Weekly Field Report
Week: 12-08-13 through 12-14-13
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 sixth 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 Sixth Report for the LHCC dredging activities includes:

- Daily Inspection Reports from the dredging oversight performed during the week of December 8th through December 14th. 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 8th through December 14th 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 daily December 9th through the 14th. Dredging operations focused on the removal of Phase I Top of CAD cell sediments and the disposal of these sediments into CAD Cell #3. Dredging operations during this reporting period 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 13th project meeting and the subsequent formal letters provided on November 21st and December 10th . 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 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 8th utilizing an open conventional digging bucket in certain areas and per the terms outlined in the letters issued on November 21st and December 10th. Apex conducted three days of water quality monitoring while the open conventional bucket was being used in 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 on the 9th, 11th, and 13th of December. 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 December 9th, 11th, 12th, 13th, and 14th. Based on scow logs, approximately 500 and 800 cubic yards of material (assuming 120 pounds/ft^3 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, required for each CAD Cell disposal event, was completed for each day of disposal activity.

Table 1 – Cumulative Dredging Progress

Period of Activity	Volume (cy)
Approximate Vol. Dredged this Reporting Period	3,300
Approximate Volume Dredged to Date	12,900

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

Inspector: K. Ryan, C. Stillman **Date:** 09 December 2013

Contractor: **Tripp Marine** Foreman/Supt: Pyne Tripp

Weather	AM:	Overcast with fog	**Temperature**	AM:	30
	PM:	Rain/Snow. Winds 10-15k E shifting NW		PM:	42

Tides	High	1237	AM	1305	PM
	Low	0630	AM	1910	PM

Manpower Onsite

Foreman	1	@ 8	Hrs
Operators	1	@ 8	Hrs
Laborers	1	@ 8	Hrs
Drivers		@	Hrs
Other:		@	Hrs

Equipment Onsite

Description:	Dredge Tripp 47	Hrs. 8
	Scow TMC 140	Hrs. 8
	Push boat Sand Pebble	Hrs. 8
	Support boat	Hrs. 8
	Scow SEI 2000	Hrs. 8

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 to provide clearance for the disposal of materials into CAD Cell #3. Disposal occurs at 0841 with draft marks on the scow recorded as 7' FWD and 7.5' AFT. Scow TMC-140 is maneuvered into position alongside dredge plant at 0920. Dredging begins at 0926 using the open conventional digging bucket, with dredged materials being placed into scow TMC-140. At 1245 scow TMC-140 is maneuvered over to dewatering barge; draft marks are recorded as 8.5' FWD/AFT. At 1356 scow SEI-2000 is maneuvered alongside dredge plant and dredging resumes. Dredging continued until 1615, at which point draft marks on scow SEI-2000 are 8' FWD/AFT.

No water quality issues were observed during the day.

Problems/Issues or Action Items:

None / N/A

Visitors:

Signature: D. Boye Date: 09 December 2013

Title: Page: 1 of 1

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City of New Bedford Harbor Development Commission

New Bedford Harbor USEPA Lower Harbor CAD Cell

CFDA No.: 66.802

Inspection Report

Inspector: C. Stillman, M. Martinho **Date:** 10 December 2013

Contractor: **Tripp Marine** Foreman/Supt: Pyne Tripp

Weather	AM:	Overcast with fog	**Temperature**	AM:	27
	PM:	Snow flurries. Winds 5-15k WNW		PM:	35

Tides	High	0136	AM	1404	PM
	Low	0829	AM	2019	PM

Manpower Onsite

Foreman	1	@ 8	Hrs
Operators	1	@ 8	Hrs
Laborers	1	@ 8	Hrs
Drivers		@	Hrs
Other:		@	Hrs

Equipment Onsite

Description:	Dredge Tripp 47	Hrs. 8
	Scow TMC 140	Hrs. 8
	Push boat Sand Pebble	Hrs. 8
	Support boat	Hrs. 8
	Scow SEI 2000	Hrs. 8

Contractor Activities: (Attach Additional Sheets as Necessary)

Apex first on-site at 0600 to conduct oversight of dredging activities and to inspect dredged materials in scow to provide clearance for the disposal of materials into CAD Cell #3. Scow SEI-2000 is aground upon arrival. Dredging begins at 0843 using the open conventional digging bucket, with dredged materials being placed into scow TMC-140. At 1100 scow SEI-2000 is manuevered over to dewatering barge; materials were inspected and cleared for disposal. At 1246, scow TMC-140 is manuevered to dewatering barge. At 1345 scow SEI-2000 is manuevered back alongside dredge plant for the placement of additional materials. Dredging continued until 1545.

No water quality issues were observed during the day.

