EPA NEW ENGLAND
REGION 1

RAYMARK INDUSTRIES, INC.
SUPERFUND SITE

RECORD OF DECISION

FOR

FINAL REMEDY AT OPERABLE UNIT 2 (GROUNDWATER), INCLUDING VAPOR MITIGATION ACTIONS;
AND
FINAL SOURCE CONTROL ACTIONS FOR OPERABLE UNIT 3 (UPPER FERRY CREEK), OPERABLE UNIT 4 (RAYBESTOS MEMORIAL FIELD), OPERABLE UNIT 6 (ADDITIONAL PROPERTIES)
AND
MODIFICATION TO THE OU1 REMEDY

STRATFORD, CONNECTICUT

SEPTEMBER 2016

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PART 1: DECLARATION FOR THE RECORD OF DECISION

A. SITE NAME AND LOCATION

Raymark Industries, Inc. Superfund Site	**OU 2 - Groundwater**
Stratford, Connecticut	**OU 3 - Upper Ferry Creek**
CTD001186618	**OU 4 - Raybestos Memorial Ballfield**
	OU 6 - Additional Properties

B. STATEMENT OF BASIS AND PURPOSE

This decision document presents the Selected Remedy for Operable Unit 2 (OU2 Groundwater) and Final Source Control Actions at OU3 (Upper Ferry Creek), OU4 (Raybestos Memorial Ballfield), and OU6 (Additional Properties) of the Raymark Industries, Inc. Superfund Site ("Raymark Site" or "Site"), in Stratford, Connecticut, which was chosen in accordance with Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA), 42 USC §§ 9601 *et seq*., as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA), and, to the extent practicable, the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), 40 CFR Part 300 *et seq*., as amended. The Region 1 Director of the Office of Site Remediation and Restoration (OSRR) has been delegated the authority to approve this Record of Decision. This decision document constitutes the third Record of Decision for the Raymark Site.

The selected remedial actions for Operable Unit 2 (Groundwater), to address potential health risks associated with exposure to trichloroethene (TCE) and other Raymark Site chemicals of concern through the vapor intrusion pathway, are presented in this document. In addition, remedial actions for source control at Operable Unit 3 (Upper Ferry Creek), Operable Unit 4 (Raybestos Memorial Ballfield), and all properties (22) within Operable Unit 6 (Additional Properties), all of which present potential risks from direct exposure to manufacturing waste in soil and/or sediment from the former Raymark facility ("Raymark Waste"), are also presented in this document.

This document further presents a modification of the source control action for groundwater that was included in the July 1995 Record of Decision for OU1, the Raymark facility; namely, the discontinuation of the existing passive dense non-aqueous phase liquid (DNAPL) extraction system. The basis for this modification is found in the Administrative Record for Operable Unit 2, and is summarized below.

The decisions in this document were based upon the Administrative Records for each of the operable units, which have been developed in accordance with Section 113(k) of CERCLA, and which are available for review at the Stratford Public Library and at the United States Environmental Protection Agency (EPA) Region 1 OSRR Records Center in Boston, Massachusetts. The Administrative Record Indices for each of the operable units (Appendix F to this Record of Decision) identifies each of the items comprising the Administrative Records upon which the selection of the remedial actions are based. Together, these Administrative Records form the Administrative Record for the Selected Remedy.

The State of Connecticut concurs with the Selected Remedy (Appendix E to this Record of Decision).

C. ASSESSMENT OF THE SITE

The response actions selected in this ROD are necessary to protect the public health or welfare or the environment from actual or threatened releases of hazardous substances into the environment.

D. DESCRIPTION OF THE SELECTED REMEDY

The Selected Remedy is part of a comprehensive cleanup approach and is based on a combination of remedial alternatives set out in a Proposed Plan issued for public comment in June 2016 that addresses all current and potential future risks caused by groundwater, vapor intrusion, soil, including wetland soil, and sediment contamination at four separate study areas of the Site. Over the years, the Raymark Site has been divided into nine study areas, or Operable Units (OUs). The Selected Remedy will address four of the nine OUs.

The remedial measures selected in this ROD will:

OU2 (Groundwater):
- protect current and future building occupants against vapor intrusion;
- prevent potential direct contact and future ingestion of contaminated groundwater;

OU3 (Upper Ferry Creek):
- prevent direct contact by recreational visitors with contaminated soil, including wetland soils, and sediments in and around Upper Ferry Creek and its adjacent wetlands that presents an unacceptable risk and reduce risks to wildlife;

OU4 (Raybestos Memorial Ballfield) and OU6 (Additional Properties):
- prevent direct contact by recreational visitors, and current and future residential, and

commercial/industrial workers with contaminated soil that presents an unacceptable risk.

For OU2, groundwater at the source area contains DNAPL, a principal threat waste as it is toxic and a continuing source of contamination in the downgradient groundwater; however, it is not mobile. Because treatment would not be effective or implementable, ventilation systems will be installed in buildings overlying the downgradient groundwater plume and existing systems will be maintained to prevent vapor intrusion into buildings. In addition, institutional controls already in place at the source area to prevent the use of groundwater will continue, and new institutional controls will be put in place to prevent future use of groundwater downgradient from the source area.

For the OU3, OU4, and OU6 properties, the majority of Raymark Waste in soil is not considered to be principal threat wastes, but rather low-level threat waste. Raymark Waste in soil, wetland soil, and sediment at OU3 and OU6 will be excavated and transported to OU4 where it will be consolidated and capped along with Raymark Waste already present at OU4. EPA has evaluated and determined that OU4 is an appropriate Corrective Action Management Unit (CAMU) location for the in-town consolidation of Raymark Waste. However, some areas of Raymark Waste at OU3 and OU6 pose risks substantially greater than the site cleanup level or goals, such waste being defined as principal hazardous constituents or "PHCs." (See Part 1 Section F and Part 2 Section L for more information regarding CAMUs and PHCs.) Based on available data, EPA estimates that approximately ten percent of the estimated +/- 110,000 cubic yards of sediment and Raymark Waste to be excavated from OU3 and OU6 may exceed the regulatory PHC limits for CAMUs. Because treatment to levels suitable for on-site reuse is not viable or practicable due to the numerous and diverse nature of the contaminants found in Raymark Waste, the Selected Remedy addresses this PHC waste by excavation and disposal at an out-of-town licensed disposal facility. Also, any Raymark Waste that exceeds the available consolidation capacity at OU4 will be transported to an out-of-town licensed disposal facility (currently estimated at approximately 25,000 cubic yards of the estimated 110,000 cubic yards).

The Selected Remedy generally requires the following response actions:

Groundwater (Operable Unit 2)

- Install contaminated vapor ventilation systems at approximately 20 additional mostly residential properties;
- Assess potential vapor intrusion risks at additional properties, and install additional ventilation systems as needed;
- Long-term maintenance of the existing and newly installed ventilation systems;
- Institutional controls to limit future use of groundwater and to address potential vapor intrusion risks;
- Long-term groundwater monitoring; and

- Discontinue use of the existing passive DNAPL extraction system at the former Raymark facility (OU1). This is a modification of the remedy set forth in the July 1995 Record of Decision for the OU1 facility.

Upper Ferry Creek (Operable Unit 3)

- Excavate and remove the top two feet (estimated 4,650 cubic yards) of sediment from the channel of Upper Ferry Creek from Interstate 95 to the Broad Street bridge;
- Excavate and remove to a depth of four feet (estimated 22,600 cubic yards) of soil that meets the definition of Raymark Waste from the banks of Upper Ferry Creek;
- Excavate and remove to a depth of four feet (estimated 7,600 cubic yards) of wetland soil that meets the definition of Raymark Waste from abutting wetland areas;
- Replace excavated sediment and Raymark Waste with clean material. The bottom of each excavation will be lined with a geotextile fabric to serve as a warning layer;
- Restore and revegetate excavated areas with native species and restore wetlands;
- Dewater sediment and Raymark Waste as necessary for transport;
- Sediment and Raymark Waste containing more heavily contaminated material that exceeds certain regulatory limits, referred to as principal hazardous constituents (PHCs), will be shipped to a licensed out-of-town disposal facility;
- Consolidation of excavated sediment and Raymark Waste at the Raybestos Memorial Ballfield (OU4);
- Sediment and Raymark Waste that exceeds the capacity of OU4 will be shipped to a licensed out-of-town disposal facility;
- Institutional controls to limit future excavation, groundwater use, and other activities that could pose a risk, where necessary; and
- Long-term monitoring and operation and maintenance.

Raybestos Memorial Ballfield (Operable Unit 4)

- Removal of existing vegetation, buildings, debris, and other infrastructure;
- Construction of an access road from Longbrook Avenue through the former Contract Plating property to the Ballfield;
- Consolidation of excavated sediment and Raymark Waste from OU3 and OU6 with the existing 111,000 cubic yards of Raymark Waste on OU4;
- Construction of a permanent, low-permeability cap over the consolidation area to isolate contamination. The cap will be able to support redevelopment for commercial/industrial, municipal, and/or recreational uses. The top of the cap will

not exceed a maximum elevation of 46 feet above mean sea level, and the majority of the cap will have finished elevations between 30 and 40 feet above mean sea level;

- Construction of storm water management features;
- Construction of a permanent or temporary (based upon input received from residents and property owners who live in this area and future design considerations) visual and sound barrier along the boundary with Patterson Avenue, Clinton Avenue, and Cottage Place;
- Construction of a permanent vegetated berm along the border of Patterson Avenue (however, if it is determined, following public input, that a permanent visual and sound barrier should be installed along the border with the Patterson Avenue residential properties, then construction of a berm would become unnecessary);
- Restoration of the property with vegetation and pavement as appropriate;
- Institutional controls to protect the cap, limit groundwater use, and other activities that could pose a risk; and
- Long-term monitoring and operation and maintenance.

Additional Properties (Operable Unit 6)

- Excavation and removal to a depth of four feet (approximately 71,000 cubic yards) of soil that meets the definition of Raymark Waste from the 22 OU6 Additional Properties;
- Replacement of excavated Raymark Waste with clean material. The bottom of each excavation will be lined with a geotextile fabric to serve as a warning layer;
- Restoration of excavated areas to the pre-excavation condition, with pavement or vegetation, as appropriate;
- Raymark Waste containing more heavily contaminated material that exceeds certain regulatory limits, referred to as principal hazardous constituents, will be shipped to a licensed out-of-town disposal facility;
- Consolidation of excavated Raymark Waste at the Raybestos Memorial Ballfield (OU4);
- Raymark Waste that exceeds the capacity of OU4 will be shipped to a licensed out-of-town disposal facility;
- Institutional controls to limit future excavation, groundwater use, and other activities that could pose a risk, where necessary;
- Long-term monitoring and operation and maintenance; and
- If a property or parcel, beyond the 22 OU6 Additional Properties, is discovered in the future to contain Raymark Waste, such property or parcel may be responded to as described in this ROD.

E. STATUTORY DETERMINATIONS

The Selected Remedy is protective of human health and the environment, complies with federal and state requirements that are applicable or relevant and appropriate to the remedial actions, is cost-effective, and utilizes permanent solutions and alternative treatment technologies to the maximum extent practicable.

The Selected Remedy does not satisfy the statutory preference for treatment as a principal element. Groundwater treatment alternatives were eliminated due to significant uncertainties and difficulties including the complexity of the area geology, the presence of homes in the treatment area which would limit chemical application and overall effectiveness, the time and cost of treatment, the potential for impacting floodplains, and increasing the potential of flooding to homes located in the area. Raymark Waste in soils and sediments contain a complex mixture of contaminants, and treatment of soil would be time consuming and costly. Treatment to levels suitable for on-site reuse would require multiple-stage treatment processes with limited effectiveness. On-site treatment would also involve a great deal of manipulation and handling of waste material and would result in increased volumes requiring disposal. Although there will be no on-site treatment, approximately ten percent of the Raymark Waste excavated from OU3 and OU6 that exceeds regulatory PHC levels for disposal in the CAMU at OU4 will be transported to an out-of-town licensed disposal facility to address the principal threats posed by Raymark Waste. See Section L (Principal Threat Waste) of the ROD for more details.

Because this remedy will result in hazardous substances, pollutants or contaminants remaining on-site above levels that allow for unlimited use and unrestricted exposure, a statutory review will be conducted within five years after initiation of remedial actions to ensure that the remedy continues to provide adequate protection of human health and the environment. Five-year reviews will continue as long as waste remains at the Site and unlimited use is restricted.

F. SPECIAL FINDINGS

Issuance of this ROD embodies the following specific determinations:

Impacts to Wetlands and Floodplains

Wetlands

Pursuant to Section 404 of the Clean Water Act (CWA) and Executive Order 11990 (Protection of Wetlands), EPA has determined that there is no practicable alternative to conducting work that will impact wetlands and/or result in the discharge of dredged or fill material into waters of the United States because significant levels of contamination exist within the wetlands and waters of the United States, and these areas are included within the Site's cleanup areas.

For those areas impacted by cleanup activities, EPA has also determined that the cleanup alternatives that have been selected are the least damaging practicable alternatives.

EPA will minimize potential harm and avoid adverse impacts on resources, to the extent practical, by using best management practices to minimize harmful impacts on the wetlands, wildlife, and habitat. Impacted areas will be mitigated consistent with the requirements of federal and state laws.

Floodplains

Pursuant to Executive Order 11988 (Floodplain Management) and federal regulations, EPA has determined that the Selected Remedy will cause temporary impacts to 100-year and 500-year floodplains but will not result in the occupancy and modification of floodplains.

Best management practices will be used during construction to minimize temporary impacts to floodplains and excavated areas will be returned to original grade to avoid diminishing flood storage capacity. Restoration and monitoring activities are included in the response actions. By approving this document, EPA has determined that there is no practical alternative to taking action in the floodplain, and that the Selected Remedy is the least damaging practicable alternative for protecting the floodplain resources.

Toxic Substances Control Act (TSCA)

Consistent with Section 761.61(c) of the Toxic Substances Control Act (TSCA), EPA has made a finding that excavation, consolidation, and capping of polychlorinated biphenyl (PCB)-contaminated material as set out in this ROD does not result in an unreasonable risk of injury to human health or the environment as long as certain conditions are followed. A final TSCA Determination pursuant to TSCA Section 761.61(c), including the required conditions, is attached to this ROD as Appendix D.

Resource Conservation and Recovery Act (RCRA) Corrective Action Management Units (CAMUs)

CAMUs are designated areas created under federal RCRA regulations to facilitate the treatment, storage, and disposal of hazardous waste, especially during cleanups. The CAMU regulations establish standards for CAMU-eligible waste and minimum design requirements for CAMUs to ensure that the consolidation of waste is implemented in a manner that is protective of human health and the environment. Pursuant to 40 Code of Federal Regulations Section 264.552(e)(3)(ii), a CAMU without a liner and leachate collection system, which are part of the minimum design requirements, may be constructed if an alternative design will prevent the migration of contamination at least as effectively as a CAMU with a liner and leachate collection system or if a CAMU is to be established in an area with significant existing contamination and the alternative design would prevent migration that would exceed long-term remedial goals.

As described in this ROD, the OU4 CAMU meets both of the requirements for an alternative design. OU4 contains significant levels of existing contamination within the saturated zone beneath the water table, both within and outside of the Raymark Waste areas. There will be minimal, if any, leaching of any consolidated Raymark Waste because waste will be placed on top of existing waste as OU4 and well above the water table, and covered by a low-permeability cap which should prevent migration that would exceed long-term remedial goals. Excavated waste from OUs 3 and 6 will be characterized and any portion found to be in excess of the PHC CAMU treatment standards will be transported off-site for treatment and disposal. Long-term monitoring and maintenance will be in place to ensure protectiveness. Accordingly, by approving this document, EPA has determined that an alternative CAMU design at OU4 is appropriate for the Selected Remedy.

G. DATA CERTIFICATION CHECKLIST

The following information is included in the Decision Summary section of this ROD. Additional information can be found in the Administrative Record files for this Site.

1. Contaminants of concern (COCs) and their respective concentrations;
2. Baseline risk represented by the contaminants;
3. Cleanup levels established for contaminants and the basis for the levels;
4. How source materials constituting principal threats are addressed;
5. Current and reasonably anticipated future land use assumptions and current and potential future beneficial uses of groundwater used in the baseline risk assessment and ROD;
6. Estimated capital, annual operation and maintenance (O&M), and total present worth costs, discount rate, and the number of years over which the remedy cost estimates are projected; and
7. Decisive factors that led to selecting the remedy.

H. AUTHORIZING SIGNATURES

This ROD documents the Selected Remedy for groundwater and vapor intrusion at OU2 (Groundwater); soil, wetland soil, and sediment at OU3 (Upper Ferry Creek); soil at OU4 (Raybestos Memorial Ballfield); and soil and wetland soil at OU6 (Additional Properties) of the Raymark Industries, Inc. Superfund Site. The remedy was selected by EPA with the concurrence of the Connecticut Department of Energy and Environmental Protection. A copy of the State's concurrence letter is attached to this ROD (Appendix E).

U.S. Environmental Protection Agency

By: ______________________ Date: 9/9/16

Bryan Olson, Director
Office of Site Remediation and Restoration
EPA, Region 1

PART 2: DECISION SUMMARY

A. SITE NAME, LOCATION, AND BRIEF DESCRIPTION

The Raymark Industries, Inc. Superfund Site ("Site") includes areas that have been contaminated as a result of manufacturing processes from the former Raymark Industries, Inc. facility, which was located at 75 East Main Street, Stratford, Connecticut. The Site has been divided into nine operable units, or OUs (see Figure A-1). The source control remediation at the former manufacturing facility, OU1, is complete and the area has been redeveloped into the 34-acre Stratford Crossing Shopping Center that currently includes a Home Depot, Wal-Mart, ShopRite, and a Webster Bank building. OU2 is contaminated groundwater emanating from the former facility. OU3 includes areas of a nearby surface water body known as Upper Ferry Creek and abutting wetlands that contain Raymark Waste. OU4, a portion of which is known as the Raybestos Memorial Ballfield, is a former disposal area for Raymark and other wastes. Use of OU4 as a ballfield was discontinued decades ago and the property is currently abandoned and overgrown. OU5 is a former tidal wetland that was filled with Raymark Waste and other contaminated material along Shore Road. OU6 initially consisted of 24 individual properties, three of which were addressed in a 2011 Record of Decision for OU6 (2011 ROD). An additional property was identified in 2015 as containing Raymark Waste and was included with OU6. Therefore, OU6 currently consists of 22 individual properties (12 active businesses, 6 recreational/municipal, 3 vacant, and one residential), all of which contain varying amounts of Raymark Waste. OU7 is a downgradient wetland area referred to as Lower Ferry Creek. OU8 is also a downgradient wetland area referred to as the Beacon Point Area and Elm Street Wetlands. These wetland areas contain Raymark Waste either from direct disposal of fill or from surface water transport. OU9 includes the Stratford Landfill and portions of Short Beach Park where Raymark Waste was disposed.

This Record of Decision selects the remedy at OU2 (Groundwater), including vapor mitigation actions, and final source control actions at OU3 (Upper Ferry Creek), OU4 (Raybestos Memorial Ballfield), and all 22 properties within OU6 (Additional Properties). This document further presents a modification of the source control action for groundwater that was included in the July 1995 Record of Decision for OU1, the Raymark facility (1995 ROD); namely, the discontinuation of the existing passive dense non-aqueous phase liquid (DNAPL) extraction system.

B. SITE HISTORY AND ENFORCEMENT ACTIVITIES

1. History of Site Activities

The Raymark Industries, Inc. Superfund Site consists of over 500 acres in the Town of Stratford, Fairfield County, Connecticut (see Figure B-1). Raymark Industries, Inc. (Raymark), formerly known as the Raybestos - Manhattan Company, manufactured friction materials containing asbestos and non-asbestos components, metals, phenol-formaldehyde resins, and various adhesives. Primary products were gasket materials, sheet packing, and friction materials including clutch facings, transmission plates, and brake linings, primarily for the automotive industry. Raymark and its predecessors operated at this location from 1919 until 1989 when operations ceased.

During the facility's 70 years of operation, water and wastes from manufacturing operations were collected and diverted into the facility's drainage system. Liquids were transported through the drainage network, mixed with lagoon wastewaters, then discharged to groundwater and a nearby surface water body known as Ferry Creek. Groundwater currently emanating from the former Raymark facility still has extensive volatile organic compound (VOC) contamination.

Solids were settled out in a series of lagoons, and the settled material was periodically removed by dredging. It was common practice to dispose of both this dredged lagoon waste and other manufacturing waste as "fill" on the facility itself, but over time this waste material was also disposed of within the Town of Stratford at residential, commercial, recreational, state, and municipal properties. In addition, several wetland areas abutting or in close proximity to the Housatonic River were also filled in with Raymark's manufacturing waste. The contaminants in Raymark's waste "fill" primarily consisted of polychlorinated biphenyls (PCBs), asbestos, lead, and copper. Raymark Waste also contains polycyclic aromatic hydrocarbons (PAHs), metals and dioxins at varying concentrations.

A more complete description of the Site history can be found in Section 1.3 of the OU2, OU3 and OU4 Feasibility Study ("FS") reports, or Section 1.4 of the OU6 FS Addendum report.

2. History of Federal and State Investigations and Remedial Actions

In 1993, the Federal Agency for Toxic Substances and Disease Registry (ATSDR) performed a health assessment in response to a citizen petition and shortly thereafter issued a Public Health Advisory for the Raymark facility and locations around the Town of Stratford where manufacturing wastes from the former Raymark facility had come to be located. EPA listed the Site on EPA's National Priorities List (NPL) of Superfund sites on April 25, 1995.

Raymark Waste

Raymark Waste was comprised of sludges that were dredged from lagoons, "off-specification" materials that were discarded, and other waste products from the Raymark facility that frequently contained volatile organic compounds, semi-volatile organic compounds (SVOCs), PCBs, pesticides, dioxins and furans, metals (primarily lead and copper), and asbestos. The various locations that received Raymark Waste as fill, however, also received fill materials from other entities. Based on the long history of industrial and commercial activities in the area, past releases of petroleum hydrocarbons, VOCs, SVOCs, and other contaminants from other sources were likely. The origins of some of the chemical contamination affecting the properties with fill are indistinguishable. Accordingly, it was necessary to develop an approach that would uniquely determine Raymark Waste from other waste that frequently was present within the same property or area.

From EPA's sampling and work at the former Raymark facility, it was known that lead, asbestos, PCBs, and copper were the most common constituents found in Raymark Waste. Based on these four constituents and the frequency of their co-location in a single sample, the following definition of Raymark Waste was developed:

> *Raymark waste in soil is defined as a single soil sample containing lead above 400 parts per million (ppm), and asbestos (chrysotile only) greater than 1 percent, and either copper above 288 ppm or polychlorinated biphenyls (PCBs) (Aroclor 1268 only) above 1 ppm.*

While other contaminants are present in Raymark Waste at varying concentrations, these four contaminants were used as a "fingerprint" to identify Raymark Waste locations. (See Section 2 of the June 2005 OU6 Remedial Investigation for further detail.) This definition, which was later refined in the 2011 OU6 ROD, was used to distinguish fill originating from the former Raymark facility from non-Raymark Waste areas.

Early Actions

EPA began excavating contaminated waste/soil from residential properties during the fall of 1993 under its removal authorities. The contaminated material was transported back to the Raymark Industries, Inc. facility where it was eventually capped in place in accordance with the 1995 ROD (see Operable Unit 1 discussion below). The residential excavations, 46 in all, were completed in the fall of 1995 and property restoration continued into 1996. In addition, throughout 1993 and 1994, Raymark undertook a number of closure activities at its facility, including removing thousands of one cubic yard bags of asbestos and containers holding hazardous substances, temporarily capping four waste lagoons, and securing the facility. The then Connecticut Department of Environmental Protection (CTDEP), (now named the Connecticut Department of Energy and Environmental Protection (CTDEEP)) undertook a number of interim actions on municipal properties between 1993 and 1994, including installing temporary caps and fencing at the Wooster Middle School and a portion of Short Beach Park. During 1994, CTDEEP also required several commercial property owners to restrict access to known contaminated waste areas through the installation of fences or pavement. In June 1995, CTDEEP excavated contaminated materials at the Wooster Middle School and transported the material to the Raymark facility. Approximately 100,000 CY of contaminated waste/soil from residential properties and the Wooster Middle School was consolidated at the Raymark facility and capped in place in accordance with the 1995 ROD.

Between 2001 and 2004, EPA and CTDEEP installed sub-slab ventilation systems in 106 homes to prevent intrusion of contaminated vapors from VOCs in groundwater.

EPA issued a second Record of Decision, the 2011 ROD, which selected permanent source control actions at four properties within OU6 and interim actions to address the remaining OU6 properties where potential risks from direct exposure to manufacturing waste from the former Raymark facility were identified.

Operable Units

The Raymark Superfund Site has been divided into nine separate pieces (operable units or OUs) in an effort to effectively manage the various investigatory studies that have taken place throughout the Site. OU1 is complete, consistent with the 1995 ROD. Some OU6 properties are in the process of being remediated consistent with the 2011 ROD. This Record of Decision addresses four of the remaining eight OUs, including the remaining OU6 properties, and modifies a component of the OU1 1995 ROD. The following is a discussion of all nine operable units.

<u>Operable Unit 1 (OU1) – Former Raymark Facility</u>
The former Raymark facility is referred to as OU1. As a result of environmental investigations conducted by Raymark and the EPA, a final remedy for the manufacturing facility was documented in the 1995 ROD. Shortly thereafter, in September 1995, the cleanup of the Raymark property began with the demolition of 15 acres of buildings and the placement of an impermeable cap over the entire 34-acre property that contained approximately 500,000 CY of contaminated waste/soil, plus consolidation of approximately an additional 100,000 CY from removal and other interim actions taken at residential properties and the Wooster Middle School. Underlying the cap is an extensive plumbing network that removes solvents from the groundwater and gas from the soil. This plumbing network includes 12 vapor extraction wells, which pump air contaminated with solvents out of the soil beneath the cap into a treatment building located in the eastern portion of the property, and five extraction wells, which pump solvents located in pockets in the groundwater into a holding tank located in a treatment building on the western edge of the property. The cap was constructed in a manner that allowed commercial redevelopment of the property while ensuring the continued containment of the underlying contamination. A DNAPL recovery system consisting of five, six-inch diameter stainless steel extraction wells designed to passively collect and then pump DNAPL from the deep overburden into a holding tank located in a treatment building on the western edge of the

property was installed in the area of the former acid neutralization pits. In addition, over 50 monitoring wells were installed in the cap to monitor the quality of the groundwater beneath the property. The Selected Remedy presented in this ROD includes discontinuing the use of the passive DNAPL recovery system because of its limited effectiveness.

OU1 remedial activities were completed by EPA (working with CTDEEP and the United States Army Corps of Engineers (USACE)) by November 1997. The construction of the Stratford Crossing Shopping Center began in the spring of 2001 and opened for retail business in early 2002. CTDEEP provides ongoing operation and maintenance of the soil gas and solvent collection systems, as well as the cap and the two treatment facilities. Strict institutional controls are in place to protect the integrity of the cap and is actively monitored by CTDEEP.

<u>Operable Unit 2 (OU2) - Groundwater</u>
Source Control actions for groundwater were included as part of the 1995 ROD for OU1. Vapor intrusion from groundwater is being addressed by this Record of Decision. OU2 is contaminated groundwater emanating from the former facility (OU1). Since 2000, EPA has sampled the groundwater, soil gas, and indoor air in a residential area between Ferry Boulevard and the Housatonic River for chemicals disposed of at the former Raymark facility on East Main Street. These chemicals, called volatile organic compounds or VOCs, are present in the groundwater and can change from a liquid into a gas, migrate upwards through the soil, and then enter homes through the foundation where concentrations in indoor air may build up to unsafe levels. EPA refers to this potential exposure pathway as vapor intrusion. In an effort to ensure protection of public health, sub-slab depressurization systems were installed in 2003 and 2004 in 106 homes throughout the affected area. The depressurization systems, which are similar to radon systems, create a negative pressure/vacuum beneath the foundation which captures any chemical vapors as well as radon gas, and vents these gases through a pipe near the roof of each house. These systems eliminate the indoor air exposure pathway by capturing these vapors before they enter homes, and discharging them to the atmosphere well above the breathing zone. The primary contaminant that required this removal action was trichloroethene (TCE). Long-term maintenance of these systems has been conducted by the CTDEEP at no cost to the homeowners.

The potential threat posed by the volatilization of the volatile organic compounds described above is confined primarily to a residential area located downgradient of the former Raymark facility.

The OU2 Remedial Investigation (RI) report was issued in January 2005. Groundwater monitoring continued, and EPA has since issued two supplemental reports; a RI Update (May 2014), and RI Update Addendum (April 2015). Collectively, these three reports present all the available data, identify groundwater flow directions, and identify risks associated with contaminants found in the groundwater. The baseline human health risk assessment contained in the 2005 RI report concluded that potential risks to human health were through exposure to groundwater vapors in indoor air pathways which have largely been addressed through the installation of depressurization systems in 106 homes. However, these systems were not installed in 17 homes at that time due to access limitations. In addition, further indoor air testing conducted since 2005 indicates that a depressurization system should be installed in one commercial building. Therefore, this ROD includes the installation of ventilation systems in approximately 20 additional buildings. Other exposure pathways associated with groundwater are incomplete. These findings were recently confirmed in a Feasibility Study report for OU2 (2016), as well as in the most recent Five-Year Review report for the Site (2014). Although safe drinking water levels are exceeded, area groundwater is classified as non-potable and no active pumping wells have been identified within the OU2 study area. Continued groundwater sampling has shown that DNAPL, containing VOC contamination, continues to be present in groundwater beneath the former Raymark facility. This DNAPL source area is not mobile, is not dissolving quickly, and acts as a continuing source of VOC contamination to the downgradient groundwater plume. Contaminant levels in the downgradient plume remain stable. The groundwater plume discharges to the lower Housatonic River, which is a large tidally influenced water body.

Operable Unit 3 (OU3) – Upper Ferry Creek

This ROD includes final source control actions for OU3. OU3 consists of Upper Ferry Creek and the surrounding areas from approximately Interstate 95 (across from Homestead Avenue) southward to Broad Street. A tidal gate and pump station are present at the Broad Street Bridge. Upper Ferry Creek encompasses approximately seven acres, which includes approximately three acres of wetlands. A Remedial Investigation report, completed in October 1999, concluded that fill and natural soils throughout OU3 are contaminated with asbestos, lead, copper, SVOCs, PCBs, and dioxins. In some areas, the level of contamination is high. Upper Ferry Creek received direct discharge from the waste lagoons at the former Raymark facility. Raymark Waste is also present as fill in certain areas of the Ferry Creek banks and associated wetland areas. These areas continue to impact Upper Ferry Creek through wind dispersion and erosion. Contamination within the sediments of Upper Ferry Creek are also subject to re-distribution through tidal influence. A groundwater discharge study concluded that groundwater is actively discharging to a limited area of Upper Ferry Creek (approximately a 200 foot segment from Interstate 95 to the culvert under East Broadway); however, this ROD determines that groundwater does not constitute a significant ongoing source of contamination (or associated risks) to Ferry Creek. The Atlantic sturgeon, an endangered species, has tentatively been identified in the area. The baseline human health and ecological risk assessment contained in the 1999 RI Report concluded that potential risks to human health, sediment dwelling organisms, and organisms higher up the food chain (that feed on sediment dwelling organisms) were a concern throughout the Upper Ferry Creek study area. These findings were recently confirmed in a Feasibility Study report for OU3 (2016), as well as in the most recent Five-Year Review report for the Site (2014). This Record of Decision includes the excavation of sediment throughout the entire reach of Upper Ferry Creek, as well as excavation of Raymark Waste from discrete areas of the banks and wetland areas (also referred to as soil and wetland soil).

Operable Unit 4 (OU4) – Raybestos Memorial Ballfield

This ROD includes final source control actions for OU4. The former Raybestos Memorial Ballfield, known as OU4, is located north of the former Raymark facility (OU1) just over the Metro-North railroad tracks. It encompasses approximately 14 acres. Residential properties border the OU4 study area to the north/northwest. Town, commercial, and industrial properties are located to the northeast. A former industrial facility, known as Contract Plating, abuts the property to the south/southwest and is the subject of a separate Brownfields remediation grant to the Town. OU4 was historically used as a gravel pit operation, then as a disposal area for industrial wastes, including waste fill from Raymark. A recreational area and a ballfield, known as the Raybestos Memorial Field, was built over the area, but has now been abandoned for many years. Approximately 200,000 CY of Raymark Waste fill are present at depths of up to 16 feet deep (approximately 111,000 CY are above the water table). Contaminants include the primary Raymark Waste constituents which are asbestos, lead, copper, and PCBs; however, other contaminants are co-located within the Raymark Waste fill area including PAHs, dioxins and metals at varying concentrations. There are also approximately 100,000 CY of contaminants located outside the Raymark Waste fill area. EPA refers to these contaminants as non-Raymark Waste.

In 1992, EPA installed a security fence around OU4, a temporary soil cover (6 to 11 inches), and sampled and removed drummed wastes from the area. This effort had temporarily restricted access to the area as well as to the contamination found within the soil. However, more recently, numerous breaches of the perimeter fence have been noted. Vagrants have been observed on the property and the Town has had to respond to a number of smaller fires that have apparently been set.

A Remedial Investigation report was completed in August 1999. The report concluded that fill and natural soils throughout the OU4 study area are contaminated with asbestos, lead, barium, zinc, arsenic, PCBs, and SVOCs which pose potential risks to human health. No ecological risks were identified. These findings were recently confirmed in a Feasibility Study report for OU4 (2016), as well as in the most recent Five-Year Review report for the Site (2014). This ROD includes consolidation of Raymark Waste from OU3 and OU6 within the Raymark and non-Raymark Waste areas at OU4, and installing a low-permeability cap.

Operable Unit 5 (OU5) – Housatonic Boat Club

The Shore Road Area, known as OU5, is an approximately four-acre section of Shore Road and the Housatonic Boat Club near the former Shakespeare Theater that borders the Housatonic River. Contamination was found in this area in 1993 and, as a temporary measure, CTDEEP covered the area with a plastic fabric barrier and six inches of wood chips. In early 1999, EPA found that the plastic fabric barrier was beginning to wear and that much of the wood chips had eroded. At the request of the Town of Stratford, EPA took steps to re-evaluate the risks posed by the contaminants in the area.

These steps included the completion of an Engineering Evaluation/Cost Analysis (EE/CA) report in June 1999 that documented risks to human health and the environment from asbestos and lead. As a result of these findings, EPA performed a removal action that included the installation of a revetment along the unprotected southeastern tidal areas, restoration of existing riverside revetments to limit exposure to underlying contaminated soils, capping of excavated soils, paving the driven surfaces and capped soils, and installation/restoration of utilities to allow maintenance without the threat of exposure to contaminated soils. These removal actions were completed in September 2000. EPA will determine if additional actions are needed.

Operable Unit 6 (OU6) – Additional Properties

This ROD includes final source control actions for the remaining 22 properties within OU6. Additional Properties, known as OU6, previously consisted of 25 properties located throughout the Town of Stratford. These commercial, recreational, and residential properties were constructed at locations where Raymark manufacturing waste was used to fill low-lying areas. A Remedial Investigation (RI) was completed in June 2005 and a Feasibility Study (FS) was completed in August 2010. Both reports evaluated the properties individually. The baseline human health risk assessment contained in the RI report determined that there are estimated cancer, non-cancer, and/or lead risks from Raymark Waste in excess of EPA's acceptable limits to commercial workers at ten of the OU6 properties, to recreational visitors at one property, and to residents at three properties. In addition, at six properties (five commercial and one residential) there were cancer risks above acceptable levels, even though lead and non-cancer risks fall within acceptable limits at these six properties. All OU6 properties presented an unacceptable inhalation risk based upon the presence of asbestos. Following completion of the RI report, EPA worked for several years with the Town of Stratford and citizens groups in an effort to find acceptable cleanup approaches to address the 24 contaminated properties within OU6. Consensus on cleanup approaches, however, was reached on only four properties. In 2011 EPA issued the 2011 ROD for the cleanup of those four properties: (1) and (2) 576 and 600 East Broadway (both commercial), (3) a portion of Beacon Point known as AOC2 (recreational - town property), and (4) a residential property on Third Avenue (to be included only if consolidation capacity exists at 576/600 East Broadway). (See Figures B-2, B-3, and B-4, respectively.) Interim actions would be implemented to address the remaining 21 OU6 properties and properties at other operable units where potential risks from direct exposure to manufacturing waste from the former Raymark facility were identified. During remedial design, it was determined that insufficient capacity exists to consolidate Raymark Waste from the Third Avenue Property under the cap being designed at 576/600 East Broadway.

In 2015, remediation of another OU6 property, the Airport Property, was completed by the Federal Aviation Administration, with oversight by EPA's Removal Program and CTDEEP, to allow for the creation of a runway safety zone. This remediation is a final remedy for the Airport Property, and the Airport Property is not further considered or evaluated in this ROD. This left 21 properties in OU6 that required final remedial actions. EPA continued discussions with local officials and community leaders, and in early 2015 EPA issued a conceptual comprehensive plan which provides a framework for final cleanup of the Raymark Site. In early 2016, an additional property, 336 Ferry Boulevard, was added to OU6 bringing the total to 22 properties after Raymark Waste was discovered during excavation by the property owner. Consistent with the conceptual plan, EPA issued an FS addendum in 2016. The FS addendum includes an updated evaluation of potential health risks that estimates the cumulative cancer and non-cancer risks from all of the 22 OU6 properties considered together, rather than for each individual property. This risk evaluation confirmed that potentially unacceptable carcinogenic and non-carcinogenic risks, as well as unacceptable risks from exposure to lead and asbestos, remain at OU6. This ROD selects the final source control actions through the excavation of Raymark Waste from all 22 properties within OU6 Additional Properties. See Section E.4 for a table list of these properties.

<u>Operable Unit 7 (OU7) – Lower Ferry Creek</u>
Formerly part of OU3, OU7 includes Lower Ferry Creek (from Broad Street to the mouth of Ferry Creek), Selby Pond, and the Housatonic River wetlands (located south and east of Shore Road). It encompasses approximately 26 acres of wetlands, shoreline, and a small pond. A Remedial Investigation report for OU7 was completed in November 2000. The report concluded that fill and natural soils throughout OU7 are contaminated with asbestos, metals, pesticides, SVOCs, PCBs, and dioxins. In some areas, the level of contamination is high. Potential risks to human health, sediment dwelling organisms, and organisms higher up the food chain (that feed on sediment dwelling organisms) are a concern throughout the OU7 areas. A Feasibility Study is currently underway for OU7.

<u>Operable Unit 8 (OU8) – Beacon Point Boat Launch</u>
Formerly part of OU3, OU8 includes wetlands to the north and south of the Beacon Point boat launch area and wetlands off of Elm Street. It encompasses approximately 14 acres of wetlands. A Remedial Investigation report for OU8 was completed in November 2000. The report concluded that fill and natural soils throughout OU8 are contaminated with asbestos, metals, pesticides, SVOCs, PCBs, and dioxins. In some areas, the level of contamination is high. Potential risks to human health, sediment dwelling organisms, and organisms higher up the food chain (that feed on sediment dwelling organisms) are a concern throughout the OU8 areas. A Feasibility Study is currently underway for OU8.

<u>Operable Unit 9 (OU9) – Stratford Landfill and Short Beach Park</u>
The Stratford Landfill and Short Beach Park combined encompass the area known as OU9. The two areas together were historically used as a single landfill. The Stratford Landfill stopped receiving wastes a number of years ago, but until recently was still used for leaf disposal.

CTDEEP has issued the Town of Stratford an Administrator Order requiring closure of the landfill, however, it is not being enforced pending EPA's remedy selection for OU9. Short Beach Park Area is currently a heavily-used recreation area for baseball, softball, soccer and golf. Between 1993 and 1994, CTDEEP installed a temporary cap on a portion of Short Beach Park where Raymark Wastes were found to be present. Additional investigations were conducted by EPA in December 2003 through February 2004 with a Remedial Investigation report completed in July 2005. The RI found that there were potential risks to commercial workers at the Stratford Landfill (asbestos and PCBs), but there were no immediate risks found to commercial workers or recreational users of Short Beach Park due to the presence of Raymark Waste. However, the RI also determined that if the use of Short Beach Park changed in the future to a residential setting or if any excavations were to occur, then unacceptable risks would exist because of the presence of Raymark Waste. Accordingly, the RI identified the need to develop a permanent remedy for OU9 so that the public health is protected in the future. A Feasibility Study is currently underway for OU9.

3. History of Significant CERCLA Enforcement Activities

Raymark Industries, Inc. was subject to a number of environmental enforcement actions throughout the 1980s and early 1990s for violations at its facility of both the Resource Conservation and Recovery Act (RCRA) and of the National Emissions Standards for Hazardous Air Pollutants (NESHAPs) under the Clean Air Act (42 U.S.C. 7401 et seq.).

On April 3, 1995, EPA notified two parties, Raymark Industries, Inc. and Raytech Corporation, of their potential CERCLA liability with respect to the Site. (Raytech was a company formed by Raymark that was ruled to be a successor to Raymark and thus had liability for the cleanup costs of Raymark Waste.)

In 1997, the United States filed a lawsuit against Raymark which sought over $280 million in costs that EPA had spent cleaning up the Raymark property and other properties around Stratford that had been contaminated with Raymark's waste. The United States also sought an order allowing the sale of the Raymark property to help recover some of the costs that EPA had expended cleaning up the company's waste.

Raymark then sued the owners of residential properties in Stratford that contained Raymark Waste seeking to recover costs for the cleanup. The United States subsequently settled with each residential property owner which provided contribution protection from Raymark's lawsuit. The United States has also entered into a Consent Decree with the Town of Stratford.

As a result of its liabilities, Raymark and Raytech filed for bankruptcy. The Raymark property was sold at a bankruptcy auction in January 2000, and EPA recovered the proceeds from the sale of the property. In a separate bankruptcy settlement, EPA also recovered a portion of Raymark's insurance proceeds. EPA deposited the proceeds from the property sale and the insurance recovery into a "Special Account" dedicated to the Site.

Because of the property sale and the bankruptcy settlement, there have been no further actions against Raymark and Raytech. Accordingly, this action will be performed and paid for by EPA.

C. COMMUNITY PARTICIPATION

Throughout the Site's history, community concerns and involvement have been high. EPA has kept the community and other interested parties apprised of Site activities through informational meetings, fact sheets, press releases, and public meetings. A description of the public outreach efforts conducted after the first Raymark ROD was completed in 1995, and before EPA issued the ROD for OU6 in July 2011, is contained in the 2011 ROD. The following is a summary of the additional public outreach efforts that EPA has conducted since the issuance of the 2011 ROD.

During 2011, EPA provided funding for a redevelopment contractor to develop a concept and potential plan for the reuse of the Raybestos Memorial Ballfield. The contractor conducted a series of interviews and meetings with a range of stakeholders including elected officials, Town staff, commercial and residential abutters to the ballfield and other nearby neighbors. A Reuse Assessment Report was finalized in October 2011.

Beginning in December 2011, for a period of six months, at the request of the community group Save Stratford, EPA staff met with community members and Town Council members to discuss and review an innovative thermal destruction technique for all Raymark Waste in Stratford. The process included multiple emails, written comments, and a thorough review by EPA headquarters' Technology Assessment Branch, which included two meetings in Stratford with local stakeholders. Following considerable review by EPA Headquarters, EPA Region 1, and CTDEEP, EPA informed Save Stratford and Town officials that the agency would not fund a more than $2 million pilot for the technology and described the reasons for that decision in a written response. Information regarding this review is included in the Administrative Record.

During February 2012, EPA continued working to complete the sampling/characterization of both groundwater and potential vapor intrusion exposures near the former Raymark facility. EPA prepared a community fact sheet and conducted outreach in conjunction with the indoor air sampling of a number of commercial properties and a large condominium development within proximity of the groundwater plume.

Beginning in February 2012, EPA began the design of the final cleanup for the four properties selected in the 2011 ROD, and began working over the course of the year with CTDEEP, CT

Department of Public Health (CTDPH), and the Town of Stratford to develop a strategy for implementing interim actions at all other Raymark Waste properties. Site inspections/visits were conducted at all properties containing Raymark Waste and included general discussions with some property owners and tenants.

During August, September and December of 2013, EPA's Community Involvement Coordinator met with Town officials to begin discussions on how to re-engage the community and other stakeholders in moving the Raymark project forward.

In February 2014, EPA and Town staff met and committed to developing the framework for a comprehensive cleanup plan that could achieve widespread community support. Several subsequent discussions to develop the plan occurred in the following weeks/months. During this period, CTDEEP staff was involved in the discussion and the Site Community Involvement Coordinator began parallel discussions with community stakeholders.

Beginning in September 2014, EPA held information sessions to discuss the Sikorsky Airport Runway Safety Area Improvements Project and the Realignment of CT Route 113 in Stratford. Part of the project involved the removal of approximately 14,000 cubic yards of Raymark Waste from the OU6 areas of the Airport. During EPA's many interactions with the public regarding this project, there was discussion of the overall Raymark cleanup including the development of a comprehensive plan and anticipated timeline for presentation to the community.

In late August 2014, EPA staff, Town officials, and a group of stakeholders met at Town Hall to discuss a strategy for getting the Site cleaned up as comprehensively and rapidly as possible, including EPA's thoughts on the best way to get the project funded and EPA's conceptual cleanup plan. Several additional meetings were held over the next months into 2015.

On March 20, 2015, EPA issued a document containing a Conceptual Comprehensive Approach for the Site. The document provided the framework for the Selected Remedy.

On September 15, 2015, EPA met with residents and a citizen's group known as the Stratford Action for the Environment (SAFE).

On October 20, 2015, EPA met with residents, SAFE, and Save Stratford.

On November 4, 2015, EPA issued a press release that it had completed a five year review of 23 site cleanups in New England, including the Raymark Site. EPA had issued a press release regarding the beginning of that review on January 5, 2015.

On November 17, 2015, EPA held stakeholder meetings with residents that live near the ballfield (the proposed location for consolidation of Raymark Waste), Save Stratford, the Mayor, and

Town officials to discuss the conceptual comprehensive cleanup approach for the Raymark Superfund Site Operable Units 2, 3, 4, and 6.

On November 19, 2015, EPA held stakeholder meetings with commercial owners, tenants, and residents that live near the ballfield, SAFE, Save Stratford, the Mayor and Town Officials, including Council Members, to discuss the conceptual comprehensive cleanup approach.

On December 2 and 3, 2015, EPA met with new Town Council Members-elect to discuss the conceptual comprehensive cleanup approach.

On December 7, 2015, EPA met at a Cottage Place resident's home to discuss community concerns, the conceptual comprehensive cleanup approach, and the potential impacts to the Cottage Place area.

On March 30, 2016, EPA attended the 10th District Neighborhood Networking and Community Event. During the event EPA participated in a meet and greet with residents, answered questions, and learned about Town projects.

On June 22, 2016, EPA met with residents and SAFE to discuss the conceptual comprehensive cleanup approach and the upcoming issuance of the draft Proposed Cleanup Plan for the Raymark Superfund Site, Operable Units 2, 3 4 and 6 (the Proposed Cleanup Plan or the Proposed Plan).

On June 23, 2016, EPA launched the EPA Raymark Facebook page. The page serves as a communication outlet that allows for pertinent information to be made available to the public. The page also provides a real-time communication portal for community members to ask questions, make comments, and receive Site updates.

On June 30, 2016, EPA issued the Proposed Plan. EPA mailed postcards to 6,704 residents announcing the 30-day public comment period, open house, informational meeting, and public hearing on the Proposed Cleanup Plan. The Proposed Cleanup Plan was made available on the EPA website, the Stratford Health Department website, and paper copies were made available at the Stratford Town Library, Stratford Town Hall, and the Stratford Health Department. EPA issued a press release regarding the Proposed Plan, ran legal notices in the Stratford Star and Connecticut Post, and there were articles in the Stratford Star and the Connecticut Post about the comment period.

On July 6, 2016, EPA met with commercial business owners and handed out save-the-date post cards, flyers, and paper copies of the Proposed Plan announcing the 30-day public comment period, an open house, an informational meeting, and a public hearing on the Proposed Cleanup Plan.

On July 20, 2016, EPA held a Public Open House Session and a Public Informational Meeting for the Proposed Cleanup Plan at the Stratford High School Auditorium. During the public open house and public informational meeting, EPA explained the proposed remedy and answered questions. During the open house session, posters outlining the proposed cleanup were available to view and officials from EPA, CTDEEP, CTDPH, and the Stratford Health Department were available to answer individual's questions. During the evening informational meeting, EPA made a presentation about the Proposed Cleanup Plan and all officials were available to answer questions.

On July 26, 2016, EPA held a public hearing on the Proposed Cleanup Plan at the Stratford High School Auditorium. The hearing was preceded by a brief presentation and question and answer session. During the public hearing, the public offered verbal comments on the Proposed Cleanup Plan. A stenographer was present to record comments offered during the hearing into the official record. Formal public comments received during the public comment period and responses to those comments are presented in the Responsiveness Summary attached as PART 3 to this ROD.

D. SCOPE AND ROLE OF OPERABLE UNIT OR RESPONSE ACTION

As discussed above in Section B.2., there are nine operable units or OUs at the Site. EPA issued the 1995 ROD that addressed the Raymark facility source area and contaminated soil within OU1 via demolition and off-site disposal or recycling of construction debris, an on-site soil gas collection and treatment system, an on-site passive DNAPL collection system, and consolidation and on-site capping of contaminated soils to address incidental ingestion and dermal contact risks with contaminated soil, as well as inhalation. Construction of these remedial activities were completed in 1997. EPA then completed comprehensive investigations of the rest of the Site. Early OU2 groundwater investigations led to a removal action to address a vapor intrusion pathway in a downgradient area from the facility that potentially could cause workers and residents in structures overlying a groundwater plume to be exposed to Site chemicals of concern. The removal action included the installation of sub slab depressurization systems in 106 residential homes in 2003 and 2004. The Remedial Investigation for OU2 was completed in January 2005. Remedial Investigations were also completed for OU3 Upper Ferry Creek (October 1999), OU4 Former Raybestos Memorial Ballfield (August 1999), OU6 Additional Properties (June 2005), OU7 Lower Ferry Creek (November 2000), OU8 Beacon Point Area and Elm Street Wetlands (November 2000), and OU9 Short Beach Park and Stratford Landfill (July 2005).

A Non-Time Critical Removal Action at OU5 was completed in September 2000. Actions included the installation of a revetment along the unprotected southeastern tidal areas, restoration of existing riverside revetments to limit exposure to underlying contaminated soils, capping of excavated soils, paving the driven surfaces and capped soils, and installation/restoration of utilities to allow maintenance without the threat of exposure to contaminated soils.

Operable Unit 6 (OU6) Additional Properties was created at the request of the Raymark Advisory Committee in an effort to accelerate the cleanup of commercial, residential, Town, and State-owned properties where direct exposure to Raymark Waste in soil was a concern. A total of 24 properties that were primarily located within other operable units were placed into OU6. A 2011 Record of Decision selected final source control remedial actions at four of the 24 OU6 properties and provided for interim actions at the remaining OU6 properties.

This Selected Remedy was developed by combining actions for groundwater (OU2) with a conceptual comprehensive cleanup approach for the Site to address soil, wetland soil and sediment. The Selected Remedy provides for final actions at the following areas of the Site:

- The source area, downgradient area and the vapor intrusion action properties impacted by contaminated groundwater (OU2) to address groundwater contamination and potential vapor intrusion risks through institutional controls and installation of additional sub-slab depressurization systems;
- The soil, wetland soil, and sediment at Upper Ferry Creek (OU3) to address dermal contact, inhalation and incidental ingestion risks and ecological risks through excavation, in-town consolidation, soil covers, and institutional controls;
- The soil at the Raybestos Memorial Ballfield (OU4) to address dermal contact and inhalation risks through consolidation, capping and institutional controls; and
- The soil and wetland soil at the Additional Properties (OU6) to address dermal contact, inhalation and incidental ingestion risks through excavation, in-town consolidation, soil covers, and institutional controls.

These actions represent a portion of the comprehensive cleanup approach for the Site; within the next two years, EPA anticipates that it will issue a future decision document for the rest of the comprehensive cleanup of areas impacted by Site contaminants of concern at OUs 7, 8, and 9, and a final decision on the need for future actions at OU5.

E. SITE CHARACTERISTICS

The Town of Stratford is located in southwestern Connecticut on the shore of the Long Island Sound between Bridgeport and the Housatonic River. It is a suburban town located approximately 50 miles northeast of New York City with a population of approximately 51,384 (2010 census) within the 18.7 square miles of the town. There are approximately 2,200 businesses in Stratford that include the manufacturing of aircraft, air conditioning, chemicals, plastic, paper, rubber goods, electrical and machine parts, and toys.

The following sub-sections present a summary of the physical characteristics, environmental investigations for each of the four OUs which are the subject of this ROD and a Conceptual Site Model (CSM) for the Raymark Site.

The sources of contamination, release mechanisms, exposure pathways to receptors, as well as other site-specific factors, are diagrammed in a CSM which forms the basis for the risk assessments and response actions described in this Selected Remedy.

The CSM is a three-dimensional "picture" of Site conditions that illustrates contaminant sources, release mechanisms, exposure pathways, migration routes, and potential human and ecological receptors. It documents current and potential future site conditions and shows what is known about human and environmental exposure through contaminant release and migration to potential receptors. The CSM for this decision document is focused on Operable Units 1, 2, 3, 4 and 6; and is presented in Section E.5.

E.1. OU2 (Groundwater)

Chapter 1 of the OU2 Feasibility Study contains an overview of the RI findings. The significant findings of the RI are summarized below.

Site Characteristics of the OU2 Study Area

The OU2 study area is part of the Housatonic River Basin, a tidally influenced system. It is bounded by the Housatonic River to the east, just above Selby Pond to the south, Interstate I-95/Blakeman Place to the southwest, Patterson Avenue to the northwest and the East Main Street/Dock Shopping Center to the north. It includes approximately 500 acres of residential and commercial properties, highways, streets, wetlands, and water bodies such as Ferry Creek and the Housatonic River. The area is considered urban with approximately 50 percent covered with pavement or buildings. With the exception of the northwestern portion of the study area, the topography is relatively flat, with gentle slopes to Ferry Creek and the Housatonic River. The majority of the study area, with the exception of the northwest portion, lies at a topographic elevation of approximately 10 feet above sea level. The northwestern portion lies at an elevation of approximately 20 feet, but rises quickly to greater than 50 feet in elevation along a northeast to southwest trending ridgeline. With the exception of the northwest portion, most of the study area is located within the 100 year floodplain.

The overburden geologic deposits are characterized as a variety of glacial outwash deposits, ice contact deposits, alluvial deposits, swamp and marsh deposits (peat and fine-grained particles), glacial till, and fill materials. The dominant overburden material noted within OU2 is a complex sequence of glacial outwash deposits ranging from silty sand to coarse gravel. In addition to natural deposits, the overburden materials include process wastes that Raymark had used to fill low-lying areas of the property. The overburden thickness in the OU2 study area varies from nonexistent at bedrock outcrops to 150 feet at MW-211B. The thickness of the overburden exceeds 100 feet throughout large portions of OU2 where bedrock valleys have been identified. This wide range of overburden thickness is a result of the variation in bedrock elevation beneath a land surface that generally slopes to the southeast, towards the Housatonic River. The bedrock underlying OU2 is a mainly medium- to fine grained, thinly laminated, greenish-gray to medium dark-gray chlorite muscovite schist. The bedrock cores from within OU2 were typically described as foliated, quartz-rich, chlorite-mica schist with variable amounts of garnet and sulfide minerals such as pyrite. Typically, the bedrock is medium-grained and usually dark green or dark gray. A prominent feature of the bedrock topography within OU2 is a set of bedrock valleys and ridges with more than 180 feet of vertical relief. These two main bedrock valleys trend from northeast to southwest, with a bedrock ridge separating the north from the south valley. Bedrock contours were mapped and are shown in Figure 1-8 of the 2016 OU2 FS Report.

The Town of Stratford receives its drinking water from the Aquarian Water Company (formerly Bridgeport Hydraulic Company (BHC) and has done so for over 100 years (since 1897). The Aquarian Water Company supplies Stratford with water predominately from the Trap Falls Reservoir, located approximately 4 miles north and upgradient of the OU2 study area. There is no known use of groundwater for any purpose within the study area. Groundwater within and surrounding the area has been classified as GB (not suitable for consumption without treatment) by CTDEEP.

To ensure that contaminated groundwater in the OU2 study area was not being accessed, an inventory of private wells was conducted by the Stratford Health Department in 1994, and updated in 2003 and 2015. The 2015 update identified 272 private wells that were actively used within the Town of Stratford, however, none of the identified private wells were located within the OU2 study area.

The OU2 source area of groundwater contamination is primarily a DNAPL source located deep beneath the former facility. This DNAPL source area consists of two major areas: acid neutralization pits used at the Raymark facility for disposal and neutralization of acids and spent caustic solutions as well as solvents, including TCE, and a lagoon area where 1,1,1-TCA is reported to have been discharged via the Raymark facility drainage system. The entire area was capped and a DNAPL recovery system was implemented in accordance with the 1995 OU1 ROD. A deed restriction in the form of an ELUR was also put in place as required by the 1995 ROD to protect the cap and prevent borings or groundwater well installations at OU1. See Figure E-1 for the location of these source areas.

The OU2 downgradient area is a large, primarily residential neighborhood, with some commercial buildings, located downgradient of OU1, between the former Raymark facility and the Housatonic River. Groundwater predominantly flows from the facility toward, and discharges to, the Housatonic River, directly underneath this neighborhood. The depth to groundwater under the homes and commercial properties is approximately 10 to 12 feet below ground surface.

The OU2 area of potential for vapor intrusion extends southeasterly from the former facility downgradient to the Housatonic River and is primarily beneath a residential neighborhood between Willow Avenue northerly to Riverview Place. EPA identified this area based on the potential residential exposures at the 10E-^{04}, 10E-^{05} and 10E-^{06} risk levels (see Figure E-2), , and potential commercial exposures at the 10E-^{04}, 10E-^{05} and 10E-^{06} risk levels (see Figures E-3).

More specific discussions of the OU2 study area geology and hydrogeology, bedrock geology and topography, and hydrogeology may be found in section 1.4.2 of the OU2 Final Feasibility Study (June 30, 2016).

Environmental Investigations of the OU2 Study Area

EPA has sampled groundwater in the study area since 1994. Three Remedial Investigation Reports (RI Report (January 2005 (TTNUS)), RI Update (May 2014 (Nobis)), and RI Update Addendum (April 2015 (Nobis)) document the results of the various sampling rounds. (For further information on historical comprehensive sampling, see Section 2 of the 2005 OU2 RI Report.) The results show that DNAPL at the source area, containing VOC contamination, is present in the groundwater deep beneath the former Raymark facility. This DNAPL is not mobile, is not dissolving quickly, and is a continuing source of VOC contamination to a downgradient groundwater plume. Because of this DNAPL source, the contaminant levels in the downgradient plume have not significantly decreased over time. In the source and downgradient areas, VOCs in groundwater have been identified as the contaminants of primary concern. SVOCs and pesticide were detected infrequently and at relatively low concentrations. PCBs were detected in a single overburden groundwater sample and metals were generally detected in low concentrations, except arsenic which is a naturally occurring metal. Contaminant concentrations also exceeded safe drinking water levels and some state surface water protection screening criteria (not an ARAR). (See Table E-1.)

The 2005 RI Report presented findings of groundwater, soil gas, and indoor air field investigations undertaken over a 9-year period (1994 – 2003) and identified an area of interest for VI of contaminants from the groundwater VOC plume to overlying structures. High concentrations of VOCs in groundwater flowing beneath the downgradient neighborhood and model predictions of the potential for VI at levels of concern led to the investigation of indoor air and soil gas in the downgradient area beginning in 2000. Over the next few years, from 2001 to

2004, EPA continued to sample, and where unacceptable risk was found, install SSD systems. By 2004, SSD systems had been installed in 106 homes. The 2014 OU2 RI Update Report describes additional groundwater and soil gas sampling conducted in 2009 and 2010 to provide more recent data. These investigations presented an evaluation of changes in the nature and extent of groundwater and soil gas contamination between 2002/3 and 2009/10 and identified the following VOCs present in overburden and bedrock groundwater as the potential Contaminants of Concern (COCs) for VI. The highest concentrations in both the overburden and bedrock groundwater are within areas of DNAPL.

CHEMICALS OF CONCERN – OU2 OVERBURDEN GROUNDWATER

Chemical of Concern	Concentration Detected		Unit	Frequency of Detection	Average Detected Concentration
	Min	Max			
1,1-Dichloroethane	0.28	2100	µg/L	77/121	141.38
1,1-Dichloroethene	1.2	22000	µg/L	67/120	1008.77
Benzene	1.5	81	µg/L	28/106	12.05
Chlorobenzene	1.00	3500	µg/L	64/121	166.54
Chloroform	0.38	23	µg/L	23/121	8.19
Ethylbenzene	1.40	34	µg/L	4/106	10.60
Trichloroethene	0.35	7800	µg/L	72/121	621.39
Vinyl Chloride	1.60	440	µg/L	46/104	72.38

CHEMICALS OF CONCERN – OU2 BEDROCK GROUNDWATER

Chemical of Concern	Concentration Detected		Unit	Frequency of Detection	Average Detected Concentration
	Min	Max			
1,1-Dichloroethane	1.2	4600	µg/L	18/23	341.16
1,1-Dichloroethene	2.7	11000	µg/L	19/24	1020.43
Benzene	1.2	19	µg/L	5/23	7.48
Chlorobenzene	2.1	1200	µg/L	16/25	99.76
Chloroform	1.1	9.8	µg/L	8/25	4.06
Trichloroethene	12	4600	µg/L	20/24	707.45
Vinyl Chloride	1.6	55	µg/L	10/23	15.83

See Figures E-4 through E-7 for spatial distributions of the four primary COCs in groundwater thought the OU2 study area.

Additional groundwater, sub-slab soil gas and indoor air sampling was conducted during supplemental investigations in 2012 and 2013 to fill data gaps identified in the RI Update Report. The OU2 RI Update Addendum (2015) presented the results of the supplemental investigations, a VI pathway evaluation, indoor air risk calculations for each of the properties sampled, and revised VI Areas of Interest representing areas where shallow groundwater concentrations exceed EPA VI screening levels for one or more COC.

E.2. OU3 (Upper Ferry Creek)

Chapter 1 of the OU3 Feasibility Study contains an overview of the RI findings. The significant findings of the RI are summarized below.

Site Characteristics of the OU3 Study Area

Upper Ferry Creek is located west of and parallel to the Housatonic River, and is part of the Housatonic River Basin, a tidally influenced system. The topography of the areas upland of Upper Ferry Creek and its wetlands is relatively flat, with gentle slopes to portions of the Upper Ferry Creek and Housatonic River. Based on a review of United States Geological Survey (USGS) topographic maps, the majority of the upland area lies at approximately ten feet NGVD (also known as mean sea level). Portions of Upper Ferry Creek were altered and rechanneled; these areas have steep slopes along Upper Ferry Creek. The Creek flows south from the I-95 overpass through several OU6 properties (576 and 600 East Broadway, and the Vacant Lot Abutting I-95), and under East Broadway Street and Ferry Boulevard. Upper Ferry Creek then flows between OU6 properties that generally border Ferry Boulevard and Willow Avenue as well as residential properties that border both Willow Avenue and Housatonic Avenue. A tide gate is located under Broad Street where it crosses Upper Ferry Creek which is designed to prevent excess backwater from high tides from flowing upstream into Upper Ferry Creek. Below the tide gate, which is considered the limit of OU3, Ferry Creek flows into Lower Ferry Creek (OU7), and discharges to the Housatonic River.

OU3 is estimated to encompass approximately seven acres, including approximately one acre of wetlands and one acre of open water, and consists primarily of three different areas: the delineated wetlands, the Upper Ferry Creek channel, and all other soils (mainly bank soils). (See Figure E-8.) The delineated wetlands are depicted on Figure E-9 and consist of wetland soils. The Upper Ferry Creek channel (Figure E-10) is defined as the sediment area within the creek channel and below the mean high water line, as defined by National Oceanic and Atmospheric

Administration (NOAA). The remaining areas of OU3 consist of wetland soil which extend onto adjacent OU6 properties. The soil area is present between the mean high water line of Ferry Creek and either the OU3 boundary or the limit of delineated Raymark Waste. The soil area includes portions of the land where Raymark Waste was placed as fill immediately adjacent to the Ferry Creek channel above the mean high water line, including the sections of steeply sloped banking along the western edge of the channel between the OU6 properties and Ferry Creek. All of OU3 falls within the 100-year and 500-year floodplain. A groundwater discharge study concluded that groundwater is actively seeping into a limited area of Upper Ferry Creek (approximately a 200-foot segment from Interstate 95 to the culvert under East Broadway), but does not constitute a significant ongoing source of contamination (or associated risks) to Ferry Creek.

More specific descriptions of the OU3 study area can be found in the following sections of the OU3 FS Report: Section 1.4.3 (floodplains and wetlands); Section 1.4.4 (surficial geology and fill); Section 1.4.5 (bedrock geology); Section 1.4.6 (sediment); Section 1.4.7 (groundwater hydrogeology); and Section 1.4.8 (surface water hydrology).

Environmental Investigations at the OU3 Study Area

Environmental investigations into the nature and extent of contamination within soil, sediment and surface water in Upper Ferry Creek were performed in the late 1990s. Through these investigations, the following chemicals were found:

VOCs: VOCs were detected infrequently in OU3 sediment and soil samples. VOCs were also infrequently detected in soil samples collected from the OU6 properties that border Upper Ferry Creek. Select VOCs, primarily chlorinated hydrocarbons, were detected frequently in the few surface water samples collected from Ferry Creek;

Semi-VOCs (SVOCs): Three primary groups of SVOCs were detected in sediment and soil samples including phenolic compounds, polycyclic aromatic hydrocarbons (PAHs), and phthalates. Many of these SVOCs were used in the manufacturing of friction materials (such Raymark products). However, PAHs are also associated with fuels, coal, and petroleum products, and are commonly detected in urban streams (background sources). SVOCs were frequently detected in OU3 sediments and in adjacent OU6 properties soils, however no SVOCs were detected in Upper Ferry Creek above background concentrations.

Pesticides: Pesticides are assumed to have been used at the Raymark facility, as pest control practices using pesticides were common in manufacturing plants. Chlorinated herbicides were detected in Raymark facility soil samples. Pesticides were frequently detected in OU3 sediments and in adjacent OU6 soils. Pesticides were detected infrequently in surface water samples collected from Upper Ferry Creek. None were detected above background concentrations.

PCBs: The PCBs identified within the OU3 area consisted primarily of Aroclor 1262 and Aroclor 1268, which were also detected in Raymark facility soil. PCBs were typically used as plasticizers in the manufacture of brake linings, rubber gaskets, and synthetic resins (such as were made at Raymark). PCBs were frequently detected in both sediments and soils. No PCBs were detected in surface water samples from Ferry Creek.

Dioxins and Furans: Dioxins and furans were not used in the manufacturing processes at the former Raymark Facility but were formed during the production of chlorinated compounds (such as pesticides or PCBs). Dioxins and furans were frequently detected in OU3 l sediment and soil samples. No surface water samples were submitted for analysis of dioxins and furans because dioxins and furans have such low solubility that they would be below detection limits in surface water.

Metals: The most prevalent elevated Raymark-related metals detected within the OU3 area were copper and lead, which were used in fabricating brake and friction products (such as those produced at Raymark). These metals within the OU3 area appear to originate from Raymark Waste. Metals were frequently detected in OU3 sediments and soil (copper and lead). Elevated concentrations of leachable lead (SPLP metal analysis) were detected frequently in soil samples.

Elevated concentrations of metals, primarily barium, manganese and zinc, were detected frequently in surface water samples. Copper and lead concentrations did not exceed background concentrations in samples collected from Upper Ferry Creek. Background samples were collected from outside the OU3 study area, from properties not potentially influenced by buried fill material.

Asbestos: Asbestos-containing materials were a primary component of products manufactured at the Raymark facility. Asbestos fibers were mixed with phenolic resins to manufacture brake pads, linings, clutches, transmission plates, and gaskets. EPA has designated asbestos as a hazardous air pollutant that can cause cancer or health effects. The National Emission Standards for Hazardous Air Pollutants (NESHAPs) (40 CFR 61, Subpart M) defines friable asbestos as any material containing more than 1% asbestos that, when dry, can be crumbled, pulverized, or reduced to powder by hand pressure. Asbestos is considered a potential inhalation hazard if it is friable. The term friable is generally applicable to asbestos-containing material such as insulation or building materials. In the case of Raymark, discarded asbestos-containing material has degraded and fibers are present in soil at concentrations frequently above1%, and as high as 99%. These degraded fibers, if exposed, can migrate into the air. Wastes generated from manufacturing processes contained pulverized asbestos-containing materials and particulates which were mixed into a slurry and discharged to the lagoon system. Dredged materials from the lagoons was used to fill in low-lying areas both on and off site. Asbestos was frequently detected at greater than one percent in both OU3 sediments and soils. No surface water samples were submitted for analysis of asbestos because it is insoluble.

Potential Contaminants of Concern (COCs) were identified for soil and sediment, and for surface water for both human and ecological receptors. Potential human receptors for OU3 are limited to recreational users, therefore COCs in soil and sediment were developed for surface soils only. The biologically-active zone is also limited to surface soils. While COCs were established for surface water, the baseline risk assessment and recent risk update conclude that no actionable risks are associated with exposure to surface water.

CHEMICALS OF CONCERN – OU3 SURFACE SOILS and SEDIMENTS

Chemical of Concern	Concentration Detected			Frequency of Detection	EPC[1]	
	Min	Max	unit		Surface Soil (0 to 2 Feet bgs) (mg/kg)	Statistical Measure
Benzo(a)anthracene	0.054	5.4	mg/kg	66/67	2.4	95% KM (t) UCL
Benzo(a)pyrene	0.073	6.1	mg/kg	66/67	2.2	95% KM (t) UCL
Benzo(b)fluoranthene	0.073	10	mg/kg	66/67	5.2	95% KM (Chebyshev) UCL
Bis(2-ethylhexyl)phthalate	0.07	15000	mg/kg	56/68	2532	97.5% KM (Chebyshev) UCL
Dibenz(a,h)anthracene	0.062	1.6	mg/kg	49/66	0.54	95% KM (Percentile Bootstrap) UCL
Indeno(1,2,3-cd)pyrene	0.039	5.5	mg/kg	66/67	1.8	95% KM (Chebyshev) UCL
N-Nitroso-di-n-propylamine	0.11	0.11	mg/kg	1/65	1700	Maximum
Dieldrin	0.00012	0.039	mg/kg	36/64	0.0079	95% KM (BCA) UCL
Aroclor 1254	0.21	4	mg/kg	9/214	0.12	95% KM (t) UCL
Aroclor 1260	0.12	9	mg/kg	22/214	0.35	95% KM (BCA) UCL
Aroclor 1262	0.069	68	mg/kg	35/70	8.9	97.5% KM (Chebyshev) UCL
Aroclor 1268	0.021	60	mg/kg	90/221	2.8	95% KM (Chebyshev) UCL
Dioxin Toxicity Equivalency	7.9E-07	0.0061	mg/kg	58/60	0.0014	99% KM (Chebyshev) UCL
Arsenic	1.7	21.2	mg/kg	64/72	9.1	95% KM (BCA) UCL
Chromium	10.6	900	mg/kg	72/72	168	95% H-UCL
Copper	0.3	21000	mg/kg	82/82	3438	95% Chebyshev (Mean, Sd) UCL
Lead	1.6960	22900	mg/kg	187/226	1517	95% KM (Chebyshev) UCL
Thallium	3.9	3.9	mg/kg	1/69	4.0	Maximum
Asbestos	0.99	90	%	**54/166**	-	-

[1] Exposure Point concentration (EPC) calculated using ProUCL version 5.0.00.
For datasets with greater than 10 samples: EPCs represent the 95 percent UCL of the mean, unless the 95 percent UCL was greater than the maximum reported concentration. If the 95 percent UCL is greater than the maximum, the maximum is selected as the EPC. For datasets with 10 or less samples: the maximum detected concentration is selected as the EPC.

CHEMICALS OF CONCERN – OU3 SURFACE WATER

Chemical of Concern	Concentration Detected[2]			Frequency of Detection[2]	EPC[3]	
	Min	Max	unit		Surface Water (µg/L)	Statistical Measure
Area A-1[1]						
1,1-Dichloroethene	8	95	µg/L	4/6	52	Maximum Location Average
Area A-3[1]						
1,1-Dichloroethene	4	50	µg/L	12/17	30	Maximum Location Average
Vinyl chloride	2	12	µg/L	6/17	6	Maximum Location Average
Aroclor 1262	0.072	0.23	µg/L	2/17	0.15	95%UCL

[1] Surface Water samples were collected from locations within Area A-1 of Ferry Creek during two sampling rounds. Surface Water samples were collected from locations within Area A-3 of Ferry Creek during four sampling rounds.
[2]Concentration Detected and Frequency of Detection Statistics are based on individual samples, with each sample from each sampling round recorded individually. Duplicate pairs were averaged before determining statistics.
[3] Exposure Point concentration (EPC) calculated using 1992 guidance from EPA, with duplicate pairs averaged before determining location specific results and samples from multiple rounds at each location averaged before they were included in the EPC calculation. USEPA (United States Environmental Protection Agency), May 1992. Supplemental Guidance to RAGS: Calculating the Concentration Term. OSWER Publication 9285.7-081.

For datasets with greater than 10 samples: EPCs represent the 95 percent UCL of the mean, unless the 95 percent UCL was greater than the maximum reported concentration. If the 95 percent UCL is greater than the maximum, the maximum is selected as the EPC. For datasets with 10 or less samples: the maximum detected concentration is selected as the EPC.

See Figure E-11 for the locations of soil and sediment samples that were collected in Ferry Creek and adjacent wetland soil areas at various times through the years.

As discussed in Section B.1 of this ROD, it was necessary for EPA to establish a definition for Raymark Waste as a way to distinguish fill material originating from the former Raymark facility from contaminated fill material originating from other industries and entities in Town. While this definition of Raymark Waste is applicable to areas of fill material, it should not be applied to sediments in Ferry Creek and wetland soil because the nature of sediment contamination is the result of direct discharge from lagoons at the former Raymark facility and is different than the material placed as fill in soil. Contaminants also eroded into the creek and wetland soil from adjoining properties that received Raymark manufacturing wastes as fill. Because of the dynamic nature of the Ferry Creek channel, sediments deposited in Ferry Creek and its wetland soil were (and still are) subjected to tidal action and storm events that disturb(ed) and then redistribute(d) contaminants. Therefore, clear signatures for Raymark Waste, such as provided by the definition of Raymark Waste, are unlikely to be identified in the sediments and wetland soil.

Many of the samples in the Creek sediment and wetland soil shown in Figure E-11meet either the Raymark Waste definition or have at least two chemicals that exceed the Raymark Waste criteria. This indicates that Ferry Creek sediment, surface water and wetland soil quality have been degraded as the result of direct discharge or placement of Raymark manufacturing waste and through erosion of Raymark Waste from adjacent properties.

E.3. OU4 (Raybestos Memorial Ballfield)

Chapter 1 of the OU4 Feasibility Study contains an overview of the RI findings. The significant findings of the RI are summarized below.

Site Characteristics of the OU4 Study Area

Operable Unit 4 is located north of the former Raymark facility just over the active Metro-North railroad tracks (see Figure E-12). It encompasses approximately 14 acres with residential properties bordering to the north/northwest and Town, commercial, and industrial properties located to the northeast. An inactive former industrial facility (Contract Plating) abuts the area to the south/southwest and is the subject of remediation by the Town under a Brownfields grant.

The majority of OU4 is a shallow depression with a relatively level bottom and lies at topographic elevations of approximately 14 to 16 feet North American Vertical Datum, with a steep topographic rise to a maximum elevation of 48 feet along the western edge, and to a lesser degree to the north and south. Bedrock outcrops are exposed at numerous locations along the steep rise at the western property boundary. A large pond (Frog Pond) was formerly located in the southern portion of the property (approximately in the 1940's) but apparent filling occurred over the years from 1949 to 1971, diminishing its size until the pond is no longer present in 1990 aerial photographs. OU4 lies outside the 100-year floodplain, however an estimated 0.56 acres in southeastern portion of OU4 could be subject to flooding by a 500-year storm event. There are no wetlands on the property.

OU4 was historically used as a gravel pit, then as a disposal area for wastes, including Raymark Waste. Once filled, approximately three acres of the property was used as a ballpark for a number of years and is now overgrown with vegetation. There are two vacant buildings, concrete and steel bleacher seats, and two dugouts in the vicinity of the former baseball diamond. OU4 is inactive except for a small paved area located in the eastern corner along Frog Pond Lane that is used by a private contractor to store construction and landscaping supplies, tractor-trailer bodies, and miscellaneous debris. The rest of the property has been abandoned for many years and is currently overgrown. Access to the property is via Frog Pond Lane, however, access to this general area of town by truck is limited by a low bridge located on East Main Street. A chain-link security fence surrounds the OU4 property generally restricting access, although breaches and trespassing have been observed. Asbestos warning signs are posted along the security fencing.

In 1992, as a temporary action by EPA, 6 to 11 inches of clean soil was placed over the area to prevent direct exposures to Raymark Waste. However, erosion has occurred and exposed Raymark Waste has been observed on the property.

More specific descriptions of OU4 can be found in the following sections of the OU4 FS Report: Section 1.4.3 (topography); Section 1.4.4 (floodplains and wetlands); Section 1.4.5 (surficial geology and fill); Section 1.4.6 (bedrock geology); Section 1.4.7 (groundwater hydrogeology); and Section 1.4.8 (surface water hydrology).

Environmental Investigations at the OU4 Study Area

In 1989, EPA conducted a Preliminary Assessment of OU4. Environmental Investigations into the nature and extent of contamination at OU4 were performed from 1988 through 1992, including soil borings, soil sampling, and test pitting. As a result, EPA conducted a removal action in 1992 that included the installation of a security fence, clearing of vegetation, grading and covering areas of Raymark Waste on OU4 with approximately 6 to 11 inches of clean soil, and sampling and removal of onsite drums. In 1999 a Remedial Investigation was conducted by EPA to better determine the nature and extent of contamination and to identify risks. These investigations concluded that Raymark Waste in OU4 is composed primarily of materials brought from the former Raymark facility and includes numerous contaminants including VOCs, SVOCs, pesticides, PCBs, metals, and asbestos. Raymark Waste presence throughout OU4 is heterogeneous and is probably the result of irregular disposal. Raymark Waste has been identified throughout OU4 (in areas outside the former infield), both vertically and horizontally. Contamination has been found at depths ranging from ground surface to 16 feet deep; the deepest contamination was detected in the area of the former Frog Pond. No/minimal Raymark Waste is present in the actual former infield playing area since most filling took place near the railroad and former pond portions of the property. However, non-Raymark Waste (that is contamination that is not associated with fill from the former Raymark facility) is also present at OU4 predominately within the former infield and contains contaminants that can exceed allowable state regulatory limits. Non-Raymark Waste areas will not be remediated specifically through this ROD, but the consolidation of Raymark Waste from OU3 and OU6 at OU4 will result in addressing non-Raymark Waste areas as a necessary component of the remedial action (Raymark Waste from OU3 and OU4 will be consolidated on top of the Raymark and non-Raymark Waste areas and capped).

EPA investigations estimate that over 200,000 cubic yards of Raymark Waste are currently present at depths of up to 16 feet (111,000 cubic yards are above the water table). The non-Raymark Waste area has an estimated volume of 100,000 cubic yards. Figure E-13 generally shows the Raymark Waste area and non-Raymark Waste samples. For further information see Section 1.4 of the OU4 FS Report.

A summary of the nature and extent of contaminated soil is provided below. This summary is for the entire OU4 property and includes compounds detected in both the Raymark and non-Raymark Waste areas. Additional information can be found in Section 1.5 of the OU4 FS Report.

VOCs: VOCs were detected in low concentrations in surface soils and state regulatory levels were not exceeded. Aromatic hydrocarbons were found in subsurface soils exceeding state regulatory levels with the highest concentrations detected in the southwestern portion of OU4. These contaminants were not identified in on-site groundwater samples and are not associated with the VOC plume defined as OU2. Many of these are commonly used in industrial processes; they are also constituents of gasoline and petroleum fuels. A former plating facility is located immediately adjacent and upgradient to OU4.

Semi-VOCs (SVOCs): SVOCs were distributed throughout surface and subsurface soils in the southern portion of OU4 at low concentrations. SVOCs were infrequently detected in surficial soils at concentrations below the CT PMC, with a few exceptions. In subsurface soil, PAHs were the primary SVOC detected, some exceeding the CT PMC in the southern and western portions of OU4; however, these contaminants were not detected in groundwater present beneath OU4. PAHs are commonly present in industrial products and were also used in the manufacturing of friction materials (such as those made at Raymark), and are associated with fuels, coal, and petroleum products. Phthalates were used as plasticizers in the manufacture of synthetic products (such as the synthetic resins made at Raymark).

Pesticides: Pesticides were frequently detected in surficial soils above average background but at low concentrations. Pesticides were detected in subsurface soils at levels above background and at concentrations higher than in surface soils. Many pesticides exceeded the state regulatory criteria.

PCBs: PCBs, primarily of Aroclor 1262 and Aroclor 1268, were frequently detected in surface and subsurface soils throughout OU4. Elevated concentrations were detected in surface samples along the western boundary in the playing field and throughout OU4 in subsurface samples. The highest PCB concentrations were detected in delineated Raymark Waste areas.

Metals: The most prevalent metals detected in soil were lead, arsenic, barium, zinc, copper, and chromium. Lead was detected in surface and subsurface soil samples above the average background levels throughout OU4, exceeding the EPA screening level for lead (400 mg/kg) and state regulatory criteria along the western boundary of OU4. Similarly, arsenic, barium, zinc, copper, and chromium exceeded screening criteria in surface soil along the western boundary of OU4. In subsurface soil, arsenic, barium, zinc, copper, and chromium were detected above background levels and above the CT DEC throughout OU4. In general, the levels of metals were higher in the subsurface soils than the surface soils.

Asbestos: Asbestos was frequently detected at greater than 1 percent in surface and subsurface soils throughout OU4. Average observable amounts of asbestos were higher in subsurface soils than in surface soils.

The potential Contaminants of Concern (COCs) which were identified for soil at OU4 are listed in the table below along with concentration summaries.

CHEMICALS OF CONCERN – OU4 SOILS

Chemical of Potential Concern	Concentration Detected		Unit	Frequency of Detection	EPC[1]	
	Min	Max			Surface Soil (0 to 15 Feet bgs) (mg/kg)	Statistical Measure
Benzo(a)anthracene	0.02	5.3	mg/kg	41/66	0.77	95% KM (Chebyshev) UCL
Benzo(a)pyrene	0.024	4.4	mg/kg	43/71	0.65	95% KM (Chebyshev) UCL
Benzo(b)fluoranthene	0.029	3.6	mg/kg	44/71	0.59	95% KM (Chebyshev) UCL
Dibenzo(a,h)anthracene	0.025	0.8	mg/kg	24/71	0.14	95% KM (BCA) UCL
Indeno(1,2,3-cd)pyrene	0.023	2.2	mg/kg	39/71	0.42	95% KM (Chebyshev) UCL
Aroclor-1242	0.003	0.75	mg/kg	6/148	0.023	95% KM (t) UCL
Aroclor-1248	0.16	0.16	mg/kg	2/84	0.16	Maximum
Aroclor-1262	0.0066	110	mg/kg	62/87	21.5	97.5% KM (Chebyshev) UCL
Aroclor-1268	0.002	230	mg/kg	126/265	14.7	97.5% KM (Chebyshev) UCL
Dieldrin	0.000073	0.17	mg/kg	25/82	0.014	95% KM (t) UCL
Arsenic	0.65	45.5	mg/kg	82/90	10.4	95% KM (Chebyshev) UCL
Chromium	6.8	186	mg/kg	90/90	66.9	95% Chebyshev (Mean, Sd) UCL
Copper	9	193000	mg/kg	90/93	39683	97.5% KM (Chebyshev) UCL
Lead	2.5	172000	mg/kg	**268/281**	8718	97.5% KM (Chebyshev) UCL
Thallium	1	6.4	mg/kg	14/82	0.72	95% KM (t) UCL
Asbestos	0.9	60	**%**	**191/311**	-	-

[1] Exposure Point concentration (EPC) calculated using ProUCL version 5.0.00.
For datasets with greater than 10 samples: EPCs represent the 95 percent UCL of the mean, unless the 95 percent UCL was greater than the maximum reported concentration. If the 95 percent UCL is greater than the maximum, the maximum is selected as the EPC. For datasets with 10 or less samples: the maximum detected concentration is selected as the EPC.

E.4. OU6 (Additional Properties)

OU6 consists of 26 (25 prior to discovery of Raymark Waste on an additional commercial property in 2015) properties located throughout the Town of Stratford where Raymark Waste was used to fill low-lying areas (see Figure E-14). Final actions were selected for three of the OU6 properties through a ROD issued in 2011. Final action has been completed at a fourth property, leaving 22 OU6 properties to be addressed in this ROD (more detail follows). Some of these properties border Upper Ferry Creek (OU3) and are in close proximity to the Raybestos Memorial Ballfield (OU4). Most of the properties in OU6 are part of the Housatonic River Basin, a tidally influenced system. The OU6 Study Area includes non-contiguous commercial, state and municipal, recreational and residential properties.

The topography of the majority of the OU6 Study Area is relatively flat, with topographic elevations of approximately ten feet and gentle slopes trending towards Ferry Creek and the Housatonic River. All but three of the 25 OU6 properties are located within the 100-year floodplain and potentially some within the 500-year base flood elevation level. A formal evaluation of wetlands has not been performed; however, it is likely a number of properties contain a wetland or are within a wetland buffer zone. Wetlands will be delineated as part of a pre-design investigation.

Soil borings conducted throughout the OU6 study area found that fill in the area consists of a mixture of household, construction, and manufacturing debris. Natural materials include various amounts of clay, silt, sand, and gravel. Man-made fill materials frequently include charcoal, asphalt, metal, brick, tile, glass, and other miscellaneous materials, including manufacturing debris.

The contamination sources in the OU6 Study Area are locations where Raymark and other waste materials were disposed of (dumped) at residential, commercial, state and municipal properties primarily as fill in low-lying areas. The areas of Raymark Waste within these properties has been delineated and shows the random nature of the Raymark Waste disposal practices (see Figure E-15 through E-30).

More specific descriptions of the OU6 study area can be found in the following sections of the OU6 2011 FS: Section 1.4.1 (topography and 100-year floodplain), and Section 1.4.2 (surficial geology and fill).

In 2011, EPA issued a Record of Decision containing final source control actions for four OU6 properties – 576 and 600 East Broadway, the Third Avenue Property, and Beacon Point AOC2 – with interim remedies for the remaining OU6 properties where potential risks from direct exposure to manufacturing waste from the former Raymark facility were identified. The 2011 ROD planned for Raymark Waste from the Third Avenue Property to be consolidated at 576/600 East Broadway if sufficient capacity existed, but the Remedial Design determined that sufficient capacity did not exist at 576/600 East Broadway. In 2015, cleanup of another OU6 property, the Airport Property, was completed by the Federal Aviation Administration, with oversight by EPA's Removal Program and CTDEEP, to allow for the creation of a runway safety zone. (This remediation is a final remedy for the Airport Property, and the Airport Property is not further considered or evaluated in this ROD.) In 2016, an additional property, 336 Ferry Boulevard, was added to OU6 after Raymark Waste was discovered during excavation by the property owner. The 22 remaining OU6 properties that are the subject of this ROD are presented in the table below in groupings, as appropriate (see Figure E-31):

	OU6 PROPERTY LOCATION	**PROPERTY TYPE**
1	200 Ferry Boulevard	Active business
2-5	230, 250, 280, and 300 Ferry Boulevard	Active businesses
6-7	Lot Behind 326 Ferry Boulevard and Vacant Lot Along Housatonic Avenue	Vacant/lightly vegetated
8	326 Ferry Boulevard	Active business
9	336 Ferry Boulevard	Active business
10	Lot Abutting I-95 Right-of-Way	Vacant/lightly vegetated
11-13	250, 304, 340 East Broadway	Active businesses
14	DPW Lot AOC 1	Active municipal
15	DPW Lot AOC2 - 251 East Main Street	Active municipal/business
16	380 East Main Street	Active business
17	Wooster Park	Recreational
18	Connecticut Right-of-Way	Vacant/lightly vegetated
19	Third Avenue Property	Residential
20	Lockwood Avenue	Vacant/wetlands
21	Beacon Point AOC 1	Recreational
22	Beacon Point AOC 3	Recreational

EPA is currently conducting evaluations of several residential properties where previous removal actions were performed. These removal actions pre-dated the OU6 remedial investigation and the current definition of Raymark Waste. Should EPA's evaluations conclude that remaining areas of Raymark Waste pose unacceptable risks, these properties could then be identified as Additional Properties in OU6 and, with the appropriate documentation, be addressed consistent with this Record of Decision. For further information see Section 1.4.2 of the OU6 FS Addendum Report.

Environmental Investigations at the OU6 Study Area

Under the OU1 ROD, excavations of Raymark Waste from 46 residential properties were completed in the fall of 1995 and property restoration continued into 1996. Subsequent to the excavations under OU1, but prior to the creation of OU6, additional investigations were conducted throughout the Stratford area over a ten year period at hundreds of locations where there was a potential for Raymark Waste fill to be present. These locations were identified by a number of sources including, but not limited to, officials of the Town of Stratford, Raymark records and/or former employees, historical records, analytical data, and neighbors/citizens. Each individual location was evaluated for the presence of Raymark Waste.

A remedial investigation (RI) for the 24 OU6 properties was completed in 2005. In addition to the four contaminants cited in the definition of Raymark Waste (see Section B), buried fill material from Raymark and non-Raymark sources throughout the OU6 study area was found to be also contaminated by VOCs, semi-volatile organic compounds (SVOCs), pesticides, other polychlorinated biphenyls (PCBs), dioxins and furans, and metals. The composition of Raymark Waste on each OU6 property varies somewhat as the result of irregular past dumping practices. The OU6 RI report provided descriptions of the investigation results, and the estimated areal extent and volumes of Raymark waste present on a property-specific basis. Raymark Waste was recently discovered at an additional property during excavations by the property owner bringing the total number of OU6 properties to 26. Many of these properties were originally within another operable unit, but at the request of the Raymark Advisory Committee, Operable Unit 6 (OU6) Additional Properties, was created in an effort to accelerate the cleanup of these properties.

The potential Contaminants of Concern (COCs) which were identified for soil at the collective OU6 are listed in the table below along with concentration summaries. Several of the OU6 properties have non-Raymark Waste areas which will not be addressed by this ROD.

CHEMICALS OF CONCERN – OU6 TOTAL SOILS

Chemical of Potential Concern	Concentration Detected		Unit	Frequency of Detection	EPC[1]	
	Min	Max			Surface Soil (0 to 15 Feet bgs) (mg/kg)	Statistical Measure
Benzo(a)anthracene	0.036	24	mg/kg	178/195	3.6	95% KM (Chebyshev) UCL
Benzo(a)pyrene	0.040	21	mg/kg	183/200	3.0	95% KM (Chebyshev) UCL
Benzo(b)fluoranthene	0.024	18	mg/kg	180/199	3.1	95% KM (Chebyshev) UCL
Bis(2-ethylhexyl)phthalate	0.022	65	mg/kg	77/200	1.4	95% KM (BCA) UCL
Dibenz(a,h)anthracene	0.03	3.9	mg/kg	98/199	0.47	95% KM (BCA) UCL
Dieldrin	0.00037	2.6	mg/kg	47/231	0.09	95% KM (Chebyshev) UCL
Indeno(1,2,3-cd)pyrene	0.027	10	mg/kg	169/197	1.6	95% KM (Chebyshev) UCL
Aroclor 1242	4.1	4.1	mg/kg	2/292	4.1	Maximum
Aroclor 1254	0.025	130	mg/kg	51/1085	1.0	95% KM (Chebyshev) UCL

Aroclor 1260	0.028	33	mg/kg	48/1084	0.39	95% KM (Chebyshev) UCL
Aroclor 1262	0.026	280	mg/kg	406/965	9.0	97.5% KM (Chebyshev) UCL
Aroclor 1268	0.02	305	mg/kg	611/1284	8.4	97.5% KM (Chebyshev) UCL
Dioxin Toxicity Equivalency	8.6E-07	0.02014	mg/kg	88/92	0.0028	97.5% KM (Chebyshev) UCL
Arsenic	0.83	80.3	mg/kg	215/245	7.8	95% KM (BCA) UCL
Chromium	3.6	4270	mg/kg	243/248	233	95% KM (Chebyshev) UCL
Copper	13.8	87900	mg/kg	741/1228	3361	97.5% KM (Chebyshev) UCL
Lead	6.3	49000	mg/kg	**1286/1624**	2101	97.5% KM (Chebyshev) UCL
Thallium	0.24	8.4	mg/kg	8/190	0.37	95% KM (t) UCL
Asbestos	0.9	90	%	**768/1294**	-	-

[1] Exposure Point concentration (EPC) calculated using ProUCL version 5.0.00.
For datasets with greater than 10 samples: EPCs represent the 95 percent UCL of the mean, unless the 95 percent UCL was greater than the maximum reported concentration. If the 95 percent UCL is greater than the maximum, the maximum is selected as the EPC. For datasets with 10 or less samples: the maximum detected concentration is selected as the EPC.

Section 1.5 of the OU6 2011 FS presents a general summary of the nature and extent of contamination encountered at the OU6 Study Area. Property-specific descriptions of nature and extent are presented in Section 3.0 of the OU6 RI.

E.5. Conceptual Site Model for the Raymark Superfund Site

This conceptual site model (CSM) is based on information known about the Site through investigations conducted for all nine Operable Units. However, as studies are completed for Operable Units 5 and 7 through 9, the CSM may be further revised.

The Raymark facility was located at 75 East Main Street in Stratford. The Raymark facility operated from 1919 until 1989, when the plant was shut down and permanently closed. The Raymark facility produced and manufactured products mainly for the automotive industry. The manufacturing of these products generated waste. The facility was demolished, and EPA placed a cap over the contaminated areas on the property in 1996 and 1997. A major regional shopping center was constructed over the cap in 2005 and remains today.

The former facility (referred to by EPA as OU1) occupied 33.4 acres and manufactured friction materials containing asbestos and non-asbestos components, metals, phenol-formaldehyde resins, and various adhesives. Primary products were gasket material, sheet packing, and friction materials including clutch facings, transmission plates, and brake linings. As a result of these manufacturing activities, soils at the facility became contaminated primarily with asbestos, lead, and polychlorinated biphenyl compounds (PCBs) primarily through dispersion of solids. During peak operations, the facility used approximately two million gallons of water each day. Wastewater from facility operations was collected and discharged to a series of four unlined settling lagoons located in the southwestern corner of the facility, and along the southern property boundary near Longbrook Avenue and the Barnum Avenue Cutoff. The wastewater consisted of liquid waste from the acid treatment plant, wet dust collection, and paper making processes; non-contact cooling water, and solvent recovery plant operations. The waste water seeped into the ground during the 70 year operation of the plant. The lagoons also received stormwater drainage and surface water runoff. Solids were allowed to settle in Lagoon Nos. 1, 2, and 3 prior to discharge of clarified wastewater and unsettled solids to Lagoon No. 4. Overflow of liquids and solids from lagoon four discharged directly into Upper Ferry Creek (referred to as OU3).

The heavier waste compounds formed a significant pool of DNAPL, which then seeped into bedrock fractures. The underlying and downgradient groundwater at the Site (referred to as OU2) became contaminated with VOCs, SVOCs, and metals from the facility's operations and disposal practices. The lighter compounds moved into the overburden and bedrock groundwater aquifer which formed plumes which discharge into the Housatonic River. The groundwater plume also seeps into a very limited portion (about 200 feet long) of Upper Ferry Creek.

The DNAPL source areas at the Raymark facility (OU1) act as a continuing source of VOC contamination to source area and downgradient groundwater (OU2). VOCs may migrate from groundwater into soil gas, upward through the soil, through building basements and foundations, and contaminate the indoor air through vapor intrusion. Although safe drinking water levels are exceeded in groundwater, because residences and commercial/industrial buildings in the OU2 area are connected to public water and area groundwater has been classified by the state as non-potable (GB) and is not used as drinking water, vapor intrusion of primarily TCE from the shallow groundwater VOC plume has been found to be the only current pathway of exposure to human health at the Raymark Site from groundwater. Without a restriction in place, however, future use of groundwater in the downgradient area poses a risk to human health.

Sludges and spoils excavated or dredged from the former lagoons were mixed with "off-specification" solid materials that were discarded and used as fill in low lying topographic areas of the former facility (OU1). The fill material (referred to now as Raymark Waste) contained elevated concentrations of PCBs, PAHs, asbestos and various metals including copper and lead. This practice expanded and for decades the mixed sludges were given away as free fill to the town and local private property owners. As a result, this fill came to be placed on residential, municipal, and commercial properties across town. Past releases of petroleum hydrocarbons, VOCs, SVOCs, and other contaminants from other sources are also likely, based on the long history of industrial and commercial activities in the area. Therefore EPA developed the definition for Raymark Waste as a method to distinguish Raymark sources from non-Raymark sources. The Raymark Waste fill locations are now referred to as OUs 3, 4, 5, 6, 7, 8 and 9. (In addition to Raymark Waste fill, OU9, the Stratford Landfill and Short Beach Park, was historically used as a single municipal landfill and contains significant wastes.)

With regard to OU3, in addition to receiving direct discharge of waste from the Raymark facility, Raymark Waste fill was identified in properties that directly abut Upper Ferry Creek, in some of the banking along Upper Ferry Creek, and in some wetland areas. Sediment throughout the Upper Ferry Creek channel was impacted by these contaminants through direct discharge, as well as runoff, wind dispersion, and erosion from nearby Raymark Waste areas. Additionally, contaminants have been mixed by the tidally influenced dynamic environment within the channel. Contaminant presence within the Raymark Waste and throughout OU3 is heterogeneous. Contaminants have been identified in channel sediment to a depth of 16 feet. The depth of Raymark Waste fill in the banks and wetland areas varies. Surface water hydrology suggests that twice daily tidal flushing of Ferry Creek may dilute contaminant presence in surface water in Upper Ferry Creek. As a result, soil, sediment, and surface water within OU3 are contaminated with metals, PCBs, and asbestos from the Raymark Waste, and other contaminants including PAHs, dioxin/furans, VOCs and pesticides which are in sediment and co-located with Raymark Waste in soil.

F. CURRENT AND POTENTIAL FUTURE SITE AND RESOURCE USES

F.1. OU2 Study Area

The OU2 study area includes the aquifer impacted by non-aqueous phase liquids and other contaminants beneath and migrating downgradient from former Raymark facility. The groundwater contains numerous contaminants, including VOCs that have been found to be migrating into overlying buildings through vapor intrusion (VI) resulting in potentially unacceptable health risks. Use of the area impacted by the downgradient plume is primarily residential, but also includes a Veterans of Foreign Wars (VFW) building, and a number of commercial buildings. As stated above, sub-slab depressurization systems have been installed in 106 buildings throughout the affected area to address the potential for VI. Approximately 20 buildings, however, located within the area of potential for VI, are without ventilation systems. These remaining buildings will be addressed as part of the actions in this ROD.

The State of Connecticut has issued a groundwater use and value determination that the groundwater at OU2 is a Low Use and Value Aquifer and that immediate restoration of the contaminated aquifer is not required. It further states that groundwater remediation goals should include prevention of exposure to contaminated groundwater, including contamination volatilizing from the contaminated groundwater, prevent further degradation of groundwater quality, and prevention of further contaminant migration. The complete Groundwater Use and Value Determination is included as Appendix A-2 to the 2016 OU2 FS.

There is no current use of groundwater within the OU2 study area and installation of borings or wells at the OU1 area is prohibited by an ELUR on the property. The Town of Stratford receives its drinking water from the Aquarian Water Company (formerly Bridgeport Hydraulic Company (BHC) and has done so for over 100 years. Groundwater within and surrounding the OU2 study area has been classified as GB (not suitable for consumption without treatment) by the CTDEEP. Future use of groundwater in the OU2 study area is not anticipated and will be prohibited through the implementation of institutional controls as part of this Selected Remedy. Vapor intrusion concerns will also be addressed by this Selected Remedy. As explained below in Section J of this ROD, evaluation of any further treatment of the DNAPL source of groundwater contamination or active measures to address migration have been determined to provide little or no added protectiveness beyond the measures included in the Selected Remedy.

F.2. OU3 (Upper Ferry Creek) Study Area

The OU3 study area includes an approximate 2,500-foot section of Ferry Creek which flows south from the I-95 overpass through several OU6 properties (576 and 600 East Broadway, and the Vacant Lot Abutting I-95), and through a culvert under East Broadway Street and Ferry Boulevard, and then flows between OU6 properties that generally border Ferry Boulevard and Willow Avenue as well as residential properties that border both Willow Avenue and Housatonic Avenue to a flood control barrier at the Broad Street Bridge. This stretch is referred to by EPA as Upper Ferry Creek. Ferry Creek then flows south beyond the flood control barrier into Lower Ferry Creek (OU7), and discharges to the Housatonic River. OU3 encompasses approximately seven acres, of which approximately three acres are wetlands and/or open water. All of OU3 is located within a 100-year floodplain. Sediments in the channel of Upper Ferry Creek are contaminated with numerous wastes primarily as a result of receiving direct discharge from the former Raymark Waste lagoons. Raymark Waste is also present in discreet portions of the Upper Ferry Creek banks and adjacent wetland areas. Raymark Waste fill thickness in these areas ranges from two to 14 feet. The overall volume of contaminated sediment to a depth of two feet (the biologically active zone and potentially accessible to humans) is estimated at 4,641 cubic yards. The overall volume of Raymark Waste in banks and wetland areas is estimated at 30,204 cubic yards.

Ferry Creek is classified as a Class A water body. Class A designates uses including habitat for fish and other aquatic life and wildlife, potential drinking water supplies, recreation, navigation, and water supply for industry and agriculture (CTDEEP, 2014). Given the brackish nature of the Creek, it is not used, nor is it expected to be used, as a potential drinking water supply.
Ferry Creek provides habitat for certain wildlife and essential fish habitat for scup, longfin inshore squid, Atlantic herring, Atlantic butterfish, summer flounder, black sea bass, and bluefish and is expected to continue its function as essential fish habitat after remediation. EPA also believes that foraging adult Atlantic sturgeon, an endangered species, may be the life stage most

likely present in the Action Area of Ferry Creek. Foraging sturgeon would likely be seasonally present from late spring through the fall. Ferry Creek is expected to continue to provide foraging habitat for Atlantic sturgeon after remediation.

Following remediation, Upper Ferry Creek and the associated wetland areas shall be restored to a natural state, except in areas where slopes may requiring stone armoring to prevent future erosion.

F.3. OU4 (Raybestos Memorial Ballfield) Study Area

The OU4 study area encompasses approximately 13.5 acres, which includes the three-acre softball field, an 8.5 acre vegetated or partially vacant field, and a two-acre densely wooded area. The ballfield has been abandoned for many years and is now overgrown with vegetation. The former ballfield stands and related infrastructure are significantly degraded. A perimeter fence was installed by EPA and warning signs are posted, yet frequent trespassing has been observed. A small degraded asphalt area of the property is used by a contractor for the storage of vehicles and construction-related materials. OU4 is bordered by private residences, commercial/industrial properties, roadways, and active railroad tracks. OU4 is currently privately owned, however, the Town of Stratford has begun tax foreclosure proceedings and is expected to be the owner at the time of cleanup.

In 2015, EPA retained an independent redevelopment consultant who worked with EPA, CTDEEP, and the Town to assist in the planning and redevelopment of various options for OU4 and the abutting Contract Plating Site. The resulting conceptual redevelopment plan, which includes a combination of municipal and commercial uses, will be used to help ensure that the OU4 cleanup objectives align with planned reuse (see Figures F-1 and F-2).

F.4. OU6 (Additional Properties) Study Area

The OU6 study area consists of 22 non-contiguous properties within Stratford where Raymark Waste fill has been discovered. These properties include twelve commercially owned properties predominantly occupied by active small businesses, such as a liquor store, automobile dealers, boat dealers, small retail shops, automobile body shops, and restaurants. There are six state- or town-owned properties with recreational and municipal uses, three vacant privately owned parcels and one residential property. Details regarding each of these 22 properties follows. Details for each of these properties are shown in Figures E-15 through E-30.

200 Ferry Boulevard
The 200 Ferry Boulevard property consists of approximately 0.6 acres of commercially zoned (retail) land located on Ferry Boulevard. The property is bordered to the east by Ferry Creek, to the south and north by OU6 commercial properties (190 and 230 Ferry Boulevard, respectively),

and to the west by Ferry Boulevard. The 200 Ferry Boulevard property is currently occupied by two businesses, each of which is housed in a two-story wooden building located at the northern end of the property. Approximately 80 percent of the property is currently covered by asphalt and used for parking. The paved area extends to the tree line along the bank of Ferry Creek, where a narrow strip of dense shrub and tree vegetation is present. The portion of the property located adjacent to Ferry Creek lies within the 100-year floodplain, but the area of Raymark Waste on the property rises above the 100-year flood elevation.

Key factors associated with the areas and volumes to be addressed at this property include:

- Raymark Waste area: 2,000 square feet
- Total volume of Raymark Waste: 407 cubic yards
- Maximum depth of Raymark Waste: 5.5 feet
- Average depth to the seasonal high groundwater table: 5.5 feet

EPA expects the future use of this property to remain commercially-zoned, light industrial.

230/250/280/300 Ferry Boulevard

These four properties were merged into a single property group (Ferry Boulevard Properties) for detailed analysis due to their proximity. These properties are adjacent to each other and each contains a large volume of contiguous Raymark Waste. In total, these four parcels encompass approximately 7.8 acres of commercially-zoned land located along Ferry Boulevard. These parcels are bordered by Ferry Boulevard to the west, Ferry Creek and Ferry Creek wetlands to the north and east, and the 200 Ferry Boulevard parcel to the south. Each of these four properties is occupied by a building that is utilized by an operating commercial business. The vast majority of the Raymark Waste area on these parcels is covered by asphalt. Approximately 45 percent of the total Raymark Waste area lies within the 100-year floodplain.

Key factors associated with the areas and volumes to be addressed at this property group include:

- Raymark Waste area: 170,000 square feet
- Total volume of Raymark Waste: 100,741 cubic yards
- Maximum depth of Raymark Waste: 16 feet
- Average depth to the seasonal high groundwater table: 6 feet

EPA expects the future use of this property group to remain commercially-zoned, light industrial.

Lot Behind 326 Ferry Boulevard and Vacant Lot along Housatonic Avenue

These two properties are adjacent to each other and have contiguous Raymark Waste areas. This property group consists of two parcels totaling approximately 2.2 acres located to the north of Ferry Creek. They are bordered by the 326 Ferry Boulevard parcel to the west, residential properties along Willow Avenue to the north, residential properties along Housatonic Avenue to the east, and Ferry Creek and associated wetlands to the south. The Lot Behind 326 Ferry Boulevard is approximately 1.7 acres of commercially-zoned land (retail) and the Vacant Lot at Housatonic Avenue is approximately 0.5 acres of residentially zoned land. These properties are both currently unoccupied and undeveloped, and contain no structures. The remnants of old concrete foundations are present on the Lot Behind 326 Ferry Boulevard. The properties are primarily vegetated with grasses, shrubs, and woodland vegetation. Approximately 35% of the total Raymark Waste area lies within the 100-year floodplain. These parcels are being considered as a staging area during the OU3 and OU6 remediation.

Key factors associated with the areas and volumes to be addressed at this property group include:

- Raymark Waste area: 39,000 square feet
- Total volume of Raymark Waste: 14,444 cubic yards
- Maximum depth of Raymark Waste: 10 feet
- Average depth to the seasonal high groundwater table: 6 feet

EPA expects the future use of this property group to remain open space/wooded for the foreseeable future.

326 Ferry Boulevard

The 326 Ferry Boulevard property consists of approximately 0.8 acres of commercially-zoned (retail) land located on Ferry Boulevard. The parcel is bordered to the east by the Lot Behind 326 Ferry Boulevard, to the west by Ferry Boulevard, to the south by a channeled portion of Ferry Creek, and to the north by a gasoline station and several residential properties. The 326 Ferry Boulevard parcel is currently occupied by a restaurant which is the only building on the property. The remainder of the property is a paved parking lot that is generally flat throughout. This property group does not lie within the 100-year flood plain.

Key factors associated with the areas and volumes to be addressed at this property:

- Raymark Waste area: 2,700 square feet
- Total volume of Raymark Waste: 1,000 cubic yards
- Maximum depth of Raymark Waste: 10 feet
- Average depth to the seasonal high groundwater table: 5 feet

EPA expects the future use of this property to remain commercially-zoned for the foreseeable future.

336 Ferry Boulevard

The 336 Ferry Boulevard property is not one of the original 24 properties evaluated in the OU6 RI or FS. It was discovered in February 2014 during a soil sampling program conducted as part of a requirement to upgrade the existing underground gasoline storage tank system pursuant to state regulations. This property is approximately 0.25 acres of commercially-zoned land and is located at the intersection of Willow Avenue and Ferry Boulevard. The parcel is presently occupied by a gas station including a convenience store and an island of gasoline pumps. The remainder of the parcel is a paved parking lot. The topography of the parcel is flat throughout, with an approximate two-foot elevation change running from north to south across the property. Surface water and storm drains drain to Ferry Creek. Access to the property is not restricted. Abutting the property to the west is Ferry Boulevard and to the north is Willow Avenue. To the east, the parcel abuts 24 Willow Avenue, a residential property where EPA conducted a removal action in 1994. To the south the parcel abuts 326 Ferry Boulevard. The property is outside of the 100-year floodplain.

Key factors associated with the areas and volumes to be addressed at this property:

- Raymark Waste area: 946 square feet
- Total volume of Raymark Waste: 175 cubic yards
- Maximum depth of Raymark Waste: 5 feet
- Average depth to the seasonal high groundwater table: 5 feet

EPA expects the future use of this property to remain commercially-zoned for the foreseeable future.

Lot Abutting I-95 Connecticut Right-of-Way

The Lot Abutting I-95 Connecticut Right-of-Way parcel encompasses approximately 2.4 acres of commercially-zoned land located on the western side of Ferry Boulevard. The property is bordered by Ferry Boulevard to the east, 335 Ferry Boulevard and Ferry Creek to the south, Interstate 95 to the north, and a vacant lot to the west. Portions of the property abut the 345 Ferry Boulevard property to the west, north, and east. Two other OU6 properties, 576 and 600 East Broadway, are located on the other side of Ferry Creek. The property is undeveloped and vegetated with grasses, trees, and shrubs, with some paved sidewalks. Approximately 50 percent of this property is a steep embankment along I-95. This property group lies within the 100-year floodplain.

Key factors associated with the areas and volumes to be addressed at this property:

- Raymark Waste area: 9,133 square feet
- Total volume of Raymark Waste: 2,606 cubic yards
- Maximum depth of Raymark Waste: 8 feet
- Average depth to the seasonal high groundwater table: 8 feet

EPA expects the future use of this property to remain open space for the foreseeable future.

250/304/340 East Main Street
These three parcels are being evaluated as a group for the FS due to their proximity. In total, these properties occupy approximately 17.3 acres of commercially-zoned (retail/light industrial) land. The portion of the property group that contains Raymark Waste is bounded by commercial properties to the north; a large, active manufacturing building to the east; residential properties to the south; and East Main Street to the west. The 250 East Main Street parcel is approximately 16.7 acres in size. It is currently occupied by an operating manufacturing business. The western portion of the property is almost entirely paved and contains one large building. There are a few landscaped areas along East Main Street, near the main entrance to the property. The 304 East Main Street parcel is approximately 0.3 acres in size. It is currently occupied by a one-story building located along the western edge of the property. Roughly half of the property is paved. The 340 East Main Street parcel is also approximately 0.3 acres in size. It is currently occupied by a small one-story commercial business. Roughly half of the property is paved. This property group lies within the 100-year floodplain.

Key factors associated with the areas and volumes to be addressed at this property group:

- Raymark Waste area: 18,000 square feet
- Total volume of Raymark Waste: 6,667 cubic yards
- Maximum depth of Raymark Waste: 10 feet
- Average depth to the seasonal high groundwater table: 5 feet

EPA expects the future use of these properties to remain commercially-zoned for the foreseeable future.

DPW Lot AOC 1
The DPW Lot parcel encompasses approximately 6.4 acres of commercially-zoned land (Town owned). It is bordered by East Main Street to the east, Patterson Avenue to the north, and Frog Pond Lane to the west and south. There are two areas of concern (AOCs) where Raymark waste was found that are being evaluated separately. AOC 1 is located in the northeastern portion of the property and surrounds a large building. AOC 2 is a non-contiguous Raymark Waste area located in the southern portion of the property. A large portion of the Raymark Waste area on these parcels is covered by asphalt. The property does not lie within the 100-year floodplain.

Key factors associated with the areas and volumes to be addressed at this property:

- Raymark Waste area: 21,000 square feet
- Total volume of Raymark Waste: 6,222 cubic yards

- Maximum depth of Raymark Waste: 8 feet
- Average depth to the seasonal high groundwater table: 8 feet

EPA expects the future use of this property to remain commercially-zoned for the foreseeable future.

DPW Lot AOC 2 / 251 East Main Street

The DPW Lot and 251 East Main Street are evaluated together due to their proximity. The DPW Lot is described above (see DPW Lot AOC 1). The 251 East Main Street parcel abuts the southeastern corner of the DPW property, and consists of approximately 0.7 acres of commercially-zoned (retail) land occupied by a one-story building. DPW Lot AOC 2 and 251 East Main Street consist of the southern Raymark Waste area on the Stratford DPW Lot and the entire delineated Raymark Waste area on the 251 East Main Street parcel. The vast majority of the Raymark Waste area is covered by asphalt. The property group does not lie within the 100-year floodplain.

Key factors associated with the areas and volumes to be addressed at this property group:

- Raymark Waste area: 10,000 square feet
- Total volume of Raymark Waste: 2,778 cubic yards
- Maximum depth of Raymark Waste: 7.5 feet
- Average depth to the seasonal high groundwater table: 7.5 feet

EPA expects the future use of this property group to remain commercially-zoned for the foreseeable future.

380 East Main Street

The 380 East Main Street property encompasses approximately 0.5 acres of commercially zoned land (retail/light industrial) located on the eastern side of East Main Street. The property is bordered by the parking lot for 250 East Main Street to the east, mixed residential and commercial properties to the north and south, and the town DPW Lot located across East Main Street to the west. Three other OU6 properties; 250, 304, and 340 East Main Street are located to the east and south. The front (western) half of the property is paved while the rear (eastern) half of the property is occupied by a one story building. The topography is primarily flat except for an approximate six foot sharp decline to the 250 East Main Street parking lot at the rear of the building. The area of Raymark Waste is not paved. The property does not lie within the 100-year floodplain.

Key factors associated with the areas and volumes to be addressed at this property:

- Raymark Waste area: 130 square feet

- Total volume of Raymark Waste: 24 cubic yards
- Maximum depth of Raymark Waste: 5 feet
- Average depth to the seasonal high groundwater table: 5 feet

EPA expects the future use of this property to remain commercially-zoned for the foreseeable future.

Wooster Park

The Wooster Park parcel encompasses approximately 4 acres of municipally-owned land located in a residential area. The property is bordered by Quail Street to the south, residential properties on Salvia Street and Bruce Brook to the east, Old Spring Road to the north and residential properties on Karen Avenue to the west. No residential properties directly abut the park along the north side of Quail Street. The property is undeveloped and heavily wooded with large old-growth trees. A cleared grassy area approximately 150 feet in length is present along Quail Street in the southern portion of the property. The topography of the property is flat. The property has no structures, but a dirt path has been built throughout the property's woodlands. Public access to the property is unrestricted from adjacent areas. The Town of Stratford has covered the entire Raymark Waste area that was delineated with natural materials. The entire Raymark Waste on the property lies within the 100-year floodplain.

