



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Region 1

5 Post Office Square, Suite 100

BOSTON, MA 02109-3912

CERTIFIED MAIL

MAY 10 2011

Richard Martin, Executive Vice President
Fan Pier Development LLC
One Marina Park Drive
Boston, MA 02210

Re: Authorization to discharge under the Remediation General Permit (RGP) –
MAG910000. Fan Pier Parcels A & B site located at 50 Northern Avenue Boston,
Massachusetts 02210, Suffolk County; Authorization # MAG910483

Dear Mr. Martin:

Based on the review of your Notice of Intent (NOI) submitted on behalf of Martini and Fallon Company by the firm McPhail Associates, Inc., for the site referenced above, the U.S. Environmental Protection Agency (EPA) hereby authorizes you, as the named Owner and Operator, to discharge in accordance with the provisions of the RGP at that site. Your authorization number is listed above.

The checklist enclosed with this RGP authorization indicates the pollutants which you are required to monitor. Also indicated on the checklist are the effluent limits, test methods and minimum levels (MLs) for each pollutant. Please note that the check list does not represent the complete requirements of the RGP. Operators must comply with all of the applicable requirements of this permit, including influent and effluent monitoring, narrative water quality standards, record keeping, and reporting requirements, found in Parts I and II, and Appendices I – VIII of the RGP. See EPA's website for the complete RGP and other information at: <http://www.epa.gov/region1/npdes/mass.html#dgp>.

Please note the enclosed checklist includes the parameters which you have marked "Believed Present". The checklist also includes 1, 4-Dioxane which your laboratory reports indicated there was insufficient sensitivity to detect this parameter at the minimum level established in Appendix VI of the RGP.

Also included in the checklist are total polychlorinated biphenyls (PCBs) and acetone. These parameters are not in violation of the RGP limits. However, since these were

detected in the soils historic data, monitoring requirements and effluent limits have been included.

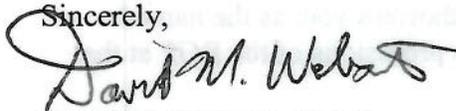
In addition please note that the metals included on the list are dilution dependent pollutants subject to limitations based on selected dilution ranges and technology-based ceiling limitations for facilities located in Massachusetts. With the absence of dilution of freshwater into tidal water, EPA determined that the Dilution Factor Range (DFR) for each parameter is in the one and five (1-5) range. (See Appendix IV of the RGP for Massachusetts facilities) Therefore, the limits for antimony of 5.6ug/L, arsenic of 36ug/L, copper of 43.7ug/L, lead of 8.5ug/L and iron of 1,000ug/L are required to achieve permit compliance at your site.

Finally, please note the list of pollutants attached to this authorization is subject to a recertification if the operations at the site result in a discharge lasting longer than six months. A recertification can be submitted to EPA within six (6) to twelve (12) months of operations in accordance with the 2010 RGP requirements.

This general permit and authorization to discharge will expire on September 9, 2015. You have reported that this project will terminate on June 1, 2013. If for any reason the discharge terminates sooner you are required to submit a Notice of Termination (NOT) to the attention of the contact person indicated below within 30 days of project completion.

Thank you in advance for your cooperation in this matter. Please contact Victor Alvarez at 617-918-1572 or Alvarez.Victor@epa.gov, if you have any questions.

Sincerely,



David M. Webster, Chief
Industrial Permits Branch

Enclosure

cc: Kathylene Keohane
William J. Burns, McPhail Associates, Inc.

**2010 Remediation General Permit
Summary of Monitoring Parameters¹¹**

NPDES Authorization Number:	MAG910483 – New
Authorization Issued:	May, 2011
Facility/Site Name:	Fan Pier Development LLC
Facility/Site Address:	Street, Suffolk County
	Email of owner: rmartini@falloncompany.com ; Phone n:6177374100
Legal Name of operator:	Fan Pier Development LLC
Operator contact name, title, and Address:	Richard Martin, Executive Vice President
	One Marina Park Drive Boston, MA 02210
	Same as the Owner
Estimated Date of Completion:	06/01/2013
Category and Sub-Category:	Category III. Contaminated Construction Dewatering. Subcategory A. Urban Fill Sites
Receiving Water:	Boston Inner Harbor

