Weekly Field Report Week: 12-29-13 through 01-04-14 New Bedford Harbor Lower Harbor CAD Cell (LHCC)

This Weekly Field Report was prepared to serve as a summary of field activities conducted throughout the week for Phase I dredging of the New Bedford Harbor Lower Harbor CAD Cell (LHCC) in New Bedford, Massachusetts.

1. Introduction:

The weekly field report describes the activities carried out by the Contractor (Cashman/Tripp Marine), the Owner's Representative (Apex Companies, LLC), and any subcontractors completing work within the scope of the project requirements.

This Weekly Field Report represents the ninth Report associated with Phase I dredging of the LHCC in New Bedford Harbor, and the associated handling and disposal of dredged materials at CAD cells within the Harbor, and at designated open-water disposal sites approved for this Project.

This Ninth Report for the LHCC dredging activities includes:

- Daily Inspection Reports from the dredging oversight performed during the week of December 29th 2013 through January 04th 2014. Daily contractor activities are included in the form of Daily Inspection Reports noting equipment observed on site and a summary of contractor activities. (See Attachment 1);
- Water Quality Monitoring Forms completed for the week of December 29th through January 4th are attached (Attachment 2). Included with the attached forms is Figure 1 *Lower Harbor CAD Cell Phase I Water Quality Monitoring Plan*, which shows the locations of the water quality monitoring events conducted during this reporting period. Per the approved Water Quality Monitoring Plan and associated performance standards for the dredging efforts being conducted during this reporting period Apex has;
 - Conducted water quality monitoring events a minimum of two days per week.
 - Conducted water quality monitoring for disposal events into either the existing CAD Cell #2 or CAD Cell #3 of Top of LHCC sediments removed by this Project.
 - Performed visual inspections of dredged materials in the disposal scow prior to disposal to ascertain the effectiveness of dewatering. If deemed necessary by the visual inspection, Apex will monitor the water quality of the effluent discharge from the carbon filtration system.

2. Summary:

The Contractor, through its subcontractor, Tripp Marine, conducted dredging at the LHCC December 30^{th} and 31^{st} , and January 1^{st} and 4^{th} . No dredging was performed on January 2^{nd} and 3^{rd} due to the passing of a strong Nor'easter. Dredging operations focused on the removal of Phase I Top of CAD cell sediments and the disposal of these sediments into CAD Cell #3. During this reporting period, dredging operations were conducted using a conventional digging bucket in certain areas of the dredge footprint where dense sandy materials were known to exist, per verbal approval discussed at the November 13^{th} project meeting and the subsequent formal letters provided on November 21^{st} and December 23^{rd} . Tripp Marine was observed conducting these activities during the authorized operational window of 7AM until sunset, utilizing a single dredge plant; the tug *Sand Pebble;* a 900 cubic yard dump scow – *TMC 140*; a 3000 cubic yard pocket scow SEI-2000, and a small utility boat. Tripp Marine was utilizing the Cashman dewatering barge as a

Weekly Monitoring Report Lower Harbor CAD Cell

staging area for dewatering operations and as an aid in accurately positioning the dump scow for disposal operations into CAD Cell #3. Dredging operations were conducted without the use of silt curtains because these activities lie outside the time of year restrictions noted in the Project Specifications.

3. Operational Notes:

Dredging:

Dredging at the LHCC continued through the week of December 29th utilizing an open conventional digging bucket, per the terms outlined in the letters issued on November 21st and December 23rd. Apex conducted three days of water quality monitoring while the open conventional bucket was being used to ensure that the use of the conventional bucket did not result in an exceedance of any project-specific water quality standards. Water quality monitoring was completed December 30th, January 1st, and January 4th. Monitoring of dredging activities will continue on a schedule of a minimum of two events per week as required by the project performance standards.

Disposal:

Disposal of "Top of LHCC" sediments was conducted on the four consecutive days between December 30th and January 2nd. Based on scow logs, approximately 500 and 800 cubic yards of material (assuming 120 pounds/ft³ for dredged materials) was placed into CAD Cell #3 during each disposal event for scow TMC-140 and SEI-2000, respectively. Sediments contained in the scow were inspected prior to each disposal to assess the effectiveness of dewatering. Water quality monitoring was completed on each day of disposal activity, with the exception of December 31st.

Table 1 - Cumulative Dredging Progress

Period of Activity	Volume (cy)
Approximate Vol. Dredged this Reporting Period	2,000
Approximate Volume Dredged to Date	20,400

4. Monitoring Summary

There were no water quality exceedances observed during this reporting period related to either dredging or disposal operations. No water quality samples were collected.

