Weekly Field Report
Week: 12-22-13 through 12-28-13
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 eighth 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 Eighth Report for the LHCC dredging activities includes:

- Daily Inspection Reports from the dredging oversight performed during the week of December 22nd through December 28th. 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 22nd through December 28th 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 23rd through the 28th. 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 13th project meeting and the subsequent formal letters provided on November 21st and December 23rd. 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 22nd utilizing an open conventional digging bucket, per the terms outlined in the letters issued on November 21st and December 23rd. Apex conducted four 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 on the 23rd, 24th, 26th, and 28th 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 daily December 23rd through the 28th. 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	3,000
Approximate Volume Dredged to Date	18,400

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

Inspector: K. Ryan, J. Poirier **Date:** 23 December 2013

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

Weather	AM:	Overcast/Rain.	**Temperature**	AM:	36
	PM:	Overcast/Rain. Winds 5-10k N		PM:	48

Tides	High	1123	AM		PM
	Low	0433	AM	1701	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 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 0820 using the open conventional digging bucket in Dredge Area T-6, with dredged materials being placed into scow TMC-140. Dredging continued until 1336, at which point scow TMC-140 is maneuvered over to the dewatering barge. End-of-day draft marks on the scow were 10' FWD / AFT. Apex inspected materials in scow TMC-140 for disposal authorization.

No water quality issues were observed during the day.

Problems/Issues or Action Items:
None / N/A

Visitors:

Signature: D. Boye Date: 23 December 2013
Title: Page: 1 of 1
Copy to: file File: DIR_LHCC_122313

City of New Bedford Harbor Development Commission
New Bedford Harbor USEPA Lower Harbor CAD Cell
CFDA No.: 66.802

Inspection Report

Inspector: M. Tumolo, J. Poirier **Date:** 24 December 2013

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

Weather	AM:	Overcast/Rain.	**Temperature**	AM:	28
	PM:	Overcast/Rain. Winds 10k NNW		PM:	39

Tides	High	0001	AM	1209	PM
	Low	0521	AM	1745	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 for disposal authorization. Dredged materials held in scow TMC-140 were disposed into CAD Cell #3 at 0825, after which scow was maneuvered alongside dredge plant. Dredging begins at 0930 using the open conventional digging bucket, with dredged materials being placed into scow TMC-140. Dredging continued until 1421, at which point scow TMC-140 is maneuvered over to the dewatering barge.

End-of-day draft marks on the scow were 9' 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: 24 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: A. Hart **Date:** 25 December 2013

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

Weather	AM:	Ptly. Cloudy.	**Temperature**	AM:	16
	PM:	Ptly. Cloudy. Winds 10-15k NW		PM:	28

Tides	High	0047	AM	1258	PM
	Low	0620	AM	1839	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 0705 to conduct oversight and to inspect dredged materials in scow for disposal authorization. Dredged materials held in scow TMC-140 were disposed into CAD Cell #3 at 0825, after which scow was maneuvered alongside dredge plant. Water quality monitoring was performed during the disposal event. No water quality issues were observed.

Dredging was performed during the day using the open conventional digging bucket, with dredged materials being placed into scow TMC-140.

End-of-day draft marks on the scow were 8' FWD and 9.5' AFT.

Problems/Issues or Action Items:

None / N/A

Visitors:

Signature: D. Boye Date: 25 December 2013

Title: Page: 1 of 1

Copy to: file File: DIR_LHCC_122513

City of New Bedford Harbor Development Commission
New Bedford Harbor USEPA Lower Harbor CAD Cell
CFDA No.: 66.802

Inspection Report

Inspector: J. Ray **Date:** 26 December 2013

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

Weather	AM:	Overcast/Rain.	**Temperature**	AM:	18
	PM:	Rain. Winds 5-10k SE shifting W PM		PM:	41

Tides	High	0138	AM	1354	PM
	Low	0732	AM	1941	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 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 1018, after which scow was maneuvered alongside dredge plant. Dredging begins at 1100 using the open conventional digging bucket, with dredged materials being placed into scow TMC-140. Dredging continued until 1613, at which point scow TMC-140 is maneuvered over to the dewatering barge.

End-of-day draft marks on the scow were 9' FWD/AFT.

No water quality issues were observed during the day.