Key factors associated with the areas and volumes to be addressed at this property group include:

- Raymark Waste area: 7,100 square feet
- Total volume of Raymark Waste: 1,578 cubic yards
- Maximum depth of Raymark Waste: 6 feet
- Average depth to the seasonal high groundwater table: 6 feet

EPA expects the future use of this property group to remain open space/wooded for the foreseeable future.

Third Avenue Property

The Third Avenue property was one of the four properties included in the 2011 ROD. The selected remedy called for excavated Raymark Waste to be consolidated and capped at 576/600 East Broadway if capacity existed. It was subsequently determined that there was not sufficient capacity at 576/600 East Broadway, therefore, excavated Raymark Waste from Third Avenue will now be consolidated at the Raybestos Memorial Ballfield under this ROD. The Third Avenue property encompasses approximately 0.3 acres of residentially-zoned land. The property is bordered by two other residential properties to the north and south, the Fourth Avenue Pond to the west, and Third Avenue to the east. The Third Avenue property is occupied by a private home. The house sits on the northern half of the property. The majority of the Raymark Waste area that was delineated is covered by natural materials. The entire property lies within the 100-year floodplain.

Key factors associated with the areas and volumes to be addressed at this property include:

- Raymark Waste area: 1,700 square feet
- Total volume of Raymark Waste: 630 cubic yards
- Maximum depth of Raymark Waste: 10 feet
- Average depth to the seasonal high groundwater table: 6.5 feet

EPA expects the future use of this property to remain residential for the foreseeable future.

Lockwood Avenue

The Lockwood Avenue property consists of approximately 5.3 acres of commercially-zoned (partly waterfront business and partly retail) land, located east of Lockwood Avenue and Ferry Boulevard. The property is presently unoccupied and undeveloped, and contains no structures. The property is vegetated with common reed in the wetland areas and trees and shrubs in the upland areas. A soil berm is present along Lockwood Avenue and along a portion of Ferry Creek. Broad Street is located to the north, with Ferry Creek and the Housatonic River to the east, residential properties on Stratford Avenue to the south, and commercial and residential properties on Lockwood Avenue to the west. Sixty percent of the Lockwood Avenue property is occupied by tidal wetlands that, in their current state, are periodically inundated with tidal or flood waters. This property is located at the extreme southern end of Ferry Creek, where the creek flows into the Housatonic River. As such, this parcel plays a role in mitigating the rise of floodwaters and tidal waters in the lower Ferry Creek Area. The selection of remedial actions to address Raymark Waste on this parcel, therefore, will be highly dependent upon the feasibility of either constructing a remedy that does not reduce the storage capacity on (or in the vicinity of) the Lockwood Avenue property or by successfully acquiring a nearby property(ies) sufficient in size to mitigate floodplain losses. The functional value of the wetland on the property was assessed in the "Technical Memorandum on Wetlands Evaluation" dated June 1998 (Brown and Root). As stated in this document, the Lockwood Avenue wetlands is part of a larger wetlands evaluation (approximately nine acres that includes the 5.3 acres of the Lockwood Avenue Property. The functional value of this wetland is considered moderately to severely degraded partially due to the presence of Raymark Waste. The Raymark Waste area that was delineated is covered by natural materials. The entire property is lies within the 100-year floodplain.

Key factors associated with the areas and volumes to be addressed at this property group include:

- Raymark Waste area: 80,000 square feet
- Total volume of Raymark Waste: 23,704 cubic yards
- Maximum depth of Raymark Waste: 8 feet

- Average depth to the seasonal high groundwater table: 2.5 feet

EPA expects the future use of this property to remain open space/wetlands for the foreseeable future.

Beacon Point Area of Concern #1 (AOC 1)
The Beacon Point area property consists of approximately 7.4 acres of commercially-zoned land (waterfront business) located on Beacon Point Road. It is bordered by the Housatonic River to the east, a vacant lot at the intersection of Birdseye Road and an access road to the Tide Harbors Condominiums to the west, wetlands to the north, and Beacon Point AOC 2 to the south. There are three areas of concern (AOCs) where Raymark waste was found that are being evaluated separately. AOC 1 is located in the northern portion of the Beacon Point Area. AOC 2 is located in the central paved portion of the Beacon Point Area and was one of the properties addressed in the 2011 ROD. AOC 3 is located on the southern portion of the Beacon Point area and the northern portion of the One Beacon Point Road property.

Within Beacon Point AOC 1 are two separate Raymark Waste areas located within the vegetated portion of the property, and two others located near the dock along the eastern boundary of the property adjacent to the Housatonic River. Roughly half of the areas containing Raymark Waste are paved. The entire Beacon Point AOC 1 area is located within the 100-year floodplain.

Key factors associated with the areas and volumes to be addressed at this property:

- Raymark Waste area: 5,700 square feet
- Total volume of Raymark Waste: 1,267 cubic yards
- Maximum depth of Raymark Waste: 6 feet
- Average depth to the seasonal high groundwater table: 6 feet

EPA expects the future use of this property to remain open space/wetlands for the foreseeable future and is expected to maintain its commercial use zoning.

Beacon Point Area of Concern #3 (AOC 3)
The Beacon Point area is described above (Beacon Point Area of Concern #1). Beacon Point AOC 3 consists of approximately 0.9 acres of commercially-zoned land (waterfront business). AOC 3 is located on the southern portion of the Beacon Point area and in the northern portion of the One Beacon Point Road property. Beacon Point AOC2 is located to the north, the Housatonic River and associated wetlands are located to the east, and south, and the Town of Stratford's Publicly-Owned Treatment Works (POTW), a wastewater treatment plant, is located to the west. AOC 3 consists of mostly of undeveloped tidally-influenced wetlands. The delineated Raymark Waste area is covered by natural materials. The entire Beacon Point AOC 3 area is located within the 100-year floodplain.

Key factors associated with the areas and volumes to be addressed at this property group include:

- Raymark Waste area: 27,000 square feet
- Total volume of Raymark Waste: 10,000 cubic yards
- Maximum depth of Raymark Waste: 10 feet
- Average depth to the seasonal high groundwater table: 5 feet

EPA expects the future use of this property to remain open space/wetlands for the foreseeable future.

G. SUMMARY OF SITE RISKS

This section summarizes the baseline human health risk assessments for each of the four OUs (OU2, OU3, OU4, and OU6) and the ecological risk assessment for Upper Ferry Creek (OU3) that were conducted in the late 1990’s and early 2000’s. Updated evaluations of exposure risk were conducted in the 2014 OU2 RI Update, the OU2, OU3, and OU4 FS Reports, and in the OU6 FS Report Addendum, all issued in 2016.

The baseline risk assessment estimates what risks the site poses if no action were taken. It provides the basis for taking action and identifying the contaminants and exposure pathways that need to be addressed by the remedial actions. The human health risk assessment followed a four-step process: 1) hazard identification, which identified those hazardous substances which, given the specifics of the Site, were of significant concern; 2) exposure assessment, which identified actual or potential exposure pathways, characterized the potentially exposed populations, and determined the extent of possible exposure; 3) toxicity assessment, which considered the types and magnitude of adverse health effects associated with exposure to hazardous substances, and 4) risk characterization and uncertainty analysis, which integrated the three earlier steps to summarize the potential and actual risks posed by hazardous substances at the Site, including carcinogenic and non-carcinogenic risks and a discussion of the uncertainty in the risk estimates.

Certain risk methodologies are common to all operable units. These common approaches are set out below and are not repeated for each operable unit.

Toxicity Assessment

The potential for carcinogenic effects is evaluated using chemical-specific cancer slope factors (CSFs) for oral and dermal exposures. A weight of evidence classification is available for each chemical. CSFs have been developed by EPA from epidemiological or animal studies to reflect a conservative "upper bound" estimate of the risk posed by potentially carcinogenic compounds. That is, the true risk calculated using the CSFs is unlikely to be greater than the risk predicted.

In assessing the potential for non-carcinogenic adverse effects, it is EPA policy to assume that a safe exposure level exists, which is described by the reference dose (RfD) for the ingestion pathway. RfDs have been developed by EPA as estimates of a daily exposure that is likely to be without an appreciable risk of an adverse health effect when exposure occurs over the exposure duration. In other words, RfDs represent a level to which an individual may be exposed that is not expected to result in any deleterious effect. RfDs are derived from epidemiological and/or animal studies and incorporate uncertainty factors to help ensure that adverse health effects will not occur.

Risk Characterization – General

The risk characterization combines the exposure estimate with the toxicity information to estimate the probability or potential that adverse health effects may occur if no actions were to be taken. Excess lifetime cancer risks were determined for each exposure pathway by multiplying the exposure level with the chemical-specific cancer potency factor. The resulting risk estimates are expressed in scientific notation as a probability (for example, 1×10^{-6} for 1/1,000,000) and indicate that an average individual is not likely to have greater than a one in a million chance of developing cancer over 70 years as a result of site-related exposure to the compound at the stated concentration. Current EPA practice considers carcinogenic risks of multiple carcinogens to be additive when assessing exposure to a mixture of hazardous substances.

In assessing the potential for adverse non-carcinogenic effects, a hazard quotient (HQ) is calculated by dividing the exposure level by the reference dose or another suitable benchmark. A HQ less than or equal to 1 indicates that a receptor’s exposure to a single contaminant is less than the safe value (RfD in this case) and that toxic non-carcinogenic effects from that chemical are unlikely. Conversely, a HQ greater than 1 indicates that adverse effects as a result of exposure to the contaminant are possible. To account for additive effects resulting from exposure to more than one compound, a Hazard Index (HI) is generated by adding the HQs for all chemicals of concern that affect the same target organ (e.g., liver, nervous system) within or across those media to which the same individual may reasonably be exposed. Generally, EPA views HI values based on site-related exposure in excess of unity (1) as unacceptable. It should be noted that the magnitude of the HQ or HI is not proportional to the likelihood that an adverse effect will be observed.

Quantitative Risk Characterization – Soils, including wetland soils, and sediment (OUs 3, 4, and 6)

Because the baseline risk assessments were conducted some years ago, a screening-level risk evaluation was completed in the Feasibility Studies for OUs 3, 4 and 6 using current EPA guidelines, toxicity factors, etc. and a slightly revised dataset as indicated below for each operable unit. This human health risk evaluation utilized a simplified ratio approach comparing exposure point concentrations (EPCs) to current EPA Regional Screening Levels (RSLs) to estimate potential risks. By using current EPA RSLs for the comparison, changes in current EPA guidelines, toxicity factors, default exposure assumptions, and risk methodologies that have occurred since the earlier baseline risk assessments were conducted are captured. The updated estimate of risks was performed to address these changes, as well as to allow for the changes to the dataset.

It should be noted that non-Raymark Waste areas were identified in the soil, including wetland soil at OUs 3 and 6 and soil at OU4. Where these contaminants were co-mingled with Raymark Waste, they were included in the risk evaluation and will be addressed during EPA's cleanup actions. However, when non-Raymark Waste areas were found beyond delineated Raymark Waste areas, they are not believed to have originated from the former Raymark manufacturing facility and will not be included in the Superfund response cleanup efforts. Information on any remaining contamination on a property that EPA does not address will be provided to the property owner, the Stratford Town Health Department, and CTDEEP. All sediment will be addressed.

The objective of the HHRA and the updated risk evaluation is to estimate the potential current and future risks from exposures to Raymark Waste. This evaluation included the four Raymark Waste indicator compounds (lead, asbestos (chrysotile), PBCs (Aroclor 1268) and copper) and any other co-mingled contaminants in sediment and in the samples that were collected from within the estimated areas of Raymark Waste.

Quantitative Risk Characterization – Lead in Soil (OUs 3, 4, and 6)

Because of the uncertainties in the dose-response relationship between exposures to lead and biological effects, there is no EPA-derived RfD for lead. Therefore, the Integrated Exposure Uptake Biokenetic, or IEUBK model, was used to evaluate potential risks of exposure to lead in soil. The model predicts the probability that a child (under the age of seven) will have a lead blood level greater than the level associated with adverse health effects. EPA's goal is that the probability of the exposed population's blood levels exceeding 10 ug/dL is no greater than five percent. Where the average lead in soil concentration is 400 mg/kg or less, the model predicts blood lead levels will meet EPA's risk reduction goal of less than 5 percent of exposed children with blood lead levels above the 10 µg/dL level of concern. EPA's adult worker model predicts that where the average lead in soil concentration is 1,000 mg/kg or less, fetal blood lead levels will meet EPA's risk reduction goal of less than 5 percent of fetuses of exposed women with blood lead levels above the 10 µg/dL level of concern.

Qualitative Risk Characterization – Asbestos in Soil (OUs 3, 4, and 6)

At the national level, EPA has determined that the amount of asbestos in soil that presents a concern depends on many factors and that a single value for protectiveness may not be appropriate in all instances. Evaluation through activity-based-sampling is the recommended approach for estimating risk from asbestos in soil to ensure protectiveness. With this approach, air monitoring is performed while activities that are likely to take place in the area are conducted. The objective is to characterize airborne particulates based on the likely use of the area. This is believed to produce the most representative air data for potential exposures based on reasonable use.

Activity based sampling, however, has not been performed at the Site. This is because all of the cleanup approaches that have been developed will ensure that future exposures to Raymark Waste, which includes asbestos, will not occur. This will be accomplished by either capping the waste in place, complete excavation, excavating first and then capping or through institutional controls. This approach will be taken at every location where Raymark Waste has been found. When asbestos data is provided for each parcel, it is expressed as a percentage of total volume within a soil sample.

A summary of components of the human health and ecological risk assessments for each operable unit which support the need for remedial action are discussed below.

OU2 (Groundwater)

1. Human Health Risk Assessment

Three Remedial Investigation Reports (RI Report (January 2005 (TTNUS)), RI Update (May 2014 (Nobis)), and RI Update Addendum (April 2015 (Nobis)) have all included evaluations for potential exposures to contaminants in groundwater.

EPA conducted a baseline human health risk assessment for OU2 in 2005 which has been updated in the 2016 FS Report Addendum. See Table G-1 for a summary of the HHRA for OU2.

a. <u>Hazard Identification - OU2 (Groundwater)</u>

The hazard identification identifies hazardous substances which, given the specifics of the Site, were of significant concern. Residential and commercial Contaminants of Concern (COCs) for OU2 are listed in attached Tables G-2 and G-3.

b. Exposure Assessment – OU2 Groundwater

The HHRA included an evaluation of current and future exposures as shown below. For the inhalation pathway, exposures for some properties were evaluated for two potential receptor scenarios while other properties were evaluated for only a single receptor scenario, based on current and reasonably anticipated future uses as discussed further below. (See Table 7 in the 2014 OU2 RI Update and the 2016 OU2 FS).

Surface Water Impacts: Groundwater contamination from OU2 that reaches the surface waters of Ferry Creek and the Housatonic River does not present a human health risk from surface water exposure to current recreational users and is not expected to present a human health risk to future recreational users of such water bodies.

Direct Contact and Ingestion Risks from Groundwater: There are currently no known operational wells, therefore, there are no complete pathways for direct groundwater exposure, such as through drinking water exposure, for human receptors. But without any institutional controls to ensure that future wells are not installed, there is a potential for future direct contact and ingestion exposure to OU2 groundwater containing contaminant concentrations exceeding safe drinking water levels.

Indoor Air: The Remedial Investigation Report, and its Update and Addendum, evaluated the potential risks from human exposure to contaminated vapors in indoor air originating from contaminated groundwater for both residential and commercial/industrial exposure scenarios. These evaluations determined that there were cancer and non-cancer risks exceeding acceptable levels, that is, risks requiring remedial action, referred to as an “actionable risk.” The Feasibility Study assumed that an actionable risk to human health exists where exposure to Site-related contaminants from indoor air vapor intrusion may pose a cancer risk of 1 in 10,000 or greater, over an average person’s baseline chance of having cancer, and may pose non-cancer health effects more than the acceptable level of a Hazard Index (HI) of 1.0, based upon multiple lines of evidence (such as groundwater, soil gas, and/or indoor air contaminant data) and site-specific factors. Carcinogenic risk drivers are vinyl chloride and trichloroethene. Non-carcinogenic risk drivers are 1,1 dichloroethene, chlorobenzene, trichloroethene, and vinyl chloride.

This ROD provides a remedy for groundwater (OU2), including vapor intrusion.

c. Toxicity Assessment– OU2 Groundwater

A number of contaminants with both carcinogenic and non-carcinogenic effects were identified in groundwater emanating from the former Raymark facility OU1 (see the COC list).

A summary of the cancer toxicity data relevant to the chemicals of concern in groundwater is presented in Appendix F of the 2005 OU2 RI Report and updated in the 2016 OU2 FS Report.

d. Risk Characterization– OU2 Groundwater

OU2 Human Health Risk Summary

Carcinogenic Risks EPA's Target Range is 10^{-6} to 10^{-4}	
Receptor	Risk
Residential Adult/Child (Current & Future) Inhalation	3.5×10^{-3}
Industrial/ Commercial Worker (Current & Future) Inhalation	2.9×10^{-4}
Non-Carcinogenic Risks EPA's Target Level is a Hazard Index (HI) ≤ 1.0	
Receptor	Risk
Residential Adult/Child (Current & Future) Inhalation	HI = 192.5
Industrial/ Commercial Worker (Current & Future) Inhalation	HI = 47

e. Uncertainties

Uncertainties exist in both the historical 2005 HHRA and the 2014 and 2016 re-assessments. For surface water, modeling was based on maximum detected chemical concentrations in groundwater to predict worst-case surface water conditions. While data indicates that groundwater VOC concentrations have reached steady state, inorganic contaminant concentrations may increase over time which could increase risks in the future. However, a dilution factor (0.1) was used to base a comparison of groundwater seep data and surface water concentrations which likely underestimated the actual dilution and, therefore, the actual risks are also likely overestimated.

For indoor air, variability between homes and potential indoor air sources of contaminants introduces uncertainty in calculations of indoor air exposure point concentrations. Indoor air samples were collected to establish evidence of volatilization of groundwater contaminants into indoor space and to calculate risks from exposures to these contaminants. However, indoor air sampling does not discriminate between contaminants present because of volatilization from groundwater and contaminants originating from indoor air sources. Background concentrations were not used to eliminate COPCs. Maximum indoor air concentrations from two homes located outside the area of potential for vapor intrusion indicates that the presence of some indoor air COPCs may be attributable to background conditions, therefore, risk from indoor air exposures may be overestimated.

OU2 Ecological Risks: Although groundwater from the former Raymark facility flows into Ferry Creek and the Housatonic River, an ecological risk assessment conducted for the Remedial Investigation concluded that groundwater does not pose a current or future risk to ecological receptors in those surface waters.

OU3 (Upper Ferry Creek)

EPA conducted a baseline human health risk assessment for OU3 in 1999. At that time, OU3 included areas that are now being addressed as OU7 and OU8. The 1999 risk assessment concluded that cancer risks to recreational users from exposure to soil, wetland soils, and sediment were at levels approaching an unacceptable risk. No adverse non-carcinogenic health effects were expected. Exposure to lead in surface soil, wetland soil, and sediment to frequent child recreational users was above levels of concern. Asbestos was also detected at an average concentration of five percent, which is above the level of concern (formerly considered to be one percent; now evaluated by site-specific activity-based sampling and risk assessment). The 1999 risk assessment concluded that surface water, however, did not pose a risk to adolescent trespassers and child recreational visitors. See Appendix F of the OU3 1999 RI for a more detailed discussion of the baseline human health risk assessment for OU3. Appendix A of the 2016 OU3 FS summarizes the risk assessment methodology used in the 1999 OU3 risk assessment, and attached Table G-4 summarizes the results of the 1999 OU3 risk assessment.

OU3 has been significantly reduced in size since its original formation and now represents a subset of the areas addressed in the OU3 Area I RI, including Upper Ferry Creek located within the former Area A-1 and Lower Ferry Creek located within the former Area A-3. Non-wetland and non-creek areas for the former OU3 Area I, including the majority of sub-area A-1, all of sub-area A-2, and portions of sub-area A-3, are no longer considered under the current OU3. As a result, the risk assessment was updated and the results are presented in the 2016 OU3 FS and summarized below.

A summary of those aspects of the human health risk assessment for soil and sediment contaminants which support the need for source control remedial actions at the OU3 properties is discussed in this section, followed by a summary of the ecological risk evaluation.

This ROD provides final source control actions for OU3 including sediments within the Upper Ferry Creek channel, and soil, including wetland soil, located in the creek banks and wetlands.

a. <u>Hazard Identification</u>

In the OU3 2016 FS updated risk screening evaluation, the revised dataset focused on surface soils, wetland soils, and sediments collected from Upper Ferry Creek, the soil (along the embankment and in the floodplain), and the associated wetland soil within the current OU3 study area. As no historical significant surface water risks were found in the HHRA, current surface water risks were not re-evaluated.

Samples used in this screening level risk assessment included surface soils, wetland soils, and sediment collected from depths of 0 to 2 foot in areas of potential exposures to child and adult recreational users of Middle and Upper Ferry Creek, in a single dataset. This dataset is a subset of the datasets used in the 1999 OU3 Area I RI for Areas A-1 and A-3. No new samples collected after the 1999 HHRA were included in this revised dataset. Samples collected from neighboring properties included in other OUs were excluded. Table G-5 and Figures G-1 and G-2 present a list and visual displays of sample locations included. Table G-6 presents a statistical summary of the data for detected contaminants in this dataset.

The selection of Contaminants of Potential Concern (COPCs) is a risk-based screening step to identify chemicals that should be included in the quantitative risk estimates. The selection of COPCs was based on chemical substances found at the Site including chemical-specific concentrations, occurrence, distribution, and toxicity. COPCs include only those chemicals with positive detections, and are limited to those chemicals that exceed the selection criterion, including EPA Regional Screening Level for Soil Exposure and EPA soil lead guidance. A chemical was selected as a COPC if the maximum detected concentration was greater than the associated risk-based concentration (RBC). No potential COPCs were eliminated based on low frequency of detection. The screening criteria used to identify COPCs are presented in Table 2 of Appendix A of the OU3 2016 FS.

Contaminants of Concern (COCs): The COCs for OU3 are listed in attached Table G-7.

b. <u>Exposure Assessment</u>

The Risk Update included an evaluation of current and future exposures as shown below.

- recreational visitor – adults and children who may visit the Upper Ferry Creek area for recreational purposes and be exposed to contaminated sediment and soil through inadvertent contact (exposure from ingestion and dermal contact of contaminated sediment or soil);[1]

c. Toxicity Assessment

A number of contaminants with both carcinogenic and non-carcinogenic effects were identified in sediment and soil from OU3 property (see the COC list).

A summary of the cancer toxicity data relevant to the chemicals of concern at OU3 is presented in Appendix A of the 2016 OU3 FS Report.

d. Risk Characterization

OU3 Human Health Risk Summary

Carcinogenic Risk EPA's Target Range is 10^{-6} to 10^{-4}	
Receptor	Risk
Current and Future Recreational Visitor	9.9×10^{-3}

Non-Carcinogenic Risk EPA's Target Level is a Hazard Index (HI) ≤ 1.0	
Receptor	Risk
Current and Future Recreational Visitor	HI = 22

Lead Risk: Trespasser exposures to lead were not evaluated. However, exposure through incidental ingestion of and inhalation of dust from lead in surface soil by the current and future

[1] For current exposures to sediment and soil from recreational use, ingestion of 100 mg/day for 24 years was presumed for an adult. For a young child (age 1-6), ingestion of 200 mg/day for 6 years was presumed. Body weights of 70 kg and 15 kg were used for the adult and child, respectively. Dermal contact was assumed with 5,700 cm^2/day of surface area for the adult and 2,800 cm^2/day for the child. Soil exposures were assumed to occur 150 days/year.

frequent child recreational users was evaluated using the EPA Integrated Exposure Uptake Biokinetic (IEUBK) Model, resulting in blood lead levels above the 10 µg/dL level of concern in 11 percent of frequent child recreational visitors. Further evaluation of lead "hot spots" using average lead concentrations within limited areas indicates that exposures to lead in these more limited locations would result in blood lead levels of significantly greater concern.

Current and future frequent child recreational user exposure through incidental ingestion of and inhalation of dust from lead in surface soil, wetland soils, and sediment, were evaluated using the EPA IEUBK Model, with results estimating that 58 percent are expected to have blood-lead levels greater than 10 µg/dL (acceptable level is 5 percent).

Asbestos Risk: Asbestos was detected in 92 of 193 solid matrix samples collected in the 0- to 2-foot depth interval at a concentration range of 0.99 to 80 percent. The average concentration was five percent. Asbestos was detected in 73 of 184 solid matrix samples collected in the 0- to 2-foot interval at a concentration range of 0.99 to 90 percent. The average concentration was five percent.

e. <u>Uncertainties</u>

Uncertainties exist in both the historical 1999 HHRA and the 2016 re-assessment. The database used to support both the 2005 HHRA and the updated risk evaluation included samples irrespective of whether or not Raymark Waste was present. The updated estimate of risks found the greatest contributor to cancer risk was detected in just 1 of 65 samples (e.g. n-nitrosodi-n-propylamine). Similarly, one of the greatest contributors to the non-cancer HI was detected in just 1 of 69 samples (thallium). Because of their low frequency of detection, it is likely risk from these two contaminants are overestimated. Eliminating the contributions of these two contaminants yields total cancer risks of 5.2E-04 and a non-cancer HI of 15. Primary contributors to these remaining risks are PCBs, dioxins, PAHs, arsenic, and chromium. It should be noted that total chromium results were evaluated as the more toxic form of chromium (hexavalent chromium) as a conservative approach, potentially resulting in an overestimate of risk from this contaminant. Both the 1999 Baseline HHRA and the current updated human health evaluation conclude that lead is present at levels of concern based on current lead models that predict that where the average lead in soil concentration is 400 mg/kg or less, blood lead levels will meet EPA's risk goal. EPA is currently reviewing its target goals for lead. Both the 1999 Baseline HHRA and the current update to human health risk estimates did not include a quantitative risk evaluation of the risks associated with potential receptor exposures to asbestos because of the lack of appropriate toxicity criteria. Recent changes in asbestos sampling methods may allow for quantitative risk estimates of asbestos exposure; however, such data have not been collected to date within OU3 study area.

2. Ecological Risk Assessment

Ecological risks from exposures to surface water, sediments, and biota in Ferry Creek were evaluated as part of the Baseline Ecological Risk Assessment in the 1999 OU3 Area I RI, and additional ecological risks from sediments were further analyzed by EPA subsequent to that RI (Lockheed Martin, 2005). A summary of the methods used for evaluating ecological risks and results is presented below:

- Surface water samples collected in 1994 and 1995 were compared to AWQC. Concentrations of several metals, PCBs, and 4,4'-DDT exceeded the AWQC.

- Tissue concentrations of contaminants in fish, crabs, mollusks, and insects collected from Ferry Creek and the Housatonic River were sampled and used in combination with measured surface water and sediment concentration data to calculate dietary intakes and wildlife HIs for three indicator species (heron, blackbird, and raccoon) using a food chain model TtNUS, 1999, Appendix D). A Hazard Quotient (HQ) for individual contaminants greater than 1.0 indicates the possibility of adverse effects for the ecological receptor evaluated. The Science Applications International Corporation (SAIC) report identified HQs exceeding 1.0 from the food chain model for each of the indicator species, but did not provide a breakdown of the HQs by media, which is needed to identify the contributions of biota, sediment, and surface water to the ecological risks identified in the food chain models (SAIC, 1999). The food chain model was re-evaluated and is discussed below.

  The maximum total HI was greatest for the heron (42), the greatest contributor to this HI being sediments (34.9). The heron HQs in sediment for lead (28.8), for copper (8.4), and for PCBs (4.5) exceeded 1.0. Only individual contaminant HQs in biota for DDT (3.7) and lead (1.3) exceeded 1.0. The maximum HI for the blackbird was 5.3; the greatest contributor to this HI is ingestion of biota at 5.3. Only individual contaminant HQs in biota for DDT (1.4) and zinc (2.2) exceeded 1.0. The maximum HI for the raccoon was 30; the greatest contributor to this HI is sediments at 28.4. The raccoon HQs for lead (13.4), copper (8.4), and PCBs (4.5) in sediment exceeded 1.0. Although the total HI for ingestion of biota tissue for the raccoon (1.6) exceeded 1.0, no individual contaminant HQ in biota exceeded 1.0.

  In addition to food chain analysis, sediments were evaluated for toxicity to aquatic organisms as summarized below:

- Sediment amphipod tests and sediment oyster larvae survival testing were performed as part of the 1999 OU3 Area I RI and indicated qualitative adverse impacts to the ecological system from contaminants in Ferry Creek sediments.

- After the 1999 OU3 Area I RI completion, EPA performed analysis of sediment amphipod toxicity results and determined that lead, copper, PCBs, dioxins, and PAHs in sediment may be potential ecological risk drivers (Lockheed Martin, 2005).

- Benthic community analysis was also performed as part of the 1999 OU3 Area I RI and indicated qualitative adverse impacts to the ecological system from contaminants in Ferry Creek.

No endangered or threatened species were identified in 1999, but the Atlantic Sturgeon has since been listed as an endangered species. The 1999 OU3 Area I RI ERA states the following: "Of all the native threatened or endangered species, the Atlantic Sturgeon is likely to be found in the vicinity of Ferry Creek, and bald eagles and peregrine falcons may use the area while in transit."

OU4 (Raybestos Memorial Ballfield)

EPA conducted a baseline human health risk assessment in 1999 that evaluated and found human health risks posed by soil contamination on OU4. The 1999 risk assessment concluded that for recreational users, cancer risks from exposure to surface soils were within EPA's acceptable risk and no adverse non-carcinogenic health effects were expected. Exposure to lead in surface soil to frequent child recreational users was above levels of concern. For future residential users, cancer risks from exposure to soil were greater than EPA's acceptable cancer risk range. Non-cancer risks to future residential adult and child users from exposures to soil indicated that adverse health effects were possible. Exposure to lead in soil to future child residential users was above levels of concern. For commercial workers, cancer risks from exposure to soil were within EPA's acceptable risk range; non-cancer risks indicated adverse health effects were possible. Exposures to average soil lead concentrations results in fetal blood lead levels above the 10 ug/dL level of concern; however, the percentage of workers with fetal blood levels above the 10 ug/dL was not determined. Asbestos was also detected at an average concentration of 2 percent in soil from 0 to 2 foot depth and an average concentration of 6 percent in soil from 0 to 15 foot depth, which is above the level of concern (typically considered to be one percent). See Appendix D of the 1999 OU4 RI for a more detailed discussion of the baseline human health risk assessment for OU4. Appendix D of the 2016 OU4 FS summarizes the risk assessment methodology used in the 1999 OU4 risk assessment and attached Table G-8 summarizes the results of the 1999 OU4 risk assessment.

The risk assessment was updated and the results are presented in the 2016 OU4 FS and summarized below.

A summary of those aspects of the human health risk assessment for soil contaminants which support the need for source control remedial actions at OU4 is discussed in this section, followed by a summary of the ecological risk evaluation.

This ROD provides final source control actions for OU4.

a. <u>Hazard Identification</u>

In the OU4 2016 FS updated risk screening evaluation, the slightly revised soil dataset includes significantly more screening samples, particularly for lead, copper, asbestos, and PCBs, than the dataset used in the 1999 HHRA.

Samples used in this screening level risk assessment to evaluate potential exposures to child and adult recreational visitors included surface soils collected from depths of 0 to 2 foot at the Raybestos Ballfield. Samples used in this screening level risk assessment to evaluate potential exposures to future residents and future commercial/industrial workers included soils collected from depths of 0 to 15 foot at the Raybestos Ballfield. Tables G-9 and G-10 and Figure G-3 present lists and a visual display of sample locations included. Tables 2A and 2B of that Appendix D present statistical summaries of the data for detected contaminants in the surface soil and 0 to 15 foot soil datasets, respectively.

The selection of Contaminants of Potential Concern (COPCs) followed the same steps as explained above in OU3, using the same selection criteria. The screening criteria used to identify COPCs are presented in Tables 2A and 2B of Appendix D to the 2016 OU4 FS.

Contaminants of Concern (COCs): The COCs for OU4 are listed in attached Tables G-7.

b. <u>Exposure Assessment</u>

The Risk Update included an evaluation of current and future exposures as shown below.

- recreational visitor – adults and children who may visit the property for recreational purposes and be exposed to contaminated soil through inadvertent contact (exposure from ingestion and dermal contact of contaminated soil);[2]
- commercial worker - adult workers who may be accidently exposed to contaminated soil

[2] For current exposures to soil from recreational use, ingestion of 100 mg/day for 24 years was presumed for an adult. For a young child (age 1-6), ingestion of 200 mg/day for 6 years was presumed. Body weights of 70 kg and

through construction work (exposure from ingestion and dermal contact of contaminated soil);[3] and

- resident - adults and children who live immediately adjacent to the property who may inadvertently be exposed to contaminated soil (exposure from ingestion and dermal contact of contaminated soil).[4]

c. Toxicity Assessment

A number of contaminants with both carcinogenic and non-carcinogenic effects were identified in soils from OU4 property (see the COC list).

A summary of the cancer toxicity data relevant to the chemicals of concern in soil at OU4 is presented in Appendix D of the 2016 OU4 FS Report.

d. Risk Characterization

OU4 Human Health Risk Summary

Carcinogenic Risk EPA's Target Range is 10^{-4} to 10^{-6}	
Receptor	Risk
Current Recreational Visitor	1.0×10^{-4}
Future Resident	4.6 x 10-4

Non-Carcinogenic Risk EPA's Target Level is a Hazard Index (HI) ≤ 1.0	
Receptor	Risk

15 kg were used for the adult and child, respectively. Dermal contact was assumed with 5,700 cm^2/day of surface area for the adult and 2,800 cm^2/day for the child. Soil exposures were assumed to occur 150 days/year.

[3] For current adult commercial worker soil exposure, ingestion of 100 mg/day for 25 years was presumed. A body weight of 70 kg was presumed. Dermal contact assumed was 3,300 cm^2/day of surface area. Soil exposures were assumed to occur 250 days/year.

[4] For current exposures to soil from residential use, ingestion of 100 mg/day for 24 years was presumed for an adult. For a young child (age 1-6), ingestion of 200 mg/day for 6 years was presumed. Body weights of 70 kg and 15 kg were used for the adult and child, respectively. Dermal contact was assumed with 5,700 cm^2/day of surface area for the adult and 2,800 cm^2/day for the child. Soil exposures were assumed to occur 350 days/year.

Current Recreational Visitor	HI = 2.2
Future Resident	HI = 47
Future Worker	HI = 3.5

Lead Risk: Average lead concentrations in surface soils collected from depths of 0 to 2 feet at OU4 was 537 mg/kg. Using EPA's IEUBK model, this concentration indicates potential exposure to lead in surface soils would result in blood lead levels above the 10 µg/dL level of concern for children. The average lead concentration in 0 to 15 feet soil at OU4 was 3,466 mg/kg. This concentration indicates potential exposure to lead in soils collected from depths of 0 to 15 feet would result in blood lead levels above the 10 µg/dL level of concern for both future child residents and the fetuses of future commercial/industrial workers.

Asbestos Risk: Asbestos is also present at levels of concern with concentrations ranging from 0.9 percent to 45 percent in surface soils and 0.9 percent to 60 percent in 0 to 15 feet soil. The average concentration was 2 percent in surface soils and 4 percent in 0 to 15 feet soil.

e. <u>Uncertainties</u>

Uncertainties exist in both the 1999 and 2016 assessments. Both the 1999 HHRA and the updated evaluation included samples from throughout OU4 irrespective of whether or not Raymark Waste was present.

The updated 2016 estimate of risks found PAHs among the greatest contributor to cancer risk in both surface soil and 0 to 15 feet soils. Because of their small sample number, maximum concentrations were used as EPCs for surface soil. Therefore, it is likely risks from PAHs in surface soil are over-estimated.

Total chromium results were evaluated as the more toxic form of chromium (hexavalent chromium) as a conservative approach, potentially resulting in an over estimate of risk from this contaminant.

Risks from contaminants without RSLs were not estimated, which likely results in an underestimate of risk.

Soil background concentrations were not considered in this evaluation. Therefore, risks resulting from contaminants present below background levels may be reflective of background conditions and not site-related. A common example of this, which may apply to OU4, is the presence of naturally occurring arsenic.

Both the 1999 Baseline HHRA and the current updated evaluation conclude that lead is present at levels of concern based on current lead models that predict that where the average lead in soil concentration is 400 mg/kg or less, blood lead levels will meet EPA's risk goal. EPA is currently reviewing its target goals for lead.

Both the 1999 Baseline HHRA and the current update evaluation did not include a quantitative risk evaluation of the risks associated with potential receptor exposures to asbestos because of the lack of appropriate toxicity criteria. Recent changes in asbestos sampling methods may allow for quantitative risk estimates of asbestos exposure; however, such data has not been collected to date at OU4.

2. Ecological Risk Assessment

The Ecological Risk Evaluation presented in the 1999 OU4 RI report indicated no ecological receptors of note. The Ecological Risk Evaluation found that the OU4 area had been significantly disturbed as a result of past gravel pit operations, ballfield construction, waste filling, and remedial soil cover placement. Most of the habitat present at the OU4 represented a recently established early successional habitat. The study area does provide habitat for a variety of terrestrial wildlife; however, the habitats are not unique for this general region. No wetlands were identified. The surrounding developed areas, isolation from other habitats, lack of a perennial surface water source, and contaminated subsurface soils limit the quality of the available habitat. In addition, the potential exists for wildlife to be impacted by contaminated food sources or from direct contact, e.g., burrows, subsurface foraging, with contamination.

No state or federally listed threatened or endangered flora or fauna were identified as being present in OU4 (TtNUS, 1999). The condition of the property and surrounding area has remained consistent since the 1999 evaluation. EPA will conduct an updated habitat assessment during the pre-design investigation.

OU6 (Additional Properties)

A baseline human health risk assessment was performed in the 2005 RI Report for each individual OU6 property (except the recently added 336 Ferry Boulevard property) which determined that there are estimated cancer, non-cancer, and/or lead risks from the estimated areas of Raymark Waste in excess of EPA's acceptable limits for commercial workers at ten of the OU6 properties, to recreational visitors at one property, and to residents at three properties. In addition, at six properties (five commercial and one residential) there are cancer risks above acceptable levels, even though lead and non-cancer risks fall within acceptable limits at these six properties. The remaining properties have asbestos present at unacceptable levels, but there is insufficient data to evaluate other potential health risks. All OU6 properties present an unacceptable inhalation risk based upon the presence of asbestos. See Sections 2 and 3 of the 2005 OU6 RI for a more detailed discussion of the baseline risk assessment for the OU6 properties. Appendix B of the 2016 OU6 FS Addendum summarizes the risk assessment methodology used in the 2005 OU6 risk assessment. Table 1 of that Appendix B summarizes the results of the 2005 OU6 risk assessments.

The risk assessment was updated and the results are presented in the OU6 2016 FS Addendum and are summarized below. The updated risk evaluation estimated the cumulative cancer and non-cancer risks from all of the 22 OU6 properties considered together, rather than for each individual property.

A summary of those aspects of the human health risk assessment for soil contaminants which support the need for source control remedial actions at the OU6 properties is discussed in this section, followed by a summary of the ecological risk evaluation.

This ROD provides final source control actions for the 22 OU6 properties.

a. Hazard Identification

The October 1999 OU3 RI, the November 2000 OU7 RI, and the June 2005 OU6 RI all included evaluations of a number of the properties that now comprise OU6. A discussion of the various contaminants can be found in Section 2.0 of the 2005 OU6 RI report for the 22 current properties that make up Raymark OU6.

In the original baseline risk assessment, at each OU6 property, soil exposures and resulting quantitative risk estimates were prorated based on the percentages of each property estimated to contain Raymark Waste. Prorating exposures (fraction of Raymark Waste (FRW)) in risk calculations assumes that receptors use all areas of the property equally. Prorating exposures recognizes that a receptor is unlikely to spend all of their time only within the estimated areas of Raymark Waste. Rather, a receptor will be exposed to soils from various areas of the property. By prorating the exposure, the resulting risk estimate is assumed to represent risk from only the estimated time spent within identified areas of Raymark Waste.

The 2016 screening-level risk evaluation used a revised soil dataset encompassing the 21 remaining OU6 properties, plus the recently added property at 336 Ferry Boulevard. The evaluation utilized a simplified ratio approach comparing exposure point concentrations (EPCs) developed based on a single combined dataset that included including samples from Raymark Waste and non-Raymark Waste areas from 22 OU6 properties to current EPA Regional Screening Levels (RSLs) to estimate potential risks based on commercial, residential, or recreational land use. The new parcel at 336 Ferry Boulevard was included in this risk evaluation because the data from samples collected at the property in 2014 meet the definition of Raymark Waste.

For exposure assumptions, commercial use (current or potential future) is applicable to 19 of the 22 OU6 properties included in this updated evaluation (all 22 properties except Wooster Park, Beacon Point Area, and the Third Avenue property). Residential use (current or potential future) is applicable to the following OU6 properties: the Third Avenue Property, a portion of the CT Right-of-Way, and the Vacant Lot at Housatonic Avenue (note that a portion of the CT Right-of-Way and the Vacant Lot at Housatonic Avenue are considered both as commercial properties and as future residential properties). Recreational use (current or potential future) is applicable to the following OU6 properties: the Lockwood Avenue Property, Beacon Point Area, and Wooster Park (note that the Lockwood Avenue Property is considered both as a commercial property and as a future recreational property).

The Risk Update refined the dataset to include all samples from the 22 OU6 properties as a single dataset. This contrasts with the approach used in the 2005 OU6 RI, which evaluated human health risks separately from exposure to soils within Raymark Waste containing areas at each of 24 OU6 properties and prorated exposures based on the fraction of a property that was estimated to contain Raymark Waste. For the revised soil dataset, samples used in this screening level risk evaluation included soils collected prior to the 2005 RI from depths of 0 to 15 foot at all areas of the 21 remaining OU6 properties and data collected from the recently added property at 336 Ferry Boulevard. Samples from 576 and 600 East Broadway, the Airport Property North of Marine Basin, and Beacon Point Area – AOC2 were not included in the revised soil dataset. No new samples have been collected since 2005 except for 336 Ferry Boulevard property.

Contaminants of Concern (COCs): The COCs for OU6 are listed in attached Table G-7.

b. Exposure Assessment

The Risk Update included an evaluation of current and future exposures as shown below. Some of the properties were evaluated for two potential receptor scenarios and others for only a single one, based on current and reasonably anticipated future uses.

B. recreational visitor – adults and children who may visit the property for recreational purposes and be exposed to contaminated soil through inadvertent contact (exposure from ingestion and dermal contact of contaminated soil);[5]
C. commercial worker - adult workers who may be accidently exposed to contaminated soil

[5] For current exposures to soil from recreational use, ingestion of 100 mg/day for 24 years was presumed for an adult. For a young child (age 1-6), ingestion of 200 mg/day for 6 years was presumed. Body weights of 70 kg and 15 kg were used for the adult and child, respectively. Dermal contact was assumed with 5,700 cm^2/day of surface area for the adult and 2,800 cm^2/day for the child. Soil exposures were assumed to occur 150 days/year.

through construction work (exposure from ingestion and dermal contact of contaminated soil);[6] and

D. resident - adults and children who live on a property who may inadvertently be exposed to contaminated soil (exposure from ingestion and dermal contact of contaminated soil).[7]

c. <u>Toxicity Assessment</u>

A number of contaminants with both carcinogenic and non-carcinogenic effects were identified in soils from the 22 OU6 properties (see the COC list).

A summary of the cancer toxicity data relevant to the chemicals of concern in soil at OU6 is presented in Appendix B of the 2016 OU6 FS Addendum

d. <u>Risk Characterization</u>

<u>OU6 Human Health Risk Summary</u>

Carcinogenic Risk EPA's Target Range is 10^{-6} to 10^{-4}	
Receptor	Risk
Current and Future Recreational Visitor	6.7×10^{-4}
Current and Future Resident	1.8×10^{-3}
Current and Future Commercial Worker	1.9×10^{-4}

[6] For current adult commercial worker soil exposure, ingestion of 100 mg/day for 25 years was presumed. A body weight of 70 kg was presumed. Dermal contact assumed was 3,300 cm^2/day of surface area. Soil exposures were assumed to occur 250 days/year.

[7] For current exposures to soil from residential use, ingestion of 100 mg/day for 24 years was presumed for an adult. For a young child (age 1-6), ingestion of 200 mg/day for 6 years was presumed. Body weights of 70 kg and 15 kg were used for the adult and child, respectively. Dermal contact was assumed with 5,700 cm^2/day of surface area for the adult and 2,800 cm^2/day for the child. Soil exposures were assumed to occur 350 days/year.

Non-Carcinogenic Risk EPA's Target Level is a Hazard Index (HI) ≤ 1.0	
Receptor	Risk
Current and Future Recreational Visitor	HI = 23
Current and Future Resident	HI = 54
Current and Future Commercial Worker	HI = 3.8

Lead Risk: The average lead concentration in 0 to 15-foot soil at the 22 remaining OU6 properties was 1,425 mg/kg. This concentration indicates potential exposure to lead in soils would result in blood lead levels above levels of concern for commercial/industrial workers, residents, and recreational visitors.

Asbestos Risk: Asbestos is also present at levels of concern with concentrations ranging from 0.9% to 90 percent in 0- to 15-foot soil. The average concentration was 7 percent.

e. Uncertainties

This evaluation presents estimated potential risks from recreational, residential, and commercial worker exposures to soils, using a simplified ratio approach. Note that although each scenario was evaluated using data from all 22 properties, scenarios applicable to a given property vary based on current and future potential uses.

The updated estimate of risks found Aroclor 1242 among the greatest contributors to cancer risk. Because of its low number of detections, the maximum concentration was used as the EPC. Therefore, it is likely risks from Aroclor 1242 are over-estimated.

Total chromium results were evaluated as the more toxic form of chromium (hexavalent chromium) as a conservative approach, potentially resulting in an over estimate of risk from this contaminant.

Risks from contaminants without RSLs were not estimated. This likely results in an underestimate of risk.

Soil background concentrations were not considered in this evaluation. Therefore, risks resulting from contaminants present below background levels may be reflective of background conditions and not site-related. A common example of this, which may apply, is the presence of naturally occurring arsenic.

The current updated human health evaluation concludes that lead is present at levels of concern based on current lead models for childhood exposures that predict that where the average lead in soil concentration is 400 mg/kg or less, blood lead levels will meet EPA's risk goal. EPA is currently reviewing its target goals for lead.

The current update to human health risk estimates did not include a quantitative risk evaluation of the risks associated with potential receptor exposures to asbestos because of the lack of appropriate toxicity criteria. Recent changes in asbestos sampling methods may allow for quantitative risk estimates of asbestos exposure; however, such data has not been collected to date.

2. Ecological Risk Assessment

All of the OU6 properties are either developed or have been disturbed by surrounding development, past uses of Ferry Creek, or filling of wetlands. The OU6 properties provide only limited use as areas for birds, reptiles, and small mammals to forage, cover, rest, and breed because of the level of development, existing soil contamination, disturbed nature of the area, and low vegetation density and/or diversity. Because of these factors, none of the OU6 properties were found to provide significant habitat to support ecological receptors, and a full ecological risk assessment was determined not to be warranted.

H. REMEDIAL ACTION OBJECTIVES

Remedial Action Objectives (RAOs) are media-specific cleanup goals for a selected remedial action. RAOs are based on preliminary information about types of contaminants, environmental media of concern, and potential exposure pathways and are developed to aid in the development and screening of alternatives. These RAOs were developed to mitigate, restore and/or prevent existing and future potential threats to human health and the environment.

OU2 addresses groundwater and air. OU3, OU4 and OU6 address soil, however OU3 also addresses sediment. Given these differences in media, separate RAOs were developed for each of the four operable units in this ROD as follows:

OU2 RAO (Groundwater):

The RAOs for protection of human health are:

- (VI RAO) Prevent direct human exposure through inhalation by occupants of residential and commercial buildings of OU2 COCs in shallow groundwater that can volatilize into soil gas and migrate into indoor air through vapor intrusion and accumulate in enclosed building spaces at concentrations exceeding EPA's actionable risk threshold level for total excess lifetime cancer risks of 1 x 10^{-4} and/or a non-cancer Hazard Index greater than 1.0.

- (Groundwater Direct Contact (Ingestion) RAO) Prevent direct human exposure through potential future ingestion by residents and workers of OU2 COCs in groundwater exceeding Maximum Contaminant Levels for drinking water and/or EPA's target risk range for total excess lifetime cancer risks of 1 x 10^{-6} (1 in 1,000,000) to 1 x 10^{-4} (1 in 10,000) and/or a non-cancer Hazard Index greater than 1.0.

Due to the lack of ecological risk posed by OU2 groundwater, there are no cleanup objectives specifically for environmental receptors.

OU3 RAO (Upper Ferry Creek):

- Prevent direct human exposure through inhalation, dermal contact, and ingestion by recreational users of OU3 to contaminated soil that is defined as Raymark Waste and sediment contaminated with Raymark OU3 COCs. ("Raymark Waste" is defined to contain lead, asbestos, and either copper or PCBs in certain amounts. See Section B for more details on the definition of Raymark Waste.) By preventing such exposure and by responding to such Raymark Waste and OU3 COCs in sediment; lead, asbestos, copper, and PCBs will be addressed as well as any other contaminants co-located with such Raymark Waste, including, without limitation, all co-located OU3 COCs at levels exceeding EPA's target risk range of a total excess lifetime cancer risk of 1 x 10^{-4} to 1 x 10^{-6} and/or a non-cancer Hazard Index greater than 1.0.

- Prevent exposure by ecological receptors to contaminated sediment in Ferry Creek that results in potential adverse impacts.

OU4 RAO (Raybestos Memorial Ballfield):

- Prevent direct human exposure through inhalation, dermal contact, and ingestion by recreational users, future residential users, and future commercial workers of OU4 to contaminated soil that is defined as Raymark Waste. ("Raymark Waste" is defined to contain lead, asbestos, and either copper or PCBs in certain amounts. See Section B for more details on the definition of Raymark Waste.) By preventing such exposure and by responding to such Raymark Waste; lead, asbestos, copper, and PCBs will be addressed as well as any other contaminants co-located with such Raymark Waste, including, without limitation, all OU4 COCs at levels exceeding EPA's target risk range of a total excess lifetime cancer risk of 1 x 10^{-4} to 1 x 10^{-6} and/or a non-cancer Hazard Index greater than 1.0.

Due to the minimal environmental risk posed by OU4 soil, there are no cleanup objectives specifically for environmental receptors.

OU6 RAO (Additional Properties):

- Prevent direct human exposure through inhalation, dermal contact, and ingestion by current and future recreational users, residential users, and commercial workers of OU6 to contaminated soil that is defined as Raymark Waste. ("Raymark Waste" is defined to contain lead, asbestos, and either copper or PCBs in certain amounts. See Section B for more details on the definition of Raymark Waste.) By preventing such exposure and by responding to such Raymark Waste; lead, asbestos, copper, and PCBs will be addressed as well as any other contaminants co-located with such Raymark Waste, including, without limitation, all OU6 COCs at levels exceeding EPA's target risk range of a total excess lifetime cancer risk of 1 x 10^{-4} to 1 x 10^{-6} and/or a non-cancer Hazard Index greater than 1.0.

Due to the minimal environmental risk posed by OU6 soil, there are no cleanup objectives specifically for environmental receptors.

I. DEVELOPMENT AND SCREENING OF ALTERNATIVES

1. Statutory Requirements/Response Objectives

Under its legal authorities, EPA's primary responsibility at Superfund sites is to undertake remedial actions that are protective of human health and the environment. In addition, Section 121 of CERCLA establishes several other statutory requirements and preferences, including:

- a requirement that EPA's remedial action, when complete, comply with all federal and more stringent state environmental and facility siting standards, requirements, criteria or limitations, unless a waiver is invoked;
- a requirement that EPA select a remedial action that is cost-effective and that utilizes permanent solutions and alternative treatment technologies or resource recovery technologies to the maximum extent practicable; and
- a preference for remedies in which treatment which permanently and significantly reduces the volume, toxicity or mobility of the hazardous substances is a principal element, as opposed to remedies not involving such treatment.

Final response alternatives for OU2, and final source control response alternatives for OU3, OU4 and OU6, and were developed to be consistent with these statutory mandates.

2. Technology and Alternative Development and Screening

CERCLA and the National Contingency Plan (NCP) set forth the process by which remedial actions are evaluated and selected. In accordance with these requirements, individual Feasibility Studies (FS) were prepared for OU2, OU3 and OU4 that developed a wide range of remedial alternatives. A Feasibility Study was previously prepared in 2011 for OU6. An updated review of the remedial alternatives for OU6 was conducted in a feasibility study addendum. Within the FS reports, and addendum for OU6, an evaluation of each alternative was completed. This consisted of an assessment of each alternative's ability to attain specific cleanup levels. A no action alternative was also included as a baseline to which all other alternatives could be compared.

As described in the FS reports for OU2, OU3 and OU4, and the FS addendum report for OU6, remedial options were identified, assessed and screened based on the three required criteria; implementability, effectiveness, and cost. The remedial alternatives were developed by combining the technologies retained from the previous screening process into the categories identified in Section 300.430(e)(3) of the NCP. The purpose of the initial screening was to narrow the number of potential remedial alternatives for further detailed analysis while preserving a range of options. Each alternative was then evaluated in detail for each OU.

With regard to OU2, the primary source area contains dense non-aqueous phase liquid (DNAPL), a portion of which is located within bedrock fractures. The State of Connecticut has designated the aquifer within the study area as GB indicating that groundwater is not suitable for human consumption without prior treatment.

With regard to OU3, OU4 and OU6, widespread treatment of Raymark Waste was eliminated as a viable cleanup approach due to the various constituents within Raymark Waste. See Appendix F of the OU4 FS report for further details. However, because excavated Raymark Waste from OU3 and OU6 will be placed in a Corrective Action Management Unit (CAMU) at OU4, EPA must evaluate the data to determine the presence of Principal Hazardous Constituents (PHCs). In general, PHCs are those "carcinogens that pose a potential direct risk from ingestion or inhalation at the site at or above 10-3, and non-carcinogens that pose a potential direct risk from ingestion or inhalation at the site an order of magnitude or greater over their reference dose." (See 40 C.F.R. Section 264.552(e)(4)). PHCs must be segregated for off-site disposal at an appropriate treatment and disposal facility. The permit requirements at off-site facilities may require that Raymark Waste be pre-treated prior to shipment (see Section L of this ROD and Section 4.1.2 and Appendix D of the OU3 FS report for more detail).

The following table summarizes the number of alternatives developed under each FS report (addendum for OU6), and then retained for detailed analysis following screening for each OU.

Operable Unit	No. of Alternatives Developed	No. of Alternatives Retained
Groundwater (OU2)	12	9
Upper Ferry Creek (OU3)	5	4
Raybestos Memorial Ballfield (OU4)	6	5
Additional Properties (OU6)	10	4

J. DESCRIPTION OF ALTERNATIVES

This Section provides a narrative summary of each remedial alternative retained following screening and evaluated in the detailed analysis section of the OU2, OU3 and OU4 FS report, and the OU6 FS Addendum Report. These alternatives were developed by combining response actions and technologies to address the estimated exposure risks to human health and the environment. The alternatives were also developed, to the extent practical, to represent a range of effectiveness, duration of time required to achieve the RAO, and cost to implement.

Costs for each alternative were determined through a present value analysis that produces a single figure representing the estimated amount of money that, if invested at a particular rate of return in the base year - usually the present year - and dispersed as needed, would cover all costs associated with the alternative. In other words, the present value figure represents a single estimated cost number to capture all capital costs (that is, construction costs), future operation and maintenance costs, and five year reviews.

J.1: <u>Alternatives Evaluated for OU2 (Groundwater)</u>

Section J.1 presents the twelve (12) remedial alternatives evaluated for OU2 (Groundwater). Due to the diverse issues associated with groundwater, alternatives were developed and evaluated for three separate areas as follows:

- Source Area (SA): Four alternatives were developed to address the DNAPL VOC Source of Contamination. (See Section J.1.1 below)
- Downgradient Area (DA): Six alternatives were developed to address the VOC Contamination Present in the Groundwater Plume. (See Section J.1.2 below)
- Vapor Intrusion (VI): Two alternatives were developed to address the Potential Threat Posed by Intrusion of VOC Vapors into Indoor Air. (See Section J.1.3 below)

The selected remedial alternative for OU2 was chosen through a combination of SA, DA and VI alternatives.

J.1.1: <u>OU2 Source Area (SA) Alternatives</u>

(Note that each of the following four SA alternatives must be combined with a Downgradient Area (DA) and a Vapor Intrusion (VI) alternative.)

SA-1: *No Further Action:

*SA-1 is EPA's preferred alternative for the source area because actions to eliminate the Volatile Organic Compound (VOC) Dense Non-Aqueous Phase Liquid (DNAPL) source at the former Raymark facility would not be effective and implementable given the mixed nature of the subsurface materials, the depth and form of the bedrock (especially the deep bedrock valleys), the constraints posed by the impermeable cap and retail development on OU1, and the difficulty of effectively injecting treatment chemicals into the DNAPL. No further actions will be taken to address the DNAPL. Reviews will be conducted every five years, which is a feature of all OU2 alternatives. Existing institutional controls, including groundwater use restrictions, are already in place to protect the final capping remedy for OU1. No construction will take place. RAOs will be met in approximately 910 years through dispersion of groundwater.

Net Present Worth Cost Estimate for Alternative OU2 SA-1 = $0.1 million.

* Denotes the selected alternative.

SA-2: Limited Action:

SA2, Limited Action, includes optimization of the existing passive DNAPL recovery system. A passive DNAPL recovery system that collects a small amount of DNAPL in a number of groundwater wells currently exists at the Raymark facility. This alternative would involve the optimization of this system and the installation of a new recovery system in eastern portion of OU1 in an effort to remove the underground DNAPL. Existing institutional controls, including groundwater use restrictions, are already in place to protect the final capping remedy for OU1. Construction would take approximately one year. RAOs would be met in approximately 900 years through dispersion of groundwater contaminants.

Net Present Worth Cost Estimate for Alternative OU2 SA-2 = $5.5 million.

SA-3: Hydraulic Containment of DNAPL Source Area:

Alternative SA-3 would contain the contaminated DNAPL by installing an underground curtain or wall down to bedrock made by injecting flowable grout into boring holes. Groundwater recovery wells would actively pump and extract groundwater within the containment area to help ensure that the DNAPL is contained. The extracted groundwater would be pumped to a treatment building to be constructed on OU1 and, after treatment, discharged to the Town's wastewater treatment plant. Groundwater treatment would continue until cleanup levels are achieved. Construction would take approximately two years. RAOs would be met in approximately 380 years.

Net Present Worth Cost Estimate for Alternative OU2 SA-3 = $54.0 million.

SA-4: In-Situ Chemical Treatment of DNAPL Source Area:
Alternative SA-4 would treat the contaminated DNAPL through the injection of treatment chemicals into the DNAPL source zones via drilled injection wells. The DNAPL and thus the source of groundwater contamination would be reduced through chemical interactions to achieve groundwater cleanup levels. Chemical oxidation was assumed to be the most effective treatment process. Construction/implementation would take approximately three years. RAOs would be met in approximately 740 years.

Net Present Worth Cost Estimate for Alternative OU2 SA-4 = $13.8 million.

J.1.2: <u>OU2 Downgradient Area (DA) Alternatives</u>
(Note that each of the following six DA alternatives must be combined with a Source Area (SA) and a Vapor Intrusion (VI) alternative.)

DA-1: No Further Action:
Alternative DA-1 was developed as a baseline to compare against other alternatives. No further action would be taken to address the downgradient groundwater plume. No construction would take place. There would be no impact on time to achieve RAOs.

Net Present Worth Cost Estimate for Alternative OU2 DA-1 = $0.1 million.

***DA-2: Limited Action:**
*Alternative DA-2 is EPA's preferred alternative. No active treatment will occur, but institutional controls will be implemented to prevent the future use of groundwater. No construction will take place. There will be no impact on time to achieve RAOs.

Net Present Worth Cost Estimate for Alternative OU2 DA-2 = $0.5 million.

* Denotes the selected alternative.

DA-3: Targeted In-Situ Treatment:
Alternative DA-3 would involve in-situ treatment of targeted, high concentration areas ("hot-spots") within the contaminant plume downgradient of the OU1 property to decrease the time to achieve groundwater cleanup levels in receptor areas. Institutional controls would also be

implemented. Construction/implementation would take approximately two years. There would virtually be no impact on time to achieve RAOs.

Net Present Worth Cost Estimate for Alternative OU2 DA-3 = $2.8 million.

DA-4: Comprehensive In-Situ Treatment:
Alternative DA-4 would aggressively treat the downgradient dissolved contaminant plume with a goal of reducing the timeframe that ventilation systems would be needed in buildings within the area of potential for vapor intrusion. This Alternative is similar to DA-3, but contains significantly more points of injection, as the goal would be to treat the entire downgradient plume rather than targeted "hot spots". This alternative was eliminated during the screening process due to significant uncertainties and difficulties concerning the complexity of geology and presence of homes in the treatment area which would limit reagent interface and overall potential effectiveness.

DA-5: Downgradient Area Groundwater Extraction, Treatment, and Re-infiltration into Shallow Groundwater to Mitigate Vapor Intrusion:
Alternative DA-5 would pump shallow contaminated groundwater downgradient of the OU1 source area and re-inject treated water into the ground throughout the residential and commercial areas. The goal of the re-injected treated water would be to introduce uncontaminated water to the top of the aquifer throughout the area of potential for vapor intrusion, thereby decreasing shallow groundwater contamination to below concentrations that pose a residential vapor inhalation risk. This alternative was eliminated during the screening process as the FEMA 100-year flood zone would limit the amount of water that could be infiltrated in some areas. There would be very high costs with significant uncertainty due to the size of the aquifer and the required volume of water to be treated in order to be effective. The presence of homes and potential for flooding impacts in the treatment area would limit effectiveness.

DA-6: Groundwater Extraction in Commercial and Residential Areas to Lower Water Table to Mitigate the Potential for Vapor Intrusion:
Alternative DS-6 would lower the elevation of the groundwater table beneath the commercial and residential areas downgradient of the OU1 source areas in order to increase the vertical distance between the buildings and the top of the contaminated aquifer in order to decrease the potential for vapor intrusion. This alternative was eliminated during the screening process due to very high costs with significant uncertainty due to the size of the aquifer and the required volume of water to be removed. The effectiveness could be severely limited due to the potential for inducing upward gradients in the water table.

J.1.3: <u>OU2 Vapor Intrusion (VI) Alternatives:</u>
(Note that each of the following two VI alternatives must be combined with a Source Area (SA) and a Downgradient Area (DA) alternative.)

VI-1: No Further Action:
Alternative VI-1 would involve the continued maintenance of the existing sub-slab ventilation systems in 106 homes by CTDEEP, but no new systems would be offered, and no institutional controls would be imposed. No construction would take place. There would be no impact on time to achieve RAOs.
Net Present Worth Cost Estimate for Alternative OU2 VI-1 = $0.6 million.

***VI-2: Installation and Maintenance of Sub-Slab Depressurization Systems:**
Alternative VI-2 is EPA's preferred alternative. This alternative involves the installation of approximately 20 new systems and operation and maintenance of both the new and existing ventilation systems. An assessment of a limited number of additional properties will be conducted to determine whether systems are needed on those properties and, if so, VI systems will also be installed. Institutional controls will be implemented throughout the area where there is potential for vapor intrusion to ensure that systems are installed in new construction. Ongoing groundwater monitoring will be conducted during five year reviews to assess the condition of the contaminated groundwater plume. RAOs for each home would be achieved immediately upon completion of construction which is estimated to take approximately one year for approximately 20 buildings.

Net Present Worth Cost Estimate for Alternative OU2 VI-2 = $2.5 million.

* Denotes the selected alternative.

J.2: Alternatives Evaluated for OU3 (Upper Ferry Creek)

Section J.2 presents the four (4) source control alternatives evaluated for OU3 (Upper Ferry Creek). The source control remedy was selected from a combination of the alternatives evaluated for OU3, OU4 and OU6. The selected remedy includes excavation and consolidation, and designates OU4 as a Corrective Action Management Unit (CAMU).

a. No Action (Alternative OU3-1)
Under Alternative OU3-1, no action would be taken to reduce the human health and ecological risks associated with Ferry Creek. EPA is required to look at a no action alternative, which provides a baseline for comparison to the other cleanup alternatives. Ongoing five-year reviews would be conducted for all alternatives to verify that there have been no changes in impacts from the Raymark Waste.

Net Present Worth Cost Estimate for Alternative OU3-1 =$213,883.

b. Limited Action (Alternative OU3-2)

No treatment, removal, or containment of Raymark Waste would occur under Alternative 2, but institutional control restrictions, such as prohibitions on certain types of excavations or on the use of groundwater, would be put in place to mitigate human health risks. Fencing and warning signs would be constructed to deter trespassers. Quarterly groundwater monitoring would be required for the first two years, then every nine months thereafter to ensure that there are no changes in the impacts from Raymark Waste.

Net Present Worth Cost Estimate for Alternative OU3-2 = $2,716,421.

c. *__Excavation and In-Town Consolidation (Alternative OU3-4)__*

*Alternative OU3-4 is EPA's selected alternative for OU3. Alternative OU3-4 will include excavation of the top two feet of channel sediment from the entire length of Ferry Creek from the I-95 culvert down to the Broad Street Bridge. The vertical extent of excavation to four feet would be protective and was determined to be acceptable to CTDEEP. Ferry Creek bank soil containing Raymark Waste above the mean high water line and adjacent wetland soil will be excavated to a depth of four feet. The bottom of each soil excavation will be lined with a geotextile fabric to serve as a warning layer, then backfilled with clean material. Excavated sediment and Raymark Waste-contaminated soil will be consolidated at the proposed OU4 ballfield and covered with a low-permeability cap, except for the sediment and Raymark Waste-contaminated soil containing more heavily contaminated material that exceeds certain regulatory limits which will be transported to a licensed out-of-town disposal facility. Institutional controls, such as deed restrictions or notices, will be required to prevent future excavation deeper than four feet in the backfilled areas, groundwater use, or any other activity that could result in an exposure to remaining waste or compromise the effectiveness of the remedy. Quarterly groundwater monitoring will be required for the first two years, then every nine months thereafter to ensure that there are no changes in the impacts from Raymark Waste.

Net Present Worth Cost Estimate for Alternative OU3-4 = $19,936,774.

* Denotes the selected alternative.

d. Excavation and Out-of-Town Disposal (Alternative OU3-5)

Alternative OU3-5 is identical to Alternative OU3-4 except that all excavated materials would be disposed at an appropriate out-of-town licensed facility.

Net Present Worth Cost Estimate for Alternative OU3-5 = $55,836,087.

<u>Components common to Alternatives OU3-4 and OU3-5 are described below.</u>

<u>Soil Excavation</u>: Soil containing Raymark Waste along both sides of Upper Ferry Creek, above the mean high water line, would be excavated to a depth of four feet below existing grade

(approximately 22,600 cubic yards). Areas that do not contain Raymark Waste would not be excavated. The exact horizontal extent of excavation would be determined by additional pre-design sampling. The vertical extent of excavation to four feet would be protective and was determined to be acceptable to CTDEEP. The excavated areas would be backfilled with four feet of clean soil, but the heavily sloped areas along the east side of Ferry Creek (next to residential properties along Housatonic Avenue) would be replaced with two feet of clean fill and two feet of rip-rap armoring to maintain slope stability. On the east side of Ferry Creek, excavation of Raymark Waste would extend beyond the current boundary of OU3, if necessary, to excavate and remove soil meeting the definition of Raymark Waste. Raymark Waste on residential properties along Housatonic Avenue was excavated and removed during previous removal actions, therefore only minimal, if any, Raymark Waste is anticipated beyond the eastern boundary of OU3. On the west side of Ferry Creek, excavation of Raymark Waste would extend to the commercial properties to be excavated in OU6.

Wetland Soil Excavation: Wetland soil containing Raymark Waste would be excavated to four feet below existing grade (approximately 7,600 cubic yards maximum). Soil that does not contain Raymark Waste would not be excavated, and the exact horizontal extent of excavation would be determined by further sampling. The vertical extent of excavation to four feet would be protective, and was determined to be acceptable to CTDEEP. The excavated areas would be backfilled with clean material and restored as wetlands.

The above excavation amounts of 22,600 for soil and 7,600 for wetlands assume that the entire stretch of both banks of Ferry Creek, and all of the abutting wetlands, contain Raymark Waste and must be excavated. If Raymark Waste is not detected, the area not containing Raymark Waste will not be excavated. Thus, these excavation amounts are maximum estimates. Raymark Waste areas will be more fully delineated during the pre-design study, and the final excavation amounts are expected to total less than the amounts shown.

Sediment Excavation: The Ferry Creek channel sediment would be excavated to a depth of two feet below existing grade throughout the entire length of the channel from the Interstate 95 culvert to the Broad Street Bridge (approximately 4,650 cubic yards). Two feet would be protective for ecological concerns and would address the biologically-active zone. The Ferry Creek channel sediment is defined as the area below the mean high water line of Ferry Creek. Dewatering of Ferry Creek would be required to complete the excavation of the creek sediment. While the exact methods for excavation will be determined in the remedial design, it is anticipated that cofferdams (watertight enclosures formed by metal sheet piles) would be installed to isolate active excavation areas for dewatering. Temporary water pumping stations, bypass piping, and other water management methods may be employed. Hydraulic dredging may be used instead of cofferdams, if appropriate, as determined during the remedial design. After excavation, a two-foot layer of clean silt would be placed along the entire length of the excavated area.

Disposition of Contaminated Material: Soil, wetland soil, and sediment may first be hauled to a staging area, which would most likely be located at 326 Ferry Boulevard and the Lot Behind 326 Ferry Boulevard. Material may be temporarily staged at this area for characterization and dewatering prior to disposal. Saturated materials would be dewatered in a specially designed dewatering area. Excavated materials would be disposed at the OU4 consolidation area, or at an out-of-town disposal facility. EPA will consider installing a temporary barrier to buffer construction impacts to adjacent property owners.

J.3: Alternatives Evaluated for OU4 (Raybestos Memorial Ballfield)

Section J.3 presents the five (5) source control alternatives evaluated for OU4 (Raybestos Memorial Ballfield). The source control remedy was selected from a combination of the alternatives evaluated for OU3, OU4 and OU6. The selected remedy includes excavation and consolidation, and designates OU4 as a Corrective Action Management Unit (CAMU).

a. No Action (Alternative OU4-1)

Under Alternative OU4-1, no action would be taken to reduce the human health and ecological risks associated with OU4. EPA is required to look at a no action alternative, which provides a baseline for comparison to the other cleanup alternatives. Ongoing five-year reviews would be conducted for all alternatives to verify that there have been no changes in impacts from the Raymark Waste.

Net Present Worth Cost Estimate for Alternative OU4-1 = $43,156.

b. Limited Action (Alternative OU4-2)

No treatment, removal, or containment of Raymark Waste would occur under Alternative OU4-2. Restrictions, such as prohibitions on certain types of excavations or on the use of groundwater, would be put in place to mitigate human health risks. Fencing and warning signs would be constructed to deter trespassers. Quarterly groundwater monitoring would be required for the first two years, then every nine months thereafter to ensure that there are no changes in the impacts from Raymark Waste.

Net Present Worth Cost Estimate for Alternative OU4-2 = $1,002,211.

c. *Consolidation, Capping, and Institutional Controls (Alternative OU4-3)

*Alternative OU4-3 is EPA's selected alternative for OU4. Under Alternative OU4-3, the ballfield will be designated as a CAMU and a low-permeability cap will be constructed over a large portion of OU4 to cover the existing Raymark Waste, as well as Raymark Waste and sediment that will be transported from OU3 and OU6 to be consolidated under the cap. The finished grade of the cap will be limited to a maximum elevation of 46 feet mean sea level in the northwest corner of OU4, but will be graded to support planned redevelopment such that the majority of the cap will have finished elevations between 30 and 40 feet above mean sea level. Figures showing the final grades of the cap as constructed are attached as Figures J-1 and J-2. During construction, a haul road will be constructed and used to access the ballfield from Longbrook Avenue. Construction of the haul road will prevent the need to drive through residential neighborhoods near the ballfield. A permanent, or temporary, visual and sound barrier will be installed along the border with Patterson Avenue, Clinton Avenue, and Cottage Place to replace the existing natural barrier. After completion of the cap, a vegetative buffer and berm will be established along the border with Patterson Avenue. However, if a permanent barrier is installed along the Patterson Avenue properties, the vegetated berm may not be required. The cap will be designed to be consistent with redevelopment for commercial/industrial, municipal, or recreational uses. Controls will be used to mitigate construction-related impacts.

The non-Raymark Waste area existing on OU4, but not currently co-located within Raymark Waste on OU4, will be covered with Raymark Waste from OU3 and OU6 and placed under the cap. Because the low-permeability cap will necessarily reduce storm water infiltration at OU4, storm water from the property will be managed with bioretention swales and an underground storage vault may need to be installed to detain storm water during peak storm events to prevent flooding. If an underground vault is deemed necessary, an area of Raymark Waste may need to be excavated for the vault. The excavated Raymark Waste will be consolidated with Raymark Waste from OU3 and OU6, and placed under the cap. In this case, a portion of the non-Raymark Waste may be excavated and used as backfill in the vault area in a manner that complies with CTDEEP RSR cleanup requirements. During the design process, EPA will explore less intrusive options for managing storm water, including improvements to regional storm water systems. Institutional control restrictions, such as prohibitions on certain types of excavations and on the use of groundwater, will be put in place to protect the cap and mitigate human health risks. Future monitoring and operation and maintenance activities will occur to ensure the protectiveness of the remedy.

Net Present Worth Cost Estimate for Alternative OU4-3 = $45,670,557.

* Denotes the selected alternative.

d. Excavation, Out-of-Town Disposal, and Institutional Controls (Alternative OU4-4)
Alternative OU4-4 involves the excavation of all Raymark Waste at OU4 down to the mean high water table. All excavated Raymark Waste would then be disposed of out-of-town at an approved disposal facility. No Raymark Waste from other areas of the Site would be transported to OU4 for consolidation and no non-Raymark Waste on OU4 would be addressed by this alternative. The excavated areas would be backfilled with clean material and revegetated. Institutional control restrictions, such as prohibitions on certain types of excavations or on the use of groundwater, would be put in place to mitigate human health risks. Future monitoring and

operation and maintenance activities would occur to ensure the protectiveness of the remedy.

Net Present Worth Cost Estimate for Alternative OU4-4 = $144,492,873.

e. Capping and Institutional Controls (Alternative OU4-5)
Under Alternative OU4-5, a low-permeability cap would be constructed to cover the Raymark Waste located on OU4, but no other Raymark Waste would be transported to OU4. Some excavation and consolidation of the Raymark Waste on OU4 would occur before capping. Non-Raymark Waste would remain outside the capped area and would not be addressed by this alternative. Institutional control restrictions, such as prohibitions on certain types of excavations or on the use of groundwater, would be put in place to mitigate human health risks. Future monitoring and operation and maintenance activities would occur to ensure the protectiveness of the remedy.

Net Present Worth Cost Estimate for Alternative OU4-5 = $34,074,712.

J.4: <u>Alternatives Evaluated for OU6 (Additional Properties)</u>

Section J.4 presents the four (4) source control alternatives evaluated for OU6 (Additional Properties). The source control remedy was selected from a combination of the alternatives evaluated for OU3, OU4 and OU6. The selected remedy includes excavation and consolidation, and designates OU4 as a Corrective Action Management Unit (CAMU).

a. No Action (Alternative 1)
Under the no action alternative, nothing would be done to reduce the human health risks associated with direct exposure to contaminants in soil. Any reduction in the toxicity or volume of contaminants would occur only as a result of natural attenuation or degradation processes. EPA is required to look at a no action alternative, which provides a baseline for comparison to the other cleanup alternatives. Ongoing five-year reviews would be conducted for all alternatives to verify that there have been no changes in impacts from the Raymark Waste.

Net Present Worth Cost Estimate for Alternative 1 = $396,567.

b. Limited Action (Alternative 2)
No treatment, removal, or containment of Raymark Waste would occur under Alternative 2, but institutional controls would be established to restrict access and/or monitor risks to human health and the environment. Restrictions, such as prohibitions on certain types of excavations or on the use of groundwater, would be put in place to mitigate human health risks. Fencing and warning signs would be constructed to deter trespassers. Quarterly groundwater monitoring would be required for the first two years, then every nine months thereafter to ensure that there are no

changes in the impacts from Raymark Waste.

Net Present Worth Cost Estimate for Alternative 2 = $10,961,870.

c. *Excavation of the Top Four Feet and In-Town Consolidation (Alternative 9)
* Alternative 9 is EPA's selected alternative for OU6. Alternative 9 will involve excavation of Raymark Waste to the depth of four feet (approximately 71,000 cubic yards), backfilling to the pre-existing grade, and restoration with clean materials to create four-foot soil covers for any remaining contaminated materials. The bottom of each excavation will be lined with a geotextile fabric before backfilling to serve as a warning layer. Areas that are currently covered with asphalt will be repaved. Unpaved areas will be revegetated. The excavated Raymark Waste will be transported to the proposed in-town consolidation area at the OU4 ballfield, except that Raymark Waste containing more heavily contaminated material that exceeds certain regulatory limits will be transported to a licensed out-of-town disposal facility. Institutional controls, such as deed restrictions or notices, will be required to prevent future excavation deeper than four feet in the backfilled areas, groundwater use, or any other activity that could result in an exposure to remaining waste or compromise the effectiveness of the remedy. After completion of the cleanup at each property, at least two years of groundwater monitoring will be required. The four feet of cover installed on the properties will need to be maintained, and future inspections and monitoring of such covers will also be required. The four feet excavation depth was selected to comply with both CTDEEP's Direct Exposure Criteria and Pollutant Mobility Criteria through an alternative approach allowed under CTDEEP's Remediation Standard Regulations (RSRs). See Appendix G. In general, areas on properties that do not meet the definition of Raymark Waste will not be excavated or addressed. Note that some of these non-Raymark Waste areas may contain contamination that exceeds certain CTDEEP cleanup standards.

Net Present Worth Cost Estimate for Alternative 9 = $ 26,186,956.

d. Excavation of the Top Four Feet and Out-of-Town Disposal (Alternative 10)
Alternative 10 is identical to Alternative 9, except that the excavated Raymark Waste would be transported to an out-of-town location for disposal at an appropriate licensed facility.

Net Present Worth Cost Estimate for Alternative 10 = $68,243,420.

K. COMPARATIVE ANALYSIS OF OU SPECIFIC ALTERNATIVES

Section 121(b)(1) of CERCLA presents several factors that EPA is required to consider in its assessment of remedial alternatives. Building upon these specific statutory mandates, the NCP articulates nine evaluation criteria to be used in assessing individual remedial alternatives. A detailed comparative analysis of each criterion was performed on the OU-specific alternatives described in Section J. This analysis resulted in a preferred alternative for each of the four OUs addressed in the ROD. The preferred alternatives were combined to form the selected remedy in this ROD. The nine evaluation criteria are divided into three categories: (1) threshold criteria, which *must* be met for an alternative to be selected; (2) primary balancing criteria, which are used to compare and evaluate the elements of one alternative to another that meet the threshold criteria; and (3) modifying criteria, which are used in the final evaluation of remedial alternatives after EPA has received public comment on the RI/FS and Proposed Plan. The comparative analysis of the OU2 (Groundwater) alternatives is presented in Section K.1. The comparative analysis of the OU3 (Upper Ferry Creek) alternatives is presented in Section K.2. The comparative analysis of the OU4 (Raybestos Memorial Ballfield) alternatives is presented in Section K.3. The comparative analysis of the OU6 (Additional Properties) alternatives is presented in Section K.4. And an overall summary evaluation of the comparative analysis is presented in Section K.5.

K.1. Comparative Analysis of Alternatives for OU2 (Groundwater)

a. Threshold Criteria

There are two threshold criteria that *must* be met in order for an alternative to be eligible for selection in accordance with the NCP. These are; (1) overall protection of human health and the environment, and (2) compliance with applicable or relevant and appropriate requirements (ARARs). Please refer to Appendix C for the complete set of ARARs tables (chemical-specific, action-specific and location-specific)

1. Overall Protection of Human Health and the Environment
This criterion addresses whether or not a remedy provides adequate protection and describes how risks posed through each pathway are eliminated, reduced or controlled through treatment, engineering controls, or institutional controls.

<u>OU2 Source Area Alternatives:</u>
Each of the four source area alternatives would meet the overall protection of human health criterion when combined with a downgradient area (DA) and a vapor intrusion (VI) alternative. Alternative SA-1 would rely solely on existing institutional controls to prevent the use of contaminated groundwater. Alternative SA-2 relies on existing institutional controls to prevent the use of contaminated groundwater and very limited action would be taken to reduce the ongoing risks presented by the DNAPL source area contamination. If they could be successfully implemented, Alternatives SA-3 and SA-4 would reduce the source area contamination. But, complexities of the OU1 area present many significant challenges to the successful implementation of both alternatives. Such complexities include the differing nature of the subsurface material located above the bedrock, the depth and complex form of the bedrock itself, and OU1 limitations such as the presence of an impermeable cap, utilities, and an active

shopping center. Based upon the estimated effectiveness of these two alternatives, cleanup of the downgradient plume to protective levels would occur over many years (more than 380 years for SA-3 and over 740 for SA-4). In the interim, because contaminants in groundwater pose a vapor intrusion risk, these alternatives have to be paired with VI-2 to provide full mitigation of VI risks.

<u>OU2 Downgradient Area Alternatives:</u>
Except for Alternative DA-1, the downgradient area alternatives would meet the overall protection of human health criterion when combined with a source area (SA) and a vapor intrusion (VI) alternative. All downgradient alternatives rely on natural dispersion processes to reduce contaminant levels, but DA-2 and DA-3 would impose institutional controls to reduce long-term risks, and DA-3 would also use in-situ treatment to accelerate the contaminant degradation processes. None of the alternatives would significantly reduce the time to meet cleanup levels, beyond the reduction provided by the active Source Area alternatives. DA-2 and DA-3 provide greater protection than DA-1 because they both include institutional controls to reduce risks, but DA-3 would be more costly than DA-2 and would not reduce the time to meet cleanup levels.

<u>OU2 Vapor Intrusion Alternatives:</u>
Alternative VI-1 would not provide protection of public health because no action would be taken to prevent vapor intrusion into structures that currently do not have mitigation systems and are located within the area of potential for vapor intrusion. Alternative VI-2 would be protective of public health because VI-2 would include installation of ventilation systems in properties located within the area of potential for vapor intrusion that do not currently have systems and would include institutional controls to address potential VI-related risks.

2. Compliance with Applicable or Relevant and Appropriate Environmental Requirements (ARARs)
This criterion addresses whether or not a remedy will meet all Federal environmental and more stringent State environmental and facility siting standards, requirements, criteria or limitations, unless a waiver is invoked.

There is no ARARs analysis for the no action alternatives because no action is being taken under those alternatives. Unless the no action alternative is protective, these alternatives are not further discussed in this comparative analysis. Because Alternative SA-1 already includes an existing institutional control which addresses groundwater risk, however, it is carried through the analysis. (For further information regarding ARARs and how each alternative complies with ARARS, refer to the OU2 Feasibility Study.)

<u>OU2 Source Area Alternatives:</u>
SA-2, SA-3, and SA-4 would only meet chemical-specific ARARs regarding target groundwater

concentrations necessary to prevent VI risks after hundreds of years. These alternatives would therefore have to be paired with VI-2 to provide full mitigation of VI risks. SA-1, which only includes a restriction on groundwater use in the source area, would also have to be paired with VI-2 to provide full mitigation of VI risks. The source area alternatives could meet action-specific ARARs, including the requirement in the CT DEEP cleanup regulations to contain or remove DNAPL to the maximum extent prudent.

<u>OU2 Downgradient Area Alternatives:</u>
To meet chemical specific ARARS, DA-2 and DA-3 would have to be paired with VI-2 and a source area alternative, until cleanup goals are met, which would be in the hundreds of years. The down gradient alternatives could meet location and action-specific ARARs.

<u>OU2 Vapor Intrusion Alternatives:</u>
Alternative VI-1 would not meet chemical-specific ARARs. Specifically, VI-1 would not meet the requirement of the Connecticut volatilization regulations or federal risk criteria because some buildings within the area of potential for vapor intrusion would remain without ventilation systems. Alternative VI-2 would meet these regulations and other location and action-specific ARARs.

Because Alternative DA-1 and VI-1 failed both threshold criteria above (overall protection of human health and the environment, and compliance with ARARs), these alternatives are not included in the remainder of the comparative analysis.

b. Primary Balancing Criteria

There are five primary balancing criteria: (1) long-term effectiveness and permanence; (2) reduction of toxicity, mobility, or volume through treatment; (3) short-term effectiveness; (4) implementability; and (5) cost. These are used to compare and evaluate the elements of one alternative to another that meet the threshold criteria.

3. Long-Term Effectiveness and Permanence
This criterion addresses expected residual risk and the ability of a remedy to maintain reliable protection of human health and the environment over time, once cleanup levels have been met. This criterion includes the consideration of residual risk that will remain on-site following remediation and the adequacy and reliability of controls.

<u>OU2 Source Area Alternatives:</u>
SA-1 and 2 would leave the most residual risk as no or very limited actions would be taken to reduce the DNAPL source. SA-3 depends upon the long-term maintenance of a groundwater extraction system to maintain the containment provided by the grout curtain. Also, complexities of OU1 present significant challenges for implementation. SA-4 would irreversibly address the

DNAPL source area through chemical treatment, but challenges presented by OU1 significantly decrease the likely effectiveness of this alternative. The time estimates to achieve cleanup goals are highly dependent on the assumed effectiveness of the treatment options.

OU2 Downgradient Area Alternatives:
DA-3 may provide slightly higher levels of long-term effectiveness compared to the other options because DA-3 relies upon hot spot treatment. However, DA-3 would result in little to no decrease in the overall time to obtain target groundwater cleanup levels without first eliminating the DNAPL source areas.

OU2 Vapor Intrusion Alternatives:
Alternative VI-2 reduces risk through the installation of the additional ventilation systems and institutional controls and would be effective in the long term. However, VI-2 relies on engineered and institutional controls that mitigate, but do not eliminate, the underlying residual risk.

4. Reduction of Toxicity, Mobility, or Volume through Treatment
This criterion addresses the degree to which alternatives employ recycling or treatment that reduces toxicity, mobility, or volume.

OU2 Source Area Alternatives: Alternative SA-1 does not meet CERCLA's criterion for reduction of toxicity, mobility, or volume through treatment; SA-2 and SA-3 partially meet the criterion; and SA-4 meets the criterion through the chemical treatment of the source area contamination. SA-3 contains the source and only treats the extracted contaminated groundwater.

OU2 Downgradient Area Alternatives: DA-3 would destroy downgradient contamination in targeted "hot spot" areas and would result in a larger degree of reduction of toxicity, mobility and volume in these areas in a shorter timeframe compared to the other alternatives. However, DA-3 would not include treatment of the larger downgradient plume area and would therefore not reduce the overall time to achieve cleanup objectives. DA-2 does not include active treatment, but it would result in reduction of toxicity, mobility and volume by natural attenuation. Active treatment is not included under DA-2, so the alternative does not satisfy the CERCLA preference for treatment.

OU2 Vapor Intrusion Alternatives: VI-2 would treat air emissions from the ventilation systems only if deemed necessary to meet ARARs; however, treatment is not anticipated.

5. Short-Term Effectiveness
This criterion focuses on the period of time needed to achieve protection and the potential for any adverse impacts on human health and the environment that may be posed during the

construction and implementation period, until cleanup goals are achieved.

OU2 Source Area Alternatives:
Alternative SA-1 presents no short or long-term increased risks to the community, site workers, or the environment. The other alternatives present similar moderate short and long-term risks, but risks to the community and workers can be minimized through use of engineering controls and by proper implementation of a health and safety program.

OU2 Downgradient Area Alternatives:
No active remedial actions are associated with alternative DA-2; therefore, there would be no increased risks to the community, site workers, or the environment. DA-3 is an active treatment alternative that would be performed in a heavily developed and populated area, which could present some risks from the treatment chemicals. Such risks can be minimized through proper controls.

OU2 Vapor Intrusion Alternatives:
Alternative VI-2 is expected to have minimal impact to the community in the short term.

6. Implementability
This criterion addresses the technical and administrative feasibility of a remedy, including the availability of materials and services needed to implement a particular option.

OU2 Source Area Alternatives:
SA-1 does not require any actions so there would not be any implementation issues. SA-2 would require some construction for additional investigation wells and multiple extraction/recovery wells, which could interrupt the shopping center located at OU1.

SA-3 is technically impracticable to implement because of the differing nature of the material above the bedrock, the depth and complex form of the bedrock itself, and OU1-related limitations, such as the presence of an impermeable cap, utilities, and an active shopping center. The grout curtain must be tied or keyed into the bedrock to effectively contain the residual DNAPL, but there are deep bedrock valleys that would make it extremely difficult to do so. This alternative would also require more than 300 years of maintenance to remain effective.

The implementation of SA-4 would be easier than SA-3, but still highly challenging to implement. Multiple treatment chemicals requiring high pressure injections may be necessary due to the mix of contaminants in soil and groundwater. The subsurface materials and depth of contaminants makes it difficult to ensure effective delivery of treatment chemicals. Long-term maintenance would not be required, but continued groundwater monitoring would be needed.

OU2 Downgradient Area Alternatives:

DA-2 only includes institutional controls, which are easily implementable. DA-3 is much more difficult to implement than DA-2. It may be difficult to optimize chemical treatment because of the location and depth of contaminant "hot spot" areas and wide variety of chemicals found in the source area. Chemicals used for treatment could also potentially increase volatilization during the treatment process, further impacting downgradient buildings located above the treated area.

OU2 Vapor Intrusion Alternatives:
VI-2 would be relatively easy to implement but would require maintenance and monitoring of the existing and new SSD systems.

7. Cost

This criterion includes estimated capital and Operation and Maintenance (O&M) costs, as well as present-worth costs.

The total estimated present value cost of all of the OU2 cleanup alternatives is presented in the table below. The cost of the Source Area alternatives ranges from $0.1 million to $54.0 million, and the cost of the down gradient alternatives ranges from $0.1 million to $2.8 million. Alternative VI-1, the no further action alternative, would cost $0.6 million, whereas the VI-2 alternative, which involves the installation of some new ventilation systems, would cost $2.5 million.

Detailed cost estimates, assumptions, and a sensitivity analysis for Present Value (PV) costs are included in the OU2 Feasibility Study, Appendix F. PV costs are calculated for a 30-year duration and use a 7% discount factor. A discussion of time estimates and a sensitivity analysis are included in the OU2 Feasibility Study, Appendix E; all time estimates to achieve RAO values are modeled estimates developed as described in Appendix E. Modeling of time to achieve target groundwater concentrations for SA-3 assumed 90% containment of source area containment mass. Modeling assumes that alternative SA-3 is successfully implemented, however, SA-3 is considered to be not implementable because of significant technical and OU1 site challenges (see the OU2 Feasibility Study Table 5-1 and Section 6.2.6). Modeling of time to achieve target groundwater concentrations for SA-4 assumed 75% destruction of source area containment mass.

Alternative	Capital Cost (construction) (millions)	Present Value of O&M (millions)	Total Present Value Cost (construction and O&M) (millions)	Time Estimates to Achieve RAOs and Groundwater Target Concentrations (years)	
				Residential	Industrial/ Commercial
Source Area Alternatives					
SA-1: No Further Action - DNAPL Source Area (the preferred alternative)	**$0**	**$0.1**	**$0.1**	**760**	**910**
SA-2 : Limited Action: Optimization of Passive DNAPL Recovery Systems	$5.2	$0.3	$5.5	760	900
SA-3: Hydraulic Containment of DNAPL Source Area	$10.1	$43.9	$54.0	240	380 310 (at source)
SA-4: In-Situ Chemical Treatment of DNAPL Source Area	$13.5	$0.4	$13.8	590	740
Downgradient Area Alternatives					
DA-1: No Action - Downgradient Area	$0	$0.1	$0.1	No Change	No Change
DA-2: Limited Action – Downgradient Area (the preferred alternative)	**$0.4**	**$0.1**	**$0.5**	**No Change**	**No Change**

Alternative	Capital Cost (construction) (millions)	Present Value of O&M (millions)	Total Present Value Cost (construction and O&M) (millions)	Time Estimates to Achieve RAOs and Groundwater Target Concentrations (years)	
				Residential	Industrial/ Commercial
DA-3: Targeted In-Situ Treatment of Downgradient Area	$1.9	$0.9	$2.8	Reduces SA-3 or SA-4 time by 2 yrs.	No Change
Vapor Intrusion Alternatives					
VI-1: No Further Action - Vapor Intrusion	$0	$0.6	$0.6	Does not achieve RAOs	
VI-2: Installation and Maintenance of SSD Systems (the preferred alternative)	**$1.6**	**$0.9**	**$2.5**	**1**	

c. Modifying Criteria

The modifying criteria of State acceptance and Community acceptance are used as the final evaluation of remedial alternatives, generally after EPA has received public comment on the RI/FS and Proposed Plan.

8. State Acceptance
This criterion addresses the State's position and key concerns related to the preferred alternative and other alternatives, and the State's comments on ARARs or the proposed use of waivers.

The State of Connecticut, through its lead agency, the Connecticut Department of Energy and Environmental Protection, has expressed its support for the preferred alternatives presented in the Proposed Plan and concurs with the selected remedies outlined in this ROD. See Appendix E for the State concurrence letter.

9. Community Acceptance
This criterion addresses the public's general response to the alternatives described in the Proposed Plan and RI/FS reports, and in particular to the public's response to EPA's proposed plan.

EPA's extensive community engagement efforts at the Site, including the publication of a proposed plan and the holding of multiple public meetings, are described above in Section C. A Public Hearing was held on July 26, 2016, at the Stratford High School. A transcript was created for this hearing and has been made part of the Administrative Record for this Record of Decision. In addition to the oral comments received at the hearing, a number of written comments were also provided. All comments received during the public comment period and EPA's responses to comments are included in the Responsiveness Summary, which is Part 3 of this Record of Decision.

There was general acceptance for EPA's Selected Remedy for OU2.

K.2. Comparative Analysis of Alternatives for OU3 (Upper Ferry Creek)

a. Threshold Criteria

See the analysis for OU2 (Groundwater) above for a description of the criteria.

1. Overall Protection of Human Health and the Environment
Alternative OU3-1 does not provide any protection of human health and the environment because no actions would be taken to address contaminated soils and sediment in excess of state cleanup regulations and federal criteria.

Alternative OU3-2 provides minimal protection of human health and no protection of the environment. Institutional controls, such as fencing and signage, are the only actions taken to prevent direct human contact with contaminated soils and sediment, and such controls minimize but do not effectively reduce such exposure. There would be no protection of the environment under this alternative.

Alternatives OU3-4 and OU3-5 provide the most protection. The alternatives are equally protective and address contaminated soil and sediment by excavating/dredging Ferry Creek sediment, soils, and wetland soils. The alternatives would protect human health and the environment by preventing direct contact, ingestion, and inhalation through removal of the contaminated sediment and soil. The bottom of each excavation would be lined with a geotextile fabric to prevent serve as a warning layer then backfilled using clean soil material in order to create a clean soil cover that prevents direct contact with remaining contaminated material.

2. Compliance with Applicable or Relevant and Appropriate Environmental Requirements

(ARARs)

There is no ARAR analysis for Alternative OU3-1 because no action is being taken under this alternative. Alternative OU3-2 would not comply with ARARs because contaminants in Raymark Waste would remain accessible in soil and sediment in excess of CTDEEP cleanup regulations and federal criteria. Alternatives OU3-4 and OU3-5 would render the remaining contaminated soil and sediment inaccessible, and would be compliant with the chemical-specific CTDEEP Direct Exposure Criteria and Pollution Mobility Criteria.
would comply with federal and state location-specific ARARs. OU3-4 and OU3-5 would have unavoidable impacts to the wetlands and Ferry Creek so that contaminated soil and sediment can be excavated and removed, but the alternatives would mitigate the damages, backfill with clean materials, and restore the wetlands vegetation and Ferry Creek. Although construction would occur in the floodplains, the completed remedial actions would not impair the flood way or decrease flood storage capacity because the area would be backfilled to the original grade. EPA has tentatively identified the Atlantic sturgeon as an endangered species that may need protective measures during cleanup to minimize potential disturbances. Other mitigation measures may be required during water diversion activities to protect aquatic life.

Alternatives OU3-4 and OU3-5 would comply with federal action-specific ARARs and To-Be-Considered regulations (“TBCs”) by planning for contingencies during the remedial design for avoiding releases of asbestos, avoiding introduction of invasive species, managing storm water discharges, and managing PCB-contaminated wastes during the remedial actions. Should wastewater be generated during remedial activities that requires either discharges to surface water bodies or a local publicly owned treatment works, appropriate substantive treatment and pre-treatment requirements would be met.

Alternatives OU3-4 and OU3-5 would comply with state regulations for categorizing, handling, and managing identified hazardous wastes. Alternatives OU3-4 and OU3-5 would comply with state action-specific ARARs and TBCs by taking appropriate measures for well installation and abandonment, managing hazardous investigation-derived waste, controlling noise during remediation, and avoiding erosion through proper soil and sediment erosion control programs.

Because Alternative OU3-1 failed both threshold criteria above (overall protection of human health and the environment, and compliance with ARARs), this alternative is not included in the remainder of the comparative analysis.

b. Primary Balancing Criteria

3. Long-Term Effectiveness and Permanence
Alternatives OU3-4 and OU3-5 offer the most long-term effectiveness and permanence, followed by Alternative OU3-2. Because active remediation is not a component of Alternative OU3-2,

residual risks are only minimally decreased through institutional controls.

Alternatives OU3-4 and OU3-5 include excavation/dredging of contaminated soil, sediment, and wetland soil, which is a very reliable technology. However, the tidal influence on Ferry Creek means that there is the likelihood that the excavated areas may be re-contaminated to some extent by both up-stream and down-stream sources.

Alternative OU3-2 is the least reliable alternative, since the effectiveness of this alternative is contingent upon the implementation and maintenance of the institutional controls placed on OU3. Alternatives OU3-4 and OU3-5 are equally and very reliable. Additional actions can be implemented for all three alternatives, if needed.

The effectiveness of each alternative is readily monitored through periodic inspections and maintenance.

Five-Year Reviews would be required because contamination would remain at OU3 below a depth of two feet (in the Ferry Creek channel) or four feet (banks of Ferry Creek and wetland soils).

4. Reduction of Toxicity, Mobility, or Volume through Treatment

Alternative OU3-5 would likely provide the most reduction of toxicity, mobility, and volume through treatment, followed by Alternative OU3-4. Under OU3-5, wastes to be accepted by an off-site licensed facility may require pre-treatment to reduce the potential mobility of lead. For OU3-4, only wastes that exceed certain regulatory levels or the capacity at OU4 would be sent for disposal at a licensed facility and would likely be pre-treated to meet disposal requirements. None of the alternatives, OU3-2 through OU3-5, would incorporate active treatment directly.

5. Short-Term Effectiveness

Alternative OU3-2 would be the most effective in the short-term because risks to the community and workers during implementation would be minimal.

Alternatives OU3-4 and OU3-5 pose the most potential risks to the community and workers during implementation because both alternatives would involve the excavation, handling, and temporary storage of contaminated soil, wetland soils, and creek sediment. Additional risks to the community and workers may occur as the result of additional truck traffic in order to transport the excavated soil and sediment to the consolidation area (OU3-4) and to the out-of-town disposal facility (OU3-5). Because wastes have to be transported for much longer distances (several hundred miles) under OU3-5, it would pose more risks than OU3-4, which would require relatively short distances for waste transport.

Short-term impacts to the environment include emissions from on-site equipment, trucks delivering clean soil cover materials to OU3, and the transport of excavated material out of OU3. Wetlands would need to be cleared of vegetation prior to excavation, resulting in the unavoidable destruction of the wetlands. In addition, the excavation, diversion, and dewatering of Ferry Creek would cause unavoidable destruction to aquatic life in Ferry Creek. However, this alternative would include mitigation measures and restoration to rebuild the damaged wetlands, ecosystems, and stream channel.

Alternative OU3-2 has the shortest implementation time of about four months, but would not achieve cleanup goals. Alternatives OU3-4 and OU3-5 are anticipated to be implemented in approximately ten months and would achieve RAOs at the end of the implementation period.

6. Implementability

Alternative OU3-2 is the most readily implementable alternative, followed by alternatives OU3-4 and OU3-5. Due to the minimal construction required (well decommissioning and new well installation) for OU3-2, it would be the easiest to construct and operate. Both alternatives OU3-4 and OU3-5 include the excavation/dredging of contaminated soil, sediment, and wetland soil, which may be challenging due to its location in the 100-year and 500-year floodplains. In addition, for both Alternatives OU3-4 and OU3-5, the soil, sediment, and wetland soil contain hazardous materials, including asbestos, which would require specially trained workers and supervisors to perform the work, monitor conditions, and minimize potential airborne emissions. In addition, special measures may be used during the excavation of wetland soil and Ferry Creek sediment to minimize impacts to aquatic life.

Alternative OU3-2 would likely generate small quantities of waste materials (drilling spoils) that would need to be disposed at an off-site licensed facility. Alternative OU3-4 would require greater off-site disposal capacity because some excavated materials may exceed regulatory levels and would require off-site disposal. Alternative OU3-5 would require the most off-site disposal capacity because all excavated materials would be sent for off-site disposal. While a number of off-site facilities are capable of receiving RCRA hazardous wastes, PCB-contaminated wastes, and asbestos wastes, the combination of these three constituents, with leachable lead, may pose challenges for finding disposal facilities.

No specialty equipment or specialists are needed to implement alternative OU3-2. Generally, typical construction equipment (excavators, graders, trucks, etc.) with trained personnel are available to address hazardous waste remediation for Alternatives OU3-4 and OU3-5. However, some specialty equipment and personnel may be required to excavate or dredge Ferry Creek and the adjacent wetlands, control dust emissions, and dewater sediment. All prospective technologies are readily available.

7. Cost

The total estimated capital and net present value cost of the four OU3 cleanup alternatives is presented in the table below. Further details are presented in Appendix G of the OU3 FS Report. Alternative OU3-1 is the least expensive alternative, and Alternative OU3-5 is the most expensive. Both OU3-4 and OU3-5 provide the same degree of protectiveness, however, Alternative OU3-4 is much less costly than OU3-5. Alternative OU3-4 would cost approximately $19.9 million, while Alternative OU3-5 would cost $55.8 million, due to increased off-site transport and disposal costs.

Alternative	**Capital Cost** **(construction)** (millions)	**Present Value of O&M** (millions)	**Total Present Value Cost** **(construction and O&M)** (millions)	**Time Estimate to Achieve RAOs** (years)
OU3-1 – No Action	$0	$0.2	$0.2	Does not achieve RAOs
OU3-2 – Limited Action	$0.6	$2.1	$2.7	0.3
OU3-4 – Excavation and in-Town Consolidation	**$17.8**	**$2.1**	**$19.9**	**0.8**
OU3-5 – Excavation and Out-of-Town Disposal	$53.7	$2.1	$55.8	0.8

c. Modifying Criteria

8. State Acceptance

The State of Connecticut, through its lead agency, the Connecticut Department of Energy and Environmental Protection, has expressed its support for the preferred alternatives presented in the Proposed Plan and concurs with the selected remedies outlined in this ROD. See Appendix E for the State concurrence letter.

9. Community Acceptance

EPA's extensive community engagement efforts at the Site, including the publication of a proposed plan and the holding of multiple public meetings, are described above in Section C. A

Public Hearing was held on July 26, 2016, at the Stratford High School. A transcript was created for this hearing and has been made part of the Administrative Record for this Record of Decision. In addition to the oral comments received at the hearing, a number of written comments were also provided. A summary of the comments specific to the proposed alternative for OU3 follows. For an overall summary of the public comments received on the preferred remedy, please see Section K.5.

No direct opposition was received with regard to the proposed alternative for OU3. Commenters were primarily concerned with the safe handling of the waste material during excavation and wanted more detail. A couple of commenters expressed concern regarding the potential removal of mature trees along the banking of Upper Ferry Creek. Others wanted more detail regarding how the banking, especially in areas of steep slopes, will be restored.

K.3. Comparative Analysis of Alternatives for OU4 (Raybestos Memorial Ballfield)

a. Threshold Criteria

1. Overall Protection of Human Health and the Environment

Alternative OU4-1 does not provide any protection of human health and the environment because no actions would be taken to address contaminated soil that exceeds state and federal risk criteria.

Alternative OU4-2 provides minimal protection of human health and no protection of the environment. Institutional controls, such as fencing and signage, are the only actions taken to prevent direct human contact with contaminated soil, and such controls minimize but do not effectively reduce such exposure.

Alternative OU4-4 is the most protective because all Raymark Waste above the water table would be removed for out-of-town disposal. Alternatives OU4-3 and OU4-5 provide comparable protection through a combination of excavating, consolidating and/or capping of contaminated waste. The capping alternatives would require on-going monitoring and maintenance. Alternative OU4-3 is the only alternative that would allow the consolidation of material from OU3 and OU6.

2. Compliance with Applicable or Relevant and Appropriate Environmental Requirements (ARARs)

There is no ARARs analysis for OU4-1 because no action is being taken under this Alternative. Alternative OU4-2 would not comply with ARARs because contaminants in Raymark Waste would remain accessible in soils in excess of CTDEEP cleanup regulations and federal criteria. Alternatives OU4-3, 4 and 5 would render the remaining contaminated soil inaccessible and would be compliant with the chemical-specific CTDEEP Direct Exposure Criteria and Pollution

Mobility Criteria.

Alternative OU4-2 would comply with federal and state location-specific ARARs. The installation of monitoring wells would not affect wetlands, floodplains, or tidal coastal areas. Evaluation for potential endangered species and habitats would be performed prior to start of work to avoid potential disturbances. OU4-2 would also comply with federal action-specific ARARs by taking appropriate measures during drilling and monitoring well installation to avoid releases of asbestos and fugitive dusts, avoid the introduction of invasive species, and appropriately manage PCB-contaminated investigation-derived waste.

For location-specific ARARS, Alternatives OU4-3, 4, and 5 would evaluate the potential presence of endangered species or habitat during remedial design and avoid or mitigate impacts. There are no wetlands on OU4, and a very small portion of OU4 in the south east corner (beyond the proposed capped area) is within the 500 year floodplain. Alternatives OU4-3, 4, and 5 would comply with action-specific ARARs. Consultation with the State Historic Protection Officer (SHPO) has been completed, and the SHPO concurs with EPA's determination there will be no adverse effect on OU4, although the SHPO strongly encourages redevelopment that includes memorialization of the Ballfield.

Because Alternative OU4-1 failed both threshold criteria above (overall protection of human health and the environment, and compliance with ARARs), this alternative is not included in the remainder of the comparative analysis.

b. Primary Balancing Criteria

3. Long-Term Effectiveness and Permanence

Alternatives OU4-3, OU-4, and OU4-5 have the most long-term effectiveness and permanence, followed by Alternative OU4-2.

Alternative OU4-2 only minimally decreases risks. Alternatives OU4-3, OU4-4, and OU4-5 have the most long-term effectiveness and permanence. Alternatives OU4-3 and OU4-5 are capping alternatives; once the cap is constructed, it is reliable as long as scheduled inspections and maintenance are performed. Alternative OU4-4 has the greatest long-term effectiveness and permanence because Raymark Waste above the mean high water table would be excavated and removed from OU4.

4. Reduction of Toxicity, Mobility, or Volume through Treatment

None of the alternatives apply active treatment, as a treatment alternative was eliminated during the screening of alternatives due to a number of considerations described in Appendix F the OU4 Feasibility Study. Note, however, that for any alternative that involves out-of-town disposal, all wastes to be accepted by an off-site licensed disposal facility may require pre-treatment of some specific chemicals to meet disposal requirements.

5. Short-Term Effectiveness
OU4-2 poses low risk to the community and workers during implementation since minimal constriction activities, such as well drilling, would be undertaken.

Of the active remediation alternatives, Alternative OU4-5 involves the least amount of handling and movement of Raymark Waste, followed by OU4-3, which would require Raymark Waste consolidation and capping. OU4-4, which would require excavation, dewatering, and long-distance transport of Raymark Waste, would pose the greatest short-term risk to the community and workers.

Alternative OU4-5 has a moderate risk to the community and workers during implementation. Since the Raymark Waste would be capped in place, only minor grading is proposed and no major excavation would be conducted. Non-Raymark Waste would remain outside the cap. Alternative OU4-3 would have greater risk than OU4-5, but less than Alternative OU4-4, which would pose the most risk to the community and workers during implementation. The construction of the OU4 consolidation area in alternative OU4-3 would result in possible emissions of dust and particulates and increased vehicular and truck traffic. Alternative OU4-4 would result in high potential for dust emissions and an increased number of trucks in order to transport the excavated Raymark Waste off-site, and bring clean fill material on-site. Engineering controls would be used to minimize dust creation from demolition, soil/sediment excavation, and consolidation area construction.

Alternative OU4-3 has an implementation time of 2.1 years. Alternative OU4-4 is anticipated to be implemented in 1.4 years and Alternative OU4-5 in 1.9 years.

6. Implementability
Alternative OU4-2 is the most implementable alternative, followed (in order) by Alternatives OU4-5, OU4-3, and OU4-4.

Due to the minimal construction required, OU4-2 would be the easiest to implement. Alternatives OU4-3 and OU4-5 are more difficult to implement because of construction of the cap and need for significant storm water management. Alternative OU4-4 uses basic excavation and out-of-town disposal methods to address the risks posed by the Raymark Waste contaminated soil and can be implemented more easily.

Alternative OU4-2 uses minimal technology, and long-term monitoring is reliable. Capping under OU4-3 and OU4-5 is a reliable technology when the caps are inspected and maintained. Alternative OU4-4's off-site transport and disposal is a reliable technology and is effective.

Alternative OU4-3 may require out-of-town off-site disposal of Raymark Waste that exceeds the available consolidation capacity at OU4 (estimated at 85,000 cubic yards). OU4-5 may require a small amount of material to be sent to a licensed disposal facility. For OU4-4 all of the Raymark Waste contaminated material would be sent out-of-town. A limited number of disposal facilities are available to accept such Raymark Waste. These facilities have capacity to receive this waste, but they are located several hundred miles from the Site.

7. Cost

Alternative OU4-1 is the least expensive alternative and alternative OU4-4 is the most expensive alternative. Cost summaries are included in the table below.

Alternative	**Capital Cost** **(construction)** (millions)	**Present Value of O&M** (millions)	**Total Present Value Cost** **(construction and O&M)** (millions)	**Time Estimate to Achieve RAOs** (years)
OU4-1 – No Action	$0	$0.04	$0.04	Does not achieve RAOs
OU4-2 – Limited Action	$0.3	$0.7	$1.0	Does not achieve RAOs
OU4-3 - Consolidation, Capping, and Institutional Controls	**$43.4**	**$2.3**	**$45.7**	**2.1**
OU4-4 - Excavation, Out-of-Town Disposal, and Institutional Controls	$143.9	$0.6	$144.5	1.4
OU4-5 – Capping and Institutional Controls	$31.7	$2.3	$34.0	1.9

c. Modifying Criteria

8. State Acceptance
The State of Connecticut, through its lead agency, the Connecticut Department of Energy and Environmental Protection, has expressed its support for the preferred alternatives presented in the Proposed Plan and concurs with the selected remedies outlined in this ROD. See Appendix E for the State concurrence letter.

9. Community Acceptance
EPA's extensive community engagement efforts at the Site, including the publication of a proposed plan and the holding of multiple public meetings, are described above in Section C. A Public Hearing was held on July 26, 2016, at the Stratford High School. A transcript was created for this hearing and has been made part of the Administrative Record for this Record of Decision. In addition to the oral comments received at the hearing, a number of written comments were also provided. A summary of the comments specific to the proposed alternative for OU3 follows. For an overall summary of the public comments received on the preferred remedy, please see Section K.5.

The proposed alternative for OU4 received the strongest opposition. Several commenters cited concerns over the placement of consolidated waste at the Raybestos Memorial Ballfield. Several commenters expressed concern about the consolidation given the proximity to a residential neighborhood, a school, and a park. Many expressed an opinion that EPA was placing cost ahead of public health and safety and asked for the out-of-town disposal of Raymark Waste. Commenters were also concerned about cap failure and with the safe handling of the waste material during excavation and wanted more detail. EPA has responded to these concerns in a Responsiveness Summary contained in Part 3 of this ROD.

K.4. Comparative Analysis of Alternatives for OU6 (Additional Properties)

a. Threshold Criteria

1. Overall Protection of Human Health and the Environment
Alternative 1 (No Action) would provide no protection of human health and the environment because contamination would remain in soil in excess of state and federal risk criteria. Alternative 2 (Limited Action) may provide limited protection, if institutional controls are followed, monitored, and enforced. Alternatives 9 and 10 (Excavation to four feet) would provide protection through the excavation of Raymark Waste and the backfilling with clean materials to create four foot soil covers for any remaining contaminated material. Institutional control restrictions are necessary to ensure that the remedy is maintained and that future exposures do not occur.

2. Compliance with Applicable or Relevant and Appropriate Environmental Requirements

(ARARs)
There is no ARARs analysis for Alternative 1 because no action is being taken under this alternative. Alternative 2 would not comply with ARARs because contaminants in Raymark Waste would remain accessible in soils in excess of CTDEEP RSR cleanup regulations and federal criteria. Alternatives 9 and 10 would render the remaining contaminated soil inaccessible and would be compliant with the chemical-specific CTDEEP RSR Direct Exposure Criteria and alternative Pollution Mobility Criteria, without the need to maintain pavement. Excavation and backfilling would be conducted to avoid or minimize impacts to wetlands and all areas would be restored to original grade to avoid impacts to floodplains. Alternatives 9 and 10 would comply with all other chemical-, action-, and location-specific ARARs.

Because Alternative 1 failed both threshold criteria above (overall protection of human health and the environment, and compliance with ARARs), this alternative is not included in the remainder of the comparative analysis.

b. Primary Balancing Criteria

3. Long-Term Effectiveness and Permanence
Residual human health risks for Alternative 2 would still be above acceptable human health risk levels. Residual human health risks after implementation of Alternatives 9 and 10 would be within acceptable limits. However, some Raymark Waste would be left in place below a four foot depth under both alternatives. Alternatives 9 and 10 would be equally reliable because Raymark Waste would be excavated and removed to a four foot depth, which would protect human health through elimination of direct contact with a four foot cover of clean fill. Alternatives 9 and 10 can provide protection in the long-term if the thickness of clean backfill is maintained. Alternatives 9 and 10 could be designed to allow for redevelopment.

4. Reduction of Toxicity, Mobility, or Volume through Treatment
No treatment would be performed for Alternative 2. Alternatives 9 and 10 would not involve any on-Site treatment, but all wastes to be accepted by an off-site licensed disposal facility may require some pre-treatment to meet disposal requirements. This treatment would result in the reduction of toxicity, mobility, and volume of a portion of Raymark Waste.

5. Short-Term Effectiveness
Minimal actions would be taken under Alternative 2, therefore there would be minimal short-term impacts to the community, workers, or the environment. The moderate, short-term impacts to the community, workers, and the environment from the implementation of Alternatives 9 and 10 would be similar and can be minimized using proper measures and controls. Alternative 10 would involve a higher volume of truck traffic over significantly longer distances to transport Raymark Waste and may have greater short-term impacts than Alternative 9. For both alternatives, any adverse impacts to wetlands and floodplains would be minimized. A range of

remediation timeframes to achieve RAOs for both Alternatives 9 and 10 is presented in the table below as cleanup timeframes and would be dependent upon the number of excavations that could occur at different properties simultaneously. The shortest timeframe (1.8 years) represents up to three simultaneous excavations and the longest timeframe (5.4 years) represents only a single excavation occurring at any one time. These estimated time frames do not include the amount of time necessary to complete remedial activities at the consolidation area at OU4. The final excavation approach would need to consider a number of factors including traffic patterns and would be determined in the Construction Management Plan during the remedial design.

