facilities, creates economic opportunities and ensures access to economic stability, organizes residents and workers, offers student-centered adult education and combats displacement caused by gentrification. FAC has built over 800 units of affordable housing in neighborhoods surrounding the Gowanus Canal; built Brooklyn's largest LEED Gold affordable housing building and New York State's first LEED Platinum supportive housing project and remediated a brownfield site in the process.
As you know, FAC was also designated with our three partners, Hudson Companies, Jonathan Rose Companies and the Bluestone Organization, to develop Gowanus Green on the Public Place site along the Canal. Gowanus Green will create over 700 units of much needed housing, 70% of which will be subsidized and affordable to families at a range of incomes and includes plans for significant public open space. This *LEED neighborhood* development will help to fulfill some of the overwhelming demand for affordable, mixed income housing and open space in an environmentally sustainable manner. Finally, FAC will be responsible for the marketing and lease up of the affordable housing at the Lightstone project, also along the Gowanus Canal.

FAC's involvement with the Gowanus Canal and surrounding area dates back more than 20 years. FAC's main office is in Gowanus on the same block as part of the former Fulton MGP site and over

150 of the 600 units of affordable housing that we manage are just blocks from the Gowanus Canal. We've been an active participant in the Community Advisory Group (CAG) and have been active in both the CAG Outreach and Engagement and Real Estate Committees. FAC has been engaged with its own constituencies to ensure that local residents who will be directly impacted by the cleanup have equal opportunity and access to information about the Superfund and NYS DEC public processes happening locally and the opportunity to participate in the planning discussions and processes involving the future of our neighborhood.

FAC supports the EPA's overall remediation plan for the Gowanus Canal that includes removal and capping of toxic sediments within the Canal while addressing the upland and CSO discharges into the Canal.

FAC would like to thank the EPA Gowanus team at Region 2 for their leadership, transparency, accessibility, timeliness and their ability to listen to the many varied concerns, wants, desires and needs of the greater Gowanus community. FAC supports the overall PRAP vision to provide a coordinated and comprehensive clean up that includes the removal and capping of toxic sediments within the Canal while also addressing the upland and combined sewer overflow (CSO) discharges into the Canal.

FAC does want to share some additional, overlapping concerns and areas of focus that we believe the EPA should turn their attention to as the ROD is finalized and the next phases of the Canal cleanup are undertaken. Specifically;

Minimize impacts and maximize benefits especially for low and moderate income residents of color immediately surrounding the Gowanus Canal, many of who have been living with the Canal's impacts for generations

In line with FAC's mission, FAC wants to ensure that the Gowanus Canal Superfund cleanup will minimize impacts and maximize benefits for the surrounding communities, most especially for local low and moderate income residents, the majority of whom are Latino and African American, who have been living with the effects of the Canal for generations. Many FAC participants and residents in the area have lived with the foul odor and other impacts of the Canal and the surrounding area's lack of sewer infrastructure for generations. Yet it appears that just as government is finally turning its attention to the community's long-standing environmental issues, the displacement pressures for long-time mostly poor and working class residents are at an all time high.

Due to these displacement pressures, there will likely continue to be significant changes in the racial, ethnic and economic make-up of the area that will disadvantage low and moderate income residents from enjoying the benefits of a clean Gowanus Canal. Since a delayed cleanup could disproportionately disadvantage these communities, we ask that the EPA do everything within its CERCLA authority to expedite a coordinated cleanup for nearby community residents, and to ensure the full and fair participation by all potentially affected communities in the ongoing decision-making processes that will occur as the next phases unfold.

FAC views the Gowanus and Red Hook communities as Environmental Justice (EJ) communities, and requests both that the EPA's Gowanus Canal EJ Assessment and Community Involvement Plan (CIP) be shared formally with the CAG (specifically the Outreach and Engagement Committee) prior to the Record of Decision (ROD) being finalized to ensure the current and upcoming community needs are addressed..

As the EPA knows, approximately 75% of Red Hook's population lives in Red Hook East and West and the median income in the NYCHA properties, according to recent US Census data, is less than $20,000 annually for a family of four and the unemployment rate is more than double the national average. Red Hook East and West are the 2nd largest NYCHA developments in all of New York City and the largest in Brooklyn with a population of nearly 7,000 residents. In Gowanus, two large public housing developments are located as close as 500 feet from the head of Canal. Wyckoff Gardens contains approximately 530 apartments in two, 21-story buildings home to over 1,200 residents. The Gowanus Houses, north and west of the Canal, has a population of just less than 3,000 residents in 14 buildings. Finally, a third smaller NYCHA property, the Warren Street Houses, at 572-574 Warren Street, is located across 3rd avenue from Wyckoff Gardens and comprises 200 apartments. Estimates number around 4,000 official residents in the three Gowanus NYCHA properties adjacent to the Canal, however, based on reports, these numbers are low compared with unofficial residents. Finally, Sunset Park, though not immediately adjacent to the Canal may be impacted by the cleanup if dewatering is sited there. Sunset Park is a working class immigrant community home to New York's largest Mexican-American population, third largest Chinese population as well as a large Arab population. Additionally, there is a large Latino, Spanish dominate population that lives in the areas adjacent to the Canal that would benefit from additional outreach and engagement.

The EPA should consider updating its EJ Assessment and CIP as part of the ROD to ensure that a preliminary burden analysis is done that takes into account the impact of the retention tank(s) as well as the possible Confined Disposal Facility (CDF) or dewatering in Red Hook or Sunset Park, and the environmental burdens that could result to these particular communities.

The EPA should assess the need for other EPA programs to take action or provide information to modify implementation of the selected remedy to minimize any disproportionately high and adverse environmental burdens impacting any potential EJ community.

Leverage the approximate $500m investment in cleaning up the Canal by PRP's to benefit local low and moderate income residents with barriers to employment.

FAC believes the EPA's Gowanus Canal cleanup plan should specifically commit to this goal through its Superfund Job Training Initiative (SJTI).

Fifth Avenue Committee and its workforce development affiliate, Brooklyn Workforce Innovations (BWI) and its temporary staffing company, First Source Staffing, together placed over 1,100 individuals with barriers to employment into decent jobs in the last year alone. BWI trains and places low and moderate income individuals through 6 sector based training programs including our

Red Hook on the Road commercial drivers license training program, *Brooklyn Woods* woodworking training program , *Brooklyn Networks* cable installation training program, *Made in New York* TV and Film Production Assistant Training program and *NYCHA Academy* which trains and places public housing residents into caretaker and pest control positions. Our sector based training programs consistently have the highest graduation and job placement rates in New York City.

Local low and moderate income residents have actually been harmed as a result of the recent private investment in the area due to increased gentrification and displacement pressures. It is imperative that the $500m invested to clean-up the Gowanus Canal, which will unlock tremendous land value and lead to unprecedented displacement pressures, results in some direct benefit to local low and moderate income residents.

Enforce the most comprehensive, coordinated and timely cleanup of the Gowanus Canal Possible

Not only does FAC serve a diverse constituency, and provide comprehensive community development programs in the greater Gowanus Canal area, but as was mentioned, our offices are also located a mere two blocks away from the northern end of the Canal, where the dredging cleanup work will begin and we manage over 150 units of affordable housing within blocks of the Canal and our affordable housing pipeline includes an additional 600+ units of affordable housing immediately adjacent to the Gowanus Canal

Thousands of program participants, tenants in FAC managed properties and future residents of affordable housing projects FAC is involved in are relying on the most comprehensive, coordinated and timely cleanup of the Gowanus Canal possible. As you know, the cleanup of the Gowanus Canal though overseen by US EPA involves three levels of government and a number of responsible parties. Any one of these parties could contribute to a delay or issue which could impact on the surrounding communities in unacceptable ways including leading to a delay in the provision of much needed affordable housing or access to public open space at the future Gowanus Green project on the Public Place site.

FAC believes that the forthcoming ROD must reflect a comprehensive cleanup of the Canal and the upland areas where all agencies and parties involved work together in a coordinated and timely fashion. As is understood by FAC at this time, the proposed cleanup plan work to be conducted in the northern portion of the Canal alone would comprise dredging, capping and dewatering (EPA), along with a retaining wall to be built (National Grid / DEC), and the proposed retention tank (DEP), as well as ongoing work to the Flushing Tunnel and Pump Station (DEP), plus still to be determined further excavation and removal of NAPL that would need to take place on the former Fulton MGP site (National Grid / DEC) .

This work comprises the first part of the Canal to be remediated, and therefore will most likely set the timeline and pace for the subsequent parts of this cleanup. Furthermore, any failure by NYS DEC to achieve the Interim Remedial Measure cut off wall would result in recontamination of the Canal sediments and could potentially significantly delay the cleanup. It is for these reasons that

FAC believes that a ROD incorporating terms of enforcement and compliance must be put forward for the former MGP sites to provide for the best coordination, organization, planning and design to minimize disruption and impacts to the community.

Finally, given the number of PRPs and government agencies at all levels involved, FAC asks that the EPA use its Superfund authority to ensure the upland area cleanups move forward in a coordinated fashion that will not cause disruptions or delay to the community and its resources and which result in cleanups that are appropriate for the end use on the site. FAC believes that not effectively coordinating these cleanups would cause an adverse burden upon the community and, in the case of the Citizens MGP site, would further delay the Gowanus Green project which will provide significant affordable housing, with a preference for Community Board 6 residents, and open space

Ensure full cost of temporary and permanent replacement of public park spaces and uses and the community's meaningful involvement in the plans involving Thomas Greene Park.

The EPA has identified the Double D pool parcel in Thomas Greene Park as a potential location for an 8 million gallon in line CSO storage tank for outfall RH-034 to address the over 100 million gallons of raw sewage that are estimated to enter the Canal annually from this one outfall alone, which could also impact the integrity of the remedy.

The pool primarily serves the nearby New York City Public Housing Authority (NYCHA) and neighborhood residents during the summer season, and programs provided at the pool facility include the School Food Lunch program, which serves free breakfast and lunch while school is out, and the Learn to Swim program, which provides free swimming lessons. The pool also serves as a cooling center during heat waves. There is also a second pool, uniquely designed for toddlers, which some of the youngest neighborhood residents enjoy and a handicapped lift which services the main pool to allow for special needs access.

Should the ROD move forward with the retention tank location as put forward in the PRAP, what would be the exact timeline that this resource would be disabled? What compensation will be provided for a community losing a recreational open space facility and how would the EPA enforce City open space standards for an already underserved part of the Gowanus community? New York City Planning Standards outlined in the 2010 City Environmental Quality Review Technical Manual (CEQRA) encourage a standard of 2.5 acres of open space within half a mile for every 1000 residents. Presently, Northern Gowanus residents only have access to roughly 7 acres of Parks instead of the 70 acres the standard requires.