Problems/Issues or Action Items:
None / N/A

Visitors:

Signature: D. Boye Date: 26 December 2013
Title: Page: 1 of 1
Copy to: file File: DIR_LHCC_122613

City of New Bedford Harbor Development Commission
New Bedford Harbor USEPA Lower Harbor CAD Cell
CFDA No.: 66.802

Inspection Report

Inspector: K. Ryan, J. Poirier **Date:** 27 December 2013

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

Weather	AM:	Ptly. Cloudy	**Temperature**	AM:	21
	PM:	Ptly. Cloudy. Winds 5k W		PM:	36

Tides	High	0234	AM	1454	PM
	Low	0846	AM	2043	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 0645 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 0838, after which scow was maneuvered alongside dredge plant. Dredging begins at 1133 using the open conventional digging bucket, with dredged materials being placed into scow TMC-140. Dredging continued until 1609, at which point scow TMC-140 is left alongside dredge plant for the overnight.

End-of-day draft marks on the scow were 9' FWD/AFT.

No water quality issues were observed during the day.

Problems/Issues or Action Items:
None / N/A

Visitors:

Signature: D. Boye Date: 27 December 2013
Title: Page: 1 of 1
Copy to: file File: DIR_LHCC_122713

City of New Bedford Harbor Development Commission

New Bedford Harbor USEPA Lower Harbor CAD Cell

CFDA No.: 66.802

Inspection Report

Inspector: K. Ryan, J. Poirier **Date:** 28 December 2013

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

Weather	AM:	Overcast.	**Temperature**	AM:	21
	PM:	Overcast. Winds 10-15k SW		PM:	50

Tides	High	0334	AM	1558	PM
	Low	0949	AM	2139	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 for disposal authorization. Upon arrival scow TMC-140 was being shifted over to the dewatering barge. After dewatering, scow TMC-140 was inspected at 0815 and cleared for disposal. Dredged materials held in scow TMC-140 were disposed into CAD Cell #3 at 0826, 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 1412, at which point scow TMC-140 was manuevered over to dewatering barge.

End-of-day draft marks on the scow were 9' 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: 28 December 2013

Title: Page: 1 of 1

Copy to: file File: DIR_LHCC_122813

Attachment 2
Water Quality Monitoring Forms

PROJECT:	**New Bedford Harbor Lower Harbor CAD Cell**
JOB NUMBER:	**6724**
SURVEY DATE:	**23 December 2013**
MONITORS:	**K. Ryan, J. Poirier**
WEATHER CONDITIONS:	**Overcast and Rain. Low: 36 High: 48**
WIND CONDITIONS:	**Speed: 5-10k Direction: N**
PRIOR STORM EVENTS:	**N/A**
DREDGE / SCOW Position:	**Northing/Easting: 2696942 / 815039**
TYPE OF WATER QUALITY MONITORING EVENT:	**TOP CAD Dredging / BTM CAD Dredging / Disposal**
TIDE INFORMATION:	**High: 1123 Low: 0433/1701**
WAS WATER QUALITY SAMPLING PERFORMED? (YES/NO):	**N IF YES, ATTACH COC FORMS**
GENERAL NOTES:	**Dredging begins at 0840 and ends for the day at 1427**