Prepared by: Apex Companies, LLC

John B. McAllister, P.E. Senior Project Engineer

Don Boyé Senior Project Manager

Attachment 1 Daily Inspection Reports

City of New Bedford Harbor Development Commission New Bedford Harbor USEPA Lower Harbor CAD Cell CFDA No.: 66.802 Inspection Report Date: 30 December 2013											
Inspector:	K. Ryan			-		Date	: <u>30 Decem</u>	nber 2013			
Contractor:	Tripp Mar	ine		Foreman/Supt	: Pyne	Tripp					
Weather	AM: PM:	Ptly. Cloudy Ptly. Cloudy Winds	s 10-15k	Temperatu W		AM: PM:	21 42				
Tides	High Low	0532	AM AM	1757 2323	PM PM						
Manpower Onsite Equipment Onsite Foreman 1 @ 8 Hrs Description: Dredge Tripp 47 Hrs. 8 Operators 1 @ 8 Hrs Scow TMC 140 Hrs. 8 Laborers 1 @ 8 Hrs Push boat Sand Pebble Hrs. 8 Drivers @ Hrs Support boat Hrs. 8 Other: @ Hrs Scow SEI 2000 Hrs. 8											
Contractor Ac	ctivities: (At	tach Additional She	ets as N	ecessary)							
Contractor Activities: (Attach Additional Sheets as Necessary) Apex on-site at 0730 to conduct oversight of dredging activities and to inspect dredged materials in scow for disposal authorization. Dredged materials held in scow TMC-140 were disposed into CAD Cell #3 at 0800, after which scow was maneuvered alongside dredge plant. Dredging begins at 0850 in Dredge Area T-5 using the open conventional digging bucket, with dredged materials being placed into scow TMC-140. Dredging continued until 1406, at which point scow TMC-140 was manuevered over to dewatering barge. End-of-day draft marks on the scow were 9' FWD and AFT. No water quality issues were observed during the day.											
Problems/Iss None / N/A	ues or Actio	on Items:									
Visitors: Signature: Title:	D. Boye			-		Page	: <u>30 Decem</u> :1of_	_1			
Copy to:	Copy to: file File: DIR_LHCC_123013										

City of New Bedford Harbor Development Commission New Bedford Harbor USEPA Lower Harbor CAD Cell CFDA No.: 66.802 Inspection Report											
Inspector:	C. Stillmar	n, M. Martinho				Date	: 31 Decem	ber 2013	_		
Contractor: Tripp Marine Foreman/Supt: Pyne Tripp											
Weather	AM: PM:	Overcast. Overcast. Wind	ds 5-10k WN	Temperate	ure	AM: PM:	<u>18</u> 27				
Tides	High Low		AM AM	1850 1228	PN PN						
Manpower Onsite Equipment Onsite Foreman 1 @ 8 Hrs Description: Dredge Tripp 47 Hrs. 8 Operators 1 @ 8 Hrs Scow TMC 140 Hrs. 8 Laborers 1 @ 8 Hrs Push boat Sand Pebble Hrs. 8 Drivers @ Hrs Support boat Hrs. 8 Other: @ Hrs Scow SEI 2000 Hrs. 8											
Apex on-site at disposal authori which scow was bucket, with dre scow TMC-140 v End-of-day draf	Contractor Activities: (Attach Additional Sheets as Necessary) Apex on-site at 0745 to conduct oversight of dredging activities and to inspect dredged materials in scow for disposal authorization. Dredged materials held in scow TMC-140 were disposed into CAD Cell #3 at 0855, after which scow was maneuvered alongside dredge plant. Dredging begins at 0925 using the open conventional digging bucket, with dredged materials being placed into scow TMC-140. Dredging continued until 1315, at which point scow TMC-140 was maneuvered over to dewatering barge. End-of-day draft marks on the scow were 8.5' FWD and AFT. No water quality issues were observed during the day.										
Problems/Iss None / N/A	ues or Actio	n Items:									
Visitors: Signature: Title: Copy to:	D. Boye file					Page	e: 31 Decem e:1of_ e: DIR_LHCC	_1			

	City of New Bedford Harbor Development Commission New Bedford Harbor USEPA Lower Harbor CAD Cell CFDA No.: 66.802 Inspection Report											
Inspector:	C. Stillmar	1				Date	e: <u>01 Januar</u>	y 2014				
Contractor:	Tripp Mar	ine		Foreman/Sup	ot: Pyn	e Tripp						
Weather	AM: PM:	Ptly. Cloudy. Ptly. Cloudy.	Winds 5-10k	Temperati W	ure	AM: PM:	17 28					
Tides	High Low	0719	AM AM	1944 1320	PN PN							
Manpower Onsite Equipment Onsite Foreman 1 @ 8 Hrs Dredge Tripp 47 Hrs. 8 Operators 1 @ 8 Hrs Scow TMC 140 Hrs. 8 Laborers 1 @ 8 Hrs Push boat Sand Pebble Hrs. 8 Drivers @ Hrs Support boat Hrs. 8 Other: @ Hrs Scow SEI 2000 Hrs. 8												
Contractor A	ctivities: (At	tach Additiona	l Sheets as N	ecessary)								
disposal author which scow was dredge bucket. placed into scov dewatering bar	Contractor Activities: (Attach Additional Sheets as Necessary) Apex on-site at 0630 to conduct oversight of dredging activities and to inspect dredged materials in scow for disposal authorization. Dredged materials held in scow TMC-140 were disposed into CAD Cell #3 at 0933, after which scow was maneuvered alongside dredge plant and Apex boards Pyne dredge plant to confirm GPS position of dredge bucket. Dredging begins at 1032 using the open conventional digging bucket, with dredged materials being placed into scow TMC-140. Dredging continued until 1437, at which point scow TMC-140 was manuevered over to dewatering barge.											
No water qualit	No water quality issues were observed during the day.											
Problems/Iss None / N/A	ues or Actic	n Items:										
Visitors:												
Signature: Title:	D. Boye						e: <u>01 Januar</u> e:1of_					
Copy to:	file					File	e: <u>DIR_LHC</u>	2_010114				