While FAC supports a comprehensive Superfund cleanup of the Gowanus Canal that includes addressing CSOs, we also insist that Superfund follow its own principles and make the polluters pay, not our community. The EPA's proposed placement of the retention tank to be built beneath the Douglass and DeGraw (Double D) community pool will greatly impact an already underserved community by potentially removing a facility that serves primarily low income populations that already suffer disproportionately from a number of health issues and lack of access to open space.

Furthermore, very serious consideration should be given to what impacts could occur to our most vulnerable elderly and young populations if there is no nearby facility to provide services designed to prevent hunger, and even death during excessive heat. FAC believes any public decision which contributes to the denial of, reduction or significant delay in the benefits associated with the facilities and programs at Thomas Green Park benefitting local minority and low income families would constitute environmental discrimination in FAC's opinion.

Presently there is no specific time frame or incentives being offered in the proposed cleanup plan to the community in the regards to the potential closure of the Double D pool. It is also unclear at this time if there may be additional disruptions to the Thomas Greene Park. With this in mind, FAC asks that the ROD include enforceable measures to provide for temporary and permanent relocation of services at an immediately nearby location as needed.

Any temporary displacement or permanent disruption to the Thomas Greene Park and Double D Pool should be planned for with a seamless transition of services for all the park facilities (pool, playground, skatepark, basketball courts) and services (the School Food Lunch, Learn to Swim, cooling centers, etc.) at a nearby location and the additional costs associated with the temporary disruption and replacement should be borne by the PRPs. The costs of replacing facilities and services during a temporary disruption and permanently following the NYS DEC clean-up and/or NYC DEP's installation of the retention tank, should be fully disclosed as part of the ROD.

There is much concern in the area over displacement caused by gentrification, lack of affordable housing, threats to NYCHA residents' housing, along with the potential closures of the Pacific Branch Library and Long Island College Hospital (LICH). Many longtime daycares and community centers have also lost their funding, so the threatened loss of this community resource combined with these numerous pressures adds to the burdens that neighborhood residents are already experiencing in a historically underserved area.

It is for these reasons that FAC would like for the ROD to outline how the least possible disruption to the Double D pool and Thomas Greene Park could be achieved while also meeting EPA's other goals related to re-contamination of the Canal. Moreover, if a retention tank is ultimately placed in Thomas Greene Park under the Double D pool, the pool (and any park) must be replaced, at the cost of the responsible party; the design of the replacement pool (and/or park) must meaningfully involve the local community and, finally, a temporary pool (and park) use must be provided for the entire time that there is disruption to this critical community resource.

Thoroughly review and verify remedial investigation results at the Former Fulton MGP site and address new exposure pathways as appropriate

A number of community residents have expressed concern over potential exposure pathways connected to the uses at Thomas Greene Park, including new exposure pathways that may have resulted from recent renovations of the park that include installation of tree pits and sprinklers which will be used for the first time this summer since the park renovation was just recently

completed without any remedial action being taken. As more attention is being focused on the contamination beneath the Thomas Greene Park and the risks that that contamination may pose to the public, FAC asks that EPA does everything within its power to ensure NYS DEC fully discloses these risks and ensures the public's health is protected at all times. Finally, EPA's consistently thoughtful and transparent approach in engaging the surrounding community in the cleanup of the Gowanus Canal has established a new benchmark by which other government agencies involved in the Gowanus Canal and upland MGP sites are being measured.

Adhere to the Community Acceptance Principle in Weighing the Siting of the Confined Disposal Facility (CDF) in Red Hook.

FAC appreciates the EPA's attention in holding additional meetings in Red Hook to ensure participation by all potentially affected communities in the siting and handling of dredged material from the Canal. Unfortunately, these efforts may have come too late. Red Hook residents have not had significant involvement in the Gowanus Canal Superfund process or CAG until very recently; have had limited opportunity to develop a trusting relationship with the EPA, and therefore were surprised to learn their community may be a site for a CDF. These are an unfortunate set of circumstances, since together with Red Hook's history, they may ultimately undermine 'community acceptance' of *any* proposal involving the neighborhood.

Despite EPA's clear efforts to describe the ability to develop a Confined Disposal Facility (CDF) in an environmentally safe manner, many local residents remain skeptical primarily due to Red Hook's long history of being a repository for waste transfer facilities, recent issues with the ball fields needing to be remediated which caused a delay in the baseball season and, of course, due to concerns raised about siting such a facility on the waterfront given the community's recent experience with Superstorm Sandy. These are all valid and understandable reasons why a community would be skeptical of an proposal to handle or treat contaminated dredged materials.

FAC believes that economic and workforce development opportunities, responsible environmental stewardship and environmental justice can be simultaneously pursued but adequate time, financial resources and trust must be present to work through real and/or perceived trade offs. Historically in these kinds of situations, communities – especially marginalized ones - are presented with false choices by dubious or self-interested actors. The EPA made an effort to share an evidenced based approach to help inform the community's opinion on the CDF and will now be hearing directly from Red Hook stakeholders on this matter. FAC believes that the EPA should strictly adhere to its principal of community acceptance as it weighs input on the CDF.

Continue to support the Gowanus Canal Community Advisory Group (CAG) and return to full facilitation at both the general and committee levels.

FAC is represented as an organization on the CAG and participates in the Outreach and Engagement (O&E) and Real Estate committees. We regularly offer our space for a number of CAG committees and trainings at our 621 DeGraw Street location. FAC recognizes that the

Gowanus Canal CAG is currently the largest Superfund CAG in the nation and that this is necessary to adequately reflect the diversity of community interests regarding site cleanup and reuse. FAC primarily views it's role within the CAG as promoting and protecting the interests of low and moderate income residents; promoting meaningful public participation of local low and moderate income residents and to the extent possible, also promoting membership in the CAG of underrepresented groups so that it better reflects the composition of the communities surrounding the Canal.

The role of neutral facilitator has been a critical component to ensuring equal opportunity for participation, process and dialogue amongst such a large and diverse group. Previously, the facilitator was engaged in all CAG meetings, including the Committee level, but has since had to scale back his facilitation to just General CAG meetings, at the request of the EPA. FAC feels strongly that full CAG facilitation, including Committees, should continue to be supported by the EPA. It is only *very* recently that CAG membership has become a bit more racially and socio-economically diverse, largely due to FAC's outreach efforts, but the CAG remains primarily a white, middle to upper middle income, English dominate, homeowner organization.

To engage more racially and socio-economically diverse stakeholders and ensure meaningful public involvement from all segments of society impacted by the continuing phases of cleanup of the Canal, strong facilitation that promotes inclusivity is needed for both the full CAG and CAG Committee meetings.

Incorporate climate change impacts and post Sandy mitigation measures in the ROD

Increased flooding from the Canal poses a health threat to the all residents who live in the flood zone. Increasing development without sufficient investment in public infrastructure in the surrounding area, combined with increases in predicted average annual rainfall and sea level rise, all contribute to the urgency of the need to address the CSO and toxic sediments cleanups in a timely manner.

When the Gowanus Canal overflowed during Superstorm Sandy, the heavily polluted saltwater corroded two manholes covers and flooded basements in the Gowanus Houses, damaging electrical lines and fuses and also damaged boiler and electrical panels in two FAC managed properties on Butler and Baltic Streets. As a result the Gowanus Houses and FAC managed properties were left without power for weeks after Sandy, and forgotten by most everyone while all the focus went to more traditional 'waterfront' areas. A broken water main along Hoyt Street, also left thousands of residents in eight of 14 buildings in Gowanus Houses without access to clean water.

Post Sandy it is important to consider the updated flood hazard risks. Residents remain under direct threat of exposure to the combined problems of known toxic endocrine disruptors and raw sewage during any large flooding episodes. Annual rainfall and intensity in the area is increasing, presently the NYC average annual rainfall is 45 inches, while CSO abatement plans are based on 38 inches a year, and according to NYC's 2008 Sustainable Storm Water Plan recent annual rainfall records were

as high as 65 inches a year. The Gowanus community sits in the 100 year flood plain and is classified as a Zone A area by the Office of Emergency Management (OEM), facing the highest risk of flooding from coastal storms, hurricanes and storm surges. According to NYC's 2008 Sustainable Storm Water Plan, moderate predictions for sea level rises in the city are between 4 to 7 inches by the 2020's, which presents a strong case for increased compliance and enforcement measures specific to the Clean Water Act to protect residents.

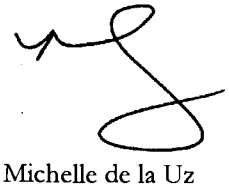
As previously commented at recent EPA public meetings, FAC agrees that the ROD should include a post Sandy assessment on the sustainability of the remedial design. Superstorm wave velocities and tidal effects on dredging / flooding should be addressed and design protections should be incorporated. Possible effects to the "armor" isolation layers from superstorm effects should also be considered. Overall, strategic flood plain management needs to designed into the ROD and the EPA should provide estimates on how much the remedy will be predicted to lower the Canal water depths and incorporate as much flood protection design as the remedies will allow. For these reason's FAC supports opening up the buried basins at First Street to help with flood direction issues and planning and believes further testing should be done at the Fifth Street basin to justify why it *shouldn't* be included in the Superfund clean-up.

Utilize Notify NYC procedures for public notification and Emergency Management

Finally, FAC would like to join others in recommend that as we move into actual implementation of a remedy that the EPA and the agencies and PRPs it is working with as part of the Canal cleanup, adopt the "Notify NYC" system to quickly notify the public of any potential health and safety concerns regarding the Gowanus Canal cleanup, including but not limited to, flooding, air quality, and accidents and spills that may occur under any of the responsible parties or agencies involved in the cleanup.

Thank you again to the entire Region 2 Gowanus Canal Superfund team for your efforts to comprehensively address the cleanup of the Gowanus Canal and the upland and CSO discharges which impact it and for the opportunity to participate in this process.

Sincerely,



Michelle de la Uz
Executive Director

621 DeGraw Street, Brooklyn, NY 11217
(t) 718.237.2017
(f) 718.237.5366
www.FifthAvenueCommittee.org

Comments Gowanus Canal PRAP
Jo Anne Simon to: Region2 GowanusCanalComments 04/27/2013 11:25 PM

History: This message has been forwarded.

Please see my comments below and attached.