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
122313-00-1-1	2694995 / 814896	0843	36	1	4.9		Flooding tide	200' S of Dredge	0
122313-00-1-17.5		0845		17.5	4.8				
122313-00-1-35		0847		35	4.1				
			AVERAGE TURBIDITY:		4.60				
122313-02-1-1	2694972 / 814919	1042	38.5	1	4.8		Flooding tide	200' S of Dredge	2
122313-02-1-19		1044		19	4.5				
122313-02-1-38		1046		38	4				
			AVERAGE TURBIDITY:		4.43				
122313-04-1-1	2697050 / 815119	1245	9	1	4.2		Ebbing	200' N of Dredge	4
122313-04-1-4		1247		4	5.8				
122313-04-1-7		1249		7	8.8				
			AVERAGE TURBIDITY:		6.27				
122313-06-1-1	2696905 / 815020	1536	8.3	1	5		Ebbing	200' N of Dredge	6
122313-06-1-4		1538		4	6.5				
122313-06-1-8		1540		8	8.4				
			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
122313-00-9-1	2697248 / 815095	0850	8	1	5.3		Flooding tide	200' N of Dredge	0
122313-00-9-3.5		0852		3.5	13.7				
122313-00-9-7		0854		7	17.1				
			AVERAGE TURBIDITY:		12.03				
			TURBIDITY INCREASE:		7.43				
122313-02-9-1	2697022 / 815027	1049	7	1	5.2		Flooding tide	200' N of Dredge	2
122313-02-9-3.5		1051		3.5	15.7				
122313-02-9-6		1053		6	16.5				
			AVERAGE TURBIDITY:		12.47				
			TURBIDITY INCREASE:		8.03				
122313-04-9-1	2696462 / 814998	1252	10.7	1	4.8		Ebbing	200' S of Dredge	4
122313-04-9-5		1254		5	7.5				
122313-04-9-10		1256		10	8				
			AVERAGE TURBIDITY:		6.77				
			TURBIDITY INCREASE:		0.50				
122313-06-9-1	2696246 / 814985	1542	9.2	1	7.3		Ebbing	200' S of Dredge	6
122313-06-9-4.5		1544		4.5	6.3				
122313-06-9-9		1546		9	8.7				
			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:	23 December 2013
MONITORS:	K. Ryan, J. Poirier
WEATHER CONDITIONS:	Overcast and Rain. Low: 36 High: 48
WIND CONDITIONS:	Speed: 5-10k Direction: N
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: 1123 Low: 0433/1701
WAS WATER QUALITY SAMPLING PERFORMED? (YES/NO):	N IF YES, ATTACH COC FORMS
GENERAL NOTES:	Disposal into CAD Cell #3 occurred at 0800

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
122313-01-1-1		0810		1	4.1				
122313-01-1-9.5		0812	19.8	9.5	9.8		Flooding tide	200' S of Disposal	post
122313-01-1-19		0814		19	13.8				
			AVERAGE TURBIDITY:		9.23				
			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
122313-01-9-1		0819		1	5.2				
122313-01-9-17		0821	8.8	17	9.1		Flooding tide	200' N of Disposal	post
122313-01-9-34		0823		34	11.5				
			AVERAGE TURBIDITY:		8.60				
			TURBIDITY INCREASE:		-0.63				
			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:	24 December 2013
MONITORS:	M. Tumolo, J. Poirier
WEATHER CONDITIONS:	Overcast and Rain. Low: 28 High: 39
WIND CONDITIONS:	Speed: 10k Direction: NNW
PRIOR STORM EVENTS:	N/A
DREDGE / SCOW Position:	Northing/Easting: 2696942 / 815039
TYPE OF WATER QUALITY MONITORING EVENT:	TOP CAD Dredging / BTM CAD Dredging / Disposal
TIDE INFORMATION:	High: 0001/1209 Low: 0521/1745
WAS WATER QUALITY SAMPLING PERFORMED? (YES/NO):	N IF YES, ATTACH COC FORMS
GENERAL NOTES:	Dredging begins at 0930 and ends for the day at 1421

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
122413-00-1-1	2696520 / 815158	0845	7	1	5.2		Flooding tide	200' S of Dredge	0
122413-00-1-3		0847		3	5.2				
122413-00-1-6		0849		6	6.8				
			AVERAGE TURBIDITY:		5.73				
122413-02-1-1	2696476 / 815294	1025	13	1	10.9		Flooding tide	200' S of Dredge	2
122413-02-1-6		1027		6	11				
122413-02-1-12		1029		12	6.5				
			AVERAGE TURBIDITY:		9.47				
122413-04-1-1	2696903 / 814691	1224	24	1	5.3		Ebbing	200' N of Dredge	4
122413-04-1-11.5		1226		11.5	4.6				
122413-04-1-23		1228		23	4				
			AVERAGE TURBIDITY:		4.63				
122413-06-1-1	2696441 / 814661	1428	24.9	1	5.1		Ebbing	200' N of Dredge	6
122413-06-1-12		1430		12	6.5				
122413-06-1-24		1432		24	4.8				
			AVERAGE TURBIDITY:		5.47				
			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
122413-00-9-1	2697271 / 815177	0900	7	1	6.6		Flooding tide	200' N of Dredge	0
122413-00-9-3		0902		3	6.4				
122413-00-9-6		0904		6	6.3				
			AVERAGE TURBIDITY:		6.43				
			TURBIDITY INCREASE:		0.70				
122413-02-9-1	2697121 / 815156	1030	6	1	5.8		Flooding tide	200' N of Dredge	2
122413-02-9-3		1032		3	5.9				
122413-02-9-5		1034		5	5.9				
			AVERAGE TURBIDITY:		5.87				
			TURBIDITY INCREASE:		-3.60				
122413-04-9-1	2696398 / 814823	1236	15.7	1	5.2		Ebbing	200' S of Dredge	4
122413-04-9-7.5		1238		7.5	4.5				
122413-04-9-15		1240		15	4.8				
			AVERAGE TURBIDITY:		4.83				
			TURBIDITY INCREASE:		0.20				
122413-06-9-1	2696406 / 814818	1440	14.3	1	5		Ebbing	200' S of Dredge	6
122413-06-9-7		1442		7	5.1				
122413-06-9-14		1444		14	5.3				
			AVERAGE TURBIDITY:		5.13				
			TURBIDITY INCREASE:		-0.33				
			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:	24 December 2013
MONITORS:	M. Tumolo, J. Poirier
WEATHER CONDITIONS:	Overcast and Rain. Low: 28 High: 39
WIND CONDITIONS:	Speed: 10k Direction: NNW
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: 0001/1209 Low: 0521/0745
WAS WATER QUALITY SAMPLING PERFORMED? (YES/NO):	N IF YES, ATTACH COC FORMS
GENERAL NOTES:	Disposal into CAD Cell #3 occurred at 0825