6. Implementability

All alternatives would require coordination with property owners and state and local entities for implementation of land use controls and long-term monitoring. Alternative 2 can be easily implemented because equipment, materials, and trained personnel are readily available. Alternatives 9 and 10 can be implemented through standard construction and environmental remediation methods. Equipment, materials, and trained personnel are readily available to implement Alternatives 9 and 10, which would require excavation, placement of clean fill, backfilling, grading, paving, and minimal O&M to maintain backfill integrity.

Of the active remedial actions, Alternative 9 can be more readily implemented than Alternative 10 because the majority of excavated Raymark Waste would be consolidated at OU4 rather than long-distance shipping to an off-site disposal facility. Alternatives 9 and 10 are amenable to additional remedial actions at each property.

7. Cost

The total estimated present value cost of all of the OU6 cleanup alternatives is presented in the table below. Alternative 1 would cost the least to implement as no actions would be implemented. Alternative 2 would cost more than Alternative 1 because limited actions would be taken. Of the protective alternatives, Alternative 9 would cost less than Alternative 10 because Alternative 10 has greater off-site transport and costs for disposal at a licensed facility. Alternative 9 would cost approximately $27.0 million, while Alternative 10 would cost $69.0 million.

Alternative	**Capital Cost** **(construction)** (millions)	**Present Value of O&M** (millions)	**Total Present Value Cost** **(construction and O&M)** (millions)	**Time Estimate to Achieve RAOs** (years)

1 – No Action	$0	$0.4	$0.4	Does not achieve RAOs
2 – Limited Action	$1.1	$9.8	$10.9	Does not achieve RAOs
9 – Excavation to 4 feet, In-Town Consolidation	**$18.0**	**$9.0**	**$27.0**	**1.8-5.4**
10 –Excavation to 4 feet, Out-of-Town Disposal	$60.0	$9.0	$69.0	1.8-5.4

c. Modifying Criteria

8. State Acceptance

The State of Connecticut, through its lead agency, the Connecticut Department of Energy and Environmental Protection, has expressed its support for the preferred alternatives presented in the Proposed Plan and concurs with the selected remedies outlined in this ROD. See Appendix E for the State concurrence letter.

9. Community Acceptance

EPA's extensive community engagement efforts at the Site, including the publication of a proposed plan and the holding of multiple public meetings, are described above in Section C. A Public Hearing was held on July 26, 2016, at the Stratford High School. A transcript was created for this hearing and has been made part of the Administrative Record for this Record of Decision. In addition to the oral comments received at the hearing, a number of written comments were also provided. A summary of the comments specific to the proposed alternative for OU3 follows. For an overall summary of the public comments received on the preferred remedy, please see Section K.5.

No direct opposition was received with regard to the proposed alternative for OU6. Several of the business owners expressed support for the proposed alternative citing difficulty in obtaining loans with the waste on their properties. Several expressed concern regarding potential disruption to their businesses during remediation.

K.5. Overall Comparative Analysis

EPA's extensive community engagement efforts at the Site, included the publication of a proposed plan and the holding of multiple public meetings, are described above in Section C. A Public Hearing was held on July 26, 2016, at the Stratford High School. A transcript was created for this hearing and has been made part of the Administrative Record for this Record of Decision. In addition to the oral comments received at the hearing, a number of written comments were also provided.

From all comments received, more than half the commenters did not support the proposed plan citing concerns over the placement of consolidated waste within the Town of Stratford, and specifically at the Raybestos Memorial Ballfield. Many cited concerns over the proximity of the ballfield to homes, schools and public parks. Several of these commenters submitted a form letter to express their concerns. These same commenters requested the development of a fully-funded cleanup plan that removes most, if not all, of the Raymark waste out-of-town. Some commenters also expressed concerns over potential groundwater impacts including vapor intrusion from volatile organic compounds, and safety concerns while performing the remediation. Less than half the commenters expressed support for the proposed plan citing the need for a permanent solution and strong desire to have the cleanup completed. Many of these commenters also cited the availability of funds for the cleanup as an important factor in offering support. Many requested input into the cleanup details including air monitoring and other safety protocols, the establishment of noise mitigation measures and traffic patterns. Both CTDEEP and the Stratford Health Department documented support for the proposed plan citing the ongoing exposure risks.

All written and verbal comments received during the public comment period and EPA's responses to comments are included in the Responsiveness Summary, which is Part 3 of this Record of Decision.

The following is a summary in general terms of why the Selected Remedy provides the best balance of tradeoffs with respect to CERCLA's remedy selection criteria**.**

Groundwater (Operable Unit 2)

EPA recommends a combination of Source Area (SA) Alternative-1: No Further Action; Downgradient Area (DA) Alternative-2: Limited Action; and Vapor Intrusion (VI) Alternative-2: Installation and Maintenance of Ventilation Systems.

Source Area: SA-1 is selected because actions to contain, eliminate, or treat the DNAPL source at the former Raymark facility would not be effective and implementable given the mixed nature of the subsurface materials, the depth and form of the bedrock (especially the deep bedrock valleys), the constraints posed by the impermeable cap and retail development on OU1, and the difficulty of effectively injecting treatment chemicals into the DNAPL. Modeling of the effectiveness of the DNAPL containment and treatment alternatives indicates that such alternatives would only achieve target groundwater cleanup levels after hundreds of years, at a significant cost. EPA also evaluated optimizing the existing passive DNAPL extraction system (SA-2). However, the system is only extracting a minimal amount of a mix of groundwater and DNAPL, and it cannot be effectively optimized to reduce the DNAPL source, or increase the attenuation of contamination much beyond natural attenuation. Accordingly, EPA will discontinue the existing passive system, and instead rely on the institutional controls that are already in place at OU1 and the vapor intrusion alternatives described below to address OU2 risks.

Downgradient Area: DA-2 is selected because the OU2 groundwater plume is contaminated above drinking water standards. Although public water is currently supplied to those living and working in the downgradient area, institutional controls are needed to address and prevent potential future risk from contaminated groundwater in the OU2 plume, such as from installing drinking wells. The active alternative (DA-3) would not effectively reduce the time to meet groundwater cleanup levels.

Vapor Intrusion Alternatives: EPA is selecting VI-2, which involves the continued operation and maintenance of the existing ventilation systems in 106 homes, plus the installation of vapor ventilation systems in up to 20 additional buildings. Alternative VI-2 is a conservative and pre-emptive action because the 106 homes and the additional buildings are located within an area of potentially unacceptable risks from vapor intrusion. An assessment of a limited number of buildings will be also be conducted to determine whether vapor ventilation systems are needed on those properties and, if so, systems will be installed.

Consolidation Alternatives (OUs 3, 4, and 6)

For OUs 3, 4, and 6, EPA recommends an in-town consolidation remedy that is a combination of Alternative OU3-4 for Ferry Creek, Alternative OU4-3 for the Ballfield, and Alternative 9 for the OU6 Additional Properties. The consolidation and capping of Raymark Waste from OU3 and OU6 is a safe, proven, and cost-effective method for managing this large volume of waste material and will allow the former Ballfield property to be returned to productive use. The overall estimated cost of the proposed consolidation remedy (not including OU2 costs) is $92.6 million. Were EPA to select a combination of alternatives that would result in excavation and out-of-town disposal of Raymark Waste from OUs 3, 4 and 6 (OU3-5 for Ferry Creek, OU4-4 for the Ballfield, and Alternative 10 for OU6), Raymark Waste would have to be transported several hundred miles to licensed facilities in the mid-west at an overall estimated cost of $269.3 million, with no added protection to human health or the environment. Because EPA is required by Superfund laws and regulations to select cost-effective remedies, out-of-town disposal, at over three times the cost of in-town consolidation, with no added protection, would not be a cost-effective remedy. Further evaluation for the selected alternative at OUs 3, 4 and 6 follows:

Upper Ferry Creek (Operable Unit 3)

Alternatives OU3-1 and OU3-2 are not viable because they would leave Raymark Waste in place above unacceptable human-health risk levels and would not comply with ARARs. These alternatives would allow this waste to continue to erode into Ferry Creek, causing continued environmental risks.

Alternatives OU3-4 and OU3-5 are both protective of human health and the environment and comply with ARARs. Alternative OU3-4 is the preferred alternative because it is achieves the same level of protection as the other alternative but at a much lower cost than OU3-5. Alternative OU3-4 would cost approximately $19.9 million, while Alternative OU3-5 would cost $55.8 million, due to off-site transport and disposal costs. Alternative OU3-4 involves the consolidation of excavated material at the consolidation area at OU4 instead of the out-of-town disposal that is part of Alternative OU3-5. Alternative OU3-4 would also involve less truck traffic and energy use than Alternative OU3-5.

Former Ballfield (Operable Unit 4)

Alternatives OU4-1 and OU4-2 are not viable because they would leave Raymark Waste in place above unacceptable human-health risk levels and would not comply with ARARs.
Of the remaining alternatives, OU4-3 is the Selected Remedy because it will address the threats posed by the Raymark Waste currently located on OU4 and allow for the consolidation of Raymark Waste from OU3 and OU6. The alternative will also indirectly address the non-Raymark Waste located on OU4, allowing for redevelopment of the area. Short-term risks from construction activities would be mitigated and managed through controls such as air monitoring and dust suppression. Alternative OU4-3 will cost approximately $45.7 million, while Alternative OU4-4 would cost $144.5 million, due to off-site transport and disposal costs, and Alternative OU4-5 would cost $34.1 million. While Alternative OU4-5 is less costly than the Selected Remedy, OU4-5 would not allow for consolidation of Raymark Waste from OU3 and OU6, significantly increasing the costs of those remedies. (OU4-4 would also not allow for such consolidation.) Also, neither OU4-4 nor OU4-5 would address the non-Raymark Waste area located on OU4.

Additional Properties (Operable Unit 6)

Alternatives 1 and 2 are not viable because they would leave Raymark Waste in place above unacceptable human-health risk levels and would not comply with ARARs.
Alternative 9 is the Selected Remedy, as it will address the potential threats posed by direct contact with Raymark Waste by excavating contaminated soil, and by backfilling and creating clean four-foot soil covers over any remaining contaminated materials. Ongoing minimal maintenance of these soil covers would meet state requirements for direct exposure criteria and alternative pollutant mobility criteria. Alternative 9 is as protective as Alternative 10 but is much less costly. Alternative 9 would cost approximately $27.0 million, while Alternative 10 would cost $69.0 million, due to off-site transport and disposal costs. Alternative 10 does not provide any additional protectiveness at a significantly higher cost. Also, Alternative 10 involves more

truck traffic and energy use than Alternative 9 due to the need for long-distance transport of Raymark Waste.

L. PRINCIPAL THREAT WASTE

The National Contingency Plan (NCP), which governs EPA cleanups, at 40 CFR Section 300.430(a)(1)(iii) states that EPA expects to use "treatment to address the principal threats posed by a site, wherever practicable" and "engineering controls, such as containment, for waste that poses a relatively low long-term threat" to achieve protection of human health and the environment. This expectation is further explained in an EPA fact sheet (OSWER #9380.3-06FS), which states that principal threat wastes are source materials considered to be highly toxic or highly mobile that generally cannot be reliably contained or would present a significant risk to human health or the environment should exposure occur. There is no chemical-specific or overall threshold levels for determining what constitutes a principal threat waste, but where toxicity and mobility combine to pose a carcinogenic risk of 1 x 10^{-3} or greater, the fact sheet states that treatment should be evaluated.

For the OU3, OU4 and OU6 properties, the majority of Raymark Waste in soil is not considered to be "principal threat waste," but rather "low-level threat waste." However, some areas of Raymark Waste do pose an estimated carcinogenic risk greater than 1 x 10^{-3} for some receptors. Therefore, EPA and CTDEEP evaluated numerous treatment methods, and combinations of treatment methods, and have concluded that treatment is not viable or practicable due to the numerous and diverse nature of the contaminants found in Raymark Waste. No single or combination of treatment processes would completely destroy Raymark Waste. For more information, see the OU4 Feasibility Study Report.

As for groundwater, contamination in a denser-than-water undissolved state, called dense non-aqueous phase liquid, is present beneath OU1. This DNAPL is a principal threat waste as it is toxic and a continuing source of contamination in the downgradient groundwater; however, it is not mobile. As discussed in Section K.5, because of a number of limitations, treatment of such DNAPL contamination would not be effective and implementable.

L.1. Corrective Action Management Unit (CAMU)

Corrective Action Management Units ("CAMU") are designated areas created under federal Resource Conservation and Recovery Act ("RCRA") regulations to facilitate the treatment, storage, and disposal of hazardous waste, especially during cleanups. The CAMU regulations establish standards for CAMU-eligible waste and minimum design requirements for CAMUs to ensure that the consolidation of waste is implemented in a manner that is protective of human health and the environment.

When the original OU6 FS Report was prepared in 2011, an in-town location for a CAMU for consolidation of Raymark Waste had not been selected (Nobis, 2011). However, six possible consolidation locations were identified and screened in Appendix F of the 2011 OU6 FS as follows: (1) the former Raybestos Memorial Field (OU4), (2) the Stratford Landfill and Short Beach Park Area (OU9), (3) the Lockwood Avenue property, (4) a portion of Ferry Creek (OU3), (5) the 576/600 East Broadway property, and (6) the properties at 230/250/280/300 Ferry Boulevard. The results of that screening indicated that OU4 and OU9 would be suitable consolidation areas.

Of these two areas, EPA has determined that OU4 is the appropriate CAMU location for the in-town consolidation of Raymark Waste. OU4 has a greater capacity (estimated 85,000 cubic yards) to accept waste than would OU9 (previously estimated at 50,000 cubic yards, although possibly far less due to Federal Aviation Administration height restrictions). OU4 is not situated within the 100-year floodplain, while portions of OU9 are located within the 100-year floodplain. (Only a very small portion of OU4 is located within the 500-year flood elevation.) OU4 is located closer to a majority of the OU3 and OU6 properties (about one mile verses three miles). Both OU4 and OU9 already have significant volumes of Raymark Waste. On the basis of these evaluations, OU4 is more suitable than OU9 as a CAMU for consolidating and managing Raymark Waste in the long-term.

The CAMU rule establishes standards and minimum design requirements to ensure that waste consolidation is implemented in a protective manner. The minimum design standards for a new CAMU require a cap, liner, and leachate collection system. An alternative design, however, will be used for the OU4 CAMU. Pursuant to 40 Code of Federal Regulations Section 264.552(e)(3)(ii), a CAMU without a liner and leachate collection system may be constructed if an alternative design will prevent the migration of contamination at least as effectively as a CAMU with a liner and leachate collection system, or if a CAMU is to be established in an area with significant existing contamination and the alternative design would prevent migration that would exceed long-term remedial goals.

A CAMU at OU4 that does not have a liner and leachate collection system meets both of these alternative design requirements. OU4 contains significant levels of existing contamination, both within and outside of the Raymark Waste areas. There will be minimal, if any, leaching of any consolidated Raymark Waste because such waste will be placed well above the water table and covered by a low-permeability cap. Although Raymark Waste does not appear to present a significant leaching threat, all Raymark Waste excavated from OUs 3 and 6 will first be characterized and any portion found to be in excess of certain CAMU treatment standards will be transported off-site for treatment and disposal (see discussion of Principal Hazardous Constituents (PHCs) in sub-Section L.2 below).

Also, a CAMU at OU4 will be located within a state-designated GB aquifer (groundwater not suitable for human consumption without prior treatment), where there are no drinking water wells or other private use wells in the area. The only potential exposure is to surface water receptors, and these exposures would not increase if a liner system is not present. No additional waste is being placed within the water table, and, based on existing groundwater data from OU4, the Raymark Waste located beneath the low-permeability cap is not expected to generate significant leachate. Also, OU4 is located directly up gradient of the former facility (OU1), which is the location of the primary contaminant plume in groundwater. Accordingly, installing a liner and leachate collection system at OU4 would not materially increase protectiveness and would not be the best use of cleanup resources.

A CAMU without a liner and leachate collection system will function at least as effectively as a CAMU with a liner. Also, the property will be created in an area with existing significant contamination, and the low-permeability cap over the entire CAMU should prevent migration that would exceed long-term remedial goals. Long-term monitoring and maintenance will be in place to ensure protectiveness.

L.2. Principal Hazardous Constituents (PHCs)

EPA has determined that Raymark Waste to be excavated from OU3 and OU6 that meets the definition of “principal hazardous constituents (PHC),” as defined by the CAMU Rule, will be disposed of out-of-town. As defined by the RCRA CAMU rule, PHCs are those constituents that are regulated under RCRA that the EPA Regional Administrator determines are “substantially higher than the cleanup levels or goals at the site.” In general, PHCs are those “carcinogens that pose a potential direct risk from ingestion or inhalation at the site at or above 10^{-3}, and non-carcinogens that pose a potential direct risk from ingestion or inhalation at the site an order of magnitude or greater over their reference dose” (see 40 C.F.R. Section 264.552(e)(4)). Accordingly, the Raymark Waste that meets the following criteria will be disposed of out-of-town. Such Raymark Waste must (i) meet the RCRA hazardous waste definition for toxicity characteristic; (ii) contain constituents subject to RCRA’s Land Disposal Restrictions; (iii) contain constituents above the PHC levels; and (iv) exceed the alternative RCRA Land Disposal Restriction (LDR) treatment standards for contaminated soil, which standard is ten times the RCRA Universal Treatment Standards (UTS) promulgated in 40 CFR 268.48. Based on an evaluation of the available data, EPA estimates that approximately ten percent of the estimated +/-110,000 cubic yards of sediment and Raymark Waste to be excavated from OU3 and OU6 may exceed these regulatory PHC limits for CAMUs and thus be transported to an out-of-town, licensed disposal facility.

M. SELECTED REMEDY

1. Summary of the Rationale for the Selected Remedy

The Selected Remedy is a combination of vapor intrusion mitigation actions for OU2 and source control actions for OU3, OU4 and OU6.

The groundwater component of the remedy will protect human health and the environment by using a combination of engineering controls and institutional controls to address the vapor intrusion pathway and current and future direct contact and ingestion of contaminated groundwater.

For source control, the soil, wetland soil, and sediment component of the remedy will protect human health and the environment by eliminating, reducing, or controlling exposures to human and environmental receptors from direct contact, incidental ingestion, or inhalation of contaminated soils, wetland soils, and sediment through excavation, consolidation at the OU4 CAMU location, off-site disposal, capping, and institutional controls.

The Selected Remedy requires long-term monitoring and a review to be conducted every five years to ensure that it remains protective over time.

The Selected Remedy provides the best balance of tradeoffs with respect to CERCLA's remedy selection criteria. See Section K.5 for more details.

2. Detailed Description of Remedial Components

The following is a detailed description of each of the components of the Selected Remedy. The groundwater component is consistent with a combination of Alternatives SA-1, DA-2, and VI-2 described in the June 2016 Feasibility Study report for OU2. The final source control component for OU3, OU4, and OU6 is consistent with Alternatives OU3-4 and OU4-3 described in the June 2016 Feasibility Study reports for OU3 and OU4, and Alternative 9 described in the August 2010 Feasibility Study report and the June 2016 Feasibility Study addendum for OU6. The Selected Remedy for groundwater and source control is also consistent with EPA's preferred alternative outlined in the June 2016 Proposed Plan.

Groundwater OU2 - (Source Area Alternative 1 (SA-1), Downgradient Area Alternative 2 (DA-2), and Vapor Intrusion Alternative 2 (VI-2)).

This portion of the Selected Remedy consists of the following components:

- Install contaminated vapor ventilation systems at approximately 20 additional mostly residential properties;
- Assess potential vapor intrusion risks at additional properties, and install additional ventilation systems as needed;
- Long-term maintenance of the existing and newly installed ventilation systems;
- Institutional controls to limit future use of groundwater and to address potential vapor intrusion risks;
- Long-term groundwater monitoring; and
- Discontinue use of the existing passive DNAPL extraction system at the former Raymark facility (OU1). This is a modification of the remedy set forth in the July 1995 Record of Decision for the OU1 facility.

Groundwater Source Area: EPA will not take further action at the source area, located at the former Raymark facility (OU1), other than to continue the use and enforcement of an existing environmental land use restriction (ELUR) placed on the OU1 land records prohibiting activities that could compromise the integrity of the cap and also prohibiting borings and the installation of new groundwater wells without the permission of CTDEEP and EPA. Residential use of the property is also prohibited. (Declaration of Environmental Land Use Restriction and Grant of Easement, dated February 17, 2000, recorded in Volume 1574, page 011, in the Town of Stratford Land Records.) The ELUR provides, among other things, access for the Grantees (EPA and the State) to the property to ensure the use, occupancy, and activities of and at the property are consistent with the ELUR and with the State's operation and maintenance obligations. Provisions for enforcement of the terms of the ELUR by the State and EPA are also included.

EPA will also be discontinuing the use of the existing passive DNAPL extraction system, which is a modification of the remedy set forth in the OU1 ROD. While some equipment related to the passive extraction system may be decommissioned, the DNAPL recovery wells will remain for future monitoring, and the treatment buildings will remain as necessary components of the active vapor recovery system at OU1.

Downgradient Area: Institutional controls will be implemented to prevent the use of the contaminated groundwater plume that exceeds drinking water standards and the extraction of groundwater that could cause migration of the contaminated plume. Although public water is currently supplied to those living and working in the downgradient area and the local aquifer has been classified as GB (non-potable without treatment) by the State of Connecticut, institutional controls are needed to address and prevent potential future risk from contaminated groundwater in the OU2 plume, such as from installing drinking and groundwater extraction wells. EPA, in conjunction with the State and the Town of Stratford, will evaluate and consider the use of municipal controls to regulate the installation of wells and the use of contaminated groundwater.

Vapor Intrusion Mitigation: Within the VI Action Properties, the continued operation and maintenance of the existing 106 homes with sub-slab ventilation systems (SSD), plus the installation and maintenance of vapor ventilation systems in approximately 20 additional buildings will mitigate inhalation risks from the potential intrusion of vapors at those properties (see Figure M-1). Although there is no indoor air data that has confirmed an unacceptable vapor intrusion risk in the additional buildings, EPA is taking conservative and pre-emptive mitigation action based on groundwater data and additional supporting lines of evidence which conclude that the buildings are located within an area of potentially unacceptable risks from vapor intrusion. The new vapor ventilation systems will be similar to the existing systems already installed, modified only to meet the specific needs of each property. Treatment of the vapors extracted from the vapor ventilation systems will likely not be necessary prior to discharge; however, a final determination will be made prior to installation.

To protect against flood impacts, the mechanical components (that is, the fan) of each new system will be designed to minimize risk of damage to systems, if any, from potential flood events. It is estimated that twelve of the existing SSD systems may need to be evaluated to ensure the mechanical components of those systems are not jeopardized by potential flood events.

An assessment of a limited number of condominiums at a residential complex located at Ferry Court will be conducted to determine whether vapor ventilation systems are needed on those properties and, if so, systems will be installed. Additional vapor intrusion assessments may be performed as deemed necessary. Groundwater, soil gas, indoor air, and ambient air samples may be collected and analyzed for VOCs. Additional vapor ventilation systems may be offered and installed, with the appropriate documentation, based on the collected data.

Institutional controls: Institutional controls to address VI risks will include measures that provide notice to new owners or tenants of buildings on identified VI Action Properties about the contamination and the ventilation systems; require a VI evaluation, and installation of a ventilation system, if necessary, before use or conversion of a commercial/industrial building to a residential use in the area of potential for VI and in the VI Action Properties; and require installation of ventilation systems in new residential buildings and existing residences renovated to expand the footprint of living space within the residential area of potential for VI and in the VI Action Properties. As described above, institutional controls will also be implemented to prevent the use of contaminated groundwater.

<u>Long-term Monitoring and Operation and Maintenance</u>: The existing and newly installed SSD systems will be inspected and maintained to ensure that they remain in good working condition. House-by-house inspections will be performed every five years. The systems will be equipped with an audible alarm or an indicator of system malfunction. Maintenance or repair of SSDs will be performed by CTDEEP as needed.

Periodic groundwater monitoring will be performed to evaluate potential vapor intrusion, assess any potential changes in the extent of the areas of potential vapor intrusion and in the source and downgradient areas, and take action as needed.

<u>Soil, Wetland Soil and Sediment Source Control (OU3 – Alternative 4; OU4 – Alternative 3; and OU6 - Alternative 9)</u>

For OU3, OU4, and OU6, the Selected Remedy is an in-town consolidation and capping remedy of Raymark Waste containing material and sediment containing COCs from the former Raymark facility that is a combination of Alternative OU3-4 for Upper Ferry Creek, Alternative OU4-3 for the Raybestos Memorial Ballfield, and Alternative 9 for the 22 OU6 Additional Properties.

The Selected Remedy is consistent with the recommended cleanup in the Proposed Plan and EPA's March 20, 2015 comprehensive conceptual cleanup approach for the Raymark Superfund Site. The volume of material that will be consolidated at the Ballfield will be limited based on the objectives of keeping the material separated (both vertically and horizontally) from surrounding neighbors and using enough consolidation material to effectively redevelop the former Raymark ballfield property. These objectives will be met by maintaining a maximum cap elevation consistent with Figure J-2. Waste exceeding the limits of the consolidation area cap, as well as waste with higher contaminant concentrations (PHCs), will be disposed of out-of-town at a licensed disposal facility.

The consolidation and capping of contaminated material involving OUs 3, 4 and 6, supports reuse of the Ballfield property and incorporates community-wide and neighborhood considerations that were outlined in the comprehensive conceptual cleanup approach, including, but not limited to, the following:

- Construction Management/Health and Safety plans that will address, among other things, coordination with the Stratford Health Department, constructing barriers between residents and construction, air monitoring for dust and other emissions along with dust suppression measures, and traffic and work hour restrictions; and

- Communication and Community Outreach plans that will address, among other things, early notification and coordination with property owners and adjacent owners and regular neighborhood meetings for project updates and to address concerns.

Because the Selected Remedy consists of various areas throughout the Town of Stratford, there are both common elements and specific actions that are unique to each area. A description of both are described below.

Common Consolidation Remedy Elements

Non-Raymark Waste: The Selected Remedy addresses material containing Raymark Waste and sediment containing COCs from the former Raymark facility. Within portions of OU3, OU4, and several of the OU6 properties, there are also exceedances of state regulatory cleanup standards in soil, which EPA refers to as "non-Raymark Waste." These exceedances are separate and distinct from the Raymark Waste areas and will not be addressed by the Selected Remedy. However, a large non-Raymark Waste area on OU4 (approximately 100,000 cubic yards) will be indirectly addressed through the consolidation and capping of Raymark Waste from OU3 and OU6 on top of the non-Raymark Waste area.

CAMU and Non-CAMU Eligible Waste: As explained in Section L.1 above, the Ballfield has been designated as a CAMU that meets the alternative design requirements for the consolidation and capping of the existing Raymark Waste, as well as Raymark Waste and Raymark Waste-contaminated sediment that will be transported from OU3 and OU6. However, certain waste excavated from OUs 3 and 6 that meets the definition of PHC in the CAMU rule (see Section L.2 above) will be separated upon excavation, separately stockpiled, and disposed of at a licensed off-site facility (see Attachment M-1 for the PHC decision tree). To the extent waste at OU4 is excavated for use on OU4, such waste will not be characterized for PHCs because such waste will be within an Area of Contamination (AOC), which allows for movement of waste within a defined area for remediation without being subject to certain treatment requirements. (See Section N.2 for further discussion.)

Construction Activities: Many activities needed to implement the Selected Remedy are common to each of the operable units. Pre-design investigations, site preparation, and mobilization activities will be included in construction activities. Actual methods, plans and specific details will be developed during the remedial design process.

To prevent and mitigate potential dust emissions, engineering controls will be used during excavation, staging, loading and disposal activities at OUs 3, 4 and 6. Such measures include physical covering of stockpiled material, water sprays and mists to control dust and odor, and real-time air monitoring. Soil management activities may be performed in a dome-like sprung structure. Actual methods will be determined during the remedial design process.

OU-Specific Consolidation Remedy Elements

OU3 - Ferry Creek Soil, Wetland Soil and Sediment

This portion of the Selected Remedy is expected to involve the following activities:

- Excavate and remove the top two feet (estimated 4,650 cubic yards) of sediment from the channel of Upper Ferry Creek from Interstate 95 to the Broad Street bridge;
- Excavate and remove to a depth of four feet (estimated 22,600 cubic yards) of soil that meets the definition of Raymark Waste from the banks of Upper Ferry Creek;
- Excavate and remove to a depth of four feet (estimated 7,600 cubic yards) of wetland soil that meets the definition of Raymark Waste from abutting wetland areas;
- Replace excavated sediment and Raymark Waste with clean material. The bottom of each excavation will be lined with a geotextile fabric to serve as a warning layer;
- Restore and revegetate excavated areas with native species and restore wetlands;
- Dewater sediment and Raymark Waste as necessary for transport;
- Sediment and Raymark Waste containing more heavily contaminated material that exceeds certain regulatory limits, referred to as principal hazardous constituents (PHCs), will be shipped to a licensed out-of-town disposal facility;
- Consolidation of excavated sediment and Raymark Waste at the Raybestos Memorial Ballfield (OU4);
- Sediment and Raymark Waste that exceeds the capacity of OU4 will be shipped to a licensed out-of-town disposal facility;
- Institutional controls to limit future excavation, groundwater use, and other activities that could pose a risk, where necessary; and
- Long-term monitoring and operation and maintenance.

Soil Excavation: Soil containing Raymark Waste along both sides of Upper Ferry Creek, above the mean high water line, will be excavated to a depth of four feet below existing grade (approximately 22,600 cubic yards). The exact horizontal extent of excavation will consist of the areas meeting the definition of Raymark Waste as determined by PDI sampling and confirmed through post-excavation sampling. The vertical extent of excavation to four feet has been determined to be protective and was determined to be acceptable to CTDEEP. The bottom of each soil excavation will be lined with a non-woven geotextile filter fabric to serve as a warning layer between the clean fill and the remaining contaminated soil ("warning layer"), unless it is determined that no contaminated soil remains below four feet at a certain excavated area, then backfilled with four feet of clean material. The heavily sloped areas along the east side of Ferry Creek (next to residential properties along Housatonic Avenue) will be replaced with two feet of clean fill, the warning layer, and two feet of armoring to maintain slope stability. On the east side of Ferry Creek, although Raymark Waste on residential properties along Housatonic Avenue was excavated and removed during previous removal actions, some excavation of Raymark Waste may be necessary beyond the eastern boundary of OU3. On the west side of Ferry Creek, excavation of Raymark Waste above the mean high water line will extend to the commercial properties to be excavated in OU6. All excavated areas will be returned to original grade, as necessary, to avoid floodplain impacts.

Wetland Soil Excavation: Wetland soil containing Raymark Waste will be excavated to four feet below existing grade (approximately 7,600 cubic yards). It is anticipated that the excavations will likely be performed using an excavator(s) sitting on construction mats as needed for stability and to mitigate wetland damage to the extent practicable. If necessary, dewatering of the area will occur. The exact horizontal extent of excavation will consist of the areas meeting the definition of Raymark Waste as determined by PDI sampling and confirmed through post-excavation sampling. The vertical extent of excavation to four feet has been determined to be protective, and was determined to be acceptable to CTDEEP. A warning layer will be placed in all excavated areas where contaminated soil remains below four feet and the areas will be backfilled with four feet of clean material to original grade and restored as wetlands.

The above estimated excavation amounts of approximately 22,600 cubic yards for bank soil and 7,600 cubic yards for wetland soil assume that the entire stretch of both banks of Ferry Creek, and all of the abutting wetlands, contain Raymark Waste and must be excavated. Areas not containing Raymark Waste will not be excavated. Raymark Waste areas will be more fully delineated during the PDI.

Sediment Excavation: The Upper Ferry Creek channel sediment, that is, the area below the mean high water line, will be excavated to a depth of two feet below existing grade throughout the entire length of the channel from the Interstate 95 culvert to the Broad Street Bridge (approximately 4,650 cubic yards). Two feet has been determined to be protective for ecological concerns and will address the biologically-active zone. Dewatering or diversion of Ferry Creek may be required to complete the excavation of the Creek sediment. The Ferry Creek tidal gate may be closed and temporary water pumping stations, bypass piping, and other water management methods may be employed, as needed. While the exact methods for excavation will be determined in the remedial design, it is anticipated that for mechanical excavation, cofferdams (watertight enclosures formed by metal sheet piles) may be installed to isolate active excavation areas for dewatering. Alternatively, hydraulic dredging may be used and cofferdams would not be needed. (During this time, culverts at the head of Upper Ferry Creek and underneath Ferry Boulevard will also be cleaned.) The water from dewatering may be collected and treated as necessary, prior to discharge, either directly to downstream portions of Ferry Creek or to the sanitary sewer system. After excavation, a warning layer and a two foot layer of clean silt or other appropriate backfill material will be placed along the entire length of the excavated area.

The excavated area will be returned to original grade, as necessary, to avoid floodplain impacts.

Disposition of Contaminated Material: Excavated soil, wetland soil, and sediment may first be loaded into covered and lined trucks and hauled to a staging area. Material may be temporarily staged for characterization and dewatering prior to disposal. Saturated materials will be dewatered, if necessary. Waste determined to meet the definition of PHC waste will be separately staged and stockpiled for out-of-town disposal, as needed. Remaining excavated materials will then be loaded into covered and lined trucks and hauled to the OU4 consolidation area up to the height limitations of the OU4 cap (shown in Figure J-2); excess material and material that constitutes PHC waste will be sent to an appropriate out-of-town disposal facility via covered and lined container trucks, and may first require pre-treatment to meet the permit requirements of the disposal facility. As necessary, large debris material will be separated from the excavated soil, dewatered as necessary, decontaminated and separated for disposal as solid waste. Water collected from dewatering activities will be collected and treated, as necessary, prior to discharge either to Ferry Creek, or the sanitary sewer system.

Institutional Controls: Institutional controls will be required to prevent future excavation deeper than four feet in the soil backfilled areas without prior notification to EPA and CTDEEP, or any other activity that could result in an exposure to remaining waste or compromise the effectiveness of the remedy. These measures will protect all properties with soil covers, including those bordering Ferry Creek, since property ownership, according to state law, extends to the high water mark. For sediment in Ferry Creek excavated below the high water mark, the Selected Remedy may not include use restrictions given the narrowness of the channel, the lack of shellfish in Upper Ferry Creek, and the inability of motorized boats to access the area due to the existing tide gate. These Institutional Control measures will be reviewed and enforced through inspections and reporting.

Long-term Monitoring and Operation and Maintenance:

The sediment cover in the Upper Ferry Creek channel, and the soil cover on the banks, and the soil cover and vegetation in the wetland areas, will be inspected periodically. Inspection and maintenance of the soil/geotextile covers, vegetation, wetlands, fence and signage will be conducted annually, or as needed, to identify areas of concern or in need of repair.

Periodic monitoring of groundwater, surface water, and sediment will be performed to assess the effectiveness of the Selected Remedy. In addition to the existing shallow groundwater monitoring wells in or near the northern portion of OU3, which are part of the overall Site groundwater monitoring well network, it is anticipated that additional wells will be installed in the central and southern portions of OU3. Groundwater samples are expected to be analyzed for VOCs, SVOCs, PCBs, and metals, with the specific analysis to be determined during the PDI. Sediment and surface water samples will be co-located with each other and are expected to be analyzed for SVOCs, metals, PCBs, and dioxins/furans. Monitoring will be performed on a quarterly basis for the first year and every nine months thereafter. The sediment in Ferry Creek will be visually inspected, initially annually and then periodically, to assess the condition of the ecological community in the Creek. Periodic inspections will be conducted to assess potential changes to land use, climate, or other conditions that could affect the integrity of the remedy. EPA and CTDEEP may adjust the long-term monitoring and periodic inspection requirements during Five Year Reviews or as otherwise appropriate. Five Year Reviews are required by CERCLA because contaminants will remain in place for an extended period of time. These reviews will be conducted to ensure the Selected Remedy remains protective and will evaluate data collected from long-term monitoring and period inspection activities.

OU4 - Raybestos Memorial Ballfield Consolidation and Capping

This portion of the Selected Remedy is expected to involve the following activities:

- Removal of existing vegetation, buildings, debris, and other infrastructure;
- Construction of an access road from Longbrook Avenue through the former Contract Plating property to the Ballfield;
- Consolidation of excavated sediment and Raymark Waste from OU3 and OU6 with the existing 111,000 cubic yards of Raymark Waste on OU4;
- Construction of a permanent, low-permeability cap over the consolidation area to isolate contamination. The cap will be able to support redevelopment for commercial/industrial, municipal, and/or recreational uses. The top of the cap will not exceed a maximum elevation of 46 feet above mean sea level, and the majority of the cap will have finished elevations between 30 and 40 feet above mean sea level;
- Construction of storm water management features;
- Construction of a permanent or temporary (based upon input received from residents and property owners who live in this area and future design considerations) visual and sound barrier along the boundary with Patterson Avenue, Clinton Avenue, and Cottage Place;
- Construction of a permanent vegetated berm along the border of Patterson Avenue (however, if it is determined, following public input, that a permanent visual and sound barrier should be installed along the border with the Patterson Avenue residential properties, then construction of a berm would become unnecessary);
- Restoration of the property with vegetation and pavement as appropriate;
- Institutional controls to protect the cap, limit groundwater use, and other activities that could pose a risk; and
- Long-term monitoring and operation and maintenance.

Existing Raymark Waste at OU4 as well as Raymark Waste and Raymark Waste-contaminated sediment transported from OU3 and OU6 will be consolidated at the Ballfield. Any Raymark Waste that exceeds the available consolidation capacity at OU4 (as controlled by not exceeding the elevations stated above and shown in Figure J-2) will be transported to an out-of-town licensed disposal facility. (It is estimated that approximately 25,000 of the estimated 110,000 cubic yards of material from OU3 and OU6 will be disposed of out-of-town, however this estimate may change depending on the results of the PDI.)

Some areas of Raymark Waste at OU4 may need to be excavated deeper than four feet to support stormwater improvements. If necessary, these areas will be excavated to groundwater, screened to remove oversized material and debris, and consolidated under the low permeability cap. Debris not suitable to remain on site will be decontaminated and disposed of at an appropriate offsite location. Temporary pumps may be installed to remove groundwater from the active excavation areas for storage and treatment, as needed to meet regulatory limits, prior to discharge either on or off OU4.

To support stormwater improvements, existing non-Raymark Waste on OU4 that is not co-located with Raymark Waste may be excavated to within one foot of the groundwater table. After characterization, if the waste complies with CT RSRs, it may be used, as appropriate, as backfill for the stormwater vault area and cover material for the cap. If the stormwater vault is not constructed, or the non-Raymark Waste fails to comply with CT RSRs, it would remain in place and be consolidated with Raymark Waste under the low-permeability cap or disposed of offsite at an appropriate facility.

During construction to access the Ballfield, a haul road will be constructed from Longbrook Avenue, through the former Contract Plating property, across the OU4 property, and link to Frog Pond Lane. Construction of the haul road will prevent the need to drive through residential neighborhoods near the Ballfield. This work may require removal of ledge and the addition of structural soil for proper grading. The road will be placed in a location consistent with the Town’s planned reuse of the former Contract Plating property. (Construction of this road across the former Contract Plating property will require the Town to address the contaminated lagoon adjacent to the OU4 parcel.)

A consolidation area (estimated at approximately eight acres) on the OU4 property will be prepared for construction of the low-permeability cap. The finished grade of the cap will not exceed a maximum elevation of approximately 46 feet above mean sea level in a small area of the northwest corner of OU4, but the majority of the cap will have finished elevations between 30 and 40 feet above mean sea level. Designed primarily with a 2% slope, the cap is expected to range from 4 to 20 feet above the existing land surface.

The estimated volume of Raymark Waste that can be placed at the Ballfield within these height restrictions is approximately 85,000 cubic yards. The actual volume placed at OU4 in terms of cubic yards of material will be based on numerous factors that cannot be determined until actual construction of the consolidation area. These factors include the extent of Raymark Waste confirmed at OUs 3 and 6 through the PDI, the final cap design, moisture content and other physical parameters of the excavated Raymark Waste, the amount of necessary compaction, and the final storm water management design. A figure showing the anticipated final grades of the cap is attached as Figure J-1. The final cover system will be designed to be consistent with the Town's desire to redevelop the property for municipal uses. (See Figures F-1 and F-2 for conceptual cap design.)

The specific design parameters of the low-permeability cap slated for the CAMU will be determined during the remedial design and is expected to include (from bottom to top) a base cushion layer of approximately 12 inches of smooth clean fill, a geosynthetic clay liner, a 40 mil linear low density polyethylene geomembrane, a drainage layer consisting of a geocomposite comprised of two non-woven geotextiles surrounding a drainage net, a vegetative soil support or drainage layer consisting of approximately 64 inches of compacted, fine-grained soil material (24 inches in non-developable areas), a non-woven geotextile warning/delineation fabric layer (such as a bright orange snow fence or non-woven geotextile material), and four inches of asphalt underlain by six inches of aggregate base and twelve inches of aggregate subbase. Any unpaved areas of the cap will be covered with six inches of topsoil and vegetative cover. Should buildings be constructed in conjunction with capping efforts, certain building slabs/foundations may be incorporated into and/or substitute for other capping components.

Engineering controls such as water sprays and mists will be used for dust and odor suppression during demolition, excavation, staging and capping activities. Perimeter air-monitoring will be conducted and an air quality management and monitoring program will be established with real-time monitoring. Decontamination stations for trucks will be constructed with pads and sump pumps to contain decontamination residuals.

A permanent, or temporary, visual and sound barrier will be installed along the border with Patterson Avenue, Clinton Avenue, and Cottage Place. After completion of the cap, a vegetative buffer and berm is expected to be established along the border with Patterson Avenue. However, if a permanent barrier is installed along the Patterson Avenue properties, the vegetated berm may not be required. Consolidated material and the cap may be incorporated into the berm design. Engineering controls will be used to mitigate construction-related impacts. The barrier or berm will replace the existing heavily vegetated buffer which acts as a natural visual and sound buffer. The existing tree species, which would develop deep roots as they matured, cannot be replaced in proximity to the cap.

Because the low-permeable cap will reduce storm water infiltration at OU4, stormwater from the property will need to be managed. Final measures for managing stormwater will be evaluated and addressed during remedial design. The OU4 FS conservatively assumed that stormwater runoff from the cap would be directed to swales along the eastern perimeter for collection and conveyance to bioretention areas for treatment and subsequently to an underground stormwater vault. If implemented, stormwater runoff from the road and the eastern developed area would be directed first to a bioretention system network for treatment, then collected via a closed drainage system, and then directed to the underground stormwater vault. The concrete storage vault would be approximately 485,000 cubic feet. The bioretention area may be divided into smaller areas such as parking lot perimeter landscape islands or interior landscape island. Discharges from the underground stormwater vault would be restricted by an 18-inch diameter outlet pipe (sized in accordance with the limitations imposed by the existing downstream municipal receiving system) and will be conveyed via a new closed drainage system in Frog Pond Lane to the existing closed drainage system in East Main Street (see Figure M-2).

EPA will explore alternatives to the stormwater vault, including improvements to regional stormwater systems. EPA will conduct an engineering evaluation of the Platt Street pump station and related infrastructure and may consider improvements to the municipal stormwater system if appropriate, proven to be a more cost-effective option, and compliant with municipal and state stormwater regulations.

<u>Institutional Controls:</u> A deed restriction in the form of an ELUR will be placed on the OU4 property to prohibit activities that would damage or interfere with the integrity of the cap, such as excavations, and the use of groundwater, without written authorization from EPA and CT DEEP. Access provisions for maintenance and monitoring of the cap will be included in the ELUR. Residential use would be prohibited. Engineered controls such as fencing and signage will be installed unless redevelopment activities obviate the need for such controls. These measures will be reviewed and enforced through annual inspections and reporting.

<u>Long-term Monitoring and Operation and Maintenance</u>:
Once capping is completed, periodic inspection and maintenance of the capping and stormwater systems, paved areas, vegetation beyond the pavement, stormwater controls, surveyed benchmarks, and other remedy elements will be conducted, as needed, to identify areas of concern or in need of repair and such repairs made.

Monitoring of groundwater will be performed on a quarterly basis for the first two years, and then every nine months after that unless EPA and CTDEEP agree to an alternative frequency. Five year reviews will be conducted as long as waste remains in place; the frequency and analysis of groundwater will also be evaluated and adjusted as appropriate and during five year reviews.

OU6 – Additional Properties

This portion of the Selected Remedy is expected to involve the following activities:

- Excavation and removal to a depth of four feet (approximately 71,000 cubic yards) of soil that meets the definition of Raymark Waste from the 22 OU6 Additional Properties;
- Replacement of excavated Raymark Waste with clean material. The bottom of each excavation will be lined with a geotextile fabric to serve as a warning layer;
- Restoration of excavated areas to the pre-excavation condition, with pavement or vegetation, as appropriate;
- Raymark Waste containing more heavily contaminated material that exceeds certain regulatory limits, referred to as principal hazardous constituents, will be shipped to a licensed out-of-town disposal facility;
- Consolidation of excavated Raymark Waste at the Raybestos Memorial Ballfield (OU4);
- Raymark Waste that exceeds the capacity of OU4 will be shipped to a licensed out-of-town disposal facility;
- Institutional controls to limit future excavation, groundwater use, and other activities that could pose a risk, where necessary;
- Long-term monitoring and operation and maintenance; and
- If a property or parcel, beyond the 22 OU6 Additional Properties, is discovered in the future to contain Raymark Waste, such property or parcel may be responded to as described in this ROD.

Much of this component of the Selected Remedy will be conducted in the same way as soil and wetland soil excavation, backfilling and covering is to be conducted as described in OU3 above. Below are elements specific to OU6.

Raymark Waste will be excavated to the depth of four feet (approximately 71,000 cubic yards), backfilled to the pre-existing grade, and restored with clean materials to create four-foot soil covers for any remaining contaminated materials. The four feet excavation depth was selected to comply with both CTDEEP's Direct Exposure Criteria and Pollutant Mobility Criteria through an alternative approach allowed under CTDEEP's Remediation Standard Regulations (RSRs). See Appendix G. The four-foot soil covers will allow for most routine activities by the property owners (such as installing posts or accessing utilities) without unduly restrictive institutional controls. In general, areas on properties that do not meet the definition of Raymark Waste would not be excavated or addressed. Note that some of these non-Raymark Waste areas may contain contamination that exceeds certain CTDEEP cleanup standards.

If it is determined that the water table at some properties is not much deeper than four feet below ground surface, and that excavation of Raymark Waste to the water table could be done with minimal additional effort, excavation may extend to the water table. Such excavation will be considered during construction on a property by property basis, based on pre-design sampling and other considerations. Such removal of Raymark Waste could occur on up to eight of the OU6 properties.

The bottom of each excavation where Raymark Waste remains after excavation will be lined with a geotextile fabric warning layer, then backfilled with clean material to create a four foot soil cover. Excavated areas will be restored to original grade to avoid impacts to floodplains. Areas that are currently covered with asphalt will be repaved, unpaved areas would be revegetated, or other appropriate restoration will be conducted.

As described in OU3 above, excavated soil may need to be stockpiled and dewatered before loading and transport. Excess water in temporary stockpile areas along with precipitation and rainwater that accumulates in excavated areas, will be collected, possibly stored temporarily, and either treated and discharged or disposed of offsite. Staging areas will be determined during the PDI.

The excavated Raymark Waste will be transported to the OU4 ballfield for consolidation and capping, except that Raymark Waste containing more heavily contaminated material that exceeds certain regulatory limits (that is, Principal Hazardous Constituents, or PHCs) will be transported to a licensed out-of-town disposal facility. Loading and transport activities will be that same as those described above for OU3.

If a property or parcel, beyond the 22 OU6 properties identified in this Record of Decision, is discovered in the future to contain Raymark Waste, as defined above, such property or parcel may be responded to, with the appropriate documentation, as described in this Section. That is, the top four feet of soil may be excavated, lined with a warning layer, replaced with clean material, and restored. Such Raymark Waste may be consolidated at OU4 if the consolidation area remains open and not yet capped and there is capacity in the capped area. Otherwise, such Raymark Waste shall be disposed of at a licensed out-of-town disposal facility. Institutional controls would also be imposed.

<u>Long-term Monitoring and Operation and Maintenance</u>:
After completion of the cleanup at each property, it is expected that at least two years of groundwater monitoring would be required for all properties where excavation occurs, with monitoring every nine months thereafter for those properties where Raymark Waste is left in place after excavation. The soil covers will be monitored and maintained as described above for OU3. Five Year Reviews will be conducted to ensure the Selected Remedy remains protective

and will evaluate data collected from long-term monitoring and period inspection activities.

Institutional Controls for OU6: Institutional controls, such as ELUR deed restrictions or notices, will be required on the OU6 properties to prevent future excavation deeper than four feet in the backfilled areas, disturbance of Raymark Waste that may remain beneath buildings, groundwater use, or any other activity that could result in an exposure to remaining waste or compromise the effectiveness of the remedy. Access provisions for maintenance and monitoring of the soil covers will be included in the institutional controls. Annual inspections will ensure these controls remain in place and are effective to protect these covered areas and the remedy.

Institutional Controls for all OUs: Note that the Selected Remedy relies upon the use of Institutional Controls to protect human health by controlling potential exposures to contaminated soil, wetland soil, and groundwater. Institutional Controls are non-engineered instruments, such as administrative and legal controls, that help to minimize the potential for exposure to contamination and/or protect the integrity of a response action. Examples of Institutional Controls, include, but are not limited to, deed restrictions (such as Environmental Land Use Restrictions (ELURs), deed notices, advisories, building permit requirements, ordinances, and other administrative controls. Details regarding the Institutional Controls for the Selected Remedy are described above in the description of each Operable Unit.

Long-Term Monitoring and Five-Year Reviews for all OUs

As outlined in each section of the Selected Remedy above, long-term monitoring of various environmental media, such as groundwater, surface water, and sediments will be conducted, as necessary, to evaluate contaminant status and migration and determine long-term effectiveness of the remedy. Monitoring scope and frequency could change over time based on technical analysis of the remedy, optimization studies, revised conceptual site model, or other information or factors, as determined by EPA.

At the conclusion of remedy construction, hazardous substances, pollutants or contaminants will remain at the Site. Therefore, as required by CERCLA, EPA will review the Site at least once every five years after the initiation of remedial action at the Site to assure that the remedial action continues to protect human health and the environment. These Five-Year Reviews will evaluate the components of the remedy for as long as contaminated media above CERCLA risk levels remain in place. The purpose of this Five-Year Review is to evaluate the implementation and performance of the remedy in order to determine if the remedy is or will be protective of human health and the environment. The Five-Year Review will document recommendations and follow-up actions as necessary to ensure long-term protectiveness of the remedy or bring about protectiveness of a remedy that is not protective. These recommendations could include providing additional response actions, modifying O&M activities, optimizing the remedy, enforcing access controls and institutional controls, and conducting additional studies and investigations.

Post ROD Remedy Changes for all OUs

Note that the Selected Remedy may change as a result of the remedial design and construction processes. Changes to the remedy described in this Record of Decision will be documented in a technical memorandum in the Administrative Record for the Site, an Explanation of Significant Differences (ESD), or a Record of Decision (ROD) Amendment, as appropriate.

3. Summary of the Estimated Remedy Costs

The estimated total present value cost of the cleanup proposal, which includes capital costs (construction) and the estimated present value cost of long-term operation and maintenance ("O&M"), for these four operable units is $95.7 million. (The costs are based upon the most recent Feasibility Study reports. Refer to such reports for more details regarding costs.)

The estimated costs of the remedy, and individual OUs, are as follows:

Operable Unit	Capital Cost (millions)	O&M Cost (millions)	NPV (@7%) (millions)
OU2 Groundwater	$2.0	$1.1	$3.1
OU3 Ferry Creek	$17.8	$2.1	$19.9
OU4 Ballfield	$43.4	$2.3	$45.7
OU6 Additional Properties	$18.0	$9.0	$27.0
2016 ROD Totals	**$81.2**	**$14.5**	**$95.7**

The information in this cost estimate summary table is based on the best available information regarding the anticipated scope of the remedial alternative. Changes in the cost elements are likely to occur as a result of new information and data collected during the engineering design of the remedial alternative. Major changes may be documented in the form of a memorandum in the Administrative Record file, an ESD, or a ROD amendment. This is an order-of-magnitude engineering cost estimate that is expected to be within +50 to -30 percent of the actual project cost.

4. Expected Outcomes of the Selected Remedies

The primary expected outcome of the Selected Remedy is that soils containing Raymark Waste will no longer present an unacceptable risk to human health via direct contact. Groundwater will no longer present an unacceptable risk to human health based on inhalation of vapors inside buildings. The groundwater is expected to naturally improve to its permissible, beneficial use as a GB aquifer within 910 years. It is anticipated that the Selected Remedy will also provide socioeconomic and community revitalization impacts by allowing the ballfield property to be reused and to allow continued use and redevelopment of the OU6 properties.

a. Cleanup Goals

Cleanup goals are media-specific numeric standards that are established to achieve the RAOs. Cleanup goals are typically based on either the site-specific estimated exposure risk calculations or numeric cleanup standards established by ARARs. The remedies selected in this ROD, however, do not employ treatment to reduce risk to certain acceptable levels or to comply with numeric ARAR cleanup levels. Instead, the remedies eliminate exposure pathways through the installation of engineered controls, that is, sub-slab ventilation systems at OU2, capping at OU4, and the excavation of soil and sediment at OU3 and OU6 (backfilling with clean materials).

For OU2 and OU4, as the Selected Remedy will address risk by eliminating the exposure pathway through the use of engineered controls, therefore there are no numeric cleanup goals for OU2 and OU4. (Performance standards for the OU2 ventilation systems and the OU4 cap will be set during the remedial design.) Likewise, for OU3, the exposure pathway will be eliminated, so there is no need for numeric cleanup goals for sediment. The OU3 RI determined that the sediment within the entire creek channel must be removed and replaced with clean material. Such sediment excavation will therefore remove all sediment within the defined channel from the mean high water line to a depth of two feet. This removal of sediment addresses recreational risk and the exposure pathway in the biologically active zone such that cleanup goals are not necessary.

Numeric cleanup goals have been established as part of the definition of Raymark Waste to determine the extent of soil excavation at OU3 and OU6 as follows:

Soil Cleanup Goals for OU3 and OU6		
Constituent	Goal	Notes
Asbestos	1%	These goals are consistent with the definition of

Copper	288 ppm	Raymark Waste. As such, soil to be excavated <u>must</u> contain at least three of these four constituents and meet the definition of Raymark Waste. All soil excavations will be to a depth of four feet consistent with CT RSRs.
Lead	400 ppm	
PCBs	1 ppm	

1. Note that soil excavation at OU3 and OU6 will not extend horizontally beyond the definition of Raymark Waste, even if one or more of the above cleanup goals are exceeded.

N. STATUTORY DETERMINATIONS

The remedial actions selected for the Site are consistent with CERCLA and, to the extent practicable, the NCP. The Selected Remedy is protective of human health and the environment, will comply with ARARs, and is cost-effective. In addition, the Selected Remedy utilizes permanent solutions and alternative treatment technologies or resource recovery technologies to the maximum extent practicable. The remedy does not satisfy the statutory preference for treatment that permanently and significantly reduces the volume, toxicity, or mobility of hazardous wastes as a principal element.

1. Protection of Human Health and the Environment

The Selected Remedy is protective of human health and the environment.

Groundwater (OU2)

The groundwater component of the remedy will protect human health and the environment by using a combination of engineering controls and Institutional Controls to address the vapor intrusion pathway and current and future direct contact and ingestion of contaminated groundwater.

Continued operation and maintenance of the existing sub-slab ventilation systems in 106 homes, plus the installation of vapor ventilation systems in up to 20 additional buildings will prevent the actual or potential for subsurface Site contaminants (primarily VOCs) from migrating into indoor air or accumulating in enclosed building spaces overlying the downgradient groundwater plume at levels posing a health risk. An assessment of a limited number of additional buildings will also be conducted to determine whether vapor ventilation systems are needed on those properties, and if so, systems will be installed. Through the use of these engineered controls, which will prevent or greatly minimize VOCs from entering the buildings, the actual and potential inhalation risks resulting from intrusion of vapors from VOCs in groundwater will be reduced within the acceptable range for carcinogenic risk and below the hazard index of 1 for non-carcinogens.

Existing Institutional Controls at OU1 and new Institutional Controls at OU2 will be used to protect human health by (1) preventing the current and future direct contact and ingestion of groundwater containing contaminant concentrations exceeding safe drinking water levels; (2) providing notice to new owners or tenants of buildings on identified VI Action Properties about the contamination and the ventilation systems; (3) requiring a VI evaluation, and installation of a ventilation system, if necessary, before use or conversion of a commercial/industrial building to a residential use in the area of potential for VI and in the VI Action Properties; and (4) requiring installation of ventilation systems in new residential building and existing residences renovated to expand the footprint of living space within the residential area of potential for VI and in the VI Action Properties.

Soil, Wetland Soil, and Sediment (OU3, OU4 and OU6)

The soil, wetland soil, and sediment component of the remedy will protect human health and the environment by eliminating, reducing or controlling exposures to human and environmental receptors from direct contact, incidental ingestion or inhalation of contaminated soils, wetland soils, and sediment through excavation, consolidation at the OU4 CAMU location, off-site disposal, capping, and institutional controls.

More specifically, excavation and off-site disposal of higher concentration CAMU regulated waste from soil and wetland soil at OUs 3 and 6, consolidation of Raymark Waste from soil and wetland soil at OUs 3 and 6 with Raymark Waste at OU4, and converting the existing surface of OU4 into a RCRA low-permeability cap will be highly protective of human health and the environment and will allow the former Ballfield property to be returned to productive use. Excavation of the CAMU regulated waste will remove more toxic waste that could present a significant risk to human health or the environment should exposure occur.

Each excavated soil area at OUs 3 and 6 will be lined with a geotextile fabric and backfilled using clean material in order to create a soil cover that prevents direct contact that will allow for most routine activities by the property owners without unduly restrictive institutional controls. The low-permeability cap at OU4 will also meet TSCA requirements for capping PCB remediation waste.

Removal of Raymark Waste along the banks of Ferry Creek will prevent this waste from eroding into the Creek causing continued environmental risk. Excavation and/or dredging of two feet of sediment and backfilling with a two foot layer of clean material in Ferry Creek will be protective for recreational users and for ecological concerns and will address the biologically-active zone.

The remedy will prevent potential human health and ecological risks from dermal contact, ingestion and inhalation of soil and wetland soil contaminated with Raymark Waste and sediment that contain Site contaminants of concern at concentrations that would exceed ARARs and/or result in a total excess lifetime cancer risk greater than the target risk range of 10^{-4} to 10^{-6} and/or HI greater than 1 for non-carcinogens.

Implementation of the Selected Remedy will not pose any unacceptable short-term risks. No adverse cross-media impacts are expected.

2. The Selected Remedy Complies with ARARs

The Selected Remedy will comply with all federal and any more stringent state ARARs that pertain to the Site. There are no ARARs waivers invoked for this Site. The ARARs for the Selected Remedy are listed and discussed in detail in the tables in Appendix C to this ROD. ARARs are also discussed in detail in Sections 2.1, 4.1, 6.22 and Tables 2-1 through 2-3, 5-10, and 5-14 through 5-16 of the OU2 FS; Sections 2.1 and 6.2 and Tables 5-3A through 5-3C of the OU3 FS, Sections 2.1, 4.1.2 through 4.1.3, 6.2 and Tables 5-3A through 5-3C of the OU4 FS; and Sections 2.3, 2.5 through 2.6, 4.2 and Appendix G of the OU 6 FS. A discussion of the more significant ARARs issues is included below.

Connecticut Remediation Standards

The CT RSRs for Volatilization Criteria (VC) (RSCA Section 22a-133k-3 (c) 1 to 3, and (5)) establish numerical standards for contaminated groundwater and soil vapor developed for protection of occupants of residential and industrial/commercial buildings overlying a groundwater contaminant plume and establishes target indoor air concentrations. Groundwater within 15 feet of the ground surface or a building is subject to the VC. The regulation requires remediation of VOC contaminated groundwater below a building used for residential or industrial/commercial activity to concentrations equal to or below the applicable standards. Exemptions from the requirements are allowed if the concentrations of contaminants in soil vapors below a building do not exceed applicable VC for soil gas. An exemption is also allowed if (1) measures are taken to prevent the migration of such substances into any overlying building; (2) a program is implemented to maintain and monitor all such measures, and (3) notice of such measures has been submitted to the Commissioner.

The Selected Remedy will comply with this ARAR through installation and monitoring of vapor mitigation systems in residential and commercial/industrial building determined to have vapor intrusion concerns. Institutional controls will also be implemented to provide notice to current and future homeowners and tenants of the contamination and the remedy and requirements for addressing potential vapor intrusion should renovations expand the footprint of buildings over areas of concern.

Another provision in the CT RSRs, Removal of Non-aqueous Phase Liquid (RCSA 22a-133K-2(g), requires that DNAPL be contained or removed from soil and groundwater to the maximum extent prudent. DNAPL in the source area and groundwater in the downgradient area of OU2 is subject to the requirements of these regulations. Past efforts to address DNAPL at the source area have been exhausted, and any further containment or removal of DNAPL at the source area has been determined ineffective based on the past operation of the existing DNAPL recovery system, an evaluation of the optimization of the recovery system, and modelling performed as part of the OU2 FS in determining the time to achieve PRGs. As a result, significant reduction of DNAPL is unlikely, and DNAPL has been addressed to the extent prudent.

The Direct Exposure Criteria (DECs) and the Pollutant Mobility Criteria (PMCs) of the RSRs are also applicable state ARARs. These regulations provide regulatory numeric standards for direct contact threats and for leaching of contaminants from soil into groundwater through various excavation depths and barriers. Provisions are also included that allow compliance through alternative criteria. The selected remedy will comply with these ARARs through soil excavation to the depths required under the RSRs, capping with a low-permeable cap that meets the RSRs requirement for an "engineered control," and through cover maintenance, groundwater monitoring and the imposition of environmental land use restrictions, which will also be consistent with the RSRs. Any constituents found co-mingled with Raymark Waste will be remediated to meet the CT DECs and CT PMCs, as applicable.

As part of the 2011 ROD for OU6, certain properties that border OU3 were found to meet these regulations through an alternative method of excavation to four feet of all soil and wetland soil contaminated with Raymark Waste. To the extent these areas are now considered part of OU3, the determination made in the 2011 ROD for OU6 continues to apply to these areas. (See Appendix F to the OU6 FS Addendum). For the Additional Properties at OU6, excavation to four feet of Raymark Waste and backfilling with four feet of clean material also meets the RSRs through the alternate method. The State has determined that “the combination of excavation with the additional capping of contaminated soils at other locations is expected to sufficiently reduce the amount of pollutants leaching from the unsaturated zone to allow for compliance with PMC requirements with the regulations” (see Appendix G).

The PMC criteria do not apply below the seasonal high water table; however, the two-foot excavation in Ferry Creek channel will prevent direct exposure to waste.

The RCRA low-permeability cap at OU4 is an engineered control that will eliminate exposure to contaminants that exceed the RSR DEC criteria and will minimize precipitation infiltration and pollutant mobility, thereby meeting the RSR PMC.

Wetland and Floodplain Impacts

Wetlands

The Selected Remedy includes activities that impact wetlands and results in the discharge of dredged or fill material into waters of the United States. Before EPA can select a cleanup plan that will impact wetlands/result in the discharge of dredged or fill material into waters of the United States, Section 404 of the Clean Water Act and Executive Order 11990 (Protection of Wetlands) require a determination that there is no practical alternative to conducting this work. EPA has determined that because significant levels of contamination exist in Ferry Creek and its associated wetlands within OU3 and OU6 areas, there is no practicable alternative to conducting work in these wetlands.

For those wetland areas that will be impacted by cleanup activities, EPA has made the determination that the cleanup alternatives selected are the least damaging practicable alternatives. EPA will minimize potential harm and avoid adverse impacts on Ferry Creek and its associated wetlands by using best management practices during excavation to minimize harmful impacts on the wetlands, wildlife or habitat and by restoring these areas consistent with federal and state wetlands protection laws. Any wetlands affected by remedial work will be restored as a wetland area and such restoration will be monitored. Mitigation measures will be used to protect aquatic life during remediation as necessary.

Floodplains

Because Raymark Waste is located within the 100 year and 500 year floodplain at Ferry Creek and its associated wetlands and at the Additional Properties, temporary impacts to floodplains are anticipated. Executive Order 11988 (Floodplain Management) and federal regulations require EPA to make a determination that there is no practicable alternative to activities that affect or result in the occupancy and modification of the floodplain. EPA has determined that the Selected Remedy will cause temporary impacts but will not result in the occupancy and modification of floodplains and it is the least damaging practicable alternative.

The consolidation area at OU4 is not located within the 100 year floodplain; however, a small area in the northeast corner of OU4 is located within the 500 year floodplain. Work will be designed to avoid any impacts to this area. Raymark Waste at OU3 and OU6 is located within the 100 and 500 year floodplains, but only temporary impacts to floodplains are anticipated.

Waste located within the floodplain will be excavated and backfilled with clean fill and restored to grade so that the current flood storage capacity of Ferry Creek and the adjacent wetlands will not be diminished after completion of the remedial actions. EPA will avoid or minimize potential harmful impacts on floodplain resources to the extent practicable. Best management practices will be used during construction, which include erosion control measures, proper regrading, and restoration and monitoring of impacted areas.

Endangered Species Act

Section 7 of the Endangered Species Act requires EPA to ensure, in consultation with the U.S. Fish and Wildlife Service (USFWS) or the National Marine Fisheries Service (NMFS), that any action authorized by EPA is not likely to jeopardize the continued existence of any endangered or threatened species or adversely affect its critical habitat. Alternatively, if EPA concludes the project will have no effects an identified species, consultation is not necessary.
(See https://www.fws.gov/midwest/endangered/mamals/nleb/s7.html and https://www.greateratlantic.fisheries.noaa.gov/protected/section 7/guidance/consultation/ex) EPA has identified one endangered species, the Atlantic sturgeon, and two threatened species, the rufa red knot and the Northern Long-eared Bat, that could potentially be in the areas of remediation and has therefore, taken a closer look at each species. As a result, EPA has concluded that the remediation will have no effects on any of the three species. A summary of the rationale for these conclusions is presented below.

Atlantic sturgeon

EPA identified the Atlantic sturgeon, an endangered species under the jurisdiction of NMFS, which has the potential to occur in the OU3 Action Area of Ferry Creek (upstream of the functioning tidegate). Foraging adult sturgeon, the life stage most likely present in the Action Area, would likely be seasonally present from late spring through the fall. Remediation activities will likely take nine months, so there will be overlap in remediation activities and potential presence of Atlantic sturgeon in the Action Area.

During the remediation process, EPA will take a number of steps to preclude the presence of the sturgeon within the Action Area including closure of the tidegate, use of cofferdams, implementation of a visual/acoustic survey to detect the sturgeon, compliance with NPDES and state water quality standards for discharged water, and restoration of the Creek.

EPA has concluded that the remediation will have no effect on the Atlantic sturgeon for a number of reasons including the shallowness of the creek, the seasonal presence of transient fish and the closure of the tidegate. This conclusion may be revisited during remedial design and remedial action if evidence of changed conditions are found.

See Memorandum dated September 1, 2016, from Phil Colarusso, EPA Marine Biologist, Coastal and Ocean Protection Section to Jim DiLorenzo, EPA Remedial Project Manager for further discussion.

Northern Long-eared Bat

The Northern Long-eared Bat (*Myotis spetentrionalis)*, a threatened species under the jurisdiction of the USFWS, has been identified as having the potential to be in the areas of remediation for OUs 2, 3, 4, and 6.

In January 2016, USFWS issued a programmatic biological opinion (BO) that addresses the effects to the northern long-eared bat (NLEB) resulting from the Services' finalization of a special rule under the authority of section 4(d) of the Act. Federal agencies can rely upon the finding of this BO to fulfill their project-specific section 7(a)(2) responsibilities; however, if an agency determines that a proposed action will have no effect, the Service does not need to be notified. In the BO, USFWS determined, among other things, that the final 4(d) rule prohibits incidental take of NLEBB in their hibernacula or from tree removal if such removal occurs within 0.25 miles of a known hibernacula or cuts or destroys known, occupied maternity roost trees or any other trees within a 150 foot radius around the maternity tree during the pup season (June 1 to July 31. Based on Connecticut's map of NLEB areas of concern, no NLEB hibernacula has been identified in Fairfield County, where the Town of Stratford is located, nor are there any known NLEB maternity roost trees in Fairfield County. Therefore, EPA has concluded remediation of OUs 2, 3, 4, and 6 will have "no effect" on the NLEB. This conclusion may be revisited during remedial design and remedial action if any evidence of NLEB hibernacula or maternity roost trees are found.

See Memorandum dated September 7, 2016 from James DiLorenzo, EPA Remedial Project Manager, to the Raymark Superfund Site File for additional discussion.

Rufa Red Knot

The rufa red knot (Calidris canutus rufa), another threatened species under USFWS' jurisdiction, has been identified as having the potential to be in the areas of remediation for OUs 2, 3, 4 and 6.

The rufa red knot is a migratory shoreline bird with primary wintering areas in the southern tip of South America, northern Brazil, the Caribbean, and the southeastern and gulf coasts of the U.S., with breeding grounds in the tundra of the central Canadian Arctic. Migrating knots use stopover areas to rest and refuel along the way. The spring migration is timed to coincide with the spawning season for the horseshoe crab, one of its main food sources. Information from a variety of sources indicate that Delaware Bay and New Jersey's Atlantic coast are the principal spring migration staging areas for the knot because of the abundance and availability of horseshoe crab eggs. The Connecticut Audubon Society notes the bird is typically found in mud-flats along the Connecticut coastline during migration periods. It is not known to occur at inland locations; instead, it may be found on Connecticut's barrier beaches between migratory periods, especially the Milford Point Coastal Center, Sandy/Morse Point in West Haven, Griswold Point in Old Lyme, and Bluff Point in Groton.

EPA consulted with CT DEEP, Bureau of Natural Resources Wildlife Division about the occurrence of the rufus red knot in the remediation areas. The Bureau did not have any record of the knot occurring along Ferry Creek, the most likely place it would occur since mudflats may be available during tidal cycles. In addition, the Bureau stated that Connecticut is not a significant migratory stopover location for this species but small numbers of birds are observed at beaches and mudflats along the coast in the spring and fall. A Connecticut shorebird identification guide also issued by the Bureau notes the rufus red knot is uncommon. The rarity of these sightings is reinforced by the e-bird database which allows people from all over the world to record bird sightings. Only three sightings in one day were recorded in the remediation areas in 2011 and two on the same day in 2013.

Given that the proposed work, other than that proposed at Ferry Creek, is not in areas with mudflats (or likely habitat for horseshoe crabs), that none of the remediation areas are located near barrier beaches, and that the rufa red knot is rarely sighted in the area of Ferry Creek and is determined to be uncommon and not a significant migratory stopover location by the State, EPA concludes that remediation of operable units 2, 3, 4 and 6 will have "no effect" on the rufa red knot. If, during remedial design and remedial action any evidence of increased presence of the rufa red knot become apparent, EPA will revisit this conclusion.

See Memorandum dated September 7, 2016, from James DiLorenzo, EPA Remedial Project Manager, to the Raymark Superfund Site File for additional discussion.

Essential Fish Habitat Assessment under the Magnuson-Stevens Act (EFH)

EPA inadvertently did not identify EFH in the 2016 OU3 FS ARARs tables for alternatives involving actions in Ferry Creek. It has now been included as an applicable location-specific ARAR in Appendix C of this ROD.

This Act establishes procedures designed to identify, conserve, and enhance essential fish habitat (EFH) for those species regulated under a federal fisheries management plan. Before a federal action is taken, consultation with NMFS must be conducted. EPA identified that the following EFH species at various life stages may be present in Ferry Creek: scup, longfin inshore squid, Atlantic herring, Atlantic butterfish, summer flounder, black sea bass and bluefish.

The proposed remediation in Ferry Creek and adjacent areas will result in short-term impacts to EFH. Closing the tidegates and construction of the cofferdams will restrict access to approximately 2.6 acres (open water and marsh) of EFH. Dewatering and excavation activities will eliminate any potential EFH spawning habitat and will result in mortality to benthic infaunal organisms that may serve as forage for EFH species. Mitigating actions include a baseline survey to assess the biological, physical and chemical conditions of the area, compliance with NPDES and state water quality standards for discharged water, restoration of the area to baseline conditions with clean material after contaminated sediment is removed, and restoration and post-construction survey and monitoring of restoration efforts. In addition, invasive common reed will be replaced with native wetland species during restoration planting.

In its August 29, 2016 consultation letter with NMFS, EPA recognizes that the proposed remediation will result in short-term impacts to EFH, but concluded that the steps proposed to mitigate and restore this area greatly benefit EFH in the long-term and dramatically outweigh the short term impacts.

EPA also reviewed the applicability of the Fish and Wildlife Coordination Act, 16 U.S.C §661-666(c) to this project which requires consultation with the U.S. Fish and Wildlife Service and the fish and wildlife agencies of States where the "waters of any stream or other body of water are proposed or authorized, permitted or licensed to be impounded, diverted…or otherwise controlled or modified" by any agency under a Federal Permit or license. Consultation is to be undertaken for the purpose of "preventing loss of and damage to wildlife resources." *Id.* at §662(a). However, the Act exempts from this consultation requirement "those projects for the impoundment of water where the maximum surface area of such impoundments is less than ten acres". *Id.* at § 662(h). As a result, EPA has determined that because the entire impacted area of Upper Ferry Creek is approximately seven acres, no coordination with U.S. Fish and Wildlife is necessary.

RCRA CAMU

CAMUs are designated areas created under RCRA regulations to facilitate the treatment, storage, and disposal of hazardous waste, especially during cleanups. The CAMU regulations establish standards for CAMU-eligible waste and minimum design requirements for CAMUs to ensure that the consolidation of waste is implemented in a manner that is protective of human health and the environment. EPA has determined that the Raybestos Memorial Ballfield (OU4) is an appropriate CAMU location for the in-town consolidation of Raymark Waste excavated from OUs 3 and 6 given its capacity to accommodate a significant portion of the excavated waste (estimated 85,000 cubic yards), that it will not adversely impact protected resources, its location in relation to OUs 3 and 6 (about one mile), and that it already contains significant volumes of Raymark Waste.

The minimum design standards for a new CAMU require a cap, liner, and leachate collection system. An alternative design, however, will be used for the OU4 CAMU. Pursuant to 40 CFR § 264.552(e)(3)(ii), a CAMU without a liner and leachate collection system may be constructed if an alternative design will prevent the migration of contamination at least as effectively as a CAMU with a liner and leachate collection system or if a CAMU is to be established in an area with significant existing contamination and the alternative design would prevent migration that would exceed long-term remedial goals. The OU4 CAMU will meet both of these alternative design requirements.

OU4 contains significant levels of existing contamination, both within and outside of the Raymark Waste areas. There will be minimal, if any, leaching of any consolidated Raymark Waste because such waste will be placed well above the water table and covered by a low-permeability cap. Although Raymark Waste does not appear to present a significant leaching threat, all Raymark Waste excavated from OUs 3 and 6 will first be characterized and any portion found to be in excess of certain CAMU treatment standards will be transported offsite for treatment and disposal.

Also, a CAMU at OU4 will be located within a state-designated GB aquifer (groundwater not suitable for human consumption without prior treatment), where there are no drinking water wells or other private use wells in the area. The only potential exposure is to surface water receptors, and these exposures would not increase if a liner system is not present. No additional waste is being placed within the water table, and, based on existing groundwater data from OU4, the Raymark Waste located beneath the low-permeability cap is not expected to generate significant leachate. Also, OU4 is located directly up gradient of the former facility (OU1), which is the location of the primary contaminant plume in groundwater. Accordingly, installing a liner and leachate collection system at OU4 would not materially increase protectiveness and would not be the best use of cleanup resources.

A CAMU without a liner and leachate collection system will function as least as effectively as a CAMU with a liner. Also the property will be created in an area with existing significant contamination and the low-permeability cap over the entire CAMU should prevent migration that would exceed long-term remedial goals. Long-term monitoring and maintenance will be in place to ensure protectiveness.

The waste currently existing at OU4 will not be disposed of off-Site but will be consolidated at that location pursuant to the “Area of Contamination” policy as described in EPA guidance and the preamble to the NCP regulations. Accordingly, ARARs related to RCRA Land Disposal Restrictions and other RCRA requirements (such as the minimum technology requirements related to landfills) do not apply to such consolidation.

RCRA Capping Standards

RCRA establishes standards for capping of hazardous substances that are either applicable (waste was disposed after RCRA closure requirements became effective (November, 1980)) or relevant and appropriate (waste disposed before RCRA closure requirements became effective, or the source or prior use of the waste is not identifiable but is similar to a RCRA waste). At OUs 3 and 6 these RCRA closure standards are considered relevant and appropriate because waste left in place after excavation was disposed of prior to the effective date of the RCRA closure regulations. As such, a RCRA hybrid closure approach is permitted provided residual contamination does not pose a groundwater threat. EPA has determined that Raymark Waste remaining after excavation and backfilling of four feet of soil cover does not pose a groundwater threat. As a result, excavation, backfilling and maintaining a clean cover in these areas along with groundwater monitoring and land use controls will prevent direct contact threats and is consist with EPA's RCRA hybrid cap guidance.

Toxic Substances Control Act

TSCA regulates disposal of PCB contaminated soil and sediment. Consistent with Section 761.61(c) of TSCA, which address risk-based response actions for PCB remediation waste, and based on the Administrative Records for this Site, which contains the information required under TSCA, EPA has determined that disposal of PCB contaminated material as set out in this ROD does not result in an unreasonable risk of injury to human health or the environment as long as certain conditions are met. A final TSCA Determination pursuant to § 761.61(c) is attached to this ROD as Appendix D.

3. The Selected Remedy is Cost-Effective

In EPA's judgment, the selected remedy is cost-effective because the remedy costs are proportional to its overall effectiveness (see 40 CFR 300.430(f)(1)(ii)(D)). This determination was made by evaluating the overall effectiveness of those alternatives that satisfied the threshold criteria (that is, protective of human health and the environment and comply with all federal and any more stringent ARARs, or as appropriate, waive ARARs). Overall effectiveness was evaluated by assessing three of the five balancing criteria — long-term effectiveness and permanence; reduction in toxicity, mobility, and volume through treatment; and short-term effectiveness, in combination. The effectiveness of each alternative then was compared to the alternative's costs to determine cost-effectiveness. The relationship of the overall effectiveness of the selected remedy was determined to be proportional to its costs and hence represents a reasonable value for the money to be spent. The estimated total present value cost of the Selected Remedy, which includes capital costs (construction) and the estimated present value cost of long-term operation and maintenance ("O&M"), is $95.7 million. Costs below are broken down between groundwater and soil, wetland soil and sediment operable units.

For the OU2 source area, the present value of the Selected Remedy (SA-1) is \$0.1M. The cost of all of the other alternatives are higher and involve some form of active treatment, ranging from \$5.5M to \$54M, with little added protectiveness. SA-1 is selected because actions to eliminate the VOC DNAPL source at the former Raymark facility would not be effective and implementable given the mixed nature of the subsurface materials, the depth and form of the bedrock (especially the deep bedrock valleys), the constraints posed by the impermeable cap and retail development on OU1, and the difficulty of effectively injecting treatment chemicals into the DNAPL. EPA also evaluated optimizing the existing passive DNAPL extraction system (SA-2). However, a thorough evaluation concluded that the system is only extracting a minimal amount of a mix of groundwater and DNAPL, and it cannot be effectively optimized to reduce the DNAPL source, or increase the attenuation of contamination much beyond natural attenuation. Modeling of the effectiveness of the DNAPL containment and treatment alternatives indicates that such alternatives would only achieve target groundwater cleanup levels after hundreds of years, at a significant cost. Thus, the active Source Area alternatives would achieve little benefit at significant cost and would all create a great deal more short-term impacts than the selected alternative.

For protectiveness, the source area portion of the Selected Remedy will rely on the institutional controls that are already in place at OU1, and vapor intrusion alternatives described below to address risks. See Table 6-1 of the OU2 FS for further details on alternative costs.

For the downgradient groundwater plume, the present value of the selected remedy is \$0.5M. Downgradient alternatives range in present value cost from \$0.1M to \$2.8M. EPA's evaluation of the active alternative (DA-3), which would involve hot spot treatment, concluded that such treatment would not effectively reduce the time to meet groundwater cleanup levels without first eliminating the DNAPL source areas. The Selected Remedy (DA-2) was chosen because, in combination with the source area and vapor intrusion alternatives, it provides protection from current and future risks from use of the contaminated groundwater plume through institutional controls at a fraction of the cost of active treatment with virtually no difference between the alternatives on the time to achieve remedial action objectives. The selected alternative also has few short-term impacts from well installations compared to the impacts resulting from the in-situ treatment activities.

The present value of the selected alternative for vapor intrusion (VI-2) is \$2.5M. Taking no action will not be protective in the long-tem for residential and commercial/industrial occupants of structures that currently do not have vapor mitigation systems, nor would it include institutional controls that provide notice of the contamination and the remedy for those with systems or future purchasers/tenants of these properties. In addition, the selected alternative is expected to achieve remedial action objectives within six months of installation and will treat air emissions from the mitigation systems, if necessary. While the selected alternative has some minimal short-term impacts from installation of the mitigation systems, taking no action leaves occupants exposed to potential long-term inhalation of Site contaminants.

For OUs 3, 4 and 6, the present worth of the Selected Remedy (not including OU2 costs) is $92.6 million. Were EPA to select a combination of alternatives that would result in excavation and out-of-town disposal of Raymark Waste from OUs 3, 4 and 6 (OU3-5 for Ferry Creek, OU4-4 for the Ballfield, and Alternative 10 for OU6), Raymark Waste would have to be transported several hundred miles to licensed facilities in the mid-west at an overall estimated cost of $269.3 million, with no added protection to human health or the environment. In-town consolidation and capping of Raymark Waste from OU3 and OU6 at the OU4 locations is a safe, proven, and cost-effective method for managing this large volume of waste material, and would allow the former Ballfield property to be returned to productive use. Out-of-town disposal, at about three times the cost of in-town consolidation, would not result in added protection. Short-term impacts from the Selected Remedy are similar to alternatives that involve capping (with or without consolidation) or offsite disposal given the construction impacts of these alternatives. Alternatives that only require monitoring and institutional controls have much less impacts; however, they are not viable since they would leave Raymark Waste in place above unacceptable human health risk levels and would not comply with ARARs. See Table 6-1 in the OU3 FS, Table 6-1 in OU4 FS, Table 4-2 of OU6 FS for further details on alternative costs.

4. The Selected Remedy Utilizes Permanent Solutions and Alternative Treatment or Resource Recovery Technologies to the Maximum Extent Practicable

Once the Agency identified those alternatives that attain or, as appropriate, waive ARARs and that are protective of human health and the environment, EPA identified which alternative utilizes permanent solutions and alternative treatment technologies or resource recovery technologies to the maximum extent practicable. This determination was made by deciding which one of the identified alternatives provides the best balance of trade-offs among alternatives in terms of: 1) long-term effectiveness and permanence; 2) reduction of toxicity, mobility or volume through treatment; 3) short-term effectiveness; 4) implementability; and 5) cost. The balancing test emphasized long-term effectiveness and permanence and the reduction of toxicity, mobility and volume through treatment. The test also considered the preference for treatment as a principal element, the bias against off-site land disposal of untreated waste, and community and state acceptance. The Selected Remedy provides the best balance of trade-offs among the alternatives.

For groundwater, installation of additional vapor ventilation systems and continuing operation of existing systems effectively prevents the entry of Site contaminants into structures. Sub-slab ventilation systems have been demonstrated to be highly effective in controlling vapor intrusion into both new and existing buildings. The institutional controls selected will ensure that the remedy continues to be implemented appropriately in the long-term at each building property in the VI Action Properties area.

DNAPL at the source area and contamination in the downgradient plume will be addressed through institutional controls rather than active treatment alternatives. This selection was balanced by several factors. The results of modeling show the time to achieve target groundwater concentrations with the existing DNAPL extraction system (or its optimization) was negligible in reducing TCE concentrations compared to natural attenuation of the contaminants. Treatment alternatives could reduce the DNAPL contamination in the source area; however, the complexities of the source area explained in No. 5 below present many significant challenges for implementation. Contaminant reduction would only occur over a range of 380 to 740 years; in the interim, a vapor intrusion alternative and institutional controls would still be needed. Similarly, treatment of downgradient groundwater would either have no impact on lessening the time to achieve remedial action objectives or was significantly challenging given the complexities of the site, explained below, and the presence of homes in the treatment area that would be impacted. Reliance on institutional controls for the source area and downgradient is the best balance of trade offs among the alternatives when paired with installation of vapor mitigation systems. Although the groundwater plume is contaminated above drinking water standards, public water is currently supplied to those living and working in the downgradient area. Restrictions preventing the use of groundwater will ensure long-term protectiveness.

For OUs 3, 4 and 6, the Selected Remedy of in-town consolidation and capping is superior to capping without consolidation or out-of-town disposal alternatives. In-town consolidation achieves the same level of long-term protectiveness but at a much lower cost than out-of-town disposal due to off-site transport and disposal costs. Out-of-town alternatives also involve significant long-distance transportation of Raymark Waste to a disposal facility; transporting Raymark Waste to OU4 from OU3 and OU6 areas requires only one mile of trucking. In addition, consolidation at OU4 of both OU3 and OU6 wastes results in only one cap rather than many separate caps that must be maintained and monitored over the long-term. Raymark Waste will be effectively and appropriately covered with a RCRA low-permeability cap. Except for the non-eligible CAMU waste, which will be disposed of offsite, contaminated soil, wetland soil and sediment will be excavated from wetland and floodplains in OUs 3 and 6 and safely capped at OU4. These measures will reliably and permanently prevent unacceptable exposure to human and ecological receptors from contaminated soil, wetland soil and sediment in the long-term. Short-term impacts are basically equal to all alternatives since each involve excavation and transport of waste.

The preference for treatment is discussed in the next section.

5. The Selected Remedy Does Not Satisfy the Preference for Treatment Which Permanently and Significantly Reduces the Toxicity, Mobility or Volume of the Hazardous Substances as a Principal Element

The Selected Remedy does not satisfy the statutory preference for treatment as a principal element. If they could be successfully implemented, treatment alternatives would reduce the DNAPL contamination in the source area; however, the complexities of the source area present many significant challenges for implementation, including the differing nature of the subsurface material located above the bedrock, the depth and complex form of the bedrock itself, and short-term impacts that arise with the presence of the impermeable cap, utilities and an active shopping center. It would take hundreds of years to reach protective levels in groundwater; in the meantime, risks would remain and would have to be addressed with additional actions to prevent exposure.

Most treatment alternatives for downgradient groundwater were eliminated due to the significant uncertainties for effectiveness and implementation difficulties. The complexity of geology and presence of homes in the treatment area would limit chemical reagent interface for in-situ treatment. Effectiveness of extraction, treatment and re-infiltration was limited by the amount of water that could be infiltrated given the location of the Site in floodplains, the size of the aquifer, and the potential for flooding impacts on homes in the treatment area. Lowering the water table to address vapor intrusion risk was eliminated due to the very high costs with significant uncertainty due to the size of the aquifer, the required volume of water to be removed, and the potential for inducing upward gradients in the water table. Targeted in-situ treatment was considered but not selected given the cost involved with little return on the reduction of time to achieve remedial action objectives.

Treatment for soil, wetland soil and sediment was eliminated from the analysis of cleanup alternatives for similar reasons. Treatment is not a viable option due to the numerous and diverse nature of the contaminants found in Raymark Waste. No single or combination of treatment processes would completely destroy Raymark Waste. Some processes would render the waste less toxic and could potentially render Raymark Waste inert, but such processes would require significant handling and time to implement resulting in potentially more exposure risk during treatment. Also, the treated Raymark Waste would likely still require disposal at a regulated facility, and some treatment processes would increase the overall volume of materials.

6. Five-Year Reviews of the Selected Remedy are Required

Because this remedy will result in hazardous substances remaining on-site above levels that allow for unlimited use and unrestricted exposure, a review will be conducted within five years after initiation of the remedial actions to ensure that the remedy continues to provide adequate protection of human health and the environment. Five-year reviews will continue as long as waste remains at the Site and unlimited use is restricted.

O. DOCUMENTATION OF NO SIGNIFICANT CHANGES

EPA presented a proposed plan for remediation of OU2 (Groundwater), OU3 (Upper Ferry Creek), OU4 (Raybestos Memorial Ballfield) and OU6 (Additional Properties) for the Raymark Industries Superfund Site on June 30, 2016. The source control portion of the preferred alternative included excavation of contaminated soil and sediment from OU3 and OU6 for consolidation and capping of contaminated soil on OU4. The groundwater portion of the preferred alternative for OU2 included the installation and maintenance of vapor mitigation systems and long-term monitoring of groundwater. EPA reviewed all written and verbal comments submitted during the public comment period. It was determined that no significant changes to the remedy, as originally identified in the proposed plan, were necessary.

P. STATE ROLE

The State of Connecticut, acting through the Connecticut Department of Energy and Environmental Protection (CTDEEP), has reviewed the various alternatives and has indicated its support for the selected remedy, as stated in Section K.1.c. CTDEEP has reviewed the Remedial Investigations and Risk Assessments as well as the Feasibility Studies to determine if the Selected Remedy is in compliance with applicable or relevant and appropriate State environmental and facility laws and regulations. The State of Connecticut concurs with the Selected Remedy. A copy of their declaration of concurrence is attached as Appendix E.

PART 3: THE RESPONSIVENESS SUMMARY

PART 3: THE RESPONSIVENESS SUMMARY

A. PREFACE

In June 2016, the United States Environmental Protection Agency (EPA) issued a Proposed Plan for the cleanup of Operable Units (OU) 2, 3, 4, and 6 of the Raymark Industries, Inc. Superfund (Site) in Stratford, Connecticut. EPA published notices of availability of the draft Proposed Plan and Administrative Record in the Connecticut Post on June 30, 2016 and the Stratford Star on July 7, 2016, and released the Proposed Plan to the public on June 30, 2016.

On June 30, 2016, the Agency initiated a 30 day public comment period on the alternatives presented in the Feasibility Studies for the OUs, the Proposed Plan, and the accompanying Administrative Records. EPA held an open house and a public meeting on July 20, 2016 to discuss the Proposed Plan, and held a public hearing on July 26, 2016 to accept any formal oral comments into the official record. The comment period was to end on Friday, July 29, 2016. However, based upon a written request dated July 6, 2016, the public comment period was extended an additional 30 days. The same requestor sent a letter dated August 29, 2016 requesting an additional 30 day extension to September 28, 2016, but EPA did not grant this request. The comment period for the Proposed Plan and its Administrative Record ended on August 29, 2016. Although the comment period ended on August 29, 2016, EPA continued to receive and accept public comments into the official record. This responsiveness summary responds to all comments received through September 1, 2016.

In addition to the oral comments given at the public hearing, which are included in the attached transcript, a number of written comments were submitted on the Proposed Plan. Outlined below is a summary of all comments received from the public and other interested parties during the public comment period, and EPA's response to those comments. EPA received verbal comments during the public hearing from 16 individuals, as well as the Stratford Health Department. During the public comment period, EPA received 84 written comment letters via mail, e-mail, or facsimile from 60 commenters, including the Connecticut Department of Energy and Environmental Protection. Several comments raised similar questions and concerns, and have been summarized and grouped together in EPA's response. The full text of all written and oral comments received during the comment period have been included in the Final Administrative Record for the September, 2016 Record of Decision.

The purpose of this Responsiveness Summary is to provide a concise and complete summary of the verbal and written comments received from the public during the public comment period regarding the Site, the Proposed Plan, and cleanup alternatives, and provide EPA's response to these comments. EPA has not summarized or responded to comments that do not relate to the Site. EPA considered all the verbal and written comments received before selecting the final remedy for OUs 2, 3, 4 and 6, as described in the September 2016 Record of Decision.

B. SUMMARY OF COMMENTS AND EPA RESPONSES

The comments are presented in no particular order.

Comment No. 1) *The Connecticut Department of Energy & Environmental Protection (CTDEEP) expressed strong support for the Proposed Plan, and noted it was developed after numerous intensive detailed discussions and meetings held by EPA and CTDEEP with residents, property owners and elected officials from the state and local levels. CTDEEP noted that the Proposed Plan reflects the consensus of the interested parties and encouraged EPA to finalize the Record of Decision. CTDEEP further encouraged the EPA to carefully consider an alternative method of handling site stormwater run-off, such as increasing the capacity of the existing area drainage system, rather than installing a large on-site stormwater vault, noting that this might prove more cost-effective and require less long-term maintenance.*

EPA Response: EPA notes CTDEEP's support for EPA's proposed remedy for OUs 2, 3, 4, and 6. As stated in the ROD, EPA will explore alternatives to the stormwater vault, including improvements to regional stormwater systems, during the Remedial Design of the OU4 remedy. EPA will conduct an engineering evaluation of the Platt Street pump station and related infrastructure, and may consider improvements to the municipal stormwater system if deemed appropriate, cost-effective, and compliant with the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA), the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), and municipal and state stormwater regulations.

Comment No. 2) *A number of commenters, including the Town of Stratford Health Department, expressed support for the OU2 (groundwater) portion of the cleanup plan.*

EPA Response: EPA notes the commenters' support for EPA's proposed remedy for OU2. EPA did not receive many comments objecting to the remedy for OU2.

Comment No. 3) *A number of commenters, including the Town of Stratford Health Department, expressed general support for the OU3, 4, and 6 portion of the cleanup plan to excavate, consolidate, and cap Raymark Waste at the former Raybestos Memorial Ballfield (OU4) (the "Ballfield"). Some commenters stated that it was time to move forward with the cleanup of Raymark Waste, noting the risks presently posed by Raymark Waste in the Town of Stratford. While offering support, some commenters remain concerned that the cleanup work be done safely and that EPA allow the community to remain engaged in the design and cleanup process.*

EPA Response: EPA notes the commenters' general support for EPA's proposed remedy for OUs 3, 4 and 6. As described in the ROD and in responses to Comments 21 and 34, the Raymark Waste existing in Stratford is currently posing risks to human health and the environment and needs to be addressed. As for concerns regarding the performance of the work, see the response to Comment No. 6.

Comment No. 4) *Several commenters, including the Town of Stratford Health Department, noted the need for continued coordination and public input as the project moves forward, citing the need for additional public input on trucking routes, hours of operation, air and noise monitoring, and overall project designs.*

EPA Response: EPA agrees with the comment. As described in EPA's Proposed Plan, prior to construction, EPA will develop a Construction Management Plan to document the methods and procedures for preventing, mitigating, and responding to construction-related impacts. EPA will also engage Town officials, community leaders, nearby residents, schools, and local business owners prior to construction to develop detailed plans to prevent and mitigate, to the extent practical, the construction-related impacts. Such mitigation will involve the use of robust and appropriate dust suppression methods, continuous particulate air monitoring, restrictions on hours of work, truck traffic routes, drainage improvements, and isolating cleanup activities from abutting neighbors and businesses to the extent practicable. Also, see the response to Comment No. 6 regarding air monitoring.

Comment No. 5) *One commenter stated that because the Proposed Plan does not address the transport route to OU4, or public health concerns related to construction and transportation during construction, it denies the public a reasonable opportunity to comment on these aspects of the plan. The commenter noted the additional challenge of the Connecticut Department of Transportation's planned Interstate 95 interchange construction project, scheduled to occur simultaneously with EPA's implementation of the Proposed Plan and within the same general area.*

EPA Response: The purpose of the Proposed Plan was to present the cleanup alternatives that EPA evaluated, and present EPA's preferred cleanup plan for public comment. The CERCLA regulation outlines a sequential process in which Remedial Design is conducted after public comment and a remedy is selected. The transport route for trucks, and specific mitigation measures for construction-related impacts, are design elements that will be included in the development of the Remedial Design and in the development of an associated Construction Management Plan. Such design details are not typically included in or appropriate for a proposed plan. As previously noted, EPA will engage Town officials, community leaders, nearby residents, schools, and local business owners prior to construction to develop detailed plans to prevent and mitigate, to the extent practical, the construction-related impacts. See next comment and response for additional detail.

As for the planned Interstate 95 interchange, EPA is coordinating with the Connecticut Department of Transportation regarding the planned interchange project, and will, if necessary, incorporate adjustments to planned schedules and transportation routes to minimize impacts. Particular truck routes and construction mitigation measures are details that will be addressed during the Remedial Design process.

Comment No. 6) *A number of commenters (both those supporting and opposing the consolidation proposal) expressed concerns with dust and air emissions, and the potential for exposure during construction and consolidation. Some of the commenters mentioned the need for clear, protective air monitoring action levels, open communication with the public on air monitoring results, and proactive actions to reduce air emissions, such as the use of negative pressure enclosures and water wet-down. One commenter added that EPA should issue N95 HEPA respirators (disposable particulate masks) for residents to wear during construction, due to the delay between an air monitoring alarm going off and the determination that people have been exposed. One commenter expressed concern that dust and particulates from the cleanup would be distributed throughout the neighborhood, endangering neighbors who garden and keep their windows open, and endangering children in the nearby waterpark; the same commenter expressed skepticism that dust suppression methods and air monitoring machines running only during work hours would prevent dispersal of particulates.*

<u>EPA Response:</u> EPA is committed to a cleanup that places primary importance on health and safety for abutting and nearby residents, for residents along any trucking route, and for the workers performing the cleanup work. EPA will incorporate the use of long-tested methods for the excavation, transport, consolidation and capping of asbestos and other chemicals to ensure that particulates and dissolved-phase gases are contained during these intrusive activities. EPA will develop the details regarding Construction Management and Health and Safety in plans created for each work area during the Remedial Design process. The community will have an opportunity to review and provide input on these plans.

In performing cleanup actions, EPA will implement mitigation actions that will include, but are not limited to:

- Coordinating all activities with the Town of Stratford Health Department.
- Keeping remediation activities as far away from abutting neighbors as possible.
- Constructing vertical barriers between residents and the construction, with particular consideration to the area between the former Raymark Ballfield and abutting neighbors.
- Real time particulate sampling that can immediately identify any potential problem.
- State of the art dust suppression throughout the construction project, including a consideration of utilizing enclosures to manage material within the largest construction areas.
- Considering the use of temporary enclosures, placed under negative pressure, to cover intrusive activities, where practical.
- Fully securing and covering trucks moving materials both for on-site and off-site disposal.
- Creating traffic pattern improvements near the former Ballfield, to minimize truck traffic in the neighborhoods during and after the cleanup.
- Restrictions on hours of work in areas close to residential neighborhoods, likely to include maximum 12–hour days.
- Consideration of the use of green construction vehicles that minimize exhaust emissions.

- Drainage improvements for areas adjacent to the former Ballfield.
- Expeditiously completing cleanup at each property with a goal of no more than four years of construction/disruption for the overall consolidation remedy for OU3, OU4 and OU6.

EPA will conduct real-time, on-site and perimeter air monitoring during active operations. EPA will work with the Stratford Health Department and the Connecticut Department of Public Health (CT DPH) to derive a health-based, health-protective threshold level for dust. If that threshold is reached, monitoring equipment will alarm/flash to signal for operations to cease at which time an engineering review will be required to determine why the threshold was breached. Engineering controls will be implemented as needed to address any issues. Air monitoring data will be made available to the public.

Air monitoring will include, at a minimum, particulate matter at various sizes (PM10, PM2.5), asbestos, polychlorinated biphenyls (PCBs), and lead, and the use of methods which provide real-time instantaneous readings of particulates. Perimeter monitoring locations will be established around the immediate cleanup area, and a second broader perimeter established at sentinel locations. We expect that from each perimeter, samples will be collected from a minimum of one upwind and two downwind locations based upon prevailing wind directions on that date. The selection of locations will be confirmed at midday to address possible changes in wind direction. Summaries of testing reports will be given to the Stratford Heath Department at least weekly. Any elevated levels of dust will be immediately reported to the Health Department.

Upon receipt of any results showing elevated levels of airborne particulates, EPA's contractor will be required to evaluate and take action, if needed, to control the emission of particulates. Such action may include, but not be limited to, increased frequency of monitoring, establishment of additional monitoring locations, increased use of dust suppression measures (including water sprays and foams), covering excavated soil areas, and stopping excavation work during significant wind events. Action limits for monitoring will be well below health-related limits in order to ensure that work will stop well in advance of a potential unacceptable exposure to either on-site workers or nearby residents. Because of these measures, EPA believes that providing particulate masks to nearby residents is unnecessary. On-site workers that are within the immediate cleanup area will wear protective clothing including masks and respirators. Support workers outside the immediate cleanup area may also wear masks or respirators.

Comment No. 7) *A number of commenters opposed the proposed plan to consolidate wastes at the Ballfield. Many of these commenters instead expressed support for Alternatives OU3-5 (excavation and out-of-town disposal) and OU4-4 (excavation and out-of-town disposal), which involve the out-of-town disposal of wastes. One commenter stated that OU4-4 could be claimed to involve higher health risks to remove the waste, recognizing that OU4 has a lot of waste to remove, but noted that EPA would follow the same removal safety guidelines as required at OU3 and OU6, which the EPA claims to be safe. Several commenters stated that the added cost to move all waste out-of-town (approximately $270 million) versus the plan to include consolidation in town ($95.7 million) should not be the decisive factor. One commenter stated* *the cleanup plan uses classic sales approaches of bundling several options together and effectively stating, "it's all or nothing," as well as creating urgency through making money available for a limited period of time. Some commenters supported taking more time and obtaining more funds for the out-of-town disposal of Raymark Waste. One commenter thought the consolidation remedy would further contaminate groundwater. One commenter asked that a permanent cap be installed over the Ballfield and the remainder of waste be trucked out of town (EPA had evaluated this option as Alternative OU4-5).*

<u>EPA Response:</u> EPA understands that the public, including supporters of the Proposed Plan, has concerns regarding the proposal to consolidate a portion of the waste in Town. Many commenters incorrectly assume that consolidation is not the "right way" to manage this waste or that consolidation cannot be done safely, particularly given that the consolidation area is in proximity to a residential area which includes a school and a park. Several commenters suggested that EPA was putting money in front of public health.

While EPA understands these concerns, EPA has a statutory requirement to select cleanup remedies that are protective of public health and the environment and comply with applicable or relevant and appropriate requirements; these are threshold criteria that <u>must</u> be met in order for an alternative to be eligible for selection in accordance with the National Contingency Plan. Once these threshold criteria are met, EPA then selects a cleanup remedy that provides the best balance of the remaining criteria. EPA has determined that the Selected Remedy meets the threshold criteria and is the cleanup alternative that best satisfies EPA's remedy selection criteria. (See Part 2, Section K of the Record of Decision.)

Over the years, EPA evaluated numerous technologies in an effort to satisfy the statutory preference for treatment of this waste. Following exhaustive searches and evaluations, EPA has concluded that no one technology, or combination of technologies, can effectively destroy or reduce the concentrations of the unique mixture of individual chemicals which make up Raymark Waste to non-toxic levels.

Because Raymark Waste cannot be effectively treated, EPA developed and evaluated alternatives which will eliminate the potential exposure pathways associated with Raymark Waste through excavation and capping. Constructing individual caps on the numerous OU3 and OU6 properties is not preferred because such caps would be within the 100-year floodplain and thus subject to damage. These caps would also require excavation and disposal of a significant amount of material to maintain the existing grade, restrict the individual owners' use of their properties, and be difficult to maintain and monitor in the long term. This left EPA with two basic options: in-town consolidation and out-of-town disposal. EPA has selected in-town consolidation at the Ballfield (OU4) for numerous reasons: (1) a significant volume of Raymark Waste is already present at the Ballfield (and not safely capped); (2) the Ballfield has capacity and is out of the 100-year floodplain; (3) fill material is required to level the Ballfield property for productive reuse; (4) EPA has a statutory requirement to select remedies which meet its threshold criteria and provide the best balance of its remaining criteria, including cost-effectiveness; and (5) capping can be implemented in a manner that protects human health and safety.

In selecting the Ballfield for consolidation, EPA is not placing costs in front of public safety. The Ballfield cap meets the threshold criteria for protection of human health and the environment and will meet the same requirements as those caps that are used at hazardous waste facilities. These caps include numerous layers designed to ensure long-term separation of the waste material, eliminating the potential for future releases and minimizing infiltration from precipitation to prevent migration of chemicals into the groundwater. (Accordingly, the consolidation, which will be above the water table, will not further contaminate groundwater.) These caps have been used for nearly 30 years around the country and are proven safe, and will be safe not only for area residents but for future users of the OU4 property. EPA and CTDEEP will be required to monitor and maintain this cap (and the similar cap at OU1) indefinitely; monitoring and maintenance includes regular inspections and repairs, as necessary, to ensure the cap remains protective of human health and the environment.

One commenter preferred that EPA select the alternative which would have allowed for capping the existing OU4 waste in place without consolidation (EPA Alternative OU4-5) and then shipping the excavated wastes from OU3 and OU6 out of town instead of to the Ballfield. EPA did not select OU4-5 because the proposed cap is equally safe for existing and consolidated Raymark Waste, and out-of-town disposal is much more expensive than capping. Also, OU4-5 would not support reuse since the property owner (the Town) would subsequently have to truck in significant fill material to level the property for reuse given the topography of the area, and manage the large non-Raymark waste area which would not be included under the cap. The need to undertake these activities would present a significant cost impediment to reuse. Also, the safety concerns several commenters raised about the trucking of this waste would in fact be much greater if the waste were shipped out-of-town; this approach would require the transport of the waste to facilities in other states over several hundred miles of roadways.

With regard to funding, these cleanup actions will be performed by the EPA, with funding contribution from CTDEEP, since there are no remaining responsible parties that are available to fund this estimated $95 million cleanup. EPA obtains the majority of its remediation funding from annual Congressional appropriations, with a 10% contribution by host states, and funding needs for the Superfund program have consistently exceeded available appropriations. Taking action now, as opposed to waiting for uncertain future funding, will address the risks presently presented by the uncontrolled Raymark Waste located in Stratford. Refer to Comment No. 8 for further discussion on funding.

CTDEEP has expressed strong support for the Proposed Plan, and noted it was developed after numerous intensive, detailed discussions and meetings held by EPA and CTDEEP with residents, property owners and elected officials from the state and local levels. It is unlikely that CTDEEP would support a remedy involving shipping all waste out-of-town, especially since it would require a significantly higher cost contribution from the state, without any added protectiveness.

Comment No. 8) *Some commenters stated that they wanted a fully-funded, comprehensive cleanup plan that addresses all Operable Units (OUs 2 through 9), and that removes all Raymark Waste from the Town of Stratford. One commenter stated that EPA must provide* *details on all sites that will be remediated in order for the community to have a full understanding of what the EPA will be actually cleaning up.*

EPA Response: EPA is moving forward with a comprehensive cleanup plan that addresses all remaining Operable Units (OUs 2 through 9). When EPA Region I made its funding request for the Site to EPA headquarters in Washington, D.C., it was for cleanup of the entire Site, including not only OUs 2, 3, 4, and 6, but also the remaining OUs 5, 7, 8 and 9 at the Site. EPA headquarters has committed to provide funding for the entire Raymark cleanup. Since existing/ongoing work is given priority status over new work, the Raymark cleanup will be prioritized along with other existing/ongoing Superfund cleanups. But, as a governmental Agency, EPA is subject to annual Congressional appropriations and cannot set aside these funds. However, with this EPA headquarters commitment for funding to clean up all the remaining OUs, EPA Region I expects to receive annual allocations of funds throughout the Site cleanup until all work is complete. Funding allocations are contingent on issuing Proposed Plans, soliciting public comment, and finalizing cleanup remedies for the remaining OUs in Records of Decision documents. Note that the Region will not start work on any property without having a commitment for funds to completely and timely finish work on that property.

EPA is moving forward with this Record of Decision on OUs 2, 3, 4 and 6, because these OUs present the greatest risk to human health and the environment. EPA is currently developing and evaluating cleanup alternatives (feasibility studies) for the remaining OUs 7, 8 and 9, and assessing whether additional cleanup is needed at OU5. EPA plans to issue a Proposed Plan or Plans to solicit public comment on its cleanup proposals for the remaining OUs within the next two years. The proposed cleanup plan or plans for the remaining OUs must go through the public comment process before EPA can finalize cleanup remedies and proceed with work. EPA already responded to the preference to ship all the remaining Raymark Waste out of town in the response to Comment No. 7.

Comment No. 9) *One commenter stated that EPA's statement that it would take 50% of Raymark Waste out of Town is disingenuous; shipping only 10% of the most toxic of 110,000 cubic yards (CY) total leaves 99,000 CY left in the Town, and since EPA has not released any details on the remaining OUs, there is no guarantee that the EPA will actually keep its end of the bargain regarding removing waste from Stratford. Another commenter stated that EPA's cleanup plan does not address the remainder of the Raymark Site and that EPA's plan probably would be to leave as much waste in Stratford as possible.*

EPA Response: As previously noted, EPA is moving forward with a comprehensive cleanup plan that addresses all remaining Operable Units (OUs 5, 7, 8 and 9). However, funding allocations are contingent on issuing Proposed Plans, soliciting public comment, and finalizing cleanup remedies for these OUs in Records of Decision documents. EPA is moving forward with this Record of Decision on OUs 2, 3, 4 and 6, because these OUs present the greatest risk to human health and the environment, and is currently developing and evaluating cleanup alternatives (feasibility studies) for the remaining OUs 7, 8 and 9, and assessing whether additional cleanup is needed at OU5. EPA plans to issue a Proposed Plan or Plans to solicit public comment on its cleanup proposals for the remaining OUs within the next two years, and these proposed cleanup plans must go through the public comment process before EPA can finalize cleanup remedies and proceed with work.

With regard to volumes for OUs 3, 4 and 6, approximately 111,000 CY of Raymark Waste currently exists on OU4. The maximum estimated volume of soil requiring excavation from OUs 3 and 6 is approximately 105,000 CY. The most toxic of the 105,000 CY (approximately 10%) will be shipped out-of-town. The capacity at OU4 is limited by the height of the cap, and is estimated at approximately 85,000 CY, leaving approximately 20,000 CY to be shipped out-of-town for the cleanup of OUs 3 and 6.

EPA estimates that approximately 100,000 CY of Raymark Waste from OUs 7, 8, and 9 will need to be excavated. EPA understands that it has not yet issued any Proposed Plans that specifically address these OUs; however, once the Ballfield is capped, there will be no available and suitable consolidation area remaining in the Town of Stratford that can accept this amount of Raymark Waste, thereby necessitating the eventual shipment out-of-town. EPA committed to shipping approximately half of the Raymark Waste out-of-town in its conceptual comprehensive plan.

Comment No. 10) *One commenter noted that a significant amount of Raymark Waste from OUs 5, 7, 8, and 9 would presumably be transported out-of-town, and noted since EPA has already committed to out-of-town disposal from these OUs in the future, suggested it should instead designate additional waste for out-of-town disposal now from OUs 3 and 6, and reserve its options as to OU4 in the future. The commenter noted this would provide all stakeholders an opportunity to work together on a comprehensive plan for OUs 4, 5, 7, 8, and 9 that would hopefully include securing additional funding, and would also maintain flexibility to reconsider the plan for OU4 while providing additional time for improved technology and remediation methods. The commenter suggested that in the meantime, EPA implement Alternatives OU3-3, which would cap the OU3 waste in the already contaminated "Lot Behind 326 Ferry Boulevard," and Alternative OU6-10, which would entail out-of-town disposal of OU6 waste at an increased total present value cost of $42 million, to be offset by the $45.7 million total present value cost of deferred action for OU4.*

<u>EPA Response:</u> EPA is moving forward with this Record of Decision for OUs 2, 3, 4 and 6, because these OUs present a greater risk to human health and the environment compared to the remaining OUs, that is, OUs 5, 7, 8 and 9. As for OU2, there are ongoing vapor intrusion risks to residential and commercial properties from potential vapor intrusion. There are areas of exposed Raymark Waste in OU3, and contaminated sediment in OU3 continues to migrate. The existing waste at OU4 presents an ongoing risk to the community, and it would be inappropriate for EPA to place the cleanup of OU4 on the same track as the lower-risk OUs 5, 7, 8 and 9. A temporary soil cover was placed over the OU4 waste nearly 20 years ago and has already eroded to expose waste at the ground surface in at least one area. Also, the perimeter fence surrounding OU4 has been subjected to numerous breaches. Deferring the OU4 cleanup would allow continued erosion and potential ongoing exposure to area residents and trespassers. The Raymark Waste on OU6 is exposed in some places and presents a current threat. See Comment Nos. 21 and 34 for further details.

The Raymark Waste at the remaining OUs does not present as great an exposure threat as the OUs addressed in this ROD. Raymark Waste at OUs 7 and 8 is in relatively inaccessible wetland areas; the Raymark Waste at OU9 is beneath intact soil covers; and Raymark Waste at OU5 is located below a cap. (However, concerns remain regarding the stability of the cap along the immediate coast line.)

In addition, EPA has been engaged with the community for years and has conducted robust community involvement, including Town officials, interest groups, and many members of the community. EPA's recent efforts in this regard are detailed in Section II.C of the Record of Decision. The cleanup remedies outlined in the Proposed Plan were developed after these discussions with community members.

Alternative OU3-3 evaluated capping of excavated waste from OU3 on vacant land adjacent to Upper Ferry Creek. This alternative was not selected primarily because it is located in the 100-year floodplain and construction of a cap there would have resulted in a large mound which would reduce flood storage capacity. EPA notes that the cap under alternative OU3-3 would be closer to nearby residents on Willow Avenue than the cap selected by EPA at OU4 is to Patterson Avenue residents. The cap for OU3-3 would also be a large mound which would topographically rise approximately 40 feet higher than the adjacent residential properties. This is in contrast to the cap at OU4 because the existing topography of the Ballfield area allows the cap to remain relatively flat and lower than the adjacent residential properties. Alternative 10 for OU6 is about three times the cost of the selected Alternative 9 ($69 million versus $27 million), with no added protectiveness.

Comment No. 11) *Some commenters stated that they believe a capping remedy is inappropriate due to the proximity to residential areas, a school, a park, and a football field. Also, commenters were concerned about the potential for a cap to fail in the future (i.e., concerned that a cap is not permanent), the fact that the landfill will be unlined and not meet other basic design standards, and that the cap will need to be re-done in the future. One commenter questioned how consolidating waste is "cleaning up" the Ballfield and stated that adding waste to the Ballfield is increasing toxicity, while also adding more Raymark Waste to non-Raymark Waste. One commenter asked how many years the effective life of a cap might be, and several commenters suggested caps are not permanent structures, and noted that the existing cap on OU4 has already failed. One commenter referenced sites in Ambler, Pennsylvania; Animas River, Colorado; and Flint, Michigan, as examples of failed site cleanups; the commenter also stated that the type of cap being proposed eventually degrade and fail, noting that there are numerous examples of this all across the United States.*

<u>EPA Response:</u> EPA prefers treatment technologies that destroy or otherwise render hazardous materials neutral. Unfortunately, given the volume and unique composition of Raymark Waste, there is no technology, or combination of technologies, available to effectively treat or destroy Raymark Waste. See Section N.5 of the ROD. It is not cost-effective or environmentally protective to ship large volumes of hazardous waste hundreds of miles to facilities with dwindling capacities when consolidating and capping waste at the already-contaminated OU4 is

a protective solution. EPA is proposing to consolidate and cap Raymark Waste at the OU4 Ballfield, which already contains approximately 111,000 cubic yards of un-capped Raymark Waste. While it abuts homes along the western boundary, the Ballfield is a commercially-zoned property which abuts an active railroad and non-residential properties on its other boundaries.