April 27, 2013

Via E-mail to: GowanusCanalComments.Region2@epa.gov
Christos Tsiamis
Remedial Project Manager
U.S. Environmental Protection Agency
Central New York Remediation Station
290 Broadway, 20th floor
New York, NY 10007-1866

RE: Proposed Remedial Action Plan for the Gowanus Canal

Dear Mr. Tsiamis:

Thank you for this opportunity to offer comment on the EPA's Proposed Remedial Action Plan (PRAP) for the Gowanus Canal. I congratulate you and your colleagues with the EPA on your extensive engagement of the community in a transparent, conscientious and timely manner. The community has benefitted greatly from the agency's patience and dedication in educating us all about these complex and confounding issues as we seek to attain our mutual goal of cleaning up the Gowanus Canal.

To that end, I am generally supportive of the PRAP and its remedy preferences, but it is clear to me from the many community meetings and conversations that there remain unanswered questions and concerns regarding (a) opportunities for recontamination (as particularly seems to be the problem near the Manufactured Gas Plant sites and attendant the Fifth Street Basin); (b) the movement of Non Aqueous Phase Liquids (NAPLs) and those that are less dense than water (LNAPLs); (c) the maximization of community benefits including workforce development and the minimization of negative impacts such as disruptions to local businesses; (d) the improved coordination of the relevant agencies, responsible parties and stakeholders involved; (e) the increased opportunities for inclusion of diversity and greater participation of all the affected communities in the next steps (both design phase and actual clean-up) and (f) resource allocation decisions.

I support the vast majority of the comments made by Community Board Six and share its concerns about responsible development in the area and support fully its concerns and request for competent and independent technical advice. While the process has been a fine example of community engagement, and community members gone above and beyond in their efforts to educate themselves, the quantity and complexity of information to be digested alone argues forcefully for strong community technical assistance. This has been painfully highlighted by Hurricane Sandy and its aftermath.

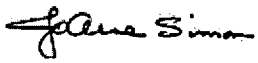
In addition, I respect the widely held preference of the Red Hook community that a confined disposal facility not be located in Red Hook.

I also share the concerns expressed by the Friends of Douglass/Greene Park regarding the clean-up of the former Fulton MGP site which sits below the Thomas Greene Park and Douglass and DeGraw ("Double D") Pool, the outstanding questions about the remediation of this site, and the wisdom and necessity of locating a raw sewage overflow collection tank beneath what is now the pool area. I ask that the EPA engage in serious dialogue with the community and adjacent property owners regarding the temporary location of a replacement park and pool during the period of time when the pool and/or park would be undergoing remediation, or the use of the lot on Nevins and Butler, across the street from the Pump station and the Flushing tunnel for the overflow retention tank instead. Should this not be possible, it would seem that the use of eminent domain be carefully considered. Surely, such a use would be a classic example of "public use."

The water quality in the canal must be improved to the greatest extent possible by drastically reducing Combined Sewer Overflows with vigorous enforcement under CERCLA and all available mechanisms under the Clean Water Act.

This is an important once-in-a-lifetime opportunity; we must exercise care and we must get it right. I look forward to continuing to work with the EPA, the City and the State, the responsible parties and the community and local business stakeholders to replace toxicity with a vibrant, clean, and sustainable Gowanus Canal that will bring pleasure and prosperity to the area.

Very truly yours,



Jo Anne Simon

Jo Anne Simon
NYS Committeewoman &
Democratic District Leader
356 Fulton Street
Brooklyn, NY 11201
Phone: 718 852-3528| Fax: 718 875-5728 |Cell: 917 685-3747
E-mail: JoAnneSimon52ndAD@gmail.com
www.JoAnneSimonforBrooklyn.com

Simon Letter to Christos Tsiamis 4-27-13.pdf

Jo Anne Simon
NYS Committeewoman &
Democratic District Leader
52nd Assembly District

April 27, 2013

Via E-mail to: GowanusCanalComments.Region2@epa.gov
Christos Tsiamis
Remedial Project Manager
U.S. Environmental Protection Agency
Central New York Remediation Station
290 Broadway, 20th floor
New York, NY 10007-1866

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356 Fulton Street, 3rd Floor • Brooklyn, NY 11201 • 718 852-3528
www.JoAnneSimonForBrooklyn.com • JoAnneSimon52ndAD@gmail.com

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This is an important once-in-a-lifetime opportunity; we must exercise care and we must get it right. I look forward to continuing to work with the EPA, the City and the State, the responsible parties and the community and local business stakeholders to replace toxicity with a vibrant, clean, and sustainable Gowanus Canal that will bring pleasure and prosperity to the area.

Very truly yours,

Jo Anne Simon

Jo Anne Simon

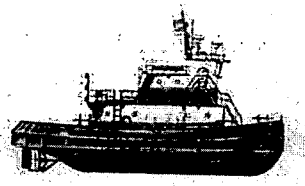
356 Fulton Street, 3rd Floor • Brooklyn, NY 11201 • 718 852-3528
www.JoAnneSimonForBrooklyn.com • JoAnneSimon52ndAD@gmail.com

Gowanus Canal Superfund Red Hook Option support letters

Gowanus Bay Terminal to: Region2 GowanusCanalComments 04/28/2013 12:02 AM

History: This message has been forwarded.

Red Hook Option letters of support.pdf



VANE BROTHERS

25April 2013

GBX Gowanus Bay Terminal
699 Columbia Street
Brooklyn, NY 11231

Attn: John Quadrozzi Jr.
Re: Red Hook CDF

Gentlemen:

As the current tenant of the west dock of the GBX Facility, Vane Line Bunkering would like to add our support for the proposed future expansion of the terminal by way of the Red Hook Option of the EPA Gowanus Canal Superfund cleanup. The GBX pier has become a significant asset to our New York Harbor operations by providing layberthing area for our barges during non-operational periods. At the present time we are in the final stages of preparation for an expansion of additional mooring structures to the end of the pier that will allow us to double the available dock space for barges awaiting assignment.

The availability of adequate commercial dock space in New York Harbor for vessels that are of the size and type of our barge fleet is extremely limited. GBX has been advantageous to our operations not only for its current and future dock space, but also because of its location within the area of our marine related business activities. Our impact on the terminal and the surrounding community is limited to primarily waterborne activity only. As such we would have littler interface with the remediation process or project itself, but maintain a long term interest in the development of the terminal for current and expanded commercial maritime interest that would result from the successful completion of this endeavor.

As a maritime operator within the immediate geographic area, we support both the cleanup efforts of the Gowanus Canal as well as future expansion of GBX.

Sincerely,

D. Michael Barr
Property Manager

Best Trails and Travel Corp.
5 Sigourney St., 2nd Floor
Brooklyn, NY 11231
212.206.6974 Phone
718.875.7437 Fax
www.bttny.com

EPA Region 2
290 Broadway, 20th Floor
Manhattan, NY 10007-1866

Att: Christos Tsiamis

Best Trails & Travel have been at GBX since approx year 2001. We currently employ about 55 people.
Out of the 55 employee we have approx 45% of them are local residents.
GBX is an ideal location and environment for our business in that it is self governing and maintains a clean, safe and secure terminal.
I am fully familiar with the EPA Gowanus Canal Superfund - Red Hook Option for a CDF which creates an increased footprint at the facility
and support such an endeavor completely. As less and less industrial land is available in Brooklyn, it gives us hope that we will have places
like GBX which are enclosed industrial incubators to house our operations.

Please approve this important plan.

Aly Goldenberg
Vice President

Transportation Logistics
bettaway
110 Sylvania Place
South Plainfield, NJ 07080

T: (908)222-2500
F: (908)222-2545

EPA Division 2

Manhattan, NY
Att: Christos Tsiamis, Project Manger

EPA- Gowanus Canal Superfund, Red Hook Option

Dear Sir,
I'm writing to support the EPA Red Hook Option.
My business is a trucking company which transports food and beverage products into the metro NY and Long Island areas.
We have been tenants of Gowanus Bay Terminal since 1995 and have over 75 employees of which 70 operate regularly at GBX.
The facility is in an ideal location for us to service two important customers, Snapple and Arizona Ice Tea located nearby in Red Hook, where we exchange full length box trailer every day/all day/day and night. It is easily accessible due to wide truck routes and its close proximity to major thoroughfares.
The use of this facility has allowed us to greatly reduce the amount of trucks operating during peak rush hour on RT 278 and RT 495 as well as all the local bridges. By staging trailers at night at the Gowanus Bay Terminal we minimize our impact on to local areas during peak day time hours. We modified our operation to maximize after hours transit at the request of the TBTA and Port Authority.
The terminal is managed well, kept clean and run in a safe and respectful manner.
We feel it essential for Gowanus Bay Terminal to grow so industries like ours have a place exist.

Kindly approve the EPA Superfund - Red Hook Option.

Please contact me if you have any questions.

Sincerely,
John Vaccaro
Senior Vice President

GBX John Quadrozzi Jr

From: SBLDCsmith@aol.com
Sent: Saturday, April 27, 2013 2:57 PM
To: GowanusCanalComment.Region2@epa.gov
Subject: SBLDC Gowanus PRAP Comments

SOUTH BROOKLYN LOCAL DEVELOPMENT CORPORATION
SBLDC
288 SMITH STREET • BROOKLYN, NEW YORK 11231 • (718) 852-0328

April 27, 2013

Mr. Christos Tsiamis, Project Manager
Gowanus Canal Superfund Project
U.S. EPA – Region 2
290 Broadway , 20thfloor
New York, NY 10007-1866

Dear Mr. Tsiamis,

As an advocate for the business community of South Brooklyn, retail, industrial, and commercial, a role the South Brooklyn Local Development Corporation has played since 1987, we wish to add our voice to those who favor the siting of a de-watering facility at GBX, and are supportive of the innovative way in which the EPA and GBX propose to handle the far less contaminated sediments culled from the Red Hook one third of the canal. We believe in the science and the global citizenship of that response and trust the EPA team to do this and do it right.

Moreover, when the Gowanus Superfund project is completed and gone - the benefits of having begun a green 21st Century ECO Industry Park at that site, with as many local residents trained to work in that field as is feasible, will still be there. Green industry will be happy to have another welcoming home and will fill the space with jobs. If we build it they will come.

In our work in Red Hook and Gowanus over the years we have seen the same anti-industry "community" responses as you and your team were subjected to used over and over again to promote the real estate interests of the few, and sadly to try to manipulate the many into being afraid. The tactics being used, the alliances being formed, and the scheming way of thinking is more reminiscent of a reality TV show than of an informed democracy.

Additionally, in our business advocacy role let us give you our opinion of the alternative proposal to do all the work on a series of small barges here and there in the canal. IMPENDING DISASTER FOR BUSINESSES!! The need to open and close the drawbridges as frequently as would be needed to treat the dredged sediment on the northern side of the Hamilton Avenue Bridge will cause huge traffic jams, make deliveries and shipments extremely difficult, discourage customers from coming to our retail businesses and in short will be a loss of jobs and vitality from Red Hook to 4th Avenue, from Atlantic Avenue to the Gowanus Bay.