City of New Bedford Harbor Development Commission New Bedford Harbor USEPA Lower Harbor CAD Cell CFDA No.: 66.802 Inspection Report											
Inspector:	C. Stillman			Date:	02 January 2014						
Contractor:	Tripp Marine		Foreman/Sup	t: Pyne Tripp							
Weather	AM: Fog. Snov PM: Blizzard V	v. Varning. Winds 5		Temperature 0k PM NNE	AM: 21 PM: 30						
Tides	0	810 AM 112 AM	2036 1410	РМ РМ							
Manpower Onsite Equipment Onsite											
Manpower Onsite Equipment Onsite Foreman 1 @ 8 Hrs Description: Dredge Tripp 47 Hrs. 8 Operators 1 @ 8 Hrs Scow TMC 140 Hrs. 8 Laborers 1 @ 8 Hrs Push boat Sand Pebble Hrs. 8 Drivers @ Hrs Hrs Support boat Hrs. 8 Other: @ Hrs Hrs Scow SEI 2000 Hrs. 8											
	tivities: (Attach Addit										
disposal authori disposal. Dredge maneuvered alc Given the sever	zation. Additional dev ed materials held in sc ongside dredge plant. ty of the weather fore	vatering was requ row TMC-140 wer ecast, Pyne elects	uired and scow re disposed into to stand dowr	v was re-inspect o CAD Cell #3 a n and repositior	ged materials in scow for ted at 0905 and cleared for at 0925, after which scow was n all equipment dockside at nticipated two-day weather						
delay.	an equipment secured	at 1030 and an f	bersonner depa	art site for an ai	nticipated two-day weather						
No water qualit	/ issues were observe	d during the day.									
Problems/Iss None / N/A	ues or Action Items:										
Visitors:											
Signature: Title:	D. Boye		-		02 January 2014 1of1						
Copy to:	file		-	File:	DIR_LHCC_010214						

City of New Bedford Harbor Development Commission New Bedford Harbor USEPA Lower Harbor CAD Cell CFDA No.: 66.802 Inspection Report											
Inspector:	K. Ryan						Date:	04 Januar	ry 2014		
Contractor: Tripp Marine Foreman/Supt: Pyne Tripp											
WeatherAM:Fog. Snow.TemperatureAM:1PM:Overcast. Tapering Snow W15-20k+ NNWPM:24											
Tides	High Low		954 300	AM AM	2223 1541	PM PM					
Manpower Onsite Equipment Onsite Foreman 1 @ 8 Hrs Description: Dredge Tripp 47 Hrs. 8 Operators 1 @ 8 Hrs Scow TMC 140 Hrs. 8 Laborers 1 @ 8 Hrs Push boat Sand Pebble Hrs. 8 Drivers @ Hrs Hrs Support boat Hrs. 8 Other: @ Hrs Scow SEI 2000 Hrs. 8											
Contractor Ac	tivities: (At	tach Additi	onal She	ets as N	ecessary)						
Contractor Activities: (Attach Additional Sheets as Necessary) Apex on-site at 0945 to conduct oversight of dredging activities. Dredging begins at 1015 using the open conventional digging bucket, with dredged materials being placed into scow TMC-140. Pyne is focusing on removing residual high points above the required Project elevation. Dredging continued until 1545, at which point scow TMC-140 was maneuvered over to dewatering barge. Apex departs site at 1615. End of day draft marks on scow TMC-140 were 9.5' FWD and AFT. No water quality issues were observed during the day.											
Problems/Iss None / N/A	ues or Actic	on Items:									
Visitors: Signature: Title: Copy to:	D. Boye file				-		Page:	04 Januar 1of_ DIR_LHCC	_1	4	