As previously noted, when properly designed and constructed, capping is a safe alternative that is frequently used at Superfund sites, and at many other types of hazardous waste and disposal sites across the nation. In fact, capping has been a necessary component of many Superfund cleanups within the six New England states, and of 119 sites that have been listed to the NPL in New England, almost 60 sites (including the Raymark Site at OU1) have caps or covers already in place (and in some cases, multiple caps). These caps eliminate potential exposure pathways and therefore are safe for future users of these properties, as well as residents of any nearby homes, schools or parks. As a result, many of these caps, as well as municipal and hazardous waste caps in place across the country, are being actively used as recreational fields and businesses. The shopping plaza on top of the OU1 cap provides a local example.

Caps used in cleanup actions include several layers which are intended to endure and are designed with the same standards as permitted hazardous waste facilities. The geomembrane layer in particular will degrade only if exposed to sunlight and weathering. This layer will be several feet below ground, and if properly maintained, is expected to last several hundred years or longer. The finished top may include grass and smaller vegetation, asphalt and buildings. Certain trees and other vegetation which develop deep roots that could penetrate a cap are not allowed. Caps are stable and enduring features which will prevent direct contact exposures and the release of air-borne chemicals into the atmosphere, as well as reduce leachate into groundwater, as long as they are not penetrated or otherwise disturbed. While safe for future residents, homes are typically not constructed on top of caps due to the desire for full basements and the difficulty in limiting future excavation activities on private homeowner property. Inspection, monitoring, and institutional requirements for caps are explained below. Note that the soil cover EPA placed over the Ballfield nearly twenty ago was not an engineered, multi-layered cap. It was a temporary measure which has now extended beyond its usefulness as evidenced by there being a known area of exposed Raymark Waste.

During the placement of materials in the consolidation area, EPA will implement controls aimed at protecting community members and workers. While the full extent of the controls have not yet been designed, such controls will include methods for maintaining the security of the consolidation area, air monitoring, dust controls, surface water run-off and erosion controls, and placement of daily and interim covers. Details of the controls will be designed and documented prior to construction. Such documents will be developed with public input. See Comment Nos. 4 and 6.

Once material is placed in the consolidation area, exposure to the existing and consolidated waste must occur in order for risk to arise. The potential exposure pathways are through inhalation of contaminants in the air, direct contact with or ingestion of the contaminated soil, and direct contact with or ingestion of contaminated groundwater. The consolidation capping system will be designed during the Remedial Design phase but it will generally consist of the following elements (from bottom to the top): A sand subbase (approximately twelve inches), a geosynthetic clay liner, a low-density polyethylene liner, a geosynthetic drainage layer, a 24 to 64 inch drainage layer of compacted soil, a warning layer, and pavement or vegetative cover. (The pavement layer is expected to include twelve inches of subbase, six inches of aggregate base, and four inches of asphalt.) This multi-layer capping system will prevent the emission of the material under the cap. It will also prevent direct contact or ingestion of the contaminated soil which will be inaccessible under the capping system. As for groundwater, the cap, including the low-permeable clay and polyethylene layers, will prevent the leaching of soil contaminants by precipitation events into groundwater. Groundwater monitoring will be conducted to detect the leaching of any contaminants.

Under long-standing CERCLA regulations, once cap construction is complete, regular operation and maintenance, including inspections, will be required to ensure the cap remains effective and therefore protective of human health and the environment. Accordingly, the ROD requires long-term monitoring and maintenance of the cap. Under Section 104(c) of CERCLA, the State of Connecticut is required to assure the future maintenance of the Selected Remedy, including the cap on OU4. The State will provide such assurance in a State Superfund Contract with the EPA. CERCLA also requires that EPA conduct a review of the remedy every five years to ensure the remedy remains protective. The most common types of cap problems requiring repairs in New England are situations where something penetrates a cap, such as deep-rooted trees/vegetation, an animal burrow, or a mechanical puncture, all of which are easily and regularly avoided through prohibitions on use and certain plantings, and ongoing inspections with localized repair as needed. More steeply-sloped grading has also resulted in localized slumping problems on some caps, but this is unlikely to happen with the slight grade of the OU4 cap. Caps over municipal solid waste also tend to have more frequent problems with subsidence due to the inconsistent nature of the waste contained within the landfill, and the generation of leachate and landfill gas. The OU4 cap will be covering a substrate that is much more consistent and significantly less prone to subsidence and movement than municipal solid waste.

Regarding the references to sites in Ambler, Pennsylvania; Animas River, Colorado; and Flint, Michigan, there is no correlation between these sites and the Raymark site. These three sites do not involve failed caps.

There are two Superfund sites in Ambler, Pennsylvania that involve asbestos-containing waste. The Ambler Asbestos Piles Superfund Site consists of various piles of asbestos-containing waste, the majority of which is non-friable (non-degraded). A combination of capping technologies was implemented, with multi-layer caps in some places, and soil and vegetative cover only over other areas, and the capping remedy remains stable. Investigations are still ongoing at the BoRit Asbestos Superfund Site, also located in Ambler. The asbestos-containing material waste at these sites is not similar to Raymark Waste.

The Animas River, Colorado reference is likely regarding EPA's investigation of the Gold King Mine near Silverton, Colorado in August 2015 to assess ongoing water releases from the mine, treat mine water, and assess the feasibility of further mine remediation. While excavating above the old adit (horizontal mine shaft), pressurized water began leaking above the mine tunnel, spilling about three million gallons of water stored behind the collapsed material into Cement Creek, a tributary of the Animas River. EPA has taken responsibility for the Gold King Mine release and is committed to continue working hand-in-hand with the impacted local governments, states and tribes. The complex hydraulic conditions associated with this deep mining site are not similar to conditions in Stratford, CT.

In Flint, Michigan, President Obama signed an emergency declaration in January 2016 ordering federal assistance to support state and local response efforts. Also in January 2016, EPA issued an emergency order under the Safe Drinking Water Act to the State of Michigan. Flint, Michigan issues relate to drinking water issues only.

Comment No. 12) *Several commenters specifically noted that the CAMU minimum design standards, as outlined in EPA's Proposed Plan, require a cap, liner, and leachate collection system, and noted that EPA is not proposing to meet these requirements; several of the commenters stated that EPA is instead proposing an alternative design of an unlined landfill with none of the standard protections used to handle toxic waste containing lead, PCBs and asbestos, and one commenter stated that the record lacks substantial evidence to support the exception to the CAMU design standard requirements.*

<u>EPA Response:</u> As explained in the ROD, the lack of liner under the consolidated waste will not decrease the protectiveness of the cap. See ROD Part 2, Section L. As explained in ROD Section L, the CAMU regulation expressly allows for caps without liners under certain situations that apply to the Ballfield. Also, caps without liners are typically used to respond to former municipal landfills that are contaminated with hazardous substances. This is because, like the Ballfield, buried waste has already been in contact with the groundwater for many years, and impacts to groundwater have already occurred. The cover of the cap will meet federal design standards under the Resource Conservation and Recovery Act ("RCRA") for caps covering hazardous substances at cleanup sites and state standards for such caps. Also as detailed in Section L of the ROD, the most hazardous material from OU3 and OU6 (Principal Hazardous Constituents) will not be consolidated at OU4, but will be disposed of at a licensed out-of-town disposal facility and waste that exceeds the height limits of the cap will also be sent for out-of-town disposal. See Comment No. 9. The cap is also consistent with Connecticut Remedial Standard Regulations regarding "engineered controls" at 22a-133k-2(f)(2)(B). Capping is also consistent with CERCLA's regulations (the National Contingency Plan) and EPA guidance, which provide that non-principal threat wastes (that is, wastes that present a relatively low, long-term threat) will be addressed using a combination of engineering controls (for example, capping) and institutional controls. See Section 300.430(a)(1)(iii); *A Guide to Principal Threat and Low Level Threat Wastes*, OSWER #9380.3-06FS (November 1991); *Presumptive Remedy for CERCLA Municipal Landfill Sites*, OSWER 9355.0-49FS (September 1993) (containment is the presumptive remedy for CERCLA municipal landfills); and *Rules of Thumb for Superfund Remedy Selection*, 9355.0-69 (August 1997).

Comment No. 13) *One commenter stated that the proposed cleanup fails to remove the more dangerous principal hazardous constituents (PHCs) from OU4.*

EPA Response: The CAMU rule does not require the removal and out-of-town disposal of any existing hazardous material already at OU4, including any material that could be deemed to contain Principal Hazardous Constituents (PHCs). The PHC concept only applies to material that is being placed into a CAMU. The existing material at OU4 is not subject to the PHC analysis as such material is not being placed and consolidated into the CAMU and such material is not subject to the federal land disposal restrictions contained in 40 CFR Part 268.

Comment No. 14) *Some commenters referenced Connecticut House Bill 5606, which they believe prohibits the consolidation remedy proposed by EPA, as a reason that EPA's plan cannot go forward.*

EPA Response: This comment is apparently referencing Connecticut General Statute Section 22a-901 that prohibits a governmental agency from permanently placing, depositing, disposing of, or storing more than 1,000 cubic yards of soil consisting of asbestos-containing material under certain scenarios, except where approved by a two-thirds majority of the legislative body of the municipality where such activity is to occur (the "Asbestos Bill").

Under the federal Superfund law (that is, CERCLA), compliance with state laws is governed by Section 121(d)(2) and (4) of CERCLA and Section 300.400(g) of the National Contingency Plan ("NCP"). Pursuant to these provisions, CERCLA remedial actions must comply with state environmental laws, but only to the extent that they are "applicable" or "relevant and appropriate," referred to as ARARs. Generally stated, ARARs are the substantive provisions of environmental protection requirements, criteria, or limitations promulgated under federal or state law. The NCP provides that only those state standards that are "promulgated," are timely identified by a state, and are more stringent than federal standards are ARARs. 40 C.F.R. 300.400(g)(4). The NCP further states that "promulgated" means "that the standards are of general applicability and are legally enforceable." See 40 C.F.R. 300.400(g)(4). "Generally applicable" means applicable state-wide and not "promulgated specifically for one or more CERCLA sites." 55 Federal Register 8746 and 53 Federal Register 51438.

Accordingly, under CERCLA and NCP, the Asbestos Bill is not an ARAR. The Asbestos Bill, which is not part of Connecticut's cleanup statute or regulations, is not "promulgated" as defined by the NCP because it is not generally applicable. As evidenced by legislative history, press releases, newspaper articles, and the events surrounding its passage, the Asbestos Bill was passed primarily or exclusively to prevent the consolidation of soil containing asbestos at the Raymark Site. The first and second conditions of the bill – relating to residential property and disposal above four feet of the existing grade – are clearly tailored to the Raymark Site. The CTDEEP has informed us that besides Raymark they are not aware of any sites in Connecticut that have more than 1,000 cubic yards of asbestos-containing material or of any instances of the consolidation of asbestos waste either being considered now or having been proposed in the past. We are not aware of any Superfund sites in Connecticut where the Asbestos Bill has been applied or invoked. We also note that CTDEEP has issued a letter in support of the Selected Remedy.

In addition, the Asbestos Bill is not "legally enforceable" as required by the NCP because the wording of the Bill is so confusing and vague as to preclude enforcement, especially regarding the term "site" and the four foot and 1,000 cubic yard limitations.

As the Asbestos Bill is not an ARAR, it may not be separately or independently enforced. The Bill presents an obstacle to and conflicts with the purposes of EPA's Selected Remedy under CERCLA and is preempted by federal law, that being CERCLA. Even if the Asbestos Bill was an ARAR, it would qualify for a waiver contained in CERCLA for state requirements that have not been consistently applied. See CERCLA 121(d)(4)(E) and 300.430(f)(1)(ii)(C)(5). Also, if the Asbestos Bill were an ARAR, compliance with procedural or administrative procedures is not required (including local approvals), and EPA could stand in the shoes of the City Council and deem that the two-thirds waiver was appropriate.

Moreover, the Asbestos Bill allows for approval of the disposal and storage of asbestos-containing soil if two-thirds of the legislative body approves of such action. This approval provision means that the Asbestos Bill is the equivalent of a state or local permit. As such, the Asbestos Bill is barred by CERCLA Section 121(e), which provides that no federal, state, or local permit shall be required for any portion of a Superfund cleanup conducted on-site.

Comment No. 15) *In comments opposing EPA's proposal, one commenter suggested that the people who are against EPA's proposal should hire legal representation to fight the plan. This commenter also posited that if the proposal were put to a popular vote within the town, EPA would see that there was widespread opposition. Another commenter stated that they planned to personally litigate this matter.*

<u>EPA Response:</u> EPA has been engaged with the community for years and has conducted robust community involvement, including Town officials, interest groups, and many members of the community. EPA's recent efforts in this regard are detailed in Section II.C of the Record of Decision. A popular vote is not required or a part of the public involvement process under CERCLA. EPA, however, did issue and advertise its proposed cleanup plan for a 60-day public comment period. EPA has received several comments in support of the Selected Remedy, including from CTDEEP and the Stratford Health Department. In issuing this ROD, EPA is complying with its statutory mandate to implement remedies that are protective of human health and the environment, while at the same time balancing the numerous regulatory requirements and fiscal realities with the interests and concerns of the community.

Regarding potential litigation, EPA notes that Section 113(h) of CERCLA governs the timing of the review of challenges to EPA's remedial action. This provision, with only certain limited exceptions, expressly prohibits federal and state court judicial challenges to ongoing CERCLA response actions. In enacting Section 113(h) Congress made an affirmative choice to elevate expedited response action over other factors and ensure that cleanup remedies were not interfered with during their pendency, especially by lawsuits challenging EPA's ongoing response action. As for citizen suits, CERCLA Section 113(h)(4) expressly bars citizen suits of ongoing response actions.

Comment No. 16) *One commenter stated that EPA needs to waive its immunity from civil and criminal prosecution in order to ensure that it will adhere to its "best practices" when undertaking the clean-up project.*

EPA Response: EPA is dedicated to ensuring that EPA and its contractors comply with the "best practices" which will be developed in the Health and Safety and other construction management plans. EPA and the Army Corps of Engineers will be conducting active oversight of its contractors to ensure that this occurs. As for civil liability, if property damage or personal injury occurs as a result of EPA's cleanup, EPA's contractors are required to carry comprehensive general liability insurance, which may provide coverage. Also, the protections of the Federal Tort Claims Act would also apply. This Act allows certain claims against the federal government for money damages resulting from personal injury, property damage, or economic loss caused by negligent or wrongful federal government actions. As for criminal liability, if someone believes that an EPA employee or a contractor of EPA is engaging or has engaged in criminal activity, such activity should be referred to the EPA Inspector General. EPA employees are not immune from criminal prosecution.

Comment No. 17) *Several commenters noted issues with EPA's prior construction work at the Site, such as hours of operation, noise, light pollution, and water usage, and expressed concerns regarding short-term impacts during the construction for this new remedy. One commenter stated that, as previously recommended by the Raymark Advisory Committee (RAC), work hours be limited to a maximum of 12 hours per day, six days a week, so as not to repeat disruption caused by past nighttime work at OU1.*

EPA Response: As stated by EPA and documented in the OU4 FS Report, prior to the start of construction, a barrier wall will be installed along the northwestern boundary of the OU4 and former Contract Plating properties to provide a visual and noise buffer for abutting residents during remedial construction activities. The barrier is assumed to be concrete panels approximately 16 feet in height. Whether the neighborhood prefers a temporary or permanent barrier would likely impact the final construction materials. The details of this barrier will be determined during the pre-design investigation.

Dust suppression and decontamination activities both require large volumes of clean water, and therefore the use of water from local hydrants is likely during construction activities. The impacts of drawing large volumes of water from hydrants will be evaluated by EPA during the Remedial Design. If this evaluation concludes that sufficient water pressure does not exist in the municipal system, EPA will consider the use of alternative methods such as the use of transportable water storage tanks, typically used at construction sites, which can be brought to the work areas and filled at night so that water flow and pressure are unaffected for normal day use by the community.

As stated in the Proposed Plan, EPA will limit construction activities to normal business hours, that is, 12-hour or less work days, Monday through Friday (five days per week). These guidelines are based on seven years of work with the Raymark Advisory Committee (RAC), a group made up of a diverse range of stakeholders, including neighbors abutting contaminated properties, impacted property owners, small business owners, and other interested citizens. As noted by the commenter, the original RAC recommendation on work hours included the possibility of work six days per week; the original RAC recommendation also noted the need to limit the duration of project construction.

Comment No. 18) *One commenter stated that construction work hours should not coincide with school hours, times of the day when children are walking or playing outside, or during team practice hours.*

<u>EPA Response:</u> Public safety is a priority, and EPA will use barriers and other methods to buffer work areas as much as possible and will work with local officials and community members to develop traffic routes which avoid residential streets as much as possible. Unfortunately, it is impossible to comply with every resident's request regarding work hours. Limiting construction work hours as described would likely extend work hours into nights and weekends, and would also likely significantly extend the number of years to complete the project, both of which have been deemed unacceptable to local community groups. As noted in the above comment, based on seven years of work with the RAC, EPA will limit construction activities to 12-hour of less work days, five days per week. The original RAC recommendations also noted the need to limit the duration of project construction by ensuring work was completed expeditiously.

Comment No. 19) *One commenter suggested that a buffer zone be established to ensure that wastes are pulled back from the residential area and replaced with clean fill to further protect adjacent residents. Another commenter specified that the first shovels should remove waste from the property lines and pull it back into the consolidation area. Another commenter was concerned that waste would be dumped up to the property lines of residential properties that abut the cap.*

<u>EPA Response:</u> During consolidation of Raymark Waste within the OU4 Ballfield area, it is EPA's intent to begin work near the abutting residential properties as described, and move away from the properties as work progresses to the extent possible. EPA will further review this approach during the Remedial Design of this phase of work, and as previously discussed, will engage these residents to develop detailed plans to mitigate, to the extent practical, construction-related impacts. Consistent with recommendations from the RAC, at OU4, waste will be pulled away from abutting residential properties prior to consolidation and capping, with the goal of keeping Raymark Waste and remediation activities as far away from abutting neighbors as is practicable.

Comment No. 20) *A number of commenters stressed their desire for EPA to move quickly to complete this project with a goal of completing the project in four years. One commenter specifically requested that the OU4 Ballfield proposed timeframe of one year for preparations and an additional three years to complete be strictly adhered to. Others expressed skepticism that the project could be completed that quickly. One commenter asked what would happen if* *funding runs out before completion of the project, putting things on hold while waiting for budget approval in the next year.*

EPA Response: EPA understands that this is a major concern from the public; this issue was also noted as part of the final RAC recommendations. EPA is committed to doing everything it can to ensure that the project will move as quickly as possible, and will endeavor to complete the entire OU 3, 4, and 6 cleanup within the four year timeframe. However, EPA will not implement methods of schedule control which could jeopardize public safety and monitoring protocols. Also, as stated in response to a separate comment, EPA is committed to limiting work hours to 12-hour week days (our current schedule estimate includes this limitation). While EPA has a commitment and plan to fund the entire clean-up moving forward, unlike a private corporation, EPA does not have the ability to set-aside existing funds and will, like any federal agency, be subject to annual Congressional appropriations. EPA will not start work on any property without having a commitment for funds to completely and timely finish work on that property.

Comment No. 21) *A number of commenters stressed their concerns about health risks to the community, especially children and the elderly, from excavation and handling of asbestos-contaminated material.*

EPA Response: EPA understands these concerns and will conduct the cleanup as safely as possible (see response to Comment No. 6). Any risks from the excavation and handling of asbestos-contaminated material during cleanup, which risks can be prevented and minimized, must be balanced against the risks that the existing, uncontrolled Raymark Waste is currently posing and will continue to pose if no cleanup occurs. There are significant areas of fill material containing Raymark Waste that currently remain beneath properties and in wetland areas scattered throughout Town. In some cases, this fill material is exposed. In other areas, it remains just below ground surface and is subject to ongoing erosion or disturbance. Without a final, permanent remedy to remove or isolate and contain these contaminants, there will be continued opportunity for people to be exposed to the contamination, as well as for continued ecological harm. In areas where contaminated soil and sediment are exposed, asbestos fibers and other contaminants may continue to be released to the air and inhaled. People may also come in contact with lead, PCBs and other contaminants through touching or eating contaminated soils, sediments, or surface water. While eating "dirt" may not be intentional, exposure can occur when dirt or dust gets onto hands. This is particularly true for children, as they are more likely to place soiled hands and objects in their mouths. Contaminants may also be tracked into residences through clothing, shoes, and pets. The more frequent the exposure, the more potential there is for harmful health impacts to develop. While measures such as fencing and signage, as well as pavement over contaminated fill material, may deter and limit exposure, these measures are temporary and do not eliminate the exposure pathway as would be done through a permanent solution.

Comment No. 22) *Also regarding health effects, one commenter stated that medical experts, such as pulmonologists, should be enlisted to look at the long-term effects asbestos has had on members of the community. Another commenter asked for a new comprehensive Stratford health* *study, asking if CT DPH had identified relationships between cancers/disease and the Site, citing a number of ways to make this connection, and identified previous news articles regarding the potential link between bladder cancer and Raymark Waste, and the number of former Raymark employees with cancer. Another commenter stated that health outcome data reviewed by the Agency for Toxic Substances and Disease Registry (ATSDR) revealed that Stratford had higher-than-average rates of mesothelioma and all other cancers in residents under 25 years of age, and that prior ATSDR Public Health Advisories had stated people could be exposed to contaminants in the area in a number of ways, including by inhalation, skin contact, soil waste ingestion and ingestion of contaminated local seafood. The commenter also noted the number of residential properties and public parks and schools previously identified as contaminated with Raymark Waste.*

<u>EPA Response:</u> In prior years, nearly 500 properties in Stratford were tested to determine if Raymark Waste was present, and almost 50 properties either had an EPA action to remove Raymark Waste or have digging restrictions to prevent exposure to Raymark Waste. EPA believes that similar actions are needed at the impacted properties within OUs 3, 4, and 6 where Raymark Waste is still present.

Several health studies have been conducted in Stratford over the years, none of which found higher levels of health impacts among people who could have been exposed to Raymark Waste. The following information comes from the Stratford Health Department's website.

> An extensive blood lead-screening program was offered to children and others in 1993; the screening did not show an unusually high rate of lead poisoning in residents who had spent time on one or more of the known Raymark Waste sites. A preliminary review of birth defect rates did not find an unusual rate for children born in Stratford for years where birth defect data was available. CT DPH also reviewed cancer rates in Stratford residents over a 34-year period (1958-1982 and 1971-1990) and found Stratford rates to be mostly in line with the rest of the state. Because there was a slight rise in cancers in younger age groups during the 1970s, CT DPH and ATSDR agreed to conduct a more involved study of cancer incidence evaluating another ten years or so worth of data. This study also failed to show any definitive correlation between living close to a known waste site and increased cancer risk. These same studies looked at birth defects and low birth weight, and again, no unusual trends were observed and there was no apparent connection between these events and exposure to Raymark Waste. They did observe a slight increase in bladder cancer which prompted the health agencies to evaluate rates even further. A third cancer incidence analysis was conducted to evaluate if potential exposure to Raymark Waste could be associated with bladder cancer. CT DPH evaluated an additional 11 years of bladder cancer data (1997-2007) since the previous CT DPH health study was conducted in 2001. The results showed no links between the bladder cancer incidence rate in Stratford and time, regardless of which of the three geographic comparison areas is used (state of Connecticut, 15 towns with similar population as Stratford, 5 towns bordering Stratford).

Based on the results from these extensive efforts, CT DPH has stated that they currently have no plans to conduct any additional health studies of the Raymark site.

Health studies can be accessed via www.townofstratford.com/Raymark. CT DPH recommends the following Centers for Disease Control website for an explanation of the scientific methods CT DPH use for public health studies: http://www.cdc.gov/ophss/csels/dsepd/ss1978/ss1978.pdf

Comment No. 23) *One commenter raised health concerns specific to their residence, stating that they believed living in their house located on toxic soil caused cancer and continued decline in health, and further stated they would hold EPA responsible for property value loss upon selling the home. In later correspondence, the commenter expressed interest in testing the soil at her property, and asked EPA if it would perform the testing.*

EPA Response: The residence in question is not located over the contaminated groundwater plume. In connection with past Remedial Investigation efforts, EPA reviewed available records and interviewed numerous community members in an effort to identify all properties where Raymark Waste was believed to have been buried. As a result, EPA sampled nearly 500 locations. The commenter's residence, and the street on which the residence is located, has not been sampled. EPA does not have any evidence indicating that the street or this particular property has the potential for Raymark Waste to be present, and thus declined to sample the property. EPA referred the commenter to the Stratford Health Department.

Comment No. 24) *One commenter suggested that EPA's planned sound barrier be extended down to Frog Pond Lane to the Town's public works building in order to protect all areas where there are homes with sightlines to the Ballfield area. Two commenters requested that the barrier be erected first to provide some protection to noise and dust, including possible migration of airborne friable asbestos into nearby yards. One commenter stated that he believes residents adjacent to the Ballfield area want the barrier to be temporary, however, another commenter requested that the barrier wall between the Ballfield and adjacent residents be permanent.*

EPA Response: During the design of this visual and sound barrier, EPA will work to determine exactly how this barrier can be constructed and where, and will work with nearby residents, and in particular, directly abutting property owners, to try to achieve consensus on whether the barrier should be temporary during construction only, or a permanent structure. Regardless, EPA intends to install this barrier, temporary or permanent, before any significant soil consolidation work begins in the OU4 Ballfield area.

With regard to migration of asbestos, EPA does not intend for the barrier to serve a protective function related to preventing the migration of asbestos. Action limits for air monitoring will be well below health-related limits in order to ensure that work will stop well in advance of a potential unacceptable exposure, to both on-site workers and nearby residents. In addition to air monitoring, EPA will take other measures to prevent the migration of asbestos. See Comment Nos. 4 and 6 for more details.

Comment No. 25) *One commenter noted their recollection of wildlife in and around Lower Ferry Creek in the past (turkeys, raccoons, skunks, etc.) that are no longer present and wondered if their absence could be attributable to the site.*

EPA Response: Ecological risk assessments were conducted to assess risk from exposure to contaminants in surface water, sediment, wetland soil and biota in Ferry Creek. The risk assessments conclude that potentially unacceptable ecological risks are present in Ferry Creek sediment. These include risks to wildlife and sediment-dwelling invertebrates from exposure to a number of contaminants. There are also unacceptable risks to wildlife from ingestion of contaminated biota tissue. The risk assessment evaluations concluded that the human health risks were more significant, and that any action taken to address human health risks would adequately address ecological risks. While EPA's Selected Remedy for Upper Ferry Creek will address ecological risks and be protective of ecological receptors in Upper Ferry Creek, we cannot ensure that the cleanup will result in increased wildlife in lower Ferry Creek. EPA will be proposing a separate cleanup action for OUs 7 and 8, which include lower Ferry Creek.

Comment No. 26) *One commenter expressed concerns regarding property values and the ability to sell their home based on the contamination and the cleanup plan. Another commenter asked if there was data available regarding property values after consolidation in similar situations. Another commenter stated that houses within the vicinity of the Ballfield would be effectively un-sellable for the duration of the cleanup, transferring the economic burden on to the residents.*

EPA Response: Given the risks described in EPA Response to Comment 21 from uncontrolled Raymark Waste, EPA anticipates that removing the potential exposures and addressing the Site with final remedies should positively affect property values. EPA staff are available to discuss the Site with banks and realtors. Through such discussions, EPA can resolve obstacles to property sales and loans by providing factual information about contamination and liability at Superfund sites.

While the Region is not aware of any data to directly link property values to consolidation in similar circumstances, EPA notes that a similar consolidation remedy occurred at OU1, the former Raybestos facility. OU1 is now the Stratford Crossing shopping center, where six commercial businesses employ nearly 430 people, providing an annual employment income of nearly $11.7 million to the local community. The total appraised value of the OU1 land and improvements in 2015 was over $50 million, and the total 2015 property tax was over $1.3 million.

Comment No. 27) *One commenter asked if there was a Raybestos parent company that could be pursued for funding that would allow sufficient funds to ship all waste out-of-town.*

EPA Response: EPA is not aware of any parent company of Raymark Industries, Inc. ("Raymark") that could be pursued for funding of response costs. In 1997, the United States filed a lawsuit against Raymark that sought over $280 million in costs that EPA had spent cleaning up the Raymark facility and other properties around Stratford that had been contaminated with Raymark Waste. The United States also sought an order allowing the sale of the Raymark facility to help recover some of the costs that EPA had expended cleaning up the company's waste.

As a result of its liabilities, Raymark filed for bankruptcy. The Raymark property was sold at a bankruptcy auction in January 2000, and EPA recovered the proceeds from the sale of the property. In a separate bankruptcy settlement, EPA also recovered a portion of Raymark's insurance proceeds. EPA deposited the proceeds from the property sale and the insurance recovery into a "Special Account" dedicated to the Site.

Because of the property sale and the bankruptcy settlement, there have been no further enforcement actions against Raymark.

Comment No. 28) *Several commenters stated that there was little public notification and advertisement of the meetings and the public comment period, and some commenters requested additional public hearings. One commenter stated that community members were upset about the timing of EPA issuing the plan, and the fact that EPA only held one information session and one public hearing session, both during summer vacation season, requesting that EPA further extend the public comment period, conduct further informational meetings, and hold at least one additional public hearing session.*

<u>EPA Response:</u> EPA provided ample public notice regarding the public comment period, the public informational meeting, and the public hearing. EPA issued the Proposed Plan on June 30, 2016. The Proposed Plan was made available on the EPA website and the Stratford Health Department website, and paper copies of the Proposed Plan were made available at the Stratford Town Library, Stratford Town Hall, and the Stratford Health Department. EPA mailed postcards to 6,704 residents in the Town of Stratford announcing the 30-day public comment period and the open house, informational meeting, and the public hearing on the Proposed Plan. The postcard also provided the website where people could access the Proposed Plan. EPA issued a press release regarding the Proposed Plan, ran legal notices in the Stratford Star and Connecticut Post, and there were articles in the Stratford Star and the Connecticut Post about the comment period. EPA extended the public comment period from 30 to 60 days and during this period received extensive, detailed and diverse comments. Further, EPA has been engaged with the community for years and has conducted robust community involvement, including Town officials, interest groups, and many members of the community. EPA's recent efforts in this regard are detailed in Section II.C of the Record of Decision. EPA notes that most New England Superfund Sites have only one informational meeting and one public hearing.

Comment No. 29) *Some commenters raise concerns about potential releases that could be caused if the trucks transporting Raymark Waste were involved in accidents. Two commenters were concerned that the trucks transporting hazardous waste would not be secure, and the covers of the trucks would not prevent the release of hazardous substances. One commenter* *suggested that, based on the large number of truck trips necessary to transport Raymark Waste, there must be a greater than zero chance for an accident resulting in asbestos becoming airborne.*

EPA Response: As with any large construction project which involves the use of numerous trucks on public roads, there is always a chance for a vehicular accident. However, consolidating waste in town greatly reduces the number of miles these trucks must travel. There will also be police and traffic details to help ensure public safety during the excavation and transportation periods.

All Raymark Waste will be containerized in accordance with state and federal regulations for transport and/or disposal. This means that any Raymark Waste transported will be placed in truck beds or roll-off containers that have synthetic liners. The liners are placed inside the truck bed or container, filled with soil/waste, and sealed to prevent the release of any particulates before being transported. The liners, required for trucks transporting hazardous and asbestos waste, are designed to contain the solid wastes and prevent leaking of any fluids that may drain from the soils. This system is more effective than the standard tarps used to minimize nuisance dust during transport of uncontaminated soil. Further details regarding the containerization of hazardous and asbestos waste for transport will be developed during the Remedial Design process.

Comment No. 30) *One commenter stated that if EPA could ship waste out-of-town for the cleanup of the Airport Property (part of OU6) then EPA could ship waste out-of-town for the proposed remedy for OUs 3, 4, and 6. Several commenters asked if residents should expect long-duration road closures similar to that during the Airport work.*

EPA Response: EPA did not implement the cleanup of the Raymark Waste located at the Sikorsky airport, which is an OU6 property. This cleanup was driven by necessary safety upgrades to the airport required by the Federal Aviation Administration (FAA). All work was performed by the Connecticut Department of Transportation and the City of Bridgeport, which is the operator of the airport. EPA, however, contributed a small portion of the funds and provided technical oversight to manage the portion of the work area that contained Raymark Waste. This was done to ensure that the City's contractors managed the Raymark Waste in a safe manner. Also, the volume of Raymark Waste removed from the airport was relatively limited (13,333 cubic yards and 842 container trucks) as compared to the overall estimated volumes that would require complete removal from the OU3, 4 and 6 properties (estimated 216,000 cubic yards and 13,500 container trucks). This relatively small volume factored into the decision to ship the waste out-of-town. EPA will work to develop traffic routes in the Construction Management plan that avoid any long-term road closures similar to that experienced during the Airport project.

Comment No. 31) *One commenter recommended that EPA use sealed containers and large enclosures with negative air pressure to prevent possible releases of waste during cleanup activities.*

EPA Response: Details of the measures that will be taken to control and prevent releases of dust (contaminated or non-contaminated) will be developed during the Remedial Design phase. The use of large enclosures with negative air pressure, as well as other measures, will be considered. At a minimum, at all excavation areas, soils will be wetted during excavation, stockpiling, and loading, and air monitoring, both up and downwind of the work area will be performed to determine whether releases of waste or non-waste soil dust are occurring. See Comment Nos. 4 and 6 regarding air monitoring, and Comment No. 29 regarding the transportation of Raymark Waste.

Comment No. 32) *One commenter asked about contingency plans if something goes wrong during cleanup activities.*

EPA Response: As detailed in the EPA's Conceptual Comprehensive Plan, EPA will develop a Construction Management Plan to document methods and procedures for mitigating and responding to impacts and accidents. In addition, a Health and Safety Plan will also be prepared to guide the work at the site, minimizing potential risks to personnel performing cleanup activities.

Comment No. 33) *One commenter stated that more than a few people will be needed to effectively oversee the cleanup, especially given the size of the Site.*

EPA Response: EPA will contract with the U.S. Army Corps of Engineers (USACE), and USACE will procure the various contractors needed to conduct cleanup work at the site. The USACE will be overseeing work, along with EPA, CTDEEP, and the Town of Stratford's Health Department.

The Agencies will also work with the Stratford Health Department to establish a communication system with the community so that citizens have someone to call and respond to issues in a timely manner. That being said, the scope of work necessary to implement this cleanup will require the use of numerous contractors and individuals. Despite best efforts and extensive planning, construction issues may arise. EPA and CTDEEP intend to maintain frequent oversight throughout the duration of field work. If necessary, EPA can and will stop the project.

Comment No. 34) *One commenter asked where and why the 20 additional residential sub-slab ventilation systems (in the OU2 area) would be installed. Another commenter asked why it has taken EPA eight years to finally offer sub-slab ventilation systems to the 20 homes that don't have them, and stated that EPA should immediately offer these systems to homeowners. Another commenter stated that the EPA's cleanup plan does not address the contaminated groundwater plume that is flowing under residential neighborhoods into the Housatonic River.*

EPA Response: Volatile Organic Compounds (VOCs) are present in a groundwater plume that emanates from the original Raymark plant site to the Housatonic River. There are no groundwater drinking water wells in the affected areas; however, solvent-contaminated groundwater exists underneath certain homes and buildings. There is potential for these chemicals, in particular trichloroethylene (TCE), to volatilize and enter buildings through basements and foundations. If left unchecked, these odorless and colorless chemical vapors may accumulate to concentrations that when inhaled could lead to the development of cancer or other health effects. This phenomenon is referred to as vapor intrusion.

As a result, vapor mitigation systems (which are similar to radon systems) were installed by EPA and CTDEEP in 106 homes between 2001 and 2004. These vapor mitigation systems prevent soil vapors from entering the homes by creating a negative pressure (vacuum) under the basement slab, collecting all soil gas and discharging it safely above the home. The majority of residents within areas with known or suspected vapor intrusion concerns stemming from Raymark contaminants have vapor mitigation systems in place. However, EPA is currently aware of 20 buildings (19 homes and 1 commercial building) that are at risk from vapor intrusion, but for various reasons do not yet have mitigation systems. The owners of 17 of these homes refused systems when they were originally offered to residents from 2001 to 2004. Two homes were constructed after 2004. One commercial building was more recently identified as being at potential risk from vapor intrusion. EPA continues to inform residents of the risk exposures. The properties that need systems to address VI risks are shown on Figure 2-2 of the OU2 Feasibility Study.

Vapor intrusion concerns are limited to the area shown on Figure 2-2, and while groundwater outside of this well-defined area contains Raymark contaminants, these contaminants do not pose a vapor intrusion risk.

Potential vapor intrusion risk is the only risk to human health posed by contaminated groundwater, and this risk will be addressed via installation of vapor mitigation systems and implementation of institutional controls. There is no other risk to human health and the environment posed by contamination from OU2 that requires cleanup. Groundwater contamination that reaches the surface waters of Ferry Creek and the Housatonic River does not present a human health risk from surface water exposure to current recreational users and is not expected to present a human health risk to future recreational users. There are currently no known operational wells and therefore no complete pathways for direct groundwater exposure, such as through drinking water exposure, for human receptors. An ecological risk assessment concluded that groundwater does not pose a current or future risk to ecological receptors in those surface waters.

Comment No. 35) *One commenter asked why the existing DNAPL collection system on OU1 wasn't already deemed unworthy in previous EPA five-year reviews. The commenter also asked for a report of the chemicals collected/monitored by the system.*

<u>EPA Response:</u> The two most recent Five-Year Reviews for OU1 (2010 and 2015) stated that only one recovery well in the existing DNAPL recovery system was functioning and that the functioning well was extracting minimal quantities of DNAPL. The Five Year Reviews recommended that the DNAPL collection system be re-evaluated during the OU2 Groundwater

FS. The OU2 FS included an evaluation of the DNAPL recovery system, which concluded that the system is ineffective for reducing the time to achieve target groundwater concentrations. This is because the volume of DNAPL being recovered by the system is negligible. The OU2 FS also evaluated options to improve DNAPL recovery, but the presence of the OU1 cap precludes the installation of new extraction wells. The evaluation also concluded that even if drilling new wells were possible, significant recovery of DNAPL would still be unlikely since a significant portion of the DNAPL appears to reside in bedrock fractures. Further, because DNAPL is believed to be present primarily as a residual, immobile contaminant mass, the DNAPL recovery system is not needed to limit the migration of DNAPL.

The fluid recovered from the DNAPL recovery system (well RW-3) is analyzed for volatile organic compounds (VOCs) to characterize the material for off-site treatment and disposal. A copy of the RW-3 data from 2010 is provided in the Administrative Record (see document title, *Phoenix Laboratories, Project ID # RAYMARK O&M 60160442, Sample ID #s AZ53017 - AZ53018*).

Comment No. 36) *One commenter recommended that contaminated groundwater be filtered and/or piped two miles away to the wastewater treatment plant to lower concentrations of volatile organic compounds (VOCs) in the area. The commenter stated that in 2000, technology existed to capture TCE and DCE for $140 per ton. Another commenter stated that EPA appears to be using a method to extract VOCs from polluted ground water at a Superfund site in California using a local waste water treatment facility, and asked why this hadn't been explored further for this site.*

EPA Response: The OU2 FS included evaluation of several groundwater treatment approaches, including filtration. (The evaluation was for both "ex-situ" (out of the ground) and "in-situ" (in the ground) filtration.) Treating the groundwater by ex-situ filtration involves extraction (pumping) of the contaminated groundwater out of the ground, treatment (by filtration and other processes), and discharge of the treated groundwater back into the ground or to a local sewage treatment facility. Because of the types and high concentrations of contaminants present in Raymark groundwater, filtration alone would not effectively treat the groundwater. However, filtration in combination with other on-site treatment technologies was retained for consideration in the FS.

In order for ex-situ extraction and on-site treatment to be effective, the physical and chemical properties of the contaminants and the subsurface system must allow the underground contaminants to flow to the extraction wells, and wells must be properly located and installed to ensure capture of the contaminated groundwater, particularly in the concentrated contaminant source areas. Where contaminant source material (such as residual DNAPL and/or contaminants adsorbed to soil particles) is present, there must be sufficient flushing of groundwater through the source areas to promote dissolution of contaminants into the groundwater that must then be captured in the extraction wells.

However, several site-specific factors severely limit the potential effectiveness and complicate the implementation of extraction and on-site treatment of Raymark groundwater. These factors include the presence of DNAPL at all depths from the shallow overburden source areas down into the fractured bedrock, the difficulty in delineating the locations of DNAPL in order to properly locate extraction wells, heterogeneous subsurface materials that increase the difficulty of ensuring groundwater contact with and dissolution of the source contaminants and complicate delineation of contaminant migration pathways, the thickness of the contaminated aquifer beneath the former Raymark facility (up to 150 feet thick), the complex geometry of the bedrock beneath the site (deep bedrock valleys), and several implementability factors related to the former Raymark facility property (for example, an active shopping center, extensive subsurface utilities, and presence of a low permeability cap).

In addition, the very large volume of groundwater that would require extraction and treatment would need to be discharged, either into the ground via re-infiltration or to the local sewage treatment facility; however, neither option is viable. Infiltration into the subsurface at the site is not feasible because of the presence of the low permeability cap over the former Raymark facility property, and the shallow depth to groundwater and relatively low permeability soils in the downgradient area, which would preclude infiltration of the required volume of water, as the water could not infiltrate at the rate required to prevent excessive mounding of groundwater and saturation of the shallow soils. Discharge to the local sewage treatment facility is not feasible because it may not have sufficient capacity to accept the flow that would be required. Further, long-term groundwater extraction can cause alterations to the water table depths and may result in unintended subsidence, which may negatively affect overlying structures.

For in-situ treatment (that is, filtration through an underground permeable reactive barrier), a trench is excavated and filled with reactive materials. As contaminants are carried through the in-situ reactive barrier, they are degraded or captured. However, there are significant limitations: the reactive materials would need to be replenished periodically, and the depth of reactive barriers is limited to less than 40 feet below ground surface. Contaminated OU2 groundwater occurs much deeper than 40 feet and could migrate under the in-situ reactive barriers. Costs for installing and replenishing the barriers are high as well. Because OU2 groundwater contains a heterogeneous mixture of contaminants, some of the chemicals may be antagonistic to the reactive barrier materials causing them to be less effective or ineffective.

Based on the factors discussed in this response, extraction and on-site treatment (by filtration and/or other technologies) and in-situ treatment via reactive barrier are not viable remedial options for Raymark groundwater.

It is not clear what specific technology the commenter is referring to; however, as stated above, several site-specific factors severely limit the potential effectiveness and complicate the implementation of any remedial action involving groundwater extraction and on-site treatment of Raymark groundwater. Multiple technologies are available that can effectively treat the site contaminants of concern in groundwater (including TCE and 1,1-DCE) once extracted, but in order for extraction and on-site treatment to be effective, the physical and chemical properties of the subsurface system must allow the contaminants to flow to the extraction wells and the wells must be properly located and installed to ensure capture of the contaminated groundwater, particularly in the concentrated contaminant source areas. Several site-specific factors explained above significantly diminish the potential effectiveness and implementability of extraction and on-site treatment of Raymark groundwater. Further, the effectiveness and implementability of available in-situ treatment technologies would be similarly limited by the same site-specific factors that complicate extraction and on-site treatment.

Comment No. 37) *One commenter asked what the planned Institutional Controls were for the OU2 Groundwater area, and if there was any plan to limit future use of groundwater already classified as "GB" (non-potable). The commenter also had questions about addressing potential vapor intrusion risks in the long term, and/or changing groundwater monitoring requirements.*

EPA Response: EPA will investigate and consider a variety of institutional control options for the OU2 Groundwater area. Such options may include an ordinance, deed restrictions, or deed notices, among other things. The purpose of the institutional controls will be to prevent the installation of new drinking water or other wells and to prevent the drinking or use of groundwater in the OU2 contaminated plume.

Connecticut's GB groundwater classification limits designated groundwater uses to industrial process water and cooling waters, or base flow for hydraulically connected surface water bodies, and there are also some discharge limits. Groundwater classified as GB is presumed not suitable for human consumption without treatment. EPA is not aware of any operational wells in the OU2 area. Implementation of institutional controls is an added protective measure to the GB classification and would additionally limit or prohibit any use of the groundwater in the area.

EPA will continue to evaluate site conditions through its five-year reviews to ensure the remedy remains protective of human health. If site conditions change, EPA will evaluate whether changes to the groundwater monitoring requirements is warranted, as well as whether additional properties require assessment for potential vapor intrusion. Operation and maintenance of the vapor mitigation systems will also continue to ensure protection of human health.

Comment No. 38) *One commenter asked how excavated wet soils would be drained, and how the drainage water would be collected and transported to prevent contaminating other properties.*

EPA Response: For excavated wet soils, EPA anticipates that dewatering pads will be constructed in a designated staging area. This staging area will be placed as close to the wet soils and sediment in the OU3 Upper Ferry Creek area as possible. The drainage water will be collected in a sump, treated if necessary, and discharged on-site or to the Town of Stratford's sanitary sewer system. The exact dewatering process will be determined in Remedial Design.

Lined and sealed container trucks will be used to transport both wet and dry materials. Although the soil will be dewatered to prevent leaking during transportation, the liners are designed to prevent the leakage of any remaining wet material. See Comment No. 29 for more detail.

Comment No. 39) *One commenter asked where excavated soil would be stored during the period of time that EPA was deciding whether such soil would be consolidated at the Ballfield or disposed of at an out-of-town location.*

EPA Response: There are two situations where soil will be sent out of town: (1) Principal Hazardous Constituents or PHCs which must be segregated for out of town disposal; and (2) any waste which exceeds the capacity of the Ballfield. EPA expects to identify the PHC waste in-situ, through sampling and analysis during the pre-design investigation (PDI) while the soil is still in place. In this way, the PHC soil can be handled separately as it is excavated. However, it is often necessary for EPA to collect post-excavation confirmatory samples for the receiving facility, therefore it is likely that the soil will be temporarily stored in a staging area location to be determined during the Remedial Design process (likely in the Upper Ferry Creek area). The soil will be covered and likely held within a negative pressure structure until it can be safely placed in sealed and lined containers for out of town disposal. EPA will know well in advance if the capacity of the Ballfield will be exceeded and will plan accordingly to avoid additional stock piling.

Comment No. 40) *One commenter asked for the long-term monitoring and operation and maintenance plan for Upper Ferry Creek (OU3).*

EPA Response: A detailed operation and maintenance plan (O&M Plan) will be developed during the Remedial Design of the OU3 Upper Ferry Creek remedy. EPA generally expects that the O&M Plan will include regular inspections to ensure that planted vegetation survives and to identify any areas of erosion until the area stabilizes. Groundwater, surface water and sediment monitoring will likely continue for at least several years to ensure that the clean-up remains protective. Five years reviews of the clean-up will be performed by EPA indefinitely.

Comment No. 41) *One commenter asked for the drainage plan for the construction of the access road from Longbrook Avenue to the Ballfield area (through Contract Plating), citing concerns about how to prevent contaminated water from entering the Town of Stratford's water treatment system.*

EPA Response: A drainage plan for construction of the access road will be developed during the Remedial Design of this portion of the OU4 Ballfield remedy. Preventative measures will be implemented, as necessary, to ensure that contaminated water or excess surface water runoff does not enter Stratford's water treatment system or nearby properties. The access road is anticipated to be constructed from compact crushed-stone construction grade road, which should generate less run-off than an asphalt road.

Comment No. 42) *One commenter asked where foliage and trees from the Ballfield (OU4) would be ground up and sent to prevent contamination from being transferred to other locations in Stratford from the OU4 area.*

EPA Response: The trees and brush at OU4 that will need to be removed in order to create the consolidation area will (depending on their size) be removed by either bulldozer or excavator. The tree stumps will then be thoroughly rinsed to remove any soil particles. The trees, stumps and brush will be then chipped and stored in temporary stockpiles. Samples of the chipped material will be collected for chemical analyses. If the analytical results indicate that the chipped materials are compliant with the Connecticut Remediation Standard Regulations (RSRs), they can be used on site for mulch, compost, or other landscaping uses. If the analytical results indicate exceedances of the RSRs, the chipped materials would be disposed of at an approved off-site disposal facility.

Comment No. 43) *One commenter asked if EPA planned to add groundwater wells to the Ballfield area (OU4).*

EPA Response: Yes, the remedy will include the addition of monitoring wells in the Ballfield area (OU4). The exact number, location and monitoring requirements for these wells will be established during the Remedial Design. This is in addition to the approximately two dozen existing monitoring wells in this part of the study area. Also see Comment No. 58.

Comment No. 44) *One commenter asked what Institutional Controls were planned for the OU6 Additional Properties, and how the agencies would conduct operation and maintenance of these areas.*

EPA Response: EPA envisions that the institutional controls will likely be individual Environmental Land Use Restrictions (ELURs) for most of the OU6 Additional Properties. Such ELURs are required to prevent future excavation deeper than four feet in the backfilled areas, disturbance of Raymark Waste that may remain beneath buildings, groundwater use, or any other activity that could result in an exposure to remaining waste or compromise the effectiveness of the remedy. It is typical to require at least annual inspections of the properties subject to ELURs to ensure compliance with the restrictions.

Comment No. 45) *One commenter asked if EPA had already issued a Record of Decision for OUs 2, 3, 4, and 6, citing links on EPA's website.*

EPA Response: EPA clarified to the commenter that it had not issued such a Record of Decision and the referenced links were Administrative Records to support the Proposed Plan issued on June 30, 2016, and that the Administrative Record collection would be updated and finalized if and when EPA issued a Record of Decision.

Comment No. 46) *One commenter asked if the OU3 Upper Ferry Creek reconstruction of the creek bed and banks provides for building up and smoothing out the banks along the length of the creek to repair decades of erosion. The commenter also asked if there would be prepared* *visuals to show what the proposed reconstruction would look like when completed, similar to the public informational meeting slides showing what the Ballfield would look like after cleanup.*

EPA Response: Upper Ferry Creek will be sampled prior to remediation to further delineate the areas of Raymark Waste present along the banks and wetlands. Based on the sampling results, those bank and wetland areas with Raymark Waste present will be excavated to four feet deep. (The sediment channel will be excavated in its entire length to two feet deep and backfilled using clean sediment and maintaining the channel bottom grade.)

The banks of Ferry Creek will be backfilled using a combination of clean soil and, where required to control erosion, armoring material. The final grading of the creek channel and banks will be determined during the Remedial Design phase and in general it will mimic the existing grades while protecting the channel and banks from excessive erosion during future storm events. The entire Ferry Creek area is located within a 100-year floodplain, and therefore EPA is required to restore existing grades as much as possible so as to not impede floodwater flow or cause net reduction in flood storage capacity.

Comment No. 47) *One commenter asked what they can expect the noise levels to be during construction, if there was a plan to modify equipment to reduce noise around residences, and during what hours and days the work would occur.*

EPA Response: Large trucks and other construction equipment will be required to cleanup Raymark Waste. This equipment will create noise. EPA will comply with state noise regulations, and excess noise levels will be reduced through engineering controls. However, EPA recognizes that an individual's threshold for tolerance of noise varies and wants to be clear that construction noise cannot be eliminated, and, therefore, EPA will limit construction activities to normal business hours (that is, 12-hour or less work days Monday through Friday). The Remedial Design will include a plan to monitor and control noise levels. EPA also intends to install a "highway" style barrier wall along the northwestern boundary of the OU4 and Contract Plating properties to provide a visual and noise buffer for area residents during remedial construction activities. This barrier may be temporary or permanent depending on the needs of the abutting residents. Temporary barriers in active construction areas such as the dewatering area will also be considered.

Comment No. 48) *One commenter asked if nearby residential homes would be subjected to vibrations and tremors during construction, and if EPA would provide compensation if there was damage.*

EPA Response: It is EPA's policy to avoid damage to buildings and property and to leave properties in the same condition as before EPA conducts its work, to the extent practicable. As part of the Remedial Design process, EPA will evaluate construction methods designed to minimize vibration. EPA also anticipates that the physical condition of nearby properties will be photo-documented prior to the start of intrusive construction activities to help ensure accurate assessments of any adverse impacts. Should nearby residential homes be adversely affected as a result of EPA's actions, EPA's contractors are required to carry comprehensive general liability insurance, which may provide coverage. Also, the protections of the Federal Tort Claims Act would also apply. This Act allows certain claims against the federal government for money damages resulting from personal injury, property damage, or economic loss caused by negligent or wrongful U.S. government actions.

Comment No. 49) *One commenter stated that it did not appear that local residents were included in the cleanup process or grants made available for residents to have access to and interpret cleanup standards. The commenter also asked that Technical Assistance Grants be made available to residents for this purpose. The commenter also asked if updated plans had been made or presented since 2009.*

<u>EPA Response:</u> EPA has been engaged with the community for years and has conducted robust community involvement, including Town officials, interest groups, and many members of the community. EPA's recent efforts in this regard are detailed in Section II.C of the Record of Decision. Over the past 15 years, EPA has provided over $1 million through various grants and other vehicles to the local community including about $800,000 to the Raymark Advisory Committee, $200,000 to the Stratford Health Department and $100,000 to the Stratford Planning Department. Updated plans have continually been shared with these groups since 2009.

Comment No. 50) *Several commenters asked how sites and operable units were prioritized to address those that pose the largest risk to public health first. One commenter asked if this site is one of the largest risk to public health in the state of Connecticut.*

<u>EPA Response:</u> The four Operable Units or OUs addressed in the ROD present a greater risk to human health and the environment compared to the remaining OUs, that is, OUs 5, 7, 8 and 9. All four of these OUs have documented potential human health exposures. Also these four OUs are located in more populated areas of town. See Comment Nos. 8 and 10 for more details.

With regard to the question as to whether the site poses one of the largest risks to public health in the state, EPA does not rank Superfund sites against each other once sites are listed on the NPL or rank Superfund sites against state sites. Further, it is difficult to compare risks posed by different media via different exposure risks.

Comment No. 51) *A few commenters asked why small businesses in the area were allowed to replace parking lot asphalt on a Superfund location, who is authorized to remove asphalt and/or dirt, where the asphalt/dirt is disposed, and if EPA paid for disposal.*

<u>EPA Response:</u> Business owners that have Raymark Waste present on their properties have been notified that they should not disturb pavement or soil without first contacting EPA and CTDEEP. Over the last 10 years, two businesses located in OU6 have started soil excavation and/or pavement work without first notifying the Agencies. In both cases, EPA and CTDEEP responded and stopped the work and ensured that either EPA or the property owner installed a

patch on exposed soil. In the case where Raymark Waste was excavated/disturbed, CTDEEP assessed penalties against the property owner. EPA did not pay for any soil disposal. EPA will be placing institutional controls on OU6 properties during the cleanup. These controls will formalize these requirements.

Comment No. 52) *A few commenters asked who pays for the move and business losses if a small business owner must evacuate the property for the EPA cleanup, and how long any such move might last.*

EPA Response: EPA will develop a Construction Management Plan to document methods and procedures for mitigating and responding to construction-related impacts. Prior to construction, EPA will engage local business owners to develop detailed plans to avoid and mitigate, to the extent practical, the construction-related impacts. It is EPA's expectation that most businesses will not need to shut down during the work, and EPA will do what it can to avoid such shut-downs. However, there are some properties where the presence of Raymark Waste is so extensive that a full or partial shut-down may be required. EPA will pay for the temporary relocation of affected businesses where necessary for EPA's cleanup. Compensation for such non-residential temporary relocations is governed by the federal Uniform Relocation Assistance and Real Property Acquisition Policies Act and regulations promulgated under the Act. The Act and the regulations provide for the uniform, fair, and equitable treatment of persons who are displaced in connection with federally funded projects. Costs associated with loss of goodwill, loss of profits, and loss of trained employees, however, are not reimbursable.

Comment No. 53) *One commenter stated that when Walmart built their store on the OU1 cap, they were fined $10,000 by EPA for damage they caused to the cap and that the damage was never fixed.*

EPA Response: The cap covering OU1 has never been damaged. Walmart modified a portion of their store to relocate footings and a wall. It submitted a plan to CTDEEP to conduct this work, but performed the work while the plan was still being reviewed. The excavation work never went deep enough to reveal the geotextile warning layer over the cap liner. CTDEEP fined Walmart $75,000 for violating the Environmental Land Use Restriction on the property, which prohibits digging in the affected area without a plan approved by CTDEEP.

Comment No. 54) *One commenter suggested we follow an alternative to treat water and ship soil to remote areas of the country, and cited the following news article: http://www.fairfieldlivingmag.com/f/In-the-Know-2014/The-Ex-Exide-Site-Cleans-Up-Its-Act/*

EPA Response: Regarding the site referenced in the news article (former Exide Battery Plant), the cleanup discussed in the article mostly focuses on soil and sediments contaminated with lead and other metals, with cleanup to include dredging, separating solids from liquids, treating water and discharging treated water back into the river, and shipping solids for disposal off site. While this Exide site is very different from the Raymark site, Raymark Waste in Upper Ferry Creek sediments and bank material, and in wetland areas, will also be removed and dewatered (including water treatment). The most toxic of the Raymark Waste will be shipped out-of-town, however, much of this waste will be consolidated at the Ballfield until capacity is reached. Once the capacity of the Ballfield is reached, all remaining waste requiring excavation will need to be shipped out of town because a suitable in-town location will no longer exist. EPA also notes that article states the off-site shipping of waste is not necessarily to "remote areas," but to several landfills throughout the northeast part of the country.

Comment No. 55) *One commenter made several suggestions that the government research technologies to destroy asbestos and use such a technology on the Raymark Waste, and also suggested that other toxic materials, such as polychlorinated biphenyls (PCBs), dichloroethene (DCE), trichloroethene (TCE) and other solvents should be destroyed. The commenter requested that EPA contact the Defense Advanced Research Projects Agency ("DARPA") for ways to cost effectively destroy these contaminants, http://www.darpa.mil/work-with-us/opportunities. The commenter also referenced a number of different technologies, providing the following websites or news articles, and stated that EPA had dismissed a number of these technologies with little to no consideration:*

- *A reactor that can destroy asbestos waste, http://cordis.europa.eu/result/rcn/147146_en.html, and*
- *A thermochemical conversion technology that can destroy asbestos fibers, http://www.ctpost.com/local/article/Citizen-group-pushing-for-new-way-to-detoxify-2294039.phpHow%20about%20advances%20in%20technology%20to%20treat%20the%20soil.*

EPA Response: An extensive number of technologies were reviewed for use at each OU. Tables 3-1 through 3-3 in each of the FS Reports lists the technologies reviewed and screened for use. A number of the technologies were eliminated from further consideration since they would not address the mix of contaminants present at Raymark and would require a multi-step, very expensive treatment train to be constructed. In addition, many technologies would result in a final treated waste residual that still requires either on-site or off-site disposal.

With respect to the two links to asbestos treatment technologies offered by the commenter(s), AMIANTE and ARI Global processes, EPA had already reviewed similar thermal treatment processes. First, it should be noted that these technologies do not "destroy" asbestos fibers. Asbestos is a group of six minerals that are composed of assemblies of metal atoms arranged in crystalline lattices. Asbestos fibers are crystalline shafts or curls (chrysotile, only).

The two processes cited both use high temperatures to alter (or rearrange) the crystalline structures so that the asbestos fibers no longer have the same structures; rather the metal atoms are rearranged into different configurations that are no longer classified as asbestiform (having a 1:20 aspect ratio). Depending on what metal ions are present in the thermally treated asbestos materials, presence of other matter, the rate of cooling, and other factors, it is unclear what may be the final product.

The AMIANTE process uses microwave type thermal heating to treat asbestos fibers. The link provided by the commenter is for a Summary Report for a 2-year project to research, design, build and test a microwave thermal treatment system capable of rendering asbestos fibers into non-asbestos materials. The report indicates that temperatures of up to 1,000 degrees Celsius (°C) were required. The tests were conducted in a laboratory using asbestos panels. The asbestos-containing panels were relatively homogeneous, unlike the complex heterogenous mixtures of wastes typically found in Raymark Waste. At this time, the AMIANTE process has been demonstrated at the laboratory-scale, but not at full-scale, which is required for actual use at a hazardous waste site to ensure safe disposal of wastes.

The ARI Global Technologies' thermal conversion process is another high-temperature thermal treatment process. ARI indicates that the asbestos-containing materials are heated to below the melting point of asbestos (which can be between 1,200 °C to 1,500 °C), which is between the incineration and vitrification temperature ranges. Similar to the AMIANTE process, the asbestos fibers, at high temperatures, are rearranged and are no longer classified as asbestos. According to ARI's web site, this treatment process has been used at several U.S. Department of Defense and Department of Energy sites, and a group of Japanese commercial enterprises. Unlike the AMIANTE technology, the ARI technology has been used at full-scale. The examples cited by ARI indicated that mixed wastes containing asbestos and PCBs were effectively treated.

Raymark Waste consists of a heterogeneous mixture of organic and inorganic contaminants including volatile organic compounds (VOCs), polycyclic aromatic hydrocarbons (PAHs), pesticides, polychlorinated biphenyls (PCBs), dioxins and furans, and toxic metals (e.g., arsenic, beryllium, cadmium, chromium, copper, lead, and zinc). Because Raymark Waste contains many contaminants, multiple additional steps would be required to address gaseous, liquid and solid byproducts of high temperature thermal treatment. The treatment residuals, mostly ash and concentrated metals, would retain some toxic characteristics and still require consolidation and capping, and/or be shipped to an off-site hazardous waste facility.

While incineration was considered in the Feasibility Study reports because the temperatures are sufficiently high to destroy most organic contaminants present in Raymark Waste, concerns with the creation of combustion byproducts (dioxins and furans), indicated that this treatment technology may not be acceptable to the public. Additionally, incineration would be a slow process because of the large volume of material that would require treatment and the limited throughput capacity of each incineration unit, and the cost of incineration would be extremely high because of the intensive energy use, the high equipment cost, need for stringent safety and emission controls, and relatively low throughput capacity.

As described in Section II.C of the ROD, EPA reviewed and rejected an innovative thermal destruction technique for all Raymark Waste in Stratford. Information about this technology and EPA's review is contained in the Administrative Record.

DARPA is a military program which mostly focuses on technologies development for use in military operations. EPA's technologies review process that was performed for Raymark (Section 3 Tables in each OU-specific FS report) was comprehensive and considered all available proven technologies for treatment of the types of materials and contaminants present at

Raymark; both private sector information as well as federal technologies. “Proven” refers to the fact that under CERCLA, EPA will only consider the use of technologies which have moved beyond laboratory studies into real site applications. In addition, EPA’s technologies reviews were conducted with the specific goal of treating Raymark Waste, DNAPL and impacted groundwater, whereas programs like DARPA look at general technologies applications that do not consider the unique and diverse physical and chemical properties of Raymark sourced waste.

Comment No. 56) *One commenter suggested that Raymark Waste should be capped in place with impermeable caps to prevent asbestos from becoming airborne.*

EPA Response: EPA evaluated in-place capping separately for both OU4 and OU6. In place capping was not evaluated for OU3 due to the aqueous nature of the channel. With regard to OU4, EPA evaluated Alternative OU4-5 (Capping and Institutional Controls). Under Alternative OU4-5, a low-permeability cap would be constructed to cover the Raymark Waste area located on the Ballfield property but no other Raymark Waste would be transported to OU4 from OU3 or OU6. Through the Comparative Analysis, OU4-5 was determined to be a protective and a cost-effective viable option, however OU4-5 was not selected by EPA as the preferred alternative because it would have not included consolidation of Raymark Waste from OU3 and OU6, greatly increasing the overall cost of remediation. Also, OU4-5 would not include capping of the large area of non-Raymark Waste located on the Ballfield property (estimated at 100,000 cubic yards), which would remain a potential exposure concern and result in a significant impediment to reuse of the Ballfield property.

With regard to OU6, EPA evaluated Alternative 3 (Excavation, In-Town Consolidation and Installation of Low Permeability Caps). Similar to OU4-5, Alternative 3 for OU6 included the installation of low permeability caps over the Raymark Waste areas on each of the 22 individual OU6 properties. However, Alternative 3 was not selected by EPA as the preferred alternative because it would have would have required the excavation and removal of up to three feet of Raymark Waste (approximately 34,000 cubic yards) from each of the OU6 properties to accommodate the installation of low permeability caps on the individual OU6 properties. Excavation would be necessary under this alternative to avoid altering the grade of the OU6 properties and avoid impacting operating businesses. Also, all of the OU6 properties are located within the 100-year floodplain which requires that EPA maintain existing topographic grades on each property so as to not reduce net flood storage capacity. The excavated Raymark Waste would still be transported to the proposed in-town consolidation area at the OU4 Ballfield, except that Raymark Waste containing more heavily contaminated material that exceeds certain regulatory limits would be transported to a licensed out-of-town disposal facility. Even if they were installed at grade, these caps would have greatly restricted the use of each of the 22 properties, many of which are active businesses. Also, the ability to effectively restrict digging, and inspect and maintain caps on 22 individual properties, would be more difficult than to manage one cap of a single consolidation area.

Comment No. 57) *One commenter stated that EPA had to repair a large percentage, perhaps up to 35%, of the previously installed vapor mitigation systems, and suggested that more repairs might be expected as the systems age.*

EPA Response: In EPA's most recent Five Year Review Report dated September 22, 2015, EPA documents all of the inspection and maintenance activities associated with the 106 sub-slab depressurization systems which EPA and CTDEEP installed between 2001 and 2004. These systems are inspected at least once during each five year cycle by the CTDEEP. CTDEEP also responds to any calls from the system owners.

Between October 2014 and March 2015, CTDEEP and its contractor conducted a neighborhood-wide exterior inspection of the sub-slab depressurization systems. The inspections involved checking the operation and conditions of the fans, switches, and vent piping associated with the systems. Of the 106 homes that received these systems, 16 homes had systems that were not operating and required repair; 16 homes had systems that were operating and repair was recommended; and 7 homes had systems operating but periodic inspections were recommended.

From this recent inspection, problems with the electrical system and the fans were recognized. Follow-up activities included replacement of non-functional blowers, corroded electrical switch boxes, replacement of broken or cracked blower covers, replacement of missing vent caps and screws, and re-caulking of deteriorated seals. At the time of the Five-Year Review Report, these repairs were being addressed. It was also noted that some residences removed the systems from their household and had not replaced them. Additionally, new homeowners in existing households or recently built homes in the affected area do not have sub-slab depressurization systems because new owners do not know about the systems and/or they are no longer provided by CTDEEP.

CTDEEP continues to work with the Town of Stratford's Health Department to keep residents with sub-slab depressurization systems informed about the importance of operating the system and who to contact with questions about or problems with their system. Stickers with information about the systems and contact information in case of malfunction are being placed on the sub-slab depressurization systems. EPA and the Stratford Health Department have also sent letters to homeowners with sub-slab depressurization systems.

Comment No. 58) *One commenter stated that there are no test wells near the Ballfield or Contract Plating to determine if there is an underlying aquifer and if there are contaminants present.*

EPA Response: There are approximately two dozen monitoring wells located on the Ballfield and Contract Plating properties. There are also several monitoring wells located on the DPW property and a monitoring well along Patterson Avenue. These wells collectively demonstrate that there is groundwater underlying the Ballfield and Contract Plating properties and that groundwater moves from the northwest to the southeast. Therefore, the groundwater aquifer underneath these properties is located upgradient of the former Raymark Industries property, which is the source of the most contaminated groundwater. However, the groundwater aquifer beneath the Ballfield and Contract Plating properties has been contaminated by past disposal activities at Contract Plating, and from the buried Raymark and non-Raymark waste areas at the Ballfield. Groundwater contamination does not extend north and west into the residential areas. Note that the OU4 remedy also includes the addition of monitoring wells in the Ballfield area (see Comment No. 43).

Comment No. 59) *One commenter asked if pile-driving and construction for the Interstate 95 bridge and ramps could create cracks in bedrock for mobile contamination.*

EPA Response: It is unlikely that pile driving for the Interstate 95 construction could create or enlarge cracks in the bedrock sufficient to alter contaminant migration in Site groundwater. Extensive cracks (fractures) already exist in the bedrock, which allow groundwater contaminant migration through the bedrock; these fractures were formed by geologic processes over thousands of years. The process of pile driving involves driving the piles through the overburden materials to reach the top of the bedrock so that the rock may provide a secure foundation for the pile and the structure it is intended to support. Piles are not driven a significant depth into the competent bedrock, and therefore, would not be expected to create significant cracking. Significant and directed force (from targeted blasting or hydraulic fracturing) would be required to measurably increase the flow of groundwater through a fractured bedrock aquifer such as that present beneath the Site.

The Interstate 95 construction and pile driving would only be expected to significantly affect contaminant migration in Site groundwater if the construction was to be performed in the immediate vicinity of a mass of mobile DNAPL. However, the highway construction is not in close proximity to the major contaminant source areas (which are present beneath the former Raymark facility property) and those source areas are believed to contain residual (not mobile) DNAPL. Further, a change in groundwater contaminant migration caused by highway construction would pose a concern only if it results in spreading the contaminant plume to new areas and enlarges the area of potential for vapor intrusion to areas outside the VI action properties. This is not expected to occur. However, groundwater monitoring will be performed to verify that the highway construction has not adversely affected the contaminant plume.

Comment No. 60) *One commenter stated that 13-year old data was used in the OU2 Groundwater portion of the public presentation (maps from 2002-2003), and that the areal extent of contamination was generated from old computers and old modeling systems and was therefore approximate. The same commenter noted that a three year old girl living in the area got brain cancer in 2001 from VOCs in groundwater.*

EPA Response: The commenter's statement is incorrect. In the presentation provided at the public informational meeting on June 20, 2016, there was actually no groundwater plume map provided, only figures generally showing the larger groundwater study area of OU2 and location of monitoring wells in the area. Additional figures in poster-size were available for viewing during the public open house session on June 20, 2016, but these figures showed locations of homes with/without vapor mitigation systems, and the general area of potential vapor intrusion.

A citizen who attended the public open house session requested a copy of any figure that specifically showed the actual groundwater plume and homes overlaying that plume. In response, on July 28, 2016, Ron Jennings of EPA e-mailed the citizen a figure showing the groundwater plume of trichloroethene based on December 2002 through February 2003 data, noting in the e-mail that EPA has more recent data, but because the concentrations had not changed considerably over time, there had not been a need to create updated figures. The citizen shared the figure with the commenter, who incorrectly assumed that it had been provided during the public meeting and that EPA had based its decision-making on OU2 on older data.

Throughout the Raymark project EPA has worked closely with the CT Department of Public Health Department, the US Department of Health and Human Services Agency for Toxic Substances and Disease Registry, and the Stratford Health Department to investigate and monitor potential health risks related to the Raymark Superfund Site. The Town of Stratford Health Department maintains an extensive list of health studies that have been conducted over the years http://www.townofstratford.com/content/39832/39846/39915/40411/40497/40558.aspx. Relative to OU2, the Stratford Health Department and EPA requested the CT DPH evaluate public impacts of VOCs from groundwater. The CT DPH presented their findings in a Health Consultation dated September 8, 2003. As a result, numerous homes in the area were offered sub-slab ventilation systems to reduce the risks from VOCs off gassing from contaminated groundwater into buildings. Also see EPA's response to Comment 22.

Comment No. 61) *One commenter forwarded a summary of a new study by a University of California San Diego scientist presented at a conference that challenges the long-held belief that asbestos fibers cannot move through soil, such as a soil cover.*

<u>EPA Response:</u> EPA's contractor reviewed the available information related to this presentation and others given at a conference regarding asbestos mobility research based on abstracts provided on the American Chemical Society (ACS) meeting website. Laboratory findings indicate potential mobilization of asbestos fibers in soil when subjected to the right conditions. Naturally occurring soil microbes and plants give off exudates (substances exuded from soil and plants) that can cause changes to the surface charges of the asbestos particles so that they are less attracted to soil particles and can become mobile and migrate. Because the study is so new, no technical publications are currently available to perform a more detailed review. At this stage, it is unclear how the transformation mechanisms described in the presentation would or could occur under actual field conditions because of the much greater variability and heterogeneity that exists in real field conditions. Also, there are no studies or information regarding the fate of the mobilized asbestos. It is unknown whether the mobilized asbestos keeps migrating or whether it is stopped or trapped by subsurface soil or different geochemical conditions. Information obtained from the abstracts do suggest that conditions related to that Raymark waste at OU3, OU4 and OU6 could result in potential asbestos migration. EPA will review the full research articles once they are available. A detailed evaluation of the abstracts from the ACS meeting has been added to the Administrative Record for this ROD.

It should be noted that for the Raymark Waste proposed to be placed under the low-permeability cap at OU4, the Ballfield, additional actions such as in-situ stabilization or solidification with binding agents could be implemented, if necessary, to isolate the asbestos fibers from microbial or plant exudates that increase their mobility. Also, the many layers of the OU4 cap, especially the low-permeability barrier, will likely prevent the upward mobilization of asbestos, if such mobilization occurs. Ongoing monitoring will ensure that conditions remain protective.

Comment No. 62) *One commenter stated that EPA should not consolidate waste at OU4 just because the existing cover on OU4 is failing and stated that consolidating more waste into the Ballfield over several years poses a greater risk compared with the existing Raymark Waste already at the Ballfield.*

<u>EPA Response:</u> EPA is not consolidating Raymark Waste at the Ballfield merely because the existing soil cover at OU4 is a temporary action and is failing. EPA is consolidating Raymark Waste at OU4 because the consolidation remedy is protective and best satisfies EPA's remedy selection criteria. Also see EPA Response to Comments 7, 10, and 11. EPA will take measures to ensure that the consolidation of the waste at OU4 is done safely. See EPA Response to Comment 6.

[END OF RESPONSIVENESS SUMMARY.]

ATTACHMENT A OF RESPONSIVENESS SUMMARY:
Transcript of Public Hearing
(July 26, 2016)

PUBLIC HEARING
RAYMARK SUPERFUND SITE
JULY 26, 2016

P R E S E N T:

Anni Loughlin, EPA.

Jim DiLorenzo, EPA.

Cindy Cook, Facilitator.

REPORTED BY:
ROBERT M. MILLER
LICENSED SHORTHAND REPORTER
LICENSE #500

THE PUBLIC HEARING HELD PURSUANT TO NOTICE ON JULY 26, 2016 AT STRATFORD HIGH SCHOOL, 45 NORTH PARADE STREET/VICTORIA SOTO WAY, STRATFORD, CONNECTICUT 06615 AT 7:30 P.M.

MS. LOUGHLIN: Hang on, I have a little bit of something that I need to read to formally open the hearing. Sorry about that. So I'll be very quick.

My name is Anni Loughlin again. I'm a supervisor at the EPA New England office for the Raymark site. I'll be the hearing officer for tonight's hearing on the proposed cleanup for the Raymark Industries, Inc. Superfund site in Stratford, Connecticut.

The purpose of this hearing is to formally accept oral comments on the proposed plan released to the public on June 30 of 2016.

The public comment period began on June 30 and as you heard, the public comment period has been extended beyond the original thirty days. The public comment period will now end on August 29.

We do not respond to comments at public hearings like this one tonight, but we will respond to them in writing after the close of the comment period.

You just heard information from me and Jim DiLorenzo concerning the proposed plan and the EPA responded to some questions about the site.

The proposed plan and the rest of the administrative record was delivered to site information repositories in Stratford and Boston, Massachusetts.

As you heard, the proposed plan addresses operable unit two, ground water; operable unit three, Upper Ferry Creek; operable unit six, the additional properties; and operable unit four, the Raybestos Memorial Ballfield.

The total estimated cost of this proposed remedy is approximately 95.7 million dollars.

The proposed plan is available online and the flier available in the lobby has a website listed where you can find it as well as instructions on how to submit other comments.

For those of you who wish to comment tonight, Cindy Cook will bring you up to the podium. When you come up to make your comment, please state your name and address or your affiliation and please speak clearly for the person that's recording your comments.

If the extent of your comments are going to take longer than a few minutes tonight, I'd ask that you summarize the major points and provide EPA with a written copy of the full text of your comments.

The text in its entirety will become a part of the official record and EPA will respond in writing.

After all the comments have been heard tonight, I will close the formal hearing. If you wish to submit written comments, you can hand them to me or Jim

DiLorenzo tonight or you can mail, send them by fax or e-mail them to Jim DiLorenzo at EPA at the addresses in the plan or up here on the screen.

At the conclusion of the hearing, please see any of the EPA representatives if you have any questions on how to submit comments. All oral comments we receive tonight and the written comments that we receive during the comment period will be addressed in the responsiveness summary and will become a part of the administrative record for the site and will be included in the site's cleanup decision.

We will consider all comments in deciding on the final cleanup plan for the site.

Thank you for coming this evening as public input is an important factor in the EPA's decision-making process.

We will now begin the formal hearing and the first speaker is Alivia Coleman of the Stratford Health Department.

ALIVIA COLEMAN: Hello, my name is Alivia Coleman and I'm the Health Program Associate at the Stratford Health Department and I'm also a life-long resident of Stratford. All of my family has lived in the town for forever.

I've been asked by Andrea Boissevain, the Director of Health who is unable to be here tonight, to voice the Health Department's position on the EPA’s proposed plan and also to kind of explain the role that our department will have in this project should it move forward.

Andrea, our health director, has been involved with the various stages of the Raymark project for more than twenty years since the early days of cleanup when she worked as a consultant for the then-director of health Elaine O'Keefe.

With a background in environmental health, Andrea is very knowledgeable about the relationship between health and the environment and has advocated for, in the past, and will continue to advocate for public health oversight and involvement.

So the mission of the Stratford Health Department is to ensure a clean and safe environment for residents. Right now, there's just simply an unacceptable risk of exposure to contaminants that remain in the environment and this needs to be addressed.

There are commercial property owners who cannot do basic upkeep of their properties without concern of disturbing Raymark waste.

There are residents living right adjacent to these sites. These sites need to be permanently addressed and not left for the elements to increase exposure risk.

There are residents impacted by the contaminated groundwater who, for various reasons, did not have mitigation systems installed in the early 2000's. Either the previous owner did not want a system installed or the house was built after the system was offered. So these citizens should be offered mitigation systems, and with this plan, this is one of the issues that will be addressed first thing.

So therefore, the health department supports this plan moving forward. We believe the cleanup work can be done safely and we're going to be serving as another set of eyes to oversee the work and make sure that foremost, the health of the public is protected.

We will work with our colleagues at the Connecticut Department of Public Health to develop health-based air monitoring thresholds for any excavation sites that occur during this project. And we did this for the removal of the Raymark waste at the airport project recently.

We and the Connecticut Department of Public Health will also be receiving and reviewing air

monitoring data all during the entire cleanup.

So we're right here in Stratford every day. We're available to address any community concerns and enhance communication with the EPA team in Boston. We intend to form and support a citizen's group that can routinely meet to discuss questions and concerns and the status of the cleanup project and make sure that the community is kept informed and is being heard.

We've already been contacted by several people who want to serve on this committee and we're available to anyone else who wants to join.

We believe now is the time to address the lingering components of the legacy of Raymark waste.

Mayor Harkins also supports and encourages our department's involvement. Some of our state per capita funding allocated to the health department has been designated for my involvement in the project, so this is an indication of the importance our department plays in this project.

The mayor believes that this plan already has some support among the town residents and this has been his foremost requirement for any plan from the EPA regarding the Raymark cleanup.

The EPA, DEEP and the Stratford Health Department have worked cohesively throughout the process that has

brought us here tonight. He believes we must decide whether to take advantage of this opportunity to finally deal with Raymark waste in a meaningful and comprehensive way or let this chance slip through our fingers.

Mayor Harkins encourages public input and discussion on the matter and hopes the plan continues to enjoy support among the majority of the public.

So as always, you're welcome to contact the health department. Any questions or concerns, we're here in town all the time, and we'll ensure any communication will get to Boston. Thank you.

CINDY COOK: I'm going to ask that each person ,after they testify, write their name here so that the stenographer can spell check your name. So if you could do that, that would be great.

And then sir, I think you had some comments?

JOHN PLOW: Is it possible to put slide 6 up for a second that you had? I really appreciate that.

My name is John Plow. I live at 348 Hurd Avenue. I think I'm a newbie to Stratford because I have only been there seventeen years, but I have been around long enough to hear the concerns about the Raymark

waste and I just want to acknowledge a few things.

I appreciate the efforts that have gone into this, and the EPA, I don't question your integrity or your desire to solve this, but I have concerns about the proposed means to resolve it. But I appreciate the amount of work.

For those of you who haven't read that 51-page document out there that the EPA put into this, please do. I have. It's full of a lot of information. It's absolutely terrifying but there's a lot of information in there that I think it’s worth going through.

And the last thing is, I want you to know if I lived anywhere near these twenty-two sites that have the toxic waste, I'd want it gone. I appreciate that. That would be, get it out of here, literally not in my backyard. I totally understand that.

My concern is the solution to consolidate in the ballfield. If you look at that brown space up there, that's where the ballfield is. And I was talking to Ron -- and I appreciate your time -- and they see an industrial site there. I get that. But look all around there. Those are homes.

A few blocks from the site are a school, a children's park, a football field. I have neighbors that work in their gardens -- this is getting me

emotional -- I think about people who work for the town across the street who at the end of the day get in their car and go to the grocery store and have lots of packages in their hands and they will put them on the trunk covered with dust across the street from the ballfield during this and then go home and put that on their kitchen counter.

Maybe you have pets that will go outside and roll around in the grass and will come in and sit on your couch or go on your bed.

We have been assured that the dust won't pose a problem and that there are remediation techniques to address this.

I went through this document and I looked at alternative OU4-4, page 35 for those who are interested in reading it. And that was one of the alternatives that the EPA generally looked at -- and I believe it was sincere -- that looked at excavating the 110,000 cubic yards of toxic waste to the ballfield and taking it out.

Their own words: Quote, this would pose a greater short-term risk to community and workers, end quote.

The next quote: This will result in high potential for dust emissions, end quote.

That is seen -- my knowledge isn't as extensive -- but incredibly risky. But what we're talking about is opening up 110,000 cubic yards of waste and dumping an additional 85,000 and somehow that doesn't pose a risk for emissions and dust and carcinogens?

We live around there. Thousands of us.

Look, I promised to be brief. It's not enough for us to be here. I'm shocked that this is all that's here and I'm thrilled that every one of us is here. But being here doesn't matter. They have been wonderfully accommodating by saying unless we register our formal concerns by grabbing this microphone or e-mailing Jim, that it doesn't matter.

So thank you for extending an additional thirty days. Please, register your concerns and get those around you to register their concerns or none of this will matter. Thank you.

JON DAMON: My name is Jon Damon and I'm a business owner in Stratford. I happen to be working in that area every day. We run the facility that's at Contract Plating currently.

We have generally -- my wife and I have gone to every one of these meetings and we have seen a lot of the same faces here. I think that the fellow that

came up to here and spoke before made a very good point.

But I'd like to kind of reiterate. I understand that everybody in the community is concerned about the impact when this occurs. I think the bigger problem is that what's the impact in the long run if it doesn't occur?

My concern is, and Paul Rohaly made a great comment before about the waste that's already out there and already exposed and what about those same pets and children in that dust that's in the ballfield now that's not impacted -- or not protected right now.

How does that go if we don't do something about the problem? Then what are we accomplishing here and we have the ability to accomplish something.

My concern is that from a logistical perspective at this point in time, most of this proposal is incomplete. I think that because it's incomplete and they can't answer a lot of the questions, there needs to be some sort of ability or referendum to readdress these issues and have the public be able to participate in making the decision with the community leaders and the EPA on whether these plans really do solve a lot of the concerns and issues of the community.

I think the community in general is the biggest affected group, with all due respect -- I don't think -- and I know Jim and I have talked and Ron and I have talked about these sort of things and everyone in this room has. But the people that live here and work here really are the ones that are going to deal with this forever.

And I think that they need to be able to have a more definitive ability and participation in how this moves forward than okay, we get our thirty or sixty days and that's it.

Because this is a proposal, it's not a complete plan. In other words, until all the questions are all answered like what are the logistics with the highway exit ramps? What are the logistics with the traffic and community? And how is the groundwater going to be managed? All of those questions.

Until there's some sort of complete sort of directive that we can all go to and say, well, that makes sense or what is going to actually happen to the businesses that are in those areas that are impacted? I mean, it's all speculative right now because it's not complete.

I think that a public referendum or some sort of referendum that includes people in the community, not

just the EPA, not just town hall, but everybody. The business owners that are affected and the home owners and the residents, I think they need to have the ability to have more of a say when this is closer to a complete design scenario.

And that's all I have to say and I hope that it triggers some more of you to have some sort of actual comments here because that's what is really going to make a difference here.

If we just sit here and we don't really make a constructive effort to participate and say what we feel, then we can't just blame it on being the victim. We have to actually be here and that's why we have come.

A lot of people here, Charlie Perez, have asked us to participate and take a look at this. We're reasonable and rational people, but that's really how I feel and I know that's how a lot of you feel. But please come up and tell them how you feel and that's the only chance that you have. Tell them what you want, that's how you're going to get it. Thank you.

CINDY COOK: Thank you and print your name as you leave.

JOHN RICH: Okay, I'm John Rich, I live at

68 Willow Avenue. My backyard is Upper Ferry Creek. I overlook that parking lot behind the restaurant. Now, a lot of this, I get.

I get the fact that right now, we are at unsafe levels in various areas because of erosion problems so we have to deal with waste now.

I get that we have a plan that they are putting forward for excavation, transportation, and consolidation and they think this is the best approach.

I also get the fact that they are going to use, quote, the best practices policy, in terms of doing all this and I think it's an admirable thing that they say that the toxic levels that we're exposed to right now is their upper limit and that their threshold is zero percent during this entire phase of digging up, transporting and consolidating the waste.

My problem with it is that it seems to me the way they are going to manage that safety system is retrospective.

Yes, they talk about the air quality tests and yes, they talk about data collection. But that data collection may be, in some cases, twenty-four to forty-eight hours old.

If there's a breach on a Friday afternoon that

goes beyond the thresholds, that data may not be seen by the people who need to see it until Monday morning. For that, the cat is already out of the bag for all the people in that area.

Even if they have realtime data and there's some kind of alarm system that when they dig in a hole and they expose some stuff and an alarm goes off and everybody says stop, time out, it's still too late because that product has become aerosolized and the particles are floating in the air and we have exposure to it.

So I'm asking them to consider a proactive approach. In my case, when you start dredging Upper Ferry Creek, I think you should go around to all the houses, including mine, and drop off a packet that includes an N-95 HEPA mask because I need to be protected before an exposure takes place, and not afterwards.

So during that phase, even though they are using the best practices possible, I would rather have a mask available to prevent me from inhaling those particles. Because once I inhale those particles, those particles are mine forever and there's nothing I can do about it.

So please consider having a proactive approach

and protect our population, instead of a retrospective approach which is what you have now. Thank you.

CINDY COOK: Can I get a show of hands of other folks? As you see all the hands here, please keep your comments as brief as you can be, so that everybody has an opportunity.

GEORGE MULLIGAN: George Mulligan, 429 Housatonic Avenue. I'm running for Stratford Town Council as an independent.

Could I ask Tom and Beth Smith to stand up, please?

Tom Smith and Beth Smith got four thousand people to do an online petition and they were responsible for

Connecticut State Legislation House Bill 5606, an Act prohibiting the storage and disposal of toxic waste near residential properties that prevents anyone from dumping or consolidating toxic waste in a residential neighborhood anywhere in the state of Connecticut.

That legislation was signed into state law by Jodi Rell in 2008 and remains in force today. Thank you, Tom and Beth Smith.

Would Paul Rohaly, Charlie Perez, and also Ron

Massey stand up? They formed the Raymark Advisory Commission. Each of them worked with the EPA to adopt the 114 vents that are in my area over five hundred acres of poison groundwater. Jim, would you put that slide up about the groundwater?

So Charlie, Paul and Ron -- who is not here -- thank you very much. There are people who got cancer a few years ago in 2001 before those, got cancer.

Now, if you look at that area, I'm to the right and lower part of that red area.

Groundwater aquifers go from the Housatonic River under Raymark near Home Depot where Shop Rite and where the bank and Wal-Mart, Shop Rite and Home Depot are and go beyond the East Main Street bridge.

Because three months before the movie Erin

Brockovich came out, I asked the Public Works how come that bridge is where water collects -- I was told it's not just the heavy rain, it's because the aquifers on high tide, when the tides are high, the water has no place to go.

So I don't know how far beyond the railroad tracks those aquifers go. I haven't seen anything in the EPA about the aquifers under the ballfield.

I do know that there's water that comes down past

the police department that enters into that area and at high tide, very high tide when it rains, that water backs up and I think Tom can verify that the area in that area by the police station gets very high.

So I question the safety and health that your claim is going do to his area and has done to my area.

All I care about is protecting people's lives and property values and assets. It's something that the people in Washington, D.C. don't seem to care about. The people that work at EPA are good people and they do the best they can with what they have got. But the EPA, just like every government office, will do what is politically expedient.

I have handouts -- three pages of handouts are an email to Senators Blumenthal and Murphy and

Congressman DeLauro and also to Jim that was sent on July 18 and it shows worst case scenarios and also what we believe are best possible options.

I will very quickly run through these quickly and then I'll finish and respect other people's time.

Worst case scenarios are the asbestos can become airborne. You're going to have a bridge and the ramps in 2017, 2018, 2019 that are going to be tied with traffic and, God forbid a dump truck with twelve cubic yards of waste turns over and the asbestos gets

airborne. That's the worst case scenario.

And that's in my backyard and God forbid it happens over by the Walmart and the Stop & Shop and Marshall's and BJ's. God forbid it goes into Patterson Avenue. That's the worst case scenario.

Next is the Raymark waste groundwater. There are two things that cause these compounds, TCE and DCE. In 2000 the EPA had ways to get rid of that, 140 dollars a ton. Might be less expensive.

Statutorily, the EPA and all federal agencies must cooperate with each other. The state and locals must cooperate with the feds. You can contact DARPA, the defense agency that puts up R&P's about destroying things like asbestos because the government loves destroying things and you have military bases that have asbestos. So why not get them to find something that's going to destroy the asbestos in riverbeds? It would help them, it would help us, because I don't want ten thousand dump trucks over a four-year period transporting asbestos.

The last thing is about solvents, PCB's and other poisons that are operating within inches around the groundwater. I have these as handouts.

I'll be in the back of the room. If anybody wants one, please take one. I'm also looking for

people in the 7th District to sign my petition so that I can run as an independent against the Democratic and Republican parties.

CINDY COOK: Hold on. We cannot do political stuff.

TOM SMITH: Good evening, my name is Tom Smith, and I'm one of the founding members of Save Stratford. In 2007, Save Stratford asked you guys, the EPA and DEP for a fully funded comprehensive cleanup plan, one that actually cleans up the toxic Raymark waste.

Yet here we are nine years later with what amounts to basically roughly the same plan you showed us in 2007 with a few extra bells and whistles which is to dump a large amount of waste at the Raybestos Ballfield.

Folks, I can't stress enough that this is a fundamentally flawed substandard proposal for the following reasons.

One, it doesn't fix the problem. There's a toxic plume that continues to flow unabated under people's houses into the Housatonic River.

Two, it doesn't clean up the waste. The waste is still going to be here based on this proposal, just in

a different neighborhood. At the moment I'd like to also point out that it's a scientific fact that all of the EPA's so-called caps eventually fail. They degrade and fail.

Don't take my word for it, go out and look on the internet, Google the Ambler, Pennsylvania site and see what a fine job the EPA did there.

This doesn't help Stratford in the long run either. I don't think there's anybody in here from the economic development department, but if you're paying attention, letting the EPA dump toxic Raymark waste which contains known cancer causing agents like PCB's and asbestos one quarter of a mile from Wilcoxson Elementary School and the football field and playground, and Longwood Park and right next to where people live really isn't a good plan -- a long-term plan or way to attract young families to Stratford and spur economic development.

You guys wanted specific comments from this proposal? I'm not going to mince words. What you have proposed here at the ballfield creates an unlined landfill that basically doesn't even meet the basic design standards for containing toxic waste, and I'm referencing pages seven and eight in your proposal. That's not acceptable and it's a nonstarter.

Second thing, where is the rest of the plan? You're asking us to agree to this substandard underfunded proposal to see what is behind curtain number two. The rest of the sites in Stratford, which I'm guessing will probably have the same exact solution as this plan, which is to leave as much waste in Stratford as possible and remove the least amount.

Three, to George's point to follow up on his comment, you know, about dump trucks driving around, if there's ever an accident, God forbid. What is our recourse?

As it stands right now, if the EPA screws this cleanup, like they did in Amber, Pennsylvania, the

Animas River in Colorado or even in Flint, Michigan, what recourse do we have? As of right now? Zero.

If you're so confident about this proposal, this proposed plan, you need to waive your immunity from civil and criminal prosecution and then we'll know that you'll be held accountable for your actions.

Finally, you're asking us to agree to this proposed plan based on a promise that you're going to come back to Stratford at some vague later date in the future to remove the rest of the waste from the town.

With no guarantee of funding and no other money available, that really sounds like an empty promise.

One that we frequently hear from politicians during the election season.

Folks, this proposal falls far short of what needs to be done here in town. While Save Stratford is glad after eight years you finally acknowledged our recommendation that you install ventilation systems in twenty homes that didn't have them, I'm really hoping that you get to it sometime in the next eight years.

I'll make this final point. If the EPA under the direction of the Department of Transportation could remove toxic Raymark waste from a vacant uninhabited lot at the end of an airport runway and ship that out of town, then the EPA can and needs to remove this waste from residential neighborhoods that are directly affected by this and ship it out of town now.

As we have said, and Save Stratford has said this repeatedly since 2007, the best solution long and short term for Stratford is to remove all or as much of the waste as possible. And only then we'll be rid of this toxic legacy.

Thank you.

SANDRA ZALIK: Good evening, my name is Sandra Zalik. I live at 208 Housatonic Avenue. First I'd like to say thank you to the EPA, DEP and everyone

that's been here, as I see a lot of faces. I have been to all the meetings they have had and I appreciate all the hard work.

My overriding concern is that we get this done. I was on the town council in the Third District which at the time had Raymark in it and I was involved way back twenty years ago when the RAC was appointed and went to all the meetings along with Paul and Charlie and Ron and these guys have been working for decades on this.

So my overriding concern is please let's get this done. In a perfect world, I agree with some of the other speakers. If we could get it all out of town, that would be amazing and wonderful and a pipe dream.

But I think that's not going to happen, so I want this proposal to go forward and I want as much to go out of town as possible. I want it done in the most responsible way possible.

Again as the councilwoman in the late '90's and early 2000's I lived through the horrors that the neighborhood lived through when the Raymark cleanup was done. The hours, the trucks, the lack of sleep, the noise, the lights.

And my constituents were calling me and I felt so powerless to help them. I don't want that to happen

again and I do appreciate the EPA seems to have really acknowledged all those complaints from the past and has worked a plan together that addresses that with fewer hours and et cetera that they explained.

I appreciate the fact that the EPA has said we understand this is a proposed plan and it's not complete and we have a design phase to go through. They have offered to allow our citizens to be involved in that design phase. And I'm certainly going to hold them to that and I want to be one of these people, and the people around the ballfield who live the closest and will most impacted should certainly all be welcome as the EPA said.

They also said that they will have a committee -- the health department as well wants a committee to oversee all of this and give us a means to complain if we hear too much noise or there's too many trucks or something is going wrong.

So I appreciate the fact that they are allowing us to be involved all the way through the process. And I agree -- I'm sorry, I don't remember which speaker said that this is a proposed plan and the design phase when they make changes, and I would expect that we could comment on those changes as we're seeing them and the final design.

But please, let's get this done.

BRITT HUGHES: Hi, my name is Britt Hughes and I'm on Housatonic Avenue and I'm here also to support the EPA's plan. Like Sandra said, I don't agree with all aspects of it by any means.

There are a lot of things that, you know, I'd like to see done differently. I wish I had a billion dollars to put into this project.

Having said that, I'm going to read my comments just so I don't forget anything here.

I'm speaking tonight to register my support for the Raymark OU 2, 3, 4 and 6 cleanup.

I'm a lifelong resident of Housatonic Avenue and as such I grew up with the Raymark waste in our backyard and playgrounds.

I did swim in Ferry Creek when I was ten to fifteen years old. My neighbor has a mask on and I understand his point, but I was actually in that area during this whole period when it was open, and water was being turned red, purple, green, yellow.

Although I may have mixed feelings on the actual danger proposed by the different OU's, there's no question that the best long-term solution for the town of Stratford is to take advantage of the current

ninety plus million dollar EPA proposal to remove and/or cap the designated areas.

Residents will no doubt bring up legitimate concerns regarding the cleanup process such as dust, truck noise and traffic disruptions, et cetera.

I understand all these concerns and I agree with many of them. They will be an issue over the course of the proposed cleanup.

However, the big picture demands a longer term view. This view requires the residents of Stratford endure the short term pain involved in the cleanup process in order to achieve the clear and obvious long-term positives that will result from this cleanup proposal.

These benefits, as I see it, are best in class hazardous waste cleanup utilizing four to six years of the EPA's cumulative knowledge; cleaner and safer environment; higher property values; economic benefits for the businesses along Ferry Boulevard and Stratford generally; a more positive image for the town of Stratford; a major step towards a final resolution to the Raymark waste problem that Stratford residents and I have been living with for forty plus years.

All I can say, in addition to that, is I have a twelve-year-old daughter and I'm going to Smilow for a

family member's cancer treatment tomorrow.

I have a lot at stake here and I just want to register again, you know, as clearly as I can that I think that this is the best thing for the town.

It's not perfect, you know. I wish a lot of things had been done differently in this town from fifty years ago onward.

But I was swimming in the river today. The river is cleaner than it's ever been. The air seems cleaner to me. They are going to close the power plant in

Bridgeport and build a state of the art natural gas plant and this is another step towards a cleaner environment for Stratford and Connecticut. Thank you.

PAUL ROHALY: Good evening. My name is Paul Rohaly. I'm a 27-year resident of Stratford and I live at 382 Patterson Avenue.

I have been living at Patterson Avenue for 27 years with my wife Lisa and my two sons John and Robert.

When we bought the house, we were grateful to live in Stratford. Then the nightmare started in 1992 and in 1995, the EPA put a temporary cap on the ballfield which is now OU 4.

And I, like most of the people, most of the

residents, thought the nightmare was over and little did we know that it was just beginning.

We thought it was a permanent cap and there wasn't going to be any more to follow.

Well in 1999, we learned of other plans by the EPA to pile waste from the Housatonic Boat Club onto property that's Contract Plating to fix that area up.

And at that time, I became a founding member of SAFE with Charlie Perez and many others and we basically got EPA to halt what they were doing.

And to us, our biggest fears at that time was why do you want to dig at all? We would like this all capped in place. Why let the genie out of the bottle.

And it was shortly after that, that the EPA and the town of Stratford founded the Raymark Advisory Committee, which Charlie and I and Nick served on for seven years, meeting monthly, and we reviewed a lot of the problems dealing with waste, not only at the ballfield but all around Stratford.

And unfortunately what I learned at that time was that there is so much waste in town and a lot of this waste is in floodplain areas, where if they capped it in place -- what we wanted to do -- is the next time it would flood, it would breach the cap and the asbestos would be free to go wherever it wanted.

In addition to that, adding a cap in the floodplain area removed from flood storage which means other areas flooded.

Now, this temporary cap that is on OU 4 behind my house, which I share a property line with -- my little quarter acre of land abuts OU 4 -- that ten-year cap, we're into the 21st year of that temporary cap. What is my family getting exposed to?

Upper Ferry Creek, I don't want to mention the buildings, but there's still asbestos that you can see just walking around the parking lots back there.

This is a big, big problem. Back in 2007, when I gave the final address to the Stratford Town Council from the RAC's meetings, the one thing I said was inaction is not an option. But that's exactly what has happened. And action is needed. We cannot sit and ignore it.

The idea of this waste being dug up and hauled out of town is a pipe dream. The thought of digging up the ballfield is ridiculous. I wouldn't like that, that exposes my family to more toxins than anything else, so it's asinine to think that's an option.

And what I have come to fall back on is to realize that the EPA is not going to walk away from consolidation. So what the RAC did in its final days

was come up with constraints that it wanted the EPA to follow in order to safeguard the residents of Stratford.

Number one thing was if you're going to consolidate at the ballfield or any other residential area is pull back the waste from the property lines to a consolidation area. Put clean fill there and barriers to protect the families right off the bat.

The second thing you do is if you're going to open up the site, limit it to three years that it's going to be open and closed. Now, Mr. (inaudible) says they need one year for the ballfield to prep it and I believe that he posted another three years to complete it. I can live with that.

What I can't live with is another 17, 18, 20 years of this not being done because we can't make up our mind or we have some high ideas about what to do. I like the EPA's plan to move forward and I'd like to get this done in four years and I can work with them in order to get this done and I think you should do it and let's let this nightmare be over.

Thank you.

CINDY COOK: I want to invite you if you want to speak if you can work your way down here

and it seems to work just to have people come up as you volunteer rather than my running to you.

SONJA DEVITT: My name is Sonja Devitt, and I live at 545 Hilltop Drive in Stratford and I do not live in the immediately affected area, so I don't have quite the emotional and financial and physical investment in this that many of you do.

I, however, lived in Stratford for over forty years and I shop here and I play here and I work here and I care very much about Stratford.

There isn't anything about this project that's without risk. There's a huge risk if we do it and there's an even greater risk if we don't. This isn't risk free.

The air is not going to be pure, the water isn't going to be pure, whether we do or we don't. But it isn't going away. And money isn't going to be here forever. Stratford can't do this by itself. It has to have help from the federal and state agencies and right now we have an offer of help. And it seems to me that, imperfect as the plan is -- it doesn't take care of all the problems, we have a lot more to go -- but we had huge dangers considering when they opened the ground and did the remediation where the shopping

center is now.

And I know people who said at that time, "There's no way I'm going to ever shop on that property."

But they are. And I'm just feeling that we can't do it alone. The waste isn't going to go away by itself. We at least need knowledgeable people that have taken into consideration some of the concerns that have been raised which I think can be incorporated in terms of proactive mitigation.

But it's not any better if we truck it all out of town, then that waste is going through towns and thousands of towns of people to wherever it has to go and it’s affecting somebody else.

So while I'm not really altruistic, I'm also feeling the reality is we have a big problem, it's not totally resolvable, there is no perfect solution. But right now we have money and I'm realistic to know that it's not going to wait around ten years for us to decide and ten years from now it's going to cost a lot more than it costs now.

So I'm saying we go with this, with incorporating the common sense concerns that have been raised here about safety procedures and other things and we go forward because it's not a solution to leave it all where it is.

JOHN SHARUE: Good evening, my name is John Sharue and I live at 400 Hurd Avenue. I'm on the corner of Hurd and Clinton.

Okay, you call it a proposal and you seem to be welcoming public comments, but it seems already to me that you're moving forward with your plan and not really necessarily considering all the concerns of the people. Not only the ones in the proximity of the ballfield and it seems that you're kind of getting ahead of yourselves.

The second concern is you mentioned a few people such as the health department are going to oversee what is going on.

I understand a project of this magnitude, I think you're going to need more than a few people because things could be going sour from one end of the town, whether it's digging up or plugging off or trucking across town, and no one is going to be aware of it and no one is going to record it and no one is going to announce it.

Also maybe this has been something brought up and asked in the past twenty years thereabouts, but is there a parent company that possibly still has ownership of Raybestos at the time? Because if there

is a parent company, they ought to be the ones liable for trucking the stuff out of here.

DAVID DURGY: My name is David Durgy, I live at 120 White Street. I moved to Stratford in 1999, mostly under duress because I met a woman, who I said when I lived in Norwalk, "Do you want to live together? Why don't you come to Norwalk?"

And she said, "No, you need to come to Stratford." And that's how I ended up here.

But I think about when I first moved here in 1999, the things I used to see at Lower Ferry Creek that on any given day I'd have to deal with turkeys in my driveway or raccoons or skunks with the garbage or deer or foxes crossing over the Boulevard and I don't see that anymore. And I'm wondering sometimes why that is.

And I think a lot of it has to do with what's going on. And I understand people that live up at ground zero of this, but it does have a trickle down effect to where I live down by Broad Street and Ferry Boulevard where if I want to go across the street I have a sign over the creek that warns me.

And I know they say none of this has to do with potable water, but at that point what else is that

water? I'm not saying I'm going to drink it, but if you say it's in the ground and you warn me about that water and I may be fishing, there's a concern.

I grew up in Fairfield and I used to fish in Southport at the river, which is right where Exide Battery was. And if you know in Fairfield, Exide

Battery and what that did to the town and the water down there, it almost makes this look like child's play.

But I also see a lot on the social media too that there's a lot of negative attitude towards this whole process. And it's -- the young lady spoke two speakers ago -- it's a chance.

And as other people here have said, noting all the failures of the EPA, I suspect there's probably some successes as well. I'm willing to embrace it in order to see this get fixed, but I'd also like to understand that down where I am is the trickle effect of everything that's going to be done north of me down into the water.

And I just hope that's a concern and I hope that everybody works with the town on a step-by-step basis. If you see something that's not right -- I should say don't try and stop it, but bring attention to it and see if there's something you can do.

I think a man also spoke that if it can get done in four years, he would be happy with that. And if somebody in that area is willing to live with that, I think the town itself should not always look for the negative of what is going on and realize that they are here, so let's give it a shot. If we don't fix it one hundred percent, and it's only ninety percent, it's ninety percent better than where we were. Thank you.

TIM HIDU: My name is Tim Hidu, I live at 370 Patterson Avenue right next to Paul.

I have been fighting Raybestos since 1980 when they were blowing off stacks before any of you remember that. So if you want to talk about, it's been a long battle and it's about time the battle is done.

Like I told these people before, as long as you guarantee -- I have been fighting these people, Raybestos, since 1980. I remember as a kid when they set the fireworks off over the ballfield and the kids used to sit back there throwing brake shoes at each other.

After a while some things have to end. I have asked all these people here, I said, "Would you allow your grandchildren to play next to this thing?"

And they told me that they are going to do absolutely the best that they can, and that's not guaranteeing it's going to be perfectly clear but I think they will, you know, with dragging everything back from our properties. And my garden borders it like Paul's and it's time that this is done and over with.

Yes, it's a toxic waste dump and it's always going to be a toxic waste dump and I'm going to live with that thing, next to it for a long time. I feel sorry for the poor guys down over at the new thing they just built, $350,000 houses living next to it now.

And you know what, hopefully, somewhere, the town is also going to have to help us out too, because when this all starts we won't be able to give our houses away. You all know that.

But maybe after you finally get it done and the stigma goes away, maybe it will be better, hopefully.

But I want it to get done. If you're saying four years done, don't keep adding a little more onto it, just get a date of four years done. From start to finish, close it off, done, walk away from it. If I get a guarantee like that, a lot of people are going to be more than happy to listen to you.

You won't have as many happy people -- put up the ballfield and everything else. Like Paul said, originally it was a cap and we assumed it was done.

And after that, yes, ten years all right. That's all, I just want to get this done.

MICHAEL D'ANGELO: Hello, my name is Michael D'Angelo and I live in one of those new houses he was talking about.

So I just found out about this yesterday. Otherwise I would have had a much better speech prepared, but I'll do the best with what I've learned in these two days.

I know you're not answering questions because that's not the point of this, it's a public hearing. But out of fifty-three thousand Stratford residents, I'd like to know how many of those people actually know about this.

I have no idea, might be it's a thousand, maybe it's a hundred, maybe it's fifty-two thousand. I don't know. But I don't think it's anywhere near half. There's probably about how many people here tonight? About fifty-three people? So we have about one-one thousandth of how many people live in the town.

So I mean, the EPA, they don't advertise this very much and I think we might have gotten a postcard in the mail a few weeks ago but I found out about this from another resident and I'm very grateful to that person for being a concerned resident, otherwise I wouldn't have even known about this.

The fact is that only a government agency can even propose something so ludicrous. I'm saying that you and I couldn't propose something like this, we'd be a laughingstock. You'd have to be a government agency to try something like this.

And the reason is this just isn't the best way to do it. You know, and even the best way isn’t one hundred percent perfect.

But this way, what they are proposing, it's -- I mean, I don't want to use bad language -- but it's half-assed. It's not the best way to do it.

And you know, make an analogy to your own personal life. If you have a party in your house and the next day your house is full of garbage, you don't pile all that garbage into the living room and throw a blanket over it. That's not what you do. You bring it out into the garbage can, you bring that to the street and it gets disposed of properly.

It's all about the money. $278 million to do it the right way, which they don't have and even if they did have it, they don't want to spend it. They'd rather spend $96 million. That's simple math.

We all understand that. It comes down to the money. Let's not fool ourselves, let's not sugarcoat things. It's the money.

So the right way to do this is to, instead of spending $96 million over four years and not do it right, you do it right from the beginning. It's going to take longer because you need more time to collect the amount of money, but do it as you get the money.

Start with the most contaminated areas, start trucking it out to a place where they have facilities that are designed for this. You don't put this stuff in a residential area.

You bring it somewhere where it's been designated and there aren't homes. You bring it to a desert somewhere or you bring it to New Jersey. You know, they have a lot of stuff like this going on down there.

But that's what you do. It's going to take more than four years because you have to collect 270 million dollars. But start with the worst areas and work your way down until every little bit of it is

gone.

Again it's not perfect, but that's the best way. And I think that the town deserves the best way of doing this, not a way that has so many problems that you can shoot peas through it all day.

One of the problems is these dump trucks they are talking about. They are not even going to transfer this stuff in sealed containers. They are going to transfer it in open dump trucks.

Dump trucks are meant for moving soil and rocks. They are not meant for moving toxic waste. And they say they are going to be covered. These covers are a tarp on a roll that goes over the back of the dump truck. You have seen them on the roads. The little pellets jump out and they crack your windshield anyway.

Because those covers don't stop small particles. They stop pieces of 2-by-4 and plywood from flying out the back of the truck. It's going to do nothing to prevent this stuff from going airborne.

And when you multiply out whatever the ludicrous number is of four dump trucks every hour for twelve hours a day for four years.

And the gentleman who was here before me said let's get it done in four years. That's great.

That's not going to happen. They are not going to do it in four years, there's no way. It's going to take them six, seven, fourteen years.

They give you a number it's going to take and I can't think of a project that was actually done on time, I mean unless they want to get Donald Trump in here, it's not going to happen in four years. So that's another problem with that.

And again I just scribbled some notes here a few minutes ago. If you look at the poster out there, they have a poster that shows the outline of the ballfield. And that poster shows where all the toxic waste is right now. And it's in generally the center of the ballfield.

All right, but that's not where they are going to dump this stuff. They are going to dump it all around and on top of that initial area. But they are going to fill this stuff in right up to all your property lines within feet of your back fence. Which is not where it is now.

Go look at the poster. It's pretty much in the middle. They are going to use up every square inch of that space up to every single fence line. Go look at it.

I asked the gentleman before. And they don't

have an easy job, this isn't going to be fun for them. And it's not their fault, they just work for a government agency.

And you know, another thing I want to say -- there's a few more things.

Do we have any kind of legal reps that are representing us? Do we have a lawyer representing people who don't want this? Is there anything like that?

It seems like we're a bunch of townspeople with no power and we can make comments, that's wonderful, but they are not worth a damn and that's not going to change anything.

I think that we should be represented and I think this should probably become more of a legal thing instead of them just telling us they are going to do it.

I think if you put this up to a vote in Stratford, I mean judging on the comments tonight it's actually pretty even, but I think more people are against this.

If we actually had a choice of a vote I don't think this would happen and I think this would get voted down which is another reason why I think more than fifty-three people need to know about it or to

come to these meetings.

And that's another problem is that, you know, the

EPA, they probably have a thousand lawyers because they have this stuff all figured out because they do this thing all over the country.

What do we have? You know, I think we need to have some representation on this and to fight it, frankly.

And one more thing here. You know, I'm looking out here at the crowd. Everyone here is an adult, a grown adult. And honestly, it's really not going to affect us too much because we're grown, we're done growing.

We can wear masks and be careful and take precautions and it's not going to affect us too much. Granted, when you disturb this kind of stuff, it moves. You can't contain it all and you can't gather it all up and expect no particles to get out.

When you disturb this stuff it's going to go everywhere, okay? It's going to be in the air and all over the ground soil.

But beyond that, this is going to have the biggest impact on the children of this community. I can tell you I was a teacher for twelve years before I moved here to Stratford. Their little bodies are

going to be the ones that are most susceptible to this stuff being disturbed. I can guarantee you that.

There was one person up here talking about squirrels and turkeys and all that kind of stuff. Well, the children are going to be affected by this no matter how careful they are, no matter how much they wet it down, no matter how much they put tarps over it -- which is ludicrous. They are the ones that can't handle this. It's their bodies.

The elderly too are also more susceptible. But that hasn't been mentioned at all tonight. And who is representing them?

My wife and I moved here to start a family. I'm not doing that here. We're putting our house up for sale tomorrow. I'm calling the realtor that sold it to us because we have to try to get out before this happens.

I'm not going to have kids here. I'm not going to raise them if this is going to go forward because they are the ones that's going to get the cancer and everything else from the asbestos.

If they consume the lead, we'll hear about the lead paint. That can pretty much kill you instantly. So, that's what really has me worried, is for the children. And that's the exact reason my wife and I

moved here to this town.

So you know, as I said, we have to try to sell before this happens because I don't think we're going to be able to stop it. So I think we need to think about it some more, maybe have some more opportunities to have these kinds of meetings and maybe have more of our fifty-three thousand residents knowing about it.

And you can laugh and smirk all you want, but when you disturb this stuff it's going to go all over the place. There's no foolproof method on handling this stuff and moving it. There just isn't, all right? So that's about it.

PAMELA MCLAUGHLIN: Hi, I'm Pam McLaughlin from 108 Patterson Avenue. I've also lived in Stratford for about thirty-five years. I do recall when we all went through this. My kids were little and now they are big and they are not living in Stratford currently.

Although I have been talking it up recently with my daughter, I'll probably not be talking it up anymore.

We all knew that perhaps there was going to be problems in the future, that the caps were not going to hold, that we had more waste in the town.

You know, I'm a proponent of asking for more funds, doing it the right way. And the right way I'm not on expert on it, but I know when you abate asbestos in a house, you totally seal it off. There's negative pressure and it's hazmat and I have researched this a little bit. You can do this for large areas when there's a likelihood of exposure.

I guess there's guys that worked on this for a long time, which is crazy. I agree with starting with the worst sites first and near people's homes and trying to abate that and then seeing if we can get more funds from the EPA to do this with sealed vehicles.

You know, it's a first world problem, but why should we be accepting anything less than what someone in a town that has more resources and more power would accept and why can't we call Ralph Nader or somebody of that nature and get a legal opinion on where we stand?

So I do agree that this is a real quandary. The people that live near it, as I do, but not quite as close as some, we were scared years ago when they told us you might have to be careful of the vegetables in your yard or this type of situation.

None of us really came to feel there was any great increase in cancers. You know, I don't think there's any data on that, but however it's scary for all of us to think that perhaps children will be exposed to asbestos.

I think we should get some local pulmonologists who were actually really instrumental forty-five years ago and realized that we have an asbestosis problem in this town. It made national news and we were one of the first areas to realize that asbestos has long-term effects.

So we have the resources and knowledge to find out what possibly the experts in pulmonology would think would happen and then help guide us into really how we should push into doing this, the correct way.

The way that we think is correct would be sealed containers, large enclosures and negative pressure and sucking things out.

I may be talking off the top of my head, but I think that we have some money here. I'm being told by resources in the town that if they don't take the money when it's offered, sometimes you go to the bottom of the list again and you know, that's probably not something we want either.

I do agree that maybe as a neighborhood or a town we should look at contacting somebody who has more experience in environmental law and also in pulmonology. Thank you.

MICHELINA BUCHINO: Hi, my name is Michelina Buchino, I live at 471 Patterson Avenue which is right behind home plate on the opposite side. Never bought a softball in my life.

I am so mixed about this, that I really don't know which way to go.

I absolutely in my gut am totally opposed to dumping in a neighborhood, a residential section.

And then I know that there are fellow residents that have it worse right now than I do.

In my family, with three people who lived the longest in their generation, are the three people who worked at Raybestos and lived closest to Raybestos.

So it's very mixed for me. I do have to say though that the bottom line for me is I'm definitely not in favor of dumping in a neighborhood.

That being said, I know that something has to happen. My concerns are what happens. I have been in a property that has been unaffected.

Thank God I have no children, that's the only thing I can say. Thank God I have no children. I plan on living in my house all my life, but at least past my generation when I die, none of my relatives will have to deal with it.