Problems/Issues or Action Items:

None / N/A

Visitors:

Signature: D. Boye Date: 10 December 2013

Title: Page: 1 of 1

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City of New Bedford Harbor Development Commission

New Bedford Harbor USEPA Lower Harbor CAD Cell

CFDA No.: 66.802

Inspection Report

Inspector: K. Ryan, K. Millller **Date:** 11 December 2013

Contractor: **Tripp Marine** Foreman/Supt: Pyne Tripp

Weather	AM:	Clear.	**Temperature**	AM:	25
	PM:	Clear to ptly. cloudy. Winds 10-15k W		PM:	30

Tides	High	0237	AM	1505	PM
	Low	0938	AM	2110	PM

Manpower Onsite

Foreman	1	@ 8	Hrs
Operators	1	@ 8	Hrs
Laborers	1	@ 8	Hrs
Drivers		@	Hrs
Other:		@	Hrs

Equipment Onsite

Description:	Dredge Tripp 47	Hrs. 8
	Scow TMC 140	Hrs. 8
	Push boat Sand Pebble	Hrs. 8
	Support boat	Hrs. 8
	Scow SEI 2000	Hrs. 8

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 to provide clearance for the disposal of materials into CAD Cell #3. Disposal of dredged materials held in scow TMC-140 occurs at 0806, after which it is maneuvered alongside the dredge. Dredging begins at 0938 using the open conventional digging bucket, with dredged materials being placed into scow TMC-140. Dredging is paused at 1301 to maneuver scow SEI-2000 into position for disposal into CAD Cell #3. Apex confirms the materials in the scow are cleared for disposal. The disposal of dredged materials held in scow SEI-2000 occurs at 1405. Dredging resumes at 1436 and continues until 1549, at which point the draft marks on scow TMC-140 were recorded as 9.5' FWD and 10' AFT.

No water quality issues were observed during the day.

Problems/Issues or Action Items:

None / N/A

Visitors:

Signature: D. Boye Date: 11 December 2013

Title: Page: 1 of 1

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City of New Bedford Harbor Development Commission

New Bedford Harbor USEPA Lower Harbor CAD Cell

CFDA No.: 66.802

Inspection Report

Inspector: M. Tumolo **Date:** 12 December 2013

Contractor: **Tripp Marine** Foreman/Supt: Pyne Tripp

Weather	AM:	Clear.	**Temperature**	AM:	10
	PM:	Clear to ptly. cloudy. Winds 5-15k WNW		PM:	28

Tides	High	0337	AM	1604	PM
	Low	1031	AM	2148	PM

Manpower Onsite

Foreman	1	@ 8	Hrs
Operators	1	@ 8	Hrs
Laborers	1	@ 8	Hrs
Drivers		@	Hrs
Other:		@	Hrs

Equipment Onsite

Description:	Dredge Tripp 47	Hrs. 8
	Scow TMC 140	Hrs. 8
	Push boat Sand Pebble	Hrs. 8
	Support boat	Hrs. 8
	Scow SEI 2000	Hrs. 8

Contractor Activities: (Attach Additional Sheets as Necessary)

Apex on-site at 0700 to conduct oversight of dredging activities and to inspect dredged materials in scow to provide clearance for the disposal of materials into CAD Cell #3. Disposal of dredged materials held in scow TMC-140 occurs at 0725, after which it is maneuvered alongside the dredge. Dredging begins at 0805 using the open conventional digging bucket, with dredged materials being placed into scow TMC-140. Dredging continued until 1520, at which point the draft marks on scow TMC-140 were recorded as 10.75' FWD and 11' AFT.

No water quality issues were observed during the day.

Problems/Issues or Action Items:

None / N/A

Visitors:

Signature: D. Boye Date: 12 December 2013

Title: Page: 1 of 1

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City of New Bedford Harbor Development Commission

New Bedford Harbor USEPA Lower Harbor CAD Cell

CFDA No.: 66.802

Inspection Report

Inspector: M. Tumolo **Date:** 13 December 2013

Contractor: **Tripp Marine** Foreman/Supt: Pyne Tripp

Weather	AM:	Overcast	**Temperature**	AM:	14
	PM:	Overcast. Winds 10-15k gusting higher W		PM:	30

Tides	High	0435	AM	1700	PM
	Low	1114	AM	2223	PM

Manpower Onsite

Foreman	1	@ 8	Hrs
Operators	1	@ 8	Hrs
Laborers	1	@ 8	Hrs
Drivers		@	Hrs
Other:		@	Hrs

Equipment Onsite

Description:	Dredge Tripp 47	Hrs. 8
	Scow TMC 140	Hrs. 8
	Push boat Sand Pebble	Hrs. 8
	Support boat	Hrs. 8
	Scow SEI 2000	Hrs. 8

Contractor Activities: (Attach Additional Sheets as Necessary)

Apex on-site at 0650 to conduct oversight of dredging activities and to inspect dredged materials in scow to provide clearance for the disposal of materials into CAD Cell #3. Disposal of dredged materials held in scow TMC-140 occurs at 0804, after which it is maneuvered alongside the dredge. Dredging begins at 0850 using the open conventional digging bucket, with dredged materials being placed into scow TMC-140. Dredging continued until 1615, at which point scow TMC-140 is maneuvered over to dewatering barge alongside scow SEI-2000.