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
122413-01-1-1	2696128 / 815573	0825	10	1	5.7		Flooding tide	200' S of Disposal	post
122413-01-1-5		0827		5	5.9				
122413-01-1-9		0829		9	6				
			AVERAGE TURBIDITY:		5.87				
			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
122413-01-9-1	2696940 / 815241	0830	6.5	1	7.2		Flooding tide	200' N of Disposal	post
122413-01-9-3		0832		3	8.8				
122413-01-9-6		0834		6	9.8				
			AVERAGE TURBIDITY:		8.60				
			TURBIDITY INCREASE:		2.73				
			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:	**25 December 2013**
MONITORS:	**A. Hart**
WEATHER CONDITIONS:	**Partly Cloudy. Temperatures 16F early, increasing to 28F PM**
WIND CONDITIONS:	**Speed: 10-15k Direction: NW**
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: 0047/1258 Low: 0620/1839**
WAS WATER QUALITY SAMPLING PERFORMED? (YES/NO):	**N IF YES, ATTACH COC FORMS**
GENERAL NOTES:	**Disposal into CAD Cell #3 occurred at 0825**

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
122513-01-1-1	2696226 / 815369	0825	19.1	1	3.1		Flooding tide	200' S of Disposal	post
122513-01-1-9		0827		9	3.2				
122513-01-1-18		0829		18	3.2				
			AVERAGE TURBIDITY:		3.17				
			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
122513-01-9-1	2696947 / 815233	0832	7.1	1	4.3		Flooding tide	200' N of Disposal	post
122513-01-9-3		0834		3	6.2				
122513-01-9-6		0836		6	3.4				
			AVERAGE TURBIDITY:		4.63				
			TURBIDITY INCREASE:		1.47				
			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:	26 December 2013
MONITORS:	J. Ray
WEATHER CONDITIONS:	Overcast and Rain. Low: 18 High: 41
WIND CONDITIONS:	Speed: 5-10k Direction: SE shifting to W PM
PRIOR STORM EVENTS:	N/A
DREDGE / SCOW Position:	Northing/Easting: 2696852 / 815280
TYPE OF WATER QUALITY MONITORING EVENT:	TOP CAD Dredging / BTM CAD Dredging / Disposal
TIDE INFORMATION:	High: 0138/1354 Low: 0732/1941
WAS WATER QUALITY SAMPLING PERFORMED? (YES/NO):	N IF YES, ATTACH COC FORMS
GENERAL NOTES:	Dredging begins at approximately 1100 and ends for the day at 1613