What contingency plans if something goes wrong? Do you move the whole neighborhood if there's a breach of some sort? Do you come power wash our houses when you're done? And when you do that, do you just put it into our grass? There's a lot of concerns.

Again I know that something has to be done and I know that the path that it's going on right now, it's probably going to get approved and go on through.

So with that being said, there's some real safety things that I just would like to see them do better than they did the last time.

And a couple of things that impact me especially is they are talking about sound barrier while they are doing this process. They always mention Patterson Avenue side. I live on Patterson Avenue, but technically I'm on Frog Pond Lane to where the fence is. So I think the sound barrier should extend all the way down to Frog Pond Lane and encapsulate areas where there's any homes or sight of homes which would include down through at least the public works building.

The other thing is, they use a lot of water. At quarter of midnight the last time, they illegally came and opened up my fire hydrant and almost blew the pipes out of my basement. I never jumped so high in my life, I thought a truck hit my house.

So I would like any of that being done to be done legally with permit and with the proper pressure releasing equipment that would provide.

Again like I said, it's a very, very mixed thing for me. So if you're looking for me for one way or the other, I ain't got it.

MARK DUMAS: Good evening, my name is Mark Dumas, I live at 172 Beers Place. Last November I was elected to represent the Second District which includes the Raymark Ballfield and a lot of the impacted areas.

Unfortunately I stepped down for personal reasons. I know there's some of my constituents that are lukewarm to the version of the plan, the vast majority of my constituents that I have spoken to about this oppose consolidating at Raymark Ballfield.

That said, let's get the good out. I think the plan for OU 2, the groundwater, that's a good plan and it should be done. There's some positive here.

But in terms of consolidating the waste at Raymark Ballfield, it's a bad idea and it's the wrong place.

It's within a half a mile of the elementary school and it's even closer to one of the most widely used parks in town.

This will not be a permanent solution. Whatever they do, twenty years from now, we're going to be dealing with this again.

Some people are saying, yes, we have to do something. Well, we're going to do something again twenty years from now. I appreciate that a lot of people have been fighting this battle for a long time, many of them longer than I have lived in this town.

And I appreciate that there's people that want to get this done because it's just been this albatross hanging over our heads for decades. But that doesn't mean it should be done incorrectly. It should be done the right way.

And the simple fact is that I don't know that this plan was brought forward in the right way. I know when I was elected to the council in November, shortly thereafter the EPA met with us and they gave us a presentation about the plan and I haven't seen any changes since then.

We were told it was going to be released in the spring and all of a sudden it comes out July 4th weekend. I don't think that's the way the process should go.

I think that we need to really reach out to the community in a much better way than the EPA did. Speaking to a few elected officials that, quite frankly, are not widely supported by the community, isn't getting the community in play.

And quite frankly, I know a lot of my constituents knew nothing about this and literally live in abutting properties, and they have not reached out to those people and that's not getting this out to the community.

The fact is that we're dealing with this plan in the middle of July and even the Public Health director is on vacation. That says something.

I know a lot of people from the EPA. They care about this and they want to get it done right as well, but I think the way this is rolled out is not sending that message.

A lot of people who are here, the last time there was a consolidation project, there were traffic crossings and the Walmart and there's a bitter taste in a lot of people's mouths because of the process and because of the way we did that project and we cannot have that happen again.

And although there's some good things in this

plan, there's some bad things as well. I think we should take our time and do it right. The consolidating of the ballfield is not the right thing to do.

It's in a residential neighborhood. And as Mr. Mulligan pointed out, there is a state law that prohibits this. I happen to be a lawyer so I have looked into this and I think the EPA is going to have some issues with getting this plan forward with that statute in place and I'm prepared to litigate it myself if I have to.

So we need to protect the residential neighborhoods. Consolidation in and of itself is not a bad thing. Sometimes it's the only way you can do it.

But consolidating in a residential neighborhood where I have friends who are raising children literally feet from where you're going to do this work, that's not the right way to do it.

And if you consolidated it, although it wasn't that far away, when we consolidated at Stratford Crossings, there weren't people whose homes abutted that property.

If we tried to do that today, that would violate the law that was passed to address issues like this

that happen anywhere in the state.

So I think the EPA should maybe move forward with some of the good things like the OU 2 groundwater and helping those people out that are downstream in the Goose Pond neighborhood and that's a good thing and they should do that.

And I think there's some issues they can do with some of the spot issues of waste, but the bigger issue is we need to do this right.

It's okay if we take another year to do it right. We've waited this long, doing it right is important. So I oppose the plan as it is with the exception of the OU 2 proposal and I do plan on submitting written comments and I won't go into detail.

But I support a lot of the people who did oppose that and I think we need to have a more detailed plan of specifically I need to know where the trucks go.

That's not something people have been forthcoming about in that they don't know trucks are going to be going through residential neighborhoods, which I think is almost unavoidable to go and not having those trucks roll through the residential neighborhoods.

So thank you. And for anybody else, I do encourage people to speak up. You have another month or so to submit your comments. Tell your friends to as well.

That's an important part of the process as well. Many of my friends are on vacation this week so they can't be here today and I know many of you have friends as well.

So reach out to the community and tell those people to submit their comments and I will be asking for a further extension to give people that opportunity because it's summertime.

And whether they grant that or not, we'll see. Thank you.

CINDY COOK: Anybody else have a comment? I’m going to pass the mic back over to Anni Loughlin.

ANNI LOUGHLIN: I want to thank you all very, very much for participating this evening. And I really appreciate that, you know, everybody made the public comments that you did.

And again, I encourage all of you to submit written comments if you're so inclined. Remember, please that the comment period for making written comments closes on August 29. And this hearing is now officially closed. Thank you all very much.

(At which time, the public hearing was concluded.)

STATE OF CONNECTICUT)

) SS.

COUNTY OF HARTFORD)

I, Robert M. Miller, a Notary Public, do hereby certify that the above public hearing was recorded stenographically pursuant to Notice by me and reduced to printed transcript by me.

I FURTHER CERTIFY that the foregoing transcript of the said public hearing is a true and correct transcript of the testimony given by the said participants at the time and place specified hereinbefore.

I FURTHER CERTIFY that I am not a relative or employee or attorney or counsel of any of the parties, nor a relative or employee of such attorney or counsel, or financially interested directly or indirectly in this action.

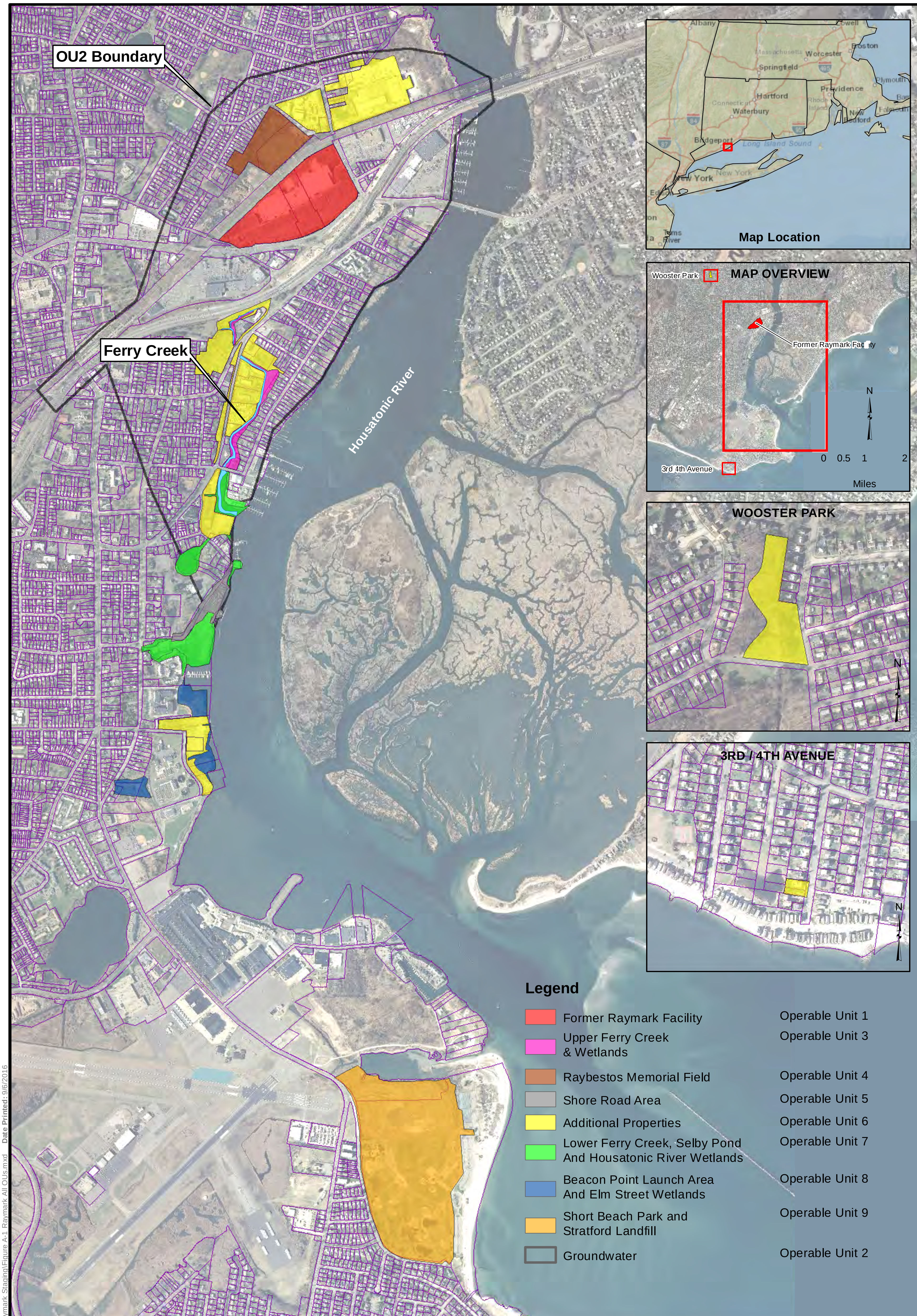
IN WITNESS WHEREOF, I have hereunto set my hand at my office at East Hartford, Connecticut this 4th day of August, 2016.

ROBERT M. MILLER

My Notary Commission Expires
July 11, 2018

APPENDICES

APPENDIX A: FIGURES



Notes:

1. Aerial photography from Connecticut Environmental Conditions Online (CT ECO) map service, 2012.

2. Locations of site features depicted hereon are approximate and given for illustrative purposes only.

0 500 1,000 2,000
Feet

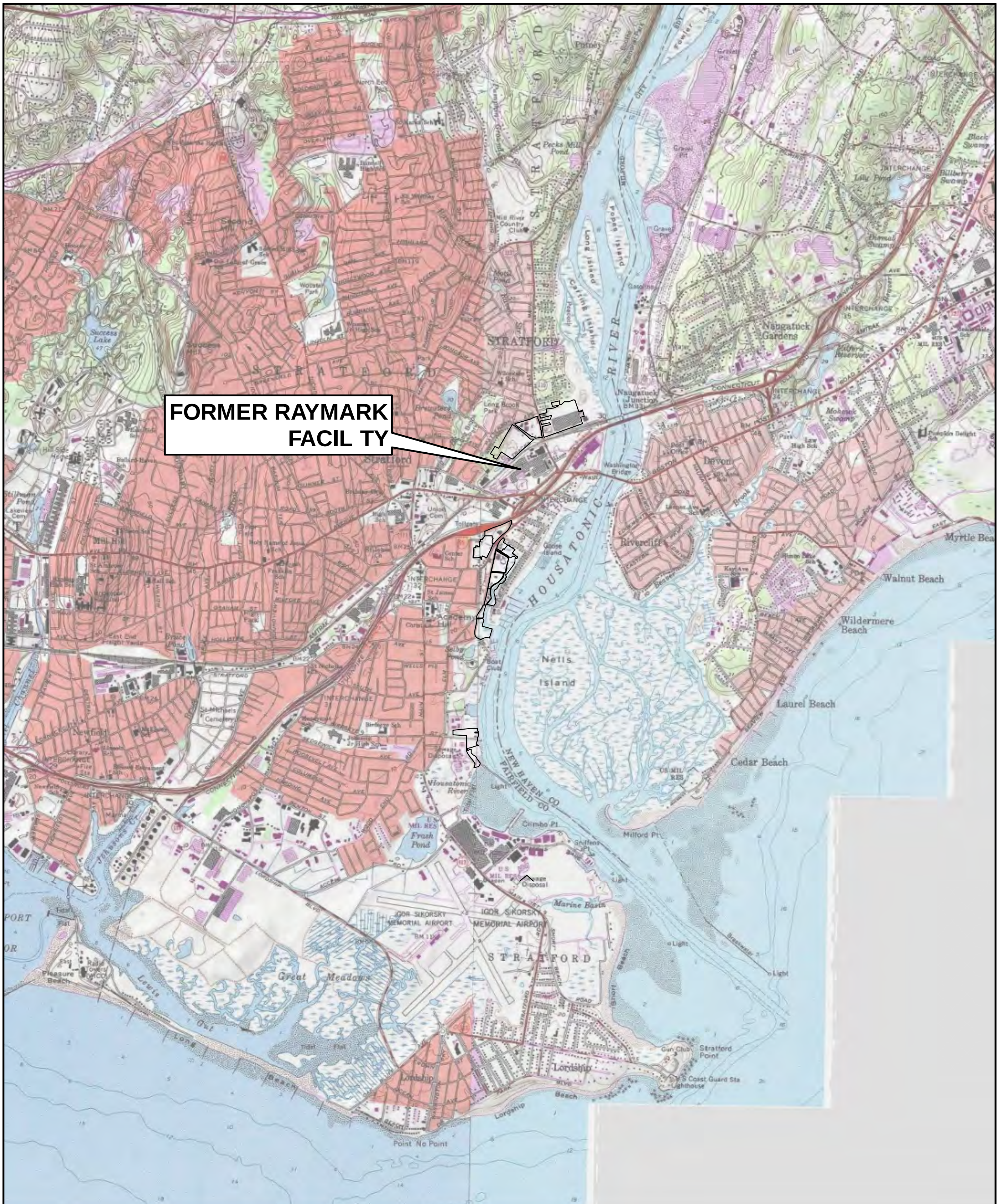
N

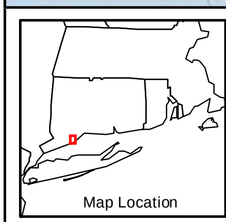
FIGURE A-1

SITE LOCATION AND OPERABLE UNITS
RAYMARK SUPERFUND SITE - OU3
STRATFORD, CONNECTICUT

PREPARED BY: JH	CHECKED BY: DB
PROJECT NO. 80099	DATE: JULY 2016

Path: C:\Users\jharrington\Desktop\Raymark Staging\Figure A-1 Raymark All OUs.mxd **Date Printed:** 9/6/2016





USGS Topographic Map
Bridgeport, Connecticut
Milford, Connecticut
Revised 1984

0 1,000 2,000 4,000

Feet

1 inch = 4,000 feet

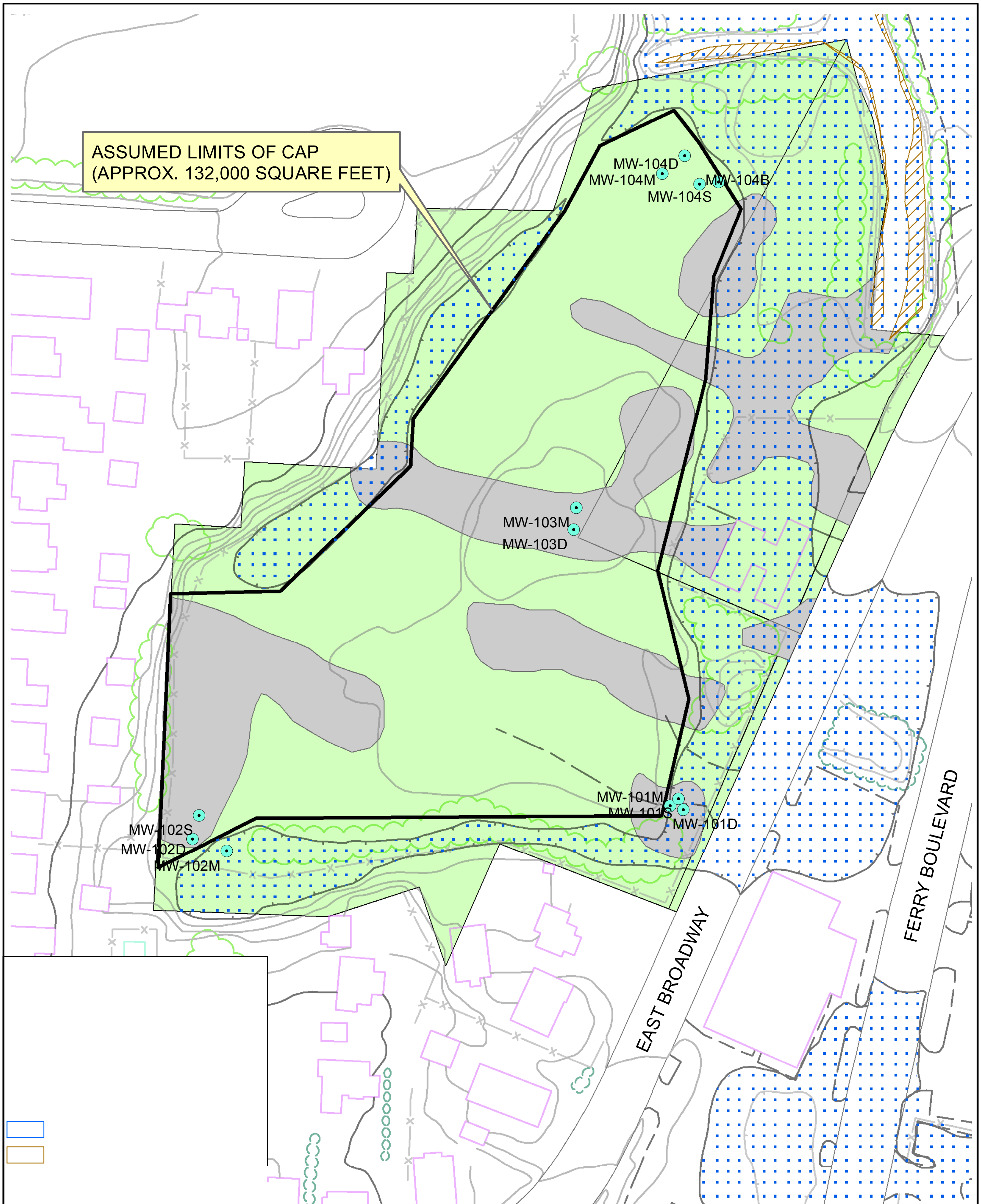
N

FIGURE B-1

SITE LOCUS PLAN
RAYMARK INDUSTRIES
OPERABLE UNIT 6
STRATFORD, CONNECTICUT

PREPARED BY: JH	CHECKED BY: LC
PROJECT NO. 80099	DATE: APRIL 2015

Path: C:\Users\jharrington\Desktop\Raymark Staging\Figure B-1 Raymark Locus.mxd **Date Printed:** 9/6/2016



Notes:
1) Plan not to be used for design.
2) All locations to be considered approximate.
3) Property boundaries are approximate based on Town of Stratford Engineering Department plans.
4) Floodplain extent based on Federal Emergency Management Agency Q3 Flood Data, Community Panel Numbers 090016 0001-0004, Revised June 16, 1992, FEMA, Washington D.C. and modified to Town of Stratford Engineering Plan 10-foot contour.
5) Adapted from TTNUS Remedial Investigation, 2005.

100 50 0 100 Feet

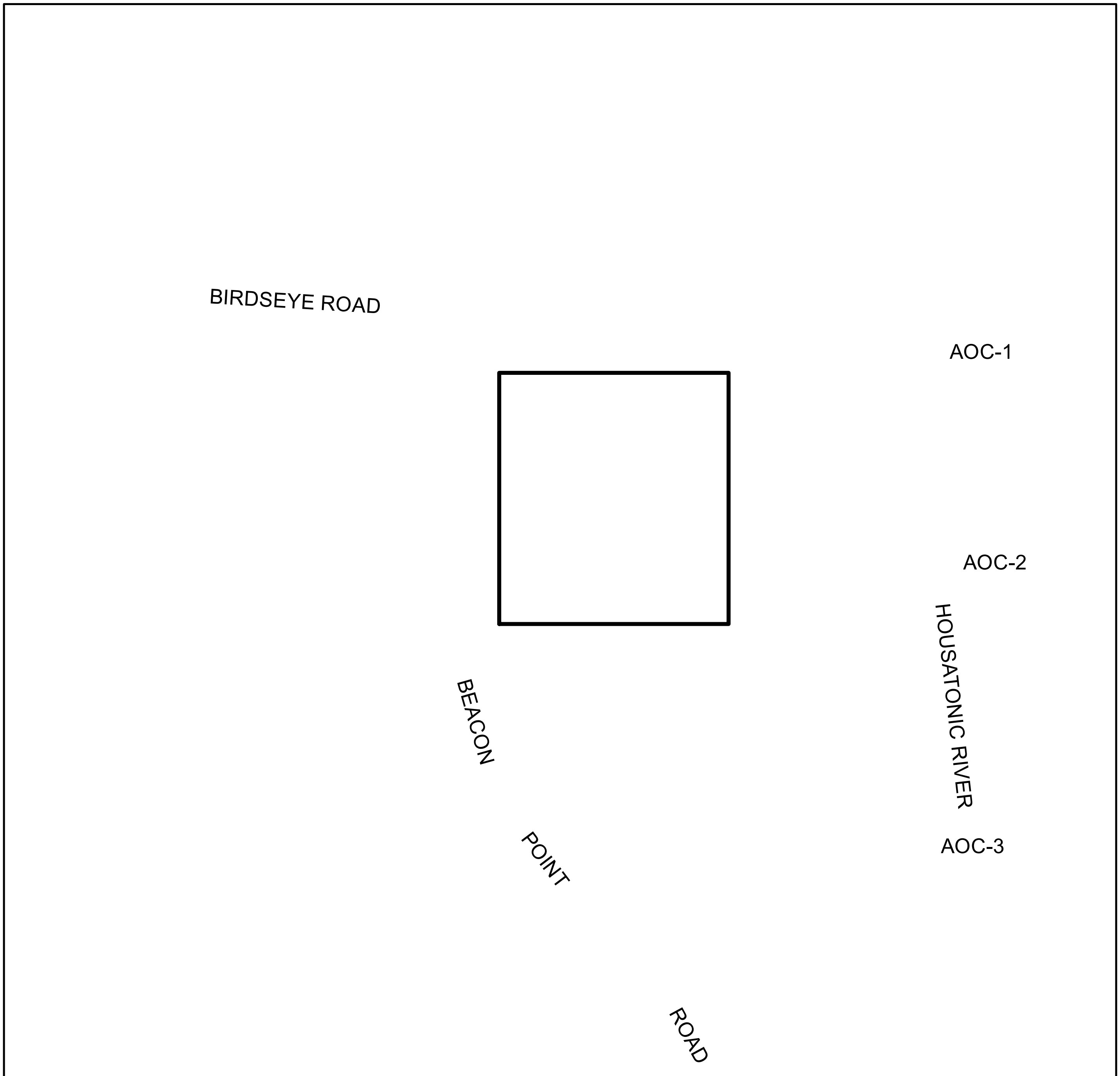
N

FIGURE B-2

576/600 EAST BROADWAY
FEASABILITY STUDY
RAYMARK SUPERFUND SITE
STRATFORD, CONNECTICUT

Drawn By: D. McGrath	Approved By: H. Ford
Project: 80006	Date: 9/3/09 Rev00

R:\80000 Task Orders\80006 Raymark\Technical Data\GIS_Data\Figures\OU6_FS_Figures\Figure_04-06_576_600_East_Broadway.mxd



Estimated Area of Raymark Waste Within Property of Interest (Approximately 17,000 Square Feet)

Property of Interest

Property Boundary As Recorded With The Town Of Stratford

Implied Property Boundary Extended to Roadway

Building

100-Year FLood Plain

Wetland (EPA Delineation, 1994)

2-Foot Contour Interval

Monitoring Well

Notes:
1) Plan not to be used for design.
2) All locations to be considered approximate.
3) Property boundaries are approximate based on Town of Stratford Engineering Department plans.
4) Floodplain extent based on Federal Emergency Management Agency Q3 Flood Data, Community Panel Numbers 090016 0001-0004, Revised June 16, 1992, FEMA, Washington D.C. and modified to Town of Stratford Engineering Plan 10-foot contour.

150 75 0 150 Feet

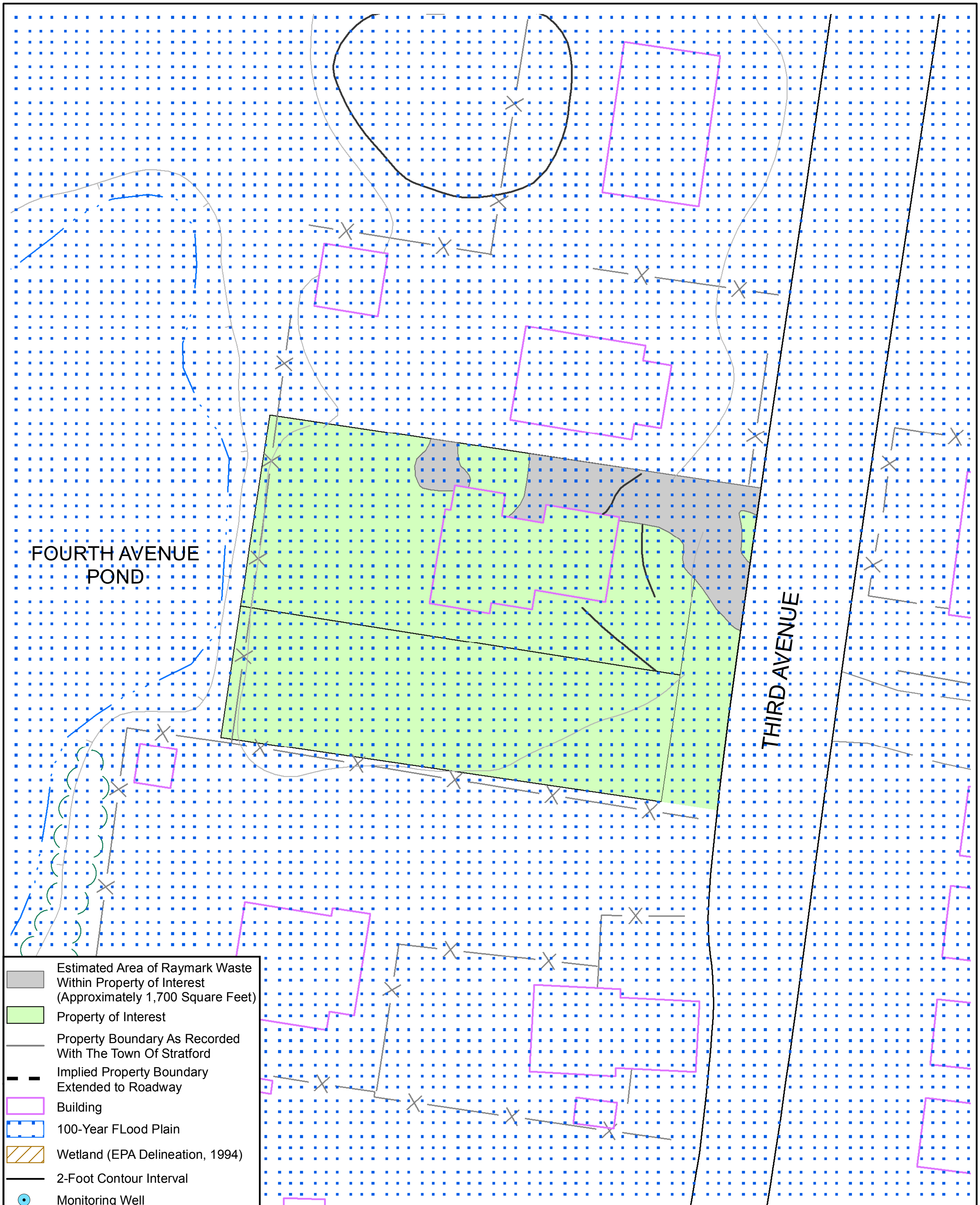
N

FIGURE B-3

BEACON POINT
AREA OF CONCERN (AOC)-2
FEASABILITY STUDY
RAYMARK SUPERFUND SITE
STRATFORD, CONNECTICUT

Drawn By: D. McGrath	Approved By: H. Ford
Project: 80006	Date: 9/24/09 Rev00

R:\80000 Task Orders\80006 Raymark\Technical Data\GIS_Data\Figures\OU6_FS_Figures\Beacon_Point_AOC_2.mxd



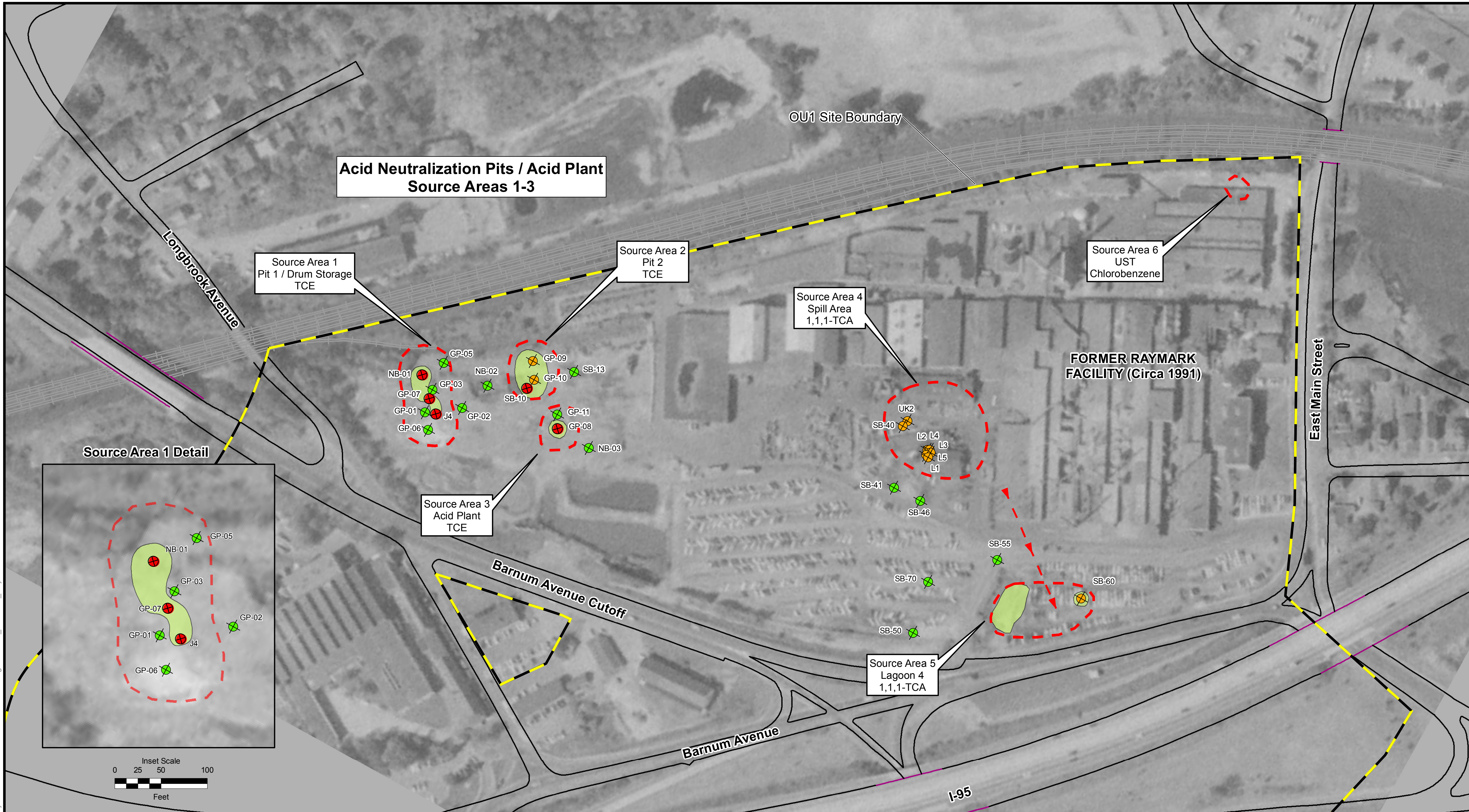
Notes:
1) Plan not to be used for design.
2) All locations to be considered approximate.
3) Property boundaries are approximate based on Town of Stratford Engineering Department plans.
4) Floodplain extent based on Federal Emergency Management Agency Q3 Flood Data, Community Panel Numbers 090016 0001-0004, Revised June 16, 1992, FEMA, Washington D.C. and modified to Town of Stratford Engineering Plan 10-foot contour.

FIGURE B-4

THIRD AVENUE PROPERTY
FEASABILITY STUDY
RAYMARK SUPERFUND SITE
STRATFORD, CONNECTICUT

Drawn By: D. McGrath	Approved By: H. Ford
Project: 80006	Date: 9/3/09 Rev00

R:\80000 Task Orders\80006 Raymark\Technical Data\GIS_Data\Figures\OU6_FS_Figures\Figure_04-18_Third_Avenue.mxd



0 100 200 400

Feet

1 inch = 200 feet

N

Notes:

1. 1991 Aerial Photo from Cadcorp SIS web Map Server.

2. Locations of site features are approximate and given for illustrative purposes only.

Legend

- High Levels of Historical Soil Contamination by COCs
- Intermediate Levels of Historical Soil Contamination by COCs
- Low Levels of Historical Soil Contamination by COCs
- Source Investigation Area
- Estimated Remaining Extent of Current COC Sources
- OU1 Site Boundary
- Transport via Site Drainage System

FIGURE E-1

HISTORICAL SOURCE
AREAS FOR OU2 COCs
RAYMARK - OU2 - GROUNDWATER
STRATFORD, CONNECTICUT

PREPARED BY: JH	CHECKED BY: DB
PROJECT NO. 80043	DATE: JANUARY 2016

Path: R:\80000 Task Orders\80099 Raymark OU4 OU6\Technical Data\GIS\Figures\OU6_RODiE-1_Raymark Historical Source Areas.mxd Date Printed: 9/2/2016

Areas of Potential for Vapor Intrusion for Residential Receptors based on Groundwater Screening Levels.[1]

CR = 10^{-4} and HQ = 1.0

CR = 10^{-5} and HQ = 1.0

CR = 10^{-6} and HQ = 1.0

Area Currently Capped and Equipped with Subsurface Venting System

Residential Buildings

Residential Structure with SSD System

Residential Structure Without SSD System

Commercial Buildings

Commercial Buildings

Residential structure and zoning, but current commercial use (No SSD System)

Notes:

1. Areas of Potential for Vapor Intrusion based on groundwater vapor intrusion screening levels corresponding to Hazard Quotients of 1.0 and cancer risk levels of $1x10^{-4}$, $1x10^{-5}$, and $1x10^{-6}$ for residential exposure scenarios and based on 2009 and 2012 groundwater sampling results for OU2 COCs.

2. SSD = Sub-slab depressurization vapor mitigation system.

3. Residential (SSD) Systems installed during removal actions in 2001-2004. Status shown is based on CTDEEP inspections in 2014/2015.

4. Current property use of 500 Ferry Boulevard is commercial, but zoning is residential.

5. Aerial photo is from Connecticut Environmental Conditions Online (CT ECO) map service, 2012.

6. Locations of site features depicted hereon are approximate and given for illustrative purposes only.

0 200 400 800

Feet 1:4,800

FIGURE E - 2

RESIDENTIAL AREAS OF POTENTIAL FOR VAPOR INTRUSION BASED ON GROUNDWATER SCREENING LEVELS
RAYMARK - OU2 - GROUNDWATER
STRATFORD, CONNECTICUT

PREPARED BY: JH	CHECKED BY: DB
PROJECT NO. 80043	DATE: JUNE 2016

Path: R:\80000 Task Orders\80099 Raymark OU4 OU6\Technical Data\GIS\Figures\OU6_RODIE-2_Raymark OU2 IAAOC Res Combined.mxd Date Printed: 9/2/2016

Areas of Potential for Vapor Intrusion for Commercial/Industrial Receptors Based on Groundwater Screening levels.[1]

CR = 10^{-4} and HQ = 1.0

CR = 10^{-5} and HQ = 1.0

CR = 10^{-6} and HQ = 1.0

Area Currently Capped and Equipped with Subsurface Venting System

Residential Buildings

Residential Structure with SSD System

Residential Structure Without SSD System

Commercial Buildings

Commercial Buildings

Residential structure and zoning, but current commercial use (No SSD System)

Notes:

1. Areas of Potential for Vapor Intrusion based on groundwater vapor intrusion screening levels corresponding to Hazard Quotients of 1.0 and cancer risk levels of $1x10^{-4}$, $1x10^{-5}$, and $1x10^{-6}$ for Industrial/Commercial exposure scenarios and based on 2009 and 2012 groundwater sampling results for OU2 COCs.

2. SSD = Sub-slab depressurization vapor mitigation system.

3. Residential SSD Systems installed during removal actions in 2001-2004. Status shown is based on CTDEEP inspections in 2014/2015.

4. Current property use of 500 Ferry Boulevard is commercial, but zoning is residential.

5. Aerial photo is from Connecticut Environmental Conditions Online (CT ECO) map service, 2012.

6. Locations of site features depicted hereon are approximate and given for illustrative purposes only.

0 200 400 800

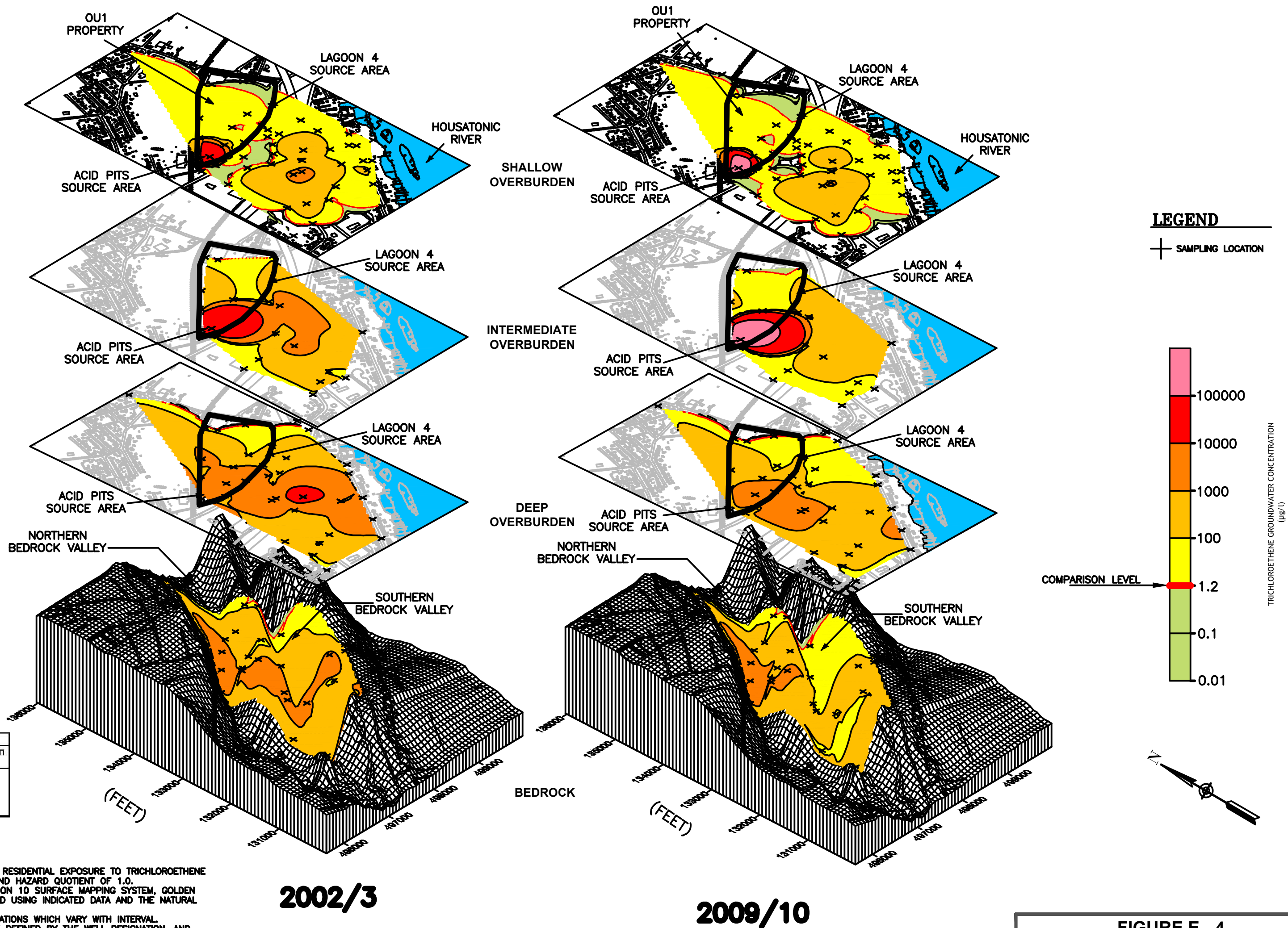
Feet 1:4,800

FIGURE E - 3

INDUSTRIAL/COMMERCIAL AREAS OF POTENTIAL FOR VAPOR INTRUSION BASED ON GROUNDWATER SCREENING LEVELS
RAYMARK - OU2 - GROUNDWATER
STRATFORD, CONNECTICUT

PREPARED BY: JH	CHECKED BY: DB
PROJECT NO. 80043	DATE: JUNE 2016

Path: R:\80000 Task Orders\80099 Raymark OU4 OU6\Technical Data\GIS\Figures\OU6_RODIE-3_Raymark OU2 IAAOC IC Combined.mxd Date Printed: 9/2/2016



Monitoring Well Screen Elevation Ranges		
Well Depth Intervals	Maximum Screen Elevation	Minimum Screen Elevation
Shallow Overburden Wells	11.7	-10.5
Intermediate Overburden Wells	-2.3	-84.95
Deep Overburden Wells	-4.2	-123.4
Bedrock Wells	-7.3	-150.4

Note: RW-9 Screen Interval Not Included

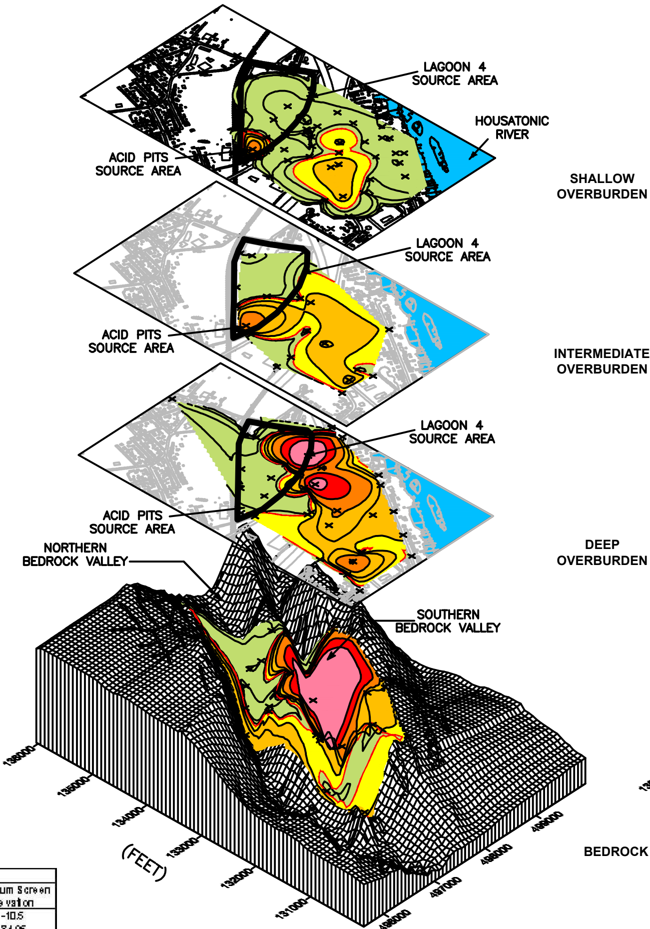
NOTES:

1. GROUNDWATER VAPOR INTRUSION COMPARISON LEVEL FOR RESIDENTIAL EXPOSURE TO TRICHLOROETHENE CORRESPONDING TO A CANCER RISK LEVEL OF 1x10-6 AND HAZARD QUOTIENT OF 1.0.
2. CONTAMINANT CONTOURS GENERATED USING SURFER VERSION 10 SURFACE MAPPING SYSTEM, GOLDEN SOFTWARE, INC., GOLDEN, CO. CONTOURS WERE GENERATED USING INDICATED DATA AND THE NATURAL NEIGHBOR GRIDDING METHOD.
3. EXTENT OF CONTOUR MAPS ARE DEFINED BY SAMPLE LOCATIONS WHICH VARY WITH INTERVAL.
4. SHALLOW, INTERMEDIATE, DEEP AND BEDROCK LAYERS ARE DEFINED BY THE WELL DESIGNATION, AND NOT WELL SCREEN ELEVATION.
5. BEDROCK SAMPLES WERE OBTAINED FROM FRACTURES BELOW THE SURFACE OF THE BEDROCK. BEDROCK RESULTS ARE DEPICTED AT THE SURFACE OF THE BEDROCK FOR ILLUSTRATIVE PURPOSES ONLY.
6. ALL LOCATIONS TO BE CONSIDERED APPROXIMATE.
7. PLAN NOT TO BE USED FOR DESIGN.
8. BASE MAP COMPILED FROM THE FOLLOWING: DIVERSIFIED TECH CORP., NORTH HAVEN, CT; GEOD-PHOTOGRAMMETRIC SCIENCES SURVEY TECH. CORP., NEWFOUNDLAND, NJ; DELVCA-HOFFMAN ASSOC., INC., S. PORTLAND, ME; AND CT-GIS.
9. WIREFRAME MAP PROVIDES BEDROCK TOPOGRAPHY.
10. COORDINATE SYSTEM IS CONNECTICUT STATE PLANE GRID SYSTEM, FEET, NAD27

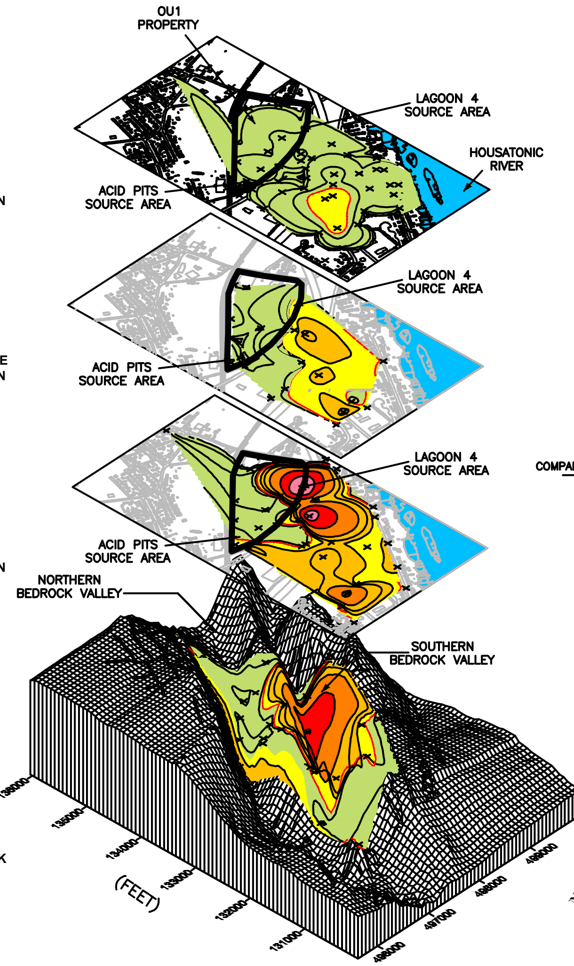
FIGURE E - 4

2002/3 AND 2009/10 TRICHLOROETHENE GROUNDWATER CONTAMINANT CONTOURS
RAYMARK - OU2 - GROUNDWATER
STRATFORD, CONNECTICUT

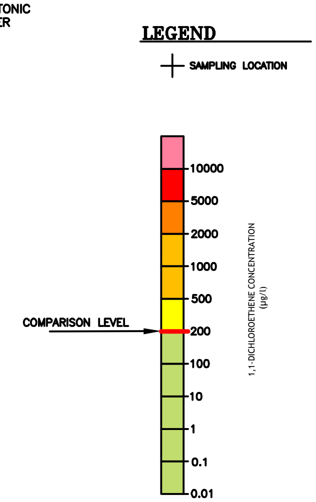
DRAWN BY: JH	CHECKED BY: DB
PROJECT NO. 80043	DATE: JANUARY 2016

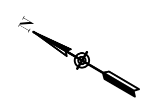


2002/3



2009/10





Monitoring Well Screen Elevation Ranges		
Well Depth Intervals	Maximum Screen Elevation	Minimum Screen Elevation
Shallow Overburden Wells	11.7	-10.5
Intermediate Overburden Wells	-2.3	-84.95
Deep Overburden Wells	-4.2	-123.4
Bedrock Wells	-7.3	-150.4

Note: [illegible] Screen Interval Not Included

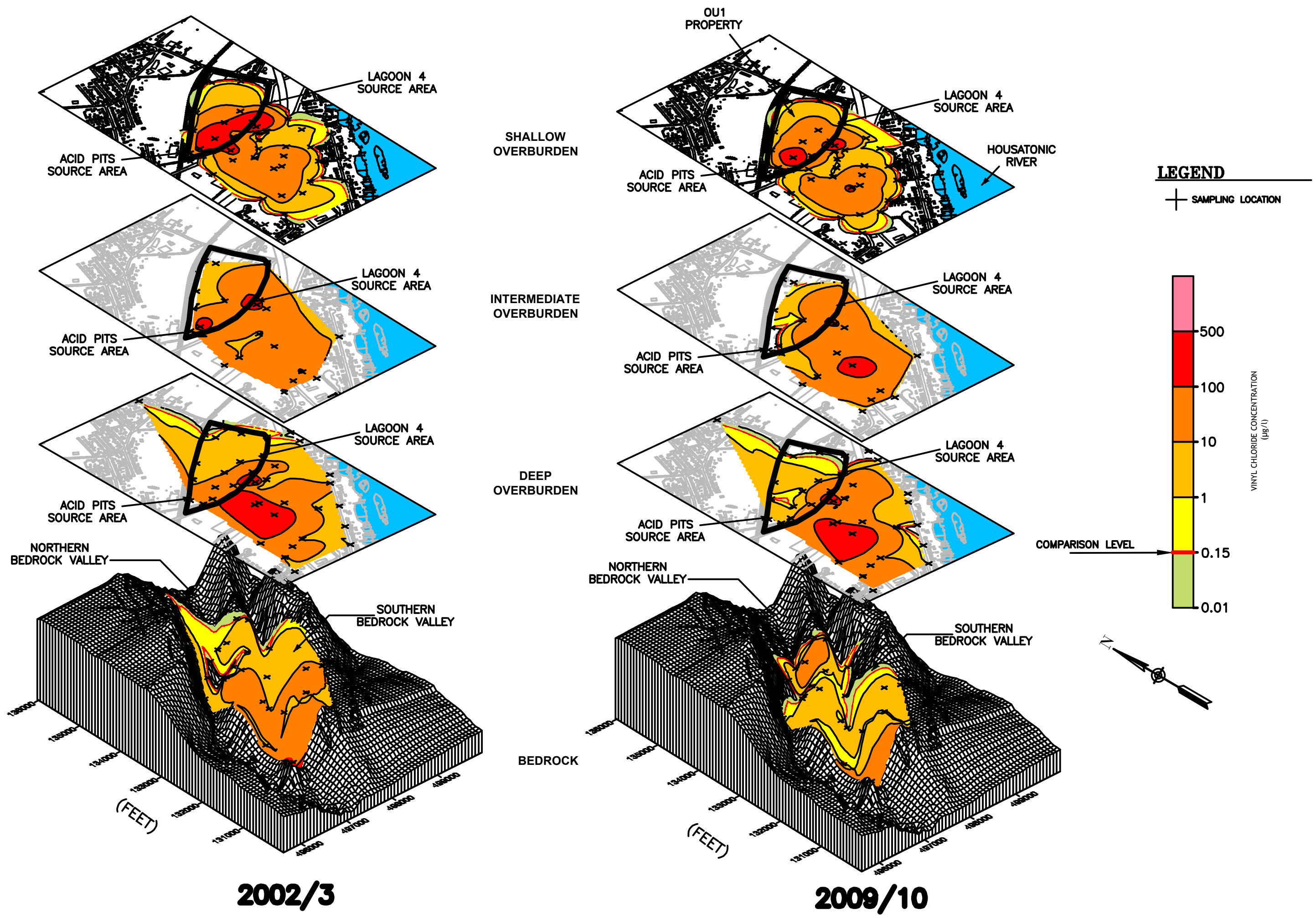
NOTES:

1. GROUNDWATER VAPOR INTRUSION COMPARISON LEVEL FOR RESIDENTIAL EXPOSURES TO 1,1-DICHLOROETHENE CORRESPONDING TO A CANCER RISK OF 1x10-6 AND HAZARD QUOTIENT OF 1.0.
2. CONTAMINANT CONTOURS GENERATED USING SURFER VERSION 10 SURFACE MAPPING SYSTEM, GOLDEN SOFTWARE, INC., GOLDEN, CO. CONTOURS WERE GENERATED USING INDICATED DATA AND THE NATURAL NEIGHBOR GRIDDING METHOD.
3. EXTENT OF CONTOUR MAPS ARE DEFINED BY SAMPLE LOCATIONS WHICH VARY WITH INTERVAL.
4. SHALLOW, INTERMEDIATE, DEEP AND BEDROCK LAYERS ARE DEFINED BY THE WELL DESIGNATION, AND NOT WELL SCREEN ELEVATION.
5. BEDROCK SAMPLES WERE OBTAINED FROM FRACTURES BELOW THE SURFACE OF THE BEDROCK. BEDROCK RESULTS ARE DEPICTED AT THE SURFACE OF THE BEDROCK FOR ILLUSTRATIVE PURPOSES ONLY.
6. ALL LOCATIONS TO BE CONSIDERED APPROXIMATE.
7. PLAN NOT TO BE USED FOR DESIGN.
8. BASE MAP COMPILED FROM THE FOLLOWING: DIVERSIFIED TECH CORP., NORTH HAVEN, CT; GEOD-PHOTOGRAMMETRIC SCIENCES SURVEY TECH. CORP., NEWFOUNDLAND, NJ; DELUCA-HOFFMAN ASSOC., INC., S. PORTLAND, ME; AND CT-GIS.
9. WIREFRAME MAP PROVIDES BEDROCK TOPOGRAPHY.
10. COORDINATE SYSTEM IS CONNECTICUT STATE PLANE GRID SYSTEM, FEET, NAD27

FIGURE E - 5

2002/3 AND 2009/10 1,1 DICHLOROETHENE
GROUNDWATER CONTAMINANT CONTOURS
RAYMARK - OU2 - GROUNDWATER
STRATFORD, CONNECTICUT

DRAWN BY: JH/EJ	CHECKED BY: DB
PROJECT NO. 80043	DATE: JANUARY 2016



Monitoring Well Screen Elevation Ranges		
Well Depth Intervals	Maximum Screen Elevation	Minimum Screen Elevation
Shallow Overburden Wells	11.7	-10.5
Intermediate Overburden Wells	-2.3	-84.56
Deep Overburden Wells	-4.2	-123.4
Bedrock Wells	-7.3	-150.4

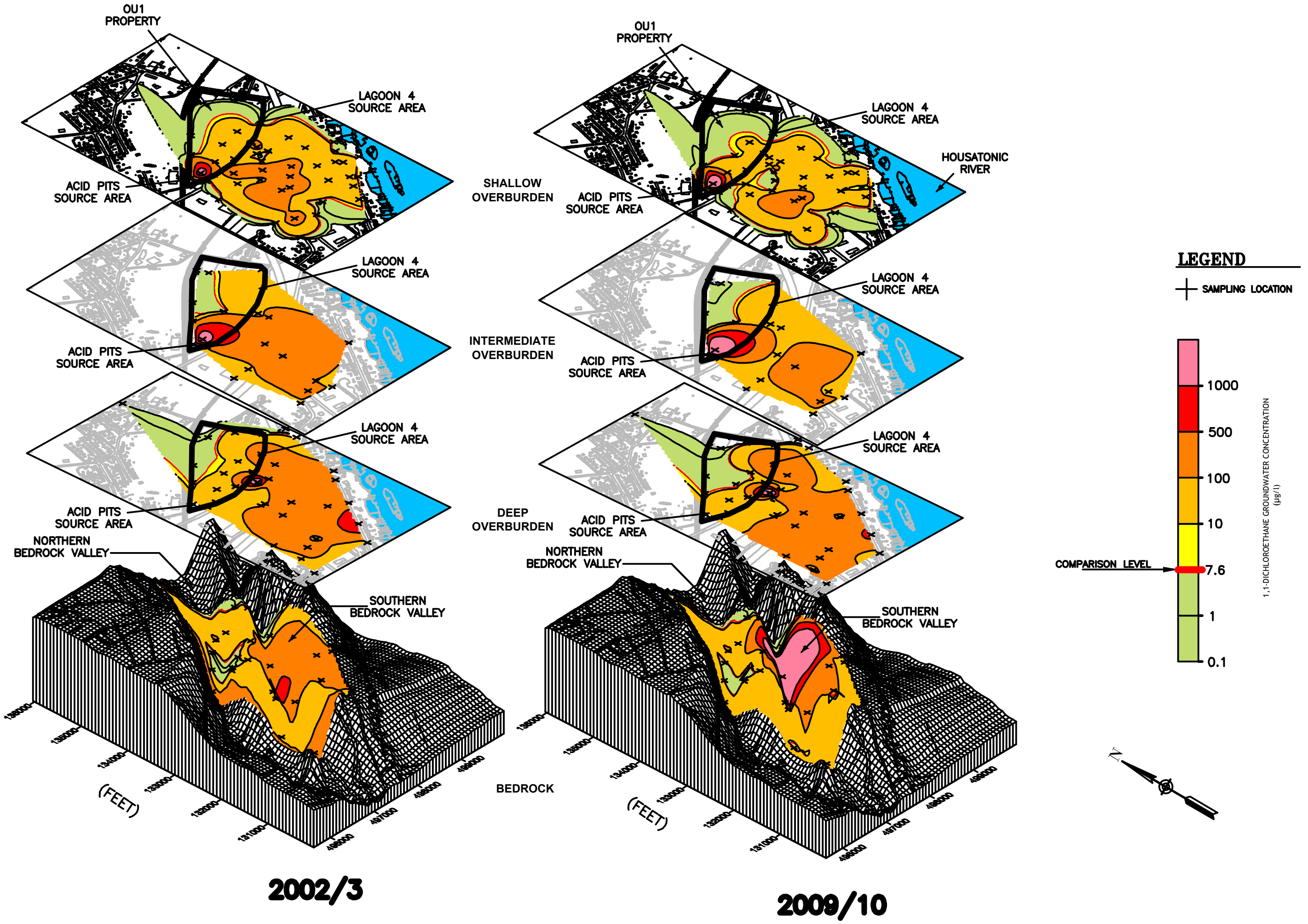
NOTES:

1. GROUNDWATER VAPOR INTRUSION COMPARISON LEVEL FOR RESIDENTIAL EXPOSURES TO VINYL CHLORIDE CORRESPONDING TO A CANCER RISK LEVEL OF 1x10–6 AND HAZARD QUOTIENT OF 1.0.
2. CONTAMINANT CONTOURS GENERATED USING SURFER VERSION 10 SURFACE MAPPING SYSTEM, GOLDEN SOFTWARE, INC., GOLDEN, CO. CONTOURS WERE GENERATED USING INDICATED DATA AND THE NATURAL NEIGHBOR GRIDDING METHOD.
3. EXTENT OF CONTOUR MAPS ARE DEFINED BY SAMPLE LOCATIONS WHICH VARY WITH INTERVAL.
4. SHALLOW, INTERMEDIATE, DEEP AND BEDROCK LAYERS ARE DEFINED BY THE WELL DESIGNATION, AND NOT WELL SCREEN ELEVATION
5. BEDROCK SAMPLES WERE OBTAINED FROM FRACTURES BELOW THE SURFACE OF THE BEDROCK. BEDROCK RESULTS ARE DEPICTED AT THE SURFACE OF THE BEDROCK FOR ILLUSTRATIVE PURPOSES ONLY.
6. ALL LOCATIONS TO BE CONSIDERED APPROXIMATE.
7. PLAN NOT TO BE USED FOR DESIGN.
8. BASE MAP COMPILED FROM THE FOLLOWING: DIVERSIFIED TECH CORP., NORTH HAVEN, CT; GEOD–PHOTOGRAMMETRIC SCIENCES SURVEY TECH. CORP., NEWFOUNDLAND, NJ; DELVCA–HOFFMAN ASSOC., INC., S. PORTLAND, ME; AND CT–GIS.
9. WIREFRAME MAP PROVIDES BEDROCK TOPOGRAPHY.
10. COORDINATE SYSTEM IS CONNECTICUT STATE PLANE GRID SYSTEM, FEET, NAD27

FIGURE E - 6

2002/3 AND 2009/10 VINYL CHLORIDE GROUNDWATER CONTAMINANT CONTOURS
RAYMARK - OU2 - GROUNDWATER
STRATFORD, CONNECTICUT

DRAWN BY: JH/EJ	CHECKED BY: DB
PROJECT NO. 80043	DATE: JANUARY 2016



Monitoring Well Screen Elevation Ranges		
Well Depth Intervals	Maximum Screen Elevation	Minimum Screen Elevation
Shallow Overburden Wells	11.7	-10.5
Intermediate Overburden Wells	-2.3	-84.95
Deep Overburden Wells	-4.2	-123.4
Bedrock Wells	-7.3	-150.4

Note: RW-9 Screen Interval Not Included

NOTES:

1. GROUNDWATER VAPOR INTRUSION COMPARISON LEVEL FOR RESIDENTIAL EXPOSURES TO 1,1-DICHLOROETHANE CORRESPONDING TO A CANCER RISK OF 1x10-6 AND HAZARD QUOTIENT OF 1.0.
2. CONTAMINANT CONTOURS GENERATED USING SURFER VERSION 10 SURFACE MAPPING SYSTEM, GOLDEN SOFTWARE, INC., GOLDEN, CO. CONTOURS WERE GENERATED USING INDICATED DATA AND THE NATURAL NEIGHBOR GRIDDING METHOD.
3. EXTENT OF CONTOUR MAPS ARE DEFINED BY SAMPLE LOCATIONS WHICH VARY WITH INTERVAL.
4. SHALLOW, INTERMEDIATE, DEEP AND BEDROCK LAYERS ARE DEFINED BY THE WELL DESIGNATION, AND NOT WELL SCREEN ELEVATION.
5. BEDROCK SAMPLES WERE OBTAINED FROM FRACTURES BELOW THE SURFACE OF THE BEDROCK. BEDROCK RESULTS ARE DEPICTED AT THE SURFACE OF THE BEDROCK FOR ILLUSTRATIVE PURPOSES ONLY.
6. ALL LOCATIONS TO BE CONSIDERED APPROXIMATE.
7. PLAN NOT TO BE USED FOR DESIGN.
8. BASE MAP COMPILED FROM THE FOLLOWING: DIVERSIFIED TECH CORP., NORTH HAVEN, CT; GEOD-PHOTOGRAMMETRIC SCIENCES SURVEY TECH. CORP., NEWFOUNDLAND, NJ; DELVCA-HOFFMAN ASSOC., INC., S. PORTLAND, ME; AND CT-GIS.
9. WIREFRAME MAP PROVIDES BEDROCK TOPOGRAPHY.
10. COORDINATE SYSTEM IS CONNECTICUT STATE PLANE GRID SYSTEM, FEET, NAD27

FIGURE E - 7

2002/3 AND 2009/10 1,1 DICHLOROETHANE GROUNDWATER CONTAMINANT CONTOURS
RAYMARK - OU2 - GROUNDWATER
STRATFORD, CONNECTICUT

DRAWN BY: JH/EJ	CHECKED BY: DB
PROJECT NO. 80043	DATE: JANUARY 2016

Notes:

1. Actual limits of OU3 will be determined by the pre-design investigation.

2. Locations of site features depicted hereon are approximate and given for illustrative purposes only.

Legend

- Limit of OU3 Study Area
- OU6 Property
- Approx. Property Line
- Buildings

N

0 100 200 400

Feet

FIGURE E - 8

OU3 SITE PLAN
RAYMARK SUPERFUND SITE - OU3
STRATFORD, CONNECTICUT

PREPARED BY: JH	CHECKED BY: DC
PROJECT NO. 80099	DATE: JUNE 2016

Path: R:\80000 Task Orders\80099 Raymark OU4 OU6\Technical Data\GIS\Figures\OU6_ROD\E-8_Raymark OU3 Site Plan.mxd Date Printed: 9/2/2016

Notes:

1. Wetland delineation performed by EPA and US Fish and Wildlife in 1994.

2. Aerial photography provided by ESRI.

3. Locations of site features depicted hereon are approximate and given for illustrative purposes only.

Legend

Features with Area (Square Feet)

- Surface Water = 62,659
- OU3 Study Area = 301,346
- Delineated Wetland = 51,386

N

0 100 200 400

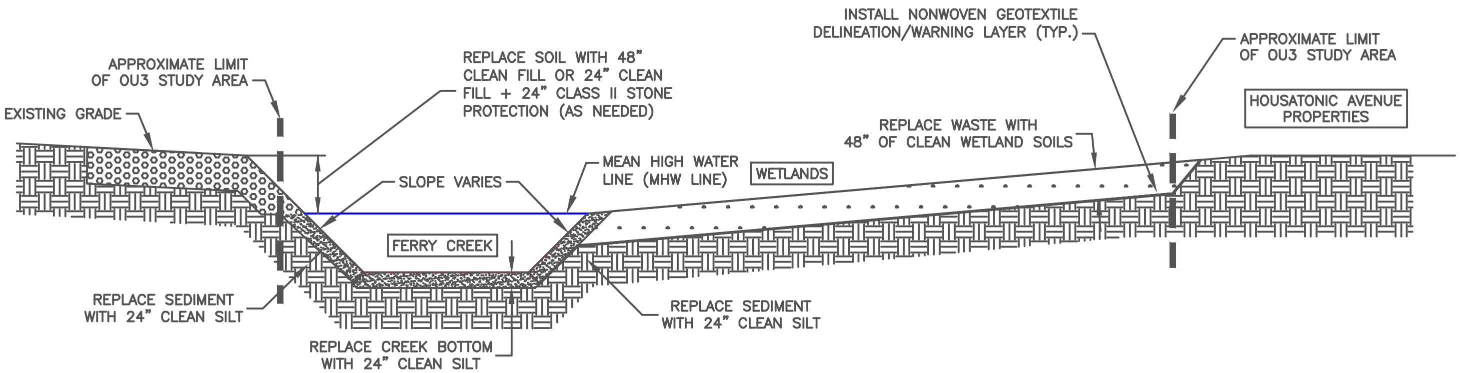
Feet

FIGURE E - 9

OU3 DELINEATED WETLANDS
RAYMARK SUPERFUND SITE - OU3
STRATFORD, CONNECTICUT

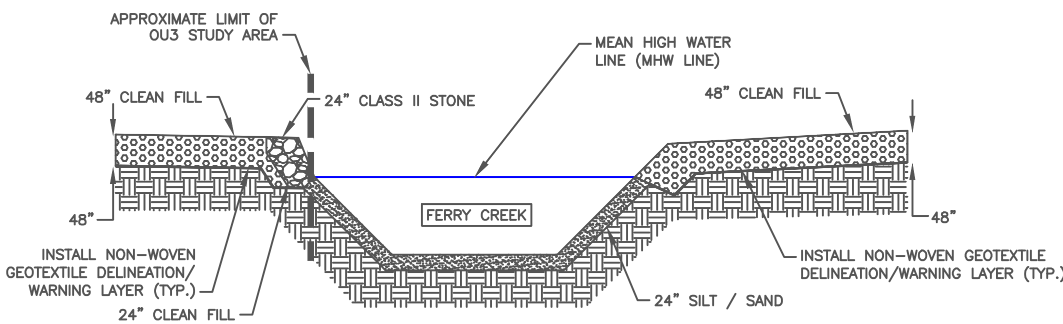
PREPARED BY: JH	CHECKED BY: DC
PROJECT NO. 80099	DATE: JANUARY 2016

Path: R:\80000 Task Orders\80099 Raymark OU4 OU6\Technical Data\GIS\Figures\OU6_ROD\E-9_Raymark OU3 Delineated Wetland.mxd **Date Printed:** 9/2/2016



TYPICAL CROSS SECTION - TO WETLAND

NOT TO SCALE



TYPICAL CROSS SECTION - TO SOIL

NOT TO SCALE

LEGEND

- EXISTING TOPSOIL
- 24" CLASS II STONE
- SILT / SAND
- WETLAND SOIL
- CLEAN FILL
- NONWOVEN GEOTEXTILE DELINEATION/WARNING LAYER

NOTES

1. EXCAVATION BOUNDARIES ARE SHOWN ON FIG 4-1.
2. ALL CROSS SECTIONS ARE NOT DRAWN TO SCALE.
3. EXISTING GRADES WILL BE MAINTAINED.

FIGURE E - 10	
CROSS SECTION DETAILS RAYMARK SUPERFUND SITE - OU3 STRATFORD, CONNECTICUT	
DRAWN BY: JH	CHECKED BY: KN
PROJECT NO. 80099	DATE: JANUARY 2016

Notes:

1. Sample locations depicted were developed using a compilation of several sets of data encompassing EPA removal and remedial programs. Some of the sample locations for residential properties may have already been addressed under a prior EPA response action.

2. Raymark waste in soil is defined as a single soil sample containing lead above 400 parts per million (ppm) [or mg/Kg], and asbestos (chrysotile, only) greater than 1 percent, and either copper above 288 ppm or polychlorinated biphenyls (PCBs) (Aroclor 1268, only) above 1 ppm.

3. Locations of site features depicted hereon are approximate and given for illustrative purposes only.

Legend

- Meets Raymark waste (RW) Criteria
- Does Not Meet RW Criteria; 3 Chemicals Exceed (RW) Criteria
- Does Not Meet RW Criteria; 2 Chemicals Exceed (RW) Criteria
- Does Not Meet RW Criteria; 1 Chemical Exceeds (RW) Criteria
- No RW Criteria detected, or detected below RW Criteria
- Limit of OU3 Study Area
- OU6 Property
- Approx. Property Line
- Buildings
- Approximate Location of Visible Raymark Waste

N

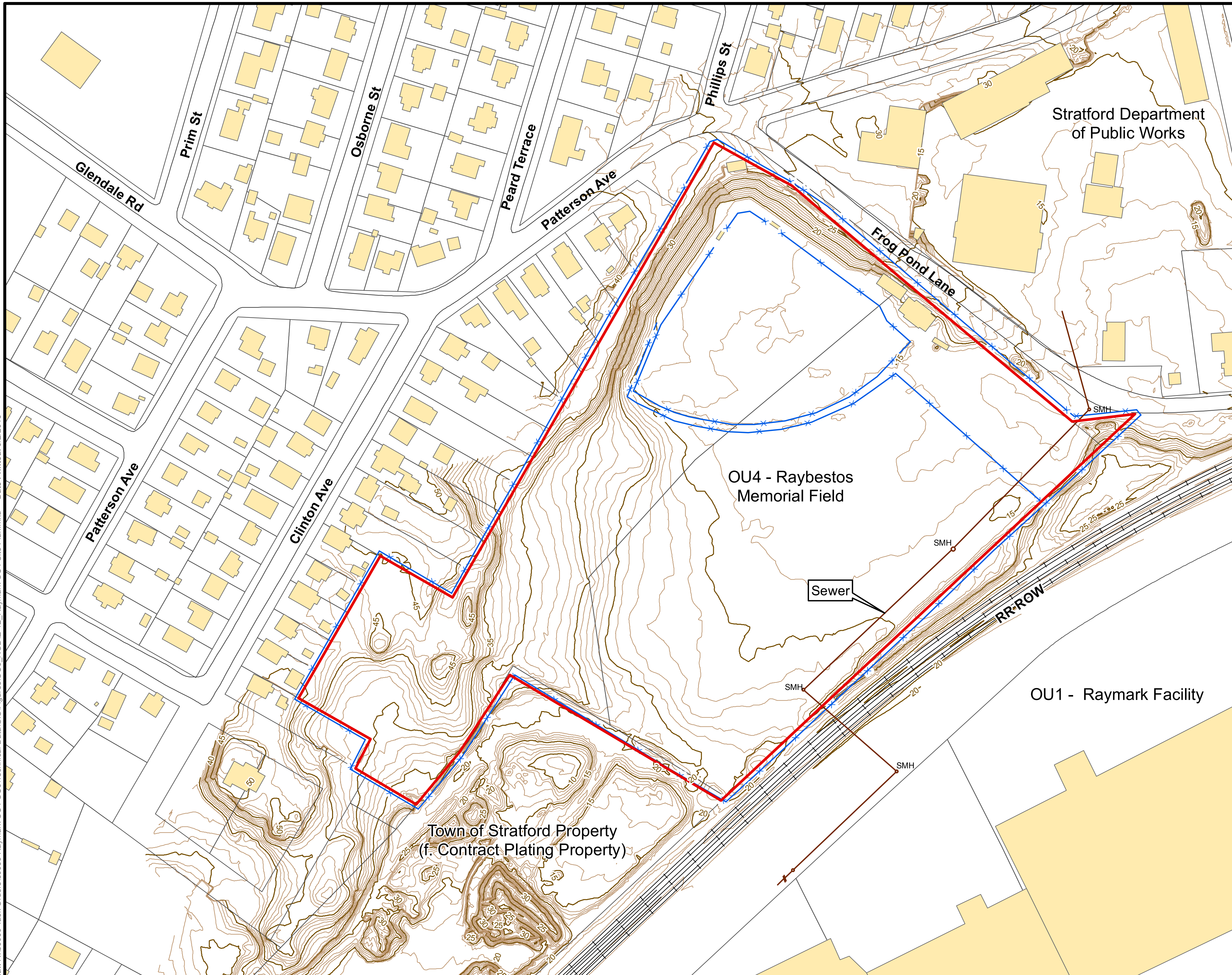
0 100 200 400

Feet

FIGURE E - 11

DETECTS OF RAYMARK
WASTE CONSTITUENTS
RAYMARK SUPERFUND SITE - OU3
STRATFORD, CONNECTICUT

PREPARED BY: JH	CHECKED BY: DC
PROJECT NO. 80099	DATE: JANUARY 2016



Notes:

1. Locations of site features depicted hereon are approximate and given for illustrative purposes only.

Legend

- Study Area
- Approx. Property Lines
- Buildings
- 5 Foot Index Contour
- 1 Foot Contour
- Fences
- Sewer
- Railroad

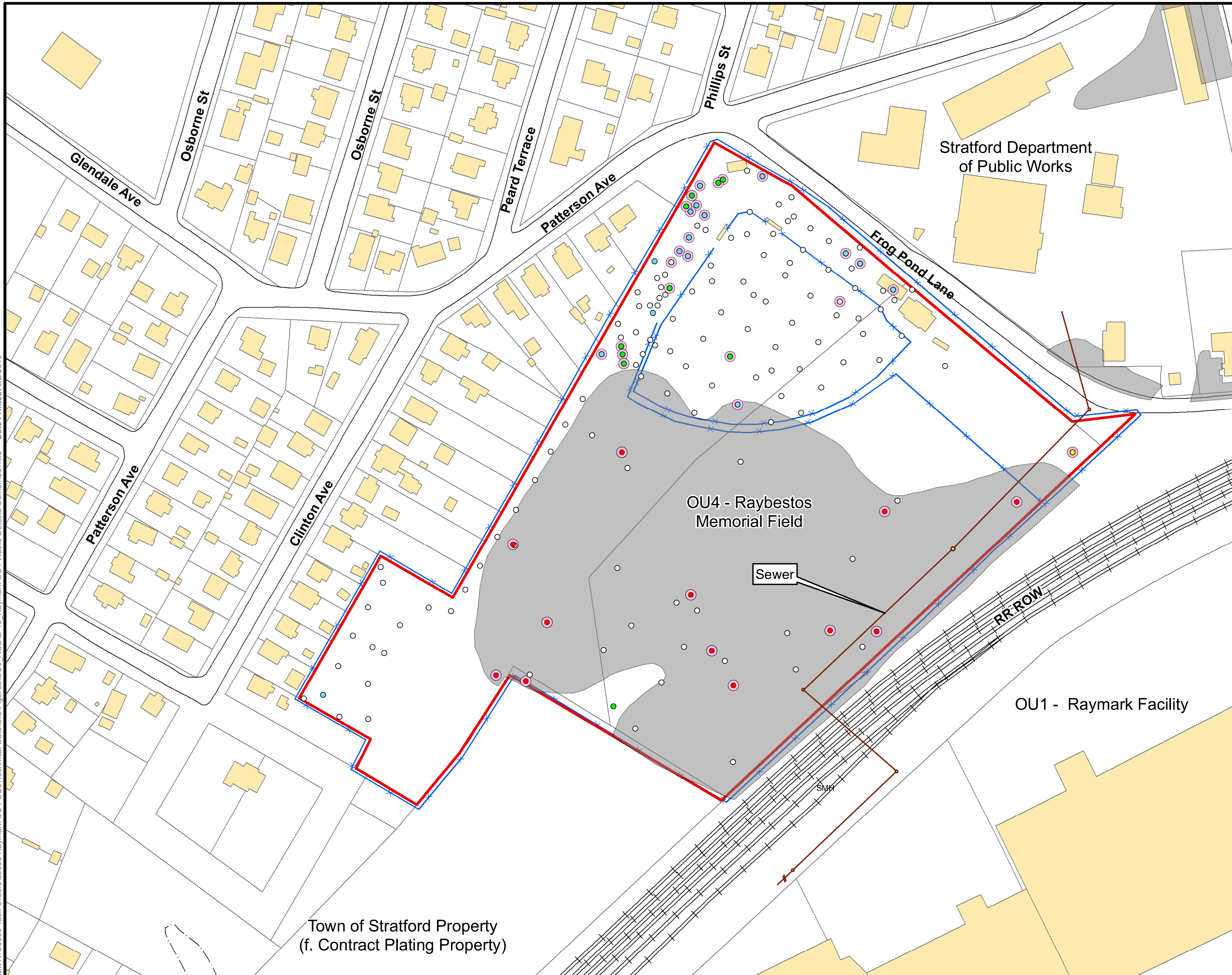
N

0 75 150 300
Feet
1 inch = 150 feet

FIGURE E - 12

OU4 SITE PLAN
RAYMARK SUPERFUND SITE - OU4
STRATFORD, CONNECTICUT

PREPARED BY: JH	CHECKED BY: LC
PROJECT NO. 80099	DATE: NOVEMBER 2015



Path: R:\80000 Task Orders\80099 Raymark OU4 OU6\Technical Data\GIS\Figures\OU6_RODIE-13_Raymark OU4 Waste Detects Combined.mxd Date Printed: 9/2/2016

Notes:

1. Sample locations depicting Raymark Waste were developed using a compilation of several sets of data encompassing EPA removal and remedial programs.

2. Raymark waste in soil is defined as a single soil sample containing lead above 400 parts per million (ppm) [or mg/Kg], and asbestos (chrysotile, only) greater than 1 percent, and either copper above 288 ppm or polychlorinated biphenyls (PCBs) (Aroclor 1268, only) above 1 ppm.

3. Exceedances of RSR are based on CT DEC Commercial / Industrial standards for one or more of the following: PCBs (total Aroclors), Arsenic, Asbestos (≥1%), Benzo(A)Pyrene, Cadmium, Copper, Dieldrin, Lead, and Nickel.

4. Locations of site features depicted hereon are approximate and given for illustrative purposes only.

Legend

- Meets Raymark waste (RW) Criteria
- Does Not Meet RW Criteria; 3 Chemicals Exceed RW Criteria
- Does Not Meet RW Criteria; 2 Chemicals Exceed RW Criteria
- Does Not Meet RW Criteria; 1 Chemical Exceeds RW Criteria
- No RW Criteria detected, or detected below RW Criteria
- Sample Location with Exceedance of RSR
- OU 4 Study Area
- Raymark Waste Areas
- Approx. Property Lines
- Buildings
- Fences
- Sewer
- Railroad

0 75 150 300

Feet

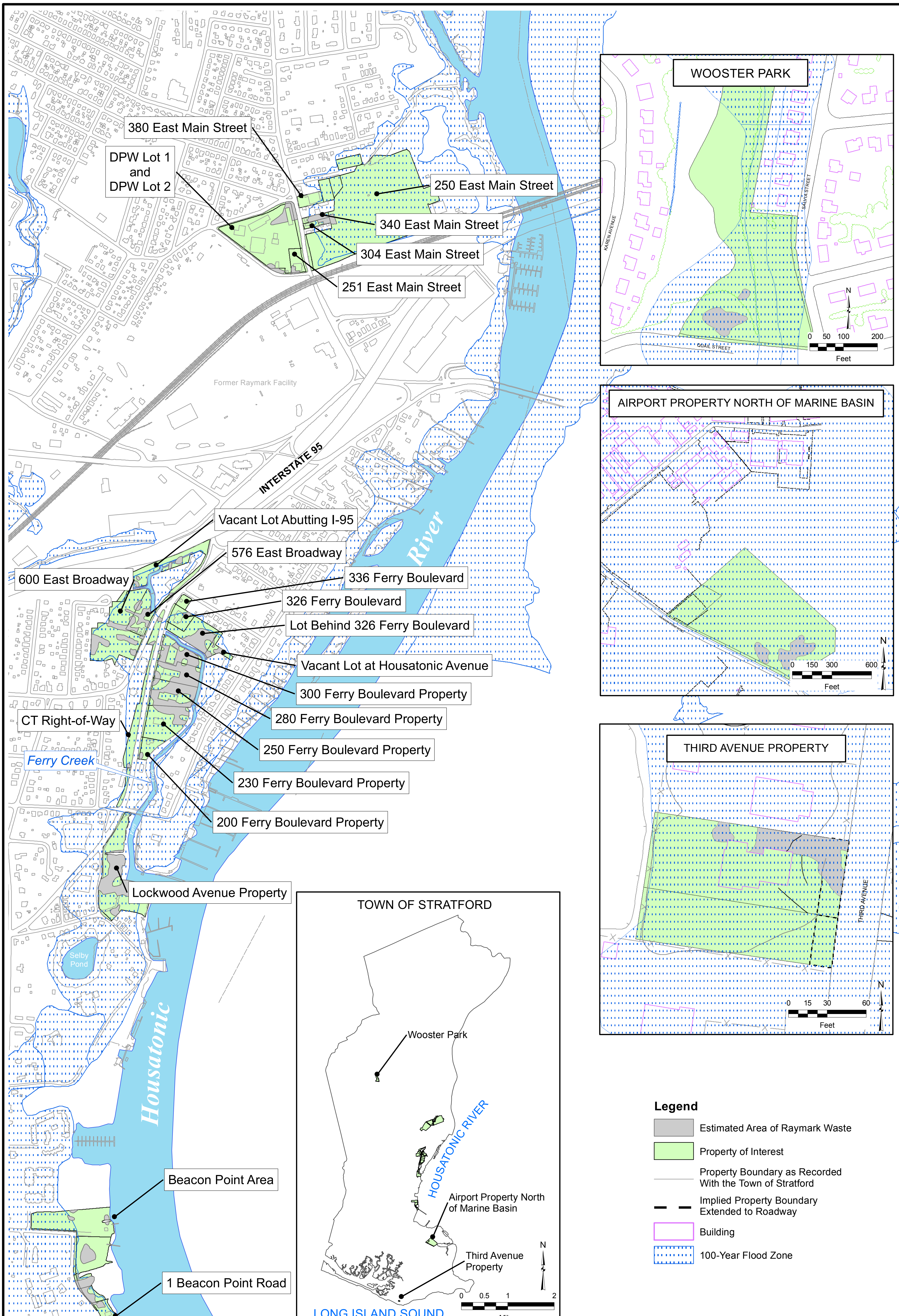
1 inch = 150 feet

N

FIGURE E - 13

DETECTS OF RAYMARK
WASTE CONSTITUENTS AND DIRECT
EXPOSURE CRITERIA EXCEEDANCES
RAYMARK SUPERFUND SITE- OU4
STRATFORD, CONNECTICUT

PREPARED BY: JH	CHECKED BY: DC
PROJECT NO. 80099	DATE: JUNE 2016



N

Main Map Scale

0 250 500 1,000
Feet

Notes:

1. 100 Year Flood Zone obtained from FEMA Flood Map Service Center, revised 10/16/2013. Zone AE is shown: Special Flood Hazard Area subject to inundation by the 1% annual chance of flood.

2. Adapted from TTNUS Remedial Investigation, 2005.

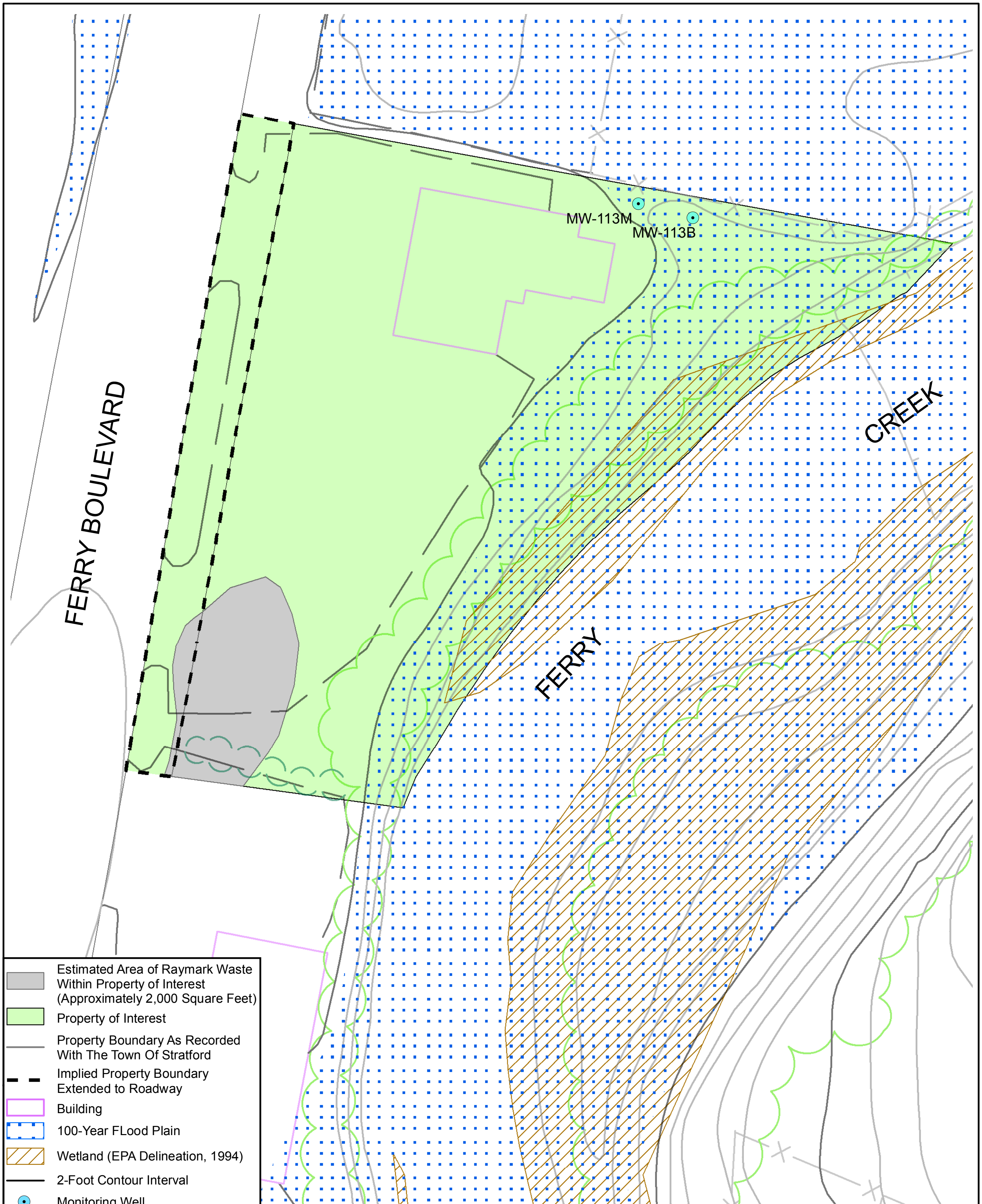
3. Locations of site features depicted hereon are approximate and given for illustrative purposes only.

FIGURE E - 14

LOCATION OF OU6 PROPERTIES
FEASIBILITY STUDY
RAYMARK INDUSTRIES SUPERFUND SITE
STRATFORD, CONNECTICUT

PREPARED BY: JH	CHECKED BY: LC
PROJECT NO. 80099	DATE: OCTOBER 2015

Path: R:\80000 Task Orders\80099 Raymark OU4 OU6\Technical Data\GIS\Figures\OU6_ROD\E-14_Raymark OU6 Properties.mxd Date Printed: 9/2/2016



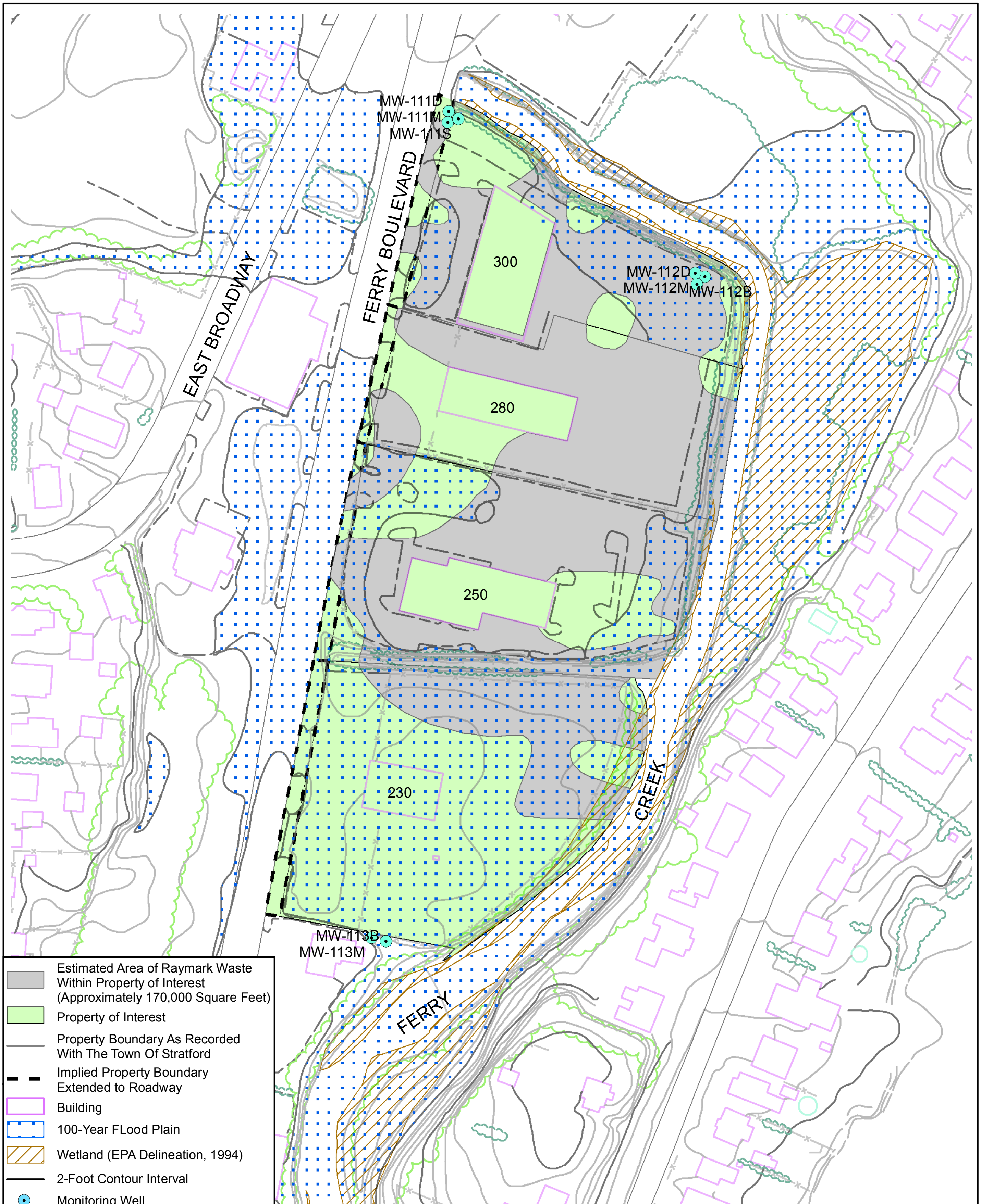
Notes:
1) Plan not to be used for design.
2) All locations to be considered approximate.
3) Property boundaries are approximate based on Town of Stratford Engineering Department plans.
4) Floodplain extent based on Federal Emergency Management Agency Q3 Flood Data, Community Panel Numbers 090016 0001-0004, Revised June 16, 1992, FEMA, Washington D.C. and modified to Town of Stratford Engineering Plan 10-foot contour.
5) Adapted from TTNUS Remedial Investigation, 2005.

FIGURE E-15

200 FERRY BOULEVARD
FEASABILITY STUDY
RAYMARK SUPERFUND SITE
STRATFORD, CONNECTICUT

Drawn By: D. McGrath	Approved By: H. Ford
Project: 80006	Date: 9/3/09 Rev00

R:\80000 Task Orders\80006 Raymark\Technical Data\GIS_Data\Figures\OU6_FS_Figures\Figure_04-02_200_Ferry_Boulevard.mxd



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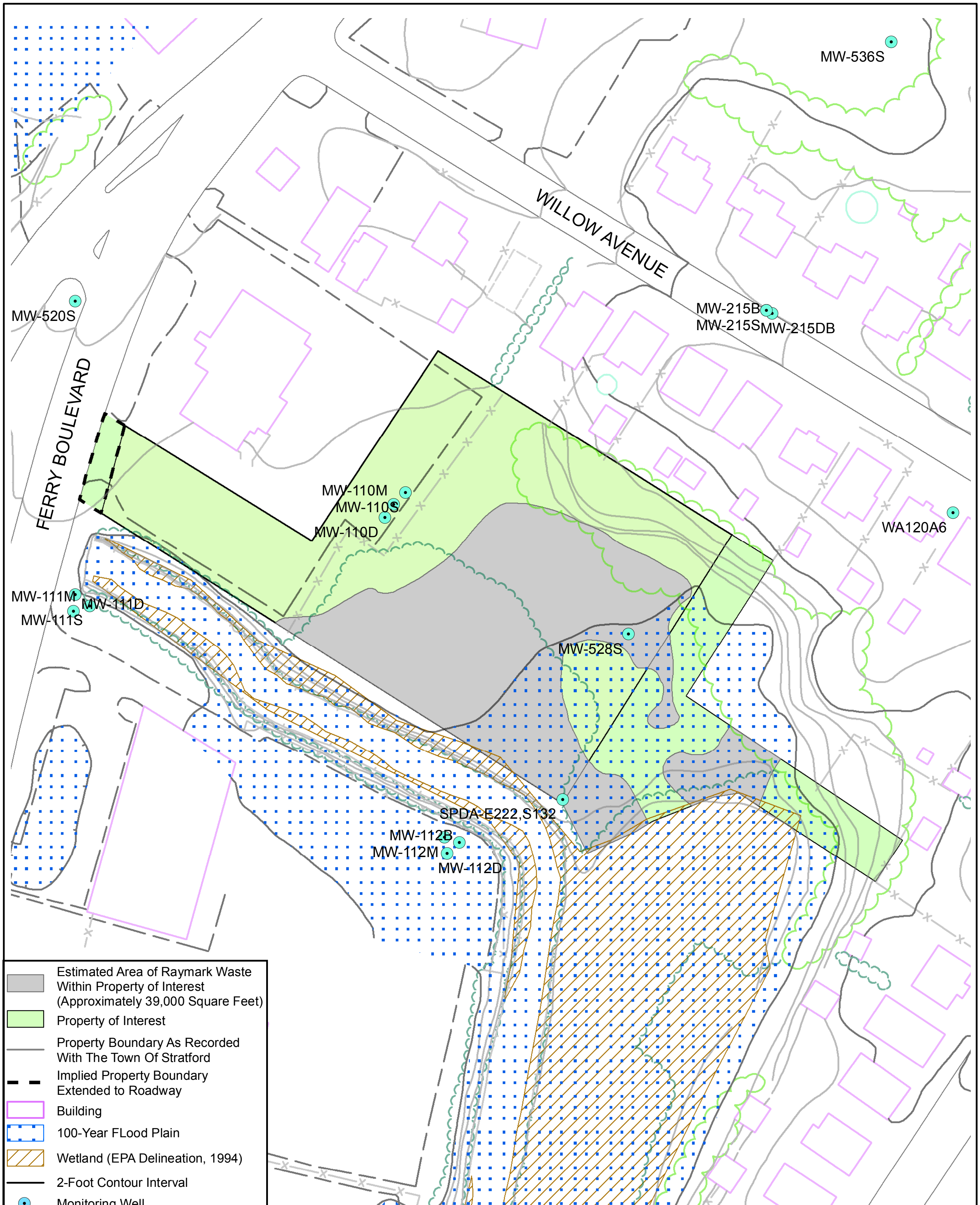
Notes:
1) Plan not to be used for design.
2) All locations to be considered approximate.
3) Property boundaries are approximate based on Town of Stratford Engineering Department plans.
4) Floodplain extent based on Federal Emergency Management Agency Q3 Flood Data, Community Panel Numbers 090016 0001-0004, Revised June 16, 1992, FEMA, Washington D.C. and modified to Town of Stratford Engineering Plan 10-foot contour.
5) Adapted from TTNUS Remedial Investigation, 2005.

FIGURE E-16

230, 250, 280, 300 FERRY BOULEVARD
FEASABILITY STUDY
RAYMARK SUPERFUND SITE
STRATFORD, CONNECTICUT

Drawn By: D. McGrath	Approved By: H. Ford
Project: 80006	Date: 9/3/09 Rev00



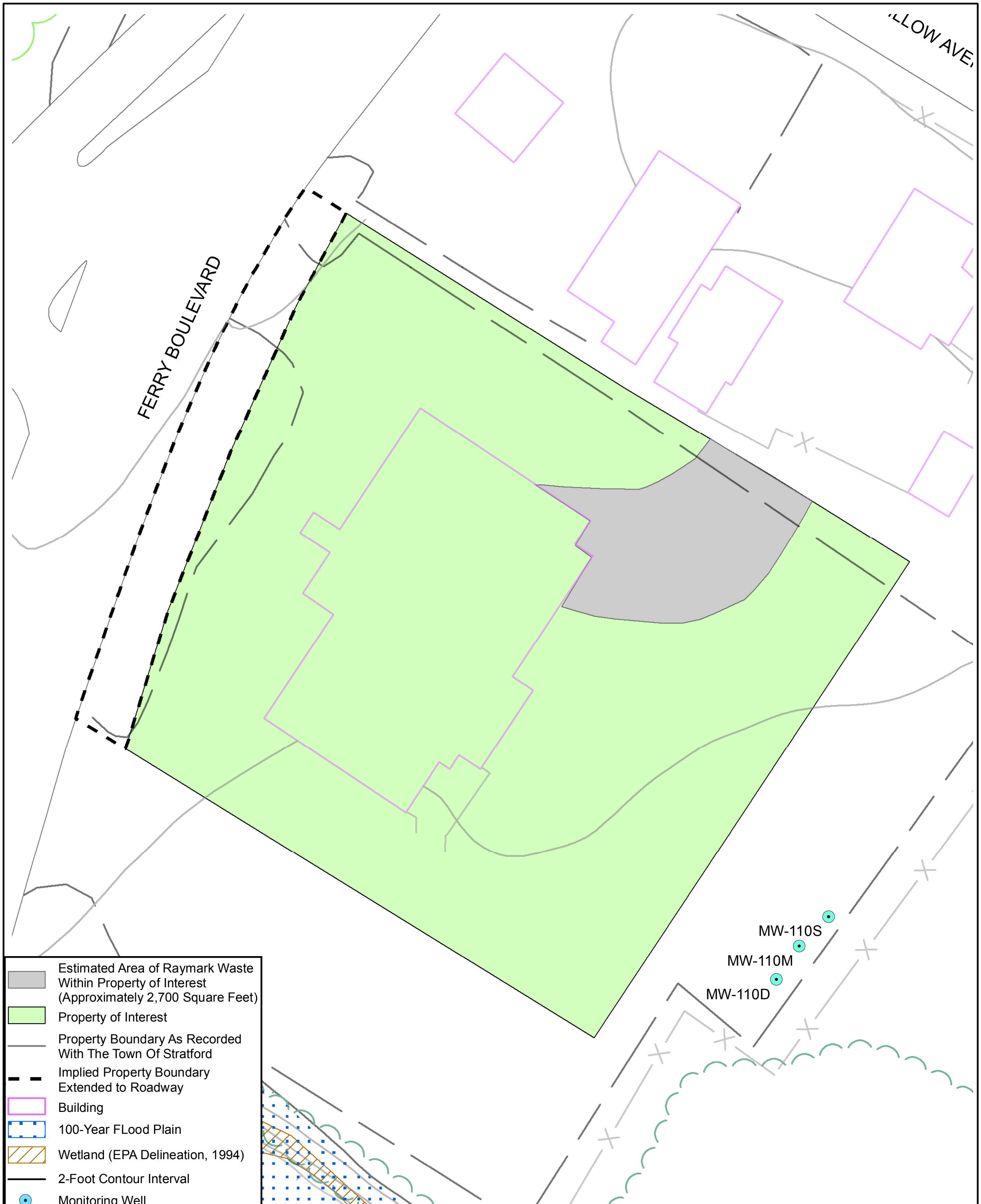
Notes:
1) Plan not to be used for design.
2) All locations to be considered approximate.
3) Property boundaries are approximate based on Town of Stratford Engineering Department plans.
4) Floodplain extent based on Federal Emergency Management Agency Q3 Flood Data, Community Panel Numbers 090016 0001-0004, Revised June 16, 1992, FEMA, Washington D.C. and modified to Town of Stratford Engineering Plan 10-foot contour.
5) Adapted from TTNUS Remedial Investigation, 2005.

FIGURE E-17

LOT BEHIND 326 FERRY BOULEVARD & VACANT HOUSATONIC LOT
FEASABILITY STUDY
RAYMARK SUPERFUND SITE
STRATFORD, CONNECTICUT

Drawn By: D. McGrath	Approved By: H. Ford
Project: 80006	Date: 9/3/09 Rev00

R:\80000 Task Orders\80006 Raymark\Technical Data\GIS_Data\Figures\OU6_FS_Figures\Lot_Behind_326FB_Vacant_Hous_Lot.mxd



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Notes:
1) Plan not to be used for design.
2) All locations to be considered approximate.
3) Property boundaries are approximate based on Town of Stratford Engineering Department plans.
4) Floodplain extent based on Federal Emergency Management Agency Q3 Flood Data, Community Panel Numbers 090016 0001-0004, Revised June 16, 1992, FEMA, Washington D.C. and modified to Town of Stratford Engineering Plan 10-foot contour.
5) Adapted from TTNUS Remedial Investigation, 2005.

FIGURE E-18

326 FERRY BOULEVARD
FEASABILITY STUDY
RAYMARK SUPERFUND SITE
STRATFORD, CONNECTICUT

Drawn By: D. McGrath	Approved By: H. Ford
Project: 80006	Date: 9/3/09 Rev00

Notes:

1.Sample locations acquired from property owner's contractor, Brown and Caldwell, in a letter to EPA dated October 10, 2014. Locations are considered approximate.

3. Locations of site features depicted hereon are approximate and given for illustrative purposes only.

Legend

Soil Boring/MW

Existing Raymark Waste

Property of Interest

N

0 10 20 40

Feet

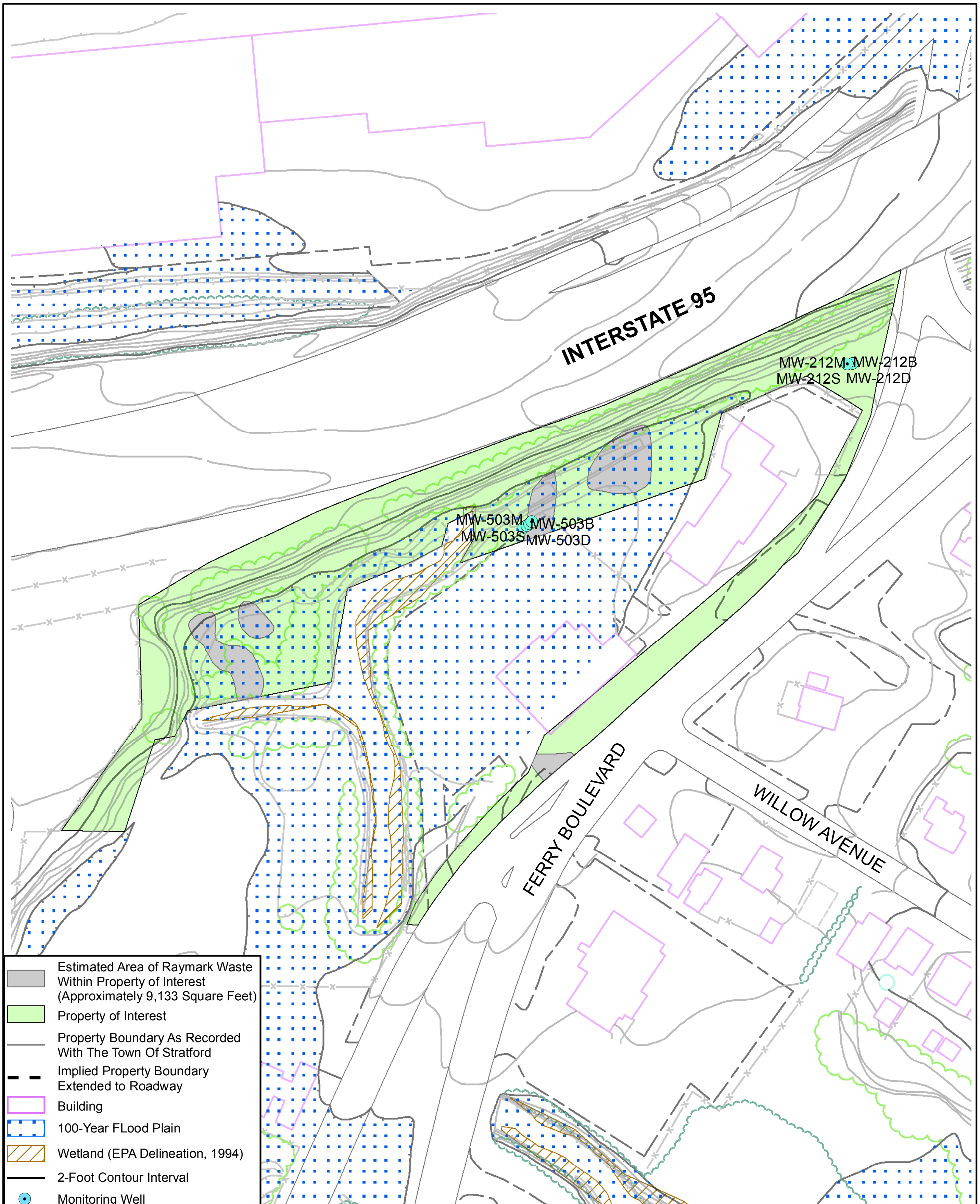
1 inch = 40 feet

FIGURE E - 19

336 FERRY BOULEVARD
RAYMARK SUPERFUND SITE - OU6
STRATFORD, CONNECTICUT

PREPARED BY: JH	CHECKED BY: LC
PROJECT NO. 80099	DATE: DECEMBER 2015

Path: R:\80000 Task Orders\80099 Raymark OU4 OU6\Technical Data\GIS\Figures\OU6_ROD\E-19_Raymark OU6 336 Ferry Blvd.mxd Date Printed: 9/2/2016



Notes:
1) Plan not to be used for design.
2) All locations to be considered approximate.
3) Property boundaries are approximate based on Town of Stratford Engineering Department plans.
4) Floodplain extent based on Federal Emergency Management Agency Q3 Flood Data, Community Panel Numbers 090016 0001-0004, Revised June 16, 1992, FEMA, Washington D.C. and modified to Town of Stratford Engineering Plan 10-foot contour.
5) Adapted from TTNUS Remedial Investigation, 2005.

FIGURE E-20

VACANT LOT ABUTTING I-95
FEASABILITY STUDY
RAYMARK SUPERFUND SITE
STRATFORD, CONNECTICUT

Drawn By: D. McGrath	Approved By: H. Ford
Project: 80006	Date: 9/3/09 Rev00

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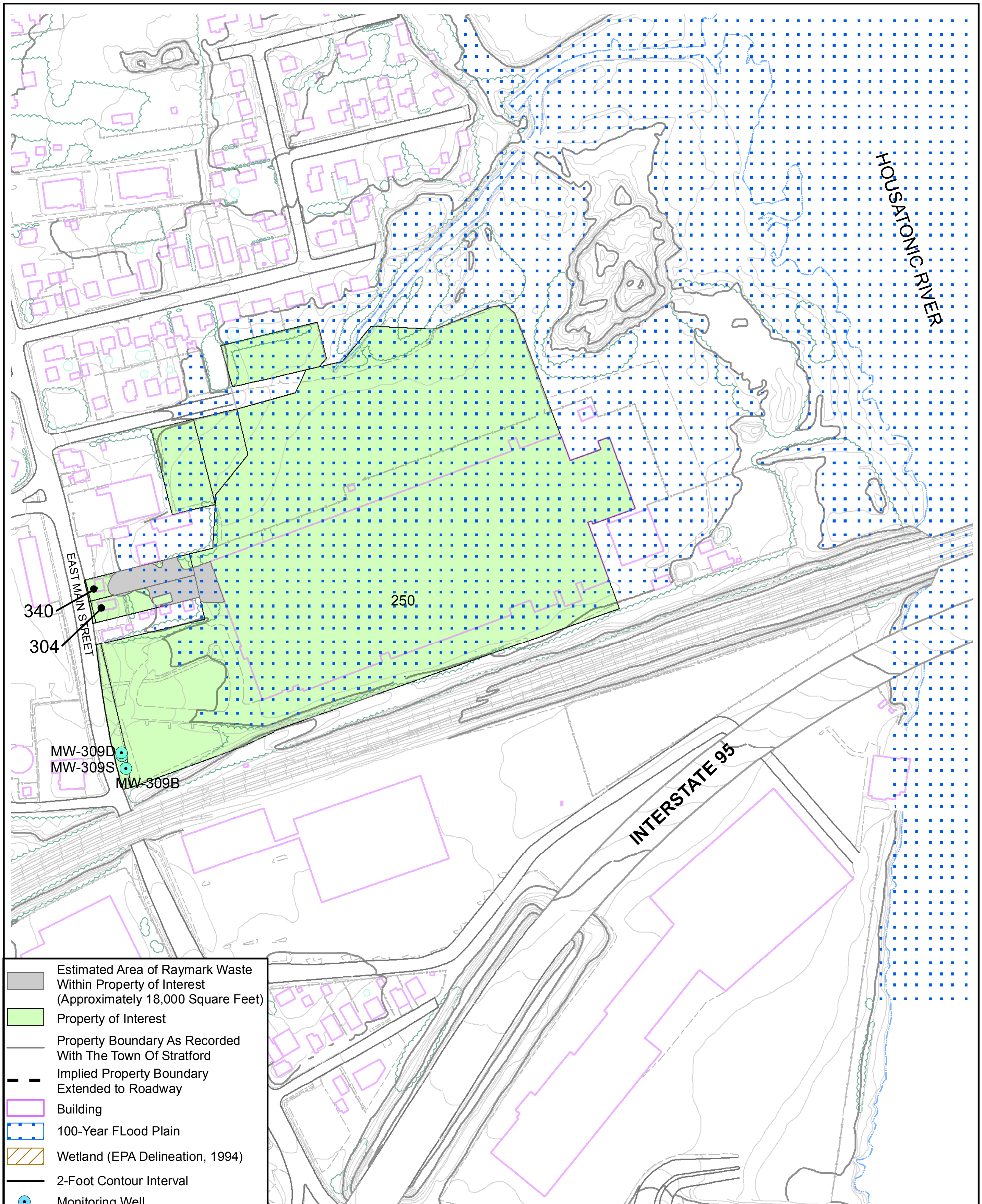

Notes:
1) Plan not to be used for design.
2) All locations to be considered approximate.
3) Property boundaries are approximate based on Town of Stratford Engineering Department plans.
4) Floodplain extent based on Federal Emergency Management Agency Q3 Flood Data, Community Panel Numbers 090016 0001-0004, Revised June 16, 1992, FEMA, Washington D.C. and modified to Town of Stratford Engineering Plan 10-foot contour.
5) Adapted from TTNUS Remedial Investigation, 2005.

FIGURE E-21

250, 304, 340 EAST MAIN STREET
FEASABILITY STUDY
RAYMARK SUPERFUND SITE
STRATFORD, CONNECTICUT

Drawn By: D. McGrath	Approved By: H. Ford
Project: 80006	Date: 9/4/09 Rev00

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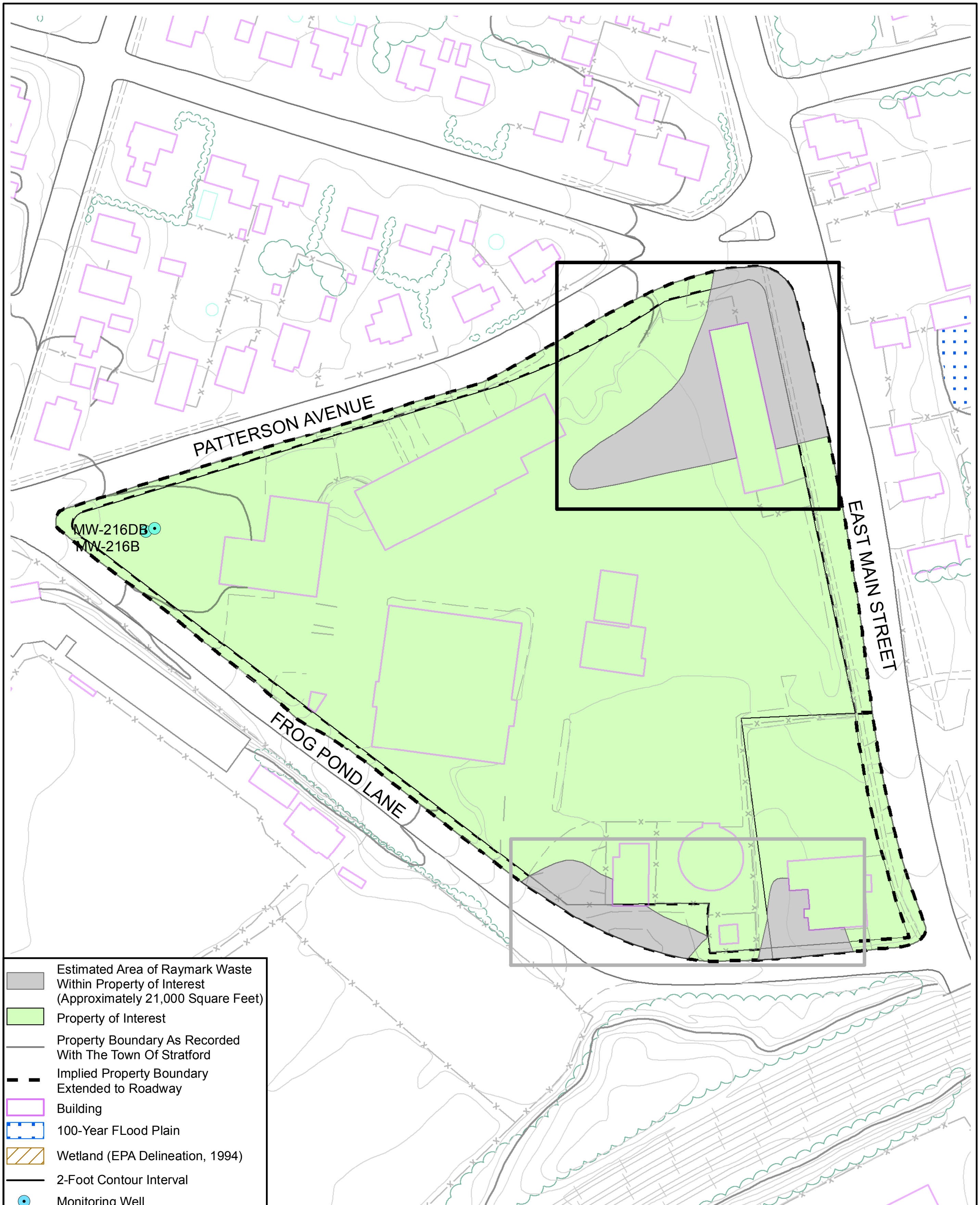

Notes:
1) Plan not to be used for design.
2) All locations to be considered approximate.
3) Property boundaries are approximate based on Town of Stratford Engineering Department plans.
4) Floodplain extent based on Federal Emergency Management Agency Q3 Flood Data, Community Panel Numbers 090016 0001-0004, Revised June 16, 1992, FEMA, Washington D.C. and modified to Town of Stratford Engineering Plan 10-foot contour.
5) Adapted from TTNUS Remedial Investigation, 2005.