Attachment 2 Water Quality Monitoring Forms

[
PROJECT:	New Bedford Harbor L	ower Harbo	or CAD Cell					_	
JOB NUMBER:	6724								
SURVEY DATE:	30 December 2013							•	
								•	PEX
MONITORS:	K. Ryan							_	
WEATHER CONDITIONS:	Ptly.Cloudy	Low	: 21	High:	42				
WIND CONDITIONS:	Speed:	10-15k	Direction:						
			Dirocaetin	••					
PRIOR STORM EVENTS:	N/A							·	
DREDGE / SCOW Position:	Northing/Easting:	2696617 / 8	14829						
TYPE OF WATER QUALITY	Y MONITORING EVENT	TOP CAD	Dredaina / BT	M CAD Dreda	ing / Disposa				J = X
TIDE INFORMATION:		0532/1757		1136/2323				/-	
WAS WATER QUALITY SA				IF YES, ATTA	CH COC FOR	MS		-	
GENERAL NOTES:	Dredging begins at 08	50 and ends	for the day at 1	406					
					UP-CURRE	NT			
		1							
			TOTAL WATER	SAMPLE	TURBIDITY			RELATIVE POSITION	NUMBER OF HOURS
Monitoring ID #	NORTHING / EASTING	TIME	DEPTH (ft)	DEPTH (ft)	(NTUs)	GPS FILE NAME	TIDAL STAGE	OF MEASUREMENT	DREDGING
			DEITIT	DEI III (II)	(1103)				DICEDOING
					-				
123013-00-1-1		0910		1	5.9			1	
123013-00-1-2	2690720 / 815136	0912	5.7	2	5.7		Ebbing	200' N of Dredge	0
			0.7	4			5	and a single	
123013-00-1-4		0914			6.4				
			AVERAGE	TURBIDITY:	6.00				
123013-02-1-1		1107	1	1	4.7	1			
	2000020 / 045440					-	Ekking	2001 N of Drodes	2
123013-02-1-3	2696936 / 815119	1109	6.6	3	5.7		Ebbing	200' N of Dredge	2
123013-02-1-6		1111		6	4.8			1 1	
	-	-	AVERAGE		5.07	•			
			AVERAGE		5.07	1			
123013-04-1-1		1322		1	6.8	1 T		1 7	
123013-04-1-16	2695159 / 814802	1324	32.4	16	7.2		Flooding tide	200' S of Dredge	4
	20001007011002		32.4			-	r looding tao	200 0 01 Diougo	•
123013-04-1-32		1326		32	6				
			AVERAGE	TURBIDITY:	6.67				
				-		-			
	1		1					· · · · · · · · · · · · · · · · · · ·	
123013-06-1-1		1509		1	6.9			1 1	
123013-06-1-16	2695648 / 814755	1511	33.9	16	5.4		Flooding tide	200' S of Dredge	6
123013-06-1-32	1	1513		32	6			1	
120010 00 1 02		1010	AV(ED A OE					I	
			AVERAGE	I URBIDITY:	6.10				
	1							1	
								1 1	
			AVERAGE						
			///EIU/OE			4			
					Down-Curr	ent			
		-							
			TOTAL WATER	SAMPLE	TURBIDITY			DISTANCE FROM	NUMBER OF HOURS
Monitoring ID #	NORTHING / EASTING	TIME	DEPTH (ft)	DEPTH (ft)	(NTUs)	GPS FILE NAME	TIDAL STAGE	LOCATION	DREDGING
			DEITII(II)	DEI III (II)	(1103)			LOGATION	DICEDOING
123013-00-9-1		0923		1	6.1				
	2696317 / 814857		10.4				Ebbing	200' S of Dredge	0
123013-00-9-6	2000011/014007	0925	12.4	6	7.8		Loong	200 C OI Dieuge	0
123013-00-9-12		0927		12	8.3				
			AVERAGE	TURBIDITY:	7.40				
1			TURBIDITY		1.40	1			
1				HONERSE.	1.40	L			
123013-02-9-1	J	1132	1	1	6.9	_ I			
123013-02-9-4.5	2696137 / 815090	1134	9.6	4.5	6.4	1 1	Ebbing / Slack	200' S of Dredge	2
123013-02-9-9	1	1136	1	9	9.6	1	-	L Š	
120010-02-9-9		1130				<u> </u>		<u>ا</u>	
1			AVERAGE		7.63	-			
1			TURBIDITY	INCREASE:	2.57	1			
1						-			
100010 01 0 1	r	1005	1		= 0	<u>т</u> т		,	
123013-04-9-1		1335	-	1	7.8	4 1	-		
123013-04-9-3	2696912 / 815020	1337	6.1	3	10.4		Flooding tide	200' N of Dredge	4
123013-04-9-6	1	1339	1	6	11.5	1 1		1	
	•		AVERAGE			1		I	
1					9.90	-			
1			TURBIDITY	INCREASE:	3.23	1			
1									
123013-06-9-1		1526		1	18.4	1		I I	
	2696974 / 814939		1			1 1	Flooding tide	200' N of Dreder	6
123013-06-9-5	2090914/814939	1528	11	5	18.6	4 1	Flooding tide	200' N of Dredge	o
123013-06-9-10		1530		10	16.5				
			AVERAGE		17.83				
1						1			
1			TURBIDITY	INGREASE:	11.73	L			
	1		1			1		1	
<u> </u>	1	L	-			- 1		1	
					L			<u> </u>	
1			AVERAGE	TURBIDITY:					
1			TURBIDITY			1			
1						-			
1									

PROJECT: JOB NUMBER:	New Bedford Harbor L 6724	ower Harbo	or CAD Cell						
SURVEY DATE:	30 December 2013								
MONITORS:	K. Ryan								
WEATHER CONDITIONS: WIND CONDITIONS:	Ptly. Cloudy Speed:	Low:	10 Direction:	High:	15			. 🦲	
	N/A	TO TOK	Direction.						
DREDGE / SCOW Position:		CAD Cell #	3						PEX
TYPE OF WATER QUALITY					ing / <mark>Disposa</mark>	I			ハー X
TIDE INFORMATION:		0532/1757		1136/2323		No			
WAS WATER QUALITY SA GENERAL NOTES:	Disposal into CAD Cel			IF YES, ATTA		1013		1	
					UP-CURRE	INT.			
		1							
Monitoring ID #	NORTHING / EASTING	TIME	TOTAL WATER	SAMPLE	TURBIDITY	GPS FILE NAME	TIDAL STAGE	RELATIVE POSITION	NUMBER OF HOURS
			DEPTH (ft)	DEPTH (ft)	(NTUs)			OF MEASUREMENT	DREDGING
123013-01-1-1		0802		1	5.2				
123013-01-1-7	2696873 / 815389	0804	14.3	7	6.1		Ebbing	200' N of Disposal	post
123013-01-1-14		0806		14	6.1				
			AVERAGE	TURBIDITY:	5.80	J			
]								
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			AVERAGE	FURBIDITY:		1			
]								
			AVERAGE	TURBIDITY:		J			
			AVERAGE	TURBIDITY:		J			
]								
			AVERAGE	TURBIDITY:					
					Down-Curr	ent			
		1	TOTAL WATER	SAMPLE	TURBIDITY			DISTANCE FROM	NUMBER OF HOURS
Monitoring ID #	NORTHING / EASTING	TIME	DEPTH (ft)	DEPTH (ft)	(NTUs)	GPS FILE NAME	TIDAL STAGE	LOCATION	DREDGING
123013-01-9-1		0807		1	5.6				
123013-01-9-7	2696372 / 815747	0809	14.8	7	5.9		Ebbing	200' S of Disposal	post
123013-01-9-14		0811		14	7.1				
			AVERAGE		6.20	_			
			TURBIDITY	INCREASE.	0.40	1			
			-						
	4		4						
	1	1	AVERAGE					I	
				INCREASE:]			
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	4		4			-			
	4								
			AVERAGE	TURBIDITY:		I		I	
			TURBIDITY]			
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			AVERAGE						
			TURBIDITY	INCREASE:]			
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	1		1]			
						-			
			TURBIDITY	INGREASE:	L				
	nt Average Turbidity - Up-Cur	root Avorago T	urhidity						