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
122613-00-1-2	2696344 / 815097	1046	10	2	2.1		Flooding tide	200' S of Dredge	0
122613-00-1-5		1048		5	2.1				
122613-00-1-8		1050		8	2.8				
			AVERAGE TURBIDITY:		2.33				
122613-02-1-2	2696665 / 815183	1252	11	2	2.4		Flooding tide	200' S of Dredge	2
122413-02-1-5		1254		5	2.1				
122413-02-1-9		1256		9	2				
			AVERAGE TURBIDITY:		2.17				
122613-04-1-2	2696999 / 814897	1449	12	2	2.5		Ebbing	200' N of Dredge	4
122613-04-1-6		1451		6	2.6				
122613-04-1-10		1453		10	3.9				
			AVERAGE TURBIDITY:		3.00				
122613-06-1-2	2696903 / 814899	1632	11	2	2		Ebbing	200' N of Dredge	6
122613-06-1-6		1634		6	2.7				
122613-06-1-10		1636		10	3.9				
			AVERAGE TURBIDITY:		2.87				
			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
122613-00-9-2	2697186 / 815098	1051	8	2	2		Flooding tide	200' N of Dredge	0
122613-00-9-4		1053		4	2.2				
122613-00-9-6		1055		6	4.3				
			AVERAGE TURBIDITY:		2.83				
			TURBIDITY INCREASE:		0.50				
122613-02-9-2	2697198 / 815137	1300	8	2	4.4		Flooding tide	200' N of Dredge	2
122613-02-9-4		1302		4	3.8				
122613-02-9-6		1304		6	4.2				
			AVERAGE TURBIDITY:		4.13				
			TURBIDITY INCREASE:		1.97				
122613-04-9-2	2696431 / 814920	1454	13	2	2.4		Ebbing	200' S of Dredge	4
122613-04-9-7		1456		7	2.3				
122613-04-9-11		1458		11	2.2				
			AVERAGE TURBIDITY:		2.30				
			TURBIDITY INCREASE:		-0.70				
122613-06-9-2	2696376 / 814970	1637	9	2	6.7		Ebbing	200' S of Dredge	6
122613-06-9-5		1639		5	6.9				
122613-06-9-8		1641		8	12.4				
			AVERAGE TURBIDITY:		8.67				
			TURBIDITY INCREASE:		5.80				
			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:	26 December 2013
MONITORS:	J. Ray
WEATHER CONDITIONS:	Overcast and Rain. Low: 18 High: 41
WIND CONDITIONS:	Speed: 5-10k Direction: SE shifting to W 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: 0138/1354 Low: 0732/1941
WAS WATER QUALITY SAMPLING PERFORMED? (YES/NO):	N IF YES, ATTACH COC FORMS
GENERAL NOTES:	Disposal into CAD Cell #3 occurred at 1018

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
122613-01-1-2	2696260 / 815587	1021	20	2	1.9		Flooding tide	200' S of Disposal	post
122613-01-1-10		1023		10	3.8				
122613-01-1-18		1025		18	4.2				
			AVERAGE TURBIDITY:		3.30				
			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
122613-01-9-2	2696920 / 815483	1034	30	2	2.6		Flooding tide	200' N of Disposal	post
122613-01-9-16		1036		16	14.2				
122613-01-9-30		1038		30	38.1				
			AVERAGE TURBIDITY:		18.30				
			TURBIDITY INCREASE:		15.00				
			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:	28 December 2013
MONITORS:	K. Ryan, J. Poirier
WEATHER CONDITIONS:	Cloudy Low: 21 High: 50
WIND CONDITIONS:	Speed: 10-15k Direction: SW
PRIOR STORM EVENTS:	N/A
DREDGE / SCOW Position:	Northing/Easting: 2697221 / 815914
TYPE OF WATER QUALITY MONITORING EVENT:	TOP CAD Dredging / BTM CAD Dredging / Disposal
TIDE INFORMATION:	High: 0334/1558 Low: 0949/2139
WAS WATER QUALITY SAMPLING PERFORMED? (YES/NO):	N IF YES, ATTACH COC FORMS
GENERAL NOTES:	Dredging begins at 0925 and ends for the day at 1412

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
122813-00-1-1	2697244 / 814689	0845	20.2	1	6.2		Ebbing	200' N of Dredge	0
122813-00-1-10		0847		10	7.2				
122813-00-1-20		0849		20	7.1				
			AVERAGE TURBIDITY:		6.83				
122813-01-1-1	2697480 / 815280	0933	4.4	1	4.9		Ebbing / Slack	200' N of Dredge	1
122813-01-1-2		0935		2	5				
122813-01-1-4		0937		4	5.1				
			AVERAGE TURBIDITY:		5.00				
122813-02-1-1	2695087 / 814800	1127	37	1	6.1		Flooding tide	200' S of Dredge	2
122813-02-1-18		1129		18	6.4				
122813-02-1-36		1131		36	4.1				
			AVERAGE TURBIDITY:		5.53				
122813-04-1-1	2694978 / 814747	1321	36.1	1	5.5		Flooding tide	200' S of Dredge	4
122813-04-1-18		1323		18	8.9				
122813-04-1-36		1325		36	3.4				
			AVERAGE TURBIDITY:		5.93				
122813-05-1-1	2694888 / 814878	1418	37.2	1	3.4		Flooding tide	200' S of Dredge	5
122813-05-1-18.5		1420		18.5	5.2				
122813-05-1-36		1422		36	10.5				
			AVERAGE TURBIDITY:		6.37				