FIGURE E-22

DPW LOT AREA OF CONCERN (AOC)-1
FEASABILITY STUDY
RAYMARK SUPERFUND SITE
STRATFORD, CONNECTICUT

Drawn By: D. McGrath	Approved By: H. Ford
Project: 80006	Date: 9/3/09 Rev00

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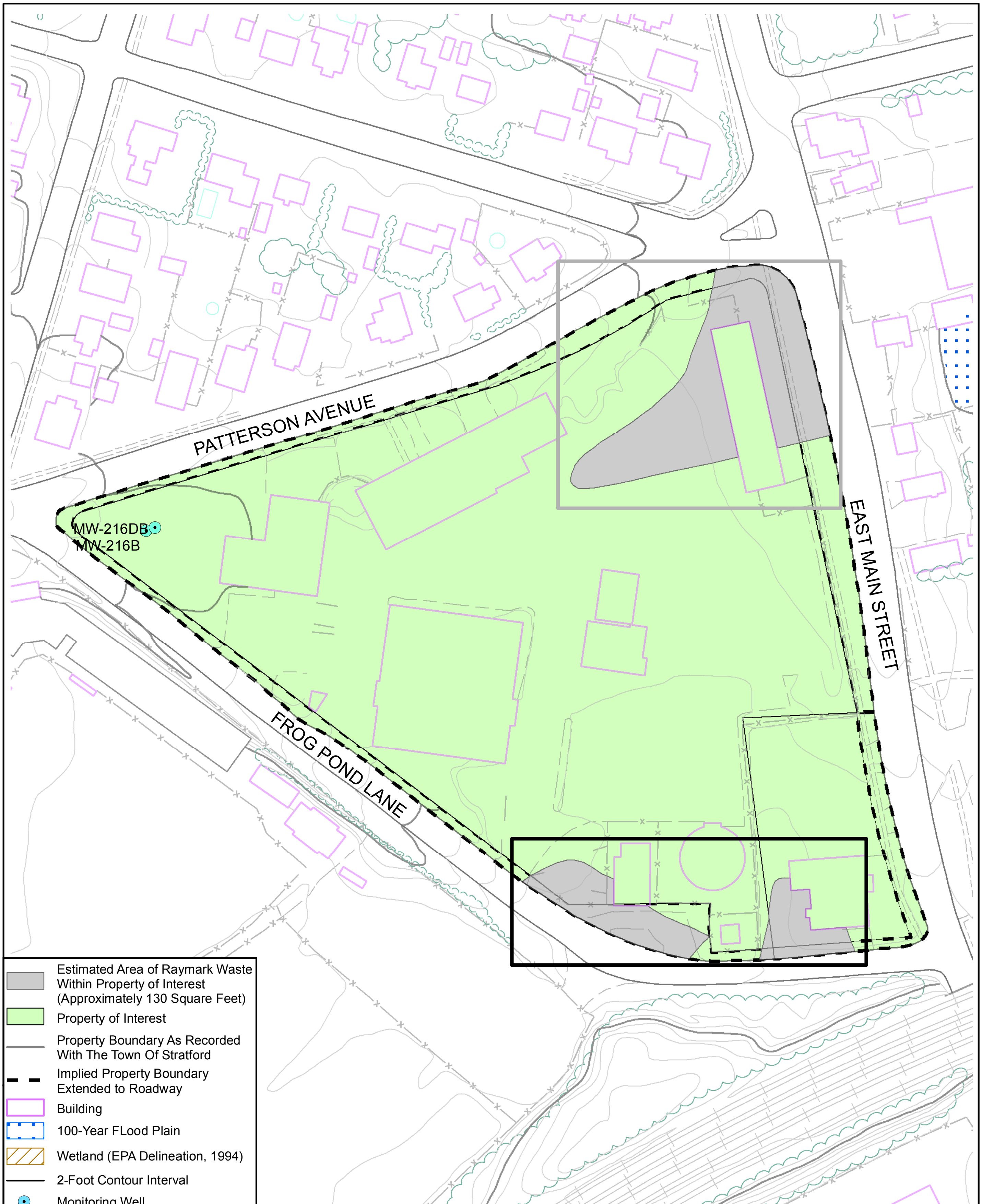

Notes:
1) Plan not to be used for design.
2) All locations to be considered approximate.
3) Property boundaries are approximate based on Town of Stratford Engineering Department plans.
4) Floodplain extent based on Federal Emergency Management Agency Q3 Flood Data, Community Panel Numbers 090016 0001-0004, Revised June 16, 1992, FEMA, Washington D.C. and modified to Town of Stratford Engineering Plan 10-foot contour.
5) Adapted from TTNUS Remedial Investigation, 2005.

FIGURE E-23

DPW LOT AREA OF CONCERN (AOC)-2 &
215 EAST MAIN STREET
FEASABILITY STUDY
RAYMARK SUPERFUND SITE
STRATFORD, CONNECTICUT

Drawn By: D. McGrath	Approved By: H. Ford
Project: 80006	Date: 9/3/09 Rev00

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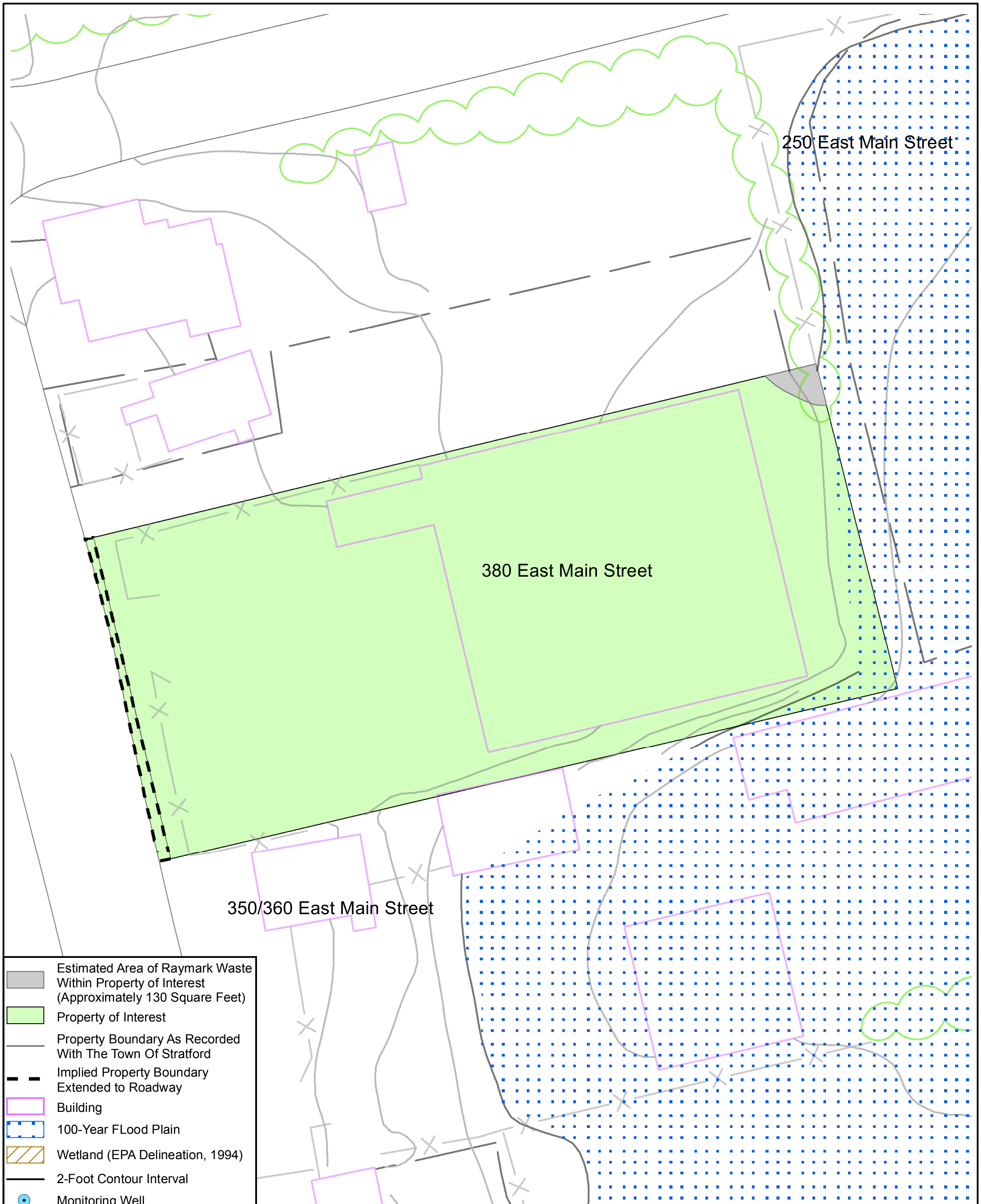

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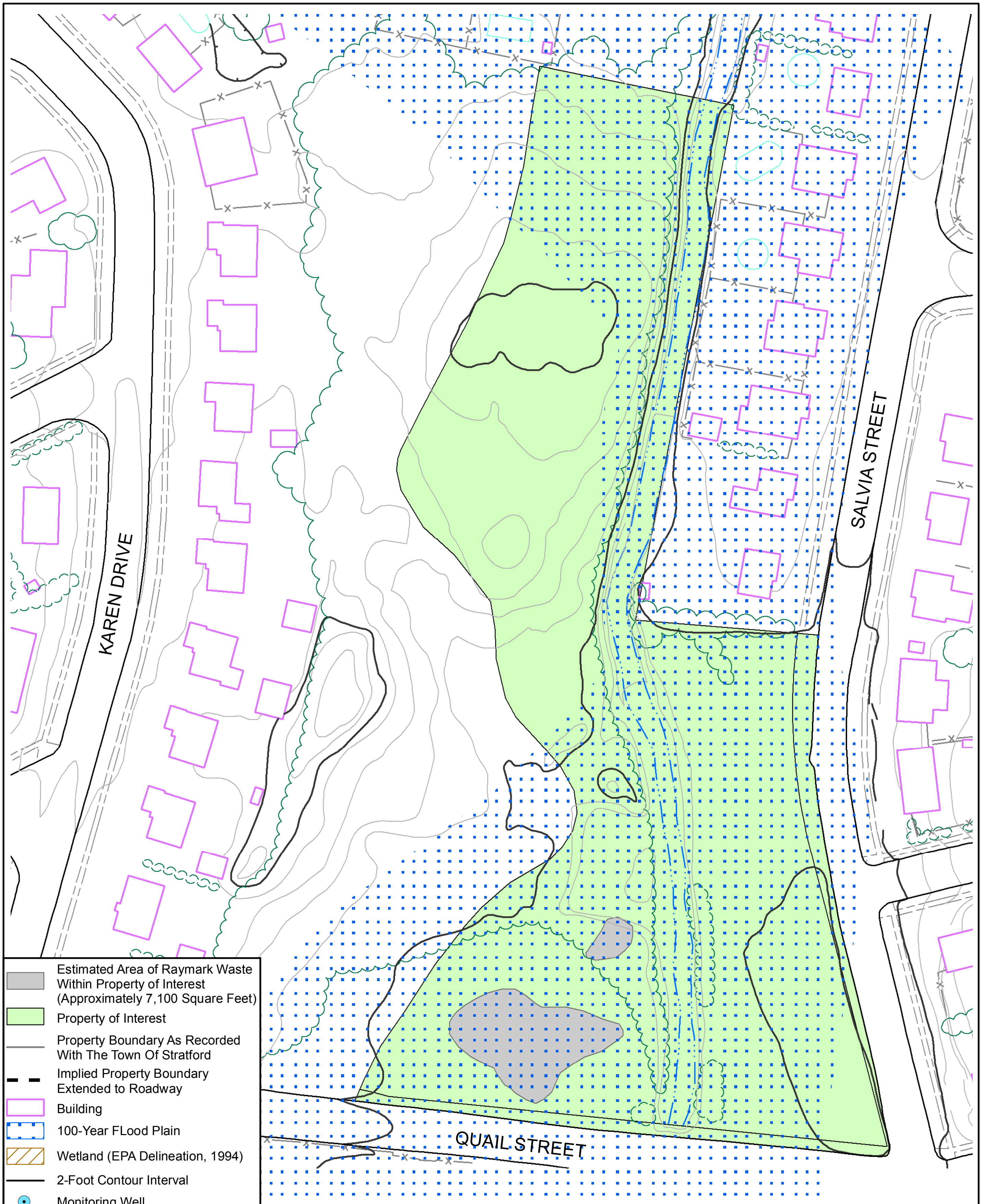
Notes:
1) Plan not to be used for design.
2) All locations to be considered approximate.
3) Property boundaries are approximate based on Town of Stratford Engineering Department plans.
4) Floodplain extent based on Federal Emergency Management Agency Q3 Flood Data, Community Panel Numbers 090016 0001-0004, Revised June 16, 1992, FEMA, Washington D.C. and modified to Town of Stratford Engineering Plan 10-foot contour.
5) Adapted from TTNUS Remedial Investigation, 2005.

FIGURE E-24

380 EAST MAIN STREET
FEASABILITY STUDY
RAYMARK SUPERFUND SITE
STRATFORD, CONNECTICUT

Drawn By: D. McGrath	Approved By: H. Ford
Project: 80006	Date: 9/3/09 Rev00



Notes:
1) Plan not to be used for design.
2) All locations to be considered approximate.
3) Property boundaries are approximate based on Town of Stratford Engineering Department plans.
4) Floodplain extent based on Federal Emergency Management Agency Q3 Flood Data, Community Panel Numbers 090016 0001-0004, Revised June 16, 1992, FEMA, Washington D.C. and modified to Town of Stratford Engineering Plan 10-foot contour.
5) Adapted from TTNUS Remedial Investigation, 2005.

FIGURE E-25

WOOSTER PARK
FEASABILITY STUDY
RAYMARK SUPERFUND SITE
STRATFORD, CONNECTICUT

Drawn By: D. McGrath	Approved By: H. Ford
Project: 80006	Date: 9/3/09 Rev00

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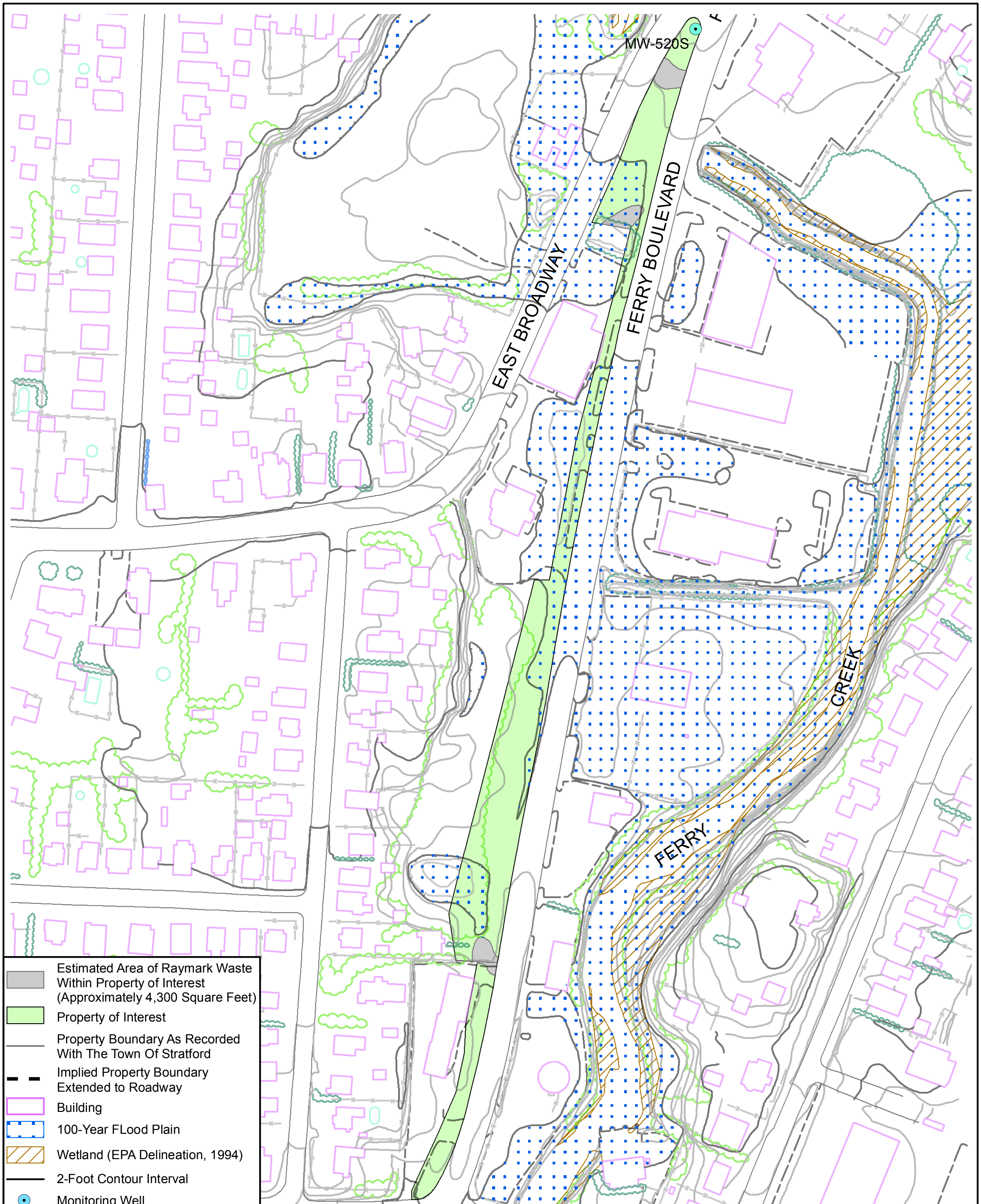

Notes:
1) Plan not to be used for design.
2) All locations to be considered approximate.
3) Property boundaries are approximate based on Town of Stratford Engineering Department plans.
4) Floodplain extent based on Federal Emergency Management Agency Q3 Flood Data, Community Panel Numbers 090016 0001-0004, Revised June 16, 1992, FEMA, Washington D.C. and modified to Town of Stratford Engineering Plan 10-foot contour.
5) Adapted from TTNUS Remedial Investigation, 2005.

FIGURE E-26

CONNECTICUT RIGHT-OF-WAY
FEASABILITY STUDY
RAYMARK SUPERFUND SITE
STRATFORD, CONNECTICUT

Drawn By: D. McGrath	Approved By: H. Ford
Project: 80006	Date: 9/3/09 Rev00

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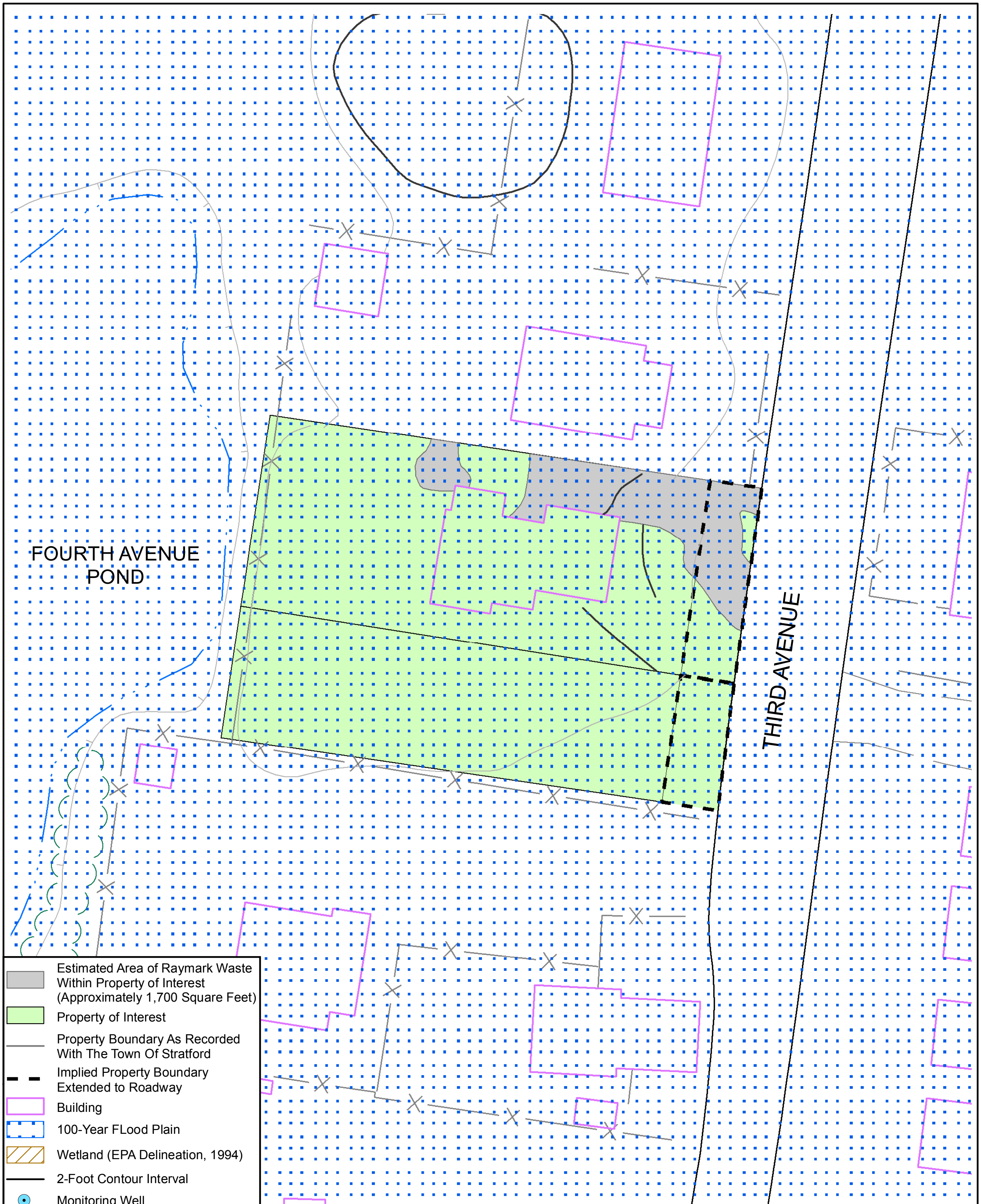

Notes:
1) Plan not to be used for design.
2) All locations to be considered approximate.
3) Property boundaries are approximate based on Town of Stratford Engineering Department plans.
4) Floodplain extent based on Federal Emergency Management Agency Q3 Flood Data, Community Panel Numbers 090016 0001-0004, Revised June 16, 1992, FEMA, Washington D.C. and modified to Town of Stratford Engineering Plan 10-foot contour.
5) Adapted from TTNUS Remedial Investigation, 2005.

FIGURE E-27

THIRD AVENUE PROPERTY
FEASABILITY STUDY
RAYMARK SUPERFUND SITE
STRATFORD, CONNECTICUT

Drawn By: D. McGrath	Approved By: H. Ford
Project: 80006	Date: 9/3/09 Rev00

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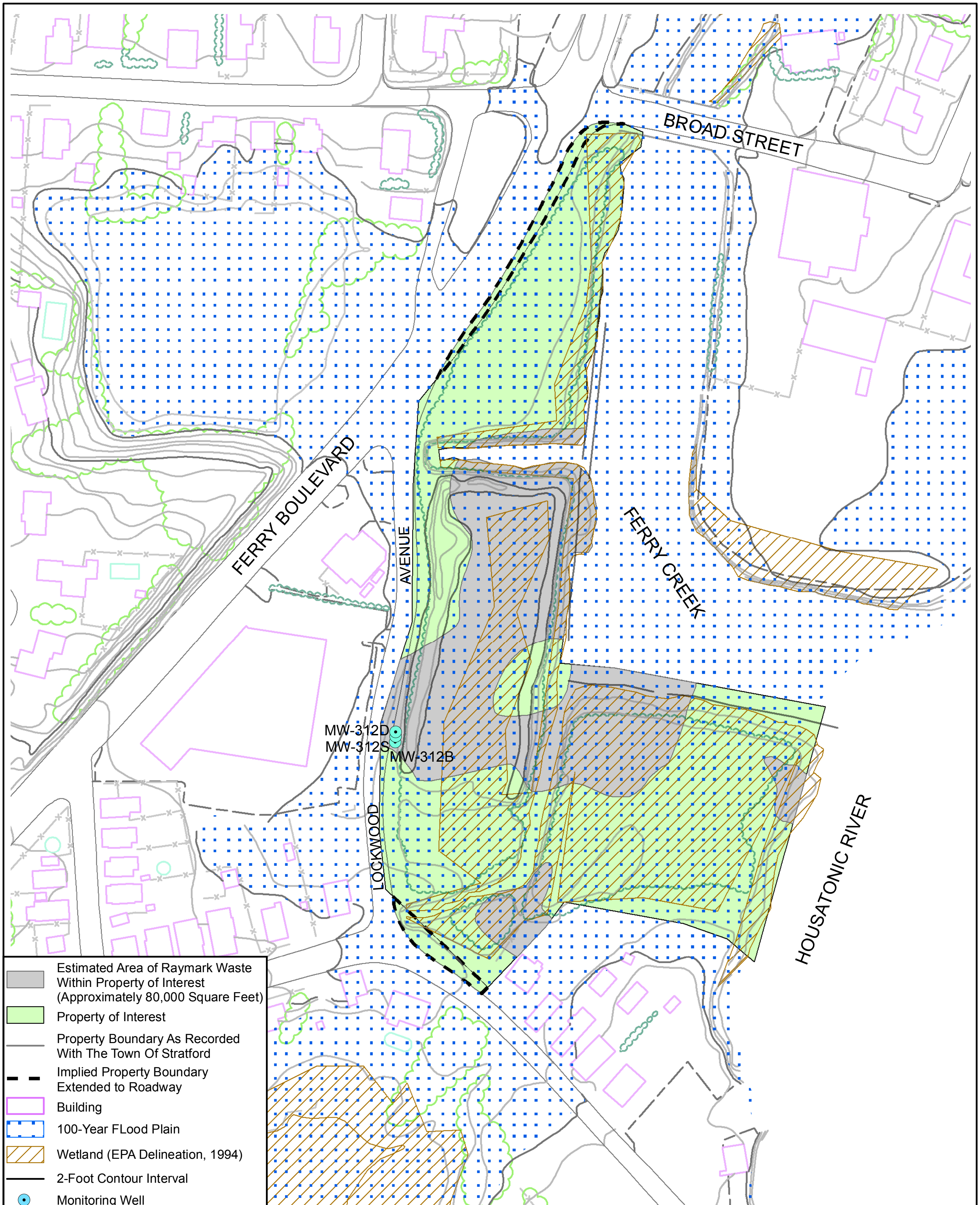
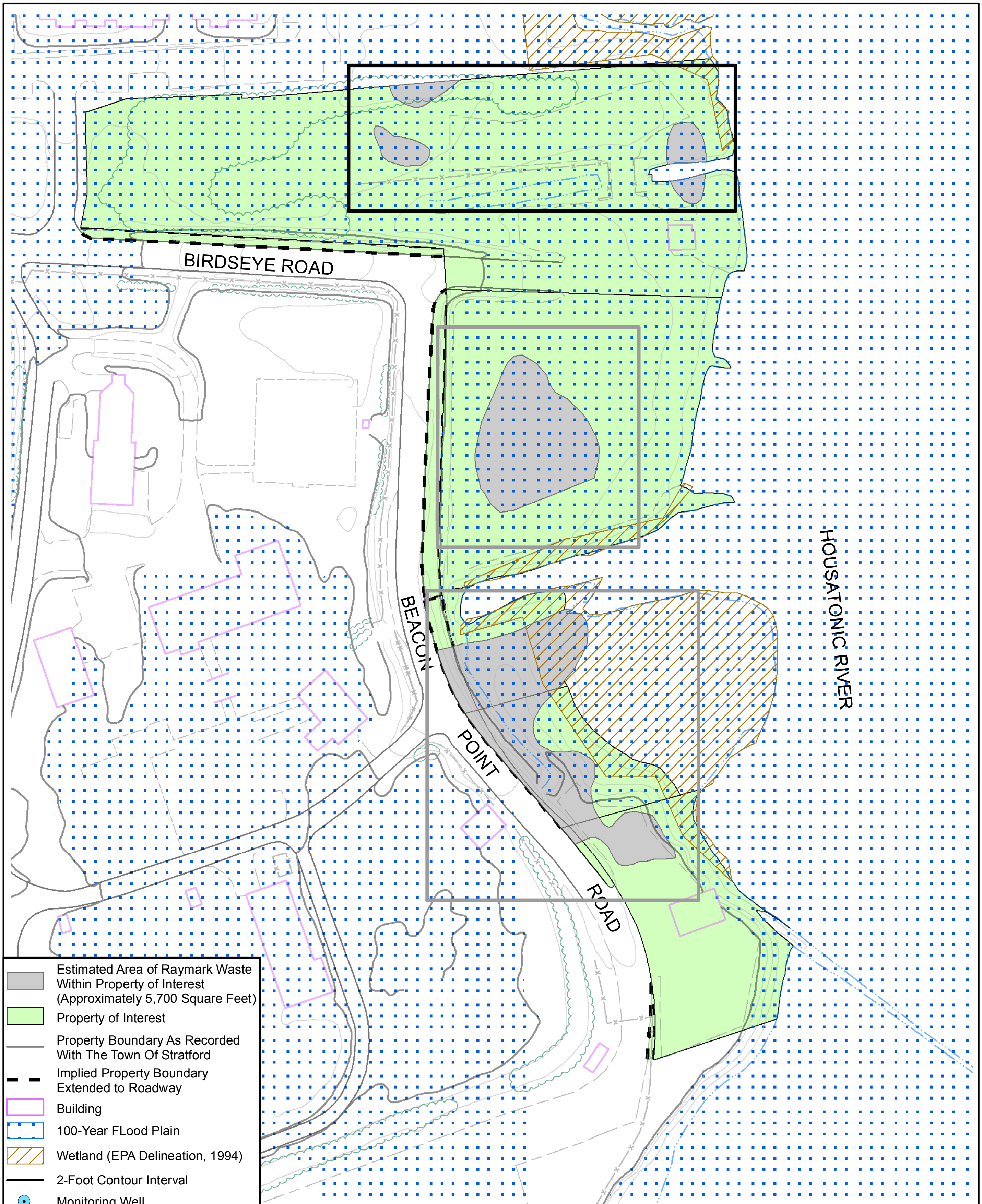


Notes:
1) Plan not to be used for design.
2) All locations to be considered approximate.
3) Property boundaries are approximate based on Town of Stratford Engineering Department plans.
4) Floodplain extent based on Federal Emergency Management Agency Q3 Flood Data, Community Panel Numbers 090016 0001-0004, Revised June 16, 1992, FEMA, Washington D.C. and modified to Town of Stratford Engineering Plan 10-foot contour.
5) Adapted from TTNUS Remedial Investigation, 2005.

FIGURE E-28

LOCKWOOD AVENUE PROPERTY
FEASABILITY STUDY
RAYMARK SUPERFUND SITE
STRATFORD, CONNECTICUT

Drawn By: D. McGrath	Approved By: H. Ford
Project: 80006	Date: 9/3/09 Rev00

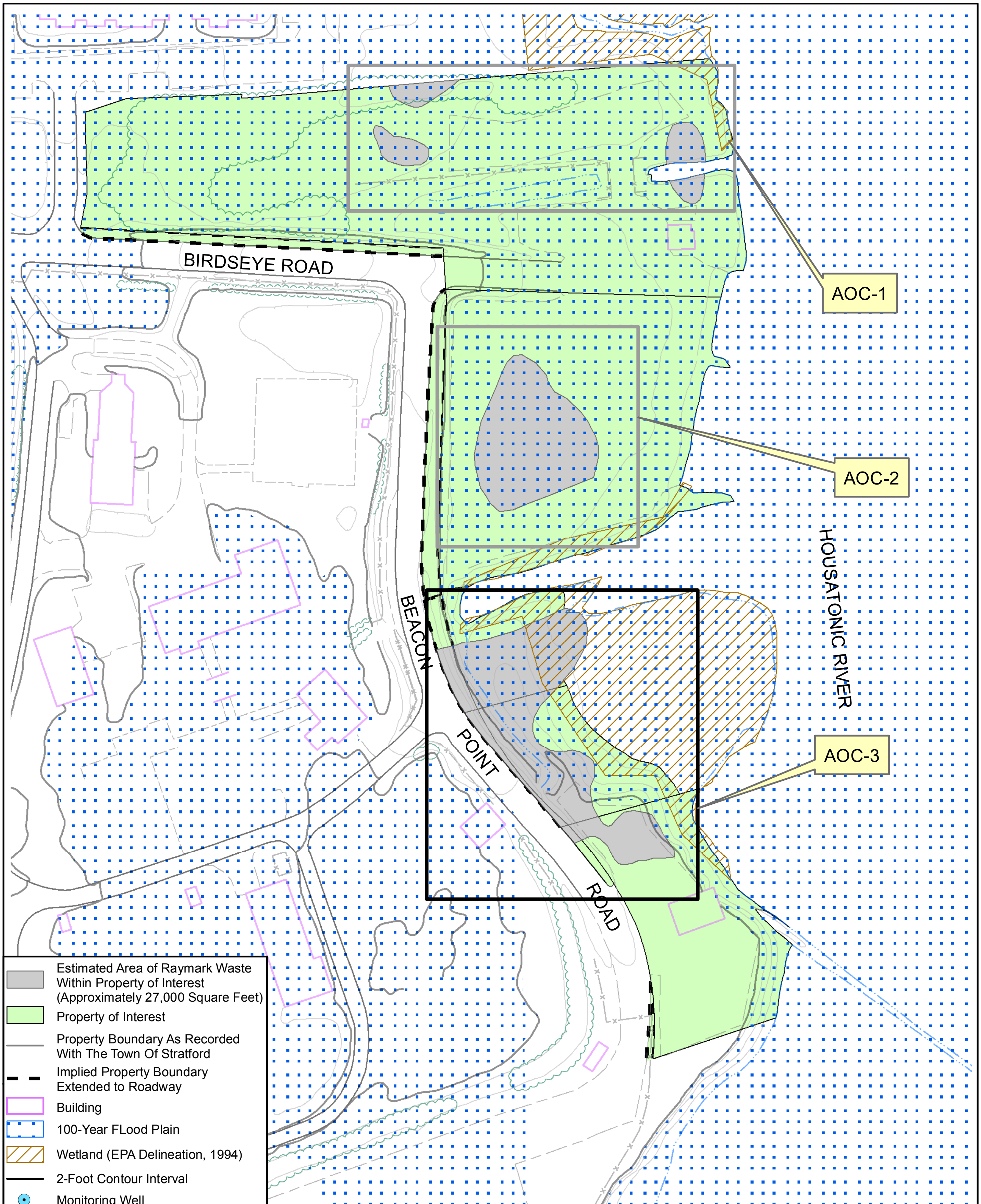


Notes:
1) Plan not to be used for design.
2) All locations to be considered approximate.
3) Property boundaries are approximate based on Town of Stratford Engineering Department plans.
4) Floodplain extent based on Federal Emergency Management Agency Q3 Flood Data, Community Panel Numbers 090016 0001-0004, Revised June 16, 1992, FEMA, Washington D.C. and modified to Town of Stratford Engineering Plan 10-foot contour.
5) Adapted from TTNUS Remedial Investigation, 2005.

FIGURE E-29

BEACON POINT
AREA OF CONCERN (AOC)-1
FEASABILITY STUDY
RAYMARK SUPERFUND SITE
STRATFORD, CONNECTICUT

Drawn By: D. McGrath	Approved By: H. Ford
Project: 80006	Date: 9/3/09 Rev00



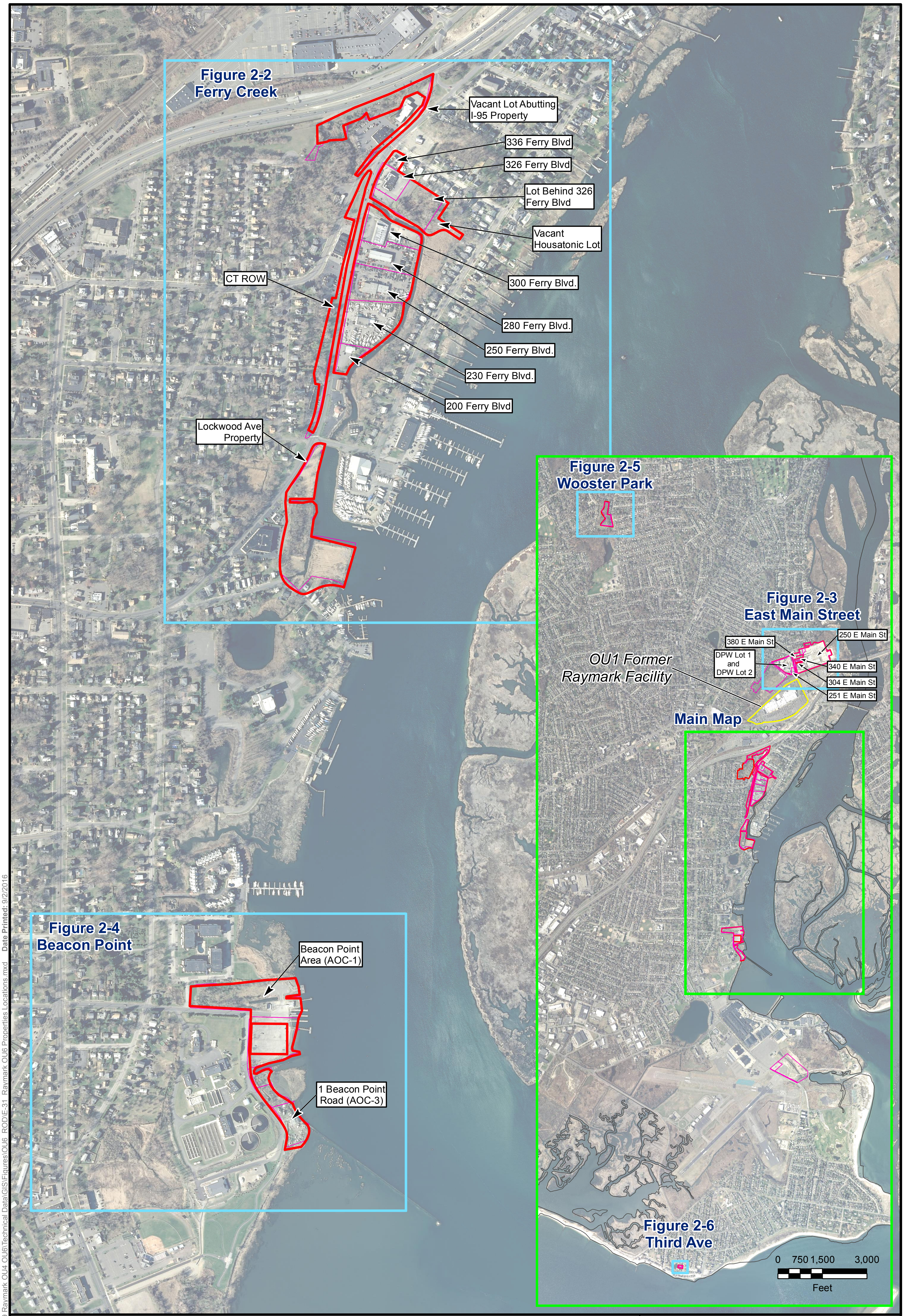
R:\80000 Task Orders\80006 Raymark\Technical Data\GIS_Data\Figures\OU6_FS_Figures\Figure_04-15_Beacon_Point_AOC3.mxd

Notes:
1) Plan not to be used for design.
2) All locations to be considered approximate.
3) Property boundaries are approximate based on Town of Stratford Engineering Department plans.
4) Floodplain extent based on Federal Emergency Management Agency Q3 Flood Data, Community Panel Numbers 090016 0001-0004, Revised June 16, 1992, FEMA, Washington D.C. and modified to Town of Stratford Engineering Plan 10-foot contour.
5) Adapted from TTNUS Remedial Investigation, 2005.

FIGURE E-30

BEACON POINT
AREA OF CONCERN (AOC)-3
FEASABILITY STUDY
RAYMARK SUPERFUND SITE
STRATFORD, CONNECTICUT

Drawn By: D. McGrath	Approved By: H. Ford
Project: 80006	Date: 07/08/10 Rev00



Notes:

1. Aerial photography from Connecticut Environmental Conditions Online (CT ECO) map service, 2012.

2. Locations of site features depicted hereon are approximate and given for illustrative purposes only.

0 300 600 1,200

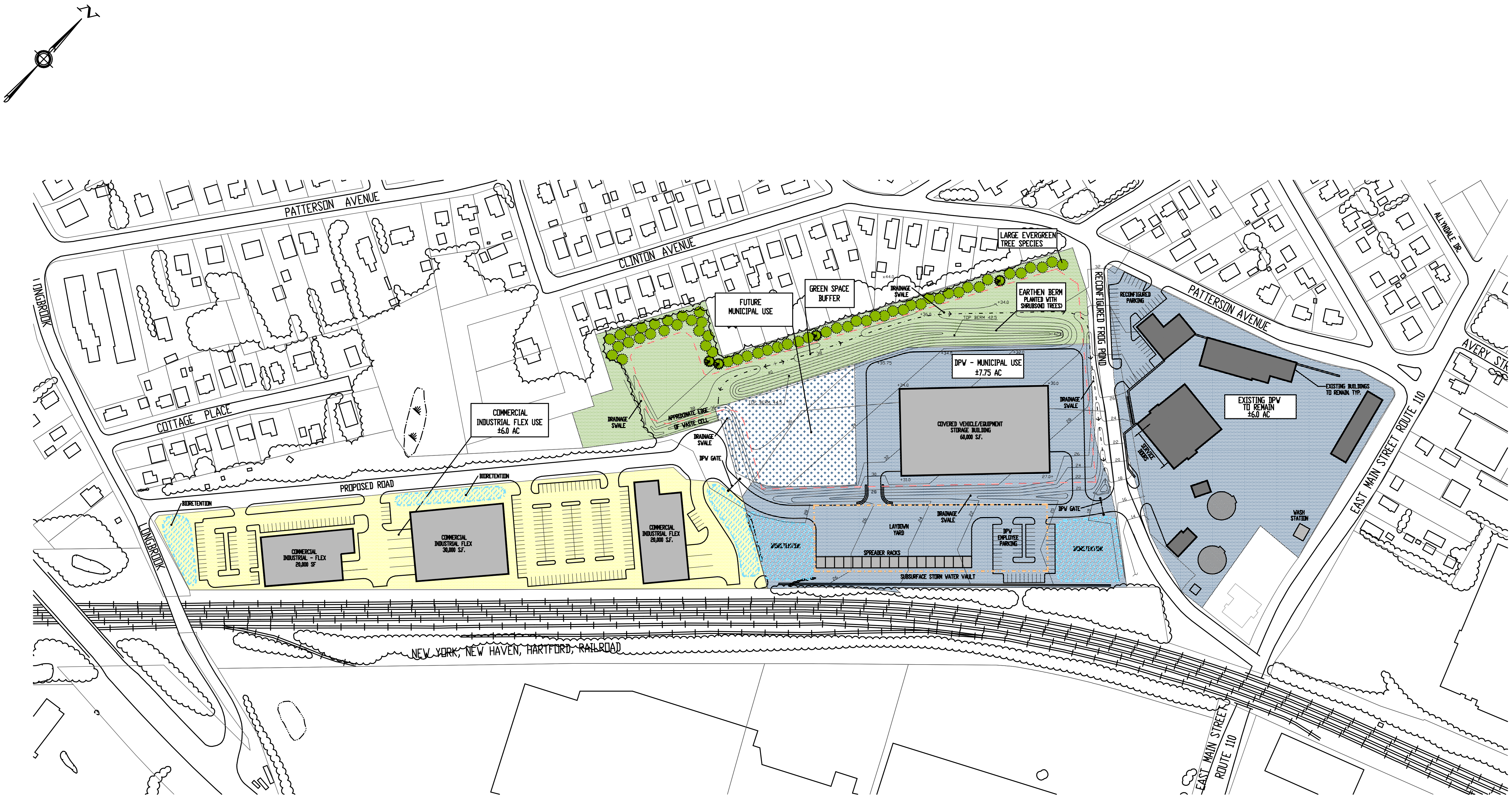
Feet

N

FIGURE E - 31

LOCATIONS OF
CURRENT 22 OU6 PROPERTIES
RAYMARK SUPERFUND SITE - OU6
STRATFORD, CONNECTICUT

PREPARED BY: JH	CHECKED BY: LC
PROJECT NO. 80099	DATE: JULY 2016



JULY 9, 2015

CONCEPTUAL LAND USE PLAN

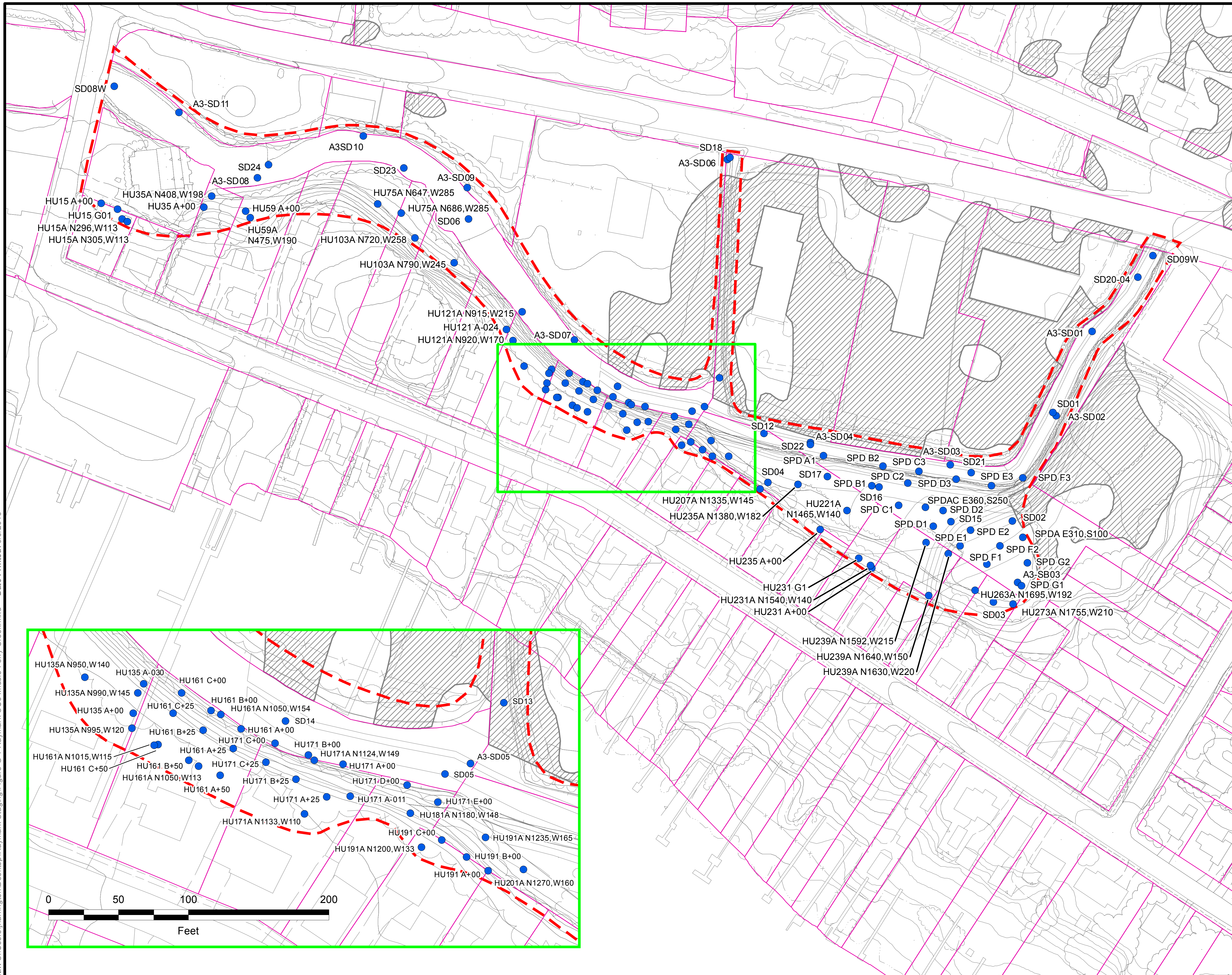
FIGURE F-1

RAYMARK SITE
STRATFORD, CT

0' 25' 50' 75' 100' 200' 500'
SCALE IN FEET

THIS PLAN SHALL BE CONSIDERED CONCEPTUAL IN NATURE AND SUBJECT TO DETAILED SITE DESIGN, ENGINEERING AND REGULATORY REVIEW.

FIGURE F-2



Path: C:\Users\jharrington\Desktop\Raymark Staging\Figure G-1 Raymark OU3 Middle Ferry Creek.mxd Date Printed: 9/6/2016

Notes:

1. Raymark waste in soil is defined as a single soil sample containing lead above 400 parts per million (ppm) [or mg/Kg], and asbestos (chrysotile, only) greater than 1 percent, and either copper above 288 ppm or polychlorinated biphenyls (PCBs) (Aroclor 1268, only) above 1 ppm.

2. Location of site features depicted hereon is approximate and given for illustrative purposes only.

Legend

- Middle Ferry Creek Borings
- Limit of OU3
- Property Line

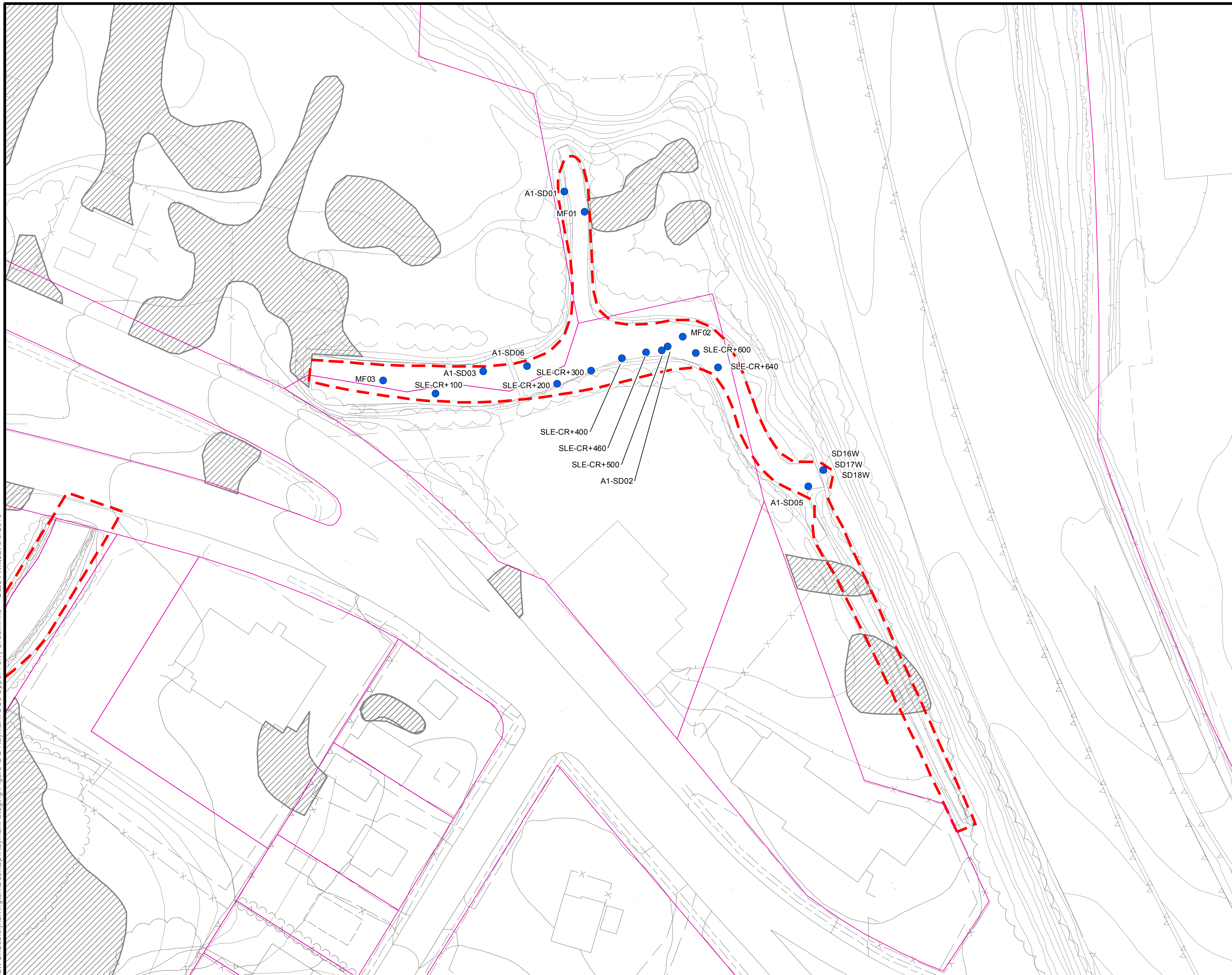
0 75 150 300
Feet
1 inch = 150 feet

N

FIGURE G-1

OU3 - MIDDLE FERRY CREEK
HHRA LOCATIONS
RAYMARK - OU3
FEASIBILITY STUDY
STRATFORD, CONNECTICUT

PREPARED BY: JH	CHECKED BY: CW
PROJECT NO. 80099	DATE: OCTOBER 2015



Notes:

1. Raymark waste in soil is defined as a single soil sample containing lead above 400 parts per million (ppm) [or mg/Kg], and asbestos (chrysotile, only) greater than 1 percent, and either copper above 288 ppm or polychlorinated biphenyls (PCBs) (Aroclor 1268, only) above 1 ppm.

2. Location of site features depicted hereon is approximate and given for illustrative purposes only.

Legend

- Upper Ferry Creek Borings
- Limit of OU3
- Property Line

0 40 80 160

Feet

1 inch = 80 feet

N

FIGURE G-2

OU3 - UPPER FERRY CREEK
HHRA LOCATIONS
RAYMARK - OU3
FEASIBILITY STUDY
STRATFORD, CONNECTICUT

PREPARED BY: JH	CHECKED BY: CW
PROJECT NO. 80099	DATE: OCTOBER 2015

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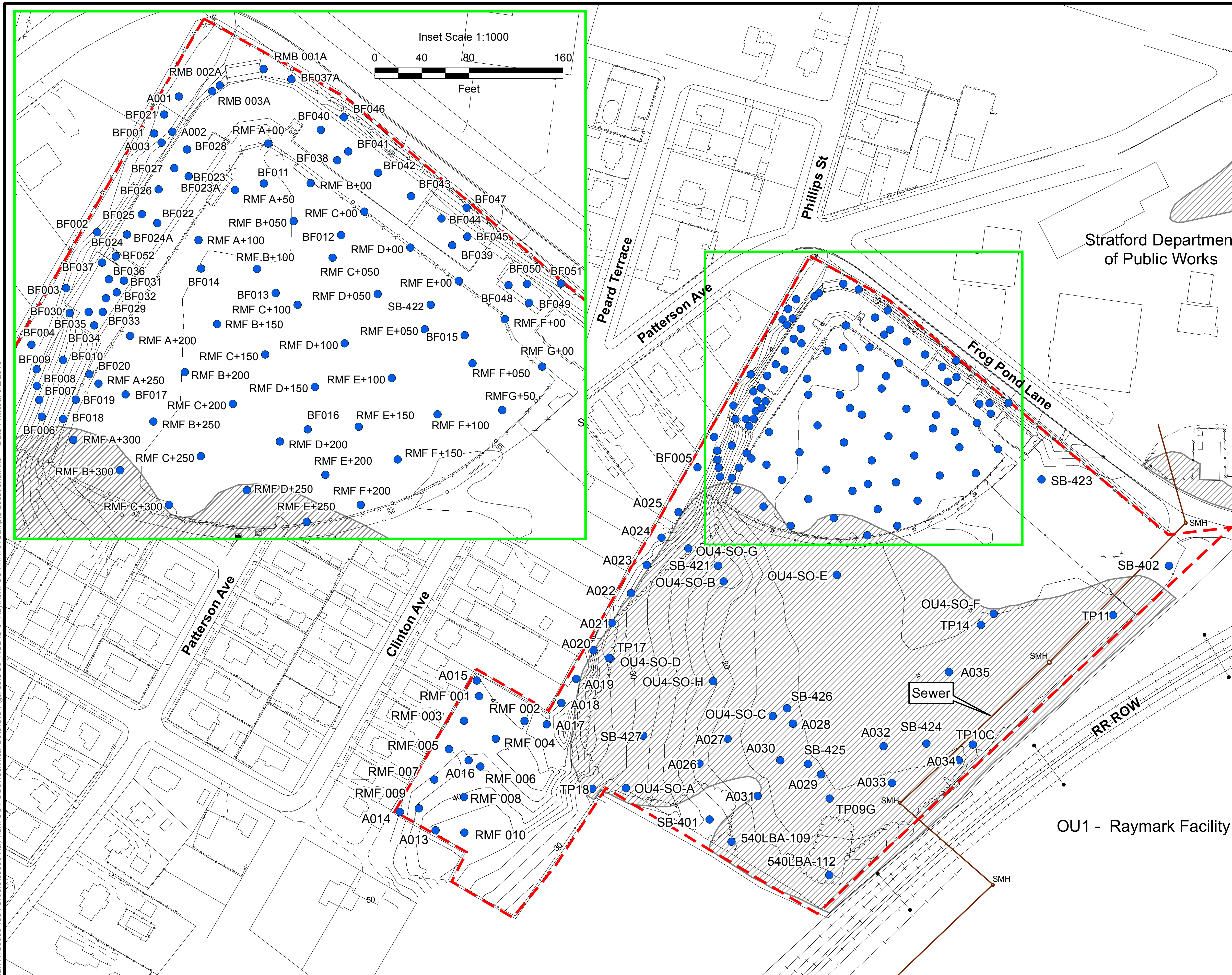


Notes:

1. Raymark waste in soil is defined as a single soil sample containing lead above 400 parts per million (ppm) [or mg/Kg], and asbestos (chrysotile, only) greater than 1 percent, and either copper above 288 ppm or polychlorinated biphenyls (PCBs) (Aroclor 1268, only) above 1 ppm.

2. Base plan from plan titled 'Study Area - Raymark OU4 - Ballfield Site' by Tetra Tech NUS, July 29, 1999.

3. Location of site features depicted hereon is approximate and given for illustrative purposes only.

Legend

- OU4 Sample Locations
- OU4 Area
- Raymark Waste Areas
- Sewer

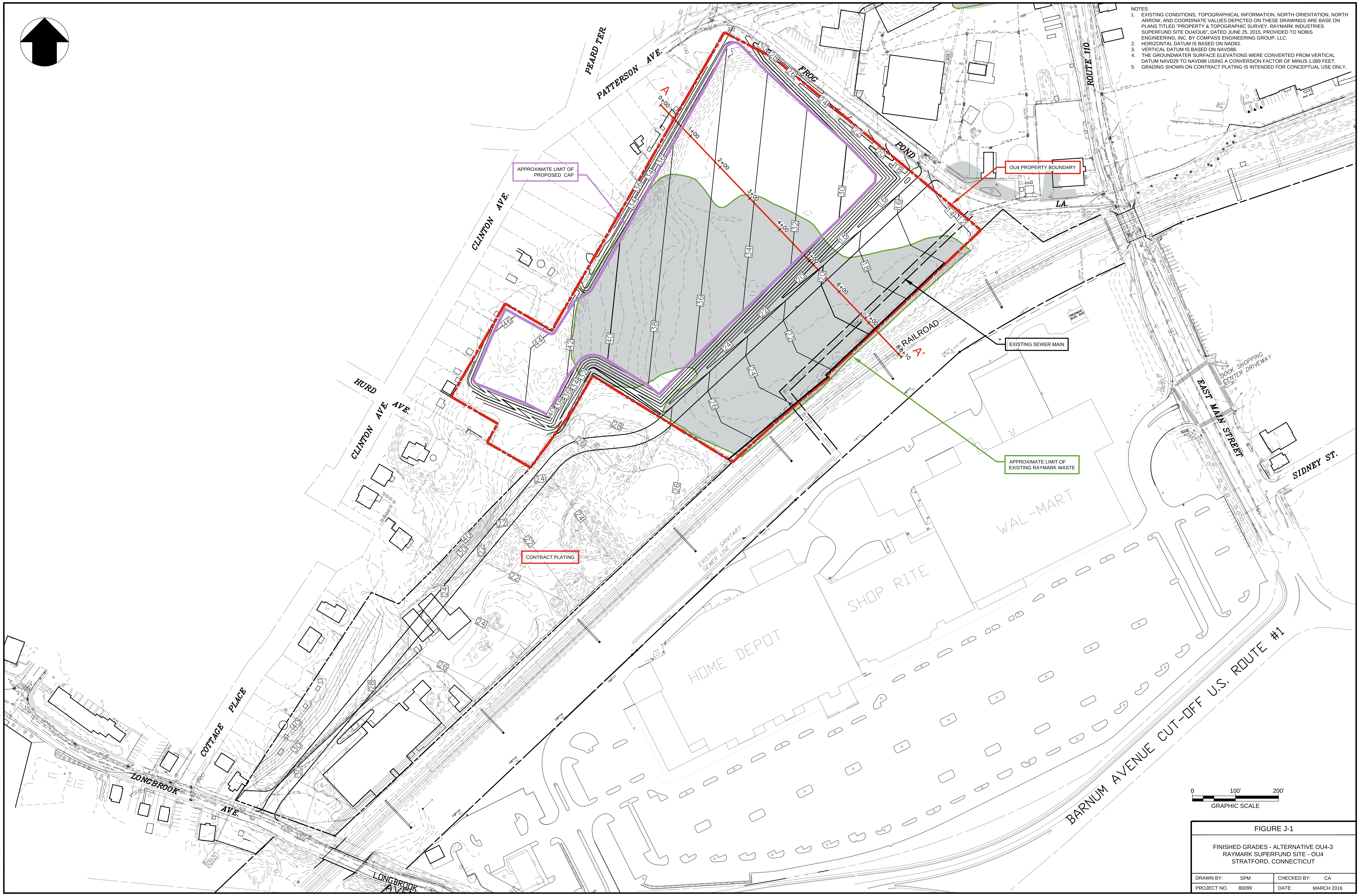
0 75 150 300
Feet
1 inch = 150 feet

N

FIGURE G - 3

HHRA SAMPLE LOCATIONS
RAYMARK SUPERFUND SITE - OU4
STRATFORD, CONNECTICUT

PREPARED BY: JH	CHECKED BY: LC
PROJECT NO. 80099	DATE: OCTOBER 2015



NOTES:

1. EXISTING CONDITIONS, TOPOGRAPHICAL INFORMATION, NORTH ORIENTATION, NORTH ARROW, AND COORDINATE VALUES DEPICTED ON THESE DRAWINGS ARE BASE ON PLANS TITLED "PROPERTY & TOPOGRAPHIC SURVEY, RAYMARK INDUSTRIES SUPERFUND SITE OU4/OU6", DATED JUNE 25, 2015, PROVIDED TO NOBIS ENGINEERING, INC. BY COMPASS ENGINEERING GROUP, LLC.
2. HORIZONTAL DATUM IS BASED ON NAD83.
3. VERTICAL DATUM IS BASED ON NAVD88.
4. THE GROUNDWATER SURFACE ELEVATIONS WERE CONVERTED FROM VERTICAL DATUM NAVD29 TO NAVD88 USING A CONVERSION FACTOR OF MINUS 1.089 FEET.
5. GRADING SHOWN ON CONTRACT PLATING IS INTENDED FOR CONCEPTUAL USE ONLY.

FIGURE J-1

FINISHED GRADES - ALTERNATIVE OU4-3
RAYMARK SUPERFUND SITE - OU4
STRATFORD, CONNECTICUT

DRAWN BY:	SPM	CHECKED BY:	CA
PROJECT NO.	80099	DATE:	MARCH 2016

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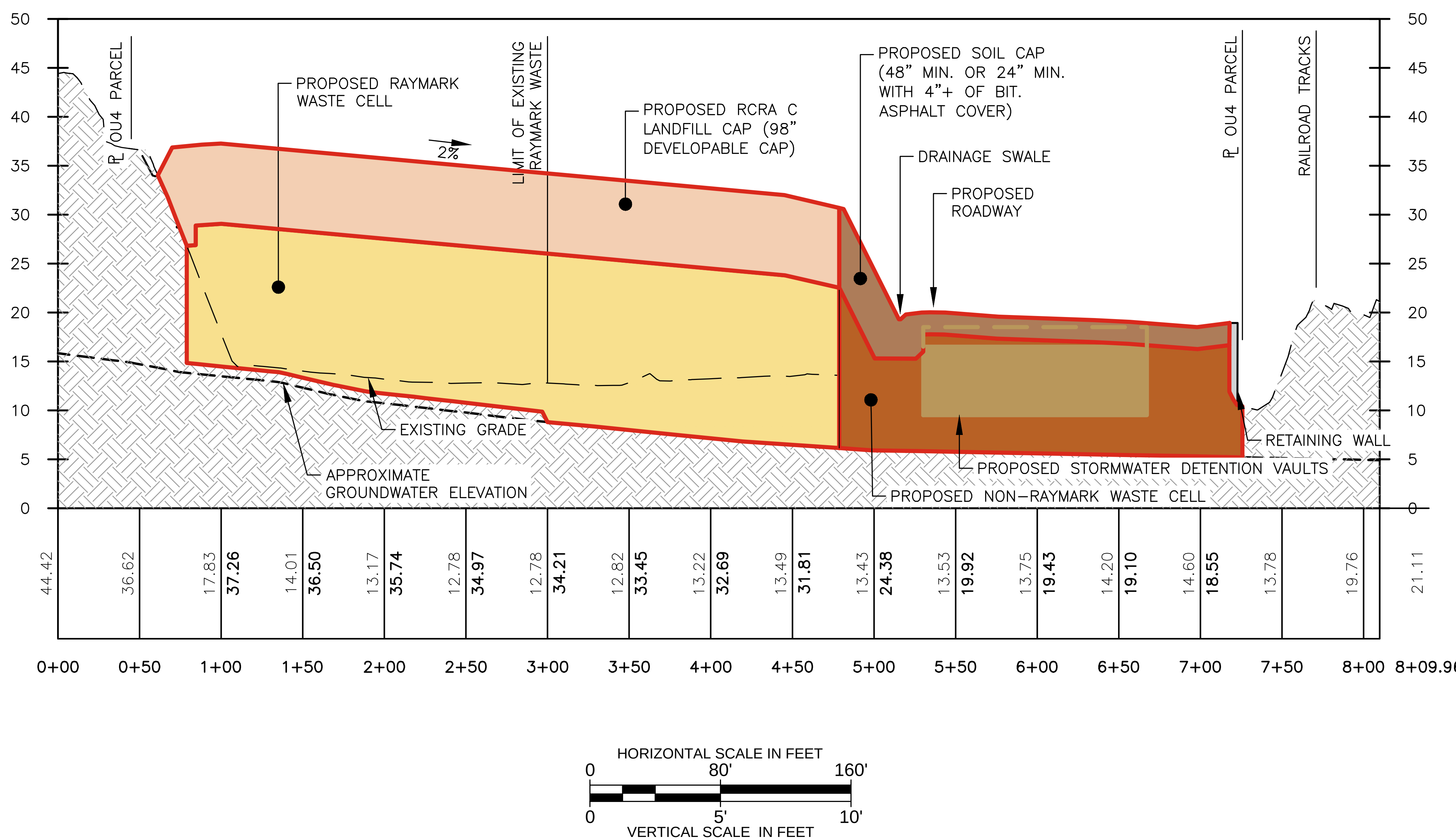

FIGURE J-2

CROSS SECTION - ALTERNATIVE OU4-3
RAYMARK SUPERFUND SITE - OU4
STRATFORD, CONNECTICUT

DRAWN BY:	SPM	CHECKED BY:	CA
PROJECT NO.	80099	DATE:	MARCH 2016

Notes:

1. The Vapor Intrusion Action Properties Area was developed from the broader Areas of Potential for VI and VI Study Area based on available groundwater, soil gas, and indoor air data, VI screening criteria, and qualitative lines of evidence, such as potentially exposed populations, building foundation type and condition, and potential for migration of COCs from groundwater

2. SSD= Sub-slab depressurization vapor mitigation system.

3. Residential SSD Systems installed during removal actions in 2001-2004. Status shown is based on CTDEEP inspections in 2014/2015.

4. Current property use of 500 Ferry Boulevard is commercial, but zoning is residential.

5. Aerial photo is from Connecticut Environmental Conditions Online (CT ECO) map service, 2012.

6. Locations of site features depicted hereon are approximate and given for illustrative purposes only.

Legend

- Existing SSD System in Place
- Proposed SSD System
- Vapor Intrusion Action Properties

0 200 400 800

Feet

N

FIGURE M - 1

VAPOR INTRUSION ACTION PROPERTIES
RAYMARK - OU2 - GROUNDWATER
STRATFORD, CONNECTICUT

PREPARED BY: JH	CHECKED BY: DB
PROJECT NO. 80043	DATE: JUNE 2016

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NOTES:

1. PROPOSED CAP IS ASSUMED TO BE 98" WITHIN DEVELOPABLE AREAS AND 42" WITHIN NON-DEVELOPABLE AREAS INCLUDING COVER SOILS, GEOSYNTHETIC DRAINAGE LAYER, GEOMEMBRANE LINER, GEOSYNTHETIC CLAY LINER, AND CUSHION LAYER.
2. RAYMARK WASTE OUTSIDE OF THE PROPOSED CAP IS ASSUMED TO BE EXCAVATED DOWN TO GROUNDWATER AND CONSOLIDATED WITHIN THE CAP FOOTPRINT. RAYMARK WASTE OUTLINE SHOWN ON FIGURE 5-4.
3. NON-RAYMARK WASTE AREA WITHIN THE PROPOSED CAP IS ASSUMED TO BE EXCAVATED TO WITHIN 1 FOOT OF GROUNDWATER AND CONSOLIDATED OUTSIDE OF THE PROPOSED CAP FOOTPRINT. RAYMARK WASTE OUTLINE SHOWN ON FIGURE 5-4.
4. GROUNDWATER DATA IS APPROXIMATE AND BASED ON GAUGING DATA OBTAINED IN 2009 BY NOBIS ENGINEERING (NOBIS, 2014).
5. PROPOSED ROADWAY LOCATION WAS SELECTED BASED UPON OPTIMIZING SPACE TO CAP AN ADDITIONAL 85,000 CUBIC YARDS OF IMPORTED RAYMARK WASTE AND PROVIDING AN AREA TO STORE AND TREAT STORMWATER RUNOFF AS NECESSARY ACCOUNTING FOR DEVELOPMENT.
6. UNDERGROUND STORMWATER VAULTS AND BIORETENTION SHOWN ON THIS PLAN ARE REPRESENTATIVE OF THE TOTAL REQUIRED AREAS FOR STORMWATER STORAGE AND TREATMENT FOR THIS DEVELOPMENT. LOCATION AND SHAPE WILL CHANGE DURING REMEDIAL DESIGN.
7. BIORETENTION IS PROVIDED FOR TREATMENT OF THE RUNOFF FROM THE PROPOSED DEVELOPMENT AREAS. BIORETENTION AREAS SHOWN ON THE PLAN COULD BE DIVIDED UP INTO SMALLER AREAS SUCH AS PARKING LOT PERIMETER LANDSCAPE ISLANDS AND/OR INTERIOR LANDSCAPE ISLANDS.
8. ALL STORMWATER RUNOFF FROM DEVELOPABLE AREAS IS TREATED BY THE BIORETENTION AREAS BEFORE BEING DIRECTED TO THE UNDERGROUND STORMWATER VAULTS.
9. OUTFLOW FROM THE STORMWATER VAULTS IS RESTRICTED BY AN 18" DIAMETER PIPE BASED ON ASSUMPTIONS FOR EXISTING DOWNSTREAM MUNICIPAL SYSTEM RECEIVING CAPACITY.
10. CONVEYANCE OF STORMWATER FROM THE VAULTS IS VIA A NEW 18" DIAMETER PIPE TO A CATCH BASIN AT THE INTERSECTION WITH EAST MAIN STREET.
11. UNDERGROUND STORMWATER VAULTS ARE LOCATED OUTSIDE THE PROPOSED CAP AREA. BIORETENTION CAN BE LOCATED OVER THE CAP AREA IF DESIRED ASSUMING AREAS ARE UNDERLAIN BY A LINER SYSTEM.
12. NOTE BIORETENTION MAY BE ABLE TO BE CONSTRUCTED OVER STORMWATER VAULTS DEPENDING ON CONFIGURATION AND INVERT DATA.
13. CONCEPT ASSUMES DEVELOPMENT OVER THE PROPOSED CAP AND SOUTH OF THE PROPOSED ROAD ON OU4 ONLY. HOWEVER THE UNDERGROUND STORMWATER VAULTS ON OU4 HAVE BEEN SIZED TO ACCOMMODATE STORMWATER RUNOFF FROM CONTRACT PLATING. ANY STORMWATER TREATMENT REQUIRED FROM CONTRACT PLATING RUNOFF WILL NEED TO BE TREATED PRIOR TO ENTERING THE STORMWATER VAULTS LOCATED ON OU4.
14. PROPOSED CAP SECTION DESIGNED TO ALLOW FOR UTILITIES INSTALLATION WITHIN THE CAP SECTION ABOVE THE GEOMEMBRANE IN DEVELOPABLE AREAS.
15. ASSUMED NON-RAYMARK WASTE AREAS WILL BE CAPPED USING A SOIL CAP WITH A DEPTH OF 48" IN UNDEVELOPED AREAS AND 24" IN DEVELOPABLE AREAS PLUS 4" OF PAVEMENT.
16. EXCAVATION ON OU4 ASSUMES NO LEDGE REMOVAL IS NECESSARY. HOWEVER LEDGE REMOVAL IS ANTICIPATED TO CONSTRUCT THE ROADWAY ON CONTRACT PLATING AS THERE IS EXPOSED LEDGE ALONG THE NORTHWESTERN PROPERTY BOUNDARY.
17. ASSUMED RAYMARK WASTE AROUND THE EXISTING SEWER SYSTEM ON THE OU4 SITE WILL NEED TO BE EXCAVATED AND REPLACED WITH CLEAN FILL.
18. GEOTECHNICAL CONSIDERATIONS HAVE NOT BEEN EVALUATED TO DETERMINE DEVELOPMENT OPTIONS OVER THE PROPOSED CAP.
19. THIS ALTERNATIVE ASSUMES APPROXIMATELY 16,000 CUBIC YARDS OF NON-RAYMARK WASTE WILL BE TRANSPORTED OFF-SITE FOR DISPOSAL TO CREATE CAPACITY FOR FULL 85,000 CUBIC YARDS OF RAYMARK WASTE FROM OFF-SITE. IF DEEMED CLEAN THROUGH SAMPLING, MAY BE USED FOR COMMON FILL FOR ROAD CONSTRUCTION ON CONTRACT PLATING OR FOR COMMON FILL ON OU4.

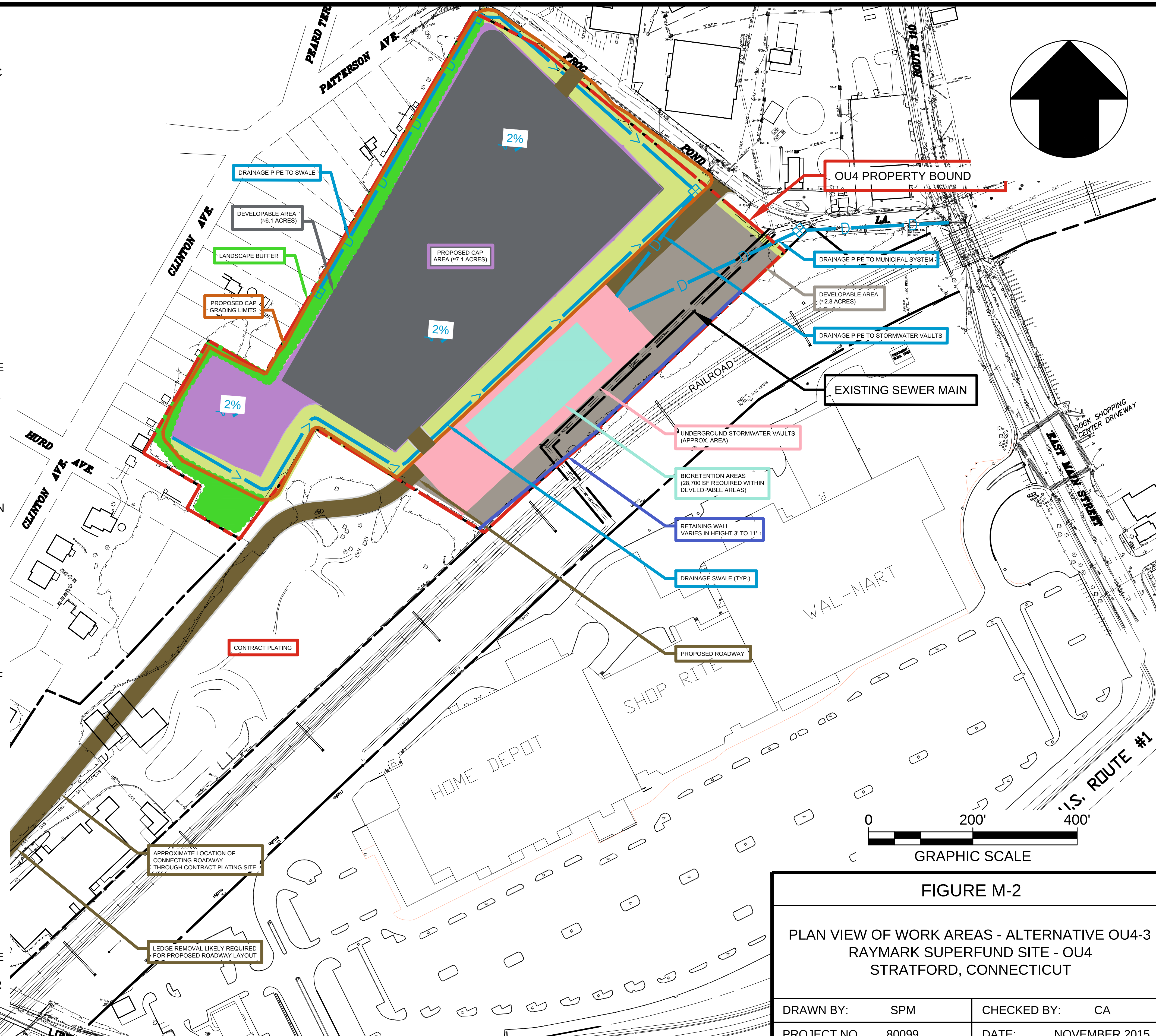

FIGURE M-2

PLAN VIEW OF WORK AREAS - ALTERNATIVE OU4-3
RAYMARK SUPERFUND SITE - OU4
STRATFORD, CONNECTICUT

DRAWN BY:	SPM	CHECKED BY:	CA
PROJECT NO.	80099	DATE:	NOVEMBER 2015

APPENDIX B: TABLES

Table E-1
2009/10 Groundwater Data Summary Statistics and Criteria Comparisons
Raymark - OU2 - Groundwater
Stratford, Connecticut

Parameter	Frequency of Detection	Average Detected Concentration	Minimum Concentration	Maximum Concentration	Maximum Location	2014 Residential Groundwater Vapor Intrusion Screening Level[1]	Number of Samples that Exceed 2014 Residential Groundwater Vapor Intrusion Screening Level	2014 Commercial /Industrial Groundwater Vapor Intrusion Screening Level[1]	Number of Samples that Exceed 2014 Commercial /Industrial Groundwater Vapor Intrusion Screening Level	2013 Connecticut Groundwater Residential Volatilization Criteria	Number of Samples that Exceed 2013 Connecticut Groundwater Residential Volatilization Criteria	2013 Connecticut Groundwater Commercial/ Industrial Volatilization Criteria	Number of Samples that Exceed 2013 Connecticut Groundwater Commercial/ Industrial Volatilization Criteria	2013 Connecticut Surface Water Protection Criteria	Number of Samples that Exceed 2013 Connecticut Surface Water Protection Criteria	2015 Maximum Contaminant Level	Number of Samples that Exceed 2015 Maximum Contaminant Level
Volatile Organic Compounds (µg/l)																	
1,1,1-Trichloroethane	81 of 155	2910	0.59	140000	MW-PC02D	7420	3	31200	2	20400	3	50000	1	62000	1	200	27
1,1,2-Trichloro-1,2,2-trifluoroethane	1 of 92	8.9	8.9	8.9	MW-211B	1460	0	6110	0	NS	NA	NS	NA	NS	NA	NS	NA
1,1,2-Trichloroethane	19 of 156	6.63	1.1	21	MW-PC02D	5.21	7	22.8	0	8000	0	19600	0	1260	0	5	7
1,1-Dichloroethane	**96 of 155**	**163**	**0.28**	**4600**	**MW-PC02B**	**7.64**	**73**	**33.4**	**43**	**34600**	**0**	**50000**	**0**	**NS**	**NA**	**NS**	**NA**
1,1-Dichloroethene	**84 of 153**	**935**	**1.2**	**22000**	**MW-PC02D**	**196**	**28**	**821**	**12**	**1**	**84**	**6**	**67**	**96**	**35**	**7**	**67**
1,2-Dichloroethane	12 of 156	4.2	1.2	18	MW-PC16B	2.24	4	9.78	1	21	0	90	0	2970	0	5	3
1,4-Dioxane	5 of 5	467	350	580	MW-104D	NS	NA	NS	NA	NS	NA	NS	NA	NS	NA	NS	NA
2-Butanone	1 of 92	630	630	630	MW-203D	2200000	0	9400000	0	50000	0	50000	0	NS	NA	NS	NA
Acetone	2 of 92	197	34	360	MW-211B	23000000	0	95000000	0	50000	0	50000	0	NS	NA	NS	NA
Benzene	**33 of 156**	**11.3**	**1.2**	**81**	**CRA-6S**	**1.59**	**30**	**6.93**	**15**	**215**	**0**	**530**	**0**	**710**	**0**	**5**	**17**
Carbon disulfide	1 of 92	9.9	9.9	9.9	MW-211B	1240	0	5210	0	NS	NA	NS	NA	NS	NA	NS	NA
Chlorobenzene	**82 of 156**	**149**	**1**	**3500**	**MW-PC03S**	**410**	**6**	**1720**	**2**	**1800**	**2**	**6150**	**0**	**420000**	**0**	**100**	**10**
Chloroethane	7 of 92	51.2	4.3	230	CRA-4S	23000	0	96500	0	NS	NA	NS	NA	NS	NA	NS	NA
Chloroform	**28 of 156**	**6.64**	**0.38**	**23**	**MW-PC14D**	**0.814**	**26**	**3.55**	**15**	**287**	**0**	**710**	**0**	**14100**	**0**	**80**	**0**
cis-1,2-Dichloroethene	60 of 92	280	0.37	1600	MW-104D	NS	NA	NS	NA	NS	NA	NS	NA	NS	NA	70	34
Cyclohexane	5 of 92	84.9	9.6	220	CRA-5S	1020	0	4290	0	NS	NA	NS	NA	NS	NA	NS	NA
Ethylbenzene	**5 of 153**	**12.1**	**1.4**	**34**	**MW-PC04S**	**3.49**	**3**	**15.2**	**2**	**50000**	**0**	**50000**	**0**	**580000**	**0**	**700**	**0**
Isopropylbenzene	3 of 92	3.8	2.1	4.9	CRA-5D	887	0	3730	0	NS	NA	NS	NA	NS	NA	NS	NA
m,p-Xylene	6 of 152	29.2	6.8	84	MW-PC04S	493	0	2070	0	NS	NA	NS	NA	NS	NA	NS	NA
Methyl tert-butyl ether	29 of 156	84.7	1	1100	MW-PC01M	450	1	1970	0	50000	0	50000	0	NS	NA	NS	NA
Methylcyclohexane	7 of 92	475	13	1700	CRA-5S	NS	NA	NS	NA	NS	NA	NS	NA	NS	NA	NS	NA
Methylene chloride	8 of 156	39	1.1	120	MW-PC14D	763	0	9230	0	50000	0	50000	0	48000	0	5	5
o-Xylene	6 of 156	11.2	1	32	MW-PC14D	493	0	2070	0	NS	NA	NS	NA	NS	NA	NS	NA
Tetrachloroethene	43 of 154	6.11	1	51	MW-506D	14.9	5	65.2	0	1500	0	3820	0	88	0	5	14
Toluene	2 of 92	19.5	12	27	MW-310D	19200	0	80700	0	23500	0	50000	0	4000000	0	1000	0
trans-1,2-Dichloroethene	4 of 92	2.55	1.1	3.4	MW-104D	NS	NA	NS	NA	NS	NA	NS	NA	NS	NA	100	0
Trichloroethene	**91 of 154**	**562**	**0.35**	**7800**	**MW-PC14D**	**1.19**	**89**	**7.43**	**76**	**219**	**33**	**540**	**21**	**2340**	**5**	**5**	**80**
Vinyl chloride	**56 of 156**	**65.5**	**1.6**	**440**	**MW-207SR**	**0.147**	**56**	**2.45**	**50**	**2**	**51**	**2**	**51**	**15750**	**0**	**2**	**51**
Semivolatiles (µg/l)																	
2,4-Dimethylphenol	2 of 90	6.2	2.6	9.8	MW-110S	NS	NA	NS	NA	NS	NA	NS	NA	NS	NA	NS	NA
2,4-Dinitrophenol	1 of 92	2.7	2.7	2.7	MW-506M	NS	NA	NS	NA	NS	NA	NS	NA	NS	NA	NS	NA
2-Methylnaphthalene	11 of 92	0.435	0.11	2.1	CRA-6S	NS	NA	NS	NA	NS	NA	NS	NA	NS	NA	NS	NA
2-Methylphenol	1 of 91	5.5	5.5	5.5	MW-110S	NS	NA	NS	NA	NS	NA	NS	NA	NS	NA	NS	NA
2-Nitrophenol	4 of 91	10	1	25	MW-505D	NS	NA	NS	NA	NS	NA	NS	NA	NS	NA	NS	NA
3-Nitroaniline	1 of 92	2.8	2.8	2.8	MW-505D	NS	NA	NS	NA	NS	NA	NS	NA	NS	NA	NS	NA
4,6-Dinitro-2-methylphenol	1 of 92	11	11	11	MW-506M	NS	NA	NS	NA	NS	NA	NS	NA	NS	NA	NS	NA
4-Chloro-3-methylphenol	1 of 91	1	1	1	MW-505D	NS	NA	NS	NA	NS	NA	NS	NA	NS	NA	NS	NA
4-Chloroaniline	1 of 88	3.4	3.4	3.4	MW-505D	NS	NA	NS	NA	NS	NA	NS	NA	NS	NA	NS	NA
4-Methylphenol	3 of 91	66.7	1.2	100	MW-110S	NS	NA	NS	NA	NS	NA	NS	NA	NS	NA	NS	NA
4-Nitrophenol	13 of 92	83.4	3.2	440	MW-505D	NS	NA	NS	NA	NS	NA	NS	NA	NS	NA	NS	NA

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2009/10 Groundwater Data Summary Statistics and Criteria Comparisons
Raymark - OU2 - Groundwater
Stratford, Connecticut

Parameter	Frequency of Detection	Average Detected Concentration	Minimum Concentration	Maximum Concentration	Maximum Location	2014 Residential Groundwater Vapor Intrusion Screening Level[1]	Number of Samples that Exceed 2014 Residential Groundwater Vapor Intrusion Screening Level	2014 Commercial /Industrial Groundwater Vapor Intrusion Screening Level[1]	Number of Samples that Exceed 2014 Commercial /Industrial Groundwater Vapor Intrusion Screening Level	2013 Connecticut Groundwater Residential Volatilization Criteria	Number of Samples that Exceed 2013 Connecticut Groundwater Residential Volatilization Criteria	2013 Connecticut Groundwater Commercial/ Industrial Volatilization Criteria	Number of Samples that Exceed 2013 Connecticut Groundwater Commercial/ Industrial Volatilization Criteria	2013 Connecticut Surface Water Protection Criteria	Number of Samples that Exceed 2013 Connecticut Surface Water Protection Criteria	2015 Maximum Contaminant Level	Number of Samples that Exceed 2015 Maximum Contaminant Level
Acenaphthene	8 of 92	1.22	0.11	5.4	MW-209S	NS	NA	NS	NA	NS	NA	NS	NA	NS	NA	NS	NA
Acenaphthylene	2 of 92	0.245	0.11	0.38	MW-110S	NS	NA	NS	NA	NS	NA	NS	NA	0.3	1	NS	NA
Anthracene	14 of 92	0.209	0.11	0.64	MW-209S	NS	NA	NS	NA	NS	NA	NS	NA	1100000	0	NS	NA
Benzo(a)anthracene	4 of 92	0.388	0.14	0.67	MW-529S	NS	NA	NS	NA	NS	NA	NS	NA	0.3	3	NS	NA
Benzo(a)pyrene	4 of 92	0.298	0.21	0.34	MW-529S	NS	NA	NS	NA	NS	NA	NS	NA	0.3	3	0.2	4
Benzo(b)fluoranthene	4 of 92	0.502	0.25	0.8	MW-110D	NS	NA	NS	NA	NS	NA	NS	NA	0.3	3	NS	NA
Benzo(g,h,i)perylene	3 of 92	0.2	0.12	0.26	MW-110D	NS	NA	NS	NA	NS	NA	NS	NA	NS	NA	NS	NA
Benzo(k)fluoranthene	3 of 92	0.163	0.1	0.24	MW-110D	NS	NA	NS	NA	NS	NA	NS	NA	0.3	0	NS	NA
Bis(2-ethylhexyl)phthalate	4 of 92	3.2	1	8.1	CRA-4S	NS	NA	NS	NA	NS	NA	NS	NA	59	0	6	1
Caprolactam	26 of 91	7.13	1.2	19	MW-215S	NS	NA	NS	NA	NS	NA	NS	NA	NS	NA	NS	NA
Chrysene	6 of 92	0.295	0.12	0.55	MW-110D	NS	NA	NS	NA	NS	NA	NS	NA	NS	NA	NS	NA
Dibenzofuran	1 of 92	2.2	2.2	2.2	CRA-6S	NS	NA	NS	NA	NS	NA	NS	NA	NS	NA	NS	NA
Di-N-Butylphthalate	1 of 92	1.3	1.3	1.3	MW-535S	NS	NA	NS	NA	NS	NA	NS	NA	120000	0	NS	NA
Fluoranthene	17 of 92	0.45	0.1	1.5	MW-209S	NS	NA	NS	NA	NS	NA	NS	NA	3700	0	NS	NA
Fluorene	12 of 92	0.443	0.1	2.3	CRA-6S	NS	NA	NS	NA	NS	NA	NS	NA	140000	0	NS	NA
Indeno(1,2,3-cd)pyrene	3 of 92	0.193	0.13	0.25	MW-110D	NS	NA	NS	NA	NS	NA	NS	NA	NS	NA	NS	NA
Naphthalene	17 of 92	0.869	0.17	6.7	CRA-6S	4.59	1	20.1	0	NS	NA	NS	NA	NS	NA	NS	NA
N-Nitrosodiphenylamine	2 of 76	1.55	1.2	1.9	CRA-6S	NS	NA	NS	NA	NS	NA	NS	NA	NS	NA	NS	NA
Pentachlorophenol	2 of 92	1.91	0.21	3.6	MW-110S	NS	NA	NS	NA	NS	NA	NS	NA	NS	NA	1	1
Phenanthrene	22 of 92	0.374	0.12	1.9	CRA-6S	NS	NA	NS	NA	NS	NA	NS	NA	0.077	22	NS	NA
Phenol	6 of 92	275	1.4	1600	MW-110S	NS	NA	NS	NA	NS	NA	NS	NA	92000000	0	NS	NA
Pyrene	33 of 92	0.258	0.11	1.1	MW-110D	NS	NA	NS	NA	NS	NA	NS	NA	110000	0	NS	NA
Pesticides/PCBs (µg/l)																	
4,4'-DDD	1 of 91	0.095	0.095	0.095	CRA-5S	NS	NA	NS	NA	NS	NA	NS	NA	NS	NA	NS	NA
4,4'-DDE	1 of 91	0.13	0.13	0.13	MW-506M	NS	NA	NS	NA	NS	NA	NS	NA	NS	NA	NS	NA
Aldrin	2 of 91	0.276	0.032	0.52	MW-506M	NS	NA	NS	NA	NS	NA	NS	NA	NS	NA	NS	NA
Aroclor 1254	1 of 92	0.45	0.45	0.45	MW-111D	NS	NA	NS	NA	NS	NA	NS	NA	0.5	0	NS	NA
beta-BHC	1 of 85	0.07	0.07	0.07	MW-506D	NS	NA	NS	NA	NS	NA	NS	NA	NS	NA	NS	NA
Dieldrin	2 of 91	0.175	0.13	0.22	MW-302S	NS	NA	NS	NA	NS	NA	NS	NA	0.1	2	NS	NA
Endosulfan I	1 of 89	0.033	0.033	0.033	MW-501S	NS	NA	NS	NA	NS	NA	NS	NA	NS	NA	NS	NA
gamma-BHC (Lindane)	2 of 89	0.025	0.025	0.025	CRA-5S, MW-111D	NS	NA	NS	NA	NS	NA	NS	NA	NS	NA	0.2	0
gamma-Chlordane	2 of 87	0.0545	0.029	0.08	MW-506M	NS	NA	NS	NA	NS	NA	NS	NA	NS	NA	NS	NA
Heptachlor	4 of 90	0.0558	0.03	0.069	MW-213S	NS	NA	NS	NA	NS	NA	NS	NA	0.05	3	0.4	0
Heptachlor Epoxide	2 of 90	0.0415	0.034	0.049	MW-215B	NS	NA	NS	NA	NS	NA	NS	NA	0.05	0	0.2	0
Dioxins/Furans (pg/l)																	
Dioxin/Furan - Toxic Equivalent	5 of 40	0.136	0.0205	0.469	MW-213S	NS	NA	NS	NA	NS	NA	NS	NA	NS	NA	NS	NA

Table E-1
2009/10 Groundwater Data Summary Statistics and Criteria Comparisons
Raymark - OU2 - Groundwater
Stratford, Connecticut

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Metals (µg/l)																	
Aluminum	61 of 91	1400	12.7	55000	MW-211D	NS	NA	NS	NA	NS	NA	NS	NA	NS	NA	NS	NA
Antimony	1 of 91	14.4	14.4	14.4	CRA-4S	NS	NA	NS	NA	NS	NA	NS	NA	86000	0	6	1
Arsenic	66 of 91	13.7	0.18	163	MW-505M	NS	NA	NS	NA	NS	NA	NS	NA	4	24	10	18
Barium	84 of 91	56	8.6	424	MW-104S	NS	NA	NS	NA	NS	NA	NS	NA	NS	NA	2000	0
Beryllium	5 of 91	5.48	0.95	12.8	MW-211D	NS	NA	NS	NA	NS	NA	NS	NA	4	3	4	3
Cadmium	16 of 91	7.84	1.1	76.6	CRA-4S	NS	NA	NS	NA	NS	NA	NS	NA	6	3	5	4
Calcium	91 of 91	96900	5350	489000	MW-104B	NS	NA	NS	NA	NS	NA	NS	NA	NS	NA	NS	NA
Chromium	8 of 91	9.32	3.1	21.1	CRA-4S	NS	NA	NS	NA	NS	NA	NS	NA	1200	0	100	0
Cobalt	31 of 91	96.1	0.31	1120	MW-514B	NS	NA	NS	NA	NS	NA	NS	NA	NS	NA	NS	NA
Copper	38 of 91	8.64	0.71	108	CRA-4S	NS	NA	NS	NA	NS	NA	NS	NA	48	1	1300	0
Cyanide	8 of 91	6.11	3.4	18.1	MW-506D	153	0	645	0	NS	NA	NS	NA	52	0	200	0
Iron	78 of 91	17500	10.3	257000	MW-101S	NS	NA	NS	NA	NS	NA	NS	NA	NS	NA	NS	NA
Lead	8 of 91	15.4	2.1	69.2	MW-104S	NS	NA	NS	NA	NS	NA	NS	NA	13	2	15	2
Magnesium	90 of 91	48900	908	482000	MW-535S	NS	NA	NS	NA	NS	NA	NS	NA	NS	NA	NS	NA
Manganese	85 of 91	7300	1.3	81800	MW-310B	NS	NA	NS	NA	NS	NA	NS	NA	NS	NA	NS	NA
Nickel	46 of 91	46.7	1.6	483	MW-514B	NS	NA	NS	NA	NS	NA	NS	NA	880	0	NS	NA
Nitrate	44 of 75	10.7	0.097	110	MW-505D	NS	NA	NS	NA	NS	NA	NS	NA	NS	NA	10	6
Nitrite	1 of 1	0.076	0.076	0.076	MW-302B	NS	NA	NS	NA	NS	NA	NS	NA	NS	NA	1	0
Potassium	88 of 91	12500	1260	202000	MW-535S	NS	NA	NS	NA	NS	NA	NS	NA	NS	NA	NS	NA
Selenium	1 of 91	3	3	3	MW-214S	NS	NA	NS	NA	NS	NA	NS	NA	50	0	50	0
Silver	6 of 91	7.43	4.8	11.3	MW-514B	NS	NA	NS	NA	NS	NA	NS	NA	12	0	NS	NA
Sodium	91 of 91	237000	10400	3450000	MW-535S	NS	NA	NS	NA	NS	NA	NS	NA	NS	NA	NS	NA
Thallium	2 of 91	28.5	7.6	49.3	MW-514B	NS	NA	NS	NA	NS	NA	NS	NA	63	0	2	2
Vanadium	2 of 91	4.9	3.4	6.4	MW-535S	NS	NA	NS	NA	NS	NA	NS	NA	NS	NA	NS	NA
Zinc	55 of 91	81	1.3	968	MW-211D	NS	NA	NS	NA	NS	NA	NS	NA	123	7	NS	NA

Notes:

[1]2014 Groundwater Vapor Intrusion Screening Levels are groundwater screening levels based on protection of indoor air. They have been calculated using the OSWER Vapor Intrusion Screening Level (VISL) calculator, Version 3.1.1, May 2014, adjusted to correspond to Hazard Quotient = 1 and cancer risks = $1x10^{-6}$.

VOC data for Post Closure (PC) monitoring wells provided by the Connecticut Department of Energy and Environmental Protection (CTDEEP). All additional analytical data summaries do not include PC well locations sampled in 2009/10.

NS - No Standard is available for this chemical.

NA - Not Applicable.

Bold - The VOCs shown in BOLD have been identified as OU2 Contaminants of Concern (COCs) for Vapor Intrusion (VI).

Table G-1
OU2 Groundwater Human Health Risk Assessment Summary Results
Raymark Industries, Inc. - OU2
Stratford, Connecticut

Chemicals of Potential Concern (COPC)	Receptor	Reasonable Maximum Exposure (RME) Risk Estimates						
		ILCR	Risk Drivers				HI	Risk Drivers
			>10^{-3}	>10^{-4}	>10^{-5}	>10^{-6}		HQ>1.0
2005 OU2 RI Measured Indoor Air[1]								
1,1,2,2-Tetrachloroethane 1,1,2-Trichloroethane 1,1-Dichloroethene 1,2,4-Trimethylbenzene 1,2-Dibromoethane 1,2-Dichloroethane 1,3,5-Trimethylbenzene 1,3-Butadiene 1,4-Dichlorobenzene 4-Methyl-2-Pentanone Acetone Acrylonitrile	Resident (adult/child) (current/future)	4.8E-03	Trichloroethene	1,1,2,2-Tetrachloroethane 1,3-Butadiene Benzyl Chloride Methylene Chloride	1,1,2-Trichloroethane 1,2-Dibromoethane Benzene Bromodichloromethane Chloroform Dibromochloromethane Ethylbenzene Tetrachloroethene Tetrahydrofuran	1,2-Dichloroethane Acrylonitrile Carbon Tetrachloride Chloroethane Chloromethane Methyl tert-Butyl Ether Vinyl chloride	37	1,2,4-Trimethylbenzene 1,2-Dibromoethane 1,3,5-Trimethylbenzene 1,4-Dichlorobenzene Benzene Chloroform Total Xylenes Trichloroethene
Benzene Benzyl Chloride Bromodichloromethane Carbon Tetrachloride Chloroethane Chloroform Chloromethane cis-1,2-Dichloroethene Dibromochloromethane Dichlorodifluoromethane Ethylbenzene Hexane Methyl tert-Butyl Ether Methylene Chloride Tetrachloroethene Tetrahydrofuran Toluene Total Xylenes Trichloroethene Vinyl Acetate Vinyl Chloride	Industrial/ Commercial Worker (adult) (current/future)	9.7E-04	None	1,1,2,2-Tetrachloroethane 1,3-Butadiene Trichloroethene	Benzyl Chloride Methylene Chloride 1,1,2-Trichloroethane 1,2-Dibromoethane	Benzene Bromodichloromethane Chloroform Dibromochloromethane Ethylbenzene Tetrachloroethene Tetrahydrofuran Carbon Tetrachloride Acrylonitrile	8.9	1,2,4-Trimethylbenzene 1,2-Dibromoethane 1,4-Dichlorobenzene Total Xylenes

Table G-1
OU2 Groundwater Human Health Risk Assessment Summary Results
Raymark Industries, Inc. - OU2
Stratford, Connecticut

Chemicals of Potential Concern (COPC)	Receptor	Reasonable Maximum Exposure (RME) Risk Estimates						
		ILCR	Risk Drivers				HI	Risk Drivers
			$>10^{-3}$	$>10^{-4}$	$>10^{-5}$	$>10^{-6}$		HQ>1.0
OU2 RI Update Addendum Measured Indoor Air[2]								
1,1,2-Trichloro-1,2,2-trifluoroethane 1,2,4-Trichlorobenzene 1,2,4-Trimethylbenzene 1,2-Dichloroethane	Resident (adult/child) 50 Ferry Court	3.6E-05	None	None	Chloroform	1,4-Dichlorobenzene Benzene Bromodichloromethane Ethylbenzene	0.6	None
1,3,5-Trimethylbenzene 1,3-Butadine 1,4-Dichlorobenzene 2-Butanone	Resident (adult/child) 62 Ferry Court	4.1E-05	None	None	Acrylonitrile Chloroform	1,3-Butadine Benzene Carbon Tetrachloride Ethylbenzene	1	None
4-Ethyltoluene Acrylonitrile Benzene Bromodichloromethane Carbon Tetrachloride	Resident (adult/child) 72 Ferry Court	1.4E-04	None	None	1,2-Dichloroethane Bromodichloromethane Chloroform	1,3-Butadine 1,4-Dichlorobenzene Benzene Carbon Tetrachloride Ethylbenzene	1.6	None
Chloroform Chloromethane Cyclohexane Dichlorodifluoromethane	Resident (adult/child) 82 Ferry Court	4.2E-05	None	None	1,2-Dichloroethane Chloroform	1,3-Butadine Benzene Bromodichloromethane Ethylbenzene	0.6	None
Ethylbenzene Hexachlorobutadiene Hexane m,p-Xylene	Resident (adult/child) 500 Ferry Boulevard	8.5E-05	None	None	Benzene Ethylbenzene	1,3-Butadine Chloroform Hexachlorobutadiene	4.4	1,2,4-Trimethylbenzene
Methylene Chloride n-Heptane o-Xylene Styrene Tetrachloroethene Tetrahydrofuran	Industrial/ Commercial worker (adult) 100 Veteran's Boulevard	3.0E-05	None	None	1,2-Dichloroethane	1,3-Butadine 1,4-Dichlorobenzene Acrylonitrile Benzene Chloroform Trichloroethene	1.2	None
Toluene Trichloroethene Trichlorofluoromethane 1,1,1-Trichloroethane[3]	Industrial/ Commercial worker (adult) 300 Ferry Boulevard	1.4E-05	None	None	None	Benzene Chloroform Ethylbenzene Trichloroethene	1.4	None
1,1-Dichloroethane[3] 1,1-Dichloroethene[3] 4-Methyl-2-Pentanone[3] cis-1,2-Dichloroethene[3]	Industrial/ Commercial worker (adult) 326 Ferry Boulevard	6.7E-06	None	None	None	Benzene Chloroform	0.22	None

Table G-1
OU2 Groundwater Human Health Risk Assessment Summary Results
Raymark Industries, Inc. - OU2
Stratford, Connecticut

Chemicals of Potential Concern (COPC)	Receptor	Reasonable Maximum Exposure (RME) Risk Estimates						
		ILCR	Risk Drivers				HI	Risk Drivers
			$>10^{-3}$	$>10^{-4}$	$>10^{-5}$	$>10^{-6}$		HQ>1.0
OU2 RI Update Addendum Measured Indoor Air[(2)] (cont.)								
Dichlorotetrafluoroethane[3] trans-1,2-Dichloroethene[3]	Industrial/ Commercial worker (adult) 335 Ferry Boulevard	1.1E-06	None	None	None	None	0.06	None
	Industrial/ Commercial worker (adult) 444 Ferry Boulevard	3.7E-06	None	None	None	Chloroform	0.25	None
	Industrial/ Commercial worker (adult) 500 Ferry Boulevard	1.9E-05	None	None	Benzene	Ethylbenzene Hexachlorobutadiene	1.1	None
	Industrial/ Commercial worker (adult) 608 Ferry Boulevard	1.1E-06	None	None	None	None	0.17	None
	Industrial/ Commercial worker (adult) 411 Barnum Movie Theater	1.9E-06	None	None	None	None	0.04	None
	Industrial/ Commercial worker (adult) 411 Barnum Game Stop	3.1E-06	None	None	None	Benzene	0.096	None
	Industrial/ Commercial worker (adult) 411 Barnum Sally's Beauty	3.3E-06	None	None	None	Acrylonitrile Benzene	0.12	None
	Industrial/ Commercial worker (adult) 411 Barnum T-Mobile	2.9E-06	None	None	None	None	0.36	None

Table G-1
OU2 Groundwater Human Health Risk Assessment Summary Results
Raymark Industries, Inc. - OU2
Stratford, Connecticut

Chemicals of Potential Concern (COPC)	Receptor	Reasonable Maximum Exposure (RME) Risk Estimates						
		ILCR	Risk Drivers				HI	Risk Drivers
			$>10^{-3}$	$>10^{-4}$	$>10^{-5}$	$>10^{-6}$		HQ>1.0
OU2 RI Update Addendum Measured Indoor Air[2] (cont.)								
	Industrial/ Commercial worker (adult) 411 Barnum Post Office	5.0E-06	None	None	None	Chloroform	0.27	None
	Industrial/ Commercial worker (adult) 411 Barnum Payless	2.6E-04	None	1,2-Dichloroethane	1,2-Dichloropropane Benzene Ethylbenzene	Acrylonitrile Chloroform Trichloroethene	6.8	1,2-Dichloroethane 1,2-Dichloropropane
	Industrial/ Commercial worker (adult) 411 Barnum Sleepy's	2.9E-05	None	None	1,2-Dichloroethane	1,2-Dichloropropane Benzene Ethylbenzene Trichloroethene	2.4	Trichloroethene
	Industrial/ Commercial worker (adult) 411 Barnum Fashion Bug	1.3E-05	None	None	None	1,2-Dichloroethane Benzene	0.41	None
	Industrial/ Commercial worker (adult) 411 Barnum Marshalls	1.8E-05	None	None	1,2-Dichloroethane	1,2-Dichloropropane Benzene	0.52	None
	Industrial/ Commercial worker (adult) 411 Barnum McDonald's	4.6E-06	None	None	None	Chloroform	0.18	None

Table G-1
OU2 Groundwater Human Health Risk Assessment Summary Results
Raymark Industries, Inc. - OU2
Stratford, Connecticut

Chemicals of Potential Concern (COPC)	Receptor	Reasonable Maximum Exposure (RME) Risk Estimates						
		ILCR	Risk Drivers				HI	Risk Drivers
			>10^{-3}	>10^{-4}	>10^{-5}	>10^{-6}		HQ>1.0
Indoor Air Modeled from Shallow Groundwater[4]								
1,1,1-Trichloroethane 1,1,2-Trichloroethane 1,1-Dichloroethane 1,1-Dichloroethene Benzene Chlorobenzene Chloroform Ethylbenzene Xylenes Trichloroethene Vinyl Chloride	Resident (adult/child) (current/future)	3.5E-03	Vinyl Chloride	Trichloroethene	1,1-Dichloroethane Benzene Chloroform	Ethylbenzene	192.5	1,1-Dichloroethene Chlorobenzene Trichloroethene Vinyl Chloride
	Industrial/ Commercial worker (adult) (current/future)	2.9E-04		Vinyl Chloride Trichloroethene		1,1-Dichloroethane Benzene Chloroform Ethylbenzene	47	Chlorobenzene Trichloroethene
Surface Water Modeled from Groundwater[5]								
1,1-Dichloroethene Arsenic Zinc	Recreational User (adult) (future)	6.8E-08	None	None	None	None	0.0008	None
	Recreational User (child) (future)	3.4E-08	None	None	None	None	0.0016	None

Notes:
1) Source: OU2 RI (TtNUS, 2005a) Section 6.5. Results of Risk Calculations for Residents and Industrial Commercial Workers Exposed to indoor Air Sampling Data.
2) Source: OU2 RI Update Report Addendum (Nobis, 2015). Results of Risk Calculations for Residents and Industrial Commercial Workers Exposed to indoor Air Measured in 2012/13.
3) Contaminant detected in one or more commercial property sampled in 2012 and not in any residential property.
4) Source: OU2 RI Update Report (Nobis, 2014) Section 6.1.2. Results of Risk Calculations for Residents and Industrial/Commercial Workers Exposed to indoor Air Modeled from 2009/10 Shallow Groundwater Data.
5) Source: OU2 RI (TtNUS, 2005a) Section 6.5. Results of Risk Calculations for Future Recreational Users (Wading in Ferry Creek) Exposed to Surface Water Modeled from Groundwater Data.
ILCR - Increased Lifetime Cancer Risk
HI - Hazard Index
HQ - Hazard Quotient

Table G-2
Selection of Residential Contaminants of Concern for Groundwater
Raymark - OU2 - Groundwater
Stratford, Connecticut

Potential Contaminant of Concern	Human Health Risk[1]		ARAR	To Be Considered	Site Groundwater (2009 -2012)		Selected as Contaminant of Concern? [6]
	Cancer Risk	Hazard Quotient	2013 CT Residential GWVC[2] (µg/L)	2015 Residential Vapor Intrusion Screening Levels[3] (µg/L)	Maximum Shallow Groundwater Concentration[4] (µg/L)	Frequency Above Residential Vapor Intrusion Screening Level[5]	(Yes or No?)
1,1-Dichloroethane	4.8E-05	NA	34600	7.6	440	31 / 81	Yes
1,1-Dichloroethene	NA	1.8	1	200	510	4 / 81	Yes
Benzene	4.6E-05	0.45	215	1.6	210	9 / 81	Yes
Chlorobenzene	NA	6.3	1800	410	3500	2 / 81	Yes
Chloroform	2.6E-05	0.027	287	0.81	21	3 / 81	Yes
Ethylbenzene	6.9E-06	0.0065	50000	3.5	68	3 / 81	Yes
Trichloroethene	9.3E-04	180	219	1.2	1300	33 / 81	Yes
Vinyl chloride	2.5E-03	3.8	2	0.15	440	22 / 80	Yes

Notes:

(1) Residential risks from shallow groundwater through Vapor Intrusion Pathway - cancer risk for future lifetime resident, and hazard quotient for RME child resident. From OU2 RI Update (Nobis, 2014a), Table 6-2.

(2) Connecticut Remediation Standards Regulations Residential Groundwater Volatilization Criteria (2013 CT GWVC).

(3) 2015 Residential Vapor Intrusion Screening Levels are groundwater screening levels based on protection of residential indoor air. They have been calculated using the OSWER Vapor Intrusion Screening Level (VISL) calculator, Version 3.4, November 2015 RSLs, adjusted to correspond to Hazard Quotient = 1.0 and cancer risks = $1x10^{-6}$.

(4) OU2 RI Update Report (Nobis, 2014), Table 6-2 and OU2 RI Addendum (Nobis, 2015), Table 2. Maximum concentration was detected in 2009.

(5) Frequency of 2009 and 2012 shallow groundwater detections exceeding 2015 Residential Vapor Intrusion Screening Levels.

(6) A Potential contaminant of concern was selected as a Contaminant of Concern if the Cancer risk exceeded $1x10^{-6}$, the hazard quotient exceeded 1, or the maximum detected shallow groundwater concentration exceeded the ARAR. To Be Considered Concentrations are provided for discussion purposes.

ARAR – Applicable or Relevant and Appropriate Requirements

CT GWVC -- Connecticut Remediation Standards Regulations Groundwater Volatilization Criteria

NA – Not applicable, or no criteria available

HQ – Hazard Quotient

Table G-3
Selection of Industrial/Commercial Contaminants of Concern for Groundwater
Raymark - OU2 - Groundwater
Stratford, Connecticut

Potential Contaminant of Concern	Human Health Risk[1]		ARAR	To Be Considered	Site Groundwater (2009 - 2012)		Selected as Contaminant of Concern? [6]
	Cancer Risk	Hazard Quotient	2013 CT Industrial GWVC[2] (µg/L)	2015 Industrial Vapor Intrusion Screening Levels[3] (µg/L)	Maximum Shallow Groundwater Concentration[4] (µg/L)	Frequency Above Industrial Vapor Intrusion Screening Level[5]	(Yes or No?)
1,1-Dichloroethane	9.6E-06	NA	50000	33	440	14 / 81	Yes
1,1-Dichloroethene	NA	0.44	6	820	510	0 / 81	No
Benzene	9.1E-06	0.11	530	6.9	210	7 / 81	Yes
Chlorobenzene	NA	1.5	6150	1700	3500	1 / 81	Yes
Chloroform	5.3E-06	0.0066	710	3.6	21	1 / 81	Yes
Ethylbenzene	1.4E-06	0.0015	50000	15	68	2 / 81	Yes
Trichloroethene	1.3E-04	44	540	7.4	1300	23 / 81	Yes
Vinyl chloride	1.4E-04	0.91	2	2.5	440	20 / 80	Yes

Notes:

(1) Industrial/commercial worker risks from shallow groundwater through Vapor Intrusion Pathway. From OU2 RI Update (Nobis 2014), Table 6-2.

(2) Connecticut Remediation Standards Regulations Industrial Groundwater Volatilization Criteria (2013 CT GWVC).

(3) 2015 Industrial Vapor Intrusion Screening Levels are groundwater screening levels for protection of industrial/commercial indoor air. They have been calculated using the OSWER Vapor Intrusion Screening Level (VISL) calculator, Version 3.4, November 2015 RSLs, adjusted to correspond to Hazard Quotient =1.0 and cancer risks = $1x10^{-6}$.