No water quality issues were observed during the day.

Problems/Issues or Action Items:

None / N/A

Visitors:

Signature: D. Boye Date: 13 December 2013

Title: Page: 1 of 1

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City of New Bedford Harbor Development Commission

New Bedford Harbor USEPA Lower Harbor CAD Cell

CFDA No.: 66.802

Inspection Report

Inspector: M. Martinho, K. Ryan **Date:** 14 December 2013

Contractor: **Tripp Marine** Foreman/Supt: Pyne Tripp

Weather	AM:	Overcast, morning fog.	**Temperature**	AM:	15
	PM:	Overcast, flurries. Winds 5-10k NNE		PM:	30

Tides	High	0528	AM	1749	PM
	Low	1150	AM	2300	PM

Manpower Onsite

Foreman	1	@ 8	Hrs
Operators	1	@ 8	Hrs
Laborers	1	@ 8	Hrs
Drivers		@	Hrs
Other:		@	Hrs

Equipment Onsite

Description:	Dredge Tripp 47	Hrs. 8
	Scow TMC 140	Hrs. 8
	Push boat Sand Pebble	Hrs. 8
	Support boat	Hrs. 8
	Scow SEI 2000	Hrs. 8

Contractor Activities: (Attach Additional Sheets as Necessary)

Apex on-site at 0725 to conduct oversight of dredging activities and to inspect dredged materials in scow to provide clearance for the disposal of materials into CAD Cell #3. Disposal of dredged materials held in scow TMC-140 occurs at 0740, after which it is maneuvered alongside the dredge. Dredging begins at 0810 using the open conventional digging bucket, with dredged materials being placed into scow TMC-140. Dredging continued until 1443, at which point scow TMC-140 is maneuvered over to dewatering barge. End-of-day draft marks on scow TMC-140 were 10' FWD and 9.5' AFT.

No water quality issues were observed during the day.

Problems/Issues or Action Items:

None / N/A

Visitors:

Signature: D. Boye Date: 14 December 2013

Title: Page: 1 of 1

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Attachment 2
Water Quality Monitoring Forms

PROJECT:	**New Bedford Harbor Lower Harbor CAD Cell**
JOB NUMBER:	**6724**
SURVEY DATE:	**09 December 2013**
MONITORS:	**K. Ryan, C. Stillman**
WEATHER CONDITIONS:	**Fog early. Rain/Snow. Temperatures 30F early increasing to 42F PM**
WIND CONDITIONS:	**Speed: 10-15k Direction: E shifting to NW PM**
PRIOR STORM EVENTS:	**N/A**
DREDGE / SCOW Position:	**Northing/Easting: CAD Cell #3**
TYPE OF WATER QUALITY MONITORING EVENT:	**TOP CAD Dredging / BTM CAD Dredging / Disposal**
TIDE INFORMATION:	**High: 1237/1305 Low: 0630/1910**
WAS WATER QUALITY SAMPLING PERFORMED? (YES/NO):	**N IF YES, ATTACH COC FORMS**
GENERAL NOTES:	**Disposal into CAD Cell #3 occurred at 0840.** **Sand capping operations were underway at the Borrow Pit Site just south of the LHCC.**

UP-CURRENT

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
120913-00-1-1	2695083 / 814119	0800	11.5	1	1.5		Flooding tide	200' S of Disposal	0
120913-00-1-5.5		0802		5.5	3.4				
120913-00-1-11		0804		11	4.3				
			AVERAGE TURBIDITY:		3.07				
120913-01-1-1	2695083 / 815054	0842	33.8	1	1.3		Flooding tide	200' S of Disposal	post
120913-01-1-16.5		0844		16.5	3.2				
120913-01-1-33		0846		33	4.5				
			AVERAGE TURBIDITY:		3.00				
			AVERAGE TURBIDITY:						
			AVERAGE TURBIDITY:						
			AVERAGE TURBIDITY:						