PROJECT:	New Bedford Harbor L	ower Harbo	or CAD Cell						
JOB NUMBER:	6724							-	
SURVEY DATE:	01 January 2014								
MONITORS:	C. Stillman								
WEATHER CONDITIONS:	Ptly.Cloudy	Low		High:	28			. 🦲	
WIND CONDITIONS:	Speed:	5-10k	Direction:	WNW					
	N/A								
DREDGE / SCOW Position: TYPE OF WATER QUALITY					ing / Dispose				$\Sigma $
TIDE INFORMATION:		0719/1944		0017/1320	ing / Disposa				PEX
WAS WATER QUALITY SA	-				ACH COC FOR	MS			
GENERAL NOTES:	Dredging begins at 103							•	
					UP-CURRE	INT			
	r	1							
Monitoring ID #	NORTHING / EASTING	TIME	TOTAL WATER	SAMPLE	TURBIDITY	GPS FILE NAME	TIDAL STAGE	RELATIVE POSITION	NUMBER OF HOURS
wormoning iD #	NORTHING / EASTING	TIME	DEPTH (ft)	DEPTH (ft)	(NTUs)	GFS FILE NAME	TIDAL STAGE	OF MEASUREMENT	DREDGING
		1001	1						
010114-00-1-1	2697270 / 815283	1034	F	1	7.1		Ebbing	200' N of Dredge	0
010114-00-1-2.5 010114-00-1-4	20372107010200	1036 1038	5	2.5	7.8 7.6		Ebbilig	200 N OF Dreage	Ū
		1000	AVERAGE		7.50	1		11	
						-			
010114-02-1-1		1233		1	5.2				
010114-02-1-2	2697254 / 814944	1235	5.7	2	5.3]	Ebbing	200' N of Dredge	2
010114-02-1-5		1237		5	5.4				
			AVERAGE	TURBIDITY:	5.30	_			
040444.0444	1	4.405	1		0.0			Г П	
010114-04-1-1 010114-04-1-5	2696369 / 814813	1435 1437	10.5	1 5	6.8 5.1		Flooding tide	200' S of Dredge	4
010114-04-1-9	20000007011010	1437	10.5	9	5.3		r looding tuo	200 0 01 Diougo	
		1400	AVERAGE		5.73	1		11	
			- MERICE	on bibin n	0.10	_1			
	_								
			AVERAGE	TURBIDITY:					
	1		1		1	<u>т т</u>			
	-								
						1 1			
			AVERAGE	TURBIDITY:					
					Down-Curr	rent			
		1	TOTAL WATER	SAMPLE	TURBIDITY			DISTANCE FROM	NUMBER OF HOURS
Monitoring ID #	NORTHING / EASTING	TIME	DEPTH (ft)	DEPTH (ft)	(NTUs)	GPS FILE NAME	TIDAL STAGE	LOCATION	DREDGING
010114-00-9-1		1050	1	1	10.5	1 1			
010114-00-9-3	2696589 / 815272	1052	6.8	3	8		Ebbing	200' S of Dredge	0
010114-00-9-6		1054		6	8.2	1 1	-	_	
	-		AVERAGE	TURBIDITY:	8.90				
			TURBIDITY	INCREASE:	1.40				
					-				
010114-02-9-1	2606552 / 815026	1250	_	1	6.2		Ebbing	200' S of Dredge	2
010114-02-9-3 010114-02-9-5	2696552 / 815026	1252 1254	6	3	6.9 6.1		Ebbing	200 3 01 Dieuge	2
010114-02-9-5		1254	AVERAGE		6.40	-		j I	
			TURBIDITY		1.10				
						_			
010114-04-9-1		1450		1	7.2				
010114-04-9-10	2696986 / 814730	1452	20	10	7.5]	Flooding tide	200' N of Dredge	4
010114-04-9-19		1454		19	6.1				
			AVERAGE		6.93	-			
			TURBIDITY	INCREASE:	1.20	1			
	1		1			1 1			
	1		1		1	1			
						<u> </u>			
			AVERAGE						
			TURBIDITY	INCREASE:					
		1	1		I				
	4								
						-			
			AVERAGE						
			AVERAGE TURBIDITY			-			