(4) OU2 RI Update Report (Nobis, 2014), Table 6-2 and OU2 RI Addendum (Nobis, 2015), Table 2. Maximum concentration was detected in 2009.

(5) Frequency of 2009 and 2012 shallow groundwater detections exceeding 2015 Industrial Vapor Intrusion Screening Levels.

(6) A Potential contaminant of concern was selected as a Contaminant of Concern if the Cancer risk exceeded $1x10^{-6}$, the hazard quotient exceeded 1, or the maximum detected shallow groundwater concentration exceeded the ARAR. To Be Considered Concentrations are provided for discussion purposes. 1,1-DCE exceeds the 2013 CT Industrial GWVC; however, this value was based on an outdated toxicity value, which has since been withdrawn. The Site groundwater 1,1-DCE concentrations are below the EPA Vapor Intrusion Screening Levels.

ARAR – Applicable or Relevant and Appropriate Requirements

CT GWVC – Connecticut Remediation Standards Regulations Groundwater Volatilization Criteria

NA – Not applicable, or no criteria available

HQ – Hazard Quotient

Table G-4
1999 Ferry Creek OU3 Risk Assessment Summary Results
Raymark Superfund Site - OU3
Stratford, Connecticut

	Human Health Risk Assessment Results							Ecological Risk Assessment Results				
Medium	**Human Health Scenario/ Receptor**	**Total Cancer Risks (1)**	**Major contributors to cancer risk (individual cancer risk>1E-06)**	**Total Noncancer Hazard Index**	**Major contributors to noncancer Hazard Index (HI>1.0)**	**Lead (2)**	**Asbestos (3)**	**Maximum Heron Hazard Index (4)**	**Maximum Blackbird Hazard Index (4)**	**Maximum Raccoon Hazard Index (4)**	**Post-RI EPA Sediment Amphipod Test (5)**	**Benthic Community Analysis (6)**
Area A-1												
Soil/Sediment 0-2 feet	Adolescent Trespasser(7)	5.6E-05	PCBs - 1.1E-6	0.053	NA	11%	5%	NA				
			Dioxin TEQ - 5.2E-5									
			Benzo(a)pyrene - 1.2E-6									
Surface Water	Adolescent Trespasser(7)	1.7E-06	1,1-Dichloroethene - 1.2E-6	0.035	NA	NA	NA					
Area A-3												
Soil/Sediment 0-2 feet	Recreational Visitor(8)	1.7E-04	PCBs - 4.9E-5	total - 1.1 - no individual contaminants greater than HQ=1	NA	58%	5%	Lead - 28.8	NA	Lead - 13.4	Lead	degraded - depressed abundance, richness, evenness, and diversity
			Dioxin TEQ - 7.8E-5					PCBs - 1.9		Copper - 8.4	Copper	
			Benzo(a)anthracene - 2.1E-6					Copper - 1.5		PCBs - 4.5	PCBs	
			Benzo(a)pyrene - 2.1E-5					Chromium - 1.3			Dioxins	
			Benzo(b)fluoranthene - 4.3E-6					Zinc - 1.1			PAHs	
			Dibenzo(a,h)anthracene - 5.3E-6									
			Indeno(1,2,3-cd)pyrene - 1.1E-6					total - 34.9		total - 28.4		
			Arsenic - 6.6E-6									
Surface Water	Recreational Visitor(8)	1.9E-05	1,1-Dichloroethene - 3.5E-6	0.13	NA	NA	NA	0.01	0.01	0.02	NA	NA
			Vinyl chloride - 1.4E-6									
			PCBs - 1.3E-5									
Food Chain	NA	NA	NA	NA	NA	NA	NA	DDT - 3.7	Zinc - 2.2	total - 1.6 - no individual contaminants greater than HQ=1	NA	NA
								Lead - 1.3	DDT - 1.4			
								total - 7.2	total - 5.3			
Total		1.9E-04		1.2				42.1	5.3	30.1	NA	NA
Groundwater	No Human Direct Exposure - No Risk							No Ecological Direct Exposure - No Risk				

Notes:

(1) OU3 Area I RI Area A-1 and A-3 (TtNUS, 1999). Cancer risks estimated using the dioxin slope factor of 1.5E+5 $(mg/kg/d)^{-1}$.

(2) Probability that blood lead levels exceed 10 µg/dL; EPA's goal is that no more than 5% of individuals will have blood lead concentrations above 10 µg/dL. Lead evaluations are performed for child frequent recreational visitors. EPA's Integrated Exposure Uptake Biokinetic (IEUBK) model predicts that where the average lead in soil concentration is 400 mg/kg or less, blood lead levels will meet EPA's risk goal of less than 5 percent of exposed children with blood lead levels above the 10 µg/dL level of concern.

(3) Average Detected Asbestos; asbestos-containing material is material containing more than 1 percent asbestos (Appendix A to Subpart M of 40 CFR 61) (EPA, 1990).

(4) See Tables 5A-5C. Ecological HI <1 suggests adverse biological impacts are unlikely.

(5) Lockheed Martin, June 2005.

(6) OU3 Area I RI Area A-3 (TtNUS, 1999).

(7) Adolescent Trespassers: lead evaluations represent child recreational visitors.

(8) Recreational visitors: cancer risk represents child plus adult, HI and lead evaluations represent only child.

NA - Not Applicable

TABLE G-5
SAMPLE LIST OU3
RAYMARK OU3
STRATFORD, CONNECTICUT

Boring	Matrix
A3-SB03	WETLAND
A3-SD01	SEDIMENT
A3-SD02	SEDIMENT
A3-SD03	SEDIMENT
A3-SD04	SEDIMENT
A3-SD05	SEDIMENT
A3-SD06	SEDIMENT
A3-SD07	WETLAND
A3-SD08	SEDIMENT
A3-SD09	WETLAND
A3SD10	WETLAND
A3-SD11	WETLAND
HU103A N720,W258	SOIL
HU103A N790,W245	WETLAND
HU121 A-024	SOIL
HU121A N915,W215	SOIL
HU121A N920,W170	SOIL
HU135 A+00	SOIL
HU135 A-030	SOIL
HU135A N950,W140	SOIL
HU135A N990,W145	SOIL
HU135A N995,W120	SOIL
HU15 A+00	SOIL
HU15 G01	SOIL
HU15A N296,W113	SOIL
HU15A N305,W113	SOIL
HU161 A+00	SOIL
HU161 A+25	SOIL
HU161 A+50	SOIL
HU161 B+00	SOIL
HU161 B+25	SOIL
HU161 B+50	SOIL
HU161 C+00	SOIL
HU161 C+25	SOIL
HU161 C+50	SOIL
HU161A N1015,W115	SOIL
HU161A N1050,W113	SOIL
HU161A N1050,W154	SOIL
HU171 A+00	WETLAND
HU171 A+25	SOIL
HU171 A-011	SOIL
HU171 B+00	WETLAND
HU171 B+25	SOIL
HU171 C+00	SOIL
HU171 C+25	SOIL
HU171 D+00	WETLAND
HU171 E+00	WETLAND
HU171A N1124,W149	WETLAND
HU171A N1133,W110	SOIL
HU181A N1180,W148	SOIL
HU191 A+00	SOIL
HU191 B+00	SOIL
HU191 C+00	SOIL
HU191A N1200,W133	SOIL
HU191A N1235,W165	WETLAND
HU201A N1270,W160	WETLAND

TABLE G-5
SAMPLE LIST OU3
RAYMARK OU3
STRATFORD, CONNECTICUT

Boring	**Matrix**
HU207A N1335,W145	SOIL
HU221A N1465,W140	WETLAND
HU231 A+00	SOIL
HU231 G1	SOIL
HU231A N1540,W140	SOIL
HU235 A+00	SOIL
HU235A N1380,W182	WETLAND
HU239A N1592,W215	WETLAND
HU239A N1630,W220	SOIL
HU239A N1640,W150	
HU263A N1695,W192	SOIL
HU273A N1755,W210	SOIL
HU35 A+00	SOIL
HU35A N408,W198	WETLAND
HU59 A+00	SOIL
HU59A N475,W190	
HU75A N647,W285	WETLAND
HU75A N686,W285	WETLAND
SD01	SEDIMENT
SD02	WETLAND
SD03	WETLAND
SD04	SEDIMENT
SD05	SEDIMENT
SD06	SEDIMENT
SD08W	SEDIMENT
SD09W	WETLAND
SD12	SEDIMENT
SD13	SEDIMENT
SD14	SEDIMENT
SD15	WETLAND
SD16	WETLAND
SD17	WETLAND
SD18	SEDIMENT
SD20-04	SEDIMENT
SD21	SEDIMENT
SD22	SEDIMENT
SD23	SEDIMENT
SD24	SEDIMENT
SPD A1	WETLAND
SPD B1	WETLAND
SPD B2	WETLAND
SPD C1	WETLAND
SPD C2	WETLAND
SPD C3	WETLAND
SPD D1	WETLAND
SPD D2	WETLAND
SPD D3	WETLAND
SPD E1	WETLAND
SPD E2	WETLAND
SPD E3	WETLAND
SPD F1	WETLAND
SPD F2	WETLAND
SPD F3	WETLAND
SPD G1	WETLAND
SPD G2	WETLAND
SPDA E310,S100	WETLAND

TABLE G-5
SAMPLE LIST OU3
RAYMARK OU3
STRATFORD, CONNECTICUT

Boring	Matrix
SPDAC E360,S250	WETLAND
A1-SD01	WETLAND
A1-SD02	WETLAND
A1-SD03	SOIL
A1-SD05	SEDIMENT
A1-SD06	WETLAND
MF01	SEDIMENT
MF02	SEDIMENT
MF03	SEDIMENT
SD16W	WETLAND
SD17W	WETLAND
SD18W	WETLAND
SLE-CR+100	WETLAND
SLE-CR+200	WETLAND
SLE-CR+300	SOIL
SLE-CR+400	WETLAND
SLE-CR+460	WETLAND
SLE-CR+500	WETLAND
SLE-CR+600	WETLAND
SLE-CR+640	WETLAND

TABLE G-6
OCCURRENCE, DISTRIBUTION, AND SELECTION OF CONTAMINANTS OF POTENTIAL CONCERN - SURFACE SOIL (0-2 FT BGS)
RAYMARK OU3
STRATFORD, CONNECTICUT

Scenario Timeframe: Current/Future
Medium: Soil
Exposure Medium: Surface soil (0-2 ft)

Exposure Point	CAS Number	Contaminant	Minimum Concentration	Maximum Concentration	Location of Maximum Concentration	Units	Detection Frequency	Range of Detection Limits	Concentration Used for Screening (1)	Screening Toxicity Value (N/C) (2)		COPC Flag (Y/N)	Rationale for Selection or Deletion
OU3	71556	1,1,1-Trichloroethane	0.002	0.035	RM-SD-MF01-02	mg/kg	5/48	0.011 - 6.4	0.035	810	n	NO	BSL
	79345	1,1,2,2-Tetrachloroethane	0.007	0.007	HU103AC-N790,W245(0.3-0.8)-MAX	mg/kg	1/47	0.011 - 6.4	0.007	0.6	c	NO	BSL
	75343	1,1-Dichloroethane	0.002	3.4	RM-SD-MF03-03	mg/kg	20/47	0.011 - 0.032	3.4	3.6	c	NO	BSL
	75354	1,1-Dichloroethene	0.002	0.009	RM-SD-MF01-01	mg/kg	3/47	0.011 - 6.4	0.009	23	n	NO	BSL
	107062	1,2-Dichloroethane	0.007	0.007	HU103AC-N790,W245(0.3-0.8)-MAX	mg/kg	1/47	0.011 - 6.4	0.007	0.46	c	NO	BSL
	540590	1,2-Dichloroethene (total)	0.004	0.027	RM-SD-MF01-02	mg/kg	9/47	0.011 - 6.4	0.027	NBA		NO	NBA
	106467	1,4-Dichlorobenzene	0.079	0.079	RM-SD-SD2D-03	mg/kg	1/65	0.2 - 1700	0.079	2.6	c	NO	BSL
	105679	2,4-Dimethylphenol	0.025	1.5	RM-SD-SD14-03	mg/kg	16/65	0.2 - 1700	1.5	130	n	NO	BSL
	78933	2-Butanone	0.042	0.064	RM-SD-SD13-02	mg/kg	4/47	0.011 - 6.4	0.064	2700	n	NO	BSL
	591786	2-Hexanone	0.009	0.009	HU103AC-N790,W245(0.3-0.8)-MAX	mg/kg	1/47	0.011 - 6.4	0.009	20	n	NO	BSL
	91576	2-Methylnaphthalene	0.038	4.5	RM-SD-SD2D-03	mg/kg	14/64	0.2 - 17	4.5	24	n	NO	BSL
	95487	2-Methylphenol	0.057	0.33	SD-08-MAX	mg/kg	7/65	0.2 - 1700	0.33	320	n	NO	BSL
	72548	4,4'-DDD	0.0017	0.08	RM-SD-SD24-04	mg/kg	31/63	0.002 - 0.22	0.08	2.3	c	NO	BSL
	72559	4,4'-DDE	0.00011	0.5	HU135 A+00	mg/kg	42/64	0.003 - 5.4	0.5	2	c	NO	BSL
	50293	4,4'-DDT	0.0002	0.22	SPD B2	mg/kg	26/62	0.002 - 0.16	0.22	1.9	c	NO	BSL
	108101	4-Methyl-2-pentanone	0.007	0.007	HU103AC-N790,W245(0.3-0.8)-MAX	mg/kg	1/47	0.011 - 6.4	0.007	530	n	NO	BSL
	106445	4-Methylphenol	0.024	9900	SD-18	mg/kg	18/66	0.2 - 1700	9900	630	n	YES	ASL
	83329	Acenaphthene	0.042	3.4	RM-SD-SD2D-03	mg/kg	36/64	0.2 - 17	3.4	360	n	NO	BSL
	208968	Acenaphthylene	0.031	2.6	RM-SD-SD16-03	mg/kg	45/65	0.25 - 17	2.6	360	n	NO	BSL
	67641	Acetone	0.046	0.26	SD-18-092492	mg/kg	5/49	0.011 - 6.4	0.26	6100	n	NO	BSL
	309002	Aldrin	0.00012	0.97	SD21	mg/kg	28/63	0.001 - 0.039	0.97	0.039	c	YES	ASL
	319846	alpha-BHC	0.00013	0.00425	RM-SD-SD01-04-MR_MAXOFDUPS	mg/kg	22/63	0.001 - 2.8	0.00425	0.086	c	NO	BSL
	5103719	Alpha-Chlordane	0.00006	5.7	SD21	mg/kg	39/65	0.001 - 0.085	5.7	1.7	c	YES	ASL
	120127	Anthracene	0.04	2.4	RM-SD-MF02-03	mg/kg	50/65	0.47 - 17	2.4	1800	n	NO	BSL
	71432	Benzene	0.002	0.081	RM-SD-SD20-04	mg/kg	3/47	0.011 - 6.4	0.081	1.2	c	NO	BSL
	56553	Benzo(a)anthracene	0.054	5.4	RM-SD-SD12-02	mg/kg	66/67	0.56 - 0.56	5.4	0.16	c	YES	ASL
	50328	Benzo(a)pyrene	0.073	6.1	RM-SD-SD23-04-MAX	mg/kg	66/67	0.56 - 0.56	6.1	0.016	c	YES	ASL
	205992	Benzo(b)fluoranthene	0.073	10	SD13-SEDIMENT	mg/kg	66/67	0.56 - 0.56	10	0.16	c	YES	ASL
	191242	Benzo(g,h,i)perylene	0.07	5.4	RM-SD-SD23-04-MAX	mg/kg	55/68	0.35 - 7.9	5.4	180	n	NO	BSL
	207089	Benzo(k)fluoranthene	0.053	9.1	SD13-SEDIMENT	mg/kg	46/65	0.42 - 8.9	9.1	1.6	c	YES	ASL
	319857	beta-BHC	0.00016	0.012	RM-SD-SD2D-03	mg/kg	13/63	0.001 - 2.8	0.012	0.3	c	NO	BSL
	117817	Bis(2-ethylhexyl)phthalate	0.07	15000	SD14-MAX	mg/kg	56/68	0.47 - 8.8	15000	39	c	YES	ASL
	75252	Bromoform	0.007	0.007	HU103AC-N790,W245(0.3-0.8)-MAX	mg/kg	1/47	0.011 - 6.4	0.007	19	c	NO	BSL
	85687	Butylbenzylphthalate	0.043	810	SD13-MAX	mg/kg	33/66	0.2 - 17	810	290	c	YES	ASL
	86748	Carbazole	0.036	550	SD14-MAX	mg/kg	44/66	0.33 - 17	550	NBA		NO	NBA
	75150	Carbon disulfide	0.001	0.058	RM-SD-SD24-04	mg/kg	16/47	0.011 - 6.4	0.058	77	n	NO	BSL
	108907	Chlorobenzene	0.002	0.095	RM-SD-MF01-02	mg/kg	10/47	0.011 - 6.4	0.095	28	n	NO	BSL
	218019	Chrysene	0.067	6.9	RM-SD-SD23-04-MAX	mg/kg	66/67	0.56 - 0.56	6.9	16	c	NO	BSL
	319868	delta-BHC	0.00014	0.61	SD21	mg/kg	7/62	0.001 - 0.11	0.61	0.3	c	YES	ASL

TABLE G-6
OCCURRENCE, DISTRIBUTION, AND SELECTION OF CONTAMINANTS OF POTENTIAL CONCERN - SURFACE SOIL (0-2 FT BGS)
RAYMARK OU3
STRATFORD, CONNECTICUT

Scenario Timeframe: Current/Future
Medium: Soil
Exposure Medium: Surface soil (0-2 ft)

Exposure Point	CAS Number	Contaminant	Minimum Concentration	Maximum Concentration	Location of Maximum Concentration	Units	Detection Frequency	Range of Detection Limits	Concentration Used for Screening (1)	Screening Toxicity Value (N/C) (2)	COPC Flag (Y/N)	Rationale for Selection or Deletion
OU3	53703	Dibenz(a,h)anthracene	0.062	1.6	RM-SD-SD21-04-MAX	mg/kg	49/66	0.25 - 17	1.6	0.016 c	YES	ASL
	132649	Dibenzofuran	0.00062	2.3	RM-SD-SD2D-03	mg/kg	34/65	0.2 - 17	2.3	7.3 n	NO	BSL
	60571	Dieldrin	0.00012	0.039	RM-SD-SD16-03	mg/kg	36/64	0.0033 - 5.4	0.039	0.034 c	YES	ASL
	84662	Diethylphthalate	0.14	0.86	RM-SD-MF02-02	mg/kg	5/65	0.2 - 1700	0.86	5100 n	NO	BSL
	131113	Dimethylphthalate	0.061	220	SD14-MAX	mg/kg	7/65	0.2 - 1000	220	NBA	NO	NBA
	84742	di-N-Butyl phthalate	0.047	170	SD13-MAX	mg/kg	22/68	0.2 - 1700	170	630 n	NO	BSL
	117840	Di-N-Octyl Phthalate	0.04	3300	SD13-MAX	mg/kg	34/66	0.2 - 17	3300	63 n	YES	ASL
	959988	Endosulfan I	0.00067	0.45	SD21	mg/kg	7/63	0.001 - 0.11	0.45	47 n	NO	BSL
	33213659	Endosulfan II	0.00036	0.92	SD21	mg/kg	8/60	0.002 - 0.22	0.92	47 n	NO	BSL
	1031078	Endosulfan Sulfate	0.0038	0.082	RM-SD-MF02-02	mg/kg	13/58	0.002 - 5.4	0.082	47 n	NO	BSL
	72208	Endrin	0.00036	0.18	RM-SD-MF03-03	mg/kg	22/61	0.002 - 5.4	0.18	1.9 n	NO	BSL
	7421934	Endrin Aldehyde	0.00083	20	SD21	mg/kg	31/65	0.003 - 0.22	20	1.9 n	YES	ASL
	53494705	Endrin Ketone	0.00023	0.0088	OU3-A1-SD01-0002	mg/kg	2/64	0.002 - 5.4	0.0088	1.9 n	NO	BSL
	100414	Ethylbenzene	0.009	0.029	RM-SD-SD2D-03	mg/kg	2/47	0.011 - 6.4	0.029	5.8 c	NO	BSL
	206440	Fluoranthene	0.17	12	RM-SD-SD23-04-MAX	mg/kg	66/67	0.56 - 0.56	12	240 n	NO	BSL
	86737	Fluorene	0.023	2.1	RM-SD-SD2D-03	mg/kg	43/59	0.47 - 8.9	2.1	240 n	NO	BSL
	58899	gamma-BHC (Lindane)	0.00005	0.014	RM-SD-SD14D-03	mg/kg	12/62	0.001 - 2.8	0.014	0.57 c	NO	BSL
	5566347	gamma-Chlordane	0.00007	4.9	RM-SD-SD18-03	mg/kg	48/66	0.0016 - 0.085	4.9	1.7 c	YES	ASL
	76448	Heptachlor	0.00024	0.072	HU135 A+00	mg/kg	13/62	0.001 - 2.8	0.072	0.13 c	NO	BSL
	1024573	Heptachlor Epoxide	0.00016	0.0195	OU3-A3-SD05-0002-MAX	mg/kg	28/62	0.0015 - 2.8	0.0195	0.07 c	NO	BSL
	193395	Indeno(1,2,3-cd)pyrene	0.039	5.5	RM-SD-SD24-04	mg/kg	66/67	0.56 - 0.56	5.5	0.16 c	YES	ASL
	72435	Methoxychlor	0.0085	0.26	RM-SD-SD01-01	mg/kg	6/60	0.0033 - 28	0.26	32 n	NO	BSL
	75092	Methylene chloride	0.13	0.13	SD-17	mg/kg	1/47	0.011 - 6.4	0.13	35 n	NO	BSL
	91203	Naphthalene	0.029	36	RM-SD-SD2D-03	mg/kg	24/64	0.2 - 8.9	36	3.8 c	YES	ASL
	621647	N-Nitroso-di-n-propylamine	0.11	0.11	RM-SD-SD2D-03	mg/kg	1/65	0.2 - 1700	0.11	0.078 c	YES	ASL
	86306	N-Nitrosodiphenylamine	0.055	1.6	RM-SD-SD21-04-MAX	mg/kg	4/65	0.2 - 1700	1.6	110 c	NO	BSL
	87865	Pentachlorophenol	0.12	0.12	RM-SD-SD2D-03	mg/kg	1/64	0.44 - 4400	0.12	1 c	NO	BSL
	85018	Phenanthrene	0.07	7.1	RM-SD-SD12-02	mg/kg	66/67	0.56 - 0.56	7.1	180 n	NO	BSL
	108952	Phenol	0.029	1000	SD-18	mg/kg	23/65	0.2 - 660	1000	1900 n	NO	BSL
	7440097	Potassium	435	4330	OU3-A3-SD08-0002	mg/kg	73/73	NA	4330	NBA	NO	NBA
	129000	Pyrene	0.12	11	RM-SD-SD23-04-MAX	mg/kg	66/67	0.56 - 0.56	11	180 n	NO	BSL
	127184	Tetrachloroethene	0.003	0.003	SD-09	mg/kg	1/47	0.011 - 6.4	0.003	8.1 n	NO	BSL
	108883	Toluene	0.002	0.012	RM-SD-SD2D-03	mg/kg	3/47	0.011 - 6.4	0.012	490 n	NO	BSL
	79016	Trichloroethene	0.003	0.023	RM-SD-SD16-04	mg/kg	5/48	0.011 - 6.4	0.023	0.41 n	NO	BSL
	75014	Vinyl chloride	0.001	0.04	RM-SD-MF01-02	mg/kg	3/47	0.011 - 6.4	0.04	0.059 c	NO	BSL
	1330207	Xylene (total)	0.004	0.088	RM-SD-SD2D-03	mg/kg	2/47	0.011 - 6.4	0.088	65 n	NO	BSL
	11097691	Aroclor 1254	0.21	4	HU121 A-024	mg/kg	9/214	0.02 - 8	4	0.12 n	YES	ASL
	11096825	Aroclor 1260	0.12	9	SPD F3	mg/kg	22/214	0.02 - 2.2	9	0.24 c	YES	ASL
	37324235	Aroclor 1262	0.069	68	OU3-A3-SD02-0002	mg/kg	35/70	0.03 - 0.25	68	0.24 c	YES	ASL

TABLE G-6
OCCURRENCE, DISTRIBUTION, AND SELECTION OF CONTAMINANTS OF POTENTIAL CONCERN - SURFACE SOIL (0-2 FT BGS)
RAYMARK OU3
STRATFORD, CONNECTICUT

Scenario Timeframe: Current/Future
Medium: Soil
Exposure Medium: Surface soil (0-2 ft)

Exposure Point	CAS Number	Contaminant	Minimum Concentration	Maximum Concentration	Location of Maximum Concentration	Units	Detection Frequency	Range of Detection Limits	Concentration Used for Screening (1)	Screening Toxicity Value (N/C) (2)	COPC Flag (Y/N)	Rationale for Selection or Deletion
OU3	11100144	Aroclor 1268	0.021	60	OU3-A3-SD02-0002	mg/kg	90/221	0.033 - 2.2	60	0.24 c	YES	ASL
	---	Toxicity Equivalency	0.00000079	0.0061	OU3-A3-SD02-0002	mg/kg	55/57	3E-05 - 0.00036	0.0061	0.0000048 c	YES	ASL
	7429905	Aluminum	2380	24300	OU3-A3-SD04-0002	mg/kg	72/72	NA	24300	7700 n	YES	ASL
	7440360	Antimony	1.8	13.2	OU3-A1-SD02-0002	mg/kg	11/69	1.2 - 21.7	13.2	3.1 n	YES	ASL
	7440382	Arsenic	1.7	21.2	RM-SD-SD16-03	mg/kg	64/72	1.6 - 6.4	21.2	0.68 c	YES	ASL
	7440393	Barium	24.8	11800	OU3-A3-SD02-0002	mg/kg	71/72	12.9 - 12.9	11800	1500 n	YES	ASL
	7440417	Beryllium	0.3	1.3	HU103AC-N790,W245(0.3-0.8)-MAX	mg/kg	29/73	0.14 - 1.7	1.3	16 n	NO	BSL
	7440439	Cadmium	0.62	22.5	SD-08-092392	mg/kg	51/79	0.33 - 5.7	22.5	7.1 n	YES	ASL
	7440702	Calcium	1330	11800	RM-SD-MF03-03	mg/kg	64/73	2090 - 3890	11800	NUT	NO	NO
	7440473	Chromium	10.6	900	RM-SD-MF03-03	mg/kg	72/72	NA	900	0.3 c	YES	ASL
	7440484	Cobalt	2	33.3	RM-SD-SD14D-03	mg/kg	72/73	6.4 - 6.4	33.3	2.3 n	YES	ASL
	7440508	Copper	0.3	21000	OU3-A3-SD02-0002	mg/kg	82/82	NA	21000	310 n	YES	ASL
	7439896	Iron	5930	57000	RM-SD-SD13-02	mg/kg	72/72	NA	57000	5500 n	YES	ASL
	7439921	Lead	1.6960278	22900	OU3-A3-SD02-0002	mg/kg	187/226	100 - 100	22900	400	YES	ASL
	7439954	Magnesium	1330	92220	RM-SD-SD16-04	mg/kg	73/73	NA	92220	NUT	NO	NO
	7439965	Manganese	71.1	1870	RM-SD-SD16-03	mg/kg	73/73	NA	1870	180 n	YES	ASL
	7439976	Mercury	0.1	3.1	RM-SD-MF03-03	mg/kg	37/73	0.08 - 0.58	3.1	0.94 n	YES	ASL
	7440020	Nickel	0.19928461	506	RM-SD-SD14D-03	mg/kg	81/81	NA	506	150 n	YES	ASL
	7782492	Selenium	0.87	3.5	SD14-MAX	mg/kg	14/70	0.57 - 5.2	3.5	39 n	NO	BSL
	7440224	Silver	0.44	8.7	RM-SD-MF02-03	mg/kg	19/68	0.5 - 3.3	8.7	39 n	NO	BSL
	7440235	Sodium	162	19400	RM-SD-SD04-04	mg/kg	65/72	108 - 1190	19400	NUT	NO	NO
	7440280	Thallium	3.9	3.9	OU3-A3-SD01-0002	mg/kg	1/69	0.4 - 4	3.9	0.078 n	YES	ASL
	7440622	Vanadium	9.6	157	RM-SD-SD16-03	mg/kg	72/73	0.36 - 0.36	157	39 n	YES	ASL
	7440666	Zinc	2.57610524	4800	OU3-A3-SD02-0002	mg/kg	76/81	51.8 - 436	4800	2300 n	YES	ASL
	---	Asbestos	0.99	90	SPD F3	mg/kg	54/166	0.1 - 0.1	90	NBA	NO	NBA

Notes/sources:

(1) Maximum detected concentration used for screening.

(2) Risk-based residential soil concentrations obtained from the Regional Screening Level (RSL) Table (June, 2015).

Surrogate screening values used:

- Hexavalent chromium used for chromium.
- Chlordane used for alpha- and gamma-chlordane.
- Endrin used for endrin aldehyde and endrin ketone.
- Endosulfan used for endosulfan I, endosulfan II, and endosulfan sulfate.
- Acenaphthene used for acenaphthylene.
- Aroclor 1260 used for Aroclor 1262 and Aroclor 1268.
- Pyrene used for benzo(g,h,i)perylene and phenanthrene.
- Technical-HCH used for delta-BHC.

ASL = above screening level.
BSL = below screening level.
c = cancer based screening value set at a target risk of 1E-06.
mg/kg = milligrams per kilogram.
NA = not available.
n = noncancer based screening value set at a target hazard quotient of 0.1.
NUT = essential nutrient.
NBA = No benchmark available.

The data spreadsheet contained sample results for dioxin TEQs without units. These samples have been excluded from consideration. Review of the data used in the OU3 RI indicate these samples were not included in risk calculations at that time either.

A small number of samples have also been anlayzed for PCB congeners. The PCB Aroclor dataset is much more robust. Therefore, PCB congener data were excluded from consideration to avoid double counting risks from PCBs.

TABLE G-7
SOIL AND SEDIMENT CONTAMINANTS OF CONCERN
RAYMARK OU3/4/6 SUPERFUND SITE
STRATFORD, CONNECTICUT

Soil/Sediment Contaminants of Concern[1]
Benzo(a)anthracene
Benzo(a)pyrene
Benzo(b)fluoranthene
Bis(2-ethylhexyl)phthalate
Dibenz(a,h)anthracene
Indeno(1,2,3-cd)pyrene
N-Nitroso-di-n-propylamine
Dieldrin
Aroclor-1242
Aroclor-1254
Aroclor-1260
Aroclor 1262
Aroclor 1268
Dioxin Toxicity Equivalency
Arsenic
Chromium
Copper
Thallium
Lead[2]
Asbestos[3]

Source: OU3 FS Table 1-2, OU4 FS Table 1-2, and OU6 FS Addendum Table 1-3.

1) Contaminants of Concern for soil and sediment are based on individual contaminant cancer risks exceeding $1x10^{-6}$, or individual contaminant hazard quotients exceeding 1.0 in one or more soil or sediment exposure scenario evaluated under OU3, OU4, or OU6 in the 2016 Risk Evaluation Updates.

2) Lead is considered a Contaminant of Concern based on average lead concentrations exceeding 400 mg/kg at residential or recreational properties and exceeding 1,000 mg/kg at commercial properties. EPA's Integrated Exposure Uptake Biokinetic (IEUBK) model predicts that where the average lead in soil concentration is 400 mg/kg or less, blood lead levels will meet EPA's risk goal of less than 5 percent of exposed children with blood lead levels above the 10 µg/dL level of concern. EPA's adult worker model predicts that where the average lead in soil concentration is 1,000 mg/kg or less, fetal blood lead levels will meet EPA's risk goal of less than 5 percent of fetuses of exposed women with blood lead levels above the 10 µg/dL level of concern.

3) Asbestos is considered a Contaminant of Concern based on detected Asbestos concentrations in soil or sediment exceeding 1 percent; asbestos-containing material is material containing more than 1 percent asbestos (Appendix A to Subpart M of 40 CFR 61) (EPA, 1990).

Table G-8
OU4 Raybestos Ballfield 1999 Risk Assessment Summary Results
RaymarkSuperfund Site - OU4
Stratford, Connecticut

Medium	**Human Health Risk Assessment Results**							**Ecological Risk Assessment Results**
	Human Health Scenario/ Receptor	**Total Cancer Risks**[1]	**Major contributors to cancer risk (individual cancer risk>1E-06)**	**Total Noncancer Hazard Index**	**Major contributors to noncancer Hazard Index (HI>1.0)**	**Lead**[2]	**Asbestos**[3]	
Soil 0-2 feet	Recreational Visitor[4]	1.4E-05	Arsenic - 6.5E-6 PCBs - 4.7E-6 Benzo(a)pyrene - 2.2E-6	total - 1.1 - no individual contaminants greater than HQ=1	NA	22%	2%	No Ecological Direct Exposure - No Risk
Soil 0-15 feet	Future Resident[4]	2.9E-04	PCBs - 2.5E-4 Arsenic - 2.2E-5 Benzo(a)pyrene - 1.1E-5 Dibenzo(a,h)anthracene - 6.2E-6 Benzo(a)anthracene - 1.0E-6	54	PCBs - 49.4 barium - 1.7 zinc - 1.0	99%	6%	No Ecological Direct Exposure - No Risk
	Future Commercial Worker	7.6E-05	PCBs - 6.5E-5 Arsenic - 5.2E-6 Benzo(a)pyrene - 2.7E-6 Dibenzo(a,h)anthracene - 1.6E-6	4.9	PCBs - 4.6	26.6 to 64.9 µg/dL	6%	
Groundwater	No Human Direct Exposure - No Risk							No Ecological Direct Exposure - No Risk

Notes:

(1) OU4 RI (TtNUS, 1999).

(2) Probability that blood lead levels exceed 10 µg/dL; EPA's goal is that no more than 5% of individuals will have blood lead concentrations above 10 µg/dL. Lead evaluations are shown for child residents, child frequent recreational visitors, and adult commercial workers. At the time that the OU4 RI was written, adult lead evaluations did not include probability of exceeding blood lead levels of 10 ug/dL, rather only the range of predicted 95th percentile blood lead levels among fetuses of adult workers were calculated. Values greater than 10 ug/dL are of concern.

(3) Average Detected Asbestos; asbestos-containing material is material containing more than 1 percent asbestos (Appendix A to Subpart M of 40 CFR 61) (EPA, 1990).

(4) Recreational visitors and Residents : cancer risk represents child plus adult, HI and lead evaluations represent only child.

NA - Not Applicable

TABLE G-9
SURFACE SOIL SAMPLE LIST
RAYMARK OU4
STRATFORD, CONNECTICUT

BORING	TOP	BOTTOM
540LBA-109	0	2
540LBA-112	0	2
A001	0	0.5
A002	0	0.5
A003	0	0.5
A013	0	0.5
A014	0	0.5
A015	0	0.5
A016	0	0.5
A017	0	0.5
A018	0	0.5
A019	0	0.5
A020	0	0.5
A021	0	0.5
A022	0	0.5
A023	0	0.5
A024	0	0.5
A025	0	0.5
A026	0	0.5
A027	0	0.5
A028	0	0.5
A029	0	0.5
A030	0	0
A030	0	0.5
A031	0	0.5
A032	0	0.5
A033	0	0.5
A034	0	0.5
A035	0	0.5
BF001	0	0.5
BF001	0.5	0.5
BF002	0	0.5
BF002	0.5	0.5
BF003	0	0.5
BF003	0.5	0.5
BF004	0	0.5
BF004	0.5	0.5
BF005	0	0.5
BF005	0.5	0.5
BF006	0.5	0.5
BF006	0	0.5
BF007	0	0.5
BF007	1	1
BF008	0	0.5

TABLE G-9
SURFACE SOIL SAMPLE LIST
RAYMARK OU4
STRATFORD, CONNECTICUT

BORING	TOP	BOTTOM
BF008	1	1
BF009	0	0.5
BF009	0.5	0.5
BF010	0	0.5
BF010	0.5	0.5
BF011	0	0.5
BF012	0	0.5
BF013	0	0.5
BF014	0	0.5
BF015	0	0.5
BF016	0	0.5
BF017	0	0.5
BF018	0	0.5
BF019	0	0.5
BF020	0	0.5
BF021	0	0.5
BF021	0.5	0.5
BF022	0	0.5
BF023	0	0.5
BF023A	0	0.5
BF024	0	0.5
BF024A	0	0.5
BF025	0	0.5
BF026	0	0.5
BF027	0	0.5
BF028	0	0.5
BF029	0	0.5
BF030	0	0.5
BF031	0	0.5
BF032	0	0.5
BF033	0	0.5
BF034	0	0.5
BF035	0	0.5
BF036	0	0.5
BF037	0	0.5
BF037A	0	0.5
BF038	0	0.5
BF039	0	0.5
BF040	0	0.5
BF041	0	0.5
BF042	0	0.5
BF043	0	0.5
BF044	0	0.5
BF045	0	0.5
BF046	0	0.5

TABLE G-9
SURFACE SOIL SAMPLE LIST
RAYMARK OU4
STRATFORD, CONNECTICUT

BORING	TOP	BOTTOM
BF047	0	0.5
BF048	0	0.5
BF049	0	0.5
BF050	0	0.5
BF051	0	0.5
BF052	0	0.5
OU4-SO-A	1	2
OU4-SO-H	0.5	2
RMB 001A	0	0.5
RMB 002A	0	0.5
RMB 003A	0	0.5
RMF 001	0	0.5
RMF 002	0	0.5
RMF 003	0	0.5
RMF 004	0	0.5
RMF 005	0	0.5
RMF 006	0	0.5
RMF 007	0	0.5
RMF 008	0	0.5
RMF 009	0	0.5
RMF 010	0	0.5
RMF A+00	0	0.5
RMF A+100	0	0.5
RMF A+200	0	0.5
RMF A+250	0	0.5
RMF A+300	0	0.5
RMF A+50	0	0.5
RMF B+00	0	0.5
RMF B+050	0	0.5
RMF B+100	0	0.5
RMF B+150	0	0.5
RMF B+200	0	0.5
RMF B+250	0	0.5
RMF B+300	0	0.5
RMF C+00	0	0.5
RMF C+050	0	0.5
RMF C+100	0	0.5
RMF C+150	0	0.5
RMF C+200	0	0.5
RMF C+250	0	0.5
RMF C+300	0	0.5
RMF D+00	0	0.5
RMF D+050	0	0.5
RMF D+100	0	0.5
RMF D+150	0	0.5

TABLE G-9
SURFACE SOIL SAMPLE LIST
RAYMARK OU4
STRATFORD, CONNECTICUT

BORING	TOP	BOTTOM
RMF D+200	0	0.5
RMF D+250	0	0.5
RMF E+00	0	0.5
RMF E+050	0	0.5
RMF E+100	0	0.5
RMF E+150	0	0.5
RMF E+200	0	0.5
RMF E+250	0	0.5
RMF F+00	0	0.5
RMF F+050	0	0.5
RMF F+100	0	0.5
RMF F+150	0	0.5
RMF F+200	0	0.5
RMF G+00	0	0.5
RMFG+50	0	0.5
SB-421	0	2
SB-422	0	2
SB-423	0	2
SB-424	0	2
SB-425	0	2
SB-426	0	2
SB-427	0	2

TABLE G-10
0 to 15 FEET SOIL SAMPLE LIST
RAYMARK OU4
STRATFORD, CONNECTICUT

BORING	TOP	BOTTOM
540LBA-109	0	2
540LBA-109	2	4
540LBA-109	4	6
540LBA-109	6	8
540LBA-109	8	10
540LBA-109	10	12
540LBA-109	12	14
540LBA-112	0	2
540LBA-112	2	4
A001	0	0.5
A002	0	0.5
A003	0	0.5
A013	0	0.5
A014	0	0.5
A015	0	0.5
A016	0	0.5
A017	0	0.5
A018	0	0.5
A019	0	0.5
A020	0	0.5
A021	0	0.5
A022	0	0.5
A023	0	0.5
A024	0	0.5
A025	0	0.5
A026	0	0.5
A027	0	0.5
A028	0	0.5
A029	0	0.5
A030	0	0
A030	0	0.5
A031	0	0.5
A032	0	0.5
A033	0	0.5
A034	0	0.5
A035	0	0.5
BF001	0	0.5
BF001	0.5	0.5
BF002	0	0.5
BF002	0.5	0.5
BF003	0	0.5
BF003	0.5	0.5
BF004	0	0.5

TABLE G-10
0 to 15 FEET SOIL SAMPLE LIST
RAYMARK OU4
STRATFORD, CONNECTICUT

BORING	TOP	BOTTOM
BF004	0.5	0.5
BF005	0	0.5
BF005	0.5	0.5
BF006	0.5	0.5
BF006	0	0.5
BF007	0	0.5
BF007	1	1
BF008	0	0.5
BF008	1	1
BF009	0	0.5
BF009	0.5	0.5
BF010	0	0.5
BF010	0.5	0.5
BF011	0	0.5
BF012	0	0.5
BF013	0	0.5
BF014	0	0.5
BF015	0	0.5
BF016	0	0.5
BF017	0	0.5
BF018	0	0.5
BF019	0	0.5
BF020	0	0.5
BF021	0	0.5
BF021	0.5	0.5
BF022	0	0.5
BF023	0	0.5
BF023A	0	0.5
BF024	0	0.5
BF024A	0	0.5
BF025	0	0.5
BF026	0	0.5
BF027	0	0.5
BF028	0	0.5
BF029	0	0.5
BF030	0	0.5
BF031	0	0.5
BF032	0	0.5
BF033	0	0.5
BF034	0	0.5
BF035	0	0.5
BF036	0	0.5
BF037	0	0.5
BF037A	0	0.5
BF038	0	0.5

TABLE G-10
0 to 15 FEET SOIL SAMPLE LIST
RAYMARK OU4
STRATFORD, CONNECTICUT

BORING	TOP	BOTTOM
BF039	0	0.5
BF040	0	0.5
BF041	0	0.5
BF042	0	0.5
BF043	0	0.5
BF044	0	0.5
BF045	0	0.5
BF046	0	0.5
BF047	0	0.5
BF048	0	0.5
BF049	0	0.5
BF050	0	0.5
BF051	0	0.5
BF052	0	0.5
OU4-SO-A	1	2
OU4-SO-B	3	3.5
OU4-SO-C	2	2.5
OU4-SO-D	2	3
OU4-SO-E	2	3
OU4-SO-F	3	4
OU4-SO-G	2	2.5
OU4-SO-H	0.5	2
RMB 001A	0	0.5
RMB 002A	0	0.5
RMB 003A	0	0.5
RMF 001	0	0.5
RMF 002	0	0.5
RMF 003	0	0.5
RMF 004	0	0.5
RMF 005	0	0.5
RMF 006	0	0.5
RMF 007	0	0.5
RMF 008	0	0.5
RMF 009	0	0.5
RMF 010	0	0.5
RMF A+00	0	0.5
RMF A+100	0	0.5
RMF A+200	0	0.5
RMF A+250	0	0.5
RMF A+300	0	0.5
RMF A+50	0	0.5
RMF B+00	0	0.5
RMF B+050	0	0.5
RMF B+100	0	0.5
RMF B+150	0	0.5

TABLE G-10
0 to 15 FEET SOIL SAMPLE LIST
RAYMARK OU4
STRATFORD, CONNECTICUT

BORING	TOP	BOTTOM
RMF B+200	0	0.5
RMF B+250	0	0.5
RMF B+300	0	0.5
RMF C+00	0	0.5
RMF C+050	0	0.5
RMF C+100	0	0.5
RMF C+150	0	0.5
RMF C+200	0	0.5
RMF C+250	0	0.5
RMF C+300	0	0.5
RMF D+00	0	0.5
RMF D+050	0	0.5
RMF D+100	0	0.5
RMF D+150	0	0.5
RMF D+200	0	0.5
RMF D+250	0	0.5
RMF E+00	0	0.5
RMF E+050	0	0.5
RMF E+100	0	0.5
RMF E+150	0	0.5
RMF E+200	0	0.5
RMF E+250	0	0.5
RMF F+00	0	0.5
RMF F+050	0	0.5
RMF F+100	0	0.5
RMF F+150	0	0.5
RMF F+200	0	0.5
RMF G+00	0	0.5
RMFG+50	0	0.5
SB-401	2	4
SB-401	6	8
SB-401	10	12
SB-402	2	4
SB-402	4	6
SB-402	6	8
SB-402	8	10
SB-402	10	12
SB-402	12	14
SB-421	0	2

TABLE G-10
0 to 15 FEET SOIL SAMPLE LIST
RAYMARK OU4
STRATFORD, CONNECTICUT

BORING	TOP	BOTTOM
SB-421	2	4
SB-421	4	6
SB-421	8	10
SB-421	8	10
SB-422	0	2
SB-422	2	4
SB-423	0	2
SB-423	2	4
SB-423	4	6
SB-423	6	8
SB-423	8	10
SB-423	10	12
SB-423	12	14
SB-424	0	2
SB-424	2	4
SB-424	4	6
SB-424	6	8
SB-424	8	10
SB-424	10	12
SB-424	12	14
SB-425	0	2
SB-425	2	4
SB-425	4	6
SB-425	6	8
SB-425	8	10
SB-425	10	12
SB-425	12	14
SB-426	0	2
SB-426	2	4
SB-426	4	6
SB-426	6	8
SB-426	8	10
SB-426	10	12
SB-426	12	14
SB-427	0	2
SB-427	2	4
SB-427	4	6
SB-427	6	8
SB-427	8	10
SB-427	10	12
SB-427	12	14
TP09G	7	8
TP10C	8	9
TP11	2	3
TP11	7	8
TP14	3	5
TP17	4	5
TP18	3	4

APPENDIX C:

TABLES OF APPLICABLE OR RELEVANT

AND

APPROPRIATE REQUIREMENTS (ARARS)

TABLE C-1
CHEMICAL-SPECIFIC ARARs AND TBCs
RAYMARK SUPERFUND SITE – ROD FOR OPERABLE UNITS 2, 3, 4 AND 6
STRATFORD, CONNECTICUT

AUTHORITY	REQUIREMENT	REQUIREMENT SYNOPSIS	STATUS	ACTION TAKEN TO ATTAIN ARAR
Federal Criteria, Advisories, and Guidance	OSWER Technical Guide for Assessing and Mitigating the Vapor Intrusion Pathway from Subsurface Vapor Sources to Indoor Air (OSWER Publication 9200.2-154). June 2015.	This EPA guidance establishes a methodology for assessing potential indoor air risks to human health that may result from volatilization of contaminants from groundwater and soil vapor into an overlying building, using multiple lines of evidence.	To Be Considered	This guidance was used in assessing whether or not a complete vapor intrusion pathway exists in commercial and residential structures within OU2, using multiple lines of evidence, including VOC concentrations in groundwater, soil vapor, and indoor air. Parcels with underlying contaminated groundwater that pose potential vapor intrusion threats were identified in the FS. The methodology from the guidance was also used to develop risk-based PRGs for indoor air and target groundwater concentrations that were used to identify areas and buildings of concern for vapor intrusion risks and to estimate the time until RAOs can be achieved.
Federal Criteria, Advisories, and Guidance	OSWER Vapor Intrusion Screening Level (VISL) calculator, Version 3.1.1 May 2014 RSLs; Version 3.4, June 2015 RSLs; Version 3.4 November 2015 RSLs	EPA developed VISLs for human health protection to use in identifying areas or buildings that may warrant further investigation of the vapor intrusion pathway.	To Be Considered	The calculator was used in the HHRA to identify VOC concentrations in groundwater, soil vapor, and indoor air that pose potential vapor intrusion risks. Parcels with underlying contaminated groundwater that pose potential vapor intrusion threats were identified in the FS. The methodology from the guidance was also used to develop risk-based PRGs for indoor air and target groundwater concentrations that were used to identify areas and buildings of concern for vapor intrusion risks and to estimate the time until RAOs can be achieved.

AUTHORITY	REQUIREMENT	REQUIREMENT SYNOPSIS	STATUS	ACTION TAKEN TO ATTAIN ARAR
Federal Criteria, Advisories, and Guidance	EPA Regional Screening Level (RSL)Tables, January and November 2015	RSLs are criteria for indoor air developed by EPA for protection of human exposure to contaminants in indoor air. RSLs are also used as the basis for VISLs.	To Be Considered	January 2015 RSLs were used in evaluation of data included in FS. November 2015 RSLs were used in development of indoor air PRGs.
Federal Criteria, Advisories, and Guidance	EPA Risk Reference Concentrations (RfCs)	RfCs are estimates of a daily exposure concentration that is likely to be without appreciable risk of deleterious effects during a lifetime exposure. RfCs are used to characterize human health risks due to non-carcinogens in indoor air.	To Be Considered	RfCs were used to characterize human health risks due to non-carcinogens in indoor air.
Federal Criteria, Advisories, and Guidance	Human Health Assessment Inhalation Unit Risk factors	Inhalation unit risk factors are estimates of the upper-bound probability of an individual developing cancer as a result of a lifetime exposure to a particular concentration of a potential carcinogen. Inhalation unit risk factors are used to compute the individual incremental cancer risk resulting from exposure to carcinogens in indoor air.	To Be Considered	These risk factors were used to characterize human health risks due to carcinogens in indoor air.
Federal Criteria, Advisories, and Guidance	Guidelines for Carcinogenic Risk Assessment, EPA/630/P-03/001F	These guidelines provide guidance on conducting risk assessments involving carcinogens.	To Be Considered	These guidelines were used to evaluate health risks associated with carcinogens
Federal Criteria, Advisories, and Guidance	Human Health Assessment Cancer Slope Factors (CSFs)	Guidance values used to evaluate the potential carcinogenic risk caused by exposure to contaminants.	To Be Considered	CSFs were used to compute the individual incremental cancer risk resulting from exposure to carcinogens in site media.

AUTHORITY	REQUIREMENT	REQUIREMENT SYNOPSIS	STATUS	ACTION TAKEN TO ATTAIN ARAR
Federal Criteria, Advisories, and Guidance	EPA Risk Reference Doses (RfDs)	RfDs are dose levels developed by EPA for use in estimating the non-carcinogenic effects of exposure to toxic substances.	To Be Considered	RfDs were used to characterize human health risks due to non-carcinogens in site media.
Federal Criteria, Advisories, and Guidance	Toxic Substances Control Act (TSCA) PCB Spill Clean-up Policy (40 CFR 761.120-135)	This policy applies to recent PCB spills and establishes clean-up levels for PCB spills of 50 ppm or greater at 10 ppm for non-restricted access areas and 25 ppm for restricted access areas.	To Be Considered	This policy will be considered if any spills occur during remediation unless the Regional Administrator sets different cleanup goals pursuant to TCSA.
Federal Criteria, Advisories, and Guidance	EPA Guidance on Remedial Actions for Superfund Sites with PCB Contamination (EPA/540/G-90/007)	This document describes the recommended approach for developing remediation goals and selecting remedies at Superfund sites with PCB contamination.	To Be Considered	This document was used to guide development and selection of remedial alternatives.

AUTHORITY	REQUIREMENT	REQUIREMENT SYNOPSIS	STATUS	ACTION TAKEN TO ATTAIN ARAR
State Regulatory Requirement	Connecticut Remediation Standard Regulations (22a-133k1 to 22a-133k2 Appendices A and B)	These regulations establish numeric direct exposure (DEC) and pollutant mobility (PMC) criteria for cleanup of soils under residential and commercial/ industrial land use conditions. The RSR also provide alternative means to assess and evaluate compliance with regulatory requirements. PMC does not apply to areas below the seasonal high water table.	Applicable	Compliance with this regulation will be achieved in a number of ways: Contaminated soil within the Raymark waste footprint exceeding the DEC and PMC values will be managed according to the RSR regulations by an alternative means through excavation to 4 feet, backfilling with 4 feet of clean material, cover maintenance, groundwater monitoring, and land use restrictions. By consolidating soil contaminated with Raymark waste under a RCRA low-permeability cap, potential exposures to contaminants that exceed the RSR DEC will be eliminated. The RCRA cap is an engineered control that will minimize precipitation infiltration and pollutant mobility, thereby meeting the RSR PMC. Excavated soil contaminated with non-Raymark waste will be tested to determine compliance with RSRs. Soil that meets RSR requirements for PMC will be used as backfill; soil that fails to meet RSRs for PMC will be consolidated under the RCRA low permeability cap, shipped offsite, or consolidated under a RSR compliant engineered control. Soil used as backfill that does not comply with RSRs for DEC will have a soil cover that includes 4 feet of clean fill or 2 feet of clean fill and pavement. Land use restrictions and long-term monitoring will ensure the cap and soil covers remains protective.

AUTHORITY	REQUIREMENT	REQUIREMENT SYNOPSIS	STATUS	ACTION TAKEN TO ATTAIN ARAR
State Regulatory Requirement	Remediation Standard Regulations (RSRs) for Volatilization Criteria (RSCA Section 22a-133k-3 (c) 1 to 3, and (5)). June 2013.	This regulation establishes numerical volatilization criteria (VC) for contaminated groundwater and soil vapor developed for protection of occupants of residential and industrial/ commercial buildings overlying a groundwater contaminant plume and establishes Target Indoor Air Concentrations. The regulation requires remediation of VOC contaminated groundwater below a building used for residential or industrial/commercial activity to concentrations equal to or below the applicable VC. Exemptions from the Volatilization Criteria are allowed if the concentrations of contaminants in soil vapors below a building do not exceed applicable volatilization criteria for soil gas. An exemption is also allowed if (i) measures are taken to prevent the migration of such substances into any overlying building, (ii) a program is implemented to maintain and monitor all such measures, and (iii) notice of such measures has been submitted to the Commissioner.	Applicable	Installation and monitoring of vapor mitigation systems in residential and commercial/industrial buildings determined to have vapor intrusion concerns will meet this requirement. The RSR groundwater and soil gas VC were considered during PRG development.

TABLE C-2
LOCATION-SPECIFIC ARARs AND TBCs
RAYMARK SUPERFUND SITE – ROD FOR OPERABLE UNITS 2, 3, 4 AND 6
STRATFORD, CONNECTICUT

AUTHORITY	REQUIREMENT	REQUIREMENT SYNOPSIS	STATUS	ACTION TAKEN TO ATTAIN ARAR
Federal Regulatory Requirement	Clean Water Act (CWA) Sec. 404 Guidelines for dredge or fill material into waters of the U.S 33 USC 1344 40 CFR 230; 33 CFR 320-323; 33 CFR 332	Discharge of dredged or fill material is prohibited to wetlands or other US waters if there is a practical alternative which would have less adverse impact to the aquatic ecosystem. Sets standards for restoration and mitigation required as a result of unavoidable impacts to aquatic resources.	Applicable	The alternative presented in the Proposed Plan was evaluated and determined by EPA to be the least damaging practicable alternative. Dredging, excavating, and backfilling are subject to these regulations. Dredged and excavated wastes will be drained and removed for transfer to the in-town consolidation location. None of the dredged or excavated materials will be discharged into the wetlands or Ferry Creek. Erosion and sediment controls will be used to minimize or prevent potential impacts. Mitigation and/or restoration may be required.
Federal Regulatory Requirement	Rivers and Harbors Act, Section 10 (33 USC Section 403)	Sets forth criteria for, among other things, placing obstructions in navigable waters of the U.S.	Applicable	Water diversion structures, dams, and sheet piles are subject to these requirements. If Ferry Creek is determined to be a navigable water, then these activities must be conducted in accordance with these requirements.
Federal Regulatory Requirement	Endangered Species Act of 1973, 16 USC 1531 et seq. 50 CFR 402	Establishes requirements to protect species threatened by extinction and habitats critical to their survival.	Applicable	The Atlantic sturgeon, an endangered species, has been identified in the area. Consultation with other Federal agencies will occur and mitigation measures, as necessary, will be implemented. Should additional endangered species or critical habitats be identified during the remedial design, consultation will occur and measures will be developed to protect the identified species or habitats critical to their survival, as necessary.

AUTHORITY	REQUIREMENT	REQUIREMENT SYNOPSIS	STATUS	ACTION TAKEN TO ATTAIN ARAR
Federal Regulatory Requirement	Fish and Wildlife Coordination Act (16 USC 661 et seq.; 50 CFR Parts 81, 226, 402)	This Act protects fish and wildlife when federal actions result in the control or structural modification of a natural stream of body of water. Encourages that any federal agency proposing to modify a body of water to consult with the U.S. Fish and Wildlife Service (FWS), National Marine Fisheries Service (NMFS), and other related state agencies.	Applicable	Potential adverse impacts must be evaluated through consultation with other federal agencies and mitigation measures may be required.
Federal Regulatory Requirement	National Historic Preservation Act (NHPA), 16 U.S.C. 470, Section 106)	Pursuant to Section 106 of the NHPA, as amended, CERCLA response actions are required to take into account the effects of the response activities on any historic property included or eligible for inclusion on the National Register of Historic Place and, if found, consult with the SHPO/THPO.	Potentially Applicable	Prior to any excavation or disturbance of soil or a structure, a review of potential impacts to historic structures or sites will be conducted. If any such impacts are identified, consultation will occur and, if necessary, measures will be taken to avoid destruction of such structure or site. During remedial design or remedial action, if such resources are identified, consultation will occur and avoidance or other appropriate measures will be taken, as necessary. The Raybestos Memorial Ballfield and its associated structures will be evaluated to determine whether it is a historic property that is eligible for listing on the NRHP. If impacts are determined to be unavoidable, mitigating measures, in consultation with the SHPO, will be implemented. If needed, data recovery (i.e., recordation of architectural elements of the stadium) will be performed.

AUTHORITY	REQUIREMENT	REQUIREMENT SYNOPSIS	STATUS	ACTION TAKEN TO ATTAIN ARAR
Federal Regulatory Requirement	Archaeological and National Historic Preservation Act of 1974, Public Law 93-291	When a Federal agency finds, or is notified, that activities in connection with a Federal construction project may cause irreparable loss or destruction of significant scientific, prehistoric, historical, or archaeological data, such agency shall notify the Dept. of the Interior (DOI). Such agency may request DOI to undertake the preservation of such data or it may undertake the activity.	Potentially Applicable	If during remedial design or remedial action, it is determined that this alternative may cause irreparable loss or destruction of significant scientific, prehistoric, historical, or archaeological data, EPA will notify DOI and comply with these requirements.
Federal Regulatory Requirement	RCRA Floodplain Restrictions for Hazardous Waste Facilities (40 CFR 264.18(b))	A facility located in a 100-year floodplain must be designed, constructed, operated, and maintained to prevent washout or to result in no adverse effects on human health or the environment if washout were to occur.	Relevant and Appropriate	Excavated soil, creek channel, and wetland soil will be backfilled with soil covers that will mimic current conditions. Potential for washout is limited, and contaminated waste will remain covered. Long-term monitoring will ensure backfill material remains in place.

AUTHORITY	REQUIREMENT	REQUIREMENT SYNOPSIS	STATUS	ACTION TAKEN TO ATTAIN ARAR
Federal Regulatory Requirement	Floodplain Management and Protection of Wetlands: FEMA Regulations (44 CFR Part 9,) §§ 9.9 and 9.11)	Regulation sets forth policy, procedures, responsibilities to implement and enforce Executive Orders 11988 Floodplain Management) and 11990 (Protection of Wetlands). Remedial alternatives conducted within floodplains and federal jurisdictional wetlands/aquatic habitats will be implemented in compliance with the substantive provisions of these standards. EPA will solicit public comment on the measures taken through remedial action to protect floodplain and wetland resources.	Relevant and Appropriate	The alternative presented in the Proposed Plan was evaluated and determined by EPA to be the least environmentally damaging practicable alternative. EPA has determined there will be temporary impacts to floodplains but actions will not modify or occupy the floodway or result in the loss of flood storage capacity during remediation. Unavoidable impacts to the wetlands and floodplain will result because contaminated wetland and floodplain soil need to be excavated. There are no wetlands within the VI action properties area or at OU4. Floodplains have been identified in portions of the downgradient receptor area where SSD systems and monitoring wells would be installed. Existing SSD equipment will be evaluated and modified if necessary (e.g. raised to an elevation 2 to 3 ft above 100-year flood elevation) to ensure the resiliency of the equipment in the event of a historic flood. Mechanical components of the new systems will be installed at an elevation above the 500-year floodplain elevation. All of OU3 lies within the 100-year floodplain. Because finish grades will remain unchanged, impacts to the floodplain will be temporary, and the floodplain will be unaffected. Loss, destruction or degradation will be minimized and mitigation may be required. The affected wetland areas in OU3 and OU6 will be backfilled with clean soil, revegetated, and restored as wetlands.

AUTHORITY	REQUIREMENT	REQUIREMENT SYNOPSIS	STATUS	ACTION TAKEN TO ATTAIN ARAR
Federal Criteria, Advisories, and Guidance	Executive Order 11988 - Floodplain Management	Federal agencies are required to avoid impacts associated with the occupancy and modification of a floodplain and avoid floodplain development wherever there is a practicable alternative.	To Be Considered	The alternative presented in the Proposed Plan was evaluated and determined by EPA to be the least environmentally damaging practicable alternative. EPA has determined there will be temporary impacts to floodplains but actions will not modify or occupy the floodway or result in the loss of flood storage capacity during remediation. Floodplains have been identified in portions of the downgradient receptor area where SSD systems and monitoring wells would be installed. Existing SSD equipment will be evaluated and modified if necessary (e.g. raised to an elevation 2 to 3 ft above 100-year flood elevation) to ensure the resiliency of the equipment in the event of a historic flood. The mechanical components of the new systems will be installed at an elevation above the 500-year floodplain elevation. All of OU3 lies within the 100-year floodplain. Unavoidable impacts to the floodplain will result because contaminated floodplain soil need to be excavated. Because finish grades will remain unchanged, impacts to the floodplain will be temporary, and the floodplain will be unaffected. Loss, destruction or degradation will be minimized and mitigation may be required.

AUTHORITY	REQUIREMENT	REQUIREMENT SYNOPSIS	STATUS	ACTION TAKEN TO ATTAIN ARAR
Federal Criteria, Advisories, and Guidance	Protection of Wetlands (Executive Order 11990)	Federal agencies are required to avoid impacts associated with the occupancy and modification of a floodplain and avoid support of floodplain development wherever there is a practicable alternative.	To Be Considered	The alternative presented in the Proposed Plan was evaluated and determined by EPA to be the least environmentally damaging practicable alternative. Unavoidable impacts to the wetlands will result because contaminated wetlands need to be excavated. There are no wetlands in the VI Action Properties area or at OU4. The affected wetland areas in OU3 and OU6 will be backfilled with clean soil, revegetated, and restored as wetlands. Loss, destruction or degradation will be minimized and mitigation may be required.
Federal Criteria, Advisories, and Guidance	USEPA "Policy on Floodplains and Wetland Assessments for CERCLA Actions" OSWER Dir. 9280.0 (August 6, 1985	This guidance details situations that requirement preparation of floodplains or wetlands assessments and the factors that should be considered in preparing an assessment for actions taken under Section 104 or 106 of CERCLA, including avoiding adverse impacts to wetlands and floodplains unless there is no practicable alternative and the proposed action includes all practicable measures to minimize harm that may result from such actions.	To Be Considered	This guidance will be considered when planning and implementing actions within protected resources.

AUTHORITY	REQUIREMENT	REQUIREMENT SYNOPSIS	STATUS	ACTION TAKEN TO ATTAIN ARAR
State Regulatory Requirement	Connecticut Flood Management Act Regulations (RSCA Section 25-68h-1 to 3	These regulations govern activities in floodplains to minimize flood risk and prevent flood hazards. The regulations also contain stormwater management standards.	Applicable	EPA has determined there will be temporary impacts to floodplains but actions will not modify or occupy the floodway or result in the loss of flood storage capacity during remediation. Floodplains have been identified in portions of the downgradient receptor area where SSD systems and monitoring wells would be installed. Existing SSD equipment will be evaluated and modified if necessary (e.g. raised to an elevation 2 to 3 ft above 100-year flood elevation) to ensure the resiliency of the equipment in the event of a historic flood. The mechanical components of the new systems will be installed at an elevation above the 500-year floodplain elevation. OU3 and OU6 lie within the 100-year floodplain. Unavoidable impacts to the floodplain will result because contaminated floodplain soil need to be excavated. Because finish grades will remain unchanged, impacts to the floodplain will be temporary, and the floodplain will be unaffected. Loss, destruction or degradation will be minimized and mitigation may be required. Stormwater will be managed using best management practices such as hay bales and silt fences.

AUTHORITY	REQUIREMENT	REQUIREMENT SYNOPSIS	STATUS	ACTION TAKEN TO ATTAIN ARAR
State Regulatory Requirement	Connecticut Coastal Management Act (Sec. 22a-92, 93, 94, 98 and 100)	This statute establishes Connecticut's enforceable coastal zone policies in accordance with the federal Coastal Zone Management Act.	Applicable	During remedial design, potential for adverse impacts to coastal resources, including wetlands, floodplains, and future water-dependent development activities, will be evaluated, and mitigation measures will be developed, if needed. During the remedial action, mitigation measures will be implemented, as appropriate. Stormwater management protocols will also be developed, and as appropriate, implemented during the remedial action.
State Regulatory Requirement	Tidal Wetlands Act and Regulations (CGS 22a-28 through 35) (RCSA 22a-30-2, 10, and 11)	Regulate activities that are conducted within the tidal wetlands of the State. Establish permitting, approval, and restoration procedures for work conducted within tidal wetlands.	Applicable	During remedial design, potential for adverse impacts to the tidal wetlands (from excavation, removal of soil, filling) will be evaluated, and mitigation measures will be developed, if needed. During the remedial action, mitigation measures will be implemented, as appropriate.
State Regulatory Requirement	Connecticut Inland Wetlands and Watercourses Act and Regulations (CGS 22a-36 to 22a-45) (RCSA 22a-39-1 to 15)	Regulates activities that are conducted within inland wetlands and surface water bodies.	Applicable	Work conducted within inland wetlands or in rivers, streams, or ponds must comply with these regulations. After excavation of wastes in these areas, mitigation measures will be implemented to restore wetlands.

AUTHORITY	REQUIREMENT	REQUIREMENT SYNOPSIS	STATUS	ACTION TAKEN TO ATTAIN ARAR
State Regulatory Requirement	Regulation of Dredging and Placement of Fill in Tidal, Coastal or Navigable Waters: (CGS 22a-359-363f)	This statute regulates dredging, the erection of structures, and placement of fill in tidal, coastal, or navigable waters waterward of the high tide line	Applicable	Substantive requirements of this regulation will be met. Dredged and excavated wastes will be drained and removed for transfer to the in-town consolidation location. None of the dredged or excavated materials will be discharged into the wetlands or Ferry Creek. Erosion and sediment controls will be used to minimize or prevent potential impacts.
State Regulatory Requirement	Endangered, Threatened, and Species of Special Concern (RCSA 26-306-1 to 26-306-7)	These regulations establish procedures to determine whether any species is endangered, threatened, or of special concern and for identification of essential habitats. Lists of endangered, threatened, species of special concern are provided in the regulations.	Potentially Applicable	If endangered, threatened, or species of special concern are identified during the remedial design or remedial action, measures will be developed to protect the identified species or habitats critical to their survival.
State Regulatory Requirement	Historic Structures and Landmarks (CGS 22a-19a)	Directs that the provisions of Sections 22a-15 through 22a-19, inclusive, of the Connecticut Environmental Protection Act, which permit legal recourse for the unreasonable destruction of the state's natural resources such as air, water, and soil, shall also be applicable to historic structures and landmarks. Structures and landmarks are defined as those properties that are listed or under consideration for listing as individual units on the National Register of Historic Places. Should such items be identified, consultation with the SHPO will occur and appropriate measures will be taken as necessary.	Potentially Applicable	If during remedial design or remedial action, such resources are identified, consultation will occur and avoidance or other appropriate measures will be taken, as necessary. The Raybestos Memorial Ballfield and its associated structures will be evaluated to determine whether it is a historic property that is eligible for listing on the NRHP. If impacts are determined to be unavoidable, mitigating measures, in consultation with the SHPO, will be implemented. If needed, data recovery (i.e., recordation of architectural elements of the stadium) will be performed.

AUTHORITY	REQUIREMENT	REQUIREMENT SYNOPSIS	STATUS	ACTION TAKEN TO ATTAIN ARAR
Federal Regulatory Requirement	Toxic Substances Control Act - Storage and Disposal (TSCA) (40 CFR 761.61(c))	Establishes requirements for management and disposal of PCB remediation waste. All Raymark waste is considered a PCB remediation waste.	Applicable	EPA has determined that the Selected Remedy will not result in an unreasonable risk of injury to human health or the environment provided certain conditions are met. The determination attached to the ROD. The storage and response to PCB remediation waste will be conducted in accordance with this Determination.
Federal Regulatory Requirement	TSCA Decontamination Standards and Procedures (40 CFR 761.79)	These regulations establish decontamination standards and procedures for removing PCBs for disposal. Provides numeric standards for allowable PCB concentrations in various building material and in liquids.	Applicable	Equipment and materials contaminated with PCBs during the remedial action will be decontaminated in accordance with these regulations. Wastes from decontamination will be disposed of appropriately.
Federal Regulatory Requirement	Safe Drinking Water Act - Maximum Contaminant Levels (MCL), 40 CFR 141.11 - 141.13	The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to Maximum Contaminant Levels Goals (MCLGs) a feasible using the best available treatment technology and taking cost into consideration. MCLs are enforceable standards.	Relevant and Appropriate	For OU2, groundwater monitoring results will be compared to MCLs to determine the need for continuation of institutional controls that prevent use of groundwater.

AUTHORITY	REQUIREMENT	REQUIREMENT SYNOPSIS	STATUS	ACTION TAKEN TO ATTAIN ARAR
Federal Regulatory Requirement	Clean Water Act, §402 NPDES, 33 USC 1343, 40 CFR 122.22 -125, 131	These standards govern discharge of water into surface waters.	Applicable	Discharge of water into surface water (from dewatering activities, collection of stormwater, decontamination water) will meet the substantive standards of this regulations including meeting effluent standards and preventing degradation of surface water. During remediation, best management practices and other measures will be implemented to control pollutants in wastewater discharges.
Federal Regulatory Requirement	Clean Water Act NPDES Regulations (Stormwater Discharges) (40 CFR 122.26(c)(ii)(C))	Discharges of stormwater associated with construction activities are required to implement measures, including best management practices, to control pollutants in stormwater discharges during and after construction activities.	Applicable	During remediation, best management practices and other measures will be implemented to control pollutants in storm water discharges.
Federal Regulatory Requirement	Clean Water Act, Federal Water Quality Criteria §304(a), 40 CFR 131	The National Recommended Water Quality Criteria (NRWQC) are provided by EPA for both protection of human health and aquatic life for specific chemicals.	Relevant and Appropriate	NRWQC will be used as a performance standard for evaluating the effectiveness of sediment removal on surface water quality for aquatic life and to ensure there is no degradation of the surface water during remediation.

AUTHORITY	REQUIREMENT	REQUIREMENT SYNOPSIS	STATUS	ACTION TAKEN TO ATTAIN ARAR
Federal Regulatory Requirement	Proposed amendment to the National Emission Standards for Hazardous Air Pollutants for Site Remediation (NESHAPS) (40 CFR 63 – Subpart GGGGG); 81 Federal Register 29821 (May 13, 2016)	Regulates VOC emissions from site remediation activities including emissions of benzene and vinyl chloride, among other organics, if thresholds are exceeded. Requires control of emissions by meeting numerical limitations and work practice standards reflecting the application of maximum achievable control technology (MACT). Provides requirements for monitoring, testing, reporting, and repairs. Currently, the regulation excludes CERCLA remediation and applies to site remediations that are co-located with at least one other stationary source regulated by another NESHAP. However, a proposed amendment to the rule would eliminate the CERCLA exemption and apply to stand alone site remediations with the potential to emit 10 tons per year of a single HAP or 25 tons per year for a combination of HAPs.	To Be Considered, if threshold limit is exceeded	It is not anticipated that VOC concentrations at the sub-slab depressurization (SSD) systems or any other equipment will exceed the thresholds. However, these requirements will be considered if concentrations of VOCs captured by SSD systems or any other equipment exceed the thresholds, and effective air pollution control devices will be evaluated for use depending on the status of the proposed amendment.
Federal Regulatory Requirement	CAA National Emission Standards for Hazardous Air Pollutants (NESHAPS) (40 CFR 61 Subpart M; 61.150 and 61.151)	These regulations specify requirements regarding removal, management, and disposal of asbestos.	Relevant and Appropriate	During remediation, the handling, treatment, and disposal of soils containing asbestos will comply with the substantive provisions of these regulations. The removal and handling of asbestos will be managed through air monitoring and best managements practices.
Federal Regulatory Requirement	RCRA Air Emission Standards for Process Vents (40 CFR 264, Subpart AA)	Provides requirements and treatment limits applicable to air stripping facilities that treat RCRA wastes with total VOCs of 10 ppm by weight or greater.	Applicable, if threshold limit is exceeded	Should emissions from air stripping equipment installed on SSD systems, if needed, exceed these threshold limits, the emission will be addressed in accordance with these provisions.

AUTHORITY	REQUIREMENT	REQUIREMENT SYNOPSIS	STATUS	ACTION TAKEN TO ATTAIN ARAR
Federal Regulatory Requirement	RCRA Hazardous Waste Management, CAMU Standards: 40 CFR Section 264.552 (Note that RSCA 22a-449(c) 104 refers to the federal RCRA Regulations.)	Sets standards and minimum design requirements for the design of CAMUs and treatment of CAMU-eligible waste consolidated into a CAMU. Provides for alternative design requirements upon the Regional Administrator's approval if the alternative design will prevent migration of contaminants.	Applicable	EPA has determined that OU4 is a suitable CAMU location and will receive waste from OU3 and OU6. A protective alternative design will also be implemented that includes a low-permeability cap but does not include a liner or leachate collection system.
Federal Regulatory Requirement	RCRA CAMU Rule 40 CFR § 264.552(e)(4), Subpart S	This regulation defines "principal hazardous constituents" and governs handling and disposal of PHC waste.	Applicable	Raymark waste containing material that meets the definition of a PHC will be disposed of offsite.
Federal Criteria, Advisories, and Guidance	LDR Guidance No. 5. Determining when Land Disposal Restrictions (LDRs) are Applicable to CERCLA Response Actions. EPA OSWER Directive 9347.3-05FS (July 1989)	Guidance outlines the process used to determine wither RCRA LDRs apply to disposal of hazardous waste and explains the concept of areas of contamination (AOCs) where RCRA LDRs do not apply	To Be Considered	Existing Raymark waste located at OU4 will be consolidated within an area of contamination and will not constitute placement of waste.
Federal Criteria, Advisories, and Guidance	Control of Air Emissions from Superfund Air Strippers at Superfund Groundwater Sites (OSWER Directive 9355.0-28)	Provides guidance on the control of air emissions from air strippers used at Superfund Sites for groundwater treatment and establishes procedures for implementation.	To Be Considered	May be considered if SSD systems release VOCs in excess of 3 lb./hr or 15 lb./day, in which case treatment or controls would be considered for each SSD system.

AUTHORITY	REQUIREMENT	REQUIREMENT SYNOPSIS	STATUS	ACTION TAKEN TO ATTAIN ARAR
Federal Criteria, Advisories, and Guidance	Invasive Species (Executive Order 13112)	Federal agencies are directed to prevent the introduction of invasive species and provide for their control and to minimize the economic, ecological, and human health impacts that invasive species cause when requiring actions that impact the environment.	To Be Considered	During floodplain and wetlands restoration and backfilling of the creek, measures will be taken to avoid the introduction or spread of invasive species. Measures will be implemented to avoid the introduction or spread of invasive species for the low-permeability and soil cap's vegetative cover or the perimeter plantings. To the extent practicable, native vegetation shall be used for restoration and cap plantings.
Federal Criteria, Advisories, and Guidance	RCRA ARARs: Focus on Closure Requirements, OSWER Dir. 9234.2-04FS (October 1989)	EPA Fact Sheet that addresses compliance with Subtitle C of RCRA with a focus on the RCRA Subtitle C closure requirements	To Be Considered	Hybrid closure after excavation shall be consistent with this fact sheet. Waste left in place after excavation was disposed of prior to effective date of RCRA closure requirements.
Federal Criteria, Advisories, and Guidance	Technical Memorandum: Revised Landfill Cap Design Guidance Proposed for Unlined Hazardous Waste Landfills in EPA Region 1 (February 5, 2001)	Provides guidance for landfill cap design for unlined hazardous waste landfills at Superfund sites in EPA Region 1.	To Be Considered	This guidance will be considered during the design of the RCRA low permeability cap for OU4.
Federal Criteria, Advisories, and Guidance	EPA Technical Guidance Document: Final Covers on Hazardous Waste Landfills and Surface Impoundments (EPA/530-SW-89-047)	Presents technical specifications for the design of multi-barrier covers at landfills at which hazardous wastes are disposed.	To Be Considered	This guidance will be considered during the remedial design for on-property capping at OU4.

AUTHORITY	REQUIREMENT	REQUIREMENT SYNOPSIS	STATUS	ACTION TAKEN TO ATTAIN ARAR
State Regulatory Requirement	Hazardous Waste Management: Generator and Handler Requirements - General Standards, Listings, & Identification (RSCA Sec. 22a-449(c) 100-101)	Connecticut has been delegated the authority to administer RCRA standards through its state hazardous waste management regulations. These sections establish standards for listing and identification of hazardous waste. The standards of 40 CFR 260-261 are incorporated by reference.	Applicable	Waste generated during the remedial action and PHC identified during PDI and remedial actions will be tested for RCRA characteristics; information will be used to determine appropriate off-site disposal options. Excess waste volume generated during the remedial action that will be sent for off-site disposal will be tested for RCRA characteristics; this information will be used to determine appropriate off-site disposal options.
State Regulatory Requirement	Hazardous Waste Management: Generator Standards (RSCA Section 22a-449(c) 102)	This section of the rule establishes standards for various classes of generators. The standards of 40 CFR 262 are incorporated by reference. This rule applies to treatment residues, and any other waste, that fail hazardous characteristic tests. Storage requirements of 40 CFR 262 are incorporated by reference.	Applicable	During remediation, wastes, including treatment residue from SSD systems if installed, determined to be RCRA hazardous (listed or characteristic) will be managed in accordance with these regulations including staging, storage, stockpiling and disposal requirements.
State Regulatory Requirement	Hazardous Waste Management: TSDF Standards RCSA 22a-449(c)	These regulations establish post closure standards for capping of hazardous substances, including leachate collection, maintenance and monitoring of the cap, and long-term groundwater monitoring.	Applicable	For OU4 (Ballfield), maintenance and monitoring of the RCRA low permeability cap and long-term groundwater monitoring will be implemented. No leachate collection system or liner will be included for the low permeability cap because an alternative design standard permissible under RCRA CAMU regulations will be used.

AUTHORITY	REQUIREMENT	REQUIREMENT SYNOPSIS	STATUS	ACTION TAKEN TO ATTAIN ARAR
State Regulatory Requirement	Connecticut Remediation Standard Regulations (22a-133k-1 (a)(16) and (22a-133k-2(f)(2)(B)(i-iv)	These provisions provide standards for the use of an "engineered control (i.e., any physical barrier, system technology, or method)) permanently renders pollution in soil environmentally isolated or inaccessible, when combined with long-term inspection, maintenance, or monitoring. RSR PMCs do not apply to sediment.	Applicable	At OUs 3 and 6, excavating four feet of Raymark waste and backfilling with four feet of clean material meets the RSR PMC criteria. The state has determined the combination of excavation with the additional capping of contaminated soils at other locations is expected to sufficiently reduce the amount of pollutants leaching from the unsaturated zone to allow for compliance with the PMC requirements within the regulations. At OU4, Raymark waste will be consolidated under a RCRA low permeability cover designed and constructed to meet the RCRA requirements for closure of hazardous waste landfills, which will meet the RSR definition for an engineered control. Excavated non-Raymark waste that exceeds RSR PMC standards will either be consolidated under the RCRA low permeability cap, shipped offsite, or covered with an RSR compliant engineered control.

AUTHORITY	REQUIREMENT	REQUIREMENT SYNOPSIS	STATUS	ACTION TAKEN TO ATTAIN ARAR
State Regulatory Requirement	Connecticut Remediation Standard Regulations (22a-133k-1 (a)(32))	The RSRs indicate polluted soil can be rendered “inaccessible” through several methods to prevent direct human contact with the polluted soil.	Applicable	In OUs 3 and 6, Raymark waste remaining in place after four feet of excavation will become inaccessible through four feet of backfilling with clean material, cover maintenance, groundwater monitoring and land use restrictions. In OU4, non-Raymark waste that does not comply with RSRs for DEC that is relocated within OU4 will be rendered “inaccessible” to facilitate the remedial actions through: 1) covering non-Raymark waste with more than 4 ft below grade, 2) covering with more than 2 ft of clean fill below a minimum 3 inches of bituminous concrete, or 3) installing beneath a permanent structure.
State Regulatory Requirement	Remediation Standard Regulations for Groundwater Monitoring Requirements (RSCA Sec. 22a-133k-3(g)(1-2))	The regulation sets requirements for groundwater monitoring for any groundwater plume and for any release area remediated in accordance with sections 22a-133k-1 through 22a-133k-3.	Applicable	A groundwater monitoring program will be implemented in accordance with these regulations to evaluate VOCs status in the downgradient receptor area where SSD systems have been installed. Groundwater monitoring will allow evaluation of whether PRGs and target groundwater concentrations are attained and whether operation of SSD systems can be discontinued. Groundwater monitoring will also be conducted at OU6 excavation and soil cap areas.

AUTHORITY	REQUIREMENT	REQUIREMENT SYNOPSIS	STATUS	ACTION TAKEN TO ATTAIN ARAR
State Regulatory Requirement	Remediation Standard Regulations (RSRs) for Volatilization Criteria (RSCA Section 22a-133k-3 (c) 1 to 3, and (5)). June 2013.	This regulation establishes numerical volatilization criteria (VC) for contaminated groundwater and soil vapor developed for protection of occupants of residential and industrial/ commercial buildings overlying a groundwater contaminant plume and establishes Target Indoor Air Concentrations.	Applicable	Monitoring results will be compared to CT volatilization criteria to monitor the extent of the downgradient plume in OU2.
State Regulatory Requirement	Remediation Standard Regulations for Removal of Non-aqueous Phase Liquids (RCSA 22a-133k-2(g)). June 2013.	This regulation requires that non-aqueous phase liquid shall be contained or removed from soil and groundwater to the maximum extent prudent.	Applicable	Based on site data and modeling, DNAPL has been contained or removed to the maximum extent prudent.
State Regulatory Requirement	CGS §22a-416 -a22a-438, Regulations of Connecticut State Agencies (RCSA), Section 22a-430-1 – 22a-430-7	Standards regulate discharges to waters of the state, including surfaces waters and POTWs.	Applicable	Any discharge of water into surface water (from dewatering activities, collection of stormwater, decontamination water) shall meet the substantive standards of this regulations including meeting effluent standards and preventing degradation of surface water. Discharges to a POTW shall meet all state pre-treatment standards prior to discharge.

AUTHORITY	REQUIREMENT	REQUIREMENT SYNOPSIS	STATUS	ACTION TAKEN TO ATTAIN ARAR
State Regulatory Requirement	Surface Waters (RCSA Section 22a-426-4)	Provides state's goals to restore or maintain the chemical, physical, and biological integrity of surface waters. The Surface Water Quality Criteria (SWQC) are presented in Section 22a-426-9 (a). Antidegradation regulations are presented in 22a426-8(a). Discharge of GB classified groundwater to surface water is presented in 22a-426-7(a)4).	Relevant and Appropriate	The SWQC will be used as a performance standard for evaluating the effectiveness of sediment removal on surface water quality for aquatic life and to ensure there is no degradation of the surface water during remediation. SWQC will also be used as a performance standard for evaluating discharge of GB groundwater to surface water.
State Regulatory Requirement	Connecticut Well Drilling Code (RSCA Section 25-128-37 through 54 and Abandonment 25-128-56 - 57	The Dept. of Consumer Protection regulations provide standards for monitoring well installation, repair, and abandonment.	Applicable	Monitoring well installation and abandonment will comply with these requirements.
State Regulatory Requirement	Connecticut Air Pollution Regulations; Hazardous Air Pollutants and Fugitive Dust Emissions (RCSA Section 22a - 174-18 and 29	Require that reasonable precautions be taken to control emissions from fugitive dust and identify the maximum allowable stack concentrations for specific hazardous air pollutants and specify the testing requirements. Allowable limits are provided in Table 29-1 of this regulation.	Applicable	Pollution control devices will be used to reduce emissions at SSDs to meet the maximum allowable stack concentrations, if necessary. As part of the remedial design, procedures and measures will be developed to control fugitive dust emissions. During remediation, use of best management measures such as application of dust suppressants and water sprays, covering of stockpiles, etc. will be taken to minimize fugitive dust generation. Real-time air monitoring will be conducted to determine when more active dust suppression measures may be required.

AUTHORITY	REQUIREMENT	REQUIREMENT SYNOPSIS	STATUS	ACTION TAKEN TO ATTAIN ARAR
State Regulatory Requirement	Control of Noise (RSCA Section 22a-69-1 to 69-7.4)	These Regulations establish allowable noise levels.	Applicable	The remedial design will include a plan to monitor and control noise levels to meet the substantive requirements of this regulation. The noise monitoring and control plan will be implemented during remediation.
State Criteria, Advisories, and Guidance	CT Guidelines for Soil Erosion and Sediment Control (May 2002) (adopted pursuant to CGS 22a-328)	The Guidelines provide technical and administrative guidance for the development, adoption, and implementation of erosion and sediment control programs.	To Be Considered	The remedial design will include a plan to address soil erosion and sediment control. During remediation, control measures (e.g., erosion control mats, hay bales, silt fences) will be implemented to prevent or control soil erosion and sediment runoff. The remedial design will consider measures to minimize erosion of the constructed creek channel and adjacent soil areas.

APPENDIX D

TOXIC SUBSTANCE CONTROL ACT (TSCA) DETERMINATION

RAYMARK INDUSTRIES, INC. SUPERFUND SITE

FINAL TSCA 40 C.F.R. §761.61(c) DETERMINATION

On June 30, 2016, EPA issued, for public review and comment, a Proposed Plan and Administrative Records for four of the eight (8) remaining Operable Units (OUs) at the Raymark Industries, Inc. Superfund Site. The four OUs include:

1. OU2 – Site Groundwater
2. OU3 – Upper Ferry Creek
3. OU4 – Raybestos Memorial Ball Field
4. OU6 – Additional Properties (22)

The proposed remedy includes excavation of Raymark waste from OU3 and OU6, and in-town consolidation with existing Raymark waste at OU4. OU2 includes the installation and maintenance of sub-slab depressurization systems to capture vapors from groundwater. After considering all comments received, EPA has issued a Record of Decision (ROD) selecting a remedy for each of the four OUs. The ROD incorporates a Responsiveness Summary that fully responds to the comments received.

Consistent with 40 C.F.R. § 761.61(c) of the Toxic Substance Control Act (TSCA), I have reviewed the ROD and the Administrative Records for the four OUs. As required by 40 C.F.R. § 761.61(c), I have determined that the remedies selected in the ROD for the four OUs do not pose an unreasonable risk of injury to health or the environment as long as the following conditions are met:

1. Engineering controls for dust suppression shall be used during excavation activities. An Air Quality Management and Monitoring Plan shall be developed that includes the following: means and methods used to perform the excavation and waste handling, that minimizes airborne particulates; air monitoring procedures, parameters, and detection limits; air action levels; and, corrective measures. Air quality shall be monitored until all remedial activities are complete, including backfilling.

2. Engineering controls for the collection and management of liquids from dewatering of soils and sediments, surface water runoff, dust suppression water, and decontamination water shall be used during excavation, storage, and decontamination activities to ensure that the PCB concentrations in any dewatered liquids, surface water runoff, dust suppression water, and decontamination water from the Site comply with applicable discharge permit requirements prior to discharge to a publicly owned treatment works (POTW) or to surface water.

3. PCB-contaminated soil that is excavated for disposal rather than for consolidation into OU4, shall be placed on an impermeable liner and securely covered in accordance with 40 C.F.R. § 761.65(c)(9) during temporary storage for disposal characterization. Hay bales or other erosion control devices shall be placed around all stockpiles. In the event

that the stockpile PCB concentration is higher than the *in situ* PCB concentrations of the excavated soil, the stockpile shall be disposed of based on the higher PCB concentration.

4. Decontamination procedures for excavation equipment and other moveable equipment and vehicles shall be established to ensure that equipment and vehicles are appropriately decontaminated prior to leaving each work area.

5. Following completion of the OU4 cap, institutional controls shall be implemented to ensure the efficacy of the remedy by restricting, without limitation, disturbance of the cap, residential use of the property, and use of the groundwater. A monitoring and maintenance plan for the cap and groundwater shall be developed that includes, at a minimum, groundwater monitoring, monthly inspection and maintenance of the cap, and annual reporting of existing conditions. The reports shall document all inspection and maintenance activities performed, and identify any deficiencies along with a schedule to implement any corrective measures. As required by CERCLA, five year reviews of the OU4 remedy and site conditions shall be conducted.

6. Following the excavation remedies at OU3 and the twenty two (22) OU6 properties, PCB confirmatory samples shall be collected to verify that the lateral extent for removal of Raymark waste has been achieved. A minimum of one sample or one sample per 30 linear feet, whichever is greater, shall be collected from each excavation area.

7. Following the excavation remedy at the twenty two (22) OU6 properties, a minimum of 4 feet of clean backfill shall be installed. Institutional controls shall be implemented to restrict excavation of the clean soil covers and the use of groundwater. Annual inspections of the soil cover at each property shall be conducted with submittal of annual inspection reports. The reports shall document all inspection and maintenance activities performed, and identify any deficiencies along with a schedule to implement any corrective measures. Quarterly groundwater monitoring shall be conducted for the first two years after remedy implementation is completed with quarterly inspection reports. An evaluation of the groundwater data shall be conducted following the initial two year monitoring program to determine what the subsequent monitoring frequency shall be. As required by CERCLA, five year reviews of the OU6 remedy and site conditions at each of the 22-OU6 properties shall be conducted.

8. Following the excavation remedy at OU3, a minimum of 4 feet of clean backfill shall be installed above the channel high water line and a minimum of 2 feet of clean sediment shall be installed within the channel. Institutional controls shall be implemented to restrict excavation of the clean soil and sediment, and the onsite use of surface water and groundwater. Annual inspections of the clean covers (caps) shall be conducted with submittal of annual inspection reports. The reports shall document all inspection and maintenance activities performed, and identify any deficiencies along with a schedule to implement any corrective measures. Quarterly surface water and groundwater monitoring shall be conducted for the first two years after remedy implementation is completed with quarterly inspection reports. An evaluation of the surface water and groundwater data shall be conducted following the initial two year monitoring program to determine what

the subsequent monitoring frequency shall be. As required by CERCLA, five year reviews of the OU3 remedy and site conditions shall be conducted.

9. The State of Connecticut has designated the aquifer within the Site study area as GB (non-potable and unsuitable for human consumption without prior treatment). For surface water, the State of Connecticut developed and approved Alternative Criteria which conclude that removal of 4 feet of material at OU3 and OU6 will eliminate more than 2/3 of the leachable source. The low-permeability cap installed at OU4 will eliminate or greatly reduce leaching. Based on these facts, there are no performance standards for groundwater or surface water specified in the ROD. Monitoring criteria shall be developed during the remedial design and shall be consistent with applicable federal standards and the State of Connecticut Remediation Standard Regulations (RSRs). Should groundwater or surface water monitoring results indicate an exceedance of the monitoring criteria, EPA and Connecticut Department of Energy and Environmental Protection (CTDEEP) shall be notified within 24 hours of discovery of the exceedance and corrective measures shall be established and implemented as necessary to ensure that PCBs remaining within the OU3, OU4 and OU6 study areas do not pose an unreasonable risk of injury to health or the environment.

Bryan Olson, Director
Office of Site Remediation and Restoration
EPA Region I

9/9/16
Date

APPENDIX E:

STATE CONCURRENCE LETTER

Connecticut Department of
ENERGY &
ENVIRONMENTAL
PROTECTION

79 Elm Street • Hartford, CT 06106-5127 www.ct.gov/deep Affirmative Action/Equal Opportunity Employer

September 9, 2016

H. Curtis Spalding
Regional Administrator
USEPA Region 1
5 Post Office Square - Suite 100
Boston, MA 02109-3912

Dear Administrator Spalding,

The Connecticut Department of Energy and Environmental Protection (CT DEEP) concurs with the U.S. Environmental Protection Agency's (US EPA) selected remedial action for source control of pollution in soil, sediment and groundwater at the Raymark Industries, Inc., Federal Superfund Site in Stratford, Connecticut, as outlined in EPA's Proposed Plan dated June 2016, and Record of Decision (ROD) finalized September 8, 2016. Together, these reports identify the remedial actions to abate pollution at Operable Unit (OU) 2 (Groundwater), OU3 (Upper Ferry Creek), OU4 (former Raybestos Ballfield), and the remaining 22 parcels in OU6 (Additional Properties) of the Raymark Industries Inc. Superfund Site, in Stratford, Connecticut. The source control remedial actions for Raymark operable units 2, 3, 4 & 6 are described in detail in the "Raymark Industries, Inc., Stratford, Connecticut, Proposed Plan" dated June 2016, and in the Record of Decision titled "EPA Region 1, Raymark Industries, Inc., Superfund Site, Record of Decision for Management of Migration Actions at Operable Unit 2 (Groundwater), Including Vapor Mitigation Actions and Final Source Control Actions for Operable Unit 3 (Upper Ferry Creek), Operable Unit 4 (Raybestos Memorial Ballfield), and 22 Properties Within Operable Unit 6 (Additional Properties)".

DEEP's concurrence with EPA's selected remedial actions for source control at the referenced OUs of the Raymark Industries Inc. Superfund site, in Stratford, Connecticut, shall in no way affect the Commissioner's authority to institute any proceeding or action to prevent or abate pollution, recover costs and natural resource damages, and to impose penalties for violations of law, including but not limited to violations of any permit issued by the Commissioner.

Sincerely,

Michael J. Sullivan

Michael J. Sullivan
Deputy Commissioner

MJS:rhc

APPENDIX F:

ADMINISTRATIVE RECORD INDEX

Raymark Industries, Inc. Superfund Site
Administrative Record File
Operable Unit 2 – Groundwater,
Operable Unit 3 – Upper Ferry Creek,
Operable Unit 4 – the Raybestos Ballfield,
and Operable Unit 6 – Additional Properties
Record of Decision (ROD)

Index

ROD Dated: September 2016
Released: September 2016

Prepared by
EPA New England
Office of Site Remediation & Restoration

Introduction to the Collection

This is the administrative record index for the Raymark Industries, Inc. Superfund Site, Stratford, Connecticut, Operable Unit 2 – Groundwater, Operable Unit 3 – Upper Ferry Creek, Operable Unit 4 – the Raybestos Ballfield, and Operable Unit 6 – Additional Properties, Record of Decision (ROD), released September 2016. The file contains site-specific documents and a list of guidance documents used by EPA staff in selecting a response action at the site. (Additional guidance documents are listed in the Reference Section of the Feasibility Studies for the four Operable Units.) Together, the Administrative Records for OU2, OU3, OU4, and OU6 form the Administrative Record for the Selected Remedy described in the ROD.

This record replaces the following administrative record files made available for public comment:

Raymark Industries OU2 (Groundwater) Record of Decision (ROD) Proposed Plan, released June 2016;
Raymark Industries OU3 (Upper Ferry Creek) Record of Decision (ROD) Proposed Plan, released June 2016;
Raymark Industries OU4 (the Ball Field) Record of Decision (ROD) Proposed Plan, released June 2016;
Raymark Industries OU6 (Additional Properties) Record of Decision (ROD) Proposed Plan, released June 2016.

This record includes, by reference, the administrative records of the following response actions:

Raybestos Memorial Field Removal Action, issued June 18, 1990;
Raymark Industries Removal Action, issued November 30, 1992;
Raymark and Satellite Sites Removal Action, issued October 28, 1993;
Raymark Industries OU1 (Facility) Record of Decision (ROD), issued July 3, 1995;
Raymark Industries OU2 (Groundwater) Removal Action, issued September 2, 2003;
Raymark Industries OU6 (Additional Properties) Record of Decision (ROD) (Partial), issued July 2011;
Raymark Industries OU6 (Airport Property Site) Removal Action, issued June 26, 2013;

Note: Documents listed as bibliographic sources in individual reports are part of the Administrative Record, but may not be listed separately in the index.

The administrative record file is available for review at:

Online: https://semspub.epa.gov/src/collection/01/AR64529

EPA New England
Office of Site Remediation & Restoration
Records and Information Center

Stratford Public Library
2203 Main Street
Stratford, CT 06615

5 Post Office Square, Suite 100 (OSRR02-3)
Boston, MA 02109-3912
(by appointment)
617-918-1440 (phone)
617-918-0440 (fax)

203-385-4164 (phone)
http://stratfordlibrary.com

Additional information about the site is also available at www.epa.superfund/raymark

An administrative record file is required by the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended by the Superfund Amendments and Reauthorization Act (SARA).

Questions about this administrative record file should be directed to the EPA New England Remedial Project Manager: Jim DiLorenzo (617) 918-1247, but for questions regarding OU2 (Groundwater) contact Remedial Project Manager Ron Jennings (617) 918-1242.

RAYMARK INDUSTRIES, INC.

AR Collection: 64529

Record of Decision, OU2/3/4/6, 09/09/2016

AR Collection Index Report

For External Use

File Break: **03.02 - SAMPLING & ANALYSIS DATA (RI)**

529516 **HYDROLOGIC AND HYDRAULIC ANALYSIS, REMEDIAL INVESTIGATION / FEASIBILITY STUDY (RI/FS) (03/06/1998 TRANSMITTAL LETTER ATTACHED)**

Author: , US ARMY CORPS OF ENGINEERS

Addressee:

# of Pages: 16
Doc Date: 03/01/1998
Resource Type: Report
Access Control: Uncontrolled

File Break: **03.04 - INTERIM DELIVERABLES (RI)**

590528 **OPERABLE UNIT (OU) PROPERTY EVALUATIONS FOR POTENTIAL INTERIM ACTIONS**

Author: , US EPA REGION 1

Addressee:

# of Pages: 215
Doc Date: 02/01/2012
Resource Type: Report
Access Control: Uncontrolled

File Break: **03.06 - REMEDIAL INVESTIGATION REPORTS**

213059 **REMEDIAL INVESTIGATION (RI) REPORT, VOLUMES 1 AND 2 OF 2, OPERABLE UNIT (OU) 2 - GROUNDWATER**

Author: , TETRA TECH NUS INC

Addressee:

# of Pages: 4210
Doc Date: 01/01/2005
Resource Type: Report
Access Control: Uncontrolled

File Break: **03.06 - REMEDIAL INVESTIGATION REPORTS**

526284 **DRAFT TECHNICAL MEMORANDUM - WETLANDS EVALUATION (06/09/1998 AND 06/12/1998 TRANSMITTAL LETTERS ATTACHED)**

# of Pages: 203
Doc Date: 06/01/1998
Resource Type: Memorandum
Access Control: Uncontrolled

Author: , BROWN & ROOT ENVIRONMENTAL
Addressee: , US EPA

558711 **REMEDIAL INVESTIGATION (RI) UPDATE REPORT (05/06/2014 TRANSMITTAL LETTER ATTACHED)**

# of Pages: 2399
Doc Date: 05/01/2014
Resource Type: Report
Access Control: Uncontrolled

Author: , NOBIS ENGINEERING INC
Addressee:

568744 **REMEDIAL INVESTIGATION (RI) UPDATE ADDENDUM - SUPPLEMENTAL INVESTIGATIONS - OPERABLE UNIT (OU) 2 (04/15/2015 TRANSMITTAL LETTER ATTACHED)**

# of Pages: 780
Doc Date: 04/01/2015
Resource Type: Report
Access Control: Uncontrolled

Author: , NOBIS ENGINEERING INC
Addressee:

File Break: 03.07 - WORK PLANS & PROGRESS REPORTS (RI)

529415 **DRAFT TECHNICAL MEMORANDUM - FIELD INVESTIGATION AND ENVIRONMENTAL SAMPLING - EPA CONTRACT NO. 68-W6-0045**

# of Pages: 266
Doc Date: 05/01/1998
Resource Type: Report
Access Control: Uncontrolled

Author: , BROWN & ROOT ENVIRONMENTAL
Addressee: , US EPA

File Break: 03.09 - HEALTH ASSESSMENTS

524932 **PUBLIC HEALTH ASSESSMENT (READER EVALUATION FORM AND TRANSMITTAL LETTER ATTACHED)**

# of Pages: 232
Doc Date: 09/25/1996
Resource Type: Report
Access Control: Uncontrolled

Author: , AGENCY FOR TOXIC SUBSTANCES AND DISEASE REGISTRY (ATSDR)
Addressee:

529641 **HEALTH CONSULTATION, FOLLOW-UP REVIEW OF BLADDER CANCER**

# of Pages: 29
Doc Date: 10/27/2011
Resource Type: Report
Access Control: Uncontrolled

Author: , AGENCY FOR TOXIC SUBSTANCES AND DISEASE REGISTRY (ATSDR)
, CT DEPT OF PUBLIC HEALTH
Addressee:

File Break: **03.10 - ENDANGERMENT/BASELINE RISK ASSESSMENTS**

590536 **PHASE 2 ECOLOGICAL RISK ASSESSMENT, FINAL**

# of Pages: 284
Doc Date: 05/01/1998
Resource Type: Report
Access Control: Uncontrolled

Author: , US NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION (NOAA)
Addressee: , US EPA REGION 1

590537 **FINAL REPORT: EVALUATION OF ECOLOGICAL RISK TO AVAIN AND MAMMALIAN RECEPTORS IN THE VICINITY OF UPPER AND MIDDLE FERRY CREEK**

# of Pages: 54
Doc Date: 09/01/1999
Resource Type: Report
Access Control: Uncontrolled

Author: , SCIENCE APPLICATIONS INTERNATIONAL CORP
Addressee: , US ARMY CORPS OF ENGINEERS - NEW ENGLAND DIVISION

590538 **DEVELOPMENT OF SEDIMENT PRELIMINARY REMEDIATION GOALS (PRGS) PROTECTIVE OF BENTHIC INVERTEBRATES AND WILDLIFE RECEPTORS**

# of Pages: 40
Doc Date: 06/20/2005
Resource Type: Report
Access Control: Uncontrolled

Author: , LOCKHEED MARTIN INFORMATION TECHNOLOGIES
Addressee: , US EPA REGION 1

File Break: **04.01 - CORRESPONDENCE (FS)**

590529 **LETTER RESPONDING TO EPA QUESTIONS REGARDING THERMOCHEMICAL CONVERSION TECHNOLOGY (TCCT)**

Author: DALE TIMMONS, ARI TECHNOLOGIES INC
Addressee: MICHAEL JASINSKI, US EPA REGION 1

# of Pages: 13
Doc Date: 01/03/2012
Resource Type: Letter
Access Control: Uncontrolled

590530 **MEMO REGARDING ARI TECHNOLOGIES, INC.'S THERMOCHEMICAL CONVERSION TECHNOLOGY (TCCT) TO TREAT ASBESTOS, PCBS, AND METALS CONTAMINATED SOILS AND SEDIMENTS**

Author: JAMES CUMMINGS, US EPA HEADQUARTERS
EDWARD GILBERT, US EPA REGION 1
Addressee: MICHAEL JASINSKI, US EPA REGION 1

# of Pages: 10
Doc Date: 04/10/2012
Resource Type: Memorandum
Access Control: Uncontrolled

590531 **LETTER PROVIDING RESPONSIVE COMMENTS TO EVALUATION OF APPLICATION OF ARI TECHNOLOGIES, INC.'S THERMOCHEMICAL CONVERSION TECHNOLOGY (TCCT) TO TREAT ASBESTOS, PCBS, AND METALS CONTAMINATED SOILS AND SEDIMENTS**

Author: DALE TIMMONS, ARI TECHNOLOGIES INC
Addressee: MICHAEL JASINSKI, US EPA REGION 1

# of Pages: 12
Doc Date: 04/25/2012
Resource Type: Memorandum
Access Control: Uncontrolled

File Break: **04.01 - CORRESPONDENCE (FS)**

590532 **LETTER RESPONDING TO COMMENTS ON EVALUATION OF APPLICATION OF ARI TECHNOLOGIES, INC.'S THERMOCHEMICAL CONVERSION TECHNOLOGY (TCCT) TO TREAT ASBESTOS, PCBS, AND METALS CONTAMINATED SOILS AND SEDIMENTS**

Author: RONALD JENNINGS, US EPA REGION 1

Addressee: DALE TIMMONS, ARI TECHNOLOGIES INC

# of Pages: 21
Doc Date: 06/06/2012
Resource Type: Memorandum
Access Control: Uncontrolled

590534 **TELEPHONE CONVERSATION RECORD, UPDATE ON WATER SUPPLY SOURCES, CONDITIONS OF RESERVOIR USE**

Author: DIANE M BAXTER, NOBIS ENGINEERING INC
, AQUARION WATER COMPANY

Addressee:

# of Pages: 1
Doc Date: 06/22/2016
Resource Type: Record of Communication
Access Control: Uncontrolled

File Break: **04.02 - SAMPLING & ANALYSIS DATA (FS)**

590525 **LETTER REGARDING CONFIRMATION OF RAYMARK WASTE, 336 FERRY BOULEVARD**

Author: CHUCK MYETTE, BROWN & CALDWELL

Addressee: RONALD JENNINGS, US EPA REGION 1

# of Pages: 7
Doc Date: 10/10/2014
Resource Type: Letter
Access Control: Uncontrolled

File Break: **04.02 - SAMPLING & ANALYSIS DATA (FS)**

590526 **LETTER REQUESTING INCLUSION OF PROPERTY AT 336 FERRY BOULEVARD IN OPERABLE UNIT (OU) 6, INCLUDING SOIL SAMPLING DATA**

Author: BENJAMIN RIEGER, ANTEA USA INC

Addressee: RONALD JENNINGS, US EPA REGION 1

# of Pages: 297
Doc Date: 04/24/2014
Resource Type: Analytical Data Document
Access Control: Uncontrolled

590541 **WELL INVENTORY, TOWN OF STRATFORD**

Author: , STRATFORD (CT) TOWN OF

Addressee:

# of Pages: 1
Doc Date: 07/01/2015
Resource Type: List/Index
Access Control: Uncontrolled

592899 **ANALYSIS REPORT, WATER SAMPLING, SDG ID: GAZ53017 (TRANSMITTAL LETTER ATTACHED)**

Author: , PHOENIX ENVIRONMENTAL LABORATORIES INC

Addressee: SARAH PERHALA, AECOM ENVIRONMENT

# of Pages: 14
Doc Date: 09/15/2010
Resource Type: Analytical Data Document
Access Control: Uncontrolled

File Break: **04.04 - INTERIM DELIVERABLES (FS)**

590504 **GROUND WATER USE AND VALUE DETERMINATION**

# of Pages: 19
Doc Date: 03/18/2016
Resource Type: Report
Access Control: Uncontrolled

Author: ROBERT KLEE, CT DEPT OF ENERGY & ENVIRONMENTAL PROTECTION
Addressee:

590517 **MEMO REGARDING REQUEST FOR EXEMPTION FROM NATIONAL REMEDY REVIEW BOARD (NRRB) REVIEW**

# of Pages: 6
Doc Date: 04/07/2016
Resource Type: Memorandum
Access Control: Uncontrolled

Author: AMY LEGARE, US EPA - NATIONAL REMEDY REVIEW BOARD
Addressee: JAMES E WOOLFORD, US EPA HEADQUARTERS

590519 **PRELIMINARY SITE AND TRAFFIC ACCESS EVALUATION, DEPARTMENT OF PUBLIC WORKS EXPANSION FEASIBILITY STUDY (FS)**

# of Pages: 7
Doc Date: 07/08/2015
Resource Type: Memorandum
Access Control: Uncontrolled

Author: KWESI BROWN, MILONE & MACBROOM, INC.
Addressee: MAURICE MCCARTHY, STRATFORD (CT) DEPT. OF PUBLIC WOI

File Break: **04.04 - INTERIM DELIVERABLES (FS)**

593286 **FINAL EVALUATION OF POTENTIAL LEACHING IMPACT TO GROUNDWATER FOR RAYMARK WASTE AT OPERABLE UNIT (OU) 3 AND OU 6 (TRANSMITTAL LETTER ATTACHED)**

Author: , NOBIS ENGINEERING INC
Addressee:

# of Pages: 75
Doc Date: 09/07/2016
Resource Type: Report
Access Control: Uncontrolled

593287 **EVALUATION OF POTENTIAL ASBESTOS MOBILITY IN THE ENVIRONMENT AND IMPACTS TO LONG-TERM MANAGEMENT OF RAYMARK WASTE, OPERABLE UNIT (OU) 3, OU 4, AND OU 6 (TRANSMITTAL LETTER ATTACHED)**

Author: , NOBIS ENGINEERING INC
Addressee:

# of Pages: 10
Doc Date: 09/07/2016
Resource Type: Report
Access Control: Uncontrolled

File Break: **04.06 - FEASIBILITY STUDY REPORTS**

590545 **FEASIBILITY STUDY (FS) REPORT, OPERABLE UNIT (OU) 2 (06/30/2016 TRANSMITTAL LETTER ATTACHED)**

Author: , NOBIS ENGINEERING INC
Addressee: , US EPA REGION 1

# of Pages: 572
Doc Date: 06/01/2016
Resource Type: Report
Access Control: Uncontrolled

File Break: **04.06 - FEASIBILITY STUDY REPORTS**

590546 **FEASIBILITY STUDY (FS) REPORT, OPERABLE UNIT (OU) 3 (06/29/2016 TRANSMITTAL LETTER ATTACHED)**

Author: , NOBIS ENGINEERING INC
Addressee: , US EPA REGION 1

# of Pages: 380
Doc Date: 06/01/2016
Resource Type: Report
Access Control: Uncontrolled

590547 **FEASIBILITY STUDY (FS) REPORT, OPERABLE UNIT (OU) 4 (06/30/2016 TRANSMITTAL LETTER ATTACHED)**

Author: , NOBIS ENGINEERING INC
Addressee: , US EPA REGION 1

# of Pages: 459
Doc Date: 06/01/2016
Resource Type: Report
Access Control: Uncontrolled

590548 **FEASIBILITY STUDY (FS) REPORT ADDENDUM, OPERABLE UNIT (OU) 6 (06/28/2016 TRANSMITTAL LETTER ATTACHED)**

Author: , NOBIS ENGINEERING INC
Addressee: , US EPA REGION 1

# of Pages: 326
Doc Date: 06/01/2016
Resource Type: Report
Access Control: Uncontrolled

File Break: **04.09 - PROPOSED PLANS FOR SELECTED REMEDIAL ACTION**

590549 **PROPOSED PLAN - SOIL, SEDIMENT, AND GROUNDWATER CONTAMINATION AT OPERABLE UNITS (OU) 2, 3, 4 AND 6**

Author: , US EPA REGION 1
Addressee:

# of Pages: 59
Doc Date: 06/01/2016
Resource Type: Report
Access Control: Uncontrolled

File Break: **05.01 - CORRESPONDENCE (ROD)**

593236 **LETTER REGARDING STATE CONCURRENCE WITH RECORD OF DECISION (ROD), OPERABLE UNITS (OU) 2, 3, 4, AND 6**

Author: MICHAEL SULLIVAN, CT DEPT OF ENERGY & ENVIRONMENTAL PROTECTION
Addressee: H CURTIS SPALDING, US EPA REGION 1

# of Pages: 1
Doc Date: 09/09/2016
Resource Type: Letter
Access Control: Uncontrolled

File Break: **05.02 - ARARS (ROD)**

593240 **LIST OF POTENTIAL STATE APPLICABLE OR RELEVANT AND APPROPRIATE REQUIREMENTS (ARARS) FOR SUPERFUND REMEDIAL ACTIONS (RA) IN CT, REVISION**

Author: , CT DEPT OF ENVIRONMENTAL PROTECTION
Addressee:

# of Pages: 22
Doc Date: 08/01/2016
Resource Type: List/Index
Access Control: Uncontrolled

File Break: 05.02 - ARARS (ROD)

593241 **MEMO REGARDING ENDANGERED SPECIES ACT CONSULTATION, ATLANTIC STURGEON**

Author: PHIL COLARUSSO, US EPA REGION 1
Addressee: JAMES M DILORENZO, US EPA REGION 1

# of Pages: 3
Doc Date: 09/01/2016
Resource Type: Memorandum
Access Control: Uncontrolled

593242 **WEBSITE: ENDANGERED SPECIES ACT (ESA) PROTECTED SPECIES, WHAT IF MY CONSULTATION DOES NOT QUALIFY FOR THE EXPEDITED TRACK**

Author: , US NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION (NOAA)
Addressee:

# of Pages: 2
Doc Date: 09/08/2016
Resource Type: Publication
Access Control: Uncontrolled

593243 **MEMO REGARDING SECTION 7 CONSULTATION FOR THE ENDANGERED SPECIES ACT, RUFA RED KNOT**

Author: JAMES M DILORENZO, US EPA REGION 1
Addressee:

# of Pages: 12
Doc Date: 09/07/2016
Resource Type: Memorandum
Access Control: Uncontrolled

File Break: **05.02 - ARARS (ROD)**

593244 **COMMON SHOREBIRDS OF CONNECTICUT, AN IDENTIFICATION GUIDE**

Author: , CT DEPT OF ENERGY AND ENVIRONMENTAL PROTECTION

Addressee:

# of Pages: 2
Doc Date:
Resource Type: Publication
Access Control: Uncontrolled

593245 **WEBSITE: CONNECTICUT AUDUBON SOCIETY BIRD FINDER FOR 05/23/2016: RED KNOT**

Author: , CT AUDUBON SOCIETY

Addressee:

# of Pages: 5
Doc Date: 05/23/2016
Resource Type: Publication
Access Control: Uncontrolled

593246 **RUFA RED KNOT, BACKGROUND INFORMATION AND THREATS ASSESSMENT**

Author: , US FISH & WILDLIFE SERVICE

Addressee:

# of Pages: 383
Doc Date: 11/01/2014
Resource Type: Report
Access Control: Uncontrolled

File Break: **05.02 - ARARS (ROD)**

593247 **WEBSITE: RUFA RED KNOT (CALIDRIS CANUTUS RUFA) [THREATENED]**

Author: , US FISH & WILDLIFE SERVICE
Addressee:

# of Pages: 5
Doc Date: 05/11/2016
Resource Type: Publication
Access Control: Uncontrolled

593248 **WEBSITE: RUFA RED KNOT, SERVICE PROTECTS RED KNOT AS THREATENED SPECIES UNDER ENDANGERED SPECIES ACT**

Author: , US FISH & WILDLIFE SERVICE
Addressee:

# of Pages: 3
Doc Date: 12/21/2015
Resource Type: Publication
Access Control: Uncontrolled

593249 **FACT SHEET: RUFA RED KNOT, CALIDRIS CANUTUS RUFA**

Author: , US FISH & WILDLIFE SERVICE
Addressee:

# of Pages: 2
Doc Date: 09/01/2013
Resource Type: Publication
Access Control: Uncontrolled

File Break: **05.02 - ARARS (ROD)**

593250 **MEMO REGARDING SECTION 7 CONSULTATION FOR THE ENDANGERED SPECIES ACT, NORTHERN LONG-EARED BAT**

Author: JAMES M DILORENZO, US EPA REGION 1
Addressee:

# of Pages: 10
Doc Date: 09/07/2016
Resource Type: Memorandum
Access Control: Uncontrolled

593251 **PROGRAMMATIC BIOLOGICAL OPINION AN FINAL 4(D) RULE FOR THE NORTHERN LONG-EARED BAT AND ACTIVITIES EXCEPTED FROM TAKE PROHIBITIONS**

Author: LYNN LEWIS, US FISH & WILDLIFE SERVICE
Addressee:

# of Pages: 109
Doc Date: 01/05/2016
Resource Type: Report
Access Control: Uncontrolled

593252 **WEBSITE: ENDANGERED SPECIES, NORTHERN LONG-EARED BAT, HIBERNACULA AND MATERNITY ROOST TREE LOCATION INFORMATION**

Author: , US FISH & WILDLIFE SERVICE
Addressee:

# of Pages: 8
Doc Date: 07/25/2016
Resource Type: Publication
Access Control: Uncontrolled

File Break: **05.02 - ARARS (ROD)**

593253 **WEBSITE: ENDANGERED SPECIES, CONSULTATIONS, FEQUENTLY ASKED QUESTIONS (FAQ)**

Author: , US FISH & WILDLIFE SERVICE

Addressee:

# of Pages: 4
Doc Date: 07/15/2013
Resource Type: Publication
Access Control: Uncontrolled

593254 **MAP: NATURAL DIVERSITY DATA BASE AREAS, STRATFORD, CT**

Author: , CT DEPT OF ENERGY AND ENVIRONMENTAL PROTECTION

Addressee:

# of Pages: 1
Doc Date: 06/01/2016
Resource Type: Figure/Map/ Drawing
Access Control: Uncontrolled

593255 **INFORMATION FOR PLANNING AND CONSERVATION (IPAC) TRUST RESOURCES REPORT, OPERABLE UNIT (OU) 2 - GROUNDWATER**

Author: , US FISH & WILDLIFE SERVICE

Addressee:

# of Pages: 9
Doc Date: 09/06/2016
Resource Type: Report
Access Control: Uncontrolled

File Break: **05.02 - ARARS (ROD)**

593256 **INFORMATION FOR PLANNING AND CONSERVATION (IPAC) TRUST RESOURCES REPORT, OPERABLE UNIT (OU) 3 - FERRY CREEK AND OU 6 PART 3 - ADDITIONAL PROPERTIES**

Author: , US FISH & WILDLIFE SERVICE
Addressee:

# of Pages: 11
Doc Date: 09/01/2016
Resource Type: Report
Access Control: Uncontrolled

593257 **INFORMATION FOR PLANNING AND CONSERVATION (IPAC) TRUST RESOURCES REPORT, OPERABLE UNIT (OU) 4 - BALLFIELD**

Author: , US FISH & WILDLIFE SERVICE
Addressee:

# of Pages: 9
Doc Date: 09/01/2016
Resource Type: Report
Access Control: Uncontrolled

593258 **INFORMATION FOR PLANNING AND CONSERVATION (IPAC) TRUST RESOURCES REPORT, OPERABLE UNIT (OU) 6, PART 1 - ADDITIONAL PROPERTIES**

Author: , US FISH & WILDLIFE SERVICE
Addressee:

# of Pages: 9
Doc Date: 09/06/2016
Resource Type: Report
Access Control: Uncontrolled

File Break: **05.02 - ARARS (ROD)**

593259 **INFORMATION FOR PLANNING AND CONSERVATION (IPAC) TRUST RESOURCES REPORT, OPERABLE UNIT (OU) 6, PART 2 - ADDITIONAL PROPERTIES**

Author: , US FISH & WILDLIFE SERVICE
Addressee:

# of Pages: 10
Doc Date: 09/06/2016
Resource Type: Report
Access Control: Uncontrolled

593260 **INFORMATION FOR PLANNING AND CONSERVATION (IPAC) TRUST RESOURCES REPORT, OPERABLE UNIT (OU) 6, PART 4 - ADDITIONAL PROPERTIES**

Author: , US FISH & WILDLIFE SERVICE
Addressee:

# of Pages: 10
Doc Date: 09/07/2016
Resource Type: Report
Access Control: Uncontrolled

File Break: **05.03 - RESPONSIVENESS SUMMARIES**

579353 **EMAIL REGARDING PLAN TO CONSOLIDATE TOXIC WASTE AT RAYBESTOS BALLFIELD IN STRATFORD, CT**

Author: JOAN BECKERT, STRATFORD (CT) - RESIDENT OF
Addressee: JAMES M DILORENZO, US EPA REGION 1

# of Pages: 2
Doc Date: 08/26/2016
Resource Type: Email
Access Control: Uncontrolled

File Break: **05.03 - RESPONSIVENESS SUMMARIES**

579354 **EMAIL REGARDING CONCERNS WITH REMEDIATION PLAN AT SITE**

Author: MARIANNE CARRANNO, STRATFORD (CT) - RESIDENT OF

Addressee: JAMES M DILORENZO, US EPA REGION 1

# of Pages: 3
Doc Date: 08/28/2016
Resource Type: Email
Access Control: Uncontrolled

579355 **EMAIL REGARDING OPPOSITION TO RAYBESTOS BALLFIELD PLAN TO CONSOLIDATED TOXIC WASTE**

Author: JIM FURBUSH, STRATFORD (CT) - RESIDENT OF

LYNN KERMODE, STRATFORD (CT) - RESIDENT OF

Addressee: JAMES M DILORENZO, US EPA REGION 1

# of Pages: 2
Doc Date: 08/28/2016
Resource Type: Email
Access Control: Uncontrolled

579356 **LETTER PROVIDING COMMENTS ON PROPOSED CLEAN-UP PLAN FOR SITE (TRANSMITTAL EMAIL ATTACHED)**

Author: , SAVE STRATFORD

Addressee: JAMES M DILORENZO, US EPA REGION 1

RONALD JENNINGS, US EPA REGION 1

# of Pages: 5
Doc Date: 08/28/2016
Resource Type: Letter
Access Control: Uncontrolled

File Break: **05.03 - RESPONSIVENESS SUMMARIES**

579357 **EMAIL REGARDING PLAN FOR TOXIC WASTE CLEANUP AT SITE**

Author: SCOTT FERRARI, STRATFORD (CT) - RESIDENT OF

Addressee: JAMES M DILORENZO, US EPA REGION 1

# of Pages: 2
Doc Date: 08/27/2016
Resource Type: Email
Access Control: Uncontrolled

579358 **EMAIL REGARDING OPPOSITION TO PROPOSED CLEANUP PLAN FOR SITE**

Author: LIZ GRAMLING, STRATFORD (CT) - RESIDENT OF

Addressee: JAMES M DILORENZO, US EPA REGION 1

# of Pages: 2
Doc Date: 08/27/2016
Resource Type: Email
Access Control: Uncontrolled

579359 **EMAIL REGARDING OPPOSITION TO PROPOSED PLAN TO CONSOLIDATE TOXIC WASTE AT RAYBESTOS BALL FIELD**

Author: KARA-LYNN FLOCKHART, STRATFORD (CT) - RESIDENT OF

Addressee: JAMES M DILORENZO, US EPA REGION 1

# of Pages: 2
Doc Date: 08/26/2016
Resource Type: Email
Access Control: Uncontrolled

File Break: **05.03 - RESPONSIVENESS SUMMARIES**

579360 **EMAIL REGARDING OPPOSITION TO PROPOSED CLEANUP OF SITE**

Author: DEVNEY WORSDALE, STRATFORD (CT) RESIDENT

Addressee: JAMES M DILORENZO, US EPA REGION 1

# of Pages: 2
Doc Date: 08/26/2016
Resource Type: Email
Access Control: Uncontrolled

579361 **LETTER SUPPORTING RECOMMENDATIONS CONTAINED IN THE 06/2016 PROPOSED PLAN (TRANSMITTAL EMAIL ATTACHED)**

Author: MICHAEL SULLIVAN, CT DEPT OF ENERGY & ENVIRONMENTAL PROTECTION

Addressee: JAMES M DILORENZO, US EPA REGION 1

# of Pages: 5
Doc Date: 08/26/2016
Resource Type: Letter
Access Control: Uncontrolled

579362 **EMAIL REGARDING ADDITIONAL QUESTIONS TO BE ADDED TO PUBLIC HEARING**

Author: CHARLES PEREZ, RAYMARK ADVISORY COMMITTEE (RAC)

Addressee: ANNI LOUGHLIN, US EPA REGION 1

# of Pages: 2
Doc Date: 08/29/2016
Resource Type: Email
Access Control: Uncontrolled

File Break: **05.03 - RESPONSIVENESS SUMMARIES**

579364 **EMAIL REGARDING OPPOSITION TO PROPOSED PLAN TO CONSOLIDATE TOXIC WASTE AT RAYBESTOS MEMORIAL BALLFIELD**

# of Pages: 2
Doc Date: 08/30/2016
Resource Type: Email
Access Control: Uncontrolled

Author: ALLISON PERLEY, STRATFORD (CT) - RESIDENT OF

CHRIS PERLEY, STRATFORD (CT) - RESIDENT OF

Addressee: JAMES M DILORENZO, US EPA REGION 1

579365 **EMAIL OUTLINING REASONS WHY RAYBESTOS FIELD IS NOT A SUITABLE HAZARDOUS WASTE STORAGE SITE**

# of Pages: 2
Doc Date: 08/29/2016
Resource Type: Email
Access Control: Uncontrolled

Author: RUSSELL LANZ, STRATFORD (CT) - RESIDENT OF

Addressee: JAMES M DILORENZO, US EPA REGION 1

579366 **EMAIL REGARDING OPPOSITION TO STORING SITE TOXIC WASTE IN RESIDENTIAL NEIGHBORHOODS**

# of Pages: 2
Doc Date: 08/29/2016
Resource Type: Email
Access Control: Uncontrolled

Author: VIRGIL WATSON, STRATFORD (CT) - RESIDENT OF

Addressee: JAMES M DILORENZO, US EPA REGION 1

File Break: **05.03 - RESPONSIVENESS SUMMARIES**

579367 **EMAIL REGARDING OPPOSITION TO STORING SITE TOXIC WASTE AT RAYBESTOS MEMORIAL BALLFIELD**

Author: ADRIENNE NAGY, STRATFORD (CT) - RESIDENT OF
Addressee: JAMES M DILORENZO, US EPA REGION 1

# of Pages: 2
Doc Date: 08/29/2016
Resource Type: Email
Access Control: Uncontrolled

579368 **LETTER PROVIDING COMMENTS ON PROPOSED CLEANUP PLAN (08/30/2016 FAX TRANSMITTAL)**

Author: MARK DUMAS, STRATFORD (CT) TOWN COUNCIL
Addressee: JAMES M DILORENZO, US EPA REGION 1

# of Pages: 6
Doc Date: 08/29/2016
Resource Type: Letter
Access Control: Uncontrolled

579369 **LETTER PROVIDING COMMENTS ON PROPOSED CLEANUP PLAN (TRANSMITTAL EMAIL ATTACHED)**

Author: MARK DUMAS, STRATFORD (CT) TOWN COUNCIL
Addressee: JAMES M DILORENZO, US EPA REGION 1

# of Pages: 6
Doc Date: 08/29/2016
Resource Type: Letter
Access Control: Uncontrolled

File Break: **05.03 - RESPONSIVENESS SUMMARIES**

579370 **EMAIL REGARDING PROPOSED CLEANUP PLAN**

Author: EAMON CURRAN, STRATFORD (CT) - RESIDENT OF

Addressee: JAMES M DILORENZO, US EPA REGION 1

# of Pages: 2
Doc Date: 08/29/2016
Resource Type: Email
Access Control: Uncontrolled

579371 **EMAIL REGARDING OPPOSITION TO PROPOSED PLAN TO CONSOLIDATE SITE TOXIC WASTE AT RAYBESTOS MEMORIAL BALLFIELD**

Author: JENNIFER BOSMA, STRATFORD (CT) - RESIDENT OF

Addressee: JAMES M DILORENZO, US EPA REGION 1

# of Pages: 2
Doc Date: 08/29/2016
Resource Type: Email
Access Control: Uncontrolled

579372 **EMAIL REGARDING OPPOSITION TO PROPOSED PLAN TO CONSOLIDATE SITE TOXIC WASTE AT RAYBESTOS MEMORIAL BALLFIELD**

Author: GEOFF MILLENSON, STRATFORD (CT) - RESIDENT OF

Addressee: JAMES M DILORENZO, US EPA REGION 1

# of Pages: 2
Doc Date: 08/29/2016
Resource Type: Email
Access Control: Uncontrolled

File Break: **05.03 - RESPONSIVENESS SUMMARIES**

579373 **EMAIL REGARDING OPPOSITION TO PROPOSED PLAN TO CONSOLIDATE SITE TOXIC WASTE AT RAYBESTOS MEMORIAL BALLFIELD**

# of Pages: 2
Doc Date: 08/29/2016
Resource Type: Email
Access Control: Uncontrolled

Author: KAREN BANICK, STRATFORD (CT) - RESIDENT OF
Addressee: JAMES M DILORENZO, US EPA REGION 1

579374 **EMAIL PROVIDING COMMENTS ON PROPOSED CLEANUP PLAN**

# of Pages: 2
Doc Date: 08/29/2016
Resource Type: Email
Access Control: Uncontrolled

Author: JANET BAXTER, STRATFORD (CT) - RESIDENT OF
Addressee: JAMES M DILORENZO, US EPA REGION 1

579375 **EMAIL REGARDING OPPOSITION TO PROPOSED PLAN TO CONSOLIDATE SITE TOXIC WASTE AT RAYBESTOS MEMORIAL BALLFIELD**

# of Pages: 2
Doc Date: 08/29/2016
Resource Type: Email
Access Control: Uncontrolled

Author: KAYNE BOSMA, STRATFORD (CT) - RESIDENT OF
Addressee: JAMES M DILORENZO, US EPA REGION 1

File Break: **05.03 - RESPONSIVENESS SUMMARIES**

579376 **EMAIL REGARDING OPPOSITION TO PROPOSED PLAN TO CONSOLIDATE SITE TOXIC WASTE AT RAYBESTOS MEMORIAL BALLFIELD**

Author: KOREN PAUL, STRATFORD (CT) - RESIDENT OF

Addressee: JAMES M DILORENZO, US EPA REGION 1

# of Pages: 2
Doc Date: 08/29/2016
Resource Type: Email
Access Control: Uncontrolled

579377 **EMAIL REGARDING OPPOSITION TO PROPOSED PLAN TO CONSOLIDATE SITE TOXIC WASTE AT RAYBESTOS MEMORIAL BALLFIELD**

Author: CAROL ANTRUM, STRATFORD (CT) - RESIDENT OF

Addressee: JAMES M DILORENZO, US EPA REGION 1

# of Pages: 2
Doc Date: 08/29/2016
Resource Type: Email
Access Control: Uncontrolled

579378 **EMAIL REGARDING OPPOSITION TO PROPOSED PLAN TO CONSOLIDATE SITE TOXIC WASTE AT RAYBESTOS MEMORIAL BALLFIELD**

Author: TRICIA KUNKEL, STRATFORD (CT) - RESIDENT OF

Addressee: JAMES M DILORENZO, US EPA REGION 1

# of Pages: 2
Doc Date: 08/29/2016
Resource Type: Email
Access Control: Uncontrolled

File Break: **05.03 - RESPONSIVENESS SUMMARIES**

579379 **EMAIL REGARDING OPPOSITION TO PROPOSED PLAN TO CONSOLIDATE SITE TOXIC WASTE AT RAYBESTOS MEMORIAL BALLFIELD**

Author: MAURICE ANTRUM, STRATFORD (CT) - RESIDENT OF

Addressee: JAMES M DILORENZO, US EPA REGION 1

# of Pages: 2
Doc Date: 08/29/2016
Resource Type: Email
Access Control: Uncontrolled

579380 **EMAIL REGARDING OPPOSITION TO PROPOSED PLAN TO CONSOLIDATE SITE TOXIC WASTE AT RAYBESTOS MEMORIAL BALLFIELD**

Author: SUSAN WITKINS, STRATFORD (CT) - RESIDENT OF

Addressee: JAMES M DILORENZO, US EPA REGION 1

# of Pages: 2
Doc Date: 08/29/2016
Resource Type: Email
Access Control: Uncontrolled

579381 **EMAIL REGARDING OPPOSITION TO PROPOSED PLAN TO CONSOLIDATE SITE TOXIC WASTE AT RAYBESTOS MEMORIAL BALLFIELD**

Author: SAMANTHA ROOT, STRATFORD (CT) - RESIDENT OF

Addressee: JAMES M DILORENZO, US EPA REGION 1

# of Pages: 2
Doc Date: 08/29/2016
Resource Type: Email
Access Control: Uncontrolled

File Break: **05.03 - RESPONSIVENESS SUMMARIES**

579382 **EMAIL REGARDING OPPOSITION TO PROPOSED PLAN TO CONSOLIDATE SITE TOXIC WASTE AT RAYBESTOS MEMORIAL BALLFIELD**

Author: CHRISTIAN BLASER, STRATFORD (CT) - RESIDENT OF

Addressee: JAMES M DILORENZO, US EPA REGION 1

# of Pages: 2
Doc Date: 08/29/2016
Resource Type: Email
Access Control: Uncontrolled

579383 **EMAIL REGARDING OPPOSITION TO PROPOSED PLAN TO CONSOLIDATE SITE TOXIC WASTE AT RAYBESTOS MEMORIAL BALLFIELD**

Author: DONNA MENCEL, STRATFORD (CT) - RESIDENT OF

Addressee: JAMES M DILORENZO, US EPA REGION 1

# of Pages: 2
Doc Date: 08/29/2016
Resource Type: Email
Access Control: Uncontrolled

579384 **EMAIL REGARDING OPPOSITION TO PROPOSED PLAN TO CONSOLIDATE SITE TOXIC WASTE AT RAYBESTOS MEMORIAL BALLFIELD**

Author: WENDY MILLENSON, STRATFORD (CT) - RESIDENT OF

Addressee: JAMES M DILORENZO, US EPA REGION 1

# of Pages: 2
Doc Date: 08/29/2016
Resource Type: Email
Access Control: Uncontrolled

File Break: **05.03 - RESPONSIVENESS SUMMARIES**

579385 **EMAIL REGARDING OPPOSITION TO PROPOSED CLEANUP PLAN**

# of Pages: 2
Doc Date: 08/29/2016
Resource Type: Email
Access Control: Uncontrolled

Author: JENN HAJEK, STRATFORD (CT) - RESIDENT OF

TOM HAJEK, STRATFORD (CT) - RESIDENT OF

Addressee: JAMES M DILORENZO, US EPA REGION 1

579386 **EMAIL PROVIDING COMMENTS ON PROPOSED CLEANUP PLAN**

# of Pages: 2
Doc Date: 08/29/2016
Resource Type: Email
Access Control: Uncontrolled

Author: CORCORAN , STRATFORD (CT) - RESIDENT OF

Addressee: JAMES M DILORENZO, US EPA REGION 1

579387 **EMAIL REGARDING OPPOSITION TO PROPOSED CLEANUP PLAN**

# of Pages: 3
Doc Date: 08/29/2016
Resource Type: Email
Access Control: Uncontrolled

Author: JASON KUCH, STRATFORD (CT) - RESIDENT OF

Addressee: JAMES M DILORENZO, US EPA REGION 1

File Break: **05.03 - RESPONSIVENESS SUMMARIES**

579388 **EMAIL REGARDING OPPOSITION TO PROPOSED PLAN TO CONSOLIDATE SITE TOXIC WASTE AT RAYBESTOS MEMORIAL BALLFIELD**

Author: KRISTA WATSON, SAVE STRATFORD

Addressee: JAMES M DILORENZO, US EPA REGION 1

# of Pages: 2
Doc Date: 08/29/2016
Resource Type: Email
Access Control: Uncontrolled

579389 **LETTER REQUESTING AN ADDITIONAL THIRTY-DAY EXTENSION OF THE PUBLIC COMMENT PERIOD FOR THE PROPOSED CLEANUP PLAN (08/29/2016 FAX TRANSMITTAL)**

Author: MARK DUMAS, STRATFORD (CT) TOWN COUNCIL

Addressee: JAMES M DILORENZO, US EPA REGION 1

# of Pages: 1
Doc Date: 08/29/2016
Resource Type: Letter
Access Control: Uncontrolled

579390 **LETTER PROVIDING COMMENTS ON PROPOSED CLEANUP PLAN**

Author: THOMAS YEMM, STRATFORD (CT) RESIDENT

Addressee: JAMES M DILORENZO, US EPA REGION 1

# of Pages: 4
Doc Date: 08/29/2016
Resource Type: Letter
Access Control: Uncontrolled

File Break: **05.03 - RESPONSIVENESS SUMMARIES**

579391 **EMAIL REGARDING OPPOSITION TO PROPOSED PLAN TO CONSOLIDATE SITE TOXIC WASTE AT RAYBESTOS MEMORIAL BALLFIELD**

Author: NANCY RUSSO, STRATFORD (CT) - RESIDENT OF

Addressee: JAMES M DILORENZO, US EPA REGION 1

# of Pages: 2
Doc Date: 08/29/2016
Resource Type: Email
Access Control: Uncontrolled

579392 **EMAIL REGARDING OPPOSITION TO PROPOSED PLAN TO CONSOLIDATE SITE TOXIC WASTE AT RAYBESTOS MEMORIAL BALLFIELD**

Author: BILLIE NERI, STRATFORD (CT) - RESIDENT OF

Addressee: JAMES M DILORENZO, US EPA REGION 1

# of Pages: 2
Doc Date: 08/29/2016
Resource Type: Email
Access Control: Uncontrolled

579393 **EMAIL REGARDING OPPOSITION TO PROPOSED PLAN TO CONSOLIDATE SITE TOXIC WASTE AT RAYBESTOS MEMORIAL BALLFIELD**

Author: HELENE LOGAN, STRATFORD (CT) - RESIDENT OF

Addressee: JAMES M DILORENZO, US EPA REGION 1

# of Pages: 2
Doc Date: 08/29/2016
Resource Type: Email
Access Control: Uncontrolled

File Break: **05.03 - RESPONSIVENESS SUMMARIES**

579397 **EMAIL REGARDING OPPOSITION TO PROPOSED PLAN TO CONSOLIDATE SITE TOXIC WASTE AT RAYBESTOS MEMORIAL BALLFIELD**

Author: BETH DIAZ, STRATFORD (CT) - RESIDENT OF

Addressee: JAMES M DILORENZO, US EPA REGION 1

# of Pages: 2
Doc Date: 08/30/2016
Resource Type: Email
Access Control: Uncontrolled

579398 **EMAIL REGARDING OPPOSITION TO PROPOSED PLAN TO CONSOLIDATE SITE TOXIC WASTE AT RAYBESTOS MEMORIAL BALLFIELD**

Author: ARIEL RUSSO, STRATFORD (CT) - RESIDENT OF

Addressee: JAMES M DILORENZO, US EPA REGION 1

# of Pages: 2
Doc Date: 08/30/2016
Resource Type: Email
Access Control: Uncontrolled

579399 **EMAIL REGARDING OPPOSITION TO PROPOSED PLAN TO CONSOLIDATE SITE TOXIC WASTE AT RAYBESTOS MEMORIAL BALLFIELD**

Author: DAVID SAMOR, STRATFORD (CT) - RESIDENT OF

Addressee: JAMES M DILORENZO, US EPA REGION 1

# of Pages: 2
Doc Date: 08/30/2016
Resource Type: Email
Access Control: Uncontrolled

File Break: 05.03 - RESPONSIVENESS SUMMARIES

590577 **LETTER REGARDING COMMENTS ON PROPOSED PLAN FOR OPERABLE UNITS (OU) 2, 3, 4, AND 6**

Author: CATHERINE LABADIA, CT STATE HISTORIC PRESERVATION OFFICE

Addressee: ETHAN FINKEL, US EPA REGION 1

# of Pages: 2
Doc Date: 07/07/2016
Resource Type: Letter
Access Control: Uncontrolled

591270 **LETTER REGARDING REQUEST FOR THIRTY-DAY EXTENSION OF PUBLIC COMMENT PERIOD FOR PROPOSED CLEANUP PLAN**

Author: MATTHEW CATALANO, STRATFORD (CT) TOWN COUNCIL

MARK DUMAS, STRATFORD (CT) TOWN COUNCIL

GAVIN FORRESTER, STRATFORD (CT) TOWN COUNCIL

Addressee: JAMES M DILORENZO, US EPA REGION 1

# of Pages: 1
Doc Date: 07/06/2016
Resource Type: Letter
Access Control: Uncontrolled

591271 **PUBLIC COMMENT ON PROPOSED CLEANUP PLAN AND NOTES FOR PUBLIC FORUM**

Author: GEORGE MULLIGAN, STRATFORD (CT) RESIDENT

Addressee:

# of Pages: 4
Doc Date: 07/26/2016
Resource Type: Letter
Access Control: Uncontrolled

File Break: **05.03 - RESPONSIVENESS SUMMARIES**

591272 **PUBLIC COMMENT ON PROPOSED CLEANUP PLAN AND NOTES FOR PUBLIC FORUM**

Author: GEORGE MULLIGAN, STRATFORD (CT) RESIDENT

Addressee:

# of Pages: 4
Doc Date: 07/26/2016
Resource Type: Letter
Access Control: Uncontrolled

591273 **PUBLIC COMMENTS ON EPA PROPOSED REPORT FOR CLEAN-UP 06/2016**

Author: CHARLES PEREZ, RAYMARK ADVISORY COMMITTEE (RAC)

Addressee:

# of Pages: 3
Doc Date: 07/20/2016
Resource Type: Chart/Table
Access Control: Uncontrolled

591987 **EMAIL DENYING REQUEST FOR ADDITIONAL THIRTY-DAY EXTENSION OF PUBLIC COMMENT PERIOD FOR PROPOSED CLEANUP PLAN (EMAIL HISTORY ATTACHED)**

Author: JAMES M DILORENZO, US EPA REGION 1

Addressee: MARK DUMAS, STRATFORD (CT) TOWN COUNCIL

# of Pages: 3
Doc Date: 08/30/2016
Resource Type: Letter
Access Control: Uncontrolled

File Break: **05.03 - RESPONSIVENESS SUMMARIES**

591995 **LETTER REGARDING OPPOSITION TO PROPOSED PLAN TO CONSOLIDATE SITE TOXIC WASTE AT RAYBESTOS MEMORIAL BALLFIELD**

Author: CATHY GILBERT, STRATFORD (CT) - RESIDENT OF

Addressee: JAMES M DILORENZO, US EPA REGION 1

# of Pages: 2
Doc Date: 08/30/2016
Resource Type: Email
Access Control: Uncontrolled

591996 **EMAIL REGARDING OPPOSITION TO PROPOSED PLAN TO CONSOLIDATE SITE TOXIC WASTE AT RAYBESTOS MEMORIAL BALLFIELD**

Author: THOMAS DONNELLY, STRATFORD (CT) - RESIDENT OF

Addressee: JAMES M DILORENZO, US EPA REGION 1

# of Pages: 2
Doc Date: 09/01/2016
Resource Type: Email
Access Control: Uncontrolled

591997 **LETTER REGARDING OPPOSITION TO PROPOSED PLAN TO CONSOLIDATE SITE TOXIC WASTE AT RAYBESTOS MEMORIAL BALLFIELD (08/31/2016 TRANSMITTAL EMAIL ATTACHED)**

Author: JOHN PLOW, STRATFORD (CT) - RESIDENT OF

Addressee: JAMES M DILORENZO, US EPA REGION 1

# of Pages: 4
Doc Date: 08/30/2016
Resource Type: Email
Access Control: Uncontrolled

File Break: 05.03 - RESPONSIVENESS SUMMARIES

592436 **EMAIL REGARDING PUBLIC COMMENT ON EPA PROPOSED CLEAN-UP PLAN**

Author: TYWONNA BONAVENTURA, STRATFORD (CT) RESIDENT

Addressee: JAMES M DILORENZO, US EPA REGION 1

# of Pages: 1
Doc Date: 08/06/2016
Resource Type: Email
Access Control: Uncontrolled

592437 **EMAIL REGARDING PUBLIC COMMENT ON EPA PROPOSED CLEAN-UP PLAN**

Author: LISA JACKSON, STRATFORD (CT) RESIDENT

Addressee: JAMES M DILORENZO, US EPA REGION 1

# of Pages: 2
Doc Date: 08/04/2016
Resource Type: Email
Access Control: Uncontrolled

592438 **EMAIL REGARDING PUBLIC COMMENT ON EPA PROPOSED CLEAN-UP PLAN**

Author: LINDA EYERMAN, STRATFORD (CT) RESIDENT

Addressee: JAMES M DILORENZO, US EPA REGION 1

# of Pages: 2
Doc Date: 08/04/2016
Resource Type: Email
Access Control: Uncontrolled

RAYMARK INDUSTRIES, INC.
AR Collection: 64529
Record of Decision, OU2/3/4/6, 09/09/2016
AR Collection Index Report
*****For External Use*****

File Break: 05.03 - RESPONSIVENESS SUMMARIES

592439 **EMAIL REGARDING PUBLIC COMMENT ON EPA PROPOSED CLEAN-UP PLAN**

Author: HENRY BRUCE, STRATFORD (CT) RESIDENT
Addressee: JAMES M DILORENZO, US EPA REGION 1
# of Pages: 1
Doc Date: 08/04/2016
Resource Type: Email
Access Control: Uncontrolled

592440 **EMAIL REGARDING PUBLIC COMMENT ON EPA PROPOSED CLEAN-UP PLAN**

Author: GEORGE MULLIGAN, STRATFORD (CT) RESIDENT
Addressee: JAMES M DILORENZO, US EPA REGION 1
# of Pages: 3
Doc Date: 08/04/2016
Resource Type: Email
Access Control: Uncontrolled

592443 **LETTER REGARDING PUBLIC COMMENT ON EPA PROPOSED CLEAN-UP PLAN (EMAIL TRANSMITTAL ATTACHED)**

Author: JANELLE BIGGS, STRATFORD (CT) RESIDENT
Addressee: JAMES M DILORENZO, US EPA REGION 1
# of Pages: 3
Doc Date: 08/02/2016
Resource Type: Letter
Access Control: Uncontrolled

File Break: **05.03 - RESPONSIVENESS SUMMARIES**

592444 **EMAIL REGARDING PUBLIC COMMENT ON EPA PROPOSED CLEAN-UP PLAN, FIGURE SHOWING TRICHLOROETHENE (TCE) PLUME (EMAIL HISTORY ATTACHED)**

Author: CHARLES PEREZ, RAYMARK ADVISORY COMMITTEE (RAC)

Addressee: GEORGE MULLIGAN, STRATFORD (CT) RESIDENT

# of Pages: 3
Doc Date: 08/02/2016
Resource Type: Email
Access Control: Uncontrolled

592445 **EMAIL REGARDING PUBLIC COMMENT ON EPA PROPOSED CLEAN-UP PLAN, RAYBESTOS TOXIC DUMPING**

Author: TYWONNA BONAVENTURA, STRATFORD (CT) RESIDENT

Addressee: JAMES M DILORENZO, US EPA REGION 1

# of Pages: 1
Doc Date: 08/01/2016
Resource Type: Email
Access Control: Uncontrolled

File Break: **05.03 - RESPONSIVENESS SUMMARIES**

592446 **EMAIL REGARDING PUBLIC COMMENT ON EPA PROPOSED CLEAN-UP PLAN, USE OF AMIANTE OVENS TO DESTROY ASBESTOS, TCE, AND DCE (EMAIL HISTORY ATTACHED)**

Author: GEORGE MULLIGAN, STRATFORD (CT) RESIDENT

Addressee:
H BAILEY, CONNECTICUT POST
JOHN BURGESON, CONNECTICUT POST
MATTHEW CATALANO, STRATFORD (CT) TOWN COUNCIL
MICHAEL DALY, CONNECTICUT POST
JAMES M DILORENZO, US EPA REGION 1
JOHN KOVACH, STRATFORD STAR
JIM MURPHY, US EPA REGION 1
BRYAN OLSON, US EPA REGION 1
THOMAS YEMM, STRATFORD (CT) RESIDENT

# of Pages: 6
Doc Date: 08/01/2016
Resource Type: Email
Access Control: Uncontrolled

File Break: 05.03 - RESPONSIVENESS SUMMARIES

592447 **EMAIL REGARDING PUBLIC COMMENT ON EPA PROPOSED CLEAN-UP PLAN, FIGURE SHOWING TRICHLOROETHENE (TCE) PLUME (FIGURE 4-6 AND EMAIL HISTORY ATTACHED)**

# of Pages: 4
Doc Date: 08/01/2016
Resource Type: Email
Access Control: Uncontrolled

Author: GEORGE MULLIGAN, STRATFORD (CT) RESIDENT

Addressee:
JOHN BURGESON, CONNECTICUT POST
MATTHEW CATALANO, STRATFORD (CT) TOWN COUNCIL
JAMES M DILORENZO, US EPA REGION 1
MARK DUMAS, STRATFORD (CT) TOWN COUNCIL
DANA FARRINGTON-POSNER, STRATFORD (CT) RESIDENT
SCOTT FARRINGTON-POSNER, STRATFORD (CT) RESIDENT
GAVIN FORRESTER, STRATFORD (CT) TOWN COUNCIL
RONALD JENNINGS, US EPA REGION 1
TINA MARIE MANUS, STRATFORD (CT) TOWN COUNCIL
MELVIN MASON, STRATFORD STAR
RON MAZZEY, RAYMARK ADVISORY COMMITTEE (RAC)
JIM MURPHY, US EPA REGION 1
BRYAN OLSON, US EPA REGION 1
CHARLES PEREZ, RAYMARK ADVISORY COMMITTEE (RAC)
PAUL ROHALY, STRATFORD (CT) RESIDENT
TOM SMITH, SAVE STRATFORD

THOMAS YEMM, STRATFORD (CT) RESIDENT

592448 **EMAIL REGARDING PUBLIC COMMENT ON EPA PROPOSED CLEAN-UP PLAN**

# of Pages: 2
Doc Date: 07/27/2016
Resource Type: Email
Access Control: Uncontrolled

Author: AL GRANBERG, STRATFORD (CT) RESIDENT

Addressee: JAMES M DILORENZO, US EPA REGION 1

592449 **EMAIL REGARDING PUBLIC COMMENT ON EPA PROPOSED CLEAN-UP PLAN**

# of Pages: 1
Doc Date: 07/27/2016
Resource Type: Email
Access Control: Uncontrolled

Author: JULIE ARCOS, STRATFORD (CT) RESIDENT

Addressee: JAMES M DILORENZO, US EPA REGION 1

592450 **LETTER REGARDING PUBLIC COMMENT ON EPA PROPOSED CLEAN-UP PLAN (EMAIL TRANSMITTAL ATTACHED)**

# of Pages: 2
Doc Date: 07/27/2016
Resource Type: Letter
Access Control: Uncontrolled

Author: JOHN SUGRUE, STRATFORD (CT) RESIDENT

Addressee: JAMES M DILORENZO, US EPA REGION 1

File Break: 05.03 - RESPONSIVENESS SUMMARIES

592451 **EMAIL REGARDING PUBLIC COMMENT ON EPA PROPOSED CLEAN-UP PLAN**

# of Pages: 2
Doc Date: 07/26/2016
Resource Type: Email
Access Control: Uncontrolled

Author: BRITT HUGHES, HUGHES INVESTMENT
FAITH HUGHES, STRATFORD (CT) RESIDENT
JOHN B HUGHES, STRATFORD (CT) RESIDENT
WENDY HUGHES, STRATFORD (CT) RESIDENT

Addressee: JAMES M DILORENZO, US EPA REGION 1

592452 **LETTER REGARDING PUBLIC COMMENT ON EPA PROPOSED CLEAN-UP PLAN (EMAIL TRANSMITTAL WITH EMAIL HISTORY ATTACHED)**

# of Pages: 5
Doc Date: 07/26/2016
Resource Type: Email
Access Control: Uncontrolled

Author: PAUL ROHALY, STRATFORD (CT) RESIDENT

Addressee: , US EPA REGION 1

File Break: **05.03 - RESPONSIVENESS SUMMARIES**

592453 **EMAIL REGARDING PUBLIC COMMENT ON EPA PROPOSED CLEAN-UP PLAN**

Author: MEGHAN LANESE, STRATFORD (CT) RESIDENT

Addressee:
MARIANNE ANTEZZO, STRATFORD (CT) TOWN COUNCIL
J VINCENT CHASE, STRATFORD (CT) TOWN COUNCIL
BETH DAPONTE, STRATFORD (CT) TOWN COUNCIL
JAMES M DILORENZO, US EPA REGION 1
DAVID HARDEN, STRATFORD (CT) TOWN COUNCIL
JOHN A HARKINS, STRATFORD (CT) TOWN OF
RONALD JENNINGS, US EPA REGION 1
WALI KADEEM, STRATFORD (CT) TOWN COUNCIL
ALAN LLEWELYN, STRATFORD (CT) TOWN COUNCIL
TINA MARIE MANUS, STRATFORD (CT) TOWN COUNCIL
GINA MCCARTHY, US EPA
PHILIP YOUNG, STRATFORD (CT) TOWN COUNCIL

# of Pages: 2
Doc Date: 07/25/2016
Resource Type: Email
Access Control: Uncontrolled

File Break: **05.03 - RESPONSIVENESS SUMMARIES**

592454 **EMAIL REGARDING PUBLIC COMMENT ON EPA PROPOSED CLEAN-UP PLAN, USE OF AMIANTE OVENS TO DESTROY ASBESTOS / WASTE (EMAIL HISTORY ATTACHED)**

Author: GEORGE MULLIGAN, STRATFORD (CT) RESIDENT

Addressee: JAMES DILORENZO, US EPA REGION 1

# of Pages: 4
Doc Date: 07/25/2016
Resource Type: Email
Access Control: Uncontrolled

592455 **EMAIL REGARDING PUBLIC COMMENT ON EPA PROPOSED CLEAN-UP PLAN, PRICES AND CAPACITY FOR AMIANTE OVENS (EMAIL HISTORY ATTACHED)**

Author: GEORGE MULLIGAN, STRATFORD (CT) RESIDENT

Addressee: JAMES DILORENZO, US EPA REGION 1

# of Pages: 3
Doc Date: 07/21/2016
Resource Type: Email
Access Control: Uncontrolled

592456 **EMAIL REGARDING PUBLIC COMMENT ON EPA PROPOSED CLEAN-UP PLAN**

Author: MARY HOYT, STRATFORD (CT) RESIDENT

Addressee: JAMES M DILORENZO, US EPA REGION 1

# of Pages: 1
Doc Date: 07/21/2016
Resource Type: Email
Access Control: Uncontrolled

File Break: **05.03 - RESPONSIVENESS SUMMARIES**

592457 **EMAIL REGARDING PUBLIC COMMENT ON EPA PROPOSED CLEAN-UP PLAN, USE OF AMIANTE OVENS TO DESTROY ASBESTOS**

# of Pages: 1
Doc Date: 07/21/2016
Resource Type: Email
Access Control: Uncontrolled

Author: GEORGE MULLIGAN, STRATFORD (CT) RESIDENT

Addressee:
HENRY BRUCE, STRATFORD (CT) RESIDENT
JOHN BURGESON, CONNECTICUT POST
JAMES M DILORENZO, US EPA REGION 1
DANA FARRINGTON-POSNER, STRATFORD (CT) RESIDENT
SCOTT FARRINGTON-POSNER, STRATFORD (CT) RESIDENT
RONALD JENNINGS, US EPA REGION 1
TINA MARIE MANUS, STRATFORD (CT) TOWN COUNCIL
MELVIN MASON, STRATFORD STAR
RON MAZZ, STRATFORD (CT) RESIDENT
JIM MURPHY, US EPA REGION 1
PAUL ROHALY, STRATFORD (CT) RESIDENT
TOM SMITH, SAVE STRATFORD
THOMAS YEMM, STRATFORD (CT) RESIDENT

File Break: **05.03 - RESPONSIVENESS SUMMARIES**

592458 **EMAIL REGARDING PUBLIC COMMENT ON EPA PROPOSED CLEAN-UP PLAN**

Author: JUDY HAMPEL, STRATFORD (CT) RESIDENT

Addressee: JAMES M DILORENZO, US EPA REGION 1

# of Pages: 1
Doc Date: 07/20/2016
Resource Type: Email
Access Control: Uncontrolled

File Break: **05.03 - RESPONSIVENESS SUMMARIES**

592459 **EMAIL REGARDING PUBLIC COMMENT ON EPA PROPOSED CLEAN-UP PLAN (EMAIL HISTORY AND MULTIPLE DOCUMENTS ATTACHED)**

# of Pages: 30
Doc Date: 07/21/2016
Resource Type: Email
Access Control: Uncontrolled

Author: GEORGE MULLIGAN, STRATFORD (CT) RESIDENT

Addressee:
KATIE AGATI, OFFICE OF SENATOR CHRIS MURPHY

JOHN ALCOTT, CONNECTICUT POST

TOM APPLEBY, NEWS 12

H BAILEY, CONNECTICUT POST

JOHN BURGESON, CONNECTICUT POST

MICHAEL DALY, CONNECTICUT POST

JAMES M DILORENZO, US EPA REGION 1

MARGARET HARVEY, CT DEPT OF ENVIRONMENTAL PROTECT

JOHN KOVACH, STRATFORD STAR

MELVIN MASON, STRATFORD STAR

JIM MURPHY, US EPA REGION 1

NICHOLAS SAVARIA, OFFICE OF CONGRESSWOMAN ROSA DEI

JIM SHAY, CONNECTICUT POST

ERIN WALSH, CONNECTICUT POST

, NEWS 12

, OFFICE OF SENATOR RICHARD BLUMENTHAL

592460 **EMAIL REGARDING PUBLIC COMMENT ON EPA PROPOSED CLEAN-UP PLAN AND REQUEST FOR ASSISTANCE FROM SENATORS MURPHY AND BLUMENTHAL AND CONGRESSWOMAN DELAURO (INFORMATION RELEASE FORMS AND PROPOSED PLAN FLYER ATTACHED)**

# of Pages: 9
Doc Date: 07/20/2016
Resource Type: Email
Access Control: Uncontrolled

Author: GEORGE MULLIGAN, STRATFORD (CT) RESIDENT

Addressee:
KATIE AGATI, OFFICE OF SENATOR CHRIS MURPHY
TOM APPLEBY, NEWS 12
H BAILEY, CONNECTICUT POST
JOHN BURGESON, CONNECTICUT POST
MICHAEL DALY, CONNECTICUT POST
JAMES M DILORENZO, US EPA REGION 1
MARGARET HARVEY, CT DEPT OF ENVIRONMENTAL PROTECT
JOHN KOVACH, STRATFORD STAR
MELVIN MASON, STRATFORD STAR
JIM MURPHY, US EPA REGION 1
NICHOLAS SAVARIA, OFFICE OF CONGRESSWOMAN ROSA DEI
ERIN WALSH, CONNECTICUT POST
, NEWS 12
, OFFICE OF SENATOR RICHARD BLUMENTHAL

File Break: **05.03 - RESPONSIVENESS SUMMARIES**

592461 **EMAIL FOLLOW-UP TO REQUEST FOR THIRTY-DAY EXTENSION OF PUBLIC COMMENT PERIOD FOR PROPOSED CLEANUP PLAN (EMAIL HISTORY ATTACHED)**

Author: MARK DUMAS, STRATFORD (CT) TOWN COUNCIL

Addressee: JAMES M DILORENZO, US EPA REGION 1

# of Pages: 1
Doc Date: 07/19/2016
Resource Type: Email
Access Control: Uncontrolled

592462 **EMAIL REQUESTING RESPONSE TO QUESTIONS ABOUT CLEAN-UP PLAN**

Author: GEORGE MULLIGAN, STRATFORD (CT) RESIDENT

Addressee: JAMES M DILORENZO, US EPA REGION 1

JIM MURPHY, US EPA REGION 1

CHARLES PEREZ, RAYMARK ADVISORY COMMITTEE (RAC)

TOM SMITH, SAVE STRATFORD

# of Pages: 1
Doc Date: 07/08/2016
Resource Type: Email
Access Control: Uncontrolled

592463 **EMAIL REPLYING TO QUESTION ABOUT PUBLIC HEALTH EPIDEMIOLOGICAL METHODS (EMAIL HISTORY ATTACHED)**

Author: MARGARET HARVEY, CT DEPT OF PUBLIC HEALTH

Addressee: GEORGE MULLIGAN, STRATFORD (CT) RESIDENT

# of Pages: 5
Doc Date: 07/07/2016
Resource Type: Email
Access Control: Uncontrolled

File Break: 05.03 - RESPONSIVENESS SUMMARIES

592464 **EMAIL REGARDING QUESTION ABOUT PUBLIC HEALTH EPIDEMIOLOGICAL METHODS (ELEMENTS OF CIRCUMSTANTIAL EVIDENCE DOCUMENT AND EMAIL HISTORY ATTACHED)**

# of Pages: 7
Doc Date: 07/06/2016
Resource Type: Email
Access Control: Uncontrolled

Author: GEORGE MULLIGAN, STRATFORD (CT) RESIDENT

Addressee:
HENRY BRUCE, STRATFORD (CT) RESIDENT
JAMES DILORENZO, US EPA REGION 1
DANA FARRINGTON-POSNER, STRATFORD (CT) RESIDENT
SCOTT FARRINGTON-POSNER, STRATFORD (CT) RESIDENT
MARGARET HARVEY, CT DEPT OF PUBLIC HEALTH
TINA MARIE MANUS, STRATFORD (CT) TOWN COUNCIL
RON MAZZEY, RAYMARK ADVISORY COMMITTEE (RAC)
JIM MURPHY, US EPA REGION 1
CHARLES PEREZ, RAYMARK ADVISORY COMMITTEE (RAC)
PAUL ROHALY, RAYMARK ADVISORY COMMITTEE (RAC)
TOM SMITH, SAVE STRATFORD
, JEZEBEL

File Break: **05.03 - RESPONSIVENESS SUMMARIES**

592465 **EMAIL REQUESTING HEALTH INFORMATION ABOUT SITE**

# of Pages: 3
Doc Date: 07/06/2016
Resource Type: Email
Access Control: Uncontrolled

Author: GEORGE MULLIGAN, STRATFORD (CT) RESIDENT

Addressee: JAMES DILORENZO, US EPA REGION 1
MARGARET HARVEY, CT DEPT OF PUBLIC HEALTH
JIM MURPHY, US EPA REGION 1

592466 **EMAIL TRANSMITTING REQUEST FOR THIRTY-DAY EXTENSION OF PUBLIC COMMENT PERIOD FOR PROPOSED CLEANUP PLAN**

# of Pages: 1
Doc Date: 07/06/2016
Resource Type: Email
Access Control: Uncontrolled

Author: MARK DUMAS, STRATFORD (CT) TOWN COUNCIL

Addressee: JAMES M DILORENZO, US EPA REGION 1

File Break: 05.03 - RESPONSIVENESS SUMMARIES

592467 **EMAIL REGARDING PUBLIC COMMENT ON PROPOSED CLEAN-UP PLAN, EXPLANATION OF HOW ALL PEOPLE IN THE USA HAVE BEEN MANIPULATED (MULTIPLE ATTACHMENTS)**

# of Pages: 22
Doc Date: 07/10/2016
Resource Type: Email
Access Control: Uncontrolled

Author: GEORGE MULLIGAN, STRATFORD (CT) RESIDENT

Addressee:
KATIE AGATI, OFFICE OF SENATOR CHRIS MURPHY

HENRY BRUCE, STRATFORD (CT) RESIDENT

JOHN BURGESON, CONNECTICUT POST

MATTHEW CATALANO, STRATFORD (CT) TOWN COUNCIL

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JOHN FLOREK, STRATFORD (CT) TOWN OF

C HODGSON, STRATFORD (CT) TOWN OF

WALI KADEEM, STRATFORD (CT) TOWN COUNCIL

KEVIN T KELLY, NONE

CHRIS LYDDY, FAIRFIELD (CT) TOWN OF

G MACNAMARA, FAIRFIELD (CT) TOWN OF

TINA MARIE MANUS, STRATFORD (CT) TOWN COUNCIL

MELVIN MASON, STRATFORD STAR

J MCNEIL, STRATFORD (CT) TOWN OF

JIM MURPHY, US EPA REGION 1

THOMAS YEMM, STRATFORD (CT) RESIDENT

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, JEZEBEL

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File Break: **05.03 - RESPONSIVENESS SUMMARIES**

592468 **EMAIL REGARDING PUBLIC COMMENT ON PROPOSED CLEAN-UP PLAN**

# of Pages: 1
Doc Date: 07/05/2016
Resource Type: Email
Access Control: Uncontrolled

Author: GEORGE MULLIGAN, STRATFORD (CT) RESIDENT

Addressee:
HENRY BRUCE, STRATFORD (CT) RESIDENT
JOHN BURGESON, CONNECTICUT POST
MATTHEW CATALANO, STRATFORD (CT) TOWN COUNCIL
JAMES DILORENZO, US EPA REGION 1
DANA FARRINGTON-POSNER, STRATFORD (CT) RESIDENT
SCOTT FARRINGTON-POSNER, STRATFORD (CT) RESIDENT
TINA MARIE MANUS, STRATFORD (CT) TOWN COUNCIL
MELVIN MASON, STRATFORD STAR
RON MAZZEY, RAYMARK ADVISORY COMMITTEE (RAC)
JIM MURPHY, US EPA REGION 1
CHARLES PEREZ, RAYMARK ADVISORY COMMITTEE (RAC)
PAUL ROHALY, RAYMARK ADVISORY COMMITTEE (RAC)
TOM SMITH, SAVE STRATFORD

File Break: **05.03 - RESPONSIVENESS SUMMARIES**

592469 **EMAIL REGARDING PUBLIC COMMENT ON PROPOSED CLEAN-UP PLAN (10/30/2011 NEWS ARTICLE ATTACHED)**

# of Pages: 18
Doc Date: 07/05/2016
Resource Type: Email
Access Control: Uncontrolled

Author: GEORGE MULLIGAN, STRATFORD (CT) RESIDENT

Addressee:
TOM APPLEBY, NEWS 12

H BAILEY, CONNECTICUT POST

HENRY BRUCE, STRATFORD (CT) RESIDENT

JOHN BURGESON, CONNECTICUT POST

MATTHEW CATALANO, STRATFORD (CT) TOWN COUNCIL

MICHAEL DALY, CONNECTICUT POST

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MELVIN MASON, STRATFORD STAR

RON MAZZEY, RAYMARK ADVISORY COMMITTEE (RAC)

JIM MURPHY, US EPA REGION 1

CHARLES PEREZ, RAYMARK ADVISORY COMMITTEE (RAC)

PAUL ROHALY, RAYMARK ADVISORY COMMITTEE (RAC)

TOM SMITH, SAVE STRATFORD

ERIN WALSH, CONNECTICUT POST

THOMAS YEMM, STRATFORD (CT) RESIDENT

, CONNECTICUT POST

, NEWS 12

592470 **EMAIL REGARDING PUBLIC COMMENT ON EPA PROPOSED CLEAN-UP PLAN (EMAIL HISTORY ATTACHED)**

# of Pages: 3
Doc Date: 06/30/2016
Resource Type: Email
Access Control: Uncontrolled

Author: PAUL ROHALY, RAYMARK ADVISORY COMMITTEE (RAC)

Addressee: ANNI LOUGHLIN, US EPA REGION 1

592471 **EMAIL REGARDING PUBLIC COMMENT ON EPA PROPOSED CLEAN-UP PLAN**

# of Pages: 2
Doc Date: 08/17/2016
Resource Type: Email
Access Control: Uncontrolled

Author: GEORGE MULLIGAN, STRATFORD (CT) RESIDENT

Addressee: MATTHEW CATALANO, STRATFORD (CT) TOWN COUNCIL

JAMES DILORENZO, US EPA REGION 1

MARK DUMAS, STRATFORD (CT) TOWN COUNCIL

GAVIN FORRESTER, STRATFORD (CT) TOWN COUNCIL

TINA MARIE MANUS, STRATFORD (CT) TOWN COUNCIL

File Break: **05.03 - RESPONSIVENESS SUMMARIES**

592472 **EMAIL REGARDING PUBLIC COMMENT ON EPA PROPOSED CLEAN-UP PLAN, REQUEST FOR MEDIA COVERAGE**

Author: GEORGE MULLIGAN, STRATFORD (CT) RESIDENT

Addressee: TOM APPLEBY, NEWS 12

JAMES DILORENZO, US EPA REGION 1

ERIN FERRIS, NEWS 12

, NEWS 12

# of Pages: 2
Doc Date: 08/17/2016
Resource Type: Email
Access Control: Uncontrolled

592473 **EMAIL REGARDING PUBLIC COMMENT ON EPA PROPOSED CLEAN-UP PLAN, EXPECTED SALE OF 33 PECK STREET**

Author: BRIDGET MCGUIRE, STRATFORD (CT) RESIDENT

Addressee: JAMES DILORENZO, US EPA REGION 1

# of Pages: 1
Doc Date: 08/17/2016
Resource Type: Email
Access Control: Uncontrolled

592474 **EMAIL REGARDING PUBLIC COMMENT ON EPA PROPOSED CLEAN-UP PLAN, RESIDENT OF 33 PECK STREET WITH CANCER**

Author: BRIDGET MCGUIRE, STRATFORD (CT) RESIDENT

Addressee: JAMES DILORENZO, US EPA REGION 1

# of Pages: 1
Doc Date: 08/17/2016
Resource Type: Email
Access Control: Uncontrolled

File Break: **05.03 - RESPONSIVENESS SUMMARIES**

592475 **EMAIL REGARDING PUBLIC COMMENT ON EPA PROPOSED CLEAN-UP PLAN**

Author: BARBARA HEIMLICH, STRATFORD (CT) RESIDENT

Addressee: JAMES DILORENZO, US EPA REGION 1

# of Pages: 2
Doc Date: 08/09/2016
Resource Type: Email
Access Control: Uncontrolled

592484 **EMAIL REPLY TO PUBLIC COMMENT ON EPA PROPOSED CLEAN-UP PLAN, STATUS OF 33 PECK STREET (EMAIL HISTORY ATTACHED)**

Author: ANNI LOUGHLIN, US EPA REGION 1

Addressee: JAMES DILORENZO, US EPA REGION 1

BRIDGET MCGUIRE, STRATFORD (CT) RESIDENT

# of Pages: 2
Doc Date: 08/18/2016
Resource Type: Email
Access Control: Uncontrolled

592485 **EMAIL REPLY TO PUBLIC COMMENT ON EPA PROPOSED CLEAN-UP PLAN, STATUS OF 33 PECK STREET - FORWARD TO HEALTH AGENCIES (EMAIL HISTORY ATTACHED)**

Author: ANNI LOUGHLIN, US EPA REGION 1

Addressee: JAMES DILORENZO, US EPA REGION 1

BRIDGET MCGUIRE, STRATFORD (CT) RESIDENT

# of Pages: 2
Doc Date: 08/18/2016
Resource Type: Email
Access Control: Uncontrolled

RAYMARK INDUSTRIES, INC.
AR Collection: 64529
Record of Decision, OU2/3/4/6, 09/09/2016
AR Collection Index Report
For External Use

File Break: **05.03 - RESPONSIVENESS SUMMARIES**

592486 **EMAIL REGARDING PUBLIC COMMENT ON EPA PROPOSED CLEAN-UP PLAN, AGREEMENT TO HAVE COMMENTS INCLUDED IN ADMINISTRATIVE RECORD (AR) (EMAIL HISTORY ATTACHED)**

# of Pages: 2
Doc Date: 08/19/2016
Resource Type: Email
Access Control: Uncontrolled

Author: BRIDGET MCGUIRE, STRATFORD (CT) RESIDENT

Addressee: ANNI LOUGHLIN, US EPA REGION 1

592487 **EMAIL REGARDING PUBLIC COMMENT ON EPA PROPOSED CLEAN-UP PLAN, REQUEST FOR SOIL TESTING AT 33 PECK STREET (EMAIL HISTORY ATTACHED)**

# of Pages: 2
Doc Date: 08/19/2016
Resource Type: Email
Access Control: Uncontrolled

Author: BRIDGET MCGUIRE, STRATFORD (CT) RESIDENT

Addressee: ANNI LOUGHLIN, US EPA REGION 1

592488 **EMAIL REQUESTING SOIL TESTING AT 33 PECK STREET**

# of Pages: 1
Doc Date: 08/21/2016
Resource Type: Email
Access Control: Uncontrolled

Author: BRIDGET MCGUIRE, STRATFORD (CT) RESIDENT

Addressee: JAMES M DILORENZO, US EPA REGION 1

, DEBO FAMILY

File Break: **05.03 - RESPONSIVENESS SUMMARIES**

592489 **EMAIL REPLY TO PUBLIC COMMENT ON EPA PROPOSED CLEAN-UP PLAN, REQUEST FOR SOIL TESTING AT 33 PECK STREET (EMAIL HISTORY ATTACHED)**

Author: ANNI LOUGHLIN, US EPA REGION 1

Addressee: BRIDGET MCGUIRE, STRATFORD (CT) RESIDENT

# of Pages: 3
Doc Date: 08/22/2016
Resource Type: Email
Access Control: Uncontrolled

File Break: **05.03 - RESPONSIVENESS SUMMARIES**

592806 **EMAIL REGARDING PUBLIC COMMENT ON EPA PROPOSED CLEAN-UP PLAN, FORWARDING 08/19/2016 NEWS ARTICLE: NEW STUDY CHALLENGES ASSUMPTION OF ASBESTOS' ABILITY TO MOVE IN SOIL (EMAIL HISTORY ATTACHED)**

# of Pages: 2
Doc Date: 08/23/2016
Resource Type: Email
Access Control: Uncontrolled

Author: GEORGE MULLIGAN, STRATFORD (CT) RESIDENT

Addressee:
JOHN BURGESON, CONNECTICUT POST
MATTHEW CATALANO, STRATFORD (CT) TOWN COUNCIL
JAMES DILORENZO, US EPA REGION 1
MARK DUMAS, STRATFORD (CT) TOWN COUNCIL
DANA FARRINGTON-POSNER, STRATFORD (CT) RESIDENT
SCOTT FARRINGTON-POSNER, STRATFORD (CT) RESIDENT
GAVIN FORRESTER, STRATFORD (CT) TOWN COUNCIL
TINA MARIE MANUS, STRATFORD (CT) TOWN COUNCIL
MELVIN MASON, STRATFORD STAR
RON MAZZEY, RAYMARK ADVISORY COMMITTEE (RAC)
JIM MURPHY, US EPA REGION 1
CHARLES PEREZ, RAYMARK ADVISORY COMMITTEE (RAC)
PAUL ROHALY, RAYMARK ADVISORY COMMITTEE (RAC)
TOM SMITH, SAVE STRATFORD
THOMAS YEMM, STRATFORD (CT) RESIDENT

File Break: **05.03 - RESPONSIVENESS SUMMARIES**

593000 **EMAIL REGARDING CONSOLIDATING/CAPPING OF ASBESTOS CONTAINING WASTE**

Author: PATRICK F BOWE, CT DEPT OF ENVIRONMENTAL PROTECTION

Addressee: ANNI LOUGHLIN, US EPA REGION 1

# of Pages: 2
Doc Date: 09/02/2016
Resource Type: Email
Access Control: Uncontrolled

593235 **RESPONSIVENESS SUMMARY, PART 3 OF RECORD OF DECISION (ROD), OPERABLE UNITS (OU) 2, 3, 4, AND 6**

Author: , US EPA REGION 1

Addressee:

# of Pages: 40
Doc Date: 09/09/2016
Resource Type: Report
Access Control: Uncontrolled

593268 **LETTER PROVIDING COMMENTS ON PROPOSED CLEANUP PLAN, TEXT SPOKEN AT PUBLIC HEARING**

Author: ANDREA L BOISSEVAIN, STRATFORD (CT) TOWN OF

ALIVIA COLEMAN, STRATFORD (CT) TOWN OF

Addressee: JAMES M DILORENZO, US EPA REGION 1

# of Pages: 2
Doc Date: 08/16/2016
Resource Type: Letter
Access Control: Uncontrolled

File Break: 05.04 - RECORD OF DECISION (ROD)

592492 **RECORD OF DECISION (ROD), FINAL REMEDY AT OPERABLE UNIT (OU) 2, INCLUDING VAPOR MITIGATING ACTIONS AND FINAL SOURCE CONTROL ACTIONS FOR OU 3, OU 4, OU 6, AND MODIFICATION TO THE OU1 REMEDY**

# of Pages: 473
Doc Date: 09/09/2016
Resource Type: Report
Access Control: Uncontrolled

Author: , US EPA REGION 1
Addressee:

File Break: 06.01 - CORRESPONDENCE (RD)

593219 **MEMO REGARDING RESEARCH ON USE OF CAPPING AT SUPERFUND SITES IN REGION 1**

# of Pages: 1
Doc Date: 09/07/2016
Resource Type: Memorandum
Access Control: Uncontrolled

Author: ANNI LOUGHLIN, US EPA REGION 1
Addressee:

File Break: 06.04 - REMEDIAL DESIGN REPORTS

479884 **NON-AQUEOUS PHASE LIQUID (NAPL) INTERIM REMOVAL FIELD EVALUATION REPORT (NIRFER) FOR THE REMEDIATION OF THE RAYMARK INDUSTRIES FACILITY SITE-NAPL EXTRACTION VOLUME 1 OF 2 - TEXT (TRANSMITTAL LETTER ATTACHED)**

# of Pages: 26
Doc Date: 01/26/1996
Resource Type: Report
Access Control: Uncontrolled

Author: , FOSTER WHEELER ENVIRONMENTAL CORP
Addressee: , US ARMY CORPS OF ENGINEERS

File Break: **06.04 - REMEDIAL DESIGN REPORTS**

479885 **NON-AQUEOUS PHASE LIQUID (NAPL) INTERIM REMOVAL FIELD EVALUATION REPORT (NIRFER) FOR THE REMEDIATION OF THE RAYMARK INDUSTRIES FACILITY SITE-NAPL EXTRACTION VOLUME 2 OF 2 - FIGURES, COLOR PLATES, TABLES AND APPENDICES**

Author: , FOSTER WHEELER ENVIRONMENTAL CORP
Addressee: , US ARMY CORPS OF ENGINEERS

# of Pages: 942
Doc Date: 01/26/1996
Resource Type: Report
Access Control: Uncontrolled

576225 **REUSE PLANNING PROCESS FINAL REPORT**

Author: , VITA NUOVA LLC
Addressee:

# of Pages: 47
Doc Date: 10/18/2011
Resource Type: Report
Access Control: Uncontrolled

592434 **PRESENTATION: REUSE PLANNING PROCESS, RAYMARK BALL FIELD**

Author: , VITA NUOVA LLC
Addressee:

# of Pages: 16
Doc Date: 11/01/2015
Resource Type: Report
Access Control: Uncontrolled

File Break: **07.01 - CORRESPONDENCE (RA)**

585106 **VIDEO: RAYMARK BALL FIELD REUSE PLANNING PROCESS**

# of Pages: 1
Doc Date: 11/17/2015
Resource Type:

Author: , VITA NUOVA LLC
Addressee:

Access Control:
Uncontrolled

File Break: **08.03 - LONG-TERM RESPONSE REPORTS**

34792 **FIRST FIVE-YEAR REVIEW REPORT**

# of Pages: 38
Doc Date: 09/21/2000
Resource Type:
Report

Author: , US EPA REGION 1
Addressee:

Access Control:
Uncontrolled

240190 **SECOND FIVE-YEAR REVIEW REPORT**

# of Pages: 238
Doc Date: 09/30/2005
Resource Type:
Report

Author:
Addressee:

Access Control:
Uncontrolled

File Break: **08.03 - LONG-TERM RESPONSE REPORTS**

250122 **FINAL CLOSEOUT REPORT FOR SUB-SLAB DEPRESSURIZATION (SSD) INSTALLATIONS FERRY BOULEVARD AND BURR PLACE BUILDINGS--STRATFORD CT**

# of Pages: 432
Doc Date: 01/01/2002
Resource Type: Report
Access Control: Uncontrolled

Author: , CHARTER ENVIRONMENTAL
, METCALF & EDDY INC

Addressee: , US EPA

469086 **THIRD FIVE-YEAR REVIEW REPORT**

# of Pages: 216
Doc Date: 09/29/2010
Resource Type: Report
Access Control: Uncontrolled

Author: , US EPA REGION 1

Addressee:

533593 **CLOSE-OUT REPORT - INSTALLATION OF SUB-SLAB DEPRESSURIZATION (SSD) SYSTEMS FOR WILLOW AND HOUSATONIC AVENUES**

# of Pages: 460
Doc Date: 04/01/2003
Resource Type: Report
Access Control: Uncontrolled

Author: , METCALF & EDDY INC

Addressee: , CT DEPT OF ENVIRONMENTAL PROTECTION

File Break: 08.03 - LONG-TERM RESPONSE REPORTS

577165 **FOURTH FIVE-YEAR REVIEW REPORT**

Author: , US EPA REGION 1

Addressee:

# of Pages: 402
Doc Date: 09/22/2015
Resource Type: Report
Access Control: Uncontrolled

File Break: 08.07 - INSTITUTIONAL CONTROLS

262772 **DECLARATION OF ENVIRONMENTAL LAND USE RESTRICTION (ELUR) AND GRANT OF EASEMENT FOR 75 EAST MAIN STREET (EXHIBIT A - DEED DESCRIPTION, EXHIBIT B - DECISION DOCUMENT, AND EXHIBIT C - MAPS ATTACHED)**

Author: STEVEN JACKSON, STFD REALTY LLC

KATHRYN E LEE, HOME DEPOT USA INC

MINDY S LUBBER, US EPA REGION 1

SEY YOUNG, WAL-MART REAL ESTATE BUSINESS TRUST

Addressee:

# of Pages: 25
Doc Date: 02/17/2000
Resource Type: Laws/Regulations/Guidance
Access Control: Uncontrolled

File Break: **09.10 - STATE TECHNICAL AND HISTORICAL RECORDS**

592822 **ENVIRONMENT COMMITTEE HEARING TRANSCRIPT FOR 02/27/2008**

# of Pages: 11
Doc Date: 02/27/2008
Resource Type: Meeting Document
Access Control: Uncontrolled

Author: , CT HOUSE OF REPRESENTATIVES
Addressee:

592823 **ENVIRONMENT COMMITTEE JOINT FAVORABLE REPORT, AN ACT PROHIBITING THE DISPOSAL OR STORAGE OF TOXIC WASTE NEAR RESIDENTIAL PROPERTY**

# of Pages: 2
Doc Date: 02/27/2008
Resource Type: Laws/Regulations/Guidance
Access Control: Uncontrolled

Author: , CT HOUSE OF REPRESENTATIVES
Addressee:

592824 **CT GENERAL ASSEMBLY HOUSE OF REPRESENTATIVES TRANSCRIPT**

# of Pages: 6
Doc Date: 04/29/2008
Resource Type: Meeting Document
Access Control: Uncontrolled

Author: , CT HOUSE OF REPRESENTATIVES
Addressee:

File Break: 09.10 - STATE TECHNICAL AND HISTORICAL RECORDS

593239 **CT GENERAL ASSEMBLY HOUSE OF REPRESENTATIVES JOINT STANDING COMMITTEE ON THE ENVIRONMENT HEARING TRANSCRIPT**

Author: , CT HOUSE OF REPRESENTATIVES
Addressee:

# of Pages: 67
Doc Date: 02/27/2008
Resource Type: Meeting Document
Access Control: Uncontrolled

File Break: 13.01 - CORRESPONDENCE (COMMUNITY RELATIONS)

489539 **LETTER TRANSMITTING RECORD OF DECISION (ROD) ADMINISTRATIVE RECORD (AR) TO REPOSITORY - OPERABLE UNIT (OU) 6**

Author: HOLLY INGLIS, US EPA REGION 1
Addressee: , STRATFORD (CT) PUBLIC LIBRARY

# of Pages: 1
Doc Date: 07/28/2011
Resource Type: Letter
Access Control: Uncontrolled

524393 **LETTER REGARDING WASTE PROPERTIES**

Author: GINA MCCARTHY, CT DEPT OF ENVIRONMENTAL PROTECTION
Addressee: JULIA WARNER, STRATFORD (CT) RESIDENT

# of Pages: 2
Doc Date: 09/11/2007
Resource Type: Letter
Access Control: Uncontrolled

File Break: **13.01 - CORRESPONDENCE (COMMUNITY RELATIONS)**

584823 **LETTER REGARDING CLEANUP FUNDING AND COOPERATION WITH RAYMARK ADVISORY COMMITTEE (RAC) IN RESPONSE TO STRATFORD RESIDENT'S LETTER**

Author: JAMES T OWENS III, US EPA REGION 1

Addressee: PAT MICHALAK, STRATFORD (CT) RESIDENT

# of Pages: 1
Doc Date: 11/28/2007
Resource Type: Letter
Access Control: Uncontrolled

584824 **LETTER REQUESTING COOPERATIVE EFFORT TO INCREASE PUBLIC SAFETY AT STRATFORD CROSSING (02/22/2006 FAX TRANSMITTAL STAMP) [MARGINALIA]**

Author: VERONICA PETERS, RAYMARK ADVISORY COMMITTEE (RAC)

Addressee: RONALD KILCOYNE, GREATER BRIDGEPORT TRANSIT AUTHO

GINA MCCARTHY, CT DEPT OF ENVIRONMENTAL PROTECTIOI

JAMES R MIRON, STRATFORD (CT) TOWN OF

ROBERT W VARNEY, US EPA REGION 1

# of Pages: 1
Doc Date: 02/14/2006
Resource Type: Letter
Access Control: Uncontrolled

590505 **ANSWERS TO STRATFORD ACTION FOR THE ENVIRONMENT (SAFE) QUESTIONS OF 09/15/2015**

Author: , STRATFORD (CT) DEPT OF HEALTH

, US EPA REGION 1

Addressee: , STRATFORD ACTION FOR THE ENVIRONMENT

# of Pages: 6
Doc Date: 09/24/2015
Resource Type: Report
Access Control: Uncontrolled

File Break: **13.01 - CORRESPONDENCE (COMMUNITY RELATIONS)**

590507 **LIST OF QUESTIONS FOR EPA [MARGINALIA]**

# of Pages: 3
Doc Date: 10/20/2015
Resource Type: Report
Access Control: Uncontrolled

Author: TOM SMITH, SAVE STRATFORD
Addressee: , US EPA REGION 1

590510 **EPA RESPONSE TO QUESTIONS PRESENTED TO EPA AT STRATFORD COMMUNITY MEETING**

# of Pages: 3
Doc Date: 10/20/2015
Resource Type: Report
Access Control: Uncontrolled

Author: , US EPA REGION 1
Addressee: TOM SMITH, SAVE STRATFORD

592441 **EMAIL RESPONDING TO QUESTION ABOUT TIMING OF ISSUANCE OF RECORD OF DECISION (ROD) FOR OPERABLE UNITS (OU) 2, 3, 4, AND 6 (EMAIL HISTORY ATTACHED)**

# of Pages: 2
Doc Date: 08/03/2016
Resource Type: Email
Access Control: Uncontrolled

Author: JAMES M DILORENZO, US EPA REGION 1
Addressee: JIM MURPHY, US EPA REGION 1
TOM SMITH, SAVE STRATFORD
MARILYN STFLEUR, US EPA REGION 1

File Break: **13.01 - CORRESPONDENCE (COMMUNITY RELATIONS)**

592442 **EMAIL REGARDING TIMING OF ISSUANCE OF RECORD OF DECISION (ROD) FOR OPERABLE UNITS (OU) 2, 3, 4, AND 6**

Author: TOM SMITH, SAVE STRATFORD

Addressee: JAMES DILORENZO, US EPA REGION 1

JIM MURPHY, US EPA REGION 1

MARILYN STFLEUR, US EPA REGION 1

# of Pages: 1
Doc Date: 08/03/2016
Resource Type: Email
Access Control: Uncontrolled

File Break: **13.03 - NEWS CLIPPINGS/PRESS RELEASES**

470628 **NEWS CLIPPING: EPA TO REVIEW CLEANUP PROGRESS AT RAYMARK INDUSTRIES SUPERFUND SITE**

Author: , CONNECTICUT POST

Addressee:

# of Pages: 1
Doc Date: 08/12/2010
Resource Type: Publication
Access Control: Uncontrolled

524426 **ARTICLE: EPA REVEALS CLEANUP ONE CLEAN UP PLAN OPTION, MORE TO FOLLOW**

Author: TRISTRAM DEROMA, STRATFORD BARD

Addressee:

# of Pages: 2
Doc Date: 07/27/2007
Resource Type: Publication
Access Control: Uncontrolled

File Break: 13.03 - NEWS CLIPPINGS/PRESS RELEASES

524427 **ARTICLE: RAYMARK CLEANUP FRAUGHT WITH TROUBLE**

# of Pages: 1
Doc Date: 09/11/2007
Resource Type: Publication
Access Control: Uncontrolled

Author: RONALD MAZZEY, STRATFORD ACTION FOR THE ENVIRONMENT

CHARLES PEREZ, STRATFORD ACTION FOR THE ENVIRONMENT

PAUL ROHALY, RAYMARK ADVISORY COMMITTEE (RAC)

Addressee:

524428 **ARTICLE: RAYMARK HEALTH ISSUES REMAIN A CONCERN**

# of Pages: 2
Doc Date: 04/17/2008
Resource Type: Publication
Access Control: Uncontrolled

Author: RICHARD WEIZEL, NEW HAVEN REGISTER

Addressee:

530356 **NEWS ARTICLE: IT'S THE POLLUTION, STUPID, PART 1**

# of Pages: 1
Doc Date: 11/17/2011
Resource Type: Publication
Access Control: Uncontrolled

Author: , STRATFORD (CT) STAR

Addressee:

File Break: 13.03 - NEWS CLIPPINGS/PRESS RELEASES

530357 **NEWS ARTICLE: IT'S THE POLLUTION, STUPID, PART 2**

Author: , STRATFORD (CT) STAR

Addressee:

# of Pages: 1
Doc Date: 12/01/2011
Resource Type: Publication
Access Control: Uncontrolled

580691 **NEWS ARTICLE: RELL QUESTIONS PLANS FOR STRATFORD CLEANUP (02/26/2008 SAVESTRATFORD.ORG PRINTOUT)**

Author: RICHARD WEIZEL, CONNECTICUT POST

Addressee:

# of Pages: 4
Doc Date: 02/20/2008
Resource Type: Publication
Access Control: Uncontrolled

583028 **NEWS ARTICLE: RAYMARK TOXIC CLEANUP BACK TO SQUARE ONE (07/28/2008 WEBSITE PRINTOUT)**

Author: RICHARD WEIZEL, CONNECTICUT POST

Addressee:

# of Pages: 2
Doc Date: 07/25/2008
Resource Type: Publication
Access Control: Uncontrolled

File Break: **13.03 - NEWS CLIPPINGS/PRESS RELEASES**

584333 **NEWS ARTICLE: MEETING ATTRACTS OUTRAGED RESIDENTS (08/15/2007 EMAIL TRANSMITTAL)**

Author: RICHARD WEIZEL, CONNECTICUT POST
Addressee:

# of Pages: 2
Doc Date: 08/14/2007
Resource Type: Publication
Access Control: Uncontrolled

584334 **NEWS ARTICLE: FEDS FLOAT RAYMARK OPTIONS: BALLFIELD PLAN IS PREFERRED, BUT NEIGHBORS RALLY THEIR OPPOSITION (08/14/2007 PRINTOUT)**

Author: FRED MUSANTE, STRATFORD STAR
Addressee:

# of Pages: 3
Doc Date: 08/02/2007
Resource Type: Publication
Access Control: Uncontrolled

584335 **NEWS ARTICLE: RESIDENTS TO EPA: NO WAY! (08/27/2007 WEBSITE PRINTOUT)**

Author: TRISTRAM DEROMA, STRATFORD BARD
Addressee:

# of Pages: 2
Doc Date: 08/24/2007
Resource Type: Publication
Access Control: Uncontrolled

File Break: **13.03 - NEWS CLIPPINGS/PRESS RELEASES**

584336 **NEWS ARTICLE: STRATFORD RESIDENTS OPPOSE EPA PLAN (08/27/2007 WEBSITE PRINTOUT)**

# of Pages: 2
Doc Date: 08/25/2007
Resource Type: Publication
Access Control: Uncontrolled

Author: RICHARD WEIZEL, CONNECTICUT POST
Addressee:

584338 **NEWS ARTICLE: RAYMARK NEWS CAUGHT NEW RESIDENTS BY SURPRISE (HANDWRITTEN NOTE ATTACHED)**

# of Pages: 3
Doc Date: 09/21/2007
Resource Type: Publication
Access Control: Uncontrolled

Author: FRED MUSANTE, STRATFORD STAR
Addressee:

584339 **NEWS ARTICLE: GROUP WANTS TOXIC WASTE OUT OF STRATFORD (09/23/2007-09/24/2007 EMAIL TRANSMITTALS)**

# of Pages: 3
Doc Date: 09/22/2007
Resource Type: Publication
Access Control: Uncontrolled

Author: RICHARD WEIZEL, CONNECTICUT POST
Addressee:

File Break: **13.03 - NEWS CLIPPINGS/PRESS RELEASES**

584340 **NEWS ARTICLE: GROUP HAS QUESTIONS ABOUT MOSES WHEELER BRIDGE (07/11/2007 WEBSITE PRINTOUT)**

# of Pages: 1
Doc Date: 06/29/2007
Resource Type: Publication
Access Control: Uncontrolled

Author: TRISTRAM DEROMA, STRATFORD BARD
Addressee:

584391 **NEWS ARTICLE: BARD LOOKS BACK ON 2006 (01/04/2007 WEBSITE PRINTOUT)**

# of Pages: 10
Doc Date: 01/03/2007
Resource Type: Publication
Access Control: Uncontrolled

Author: TRISTRAM DEROMA, STRATFORD BARD
Addressee:

584894 **NEWSLETTER ARTICLE: TOXICS ACTION CENTER SPRING 2008, STRATFORD GROUPS WINS GOVERNOR'S SUPPORT**

# of Pages: 2
Doc Date: 01/01/2008
Resource Type: Publication
Access Control: Uncontrolled

Author: , TOXICS ACTION CENTER
Addressee:

File Break: **13.03 - NEWS CLIPPINGS/PRESS RELEASES**

590972 **NEWS ARTICLE: PLANS FOR RAYMARK SITE CLEANUP TAKING SHAPE**

Author: JOHN BURGESON, CONNECTICUT POST
Addressee:

# of Pages: 6
Doc Date: 08/03/2016
Resource Type: Publication
Access Control: Uncontrolled

590973 **NEWS ARTICLE: HAVING THEIR SAY WITH THE EPA - RESIDENTS SPEAK OUT ON PLAN TO REMEDIATE RAYMARK SITES**

Author: MELVIN MASON, STRATFORD STAR
Addressee:

# of Pages: 3
Doc Date: 07/27/2016
Resource Type: Publication
Access Control: Uncontrolled

590974 **NEWS ARTICLE: ONCE AGAIN, MAYOR HARKINS IS WRONG**

Author: HENRY BRUCE, STRATFORD (CT) RESIDENT
, STRATFORD STAR
Addressee:

# of Pages: 3
Doc Date: 07/22/2016
Resource Type: Publication
Access Control: Uncontrolled

File Break: **13.03 - NEWS CLIPPINGS/PRESS RELEASES**

590975 **NEWS ARTICLE: FORMER COUNCIL MEMBERS ASK FOR EXTENSION ON RAYMARK COMMENTS**

Author: MELVIN MASON, STRATFORD STAR
Addressee:

# of Pages: 3
Doc Date: 07/07/2016
Resource Type: Publication
Access Control: Uncontrolled

590976 **NEWS ARTICLE: EPA TO HOST RAYMARK MEETINGS THIS MONTH - INFORMATION SESSION AND PRESENTATION ON 07/20/2016, PUBLIC HEARING SET FOR 07/26/2016**

Author: MELVIN MASON, STRATFORD STAR
Addressee:

# of Pages: 4
Doc Date: 07/05/2016
Resource Type: Publication
Access Control: Uncontrolled

590977 **PRESS RELEASE: EPA RELEASES PROPOSED CLEANUP PLAN FOR RAYMARK INDUSTRIES, INC. SUPERFUND SITE - PUBLIC COMMENT PERIOD, MEETING AND HEARING PLANNED**

Author: , US EPA REGION 1
Addressee:

# of Pages: 4
Doc Date: 06/30/2016
Resource Type: Publication
Access Control: Uncontrolled

File Break: **13.03 - NEWS CLIPPINGS/PRESS RELEASES**

590978 **NEWS ARTICLE: GARBAGE IN GARBAGE OUT**

# of Pages: 2
Doc Date: 03/29/2012
Resource Type: Publication
Access Control: Uncontrolled

Author: GEORGE MULLIGAN STRATFORD, NONE
, STRATFORD STAR

Addressee:

590979 **NEWS ARTICLE: PLAN ANNOUNCED FOR RAYMARK SITE: SELF-STORAGE FACILITY PROPOSED FOR 576/600 EAST BROADWAY**

# of Pages: 3
Doc Date: 03/22/2016
Resource Type: Publication
Access Control: Uncontrolled

Author: , STRATFORD STAR

Addressee:

591228 **FACEBOOK POST: INFORMATIONAL MEETING AND FORMAL PUBLIC HEARING ON PROPOSED PLAN FOR OPERABLE UNITS (OU) 2, 3, 4, AND 6 (PHOTOGRAPHS ATTACHED)**

# of Pages: 11
Doc Date: 07/27/2016
Resource Type: Publication
Access Control: Uncontrolled

Author: , US EPA REGION 1

Addressee:

File Break: **13.03 - NEWS CLIPPINGS/PRESS RELEASES**

592426 **PRESS RELEASE AS APPEARING IN CONNECTICUT POST: EPA ANNOUNCES 30-DAY PUBLIC COMMENT PERIOD, OPEN HOUSE, MEETING, AND HEARING ON PROPOSED CLEANUP PLAN FOR OPERABLE UNITS (OU) 2, 3, 4, AND 6**

Author: , US EPA REGION 1

Addressee:

# of Pages: 1
Doc Date: 06/30/2016
Resource Type: Publication
Access Control: Uncontrolled

592427 **PRESS RELEASE AS APPEARING IN STRATFORD STAR: EPA ANNOUNCES 30-DAY PUBLIC COMMENT PERIOD, OPEN HOUSE, MEETING, AND HEARING ON PROPOSED CLEANUP PLAN FOR OPERABLE UNITS (OU) 2, 3, 4, AND 6**

Author: , US EPA REGION 1

Addressee:

# of Pages: 1
Doc Date: 07/07/2016
Resource Type: Publication
Access Control: Uncontrolled

592490 **LETTER TO THE EDITOR: MULLIGAN FAVORS EXPEDITIOUS RAYMARK CLEANUP**

Author: GEORGE MULLIGAN, STRATFORD (CT) RESIDENT

, STRATFORD STAR

Addressee:

# of Pages: 3
Doc Date: 08/18/2016
Resource Type: Publication
Access Control: Uncontrolled

File Break: 13.03 - NEWS CLIPPINGS/PRESS RELEASES

592491 **LETTER TO THE EDITOR: EPA'S PLAN TO CLEAN UP RAYMARK WASTE IS FLAWED**

Author: TOM SMITH, SAVE STRATFORD
, STRATFORD STAR

Addressee:

# of Pages: 2
Doc Date: 08/04/2016
Resource Type: Publication
Access Control: Uncontrolled

592825 **PRESS RELEASE: PROPOSED BILL TO BAN DISPOSAL OF TOXIC WASTE NEAR RESIDENTIAL PROPERTY PASSES [HIGHLIGHTING]**

Author: , CT HOUSE OF REPRESENTATIVES

Addressee:

# of Pages: 2
Doc Date: 03/04/2008
Resource Type: Publication
Access Control: Uncontrolled

592826 **NEWS ARTICLE: OFFICIALS SEEK OPTIONS FOR RAYMARK PLANS**

Author: RICHARD WEIZEL, CONNECTICUT POST

Addressee:

# of Pages: 2
Doc Date: 08/28/2007
Resource Type: Publication
Access Control: Uncontrolled

File Break: **13.03 - NEWS CLIPPINGS/PRESS RELEASES**

592827 **NEWS ARTICLE: STRATFORD DELEGATION URGES BAN ON DISPOSAL OF TOXIC WASTE NEAR RESIDENTIAL PROPERTY LEGISLATION INSPIRED BY RAYMARK CLEANUP ISSUES SUBJECT OF LEGISLATIVE PUBLIC HEARING (EMAIL TRANSMITTAL ATTACHED)**

Author:

Addressee:

# of Pages: 2
Doc Date: 02/27/2008
Resource Type: Publication
Access Control: Uncontrolled

592828 **NEWS ARTICLE: MORE LOCAL RAYMARK DUMPING FOUGHT**

Author: KEN DIXON, CONNECTICUT POST

Addressee:

# of Pages: 2
Doc Date: 02/27/2008
Resource Type: Publication
Access Control: Uncontrolled

592829 **NEWS ARTICLE: WASTE BILL MAKING HEADWAY (EMAIL TRANSMITTAL ATTACHED) [HIGHLIGHTING]**

Author: TRISTRAM DEROMA, STRATFORD BARD

Addressee:

# of Pages: 2
Doc Date: 03/14/2008
Resource Type: Publication
Access Control: Uncontrolled

File Break: **13.03 - NEWS CLIPPINGS/PRESS RELEASES**

592830 **NEWS ARTICLE: RELL GETS BILL TO RESTRICT RAYMARK CLEANUP**

Author: KEN DIXON, CONNECTICUT POST
Addressee:

# of Pages: 2
Doc Date: 03/14/2008
Resource Type: Publication
Access Control: Uncontrolled

592831 **NEWS ARTICLE: LAW STOPS TOXIC DUMPS IN NEIGHBORHOODS [HIGHLIGHTING]**

Author: RICHARD WEIZEL, CONNECTICUT POST
Addressee:

# of Pages: 2
Doc Date: 07/08/2008
Resource Type: Publication
Access Control: Uncontrolled

592832 **NEWS ARTICLE: GOVERNOR SIGNS KEY TOXIC WASTE BILL [HIGHLIGHTING]**

Author: TRISTRAM DEROMA, STRATFORD BARD
Addressee:

# of Pages: 2
Doc Date:
Resource Type: Publication
Access Control: Uncontrolled

File Break: **13.03 - NEWS CLIPPINGS/PRESS RELEASES**

592833 **NEWS ARTICLE: RESIDENTS PROTEST TOXIC WASTE DUMPS**

Author: JOHN BURGESON, CONNECTICUT POST

Addressee:

# of Pages: 2
Doc Date: 08/19/2008
Resource Type: Publication
Access Control: Uncontrolled

592834 **NEWS ARTICLE: STRATFORD MAYORAL CANDIDATES DEBATE RAYMARK WASTE, AIRPORT AND PUBLIC SAFETY**

Author: RICHARD WEIZEL, CONNECTICUT POST

Addressee:

# of Pages: 2
Doc Date: 09/29/2009
Resource Type: Publication
Access Control: Uncontrolled

593288 **LETTER TO THE EDITOR: MAKE YOUR VOICE HEARD ON EPA'S RAYMARK PLAN**

Author: MARK DUMAS, STRATFORD (CT) TOWN COUNCIL

, STRATFORD STAR

Addressee:

# of Pages: 2
Doc Date: 08/26/2016
Resource Type: Publication
Access Control: Uncontrolled

File Break: 13.03 - NEWS CLIPPINGS/PRESS RELEASES

593289 **LETTER TO THE EDITOR: EPA RAYMARK PLAN SHOULD REMOVE MORE WASTE**

Author: TOM SMITH, SAVE STRATFORD
, SAVE STRATFORD
, STRATFORD STAR

Addressee:

# of Pages: 2
Doc Date: 08/31/2016
Resource Type: Publication
Access Control: Uncontrolled

593290 **NEWS ARTICLE: MIX OF COMMENTS ON EPA RAYMARK PLAN**

Author: MELVIN MASON, STRATFORD STAR

Addressee:

# of Pages: 2
Doc Date: 09/08/2016
Resource Type: Publication
Access Control: Uncontrolled

File Break: 13.04 - PUBLIC MEETINGS/HEARINGS

489535 **PUBLIC HEARING TRANSCRIPT (11/18/2010 TRANSMITTAL LETTER AND TRANSCRIPT OF PROCEEDINGS ATTACHED)**

Author: , US EPA REGION 1

Addressee:

# of Pages: 69
Doc Date: 10/06/2010
Resource Type: Meeting Document
Access Control: Uncontrolled

File Break: **13.04 - PUBLIC MEETINGS/HEARINGS**

579394 **PUBLIC HEARING - PROPOSED CLEANUP PLAN**

Author:

Addressee:

# of Pages: 62
Doc Date: 07/26/2016
Resource Type: Report
Access Control: Uncontrolled

584341 **SAVE THE DATE FLYER FOR INFORMAL POSTER SESSION AND PRESENTATION WITH QUESTION AND ANSWER (Q&A) PERIOD**

Author:

Addressee:

# of Pages: 1
Doc Date: 08/29/2007
Resource Type: Meeting Document
Access Control: Uncontrolled

590506 **MEETING SIGN-IN SHEET, MEETING BETWEEN EPA, CT DEPT. OF ENERGY AND ENVIRONMENTAL PROTECTION (CT DEEP), STRATFORD ACTION FOR THE ENVIRONMENT (SAFE), AND RESIDENTS**

Author: , CT DEPT OF ENERGY AND ENVIRONMENTAL PROTECTION

, STRATFORD ACTION FOR THE ENVIRONMENT

, US EPA REGION 1

Addressee:

# of Pages: 1
Doc Date: 10/20/2015
Resource Type: Meeting Document
Access Control: Uncontrolled

File Break: **13.04 - PUBLIC MEETINGS/HEARINGS**

590511 **PRESENTATION: RAYMARK BALL FIELD CONCEPTUAL REUSE PLAN**

Author: , US EPA REGION 1
Addressee:

# of Pages: 11
Doc Date: 08/23/2015
Resource Type: Meeting Document
Access Control: Uncontrolled

590512 **PRESENTATION: FUTURE VISION**

Author: , VITA NUOVA LLC
Addressee:

# of Pages: 14
Doc Date: 07/09/2015
Resource Type: Meeting Document
Access Control: Uncontrolled

590513 **FLYER: 10TH DISTRICT NEIGHBORHOOD NETWORKING AND COMMUNITY EVENT**

Author: TINA MARIE MANUS, STRATFORD (CT) TOWN COUNCIL
Addressee:

# of Pages: 1
Doc Date: 03/30/2016
Resource Type: Meeting Document
Access Control: Uncontrolled

File Break: 13.04 - PUBLIC MEETINGS/HEARINGS

590514 **INVITATION TO MEET WITH EPA, CT DEPT. OF ENERGY AND ENVIRONMENTAL PROTECTION (CT DEEP) AND STRATFORD HEALTH DEPARTMENT**

Author: , US EPA REGION 1
Addressee:

# of Pages: 1
Doc Date: 10/14/2015
Resource Type: Meeting Document
Access Control: Uncontrolled

590515 **SUMMARY OF RAYMARK BALL FIELD (OPERABLE UNIT (OU) 4) REUSE STAKEHOLDER MEETINGS, 11/17/2015 AND 11/19/2015**

Author: , US EPA REGION 1
Addressee:

# of Pages: 5
Doc Date: 11/19/2015
Resource Type: Meeting Document
Access Control: Uncontrolled

590516 **TOWN COUNCIL MEETING ROSTERS 12/02/2015 AND 12/03/2015**

Author: , US EPA REGION 1
Addressee:

# of Pages: 4
Doc Date: 12/03/2015
Resource Type: Meeting Document
Access Control: Uncontrolled

File Break: 13.04 - PUBLIC MEETINGS/HEARINGS

590551 **FLYER ANNOUNCING 30-DAY PUBLIC COMMENT PERIOD, OPEN HOUSE, INFORMATIONAL MEETING, AND PUBLIC HEARING ON PROPOSED CLEANUP PLAN**

Author: , US EPA REGION 1
Addressee:

# of Pages: 1
Doc Date: 06/01/2016
Resource Type: Publication
Access Control: Uncontrolled

590552 **SAVE THE DATE - PUBLIC NOTICE OF OPEN HOUSE, INFORMATIONAL MEETING, AND PUBLIC HEARING ON PROPOSED CLEANUP PLAN**

Author: , US EPA REGION 1
Addressee:

# of Pages: 2
Doc Date: 06/01/2016
Resource Type: Meeting Document
Access Control: Uncontrolled

592419 **POSTCARD: PUBLIC NOTICE OF OPEN HOUSE AND POSTER SESSION ON PROPOSED CLEANUP PLAN FOR OPERABLE UNITS (OU) 2, 3, 4, AND 6**

Author: , US EPA REGION 1
Addressee:

# of Pages: 2
Doc Date: 06/30/2016
Resource Type: Meeting Document
Access Control: Uncontrolled

File Break: **13.05 - FACT SHEETS/INFORMATION UPDATES**

475833 **FACT SHEET: OPERATION AND MAINTENANCE (O&M) OF SUB-SLAB DEPRESSURATION (SSD) SYSTEMS**

# of Pages: 1
Doc Date: 01/01/2011
Resource Type: Publication
Access Control: Uncontrolled

Author:

Addressee:

504364 **SITE UPDATE**

# of Pages: 2
Doc Date: 02/01/2012
Resource Type: Publication
Access Control: Uncontrolled

Author: , US EPA REGION 1

Addressee:

582402 **FACT SHEET ON CONCEPTUAL APPROACH**

# of Pages: 4
Doc Date: 03/20/2015
Resource Type: Publication
Access Control: Uncontrolled

Author: , US EPA REGION 1

Addressee:

File Break: **13.05 - FACT SHEETS/INFORMATION UPDATES**

590508 **FACT SHEET: HEALTH CONCERNS AND BASIS FOR ACTION**

Author: , STRATFORD (CT) TOWN OF
Addressee:

# of Pages: 4
Doc Date: 03/03/2016
Resource Type: Publication
Access Control: Uncontrolled

590535 **FACT SHEET: 2014 WATER QUALITY REPORT FOR CUSTOMERS IN THE STAMFORD SYSTEM**

Author: , AQUARION WATER COMPANY
Addressee:

# of Pages: 6
Doc Date: 01/01/2014
Resource Type: Publication
Access Control: Uncontrolled

592418 **FLYER ANNOUNCING 30-DAY PUBLIC COMMENT PERIOD, OPEN HOUSE, INFORMATIONAL MEETING, AND PUBLIC HEARING ON PROPOSED CLEANUP PLAN FOR OPERABLE UNITS (OU) 2, 3, 4, AND 6**

Author: , US EPA REGION 1
Addressee:

# of Pages: 1
Doc Date: 06/30/2016
Resource Type: Publication
Access Control: Uncontrolled

File Break: **13.05 - FACT SHEETS/INFORMATION UPDATES**

593220 **FACT SHEET: REUSE AND THE BENEFIT TO COMMUNITY, TECHNICAL APPENDIX - EMPLOYMENT, WAGE, AND INCOME INFORMATION FOR ON-SITE JOBS, DRAFT**

# of Pages: 3
Doc Date: 08/24/2016
Resource Type: Publication
Access Control: Uncontrolled

Author: , US EPA REGION 1
Addressee:

File Break: **16.01 - CORRESPONDENCE (NATURAL RESOURCE TRUSTEE)**

579363 **LETTER REGARDING INITIATION OF ESSENTIAL FISH HABITAT (EFH) CONSULTATION UNDER MAGNUSON-STEVENS FISHERY CONSERVATION AND MANAGEMENT ACT (MSA)**

# of Pages: 12
Doc Date: 08/29/2016
Resource Type: Letter
Access Control: Uncontrolled

Author: REGINA LYONS, US EPA REGION 1
Addressee: LOUIS A CHIARELLA, NATIONAL OCEANIC AND ATMOSPHERI(ADMINISTRATION (NOAA)

589327 **LETTER REGARDING INITIATION OF SECTION 106 CONSULTATION**

# of Pages: 9
Doc Date: 03/10/2016
Resource Type: Letter
Access Control: Uncontrolled

Author: ETHAN FINKEL, US EPA REGION 1
Addressee: DANIEL FORREST, CT DEPT OF ECONOMIC AND COMMUNITY DEVELOPMENT
MARISSA TURNBULL, MASHANTUCKET PEQUOT TRIBAL NATI

File Break: **16.01 - CORRESPONDENCE (NATURAL RESOURCE TRUSTEE)**

590542 **LETTER REGARDING FERRY CREEK AND SELBY POND, STATE THREATENED ATLANTIC STURGEON IN THE VICINITY OF THE PROJECT**

Author: STACEY KINGSBURY, CT DEPT OF ENVIRONMENTAL PROTECTION

Addressee: HECTOR LAGUETTE, BROWN & ROOT ENVIRONMENTAL

# of Pages: 1
Doc Date: 06/27/1997
Resource Type: Letter
Access Control: Uncontrolled

590543 **LETTER RESPONDING TO LETTER REQUESTING INFORMATION ON PRESENCE OF FEDERALLY-LISTED AND PROPOSED ENDANGERED OR THREATENED SPECIES IN THE VICINITY OF SELBY POND AND FERRY CREEK**

Author: MICHAEL J BARTLETT, US DOI/US FISH & WILDLIFE SERVICE

Addressee: HECTOR LAGUETTE, BROWN & ROOT ENVIRONMENTAL

# of Pages: 2
Doc Date: 07/30/1997
Resource Type: Letter
Access Control: Uncontrolled

590578 **EMAIL REGARDING OPINION THAT NO PROPERTIES OF HISTORIC, CULTURAL OR RELIGIOUS SIGNIFICANCE WILL BE IMPACTED BY PROJECT - INITIATION OF 106 CONSULTATION (EMAIL HISTORY ATTACHED)**

Author: JAMES QUINN, MOHEGAN TRIBE

Addressee: ETHAN FINKEL, US EPA REGION 1

# of Pages: 2
Doc Date: 06/15/2016
Resource Type: Email
Access Control: Uncontrolled

File Break: **17.04 - NON-PRINT MATERIALS**

537750 **BEDROCK GEOLOGICAL MAP OF CONNECTICUT**

Author: JOHN RODGERS, CT DEPT OF ENVIRONMENTAL PROTECTION

Addressee:

# of Pages: 2
Doc Date: 01/01/1985
Resource Type: Figure/Map/ Drawing
Access Control: Uncontrolled

590540 **FLOOD INSURANCE RATE MAP (FIRM), FAIRFIELD COUNTY, CT - PANEL 453 OF 626, TOWN OF STRATFORD**

Author: , FEDERAL EMERGENCY MANAGEMENT AGENCY

Addressee:

# of Pages: 2
Doc Date: 07/08/2013
Resource Type: Figure/Map/ Drawing
Access Control: Uncontrolled

File Break: **17.07 - REFERENCE DOCUMENTS**

540978 **TECHNICAL MEMO: REVISED ALTERNATIVE CAP DESIGN GUIDANCE PROPOSED FOR UNLINED, HAZARDOUS WASTE LANDFILLS IN THE EPA REGION 1**

Author: YOON JEAN CHOI, US EPA REGION 1

DENNIS P GAGNE, US EPA REGION 1

Addressee: , US EPA REGION 1 - OFFICE OF SITE REMEDIATION & RESTOR/

# of Pages: 17
Doc Date: 02/05/2001
Resource Type: Memorandum
Access Control: Uncontrolled

File Break: **17.07 - REFERENCE DOCUMENTS**

590509 **FACT SHEET: CANCER FACTS AND FIGURES 2016**

# of Pages: 70
Doc Date: 01/01/2016
Resource Type: Publication
Access Control: Uncontrolled

Author: , AMERICAN CANCER SOCIETY
Addressee:

593232 **ASSESSMENT AND RECOMMENDATIONS FOR IMPROVING THE PERFORMANCE OF WASTE CONTAINMENT SYSTEMS**

# of Pages: 1039
Doc Date: 12/01/2002
Resource Type: Report
Access Control: Uncontrolled

Author: RUDOLPH BONAPARTE, GEOSYNTEC CONSULTANTS

DAVID DANIEL, UNIVERSITY OF ILLINOIS

ROBERT KOERNER, DREXEL UNIVERSITY

Addressee:

593233 **GEOMEMBRANE LIFETIME PREDICTION: UNEXPOSED AND EXPOSED CONDITIONS, GRI WHITE PAPER #6, UPDATED**

# of Pages: 27
Doc Date: 02/08/2011
Resource Type: Report
Access Control: Uncontrolled

Author: Y HSUAN, DREXEL UNIVERSITY

ROBERT KOERNER, DREXEL UNIVERSITY

, GEOSYNTHETIC INSTITUTE

Addressee:

File Break: **17.07 - REFERENCE DOCUMENTS**

593234 **DRAFT TECHNICAL MEMORANDUM - GEOMEMBRANE LONGEVITY, DEGRADATION-INDUCED DEFECTS, AND EFFECTS OF GM THICKNESS ON LONGEVITY, ELIZABETH MINE NON-TIME CRITICAL REMOVAL ACTION (NTCRA)**

# of Pages: 11
Doc Date: 11/03/2008
Resource Type: Report
Access Control: Uncontrolled

Author: DAVID ANDREWS, URS CORP
JON LOELLEN, URS CORP

Addressee:

File Break: **17.08 - FEDERAL AND LOCAL TECHNICAL AND HISTORICAL REC(**

590520 **STRATFORD PLATT STREET PUMP STATION STUDY REPORT**

# of Pages: 10
Doc Date: 10/03/2012
Resource Type: Letter
Access Control: Uncontrolled

Author: J ANDREW BEVILACQUA, DIVERSIFIED TECHNOLOGY CONSULTANTS (DTC)

Addressee: BRIAN SNYDER, GEDDIS PARTNERSHIP ARCHITECTS

590521 **MAP OF SUBDIVISION OF PROPERTY, WHEELER MANOR AND PLAN SHOWING RIGHT OF WAY (ROW) TO BE ACQUIRED**

# of Pages: 1
Doc Date: 10/06/1950
Resource Type: Figure/Map/ Drawing
Access Control: Uncontrolled

Author: , CT STATE OF

Addressee:

File Break: **17.08 - FEDERAL AND LOCAL TECHNICAL AND HISTORICAL REC(**

590522 **MAP OF PROPOSED STORM DRAINAGE, INDUSTRIAL BUILDING FOR BENDIX HELICOPTER INC. [BEST AVAILABLE COPY]**

Author:

Addressee:

# of Pages: 1
Doc Date: 10/15/1946
Resource Type: Figure/Map/ Drawing
Access Control: Uncontrolled

590523 **MAP OF INSTRUMENT OPERATIONS, DRESSER INDUSTRIES, 250 MAIN STREET**

Author: , ASHCROFT

Addressee:

# of Pages: 1
Doc Date:
Resource Type: Figure/Map/ Drawing
Access Control: Uncontrolled

590524 **MAP OF GRADING, DRAINAGE AND SEWER PLAN, RENAISSANCE PARK, FROG POND LANE**

Author: , KASPER ASSOCIATES

Addressee: , DALEY DEVELOPMENT CORP

# of Pages: 1
Doc Date: 11/14/1986
Resource Type: Figure/Map/ Drawing
Access Control: Uncontrolled

File Break: **19.04 - RCRA FACILITY INSPECTION REPORTS**

590539 **FINAL RCRA FACILITY ASSESSMENT (RFA) FOR SYNTHETIC PRODUCTS COMPANY #2**

# of Pages: 47
Doc Date: 01/04/1994
Resource Type: Report
Access Control: Uncontrolled

Author: , CDM
Addressee: , US EPA REGION 1

Number of Documents in Administrative Record: 261

Selected Key Guidance Documents

EPA Guidance Documents may be reviewed at the OSRR Records and Information Center in Boston, MA

DOCNUMBER	DOCDATE	TITLE	OSWEREPAID
3017	01-Oct-89	CERCLA COMPLIANCE WITH OTHER LAWS MANUAL. RCRA ARARS: FOCUS ON CLOSURE REQUIREMENTS.	OSWER #9234.2-04FS
C157	01-Sep-93	PRESUMPTIVE REMEDY FOR CERCLA MUNICIPAL LANDFILL SITES.	OSWER 9355.0-49FS
C473	01-Aug-97	RULES OF THUMB FOR SUPERFUND REMEDY SELECTION (EPA 540-R-97-013)	OSWER 9355.0-69
C487	13-Mar-96	USE OF THE AREA OF CONTAMINATION (AOC) CONCEPT DURING RCRA CLEANUPS	
C622	01-Nov-91	A GUIDE TO PRINCIPLE THREAT AND LOW LEVEL THREAT WASTES	9380.3-06FS
C875	20-Sep-10	REVISED GUIDANCE ON COMPILING ADMINISTRATIVE RECORDS FOR CERCLA RESPONSE	

Additional guidance documents are cited and listed in the Feasibility Study documents for OU2, OU3, OU4 and OU6.

APPENDIX G:

CTDEEP's letter of July 9, 2010

July 9, 2010

Larry Brill
U.S. Environmental Protection Agency
5 Post Office Square, Suite 100
Mailcode: OSRR07-1
Boston, MA 02109-3912

RE: Raymark NPL (Superfund) Site - Operable Unit (OU) 6
Proposed remedy compliance with the CT RSRs

Dear Mr. Brill,

The Raymark Operable Unit 6 consists of 24 properties in Stratford that historically received fill material that originated at the Raymark Industries site. The Raymark NPL site is defined as any location where Raymark Waste came to be placed. This fill material consists of industrial waste containing; metals, PCBs, asbestos, dioxin, SVOCs and other contamination.

The Remediation Standard Regulation (22a-133k-1 through 3) of the Regulations of Connecticut State Agencies (RSRs), provide remedial criteria for pollutants in soil among other media and other requirements. Soil numeric remedial criteria exists for both direct exposure (human contact with soil)(DEC) and pollutant mobility (leaching from soil into groundwater)(PMC). During the investigation of OU6, it was determined that Raymark Waste does have the potential to leach contaminants above criteria.

DEC exceedences will be complied with consistent with the RSRs by 1) Removal of Raymark waste exceeding numeric DEC from the parcel, or 2) use of an engineered control or by isolating the Raymark waste (defined as soil in the RSRs) from direct contact, in conjunction with the recording of an Environmental Land Use Restriction (ELUR) prohibiting activities that could compromise the remedy or results in disturbance of the Raymark waste.

Numerous analytical tests have been performed on Raymark waste during the Remedial Investigation. The results from these tests demonstrate the capacity of Raymark waste to leach inorganic element pollutants above baseline numeric PMC criteria. Compliance with PMC can be achieved by, 1) demonstration that the waste does not leach above standards, 2) removal &/or treatment of leachable waste above the seasonal high water table in a GB groundwater area, 3) variances and methods for developing alternate criteria other than the aforementioned baseline criteria, under limited conditions. The Engineered Control Variance, Alternate Pollutant Mobility Criteria for GB Areas, and Alternate Dilution or Dilution Attenuation Factor for GB Areas, are methods that were evaluated.

In the Draft Raymark OU6 Feasibility Study, the following remedial options are evaluated:

1) Do nothing
2) Limited action and monitoring – e.g. sign, fence, institutional controls, monitor
3 & 4) Engineered Control /ELUR– e.g. Low permeability cap
5 & 6) Excavation to the water table located 4 feet or greater below ground/ELUR– Back fill with clean soil
7 & 8) Direct Exposure Remedy/ELUR - Excavation of 2 feet of waste in paved areas and 4 feet in vegetated areas
9 & 10) Hybrid - 4 ft excavation throughout OU6/ELUR

Of these possible remedial actions, Option 1 (do nothing) is ruled out as it is not protective of human health and the environment since risk has been established.

Option 2 (Limited Action) is not fully protective of human health and the environment and therefore also ruled out as a final remedial action.

Of the remaining possible remedial actions, Options 3/4 (engineered control) and Options 5/6 (excavation to the seasonal high water table) would be compliant with the RSRs on all the properties and are therefore determined to be protective of human health and the environment. Due to the high cost for long-term maintenance and monitoring associated with an Engineered Control Remedy and the potential risk to human health and the environment should the engineered control fail, CT DEP recommended Remedial Option 5 (excavation to the seasonal high water table), as the preferred method for achieving compliance with ARARs at the majority of the OU6 properties. Excavation to the water table would also result in the complete removal of all Raymark waste on eight (8) OU6 properties.

During the public informational meetings to discuss the potential remedies for OU6, residents along with their local and state elected officials, raised concerns about the large volumes of waste that would be transported over local roads and consolidated within the Town of Stratford. During a subsequent series of meetings with state and local elected officials, citizens appointed by the town, and Connecticut and US Environmental Officials, the agencies (CTDEP & USEPA) agreed to assess other alternatives to remediate the properties. EPA and DEP reevaluated the possible remedial actions in an effort to minimize the volume of soil that would be excavated while still maintaining protection of human health and the environment. As a result of this reevaluation, Options 7/8 and 9/10 were developed for consideration.

Assumptions used in the development of Remedial Options 7 through 10 are;

1) Assumptions apply only to properties identified as part of Raymark NPL (Superfund) site, Operable Unit 6.
2) All Raymark OU6 properties are located within a GB groundwater designated area.
3) Groundwater is not a potential drinking water resource, and there are no other existing uses of the groundwater.
4) The average depth to the seasonal high groundwater on OU6 properties is 6 ft below ground surface.
5) Replacing a majority of the Raymark waste above the water table with clean fill will substantially reduce the mass of Raymark contaminants potentially available to enter the groundwater by leaching.

6) Replacing the shallow Raymark waste with clean fill, will result in reducing contamination entering Ferry Creek by erosion.
7) Removing a large portion of the waste above the water table will reduce the timeframe required to achieve compliance with the appropriate standards.
8) Up-stream from the tide gates, Ferry Creek has been relocated by filling the historic channel with waste, including industrial waste from Raymark, to facilitate commercial development of the properties.
9) Under CERCLA section 121 (42 U.S.C. 9621) the president has the ability to select an "alternative remedial action". CERCLA 121 (b)(2). "In making such a selection, the President may take into account the degree of support for such remedial action by parties interested in the site". CERCLA 121(b)(2). These parties are identified in EPA guidance as the "state" and the "community." "If known after the completion of the RI/FS, state and community acceptance of the alternatives should be considered with the results of the balancing criteria evaluation to identify the preferred alternative. After the public comment period, state and community acceptance are again considered, along with any new information, and may prompt modification of the preferred alternative." *EPA Guidance: A Guide to Selecting Superfund Remedial Actions*, Directive: 9355.0-27FS, April, 1990.
10) During the 2008 State Legislative Session, a bill was passed, codified as Section 22a-901 of the CGS that prohibits the placement of over 1,000 cubic yards of asbestos containing material from one site to another site that abuts or adjoins residential property and at a height of more than four feet above existing grade, without approval of a two-thirds majority of the legislative body of the municipality in which the property is located.

Remedial alternatives 7/8

This remedial option would excavate Raymark waste down to 4 feet in areas with a vegetated surface and excavate Raymark waste to 2 feet in areas with a paved surface and then backfill to meet previous grade with surface treatment. To insure protection of human health, the four feet of fill and the pavement and 2 feet of fill, must be maintained in good condition to prevent exposure to the underlying waste. An ELUR would need to be recorded to restrict contact with waste left in place. Raymark waste remaining above the water table will have the potential to leach contaminants into the groundwater.

Direct Exposure Criteria (DEC)

Generally, such a remedy would be considered protective of direct exposure to the waste beneath the top 2 feet with pavement. However, given the specific facts of the OU6 sites, the Department does not have reasonable confidence that such a remedy would be protective for direct exposure. The most significant issue is durability and longevity, due to the combination of following factors:

- Multiple property owners (approximately 24) that would have this remedy in OU6; no one single owner with control over the site as a whole;
- The OU6 sites are located in various locations throughout town that are not contiguous;
- The OU6 properties are of mixed use, including commercial/retail, recreational, residential, vacant and municipal and uses may change in the future;

- In contrast with CERCLA, under the typical state law scenario a property owner voluntarily selects a remedy and has "buy in" to recording the ELUR and the restrictions thus greater likelihood of compliance;
- The waste is largely all industrial waste, with high levels of asbestos, PCBs, lead and other contaminants; it is not lightly polluted soil;
- Effort and costs are obligations of the property owners, to continuously and properly monitor, maintain, repair and replace the paved surfaces forever;
- Effort and costs are required to properly manage and dispose of waste fill below the top 2 feet that is likely to be encountered/excavated during relatively routine property maintenance and improvement activities (landscaping, fencing, walkway construction, etc);
- Access to underground utilities will require disturbance of waste remaining above the utilities;
- Freeze/thaw cycle generally affects the top three feet in this part of New England, so waste left in place from 2-3 feet below ground surface would be expected to move towards the surface over time, meaning that failure to maintain a paved surface due to above factors – coupled with the nature of the Raymark waste – lessens the protectiveness of this remedy alternative; and
- Each area remediated to a different depth will require; individual A-2 Surveys, Meets & Bounds for each area and specific language in the ELUR to identify each of these areas and the corresponding restrictions on each section. The practicality of site development remaining consistent is limited.

Pollutant Mobility Criteria (PMC)

Remedial Option 7/8 does not provide adequate protection to the waters of the State as evidenced by the significant amount of waste that will remain above the water table with the potential to leach. Pavement, in areas proposed for two foot excavation is not impermeable. Additionally, alternative 7/8 is not a permanent remedy, first because upon future transfer of an OU6 property with a remedy that complies with only DEC, but not PMC, additional remedial actions will be required to comply with the Connecticut Property Transfer Act (CGS 22a-134), thus potentially requiring additional handling and movement of the Raymark waste below two feet. Second, because future uses of the property would be significantly limited by this remedy and full use of the property could require additional remediation be performed by an owner for even minor changes in use.

Remedial alternative 9/10

Raymark Waste is removed to a depth of 4 feet in all areas (paved and unpaved) except under buildings, and is replaced with clean backfill.

Direct Exposure Criteria (DEC)

As a result of replacing the upper 4 feet of Raymark waste, no paved surface maintenance is required in order to maintain a compliant and protective remedy. An ELUR is needed to prohibit excavation greater than 4 feet below the ground surface without proper written approval by DEP and EPA and waste management controls. This remedy complies with DEC. Also, routine property maintenance and improvement activity occurs in the top four feet (landscaping, fences, walkways, etc), so will neither interfere with the remedy nor encounter waste left in place. Also, freeze/thaw cycle generally affects the top three feet in this part of New England, so waste left in place would not be expected to move towards the surface.

Pollutant Mobility Criteria (PMC)

In Alternative 9/10, the upper four feet of Raymark waste would be removed from the unsaturated zone on the properties and replaced with clean fill. This proposed remedy results in the removal of approximately two-thirds (2/3) of all Raymark waste, currently subject to potential leaching above the water table at the OU6 properties. This reduction in volume would result in the removal of approximately 2/3 of the mass of the contaminants above the water table, therefore, giving a shortened duration for rain water to be in contact with waste as it infiltrates through the soil and into the groundwater. This reduction in mass will result in a decrease in the concentration of contaminants potentially mobilized from the remaining waste. To establish an alternate PMC criteria, as allowed by section 22a-133k-2(c)(2)(D) of the RSRs, DEP staff evaluated the dilution in groundwater contaminant concentration derived from non-Raymark waste areas within the total drainage sub-basin(s) to develop an alternate dilution attenuation factor for a GB area appropriate for this site. Additionally, engineered controls (with impermeable caps) on several other properties within the Raymark NPL site, including a significant OU6 property, OU1 where a cap has been installed, OU4 & 9 where the presumptive remedy is an engineered control, are expected to further reduce the potential movement of contaminants from soil into groundwater. While excavation of the upper 4 feet of material will not remove all Raymark waste which is located above the seasonal high water table, the combination of the proposed excavation with additional capping of contaminated soils at other locations is expected to sufficiently reduce the amount of pollutants leaching from the unsaturated zone to allow for compliance with the Pollutant Mobility Criteria requirements within the regulations.

Conclusion

As noted above, the state DEP prefers alternative 5 (Excavation to the Seasonal High Water Table) as the preferred alternative for remediation of the Raymark OU6 properties. Due to the requests from state elected officials (House and Senate Legislators), local elected officials (Mayor and Town Council) and residents, the agencies agreed to evaluate other alternatives or remedial approaches that could prevent or abate any threat to human health and the environment. As such, Alternative 9 is an acceptable remedial approach for purposes of achieving compliance with the RSRs on this federal Superfund site as long as the properties are maintained and monitored.

Sincerely,

Patrick F. Bowe
Director
Remediation Division
Water Protection and Land Reuse