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
122813-00-9-1	2696389/ 814768	0852	12.6	1	9.8		Ebbing	200' S of Dredge	0
122813-00-9-6		0854		6	10				
122813-00-9-12		0856		12	14.9				
			AVERAGE TURBIDITY:		11.57				
			TURBIDITY INCREASE:		4.73				
122813-01-9-1	2696685 / 815219	0939	8.1	1	16.7		Ebbing / Slack	200' S of Dredge	1
122813-01-9-4		0941		4	16.1				
122813-01-9-8		0943		8	22.2				
			AVERAGE TURBIDITY:		18.33				
			TURBIDITY INCREASE:		13.33				
122813-02-9-1	2696979 / 814784	1138	21.7	1	8.4		Flooding tide	200' N of Dredge	2
122813-02-9-10.5		1140		10.5	8.4				
122813-02-9-21		1142		21	9.4				
			AVERAGE TURBIDITY:		8.73				
			TURBIDITY INCREASE:		3.20				
122813-04-9-1	2697092 / 815044	1332	7.6	1	10.9		Flooding tide	200' N of Dredge	4
122813-04-9-3.5		1334		3.5	11.1				
122813-04-9-7		1336		7	12.3				
			AVERAGE TURBIDITY:		11.43				
			TURBIDITY INCREASE:		5.50				
122813-05-9-1	2696995 / 814918	1512	11	1	12.9		Flooding tide	200' N of Dredge	5
122813-05-9-5		1514		5	14.8				
122813-05-9-10		1516		10	16.9				
			AVERAGE TURBIDITY:		14.87				
			TURBIDITY INCREASE:		8.50				

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

PROJECT:	New Bedford Harbor Lower Harbor CAD Cell
JOB NUMBER:	6724
SURVEY DATE:	28 December 2013
MONITORS:	K. Ryan, J. Poirier
WEATHER CONDITIONS:	Cloudy Low: 21 High: 50
WIND CONDITIONS:	Speed: 10-15k Direction: SW
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: 0334/1558 Low: 0949/2139
WAS WATER QUALITY SAMPLING PERFORMED? (YES/NO):	N IF YES, ATTACH COC FORMS
GENERAL NOTES:	Disposal into CAD Cell #3 occurred at 0826