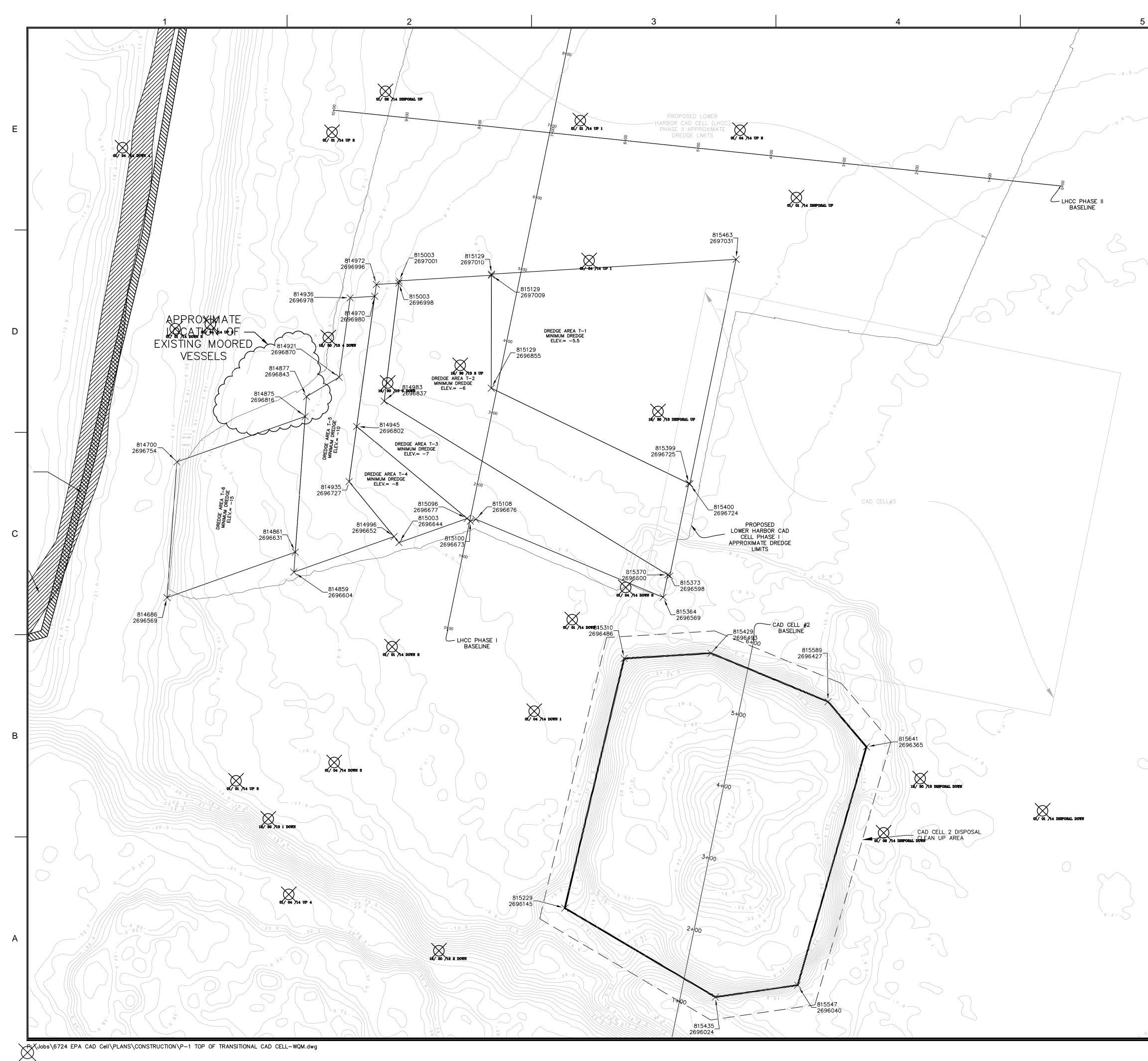
PROJECT: JOB NUMBER: SURVEY DATE:	New Bedford Harbor L 6724 01 January 2014	_ower Harbo	or CAD Cell						
MONITORS:	C. Stillman								PEX
WEATHER CONDITIONS: WIND CONDITIONS:	Ptly. Cloudy Speed:	Low:	17 Direction:	High:	28				
	N/A	5 TOK	Direction.	WAW					
DREDGE / SCOW Position:									
TYPE OF WATER QUALITY TIDE INFORMATION:		: TOP CAD 0719/1944		M CAD Dredgi 0017/1320	ng / <mark>Disposa</mark>			- /A I-	ハーズ
WAS WATER QUALITY SA				IF YES, ATTA	CH COC FOR	MS		/ 11	
GENERAL NOTES:	Disposal into CAD Cel								
					UP-CURRE	<u>NT</u>			
		1							
Monitoring ID #	NORTHING / EASTING	TIME	TOTAL WATER DEPTH (ft)	SAMPLE DEPTH (ft)	TURBIDITY (NTUs)	GPS FILE NAME	TIDAL STAGE	RELATIVE POSITION OF MEASUREMENT	NUMBER OF HOURS DREDGING
010114-01-1-1	0007405 /045570	0917		1	2.4				
010114-01-1-3 010114-01-1-6	2697165 / 815578	0919 0921	6.8	3	4.5 4.8		Ebbing	200' N of Disposal	post
		0021	AVERAGE		3.90				
	1	.				-			
			•			-			
	1	<u>.</u>	AVERAGE	TURBIDITY:		<u> </u> !			
	1		AVERAGE 1	TURBIDITY:				L L	
						- 1			
			AVERAGE	TURBIDITY:					
			1						
			AVERAGE						
			MEINICE		I	J			
					Down-Curr	ent			
Monitoring ID #	NORTHING / EASTING	TIME	TOTAL WATER DEPTH (ft)	SAMPLE DEPTH (ft)	TURBIDITY (NTUs)	GPS FILE NAME	TIDAL STAGE	DISTANCE FROM LOCATION	NUMBER OF HOURS DREDGING
010114-01-9-1 010114-01-9-4	2696328 / 815914	0939 0941	9.1	1 4	8.2 6.2	-	Ebbing	200' S of Disposal	post
010114-01-9-8		0943	0.1	8	6.5				
			AVERAGE T TURBIDITY		6.97 3.07]			
			-						
	1	1		TURBIDITY: INCREASE:					
		•		NONLAGE.		J T			
	1	<u> </u>	4						
			AVERAGE T TURBIDITY			<u> </u>			
	I	1	AVERAGE TURBIDITY			-			
						- 			
	1		1						
		1	AVERAGE						
			TURBIDITY	INCREASE:		l			
* Turbidity Increase = Down-Curren	nt Average Turbidity - Up-Cur	rent Average Ti	urbidity						