I know I have sent in a personal comment already, but this is an organizational one so I hope both can be counted:

Sincerely yours,
Bette Stoltz for South Brooklyn Local Development Corporation

Bette Stoltz

MADE IN BROOKLYN TOURS

See who's makin' it in Brooklyn

April 27, 2013

Christo Tsiamis
USEP Region 2
290 Broadway, 28th Fl
New York, NY 10007

RE: Gowanus Canal Superfund Operations in Red Hook, Brooklyn

Dear Mr. Tsiamis,

Brooklyn's waterfront development historically favored industrial interests over those of the community. In fact, the Gowanus Canal has been an industrial waterway since the the Dutch. The toxic waste characterizing it and the failed attempts to take corrective action reflect a lack of concerted community involvement together with an appreciation for the benefits of industry. After all, the Gowanus has been a source of employment for nearly 150 years.

Today, we promote recreation on waterfront that had been the exclusive preserve of industry along with the benefits of recycling. The Gowanus Bay Terminal's Red Hook Option's novel approach combines state-of-the-art hazardous waste recycling with Brooklyn's own prestigious heritage of concrete production. The execution of this alternative will be under intense scrutiny by federal, state and local government enhanced by an actively engaged neighborhood. It's difficult to imagine a project of this magnitude with more attention paid to it.

Brooklyn's tradition of concrete innovation goes back to the Gilded Age and the Coignet Stone Company with offices - not coincidentally - in Gowanus. Quadrozzi Concrete continues this tradition with the building of prominent New York City skyscrapers. That Quadrozzi's high-strength concrete is used to construct the Freedom Tower is a source of pride for many.

Rather than dismiss the Red Hook Option and the role of Quadrozzi Concrete outright, Brooklynites would do well to take an active role in collaborating with all parties for the sake of our community. This is an unprecedented opportunity for Brooklynites to positively influence the development of our waterfront.

Sincerely,

Dom Gervasi, Owner & Producer

April 23, 2013

Christos Tsiamis
Project Manager
Central New York Remediation Section
U.S. Environmental Protection Agency
290 Broadway, 20th Floor
New York, New York 10007-1866

Dear Mr. Tsiamas:

On behalf of Brooklyn Economic Development Corporation (BEDC), I am writing to support the GBX/Gowanus Bay Terminal proposal for treating and disposing of the sludge removed from the Gowanus Canal.

When the determination of the Canal as a Superfund site was first promulgated, I had deep concerns on many levels. While I know and understand that toxicity that the Canal in it current form poses to the community, I also feared that the designation would halt any kind of redevelopment efforts for many years as the logistical questions of how to clean the canal and where to dump the sludge were negotiated. I know that there are few places left in the US that willingly accept toxic sludge and I understand why; as communities all over the country try to clean up and reuse brownfield sites for purposes of job creation and community revitalization, who would want to *add* contaminants to the soil where they might leach and contaminate adjacent sites and aquifers?

The GBX Terminal solves this problem in a very elegant and prudent way! It dramatically reduces the potential truck trips to and from the site, carrying their toxic cargo – this benefits the community not only from a noise and congestion standpoint, but as a way to avoid truck exhaust that has led to asthma and other respiratory problems in the Red Hook community.

Secondly, the end result is a community amenity – a waterfront park will further add to the livability of this community, which is so congested with high-rise housing and closely built industrial plants. As the Greenway project grows and expends in Brooklyn, this park will add another link to the green "necklace" that the Brooklyn waterfront can become.

Third, it helps preserve jobs and industry in a community that desperately needs them. So many "economic development" projects in Red Hook have had disappointing results – the Cruise Ship Terminal that created few jobs, the IKEA that created part-time retail jobs. Certainly, these projects have enhanced the Red Hook community, but their impact has been muted.

The Gowanus Bay terminal has been a presence in Red Hook for many years. The product they provide is *essential* to the continue rebuilding of New York City. There are few options for them to relocate to if Red Hook completely de-industrializes. That is not a desired outcome in the continuing redevelopment of Red Hook! The most vibrant communities in NYC support jobs and industries of many types. BED has been an advocate for industrial uses, *where appropriate*, in Brooklyn for our entire 34-year history. This is an appropriate use, and the GBX Terminal will not only allow The Gowanus Terminal to stay and grow, but benefit the community in terms of jobs and amenities.

If this plan is implemented, the clean-up of the Gowanus Canal can begin sooner rather than alter and the community can begin planning for a future without a toxic gash running through it. That dream has been a long time on coming, and this project helps move it closer to reality.

I have been an advocate of community-based brownfield clean-ups for many years. I was part of the original Pocantico Roundtable which advocated for better Brownfield clean-up regulations in New York State. I currently serve as Vice Chair of the Board of New Partners for Community Revitalization, a non-profit organization well known to your agency, which is in the forefront of environmental solutions to brownfield issues.. [Note: I write as an individual and not on behalf of New Partners.] Certainly the Gowanus Canal rises to a higher threat level than a typical brownfield, but as governments across New York State avoid clean-ups because they know there are no easy solutions to where to put the waste and what to do with the remediated land, we in Brooklyn are not subject to that same dilemma. We have a sound clean-up solution and we have a community that is desirable and ready to react to the positive change that a cleaner Gowanus Canal can bring.

The people of Red Hook, the residents of Public Housing, who have stuck it out for many years amidst decay, crime, being ignored and being dumped on, support this project. They see its intrinsic value. They do not support it based on whether or not the value of their houses will go up or down – they understand that it is about the long-term future for ALL Red Hook residents.

Based on the soundness of the science, the positive economic development impacts, and the faith of the people of Red Hook, BEDC endorses this project and urge you to move it forward.

Sincerely,

Joan Bartolomeo
President, BEDC

April, 27 2013

Vinik Marine, Inc.
85 First Street
Keyport, NJ 07735
(732) 610-9287

I fully support and encourage this dredging operation of the Gowanus Canal and use of the Gowanus Bay Terminal in the Red Hook Option for dewatering and construction of a CDF.

As a marine operator of a tug boat company for nearly a decade, I have see a lot of things change. Mainly and sadly, the deterioration of what were operable maritime facilities and/or transition of them to residential development. As a result, it is becoming more and more difficult to find industrial waterfront property to operate a maritime business like ours.

Cleanup of the Gowanus Canal would help make the marine environment cleaner and expansion of GBX would make a more viable industrial waterfront that which we need so desperately to maintain a working waterfront infrastructure for the city overall.

Very respectfully yours,

Michael Vinik

BENSON METAL CORP.

543 SMITH STREET

BROOKLYN, NY 11231

April 27, 2013

EPA Region 2

290 Broadway, 20th Floor

New York, NY 10007-1866

Attn: Christos Tsiamis

Re: Gowanus Canal Superfund, Red Hook Option

Sirs,

We are writing to support the EPA Red Hook Option.

We are a scrap metal processing company that occupies space at Gowanus Bay Terminal. The Terminal provides our business with an ideal place to operate. It is logistically advantageous to reach our market, is easy to access with clear and wide truck routes directly off the BQE, Battery Tunnel and Hamilton Avenue, is secure from outside elements and is managed in an organized, clean and safe manner working in concert with the local community.

We are also planning an expansion of our own at the Terminal, and plan to utilize their docks and waterborne commerce to reach our end users.

It is critical that facilities like Gowanus Bay Terminal are encouraged to grow to ensure small businesses like ours have a proper and viable place to exist.

Please approve this important plan for the better of Red Hook and Brooklyn overall.

Regards,

Tom Petrosino

Benson Metals

Capital Bus Tours Inc.

TO: 4-27-13

EPA Region 2
290 Broadway, 20th Floor
New York, NY 10007-1866
Attn: Christos Tsiamis

Dear Mr. Tsiamis,

THE FOLLOWING IS IN REGARDS TO THE PROJECT THAT IS IN QUESTION, WE AT THE ABOVE MENTIONED COMPANY ARE APPOSE TO DESTROYING OUR NATURAL RESOURCES AND THAT INCLUDES OUR WATER CANALS.

We've been at GBX since 2012 and we have only the highest of respect for the company, at the present time we employ 6 drivers who are just delighted and joyful with the care and dedication that GBX employees entrust in the preservation and commitment that goes on in the everyday activity in the cleaning of their lot.

Approx. 90% of our employees are local residents, GBX is an ideal location and environmentally safe for your business in that it is self-governing and maintains a clean, safe & secure terminal. I am fully familiar with the EPA Gowanus Canal Superfund - Red Hook Option for a CDF which creates an increased footprint at the facility and support such an endeavor completely.

As less and less industrial land is available in Brooklyn, NY it gives us hope that we will have places like GBX which are enclosed industrial incubators to house our operations.

Please approve this important plan and thank you in advance for your cooperation

Sincerely,

Frank D. Pena,
SAFETY MANAGER

EAGLE TOURS INC.

6812 3rd Avenue Brooklyn, NY 11220
Phone: 718-238-2275 / Fax: 718-238-2245

EPA Region 2
290 Broadway 20th Floor
New York, NY 10007-1866
Attn: Christos Tsiamis

April 27, 2013

Dear Mr. Tsiamis,

GBX is an ideal location and environment for our business in that it is self governing and maintains a clean, safe and secure terminal.

We have been doing business and have a good relationship with GBX since 2009. All of our ten employees are local residents and they feel GBX provides a safe and convenient working environment that nowhere else can compare to.

I am fully familiar with the EPA Gowanus Canal Superfund - Red Hook Option for a CDF which creates an increased footprint at the facility and support such an endeavour completely. As less and less industrial land is available in Brooklyn, it gives us hope that we will have places like GBX which are enclosed industrial incubators to house our operations.

Please approve this important plan.

Sincerely,

Janet Deng

Janet Deng
General Manager

S & F Travel Inc.
116 Telfair Dr
Williamsville NY 14221

Date: April 27, 2013

EPA Region2
290 Broadway, 20th Floor
New York, NY 10007-1866
Attn: Christos Tsiamis

Dear Mr. Tsiamis

We have been at GBX since Oct. 2012. We have 10 employees, and all of them are local Brooklyn residents.

GBX has an ideal location and environment for our business. It is self-governing and maintains a clean safe & secure terminal.

I am fully familiar with the EPA Gowanus Canal Superfund - Red Hook Option for a CDF which creates an increased footprint at the facility and support such an endeavor completely. As less and less industrial land is available in Brooklyn, it gives us hope that we will have places like GBX which are enclosed industrial incubators to house our operations.

Please approve this important plan.

Sincerely

S & F Travel Inc.