UP-CURRENT

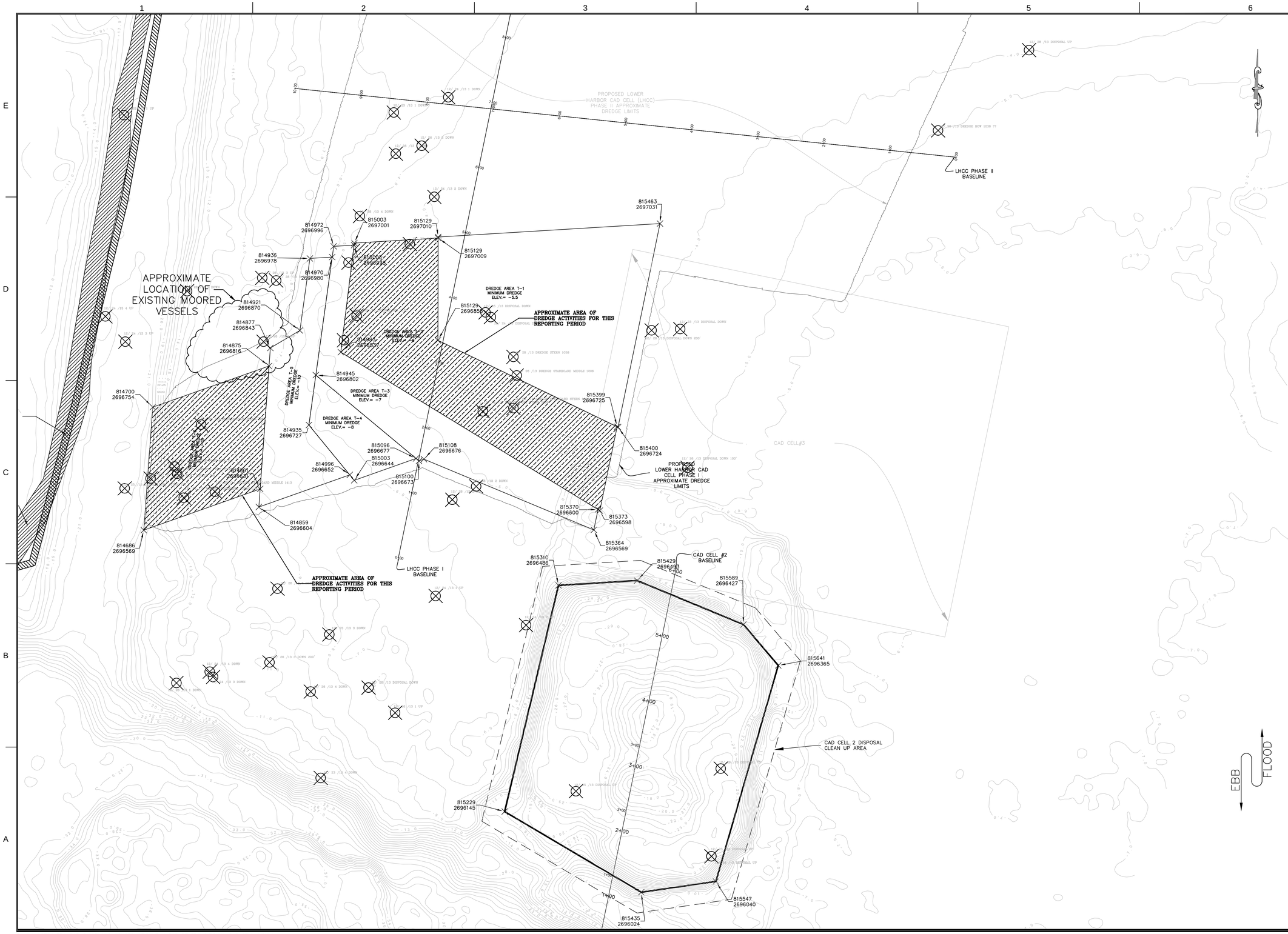
Monitoring ID #	NORTHING / EASTING	TIME	TOTAL WATER DEPTH (ft)	SAMPLE DEPTH (ft)	TURBIDITY (NTUs)	GPS FILE NAME	TIDAL STAGE	RELATIVE POSITION OF MEASUREMENT	NUMBER OF HOURS DREDGING
122813-01-1-1	2697342 / 816051	0828	5	1	5.5		Ebbing	200' N of Disposal	post
122813-01-1-2.5		0830		2.5	5.4				
122813-01-1-4		0832		4	6				
			AVERAGE TURBIDITY:		5.63				
			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
122813-01-9-1	2696382 / 815057	0835	9.8	1	7.1		Ebbing	200' S of Disposal	post
122813-01-9-3.5		0837		3.5	8.3				
122813-01-9-8.8		0839		8.8	11.1				
			AVERAGE TURBIDITY:		8.83				
			TURBIDITY INCREASE:		3.20				
			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

PROJECT
NEW BEDFORD HARBOR
DEVELOPMENT COMMISSION
LOWER HARBOR CAD CELL

OWNER
NEW BEDFORD
HARBOR DEVELOPMENT COMMISSION
52 FISHERMAN'S WHARF, NEW BEDFORD, MA 02740

1	9/25/2012	EPA COMMENTS	GCD
2	2/21/2013	DRAFT SUITABILITY	MCK
NO.	DATE	DESCRIPTION	BY

PROJECT NO.	6724
CADD FILE	
DESIGNED BY	###
DRAWN BY	###
CHECKED BY	###
DATE	NOV 2013
DRAWING SCALE	AS NOTED

GRAPHIC SCALE

SCALE: 1"=50'

0 25 50 100

SHEET TITLE

LOWER HARBOR CAD CELL PHASE I WATER QUALITY MONITORING 12/22/13-12/28/13

DRAWING NO.

WQM-1

1 OF 1

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

P:\Jobs\6724 EPA CAD Cell\PLANS\CONSTRUCTION\P-1 TOP OF TRANSITIONAL CAD CELL-WQM.dwg