Down-Current

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
120913-00-9-1	2697208 / 814920	0807	7.3	1	2.7		Flooding tide	200' N of Disposal	0
120913-00-9-3.5		0809		3.5	2.7				
120913-00-9-7		0811		7	2.8				
			AVERAGE TURBIDITY:		2.73				
			TURBIDITY INCREASE:		-0.33				
120913-01-9-1	2697082 / 815523	0917	5	1	5.9		Flooding tide	200' N of Disposal	post
120913-01-9-2.5		0919		2.5	6.7				
120913-01-9-4.5		0921		4.5	9.8				
			AVERAGE TURBIDITY:		7.47				
			TURBIDITY INCREASE:		4.47				
			AVERAGE TURBIDITY:						
			TURBIDITY INCREASE:						
			AVERAGE TURBIDITY:						
			TURBIDITY INCREASE:						
			AVERAGE TURBIDITY:						
			TURBIDITY INCREASE:						

* Turbidity Increase = Down-Current Average Turbidity - Up-Current Average Turbidity

PROJECT:	**New Bedford Harbor Lower Harbor CAD Cell**
JOB NUMBER:	**6724**
SURVEY DATE:	**09 December 2013**
MONITORS:	**K. Ryan, C. Stillman**
WEATHER CONDITIONS:	**Fog early. Rain/Snow. Temperatures 30F early increasing to 42F PM**
WIND CONDITIONS:	**Speed: 10-15k Direction: E shifting to NW PM**
PRIOR STORM EVENTS:	**N/A**
DREDGE / SCOW Position:	**Northing/Easting: 2696900 / 815080**
TYPE OF WATER QUALITY MONITORING EVENT:	**TOP CAD Dredging / BTM CAD Dredging / Disposal**
TIDE INFORMATION:	**High: 1237/1305 Low: 0630/1910**
WAS WATER QUALITY SAMPLING PERFORMED? (YES/NO):	**N IF YES, ATTACH COC FORMS**
GENERAL NOTES:	**Dredging begins at 0926 and ends for the day at 1615**

APEX

UP-CURRENT

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
120913-00-1-1	2696587 / 814732	0935	13.7	1	4.4		Flooding tide	200' S of Dredge	0
120913-00-1-6.5		0937		6.5	3.8				
120913-00-1-13		0939		13	5.7				
			AVERAGE TURBIDITY:		4.63				
120913-02-1-1	2696416 / 814824	1134	13.7	1	2.8		Flooding tide	200' S of Dredge	2
120913-02-1-6.5		1136		6.5	3.2				
120913-02-1-13		1138		13	3.8				
			AVERAGE TURBIDITY:		3.27				
120913-04-1-1	2697282 / 815006	1324	10.1	1	3		Ebbing	200' N of Dredge	4
120913-04-1-4.5		1326		4.5	6.9				
120913-04-1-9		1328		9	9				
			AVERAGE TURBIDITY:		6.30				
120913-06-1-1	2697087 / 815156	1527	6.4	1	3.6		Ebbing	200' N of Dredge	6
120913-06-1-3		1529		3	3.9				
120913-06-1-6		1531		6	5.3				
			AVERAGE TURBIDITY:		4.27				
			AVERAGE TURBIDITY:						

Down-Current

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
120913-00-9-1	2697366 / 814972	0944	8.1	1	3.5		Flooding tide	200' N of Dredge	0
120913-00-9-4		0946		4	4.2				
120913-00-9-8		0948		8	5.2				
			AVERAGE TURBIDITY:		4.30				
			TURBIDITY INCREASE:		-0.33				
120913-02-9-1	2697172 / 815037	1141	11	1	3.2		Flooding tide	200' N of Dredge	2
120913-02-9-5		1143		5	8.9				
120913-02-9-10		1145		10	8.2				
			AVERAGE TURBIDITY:		6.77				
			TURBIDITY INCREASE:		3.50				
120913-04-9-1	2696484 / 815070	1331	10.6	1	3.2		Ebbing	200' S of Dredge	4
120913-04-9-5		1333		5	4.5				
120913-04-9-10		1335		10	12.7				
			AVERAGE TURBIDITY:		6.80				
			TURBIDITY INCREASE:		0.50				
120913-06-9-1	2696309 / 815229	1532	16.8	1	4.7		Ebbing	200' S of Dredge	6
120913-06-9-8		1534		8	6				
120913-06-9-16		1536		16	6.6				
			AVERAGE TURBIDITY:		5.77				
			TURBIDITY INCREASE:		1.50				
			AVERAGE TURBIDITY:						
			TURBIDITY INCREASE:						

* Turbidity Increase = Down-Current Average Turbidity - Up-Current Average Turbidity