PROJECT: JOB NUMBER:	New Bedford Harbor L 6724	ower Harbo	r CAD Cell								
SURVEY DATE:	02 January 2014										
MONITORS:	C. Stillman								PEX		
WEATHER CONDITIONS: WIND CONDITIONS:	Fog. Snow. PM Blizzar		Low:	21	High:	30					
	N/A	5-10k AM 2	0-30K PIN	Direction:	NNE						
DREDGE / SCOW Position:	Northing/Easting:										
TYPE OF WATER QUALITY					ing / Disposa				バー X		
TIDE INFORMATION: WAS WATER QUALITY SA		0810/2036		0112/1410	ACH COC FOR	MS					
GENERAL NOTES:	Dredging canceled and										
					UP-CURRE	NT.					
Monitoring ID #	NORTHING / EASTING	TIME	TOTAL WATER DEPTH (ft)	SAMPLE DEPTH (ft)	TURBIDITY (NTUs)	GPS FILE NAME	TIDAL STAGE	RELATIVE POSITION OF MEASUREMENT	NUMBER OF HOURS DREDGING		
					r						
			AVERAGE	FURBIDITY:							
					1						
			AVERAGE	FURBIDITY:		1					
			AVERAGE	URBIDITY:							
	-					۹ 					
			AVERAGE	FURBIDITY:							
					r						
			AVERAGE	FURBIDITY:]					
					Down-Curr	ent					
			TOTAL WATER	SAMPLE	TURBIDITY			DISTANCE FROM	NUMBER OF HOURS		
Monitoring ID #	NORTHING / EASTING	TIME	DEPTH (ft)	DEPTH (ft)	(NTUs)	GPS FILE NAME	TIDAL STAGE	LOCATION	DREDGING		
			AVERAGE	FURBIDITY:							
			TURBIDITY]					
					1			I			
			AVERAGE		ļ						
			AVERAGE TURBIDITY			1					
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			AVERAGE								
			TURBIDITY	INCREASE:]					
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	1		AVERAGE	URBIDITY:							
			TURBIDITY]					
	1				1		[]	 1			
	1					1					
	1					1					
			AVERAGE TURBIDITY			-					
				INGREASE:	I	J					
* Turbidity Increase = Down-Curren	et Average Turbidity	root Avorago Tu	rbidit.								

PROJECT: JOB NUMBER: SURVEY DATE: MONITORS: WEATHER CONDITIONS: WIND CONDITIONS:			Low:	21 Direction:	High	: 30			
PRIOR STORM EVENTS: DREDGE / SCOW Position: TYPE OF WATER QUALITY TIDE INFORMATION: WAS WATER QUALITY SA GENERAL NOTES:	Y MONITORING EVENT High:	: TOP CAD 0810/2036 ? (YES/NO)	Dredging / BT Low: N	0112/1410	ing / <mark>Disposa</mark> ACH COC FOR			AF	PEX
					UP-CURRE	<u>NT</u>			
Monitoring ID #	NORTHING / EASTING	TIME	TOTAL WATER DEPTH (ft)	SAMPLE DEPTH (ft)	TURBIDITY (NTUs)	GPS FILE NAME	TIDAL STAGE	RELATIVE POSITION OF MEASUREMENT	NUMBER OF HOURS DREDGING
010214-00-1-2 010214-00-1-5 010214-00-1-8	2697310 / 815017	0915 0917 0919	10.8 AVERAGE	2 5 8 TURBIDITY:	4.2 4 4.4 4.20		Ebbing	200' N of Disposal	0
	4	-	AVERAGE	TURBIDITY:]				
			AVERAGE	TURBIDITY:					
	4		AVERAGE	TURBIDITY:]			
	1		AVERAGE	TURBIDITY:					
Monitoring ID #	NORTHING / EASTING	TIME	TOTAL WATER DEPTH (ft)	SAMPLE DEPTH (ft)	<u>Down-Curr</u> TURBIDITY (NTUs)	<u>ent</u> GPS FILE NAME	TIDAL STAGE	DISTANCE FROM LOCATION	NUMBER OF HOURS DREDGING
010214-01-9-2 010214-01-9-8 010214-01-9-14	2696298 / 815697	0929 0931 0933	16	2 8 14	4.9 5 10.3		Ebbing	200' S of Disposal	post
	1	1	AVERAGE T TURBIDITY		6.73 2.53] 			
			AVERAGE	TURBIDITY:					
	1		TURBIDITY]			
			AVERAGE			-			
			TURBIDITY	INCREASE:					
	1		AVERAGE T TURBIDITY						
						1			
	1	1	AVERAGE T TURBIDITY			<u> </u>			
* Turbidity Increase = Down-Curre	nt Average Turbidity - Up-Cur	rent Average T	urbidity						