RE: Gowanus Canal Superfund Red Hook Option support letters

Gowanus Bay Terminal to: Region2 GowanusCanalComments 04/28/2013 12:04 AM

History: This message has been forwarded.

From: Gowanus Bay Terminal [mailto:info@gowanusbayterminal.com]
Sent: Sunday, April 28, 2013 12:04 AM
To: 'GowanusCanalComments.Region2@epa.gov'
Subject: Gowanus Canal Superfund Red Hook Option support letters

Red Hook Option letters of support 2.pdf

BROOKLYN
GREENWAY
INITIATIVE

May 18, 2012

Christos Tsiamis
USEPA, Region 2
290 Broadway, 20th Floor
New York, NY 10007

Re: Gowanus Canal Superfund Operations in Red Hook, Brooklyn

Dear Mr. Tsiamis:

I am writing to you to express our support for GBX's proposal to create a new public waterfront park and Maritime Center on its property as part of the Superfund remediation activities under consideration in Red Hook at this site.

Brooklyn Greenway Initiative (BGI) is a 501(c) (3) non-profit organization planning the Brooklyn Waterfront Greenway; a 14-mile, off street, landscaped, bicycle, pedestrian and running facility from Greenpoint to Bay Ridge We are also leading the development of neighborhood parks and open spaces along the route of the Greenway.

One of these spaces now in conceptual planning is the "Columbia Street Connector" project which runs adjacent to the GBX-Gowanus Bay Terminal. The objective of this project is to improve the pedestrian experience between the Red Hook Houses and the Columbia Street Esplanade, Red Hook Park and the route of the Brooklyn Waterfront Greenway. This stretch of Columbia Street has low traffic and wide sidewalks. The land uses in the northern three blocks are mostly industrial and commercial and the pedestrian experience there and on the Esplanade could be improved significantly with vegetation and other treatments. The esplanade itself is currently barren, with no vegetation or shade, but it could become a more attractive destination with some trees and landscaping.

The addition of new public open space at the GBX facility fits well with our mission of creating and expanding public access to the waterfront.

Sincerely,

Brian McCormick, Co-founder

BOARD OF DIRECTORS
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Milton Puryear

153 Columbia Street
Brooklyn, New York 11231
718.522.0193
BROOKLYNGREENWAY.ORG

GCCDC

May 30, 2012

Christos Tsiamis. Project Manager
U.S. Environmental Protection Agency, Region 2
290 Broadway, 20th Floor
New York, NY 10007

Re: Gowanus Canal Superfund Operations in Red Hook, Brooklyn

Dear Mr. Tsiamis:

The following is a follow-up correction to my letter to you dated May 17, 2012.

The Gowanus Canal Community Development Corporation enthusiastically supports the creation of a Confined Disposal Facility (CDF) at GBX-Gowanus Bay Terminal proposed by GBX President John Quadrozzi, Jr. In my opinion this will hasten the Gowanus Canal remediation by eliminating lengthily transport of wet waste along with cost containment.

The creation of the CDF at the GBX would also eliminate the need to fill the Fourth Street Turn Basin on the Gowanus Canal as a proposed site for treated disposal. As the majority of Brooklyn (Gowanus) residents were led to believe in the year long lead up to Superfund designation, the EPA was coming in to "oversee the clean-up of the entire water body" and not segmented portions.

However, the most exciting aspect of establishing a CDF at GBX is the "green" jobs training and employment opportunities it will create for Red Hook residents. I like to think we are in the business of creating responsible tax payers helping to *sustain* this great city.

We at the GCCDC look forward to the creation of this model project which we hope can be replicated throughout our city. We also look forward to the Gowanus Canal clean-up which will allow for responsible development both commercial and residential on the east and west banks and throughout the uplands of our canal. Please feel free to call if you have any questions.

Sincerely yours,

Bill Appel
Executive Director

PORTSIDE
NEW YORK

31 May 2011

Christos Tsiamis, Project Manager
U.S. Environmental Protection Agency, Region 2
290 Broadway, 20th Floor
New York, New York 10007

Via email to tsiamis.christos@epa.gov

Dear Mr. Tsiamis:

PortSide NewYork is a 501(c)(3) non-profit organization. PortSide NewYork's mission is focused on NYC's waterfront and relative to Red Hook, to foster community revitalization along a water theme.

On behalf of the board of PortSide NewYork, I would like to express support for EPA Superfund activities to be based at GBX. We understand those Superfund activities to include three possible layers of use of the GBX site in relation to the dredging of the Gowanus Canal:

1. as a staging area for the dredging equipment and a dewatering site,
2. as potential site for remediating the dredge spoils,
3. as a Confined Disposal Facility (CDF) which would contain the processed spoils by filling the Henry Street Basin and a large portion of the GBX property lying underwater to the east of Columbia Street, leaving space for a deep water berth in the Gowanus Bay and creating new public space.

We think it essential that a community benefits agreement be established and that community involvement with the EPA and GBX be an ongoing process. If those two conditions can be met, PortSide NewYork finds ample reason to support all three stages of the proposed Superfund activities at GBX for the following reasons.

PortSide mission is to activate NYC's BlueSpace, or water part of the waterfront, and to breathe life into the relationship between Red Hook's landside community and the maritime sector—to the advantage of both. Our approach is to create activities and spaces that benefit both groups, nurture economic connections between the two, foster their mutual appreciation, and make the waterfront neighborhood they share a better place to live, work and visit. PortSide NewYork manifests a new vision for how to revitalize New York City's waterfront and create waterside public spaces without displacing the maritime functions essential to the city's transportation infrastructure.

PortSide NewYork, aboard the tanker MARY A. WHALEN
P.O. Box 195, Red Hook Station, Brooklyn, NY 11231
917-414-0565, portsidenewyork@gmail.com, www.portsidenewyork.org

PortSide has continually advocated that maritime facilities are essential to the city and should not be displaced, but that they could be turned into centers of economic activity, job training opportunities, and neighborhood attractions via cultural tourism (interpretation). The proposed uses of GBX satisfy all those goals, given the addition of the maritime park in the GBX proposal to the community. Additionally, we think that the creation of new land providing both a community amenity and a new deep water berth, is a win-win of significant dimensions.

This proposal builds on the existing assets of the GBX site, whose recent uses include maritime hub, center for land-based transportation, center for delivery and storage of bulk materials, D&C rubble processing, and more.

It is our hope that the GBX Superfund proposals could give Red Hook a facility of the quality of the DEP's Newtown Wastewater Treatment Plant, where "dirty work" is being conducted in a facility with great architecture and landscape design, a nature walk, interpretation of local history, a free community room and an educational center where the work of sewage processing is interpreted and open to school groups and the general public. That DEP facility has made sewage processing a destination. OHNY tours of the plant book up rapidly. We would like to encourage the EPA and GBX to use this welcome clean-up of a toxic canal as a means to create a similar quality destination in Red Hook.

We also understand that the EPA could establish a Job Training Institute (JTI) in the neighborhood to train potential employees of the dredge remediation processing plant. We firmly support this.

We would like to emphasize the need for local jobs and for the proposed training center for local residents. There is terribly high unemployment in Red Hook, mostly concentrated in the Red Hook Houses. Though larger Red Hook has recently rebounded, the residents of the Houses still face high levels of unemployment and low income.

We at PortSide believe that having EPA Gowanus Canal Superfund remediation activities centered in Red Hook at GBX, if done properly, could be a good thing for a community concerned with being socially and environmentally responsible. We see this project as an opportunity for federal investment in the community, potential employment for local residents, increased industrial land, and increased public open space.

Thank you for your consideration. I can be reached at (917) 414-0565.

Sincerely,

Carolina Salguero
Director
PortSide NewYork

PortSide NewYork, aboard the tanker MARY A. WHALEN
P.O. Box 195, Red Hook Station, Brooklyn, NY 11231
917-414-0565, portsidenewyork@gmail.com, www.portsidenewyork.org

GBX John Quadrozzi Jr

From: Roberta Weisbrod <weisbrod@ix.netcom.com>
Sent: Thursday, May 17, 2012 11:53 PM
To: Tsiamis.Christos@epamail.epa.gov
Cc: Phaedra.Thomas@GowanusInc.com; jqjr@gowanusinc.com
Subject: Plans for the remediation of the Gowanus Canal

Sustainable Ports

54 Remsen St.

Brooklyn NY 11201

www.sustainableports.com

May 17. 2012

Christos Tsamios

US EPA

New York New York

Dear Mr. Tsamios,

This letter is in support of the GBX proposal for a confined disposal site beneath the Gowanus Canal for the disposition of contaminated dredged material that now exists on the surface of the canal. I think the alternative of filling a turning basin is not acceptable because it would destroy existing and future habitat.

I support the use of a CDF because I am aware that such an approach is effective in Newark Bay. I speak with a certain amount of knowledge of the options for disposition of dredged material. While I was in New York State Department of Environmental Conservation as Special Assistant to the Commissioner for New York Harbor Environmental issues, my portfolio had dredging and dredged material disposal as a major factor. During that time I co-chaired dredging conferences dedicated to finding innovative sustainable ways to deal with dredged material. In addition I made a presentation about dredged material disposal before the New York Academy of

Sciences. I continued to follow the dredging issue while I was at New York City Economic Development Corporation as Director of Port and Intermodal Planning, as consultant to the Gowanus Canal Community Development Corporation in developing its conceptual plan for redevelopment, and continue to do so as a member of the Steering Committee of the Harbor Operations Committee.

Although my words of support are few they are based on a great depth of knowledge and experience.

Very truly yours,

Roberta Weisbrod, Ph.D.

Founder and Principal,

Sustainable Ports, a consultant business

Cc: Phaedra Thomas

John Quadrozzi, Jr.

Movers, Not Shakers!

481 Van Brunt St, 10A
Brooklyn, NY 11201
(P) 718.243.0221
(F) 718.243.0241
www.moversnotshakers.com
tax ID# 05-0527123

NYSDOT - 35777
USDOT - 1124999
ICC MC - 457707

Dear Mr. Tsiamis:

I am writing to support creating a Confined Disposal Facility (CDF) at GBX-Gowanus Bay Terminal in Red Hook as part of the Gowanus Superfund project. My family and I live in Red Hook, and my business; Movers Not Shakers! is located here as well.

There are many reasons why constructing a CDF in Red Hook is the right thing to do. I am part of a Red Hook community that prides itself on being socially and environmentally responsible. We do not want to export local contaminated sludge to some other community, as it is in our backyard, and therefore should remain here, and not be trucked to a different location to be treated. We want to retain as much of this tremendous federal investment in our community, and create the maximum amount of employment opportunities for local residents. We do not want to waste our tax dollars by spending millions of dollars more to export dredge to some distant facility, nor do we want to create the exponentially larger amount of pollution that distance would create because of the associated increase in transportation.