PROJECT:	**New Bedford Harbor Lower Harbor CAD Cell**
JOB NUMBER:	**6724**
SURVEY DATE:	**11 December 2013**
MONITORS:	**K. Ryan, K. Miller**
WEATHER CONDITIONS:	**Ptly. cloudy, clearing. Temperatures 25F AM increasing to 30F PM**
WIND CONDITIONS:	**Speed: 10-15k Direction: W**
PRIOR STORM EVENTS:	**N/A**
DREDGE / SCOW Position:	**Northing/Easting: CAD Cell #3**
TYPE OF WATER QUALITY MONITORING EVENT:	**TOP CAD Dredging / BTM CAD Dredging / Disposal**
TIDE INFORMATION:	**High: 0237/1505 Low: 0938/2110**
WAS WATER QUALITY SAMPLING PERFORMED? (YES/NO): N	**IF YES, ATTACH COC FORMS**
GENERAL NOTES:	**Disposal into CAD Cell #3 occurred at 0804**

UP-CURRENT

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
121113-00-1-1	2697211 / 815261	0730	3.9	1	2.4		Ebbing	200' N of Disposal	0
121113-00-1-2		0732		2	4.1				
121113-00-1-3		0734		3	4.7				
			AVERAGE TURBIDITY:		3.73				
121113-01-1-1	2696962 / 815525	0806	23.8	1	4.1		Ebbing	200' N of Disposal	post
121113-01-1-11.5		0808		11.5	7.2				
121113-01-1-23		0810		23	7.5				
			AVERAGE TURBIDITY:		6.27				
			AVERAGE TURBIDITY:						
			AVERAGE TURBIDITY:						
			AVERAGE TURBIDITY:						

Down-Current

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
121113-00-9-1	2696476 / 815120	0740	6.2	1	4.3		Ebbing	200' S of Disposal	0
121113-00-9-3		0742		3	3.8				
121113-00-9-6		0744		6	4.4				
			AVERAGE TURBIDITY:		4.17				
			TURBIDITY INCREASE:		0.43				
121113-01-9-1	2696421 / 815708	0815	11.1	1	5.5		Ebbing	200' S of Disposal	post
121113-01-9-5.5		0817		5.5	5.7				
121113-01-9-11		0819		11	5.7				
			AVERAGE TURBIDITY:		5.63				
			TURBIDITY INCREASE:		-0.63				
			AVERAGE TURBIDITY:						
			TURBIDITY INCREASE:						
			AVERAGE TURBIDITY:						
			TURBIDITY INCREASE:						
			AVERAGE TURBIDITY:						
			TURBIDITY INCREASE:						

* Turbidity Increase = Down-Current Average Turbidity - Up-Current Average Turbidity

PROJECT:	**New Bedford Harbor Lower Harbor CAD Cell**
JOB NUMBER:	**6724**
SURVEY DATE:	**11 December 2013**
MONITORS:	**K. Ryan, K. Miller**
WEATHER CONDITIONS:	**Ptly. cloudy, clearing. Temperatures 25F AM increasing to 30F PM**
WIND CONDITIONS:	**Speed: 10-15k Direction: W**
PRIOR STORM EVENTS:	**N/A**
DREDGE / SCOW Position:	**Northing/Easting: 2696696 / 814602**
TYPE OF WATER QUALITY MONITORING EVENT:	**TOP CAD Dredging / BTM CAD Dredging / Disposal**
TIDE INFORMATION:	**High: 0237/1505 Low: 0938/2110**
WAS WATER QUALITY SAMPLING PERFORMED? (YES/NO):	**N IF YES, ATTACH COC FORMS**
GENERAL NOTES:	**Dredging begins at 0938 and ends for the day at 1549**

UP-CURRENT

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
121113-00-1-1	2696646 / 815060	0935	6.4	1	3.7		Slack / Flooding tide	200' S of Dredge	0
121113-00-1-3		0937		3	6.8				
121113-00-1-6		0939		6	7.3				
			AVERAGE TURBIDITY:		5.93				
121113-02-1-1	2696613 / 814732	1139	16	1	4.3		Flooding tide	200' S of Dredge	2
121113-02-1-7.5		1141		7.5	6				
121113-02-1-15		1142		15	7.4				
			AVERAGE TURBIDITY:		5.90				
121113-04-1-1	2696648 / 814945	1329	9.7	1	6.6		Flooding tide	200' S of Dredge	4
121113-04-1-4.5		1331		4.5	7.1				
121113-04-1-9		1333		9	7.5				
			AVERAGE TURBIDITY:		7.07				
121113-06-1-1	2696999 / 814938	1525	10.3	1	5.2		Ebbing	200' N of Dredge	6
121113-06-1-5		1527		5	5.4				
121113-06-1-10		1529		10	5.1				
			AVERAGE TURBIDITY:		5.23				
			AVERAGE TURBIDITY:						