PROJECT:	New Bedford Harbor L	ower Harbo	or CAD Cell					-	
JOB NUMBER:	6724							_	
SURVEY DATE:	04 January 2014								
MONITORS:	K. Ryan								
		1		I Park -				-	
	Fog / Snow.	Low		High:				-	
WIND CONDITIONS:	Speed:	15-20k gus	ting 25+k		Direction	: NNW		and the second se	
PRIOR STORM EVENTS:	Nor'easter 02-03Janua	ry							
DREDGE / SCOW Position:	Northing/Easting:	2696631 / 8	15038						
TYPE OF WATER QUALITY					ing / Dienoea	1		- //	PEX
					ing / Disposa			- /- -	
TIDE INFORMATION:	-	0954/2223		0300/1541					
WAS WATER QUALITY SA	MPLING PERFORMED	? (YES/NO)	: N	IF YES, ATTA	ACH COC FOR	MS		-	
GENERAL NOTES:	Dredging begins at 10	15 and ends	for the day at 1	546					
					UP-CURRE	<u>NT</u>			
Monitoring ID #	NORTHING / EASTING	TIME	TOTAL WATER	SAMPLE	TURBIDITY	GPS FILE NAME	TIDAL STAGE	RELATIVE POSITION	NUMBER OF HOURS
monitoring ib #			DEPTH (ft)	DEPTH (ft)	(NTUs)	0.0.12210.002	IIBAE OTAGE	OF MEASUREMENT	DREDGING
010414-00-1-1		1026		1	4.6				
010414-00-1-4	2697079 / 815295	1028	8.8	4	5.3		Ebbing	200' N of Dredge	0
	20010101010200		0.0				Ebbilig	200 N OF Dicage	0
010414-00-1-8		1030		8	5.3				
			AVERAGE 1	TURBIDITY:	5.07				
010414-02-1-1		1220		1	5.3				
	2697257 / 815501						Ebbing	200' N of Dredge	2
010414-02-1-3	20012017010001	1222	6.4	3	6		Ebbilig	200 N OF Dicage	2
010414-02-1-6		1224		6	6.1				
			AVERAGE 1	TURBIDITY:	5.80				
						-			
010414-04-1-1		1427		1	6.9	<u>г</u>			
	2696992 / 814778		46.4			4 1	Ehtina	200' Not Drada-	4
010414-04-1-9.5	2090992/014//0	1429	19.1	9.5	7.6		Ebbing	200' N of Dredge	4
010414-04-1-19		1431		19	8.5				
			AVERAGE 1	TURBIDITY:	7.67				
						-			
040444.004.4		4000	1		40.4	<u>г г</u>			
010414-06-1-1		1603		1	10.4				
010414-06-1-7	2696214 / 814885	1605	15.9	7	10.6		Slack / Flooding	200' S of Dredge	6
010414-06-1-14		1607		14	10.4				
			AVERAGE 1		10.47				
			MERMOL		10.41	_1			
					-			1	
	1					1 1			
			AVERAGE 1						
			AVERAGE	IURBIDITT:		1			
					Down-Curr	ent			
		1							
Manitaring ID #		TIME	TOTAL WATER	SAMPLE	TURBIDITY			DISTANCE FROM	NUMBER OF HOURS
Monitoring ID #	NORTHING / EASTING	TIME	DEPTH (ft)	DEPTH (ft)	(NTUs)	GPS FILE NAME	TIDAL STAGE	LOCATION	DREDGING
					-			1	
010414-00-9-1		1045		1	5.3				
010414-00-9-5	2696464 / 815220	1047	10.7	5	5.2		Ebbing	200' S of Dredge	0
010414-00-9-10	1	1049	1	10	5.1	ן ר			
		.040				1			
			AVERAGE 1		5.20	-			
			TURBIDITY	INCREASE:	0.13				
010414-02-9-1		1237		1	13				
010414-02-9-11	2696633 / 815345	1239	21.9	11	12.4] [Ebbing	200' S of Dredge	2
010414-02-9-21	1	1200		21	9.1	1			
010414-02-3-21		1241	a			ļ I		1	
			AVERAGE 1		11.50	-			
1			TURBIDITY	INCREASE:	5.70	1			
010414-04-9-1		1447		1	8	T T			
010414-04-9-4.5	2696394 / 814947		0.0			1 1	Ebbing	200' S of Dredge	4
	2030334/01434/	1449	9.6	4.5	8.1	4 1	Ebbilly	200 3 01 Dieuge	4
010414-04-9-9		1451		9	8.4				
			AVERAGE 1	TURBIDITY:	8.17				
			TURBIDITY		0.50	1			
					0.00	-			
040444.00.0.4		4000	r			,			
010414-06-9-1		1609	4	1	6.2	- 1			
010414-06-9-9	2697233 / 814658	1611	19.4	9	6.5		Flooding tide	200' N of Dredge	6
010414-06-9-18	1	1613	1	18	6.8	1 I			
	-		AVERAGE 1		6.50	1		•	
						-			
			TURBIDITY	INCREASE:	-3.97	L			
			-		T	ן ר			
						- 1			
			AVERAGE 1						
			AVERAGE 1 TURBIDITY						
	·								

Figure 1 Lower Harbor CAD Cell Phase I – Water Quality Monitoring



6	_			
	ROCKVILLE, MD SOUTH WINDSOR, CT - BOSTON, MA - NEW BEDFORD, MA - HOLYOKE, MA 125 BROAD STREET, 5TH FLOOR BOSTON, MA 02210 58H CONNECTICUT AVENUE SOUTH WINDSOR, CT This drawings prepared by Apex for this project are instruments of Apex's service for use solely with respect to this project, and Apex shall be deemed the author of the Drawing and shall retain al common law, statutory and other projects, for additions to this project or for completion of this project by others, except by agreement in writing and with appropriate compensation to Apex.			
	PROJECT NEW BEDFORD HARBOR DEVELOPMENT COMMISSION LOWER HARBOR CAD CELL Nower New BEDFORD New BEDFORD NA 02740			
	1 9/25/2012 EPA COMMENTS GCD 2 2/21/2013 DRAFT SUITABILITY MCK 1 1 1 1 2 2/21/2013 DRAFT SUITABILITY MCK 1 1 1 1 2 2/21/2013 DRAFT SUITABILITY MCK 1 1 1 1 1 1 1 1 1 1 1 0 1 1 1 1 0 1 1 1 1 0 1 1 1 1 0 6724 1 1 1 0 6724 1 1 1 0 1 1 1 1 1 0 1 1 1 1 1 1 0 1 1 1 1 1 1 1 0 25 50 100 1 1 1 1 1 1 1 1 1 1			
	WQM-1 1 OF 1			

PLOT SCALE 1/16"=1'-0"