I know GBX's owner, John Quadrozzi, Jr. to be a good corporate citizen who, like me, utilizes bio-diesel in company vehicles and equipment, hires locally whenever possible and gives back to local causes. I look forward to working with fellow community stakeholders and John to develop a Community Benefits Agreement where we can ensure the community gets the most out of the Superfund investment, creating new eco-economic development opportunities and a Job Training Institute that will live beyond the Superfund, and in creating new open space for Red Hook.

Obviously, we want to know that our community will be protected from *any* environmental health hazards that could arise from work done at GBX and want the EPA to give us a clear understanding of what we can expect from this process. I do feel there are more questions that need to be answered, and look forward to having an open, clear communication process, and a productive

RHR
redhookrise

Date: 4/24/12

Christos Tsiamis
USEP Region 2
290 Broadway
28th Floor
New York, NY 10007

Re: Gowanus Canal Super Fund Operations – Red Hook, Brooklyn

Dear Mr. Tsiamis,

We thank you for taking the time to come to Red Hook to give our community a great presentation. We are excited about working together to bring positive change to a very deserving neighborhood. We have worked with John Quadrozzi, Jr., owner of GBX Gowanus Bay Terminal for over ten years. He has always supported community initiatives and always hires people from the neighborhood and Red Hook Rise has been extremely instrumental in the hiring process. We are very optimistic the Super Fund project will begin a new era for green industry and jobs that will be a model for all to replicate.

Working with GBX to craft a community benefits agreement will put to words Mr. Quadrozzi's dedication to hiring locally while utilizing environmentally responsible business practices like fueling equipment and trucks with biodiesel and building a waterfront park in Maritime Center. We were proud to assist Fairway, IKEA, and the Brooklyn Cruise Terminal with job placement/training in Red Hook and know we can be an asset to this great project at GBX. As a result of their success, we would welcome the opportunity to work with your agency to set up a job training program that will prepare local residents for what is to come while fulfilling the hiring needs for GBX.

Red Hook Rise has provided community based programs for Red Hook residents of all ages since 1994. The violence that has plagued the neighborhood for many years coupled with astounding unemployment rates is a recipe for disaster. Super Fund related job opportunities resulting from a larger GBX site will increase employment and decrease violent activity and that is our ultimate goal. That is why we also support Option G in the feasibility study for the Gowanus Canal Super Fund in hopes that the EPA will choose Red Hook to create a confined disposal facility at GBX Gowanus Bay Terminal. GBX's quest to maintain the industrial fabric of our working waterfront and repeat history by expanding upland property while simultaneously creating greener collar job opportunities is a win win situation for

all involved. Furthermore we would like to ask the agency to consider remediation for both light and heavy contaminants which will also maximize employment opportunities.

We know your agency will keep us informed about Super Fund activities in Red Hook including any associated risks to site workers, local residents, and the general public. We are happy to spread the word about relevant meetings and other information that needs to be disseminated within the community. We hope you will let us assist you in your efforts to bring prosperity to a place that so desperately needs it.

For more information on our background and any other information you may need, we can be reached at (917) 560-7226 and we thank you so very much for your consideration.

Sincerely,

Ray and Earl Hall
Co-Founders, Red Hook Rise

cc: Honorable Nydia M. Valasquez
Honorable Jerold Nadler
Honorable Andrew Cuomo
Honorable Velmanette Montgomery
Honorable Felix Ortiz
Honorable Michael R. Bloomberg
Honorable Christine Quinn
Honorable Sarah M. Gonzalez
Honorable Brad Lander
Honorable Marty Markowitz
District Manager Craig Hammerman – Brooklyn Community Board 6
Venetia Lannon – NYS DEC
Kenneth Adams – NYS ESDC
Seth W. Pinsky – NYCEDC

REDHOOK WEST RESIDENT ASSOCIATION
428 COLUMBIA STREET #1C
BROOKLYN, NY 11231
718 755-5027
April 16, 2012

Chris Tsiamis
USEPA, Region 2
290 Broadway , 20th Floor
New York, NY 10007

Re: Gowanus Canal Superfund Operations in Redhook , Brooklyn

Dear Mr. Tsiamis,

We appreciate your informative and understandable presentation you made in Redhook. We truly thank you for taking the time out to meet with our community members, moreover, thank you for considering us to take part in this monumental initiative. We trust that the Superfund Project will serve as a great springboard to continue to propel Redhook into a sustainable and job-rich future. We are proud to have Redhook restored as a haven for industry, shipping and very high quality jobs.

I represent Redhook West Residents in support of Option G in the study for the Gowanus Canal Superfund, in hopes that EPA will choose Redhook for creating a Confined Disposal Facility at GBX-Gowanus Bay Terminal. We support GBX's quest to maintain the industrial fabric of our working waterfront and repeat history by expanding upland property more job opportunities for our community.

Redhook Houses is the 2nd largest public housing complex in the City of New York, with over 7,000 residents facing an unemployment rate of 23.4% (as per census 2010) compared with 8.4% in the Borough of Brooklyn. We face tremendous obstacles to employment, and so we welcome the opportunity to have a Job Training Institute set up here. The owner of GBX has always hired employees from Redhook, and will be working with current and future tenants. We are looking forward to the development opportunities that will arise out of the expansion of upland space at GBX. We will work with the owner to ensure all resulting new economic activity will generate jobs for the residents of Redhook.

We feel that EPA has the community's best interest at heart and will keep us informed about the work process while ensuring that environmental hazards are controlled for the safety of our workers, families , friends and visitors of Redhook.

Redhook is proud of its rich tradition in industrial job creation. We are looking forward to growing green, sustainable industrial businesses and employment going forward. Conducting Superfund remediation activities in Redhook is the right choice for the

environment and for our residents; for us it will be a sad loss not to have this great investment in our community.

I can be reached at (718 755-5027). I do appreciate your attention to this very important matter.

Sincerely,

Lillie Marshall-President

Cc: Honorable Nydia M Velazquez
Honorable Jerrold Nadler
Honorable Andrew Cuomo
Honorable Velmanette Montgomery
Honorable Felix Ortiz
Honorable Sara M Gonzalez
Honorable Marty Markowitz
District Manager Craig Hammerman, Brooklyn CB6
Venetia Lannon, NYS DEC
Kenneth Adams, NYS ESD
Seth Pinsky, NYC, EDC

Dorothy Shields
Red Hook East
Resident Association
167 Bush Street, #1B
Brooklyn, NY 11231

April 14, 2012

Christos Tsiamis
USEPA, Region 2
290 Broadway, 20th Floor

RE: Gowanus Canal Superfund Operations in Red Hook, Brooklyn

Dear Mr. Tsiamis:

We enjoyed you and your team's presentation made to our community and thank you so much for your time. I am writing to express Red Hook East Resident Association's support of creating a Confined Disposal Facility at GBX-Gowanus Bay Terminal as part of the Gowanus Canal Superfund project. I have worked with GBX and its President John Quadrozzi, Jr. for many years and support expanding its upland property so that new business development can flourish there and more Red Hook residents can be put back to work. I also ask that your agency consider conducting remediation for both light and heavy contaminants in Red Hook so that our community can reap the most benefit out of this substantial investment.

As you know Red Hook Houses has a very high unemployment rate (23%) and so would be a prime candidate to create a model Superfund Job Training Institute. We will work with Mr. Quadrozzi on creating a Community Benefits Agreement to formalize his commitment to Red Hook by ensuring new job opportunities go to local residents first, to establish a new public waterfront park and Maritime Center, and to growing his industrial park sustainably, in harmony with the interests of local residents.

We look forward to working with the EPA to ensure all Superfund activities are safe for local residents and employees. We hope to be informed about all actions being considered for our neighborhood, and any associated risks to the public's health. We welcome the continuance of EPA community outreach efforts.

Red Hook is proud of its rich tradition in industrial job creation. We look forward to growing green, sustainable industrial business and employment going forward so that more high quality jobs can be created. Conducting Superfund remediation activities in Red Hook is the right choice for the environment and will help propel Red Hook into a job-rich and sustainable future. I know we can do great things together and hope we can look back on these times as the beginning to something truly special.

I can be reached at 718-522-1452. Thank you for your attention to this very important matter.

Sincerely Mrs. Dorothy Shields, President Resident Association

Mrs. Dorothy Shields

cc: Honorable Nydia M. Velazuqez
Honorable Jerrold Nadler
Honorable Andrew Cuomo
Honorable Felix Ortiz
Honorable Sara M. Gonzalez
Honorable Marty Markowitz
District Manager Craig Hammerman, Brooklyn Community Board 6
Venetia Lannon, NYS DEC
Kenneth Adams, NYS ~~DEC~~ ESD
Honorable Velmanette Montgomery
Honorable Christine Quinn
Seth W. Pinsky, NYC EDC

FW: EPA Gowanus Canal Superfund Red Hook Option letter of support (LOS)

Gowanus Bay Terminal to: Region2 GowanusCanalComments 04/28/2013 12:31 AM

From: Joe Maranzani [mailto:joe.maranzani@biehlco.com]
Sent: Sunday, April 28, 2013 12:06 AM
To: info@gowanusbayterminal.com
Subject: Fwd:

-------- Original Message --------
Subject:
From: Rebecca <AndyLilac@comcast.net>
To: Joe Maranzani <joe.maranzani@biehlco.com>
CC:

> Dear Mr. Tsiamis,
>
> Biehl & Co., LP is a marine agent in the port that coordinates the docking and undocking of marine ships with a focus on Bulk Carriers/Cargo.
>
> We have reviewed the EPA Gowanus Canal Superfund Red Hook Proposal and think it would be beneficial to the port. As agents we often struggle with the lack of docking space for full sized ships, whether lack of deep water, inadequate upland or failing marine structures, it is a battle to keep ship owners happy and wanting to return to the port. Further, the lack of infrastructure in the port drives many maritime opportunities to other states.
>
> The expansion of the GBX terminal not only adds capacity to the port, but sends the right message to importer/exporter's and ship owners from around the world that NYC is coming back.
>
> I have worked with John Quadrozzi, Jr.'s cement company, NYCEMCO, for over two decades. I know him to be a hard worker sometimes spending several days without sleep to efficiently unload his cargos. I am confident that John will make GBX a viable location as he had done over these many years in the cement importing business.
>
> We request you approve the Red Hook Option.
>
> Thank you for allowing us to provide our input in this important matter.
>
> Sincerely,
>
> Joe Maranzani
> Biehl & Co., LP
>

COMMENTS ON GOWANUS SUPERFUND PRAP

Nathan Elbogen | XØ Projects Inc 04/28/2013 12:36 AM

To: Region2 GowanusCanalComments

Cc: ariel

Please respond to nathan

History: This message has been forwarded.