Down-Current

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
121113-00-9-1	2697175 / 815326	0948	3.6	1	4.45		Flooding tide	200' N of Dredge	0
121113-00-9-1.5		0950		1.5	5				
121113-00-9-3		0952		3	4				
			AVERAGE TURBIDITY:		9.00				
			TURBIDITY INCREASE:		3.07				
121113-02-9-1	2697328 / 815246	1147	5.2	1	6		Flooding tide	200' N of Dredge	2
121113-02-9-2.5		1149		2.5	6.3				
121113-02-9-5		1151		5	5.8				
			AVERAGE TURBIDITY:		6.03				
			TURBIDITY INCREASE:		0.13				
121113-04-9-1	2697200 / 815179	1337	7.5	1	12.5		Flooding tide	200' N of Dredge	4
121113-04-9-3.5		1339		3.5	10.8				
121113-04-9-7		1341		7	13				
			AVERAGE TURBIDITY:		12.10				
			TURBIDITY INCREASE:		5.03				
121113-06-9-1	2696374 / 814789	1533	13.4	1	4.1		Ebbing	200' S of Dredge	6
121113-06-9-6.5		1535		6.5	4				
121113-06-9-13		1537		13	3.8				
			AVERAGE TURBIDITY:		3.97				
			TURBIDITY INCREASE:		-1.27				
			AVERAGE TURBIDITY:						
			TURBIDITY INCREASE:						

* Turbidity Increase = Down-Current Average Turbidity - Up-Current Average Turbidity

PROJECT:	**New Bedford Harbor Lower Harbor CAD Cell**
JOB NUMBER:	**6724**
SURVEY DATE:	**13 December 2013**
MONITORS:	**M. Tumolo**
WEATHER CONDITIONS:	**Ptly. Cloudy, clearing. Temperature 14F AM increasing to 30F PM**
WIND CONDITIONS:	**Speed: 10-15k Direction: W**
PRIOR STORM EVENTS:	**N/A**
DREDGE / SCOW Position:	**Northing/Easting:**
TYPE OF WATER QUALITY MONITORING EVENT:	**TOP CAD Dredging / BTM CAD Dredging / Disposal**
TIDE INFORMATION:	**High: 0435/1700 Low: 1114/2223**
WAS WATER QUALITY SAMPLING PERFORMED? (YES/NO):	**N IF YES, ATTACH COC FORMS**
GENERAL NOTES:	**Dredging begins at 0850 and ends for the day at 1615**

APEX

UP-CURRENT

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
121313-00-1-1	2697156 / 815147	0855	4.6	1	3.3		Ebbing	200' N of Dredge	0
121313-00-1-2		0857		2	4.6				
121313-00-1-4		0859		4	4.1				
			AVERAGE TURBIDITY:		4.00				
121313-02-1-1	2697003 / 814961	1105	7.5	1	2.3		Ebbing / Slack	200' N of Dredge	2
121313-02-1-3.5		1107		3.5	3.3				
121313-02-1-6		1109		6	3.6				
			AVERAGE TURBIDITY:		3.07				
121313-04-1-1	2696453 / 814789	1259	11	1	4.9		Flooding tide	200' S of Dredge	4
121313-04-1-5		1301		5	5.2				
121313-04-1-10		1303		10	5.6				
			AVERAGE TURBIDITY:		5.23				
121313-06-1-1	2696447 / 814755	1443	12.5	1	6.5		Flooding tide	200' S of Dredge	6
121313-06-1-6		1445		6	7.4				
121313-06-1-12		1447		12	8.2				
			AVERAGE TURBIDITY:		7.37				
			AVERAGE TURBIDITY:						

Down-Current

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
121313-00-9-1	2696535 / 815223	0901	5	1	5		Ebbing	200' S of Dredge	0
121313-00-9-2		0903		2	5.1				
121313-00-9-4		0905		4	7				
			AVERAGE TURBIDITY:		5.70				
			TURBIDITY INCREASE:		1.70				
121313-02-9-1	2696489 / 814989	1111	6.5	1	4.2		Ebbing / Slack	200' S of Dredge	2
121313-02-9-3		1113		3	4.4				
121313-02-9-6		1115		6	5				
			AVERAGE TURBIDITY:		4.53				
			TURBIDITY INCREASE:		1.47				
121313-04-9-1	2697089 / 815036	1304	5	1	7.2		Flooding tide	200' N of Dredge	4
121313-04-9-2		1306		2	7.3				
121313-04-9-4		1308		4	6.9				
			AVERAGE TURBIDITY:		7.13				
			TURBIDITY INCREASE:		1.90				
121313-06-9-1	2697008/ 814808	1448	12	1	8.3		Flooding tide	200' N of Dredge	6
121313-06-9-6		1450		6	9.5				
121313-06-9-11		1452		11	9.8				
			AVERAGE TURBIDITY:		9.20				
			TURBIDITY INCREASE:		1.83				
			AVERAGE TURBIDITY:						
			TURBIDITY INCREASE:						

* Turbidity Increase = Down-Current Average Turbidity - Up-Current Average Turbidity

PROJECT:	**New Bedford Harbor Lower Harbor CAD Cell**
JOB NUMBER:	**6724**
SURVEY DATE:	**13 December 2013**
MONITORS:	**M. Tumolo**
WEATHER CONDITIONS:	**Ptly. Cloudy, clearing. Temperature 14F AM increasing to 30F PM**
WIND CONDITIONS:	**Speed: 10-15k Direction: W**
PRIOR STORM EVENTS:	**N/A**
DREDGE / SCOW Position:	**Northing/Easting: CAD Cell #3**
TYPE OF WATER QUALITY MONITORING EVENT:	**TOP CAD Dredging / BTM CAD Dredging / Disposal**
TIDE INFORMATION:	**High: 0435/1700 Low: 1114/2223**
WAS WATER QUALITY SAMPLING PERFORMED? (YES/NO): N	**IF YES, ATTACH COC FORMS**
GENERAL NOTES:	**Disposal into CAD Cell #3 occurred at 0804**

APEX

UP-CURRENT

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
121313-01-1-1	2697048 / 815850	0805	7	1	4.5		Ebbing	200' N of Disposal	post
121313-01-1-3.5		0807		3.5	3.8				
121313-01-1-6		0809		6	3.7				
			AVERAGE TURBIDITY:		4.00				
			AVERAGE TURBIDITY:						
			AVERAGE TURBIDITY:						
			AVERAGE TURBIDITY:						
			AVERAGE TURBIDITY:						

Down-Current

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
121313-01-9-1	2696215 / 815732	0810	10.4	1	7.3		Ebbing	200' S of Disposal	post
121313-01-9-5		0812		5	7.4				
121313-01-9-9		0814		9	7.3				
			AVERAGE TURBIDITY:		7.33				
			TURBIDITY INCREASE:		3.33				
			AVERAGE TURBIDITY:						
			TURBIDITY INCREASE:						
			AVERAGE TURBIDITY:						
			TURBIDITY INCREASE:						
			AVERAGE TURBIDITY:						
			TURBIDITY INCREASE:						
			AVERAGE TURBIDITY:						
			TURBIDITY INCREASE:						

* Turbidity Increase = Down-Current Average Turbidity - Up-Current Average Turbidity

PROJECT:	**New Bedford Harbor Lower Harbor CAD Cell**
JOB NUMBER:	**6724**
SURVEY DATE:	**14 December 2013**
MONITORS:	**M. Martinho, K. Ryan**
WEATHER CONDITIONS:	**Early fog. Snow. Temperatures 15F early, increasing to 30F PM**
WIND CONDITIONS:	**Speed: 5-10k Direction: NNE**
PRIOR STORM EVENTS:	**N/A**
DREDGE / SCOW Position:	**Northing/Easting: CAD Cell #3**
TYPE OF WATER QUALITY MONITORING EVENT:	**TOP CAD Dredging / BTM CAD Dredging / Disposal**
TIDE INFORMATION:	**High: 0528/1749 Low: 1150/2300**
WAS WATER QUALITY SAMPLING PERFORMED? (YES/NO):	**N IF YES, ATTACH COC FORMS**
GENERAL NOTES:	**Disposal into CAD Cell #3 occurred at 0740**