Please find attached comments on the EPA's Gowanus Superfund PRAP.

NATHAN F. ELBOGEN | XØ PROJECTS INC
THE OLD AMERICAN CAN FACTORY 232 THIRD STREET E300 BROOKLYN NY 11215
T 718-855-0871 F 718-855-1199
< XOPROJECTS.COM >

LMS_PRAPComments.pdf

The Old American Can Factory
GOWANUS BROOKLYN

LMS Realty Associates LLC | 232 Third Street F301 Brooklyn NY 11215 | p 718 855 0871 f 718 855 1199 em mail@xoprojects.com

26 April 2013

VIA EMAIL TO: GOWANUSCANALCOMMENTS.REGION2@EPA.GOV

Christos Tsiamis, Project Manager
U.S. Environmental Protection Agency
290 Broadway, 20th Floor New York, NY 10007-1866

Re: EPA Gowanus Superfund PRAP

Dear Christos:

The work that the EPA has undertaken on the Feasibility Study, Remedial Investigation and Proposed Remedial Action Plan (PRAP) to clean up the Gowanus Canal has been well-considered, timely and thorough. Throughout the entire process, the EPA in general, and your team in particular, have made an exemplary effort to present detailed information to the community and respond to community input and concerns. This project has earned the EPA the trust of our community, and renewed my own faith in our federal government.

Following are comments on three PRAP issues which I present as both, a community stakeholder and an organizational CAG member representing more than 300 persons working at The Old American Can Factory.

I urge you to consider the following comments and requests as you prepare the Record of Decision:

1.0 CONFINED DISPOSAL FACILITY
We support keeping "Option G: On-site stabilization and disposal in an on-site CDF for RTA 3" as a viable option.

2.0 BULKHEADS
We request that any bulkhead replacement not infringe at all on the existing width of the canal waterway. Furthermore, all efforts should be made to restore the historical width of the Canal where and when bulkheads are replaced.

3.0 FIFTH STREET BASIN
We request the inclusion of the Fifth Street Basin in the Superfund Proposed Remediation Plan and in the Record of Decision for the following reasons:

3.1 BACKGROUND
The Fifth St Basin was built as a primary segment of the Gowanus Canal, not just as a 'turning' basin. At 100' wide and appx 565' long, it represented appx 10% of the entire Canal area north of Hamilton Avenue. This Basin, which was actively used for barging to at least two large coal yards and a 200,000 SF factory on its north side, was filled in the 1950's with unknown material. It was contiguous with the Fourth St Basin during the peak period of Canal pollution and EPA soil and groundwater samples contained high levels of VOCs, SVOCs and metals.

In 2004, the US Army Corp of Engineer Study noted "the sites of the filled First St and Fifth St Basins are part of the historic district" and in 2011, the EPA included the Fifth St Basin in its Archeological Sensitivity Study. In 2008, NYC Dept of Transportation rebuilt the entire Third Ave Bridge that spans the basins over water still present beneath the bridge. Many city, state and federal maps still represent the Fifth St Basin as being in existence.

3.2 REASONS, USES & BENEFITS TO REMEDIATING & RESTORING THE FIFTH ST BASIN

3.2.1 It is contaminated at levels comparable to other portions of the Canal.
3.2.2 Possible CSO retention tank location.

3.2.3 Stormwater retention area for the Gowanus watershed that includes Prospect Heights, Park Slope and Boerum Hill.
3.2.4 Flood water mitigation.
3.2.5 Wetlands restoration and parkland.
3.2.6 Re-establish access for commercial barging.
3.2.7 Re-establish the Gowanus Canal's original form and preserve area's historic relevancy.

3.3 EPA CRITERIA FOR EXCLUSION IN SUPERFUND BOUNDARY

From the announcement of the Superfund designation until the PRAP was presented, the boundary of the Gowanus Superfund Site excluded the Fifth St Basin along with the First St Basin. EPA explained that though both Basins may be contaminated the criteria was established that only the existing body of 'water' was defined as 'Canal', and since the Basins were filled, both were considered 'upland', and any remediation of those Basins were to be administered by NYS Dept of Environmental Conservation (NYCDEC). However, since the First St Basin was indeed included in the PRAP, that is no longer the criteria and therefore not a valid explanation.

3.4 EPA REASONS FOR EXCLUSION IN SUPERFUND PRAP

While acknowledging that the Fifth Street Basin is contaminated but perhaps not contaminated 'enough', the EPA has cited a few 'complications' as to why it exclude it from the PRAP, including, land "ownership" issues and structures built on the Basin:.

3.4.1 STRUCTURES CURRENTLY ON THE FIFTH ST BASIN

The current structures that encroach into the Fifth St Basin's edge, include a portion of a one-story metal shed attached to the U-Haul building, and a portion of a concrete pad and perimeter retaining walls currently being used as a school yard. None of these conditions are insurmountable obstructions to remediating and restoring the Basin.

3.4.2 OWNERSHIP

NYC Dept of Finance show several privately-owned tax lots on the fill of the Fifth St Basin. There are questions about the legal private ownership of these lots on what was a public waterway, along with evidentiary material that support the challenge to the legal acquisition of those tax lots. The EPA can work with the City of New York to establish ownership and to clear the way for the EPA to do its remediation work.

3.5 PERCEPTIONS

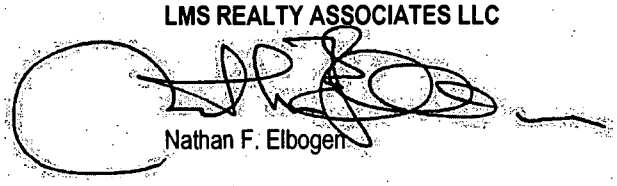
Some in the community have noted that the EPA may have reversed its original exclusion of the First St Basin and included it in the PRAP for remediation and restoration only because it sits at the heart of prime developable real estate that has been slated by NYC Dept of City Planning for rezoning.

As the EPA suggested for the Fifth St Basin, a barrier wall can be installed across the 75' width of the First St Basin to keep it from re-contaminating the Canal, and let New York City, a PRP and the owner of the Basin, to remediate it just as all other uplands under NYS DEC's Brownfield Remediation Program.

Thank you kindly for you terrific service to our community and to our nation.

Sincerely,

LMS REALTY ASSOCIATES LLC



Nathan F. Elbogen

I, the sender, vote that I do not want this project to proceed.

Karly Smelson to: Region2 GowanusCanalComments 04/28/2013 10:16 AM

As Parks User of the community of Red Hook, I strongly opposed to the processing of contaminated sludge dredged from the Gowanus Canal Superfund Cleanup Site at a facility at the proposed location. The cost savings are negligible, and the Red Hook Ball Fields and Pool are used in public trust. The community does not want to create more land from this contaminated sludge adjacent to one of the most heavily used recreation areas in New York City. People and organizations adversely affected include (but are not limited to!):

- Children
- Numerous public and private schools which use the fields for physical education & sports teams
- Residents of the Red Hook Houses and the surrounding neighborhood
- Soccer, softball, baseball, football, handball, basketball, track & field teams and enthusiasts
- Swimmers of all ages
- The Red Hook Food vendors and their customers
- Other visitors to our community

Further, we object to an individual (John Quadrozzi), who has incurred serious fines for environmental violations, from profiting from the project.

--
Karly Smelson
karlysmelson@gmail.com
25 Mill Ln.
Huntington, NY
Parks User

Gowanus Canal
Abby Krumholz to: Region2 GowanusCanalComments 04/28/2013 04:13 PM

History: This message has been replied to.

April 27, 2013

Christos Tsiamis
Remedial Project Manager
Central New York Remediation Section
U.S. Environmental Protection Agency
290 Broadway, 20th Floor
New York, New York 10007-1866

Dear Christos Tsiamis

I am writing to provide my support in favor of the EPA PRAP (Proposed Remedial Action Plan) for the Gowanus Canal. As the Proposed Plan establishes methods for removal of contaminated sediments for the entire width of the canal to the depth of native sediment and to permanently and impermeably cover whatever might remain, and has identified ways to prevent re-contamination and halt future toxic inputs; I strongly support the EPA Proposed Plan to clean the Gowanus Superfund site.

Although I do not live near the Canal, I am aware of the issues and support the EPA's plan to clean it up.

Sincerely,

Abby Krumholz

Gowanus Comments
eadie2act4water to: Region2 GowanusCanalComments 04/29/2013 09:08 AM

History: This message has been replied to.

COMMENTS REGARDING THE ENVIRONMENTAL PROTECTION AGENCY'S PROPOSED REMEDIAL ACTION PLAN FOR THE GOWANUS CANAL

Submitted by R. Frank Eadie
April 26, 2013

I write as a very concerned citizen and resident of New York City and former Water and Oceans Committee Chairperson of the Sierra Club's New York City Group to thank your agency for your conscientious and timely actions in designating the Gowanus Canal as a Super Fund Site and in developing the Proposed Remedial Action Plan (PRAP).

As one who has been concerned about and communicated with city officials regarding the Canal for more than two decades, I greatly appreciate your Agency's willingness, initiative and persistence in dealing with those officials and with pressures from other sources with interests in the area. You also deserve much praise for your patient and consistent efforts to include residents of the area in the entire process. In educating, listening and negotiating modes your performance has been outstanding.

Thank you, thank you, thank you!

Now I look forward, hopefully, to a similarly fine performance in the implementation phases.

Comments and Questions

I very strongly support almost all aspects of the PRAP and urge that implementation begin as soon as possible.

I do have some concerns and suggestions regarding aspects of the PRAP, however:

CSO Solids Control Measures and Costs

Would the proposed 8 million and 4 million gallon storage tanks retain 40% of the discharge volume of a Sandy-sized or an Irene-sized storm directly over NYC? Is even 40% truly adequate to protect the many improvements promised by the PRAP?

Twelve million gallons is only enough water to hyrofrack an average well two to four times.

Will Region 2 continue to review and critique NYC's performance as "Current and future high density residential redevelopment along the banks of the canal and within the sewershed," which "should be consistent with recently adopted NYC criteria for on-site storm water control and green infrastructure ... so as to not contribute discharges to the canal that would result in compromising the remedy"?

Is it possible that EPA could even suggest that high density residential redevelopment may not be the appropriate form of development along the banks, given what it knows about environmental impacts and potential meteorological changes? Just asking.

Dredging, Capping and Treatment/Disposal

For RTA 3: Option G does seem to make sense if the suggested criteria are met, but I would add another, critical one:

Option G would be used only if there is at least one very experienced, reputable, reliable contractor available that has used the appropriate procedures under similar conditions without serious misadventures.