UP-CURRENT

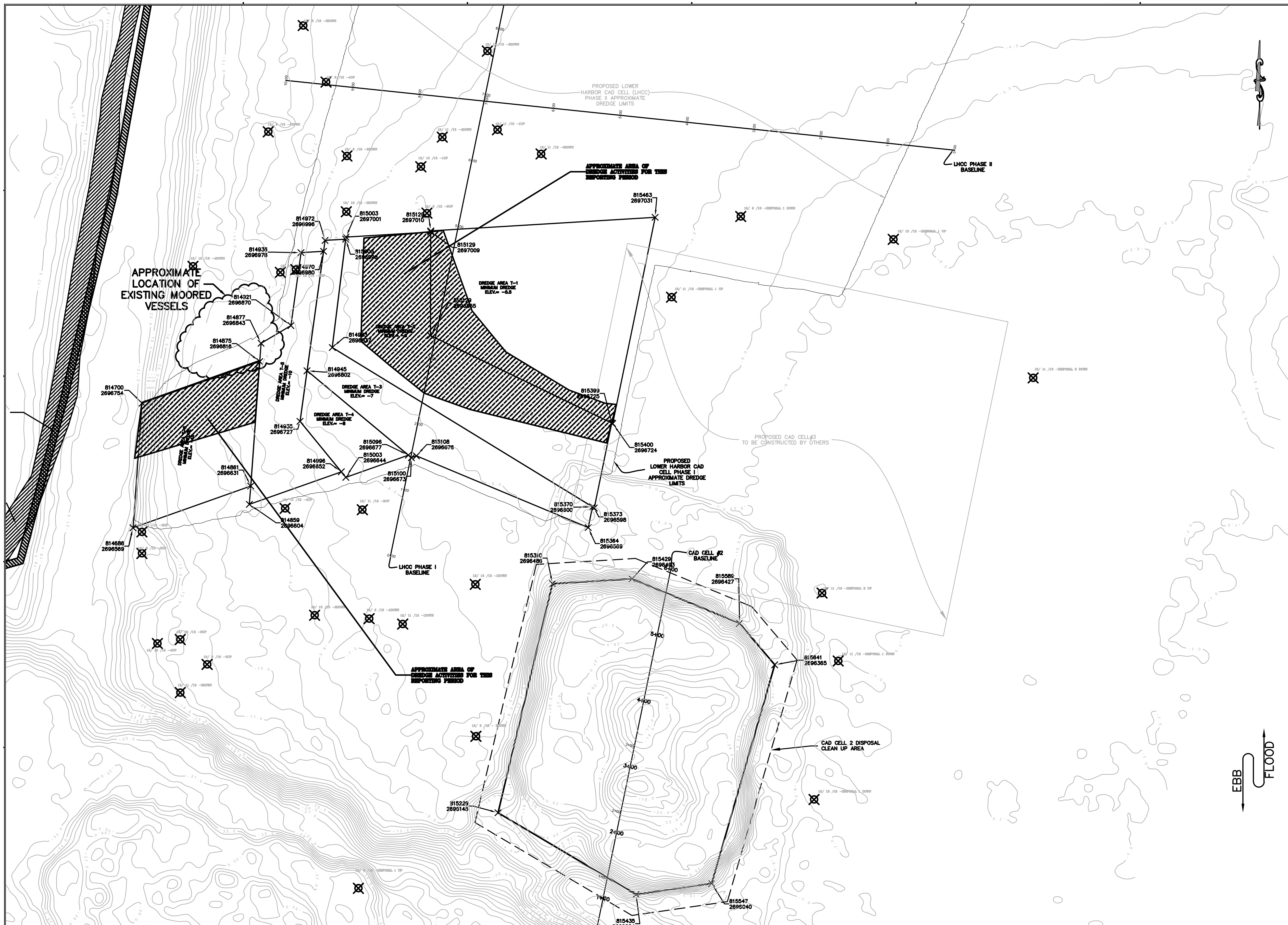
Monitoring ID #	NORTHING / EASTING	TIME	TOTAL WATER DEPTH (ft)	SAMPLE DEPTH (ft)	TURBIDITY (NTUs)	GPS FILE NAME	TIDAL STAGE	RELATIVE POSITION OF MEASUREMENT	NUMBER OF HOURS DREDGING
121413-01-1-1		0735		1	1.9				
121413-01-1-16		0737	34	16	2.2		Ebbing	200' N of Disposal	post
121413-01-1-32		0739		32	2.2				
			AVERAGE TURBIDITY:		2.10				
			AVERAGE TURBIDITY:						
			AVERAGE TURBIDITY:						
			AVERAGE TURBIDITY:						
			AVERAGE TURBIDITY:						

Down-Current

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
121413-01-9-1		0740		1	2.4				
121413-01-9-8		0742	17	8	3.9		Ebbing	200' S of Disposal	post
121413-01-9-16		0744		16	3.5				
			AVERAGE TURBIDITY:		3.27				
			TURBIDITY INCREASE:		1.17				
			AVERAGE TURBIDITY:						
			TURBIDITY INCREASE:						
			AVERAGE TURBIDITY:						
			TURBIDITY INCREASE:						
			AVERAGE TURBIDITY:						
			TURBIDITY INCREASE:						
			AVERAGE TURBIDITY:						
			TURBIDITY INCREASE:						

* Turbidity Increase = Down-Current Average Turbidity - Up-Current Average Turbidity

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



APEX

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