If otherwise appropriate, Option G might also be used in dealing with the 1st Street Basin spoils, as well.

Community Outreach Considerations

Local residents and other stakeholders would greatly appreciate receiving notification of EPA's expected timeline for the project and of potential meeting and feedback opportunities.

13,04,26RFE-ComntsReTEPAPropsdRemdlActnPlanFTGowanusCanal.rtf

COMMENTS REGARDING THE ENVIRONMENTAL PROTECTION AGENCY'S PROPOSED REMEDIAL ACTION PLAN FOR THE GOWANUS CANAL

Submitted by R. Frank Eadie

April 26, 2013

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PRAP Comments from Gowanus Green

Michelle de la Uz to: Region2 GowanusCanalComments 04/29/2013 03:14 PM

History: This message has been forwarded.

A hard copy of these comments was sent by mail earlier but I also wanted to be sure to send an email of the Gowanus Green team's comments on the US EPA's PRAP for the Gowanus Canal.

Thank you!

Michelle

Michelle de la Uz
Executive Director

Fifth Avenue Committee, Inc.
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Brooklyn, NY 11217

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www.FifthAvenueCommittee.org
Our Community. Our Future.

Gowanus_Green PRAP FINAL Response 4-27-12.pdf

GOWANUS green

The Bluestone Organization
Fifth Avenue Committee
The Hudson Companies
Jonathan Rose Companies

April 27, 2013

Christos Tsiamis
Remedial Project Manager
Central New York Remediation Section
U.S. Environmental Protection Agency
290 Broadway, 20th Floor
New York, NY 10007-1866

Re: Gowanus Canal Superfund Proposed Plan
Response to EPA Region 2 Proposed Remedial Action Plan (PRAP)

Dear Christos:

Thank you and the entire Region 2 Gowanus Canal Superfund Team for the opportunity to comment on the Proposed Remedial Action Plan (PRAP) for the Canal Cleanup.

As you know, the Gowanus Green team has been designated by the New York City Department of Housing Preservation and Development (HPD) to re-develop the Public Place site once National Grid, under NYS Department of Environmental Conservation's (DEC) oversight, has completed the remediation of the former Manufactured Gas Plant (MGP) site. Gowanus Green is an affordable, mixed income, mixed use development whose design includes public open space, and over 770 units of housing, 70% of which will be subsidized and affordable to families at a range of incomes. Our team has extensive experience redeveloping brownfield sites to the highest sustainability standards while also creating much needed affordable and mixed income housing.

The Gowanus Green team appreciates the time that you and members of the US EPA Region 2 team have spent with us discussing the proposed remedial action plan (PRAP) and how it may impact on the design of our project. It is clear from our discussions that EPA's detailed oversight of the Gowanus Canal cleanup and review of plans for the remediation of the former MGP sites which are contributing to the contamination of the Canal has resulted in a more thorough draft remedy for the former Citizens site, in particular. Our team is hopeful that the final remedy for the Citizens site will be meaningfully improved as a result, leading to a significantly less contaminated parcel that is ultimately to everyone's – the community, National Grid and Gowanus Green's - benefit.

As the Record of Decision (ROD) is finalized and plans move into design, Gowanus Green would like to be substantively involved in discussions with US EPA and NYS DEC about the designs for the Public Place/former Citizens MGP site. Specifically, we'd like to discuss excavation depths, barrier materials, barrier wall and its final location and the location of tie backs for the barrier wall, location of collection wells, and any other facility or access connected to the remediation which might ultimately be located on the current

GOWANUS green

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Public Place site. We look forward to working closely with all the stakeholders involved to coordinate Gowanus Green's design and construction as needed.

Finally, Gowanus Green continues to be concerned about additional delays. Though the EPA has kept to its word on the timing of the Remedial Investigation and PRAP, NYS DEC has not been as diligent and ultimately their delays will impact the entire Gowanus Canal cleanup timetable. We respectfully request that EPA consider a Gowanus Canal cleanup timetable that accelerates the design and remediation of the MGP sites. Ultimately, the Gowanus Green team would like the EPA to utilize its authority to advance the most coordinated and timely cleanup of the Gowanus Canal possible.

Our proposal for the Public Place site will provide much needed affordable housing and public open space long sought by the adjacent community. We submit these comments on the PRAP with a strong desire to advance the remediation of the Public Place site and the Canal and its environs which has long been awaited by this community.

Thank you for the opportunity to comment on the PRAP. We look forward to continued work with the EPA as the Canal cleanup moves forward.

Sincerely,

Eric Bluestone
Member
Bluestone Gowanus Green Partners LLC

Michelle de la Uz
Executive Director, FAC
FAC Gowanus Green LLC

David Kramer
Member
Hudson Gowanus LLC

Jonathan F. P. Rose
Member
Rose Gowanus Green LLC

Rec'd 4/29/15

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EPA Region 2
290 Broadway, 20th Floor
Manhattan, NY 10007-1866

Att: Christos Tsiamis

Dear Mr. Tsiamis,

Biehl & Co., LP is a marine agent in the Port of New York & New Jersey that coordinates the docking and undocking of marine ships with a focus on Bulk Carriers/Cargo.

We have reviewed the EPA Gowanus Canal Superfund Red Hook Proposal and think it would be beneficial to the port. As agents we often struggle with the lack of docking space for full sized ships, whether lack of deep water, inadequate upland or failing marine structures, it is a battle to keep ship owners happy and wanting to return to the port. Further, the lack of infrastructure in the port drives many maritime opportunities to other states.

The expansion of the GBX terminal not only adds capacity to the port, but sends the right message to importer/exporter's and ship owners from around the world that NYC is coming back.

I have worked with John Quadrozzi, Jr.'s cement company, NYCEMCO, for over two decades. I know him to be a hard worker sometimes spending several days without sleep to efficiently unload his cargos. I am confident that John will make GBX a viable location as he had done over these many years in the cement importing business.

We request you approve the Red Hook Option.

Thank you for allowing us to provide our input in this important matter.

Sincerely,

Joe Maranzani
Biehl & Co., LP

Rec'd 4/29/13

Sustainable Ports
54 Remsen St.
Brooklyn NY 11201
www.sustainableports.com
(718) 722 2824
weisbrod@sustainableports.com

May 17, 2012 (originally written)

Christos Tsamios
US EPA
New York New York

Dear Mr. Tsamios,

This letter is in support of the GBX proposal for a confined disposal site beneath the Gowanus Canal for the disposition of contaminated dredged material that now exists on the surface of the canal. I think the alternative of filling a turning basin is not acceptable because it would destroy existing and future habitat.

I support the use of a CDF because I am aware that such an approach is effective in Newark Bay. I speak with a certain amount of knowledge of the options for disposition of dredged material. While I was in New York State Department of Environmental Conservation as Special Assistant to the Commissioner for New York Harbor Environmental issues, my portfolio had dredging and dredged material disposal as a major factor. During that time I co-chaired dredging conferences dedicated to finding innovative sustainable ways to deal with dredged material. In addition I made a presentation about dredged material disposal before the New York Academy of Sciences. I continued to follow the dredging issue while I was at New York City Economic Development Corporation as Director of Port and Intermodal Planning, as consultant to the Gowanus Canal Community Development Corporation in developing its conceptual plan for redevelopment, and continue to do so as a member of the Steering Committee of the Harbor Operations Committee.

Although my words of support are few they are based on a great depth of knowledge and experience.

Very truly yours,

Roberta Weisbrod

Roberta Weisbrod, Ph.D.
Founder and Principal,
Sustainable Ports, a consultant business

Cc: Phaedra Thomas/John Ouadrozzi, Jr.

Postmarked 4/25/13
Rec'd 4/29/13

Mr. Christos Tsiamis
Project Manager
Central New York Remediation Section
U.S. Environmental Protection Agency
290 Broadway 20th Floor
New York, New York 10007-1866

Dear Mr. Tsiamis,

First of all, I wish to convey my appreciation to you and the Agency for listening to my community's concerns regarding the possible creation of the CDF and de-watering facility in Red Hook.

My name is Allyn Bacher, I live at 83 Dikeman Street in Red Hook. I am a mother of a 15 year old boy and a small business owner. For the first time in the 35 years I've lived in New York City, I have found a real home in the special community of Red Hook. And more importantly, my husband and son share these feelings.

I am writing to you today to express my family's concerns relating to the EPA's Gowanus Superfund proposal, speficially options E,F & G. I attended the public meeting in February at PS 15. Since that time I have dedicated many hours toward educating myself and the Red Hook community on the choice we are being asked to make by the EPA. When the community became aware of the EPA's proposal it was crystal clear that options E,F & G were not acceptable to our community – as your team witnessed on April 16th at the meeting at South Brooklyn Community High School. We support the proposal mentioned at that meeting, by Walter Mugden, that the sludge de-watering take place on barges located within the area where dredging is occurring, and thank him for his repeated statement that the CDF and de-watering facility will not come to Red Hook.

My family is not opposed to the cleaning of the canal but we are strongly opposed to the currently proposed location within the bounds of Red Hook – especially so close to our community Ball Fields and the adjacent public housing residences – for dewatering the toxic sludge, any solution which involves stabilizing the sludge on-site (in Red Hook), and storing it in Red Hook in any form within a CDF. We are also troubled that the testing to measure toxicity and determine the composition of the sludge in the Gowanus Canal was done prior to Hurricane Sandy and now that data is no longer valid. How can the EPA move forward with the Gowanus Canal clean-up without current and accurate data?

We urge the EPA to hold the immediate and long term health effects of person and property above all else. Regardless of the venetual outcome, we expect the EPA to use all means necessary to monitor any particles released into the atmosphere during all stages of this process, collecting real time data throughout, and make to that data public knowledge.

We are hopeful that the EPA will be sensitive to our concerns and those of the residents who live within the neighborhoods bounded by the Gowanus Canal Superfund Site and that their final decision will be an amenable solution to the concerns presented.

Thank you,

allyn Bacher
Jeffrey Chong

postmarked 4/29/13
Recd 4/4/13

To whom it may concern:

I live in Red Hook, Brooklyn with my husband and two small children and I am writing to inform you that I am absolutely opposed to the EPA's latest plan to clean up the Gowanus Canal., as this plan involves storing the contaminated dredged materials from the canal in the waters surrounding my beloved neighborhood, Red Hook. I am convinced that these stored materials would cause serious health risks to my family and my neighbors, many of whom are elderly and many of whom have small children, like myself. I understand that the Gowanus Canal needs to be cleaned and I am in favor of doing so, but I will not stand to have Red Hook become a depository for the Canals' contaminants.

Thank you.

Sincerely Yours,
Jessica Sheehan
164 Coffey Street Apt. 2
Brooklyn, NY 11231