Monitoring & Limits are applicable if checked. All samples are to be collected as grab samples

	<u>Parameter</u>	<u>Effluent Limit/Method#/ML</u> (All Effluent Limits are shown as Daily Maximum Limit, unless denoted by a **, in that case it will be a Monthly Average Limit)
✓	1. Total Suspended Solids (TSS)	30 milligrams/liter (mg/l) **, 50 mg/l for hydrostatic testing **, Me#60.2/5mL
	2. Total Residual Chlorine (TRC) ¹	Freshwater = 11 ug/l ** Saltwater = 7.5 ug/l **/ Me#330.5/ML 20ug/L
	3. Total Petroleum Hydrocarbons (TPH)	5.0 mg/l/ Me# 1664A/5.0mg/LmL
✓	4. Cyanide (CN) ^{2, 3}	Freshwater = 5.2 ug/l ** Saltwater = 1.0 ug/l **/ Me#335.4/ML 5ug/L
	5. Benzene (B)	5ug/L /50.0 ug/l for hydrostatic testing only/ Me#8260C/ML 2 ug/L
	6. Toluene (T)	(limited as ug/L total BTEX)/ Me#8260C/ML 2ug/L
	7. Ethylbenzene (E)	(limited as ug/L total BTEX))/

	<u>Parameter</u>	<u>Effluent Limit/Method#/ML</u> (All Effluent Limits are shown as Daily Maximum Limit, unless denoted by a **, in that case it will be a Monthly Average Limit)
		Me#8260C/ ML 2ug/L
	8. (m,p,o) Xylenes (X)	(limited as ug/L total BTEX)/ Me#8260C/ ML 2ug/L
	9. Total Benzene, Toluene, Ethyl Benzene, and Xylenes (BTEX) ⁴	100 ug/l)/ Me#8260C/ ML 2ug/L
	10. Ethylene Dibromide (EDB) (1,2- Dibromoethane)	0.05 ug/l/ Me#8260C/ ML 10ug/L
	11. Methyl-tert-Butyl Ether (MtBE)	70.0 ug/l /Me#8260C/ ML 10ug/L
✓	12.tert-Butyl Alcohol (TBA) (TertiaryButanol)	Monitor Only (ug/L)/ Me#8260C/ ML 10ug/L
✓	13. tert-Amyl Methyl Ether (TAME)	Monitor Only (ug/L) /Me#8260C/ ML 10ug/L
	14. Naphthalene ⁵	20 ug/l /Me#8260C/ ML 2ug/L
	15. Carbon Tetrachloride	4.4 ug/l /Me#8260C/ ML 5ug/L
	16. 1,2 Dichlorobenzene (o-DCB)	600 ug/l /Me#8260C/ ML 5ug/L
	17. 1,3 Dichlorobenzene (m-DCB)	320 ug/l /Me#8260C/ ML 5ug/L
	18. 1,4 Dichlorobenzene (p-DCB)	5.0 ug/l /Me#8260C/ ML 5ug/L
	18a. Total dichlorobenzene	763 ug/l - NH only /Me#8260C/ ML5ug/L
	19. 1,1 Dichloroethane (DCA)	70 ug/l /Me#8260C/ ML 5ug/L
	20. 1,2 Dichloroethane (DCA)	5.0 ug/l /Me#8260C/ ML 5ug/L
	21. 1,1 Dichloroethene (DCE)	3.2 ug/l/Me#8260C/ ML 5ug/L
	22. cis-1,2 Dichloroethene (DCE)	70 ug/l /Me#8260C/ ML 5ug/L
	23. Methylene Chloride	4.6 ug/l/Me#8260C/ ML 5ug/L
	24. Tetrachloroethene (PCE)	5.0 ug/l /Me#8260C/ ML 5ug/L
	25. 1,1,1 Trichloro-ethane (TCA)	200 ug/l/Me#8260C/ ML 5ug/L
	26. 1,1,2 Trichloro-ethane (TCA)	5.0 ug/l /Me#8260C/ ML 5ug/L
	27. Trichloroethene (TCE)	5.0 ug/l /Me#8260C/ ML 5ug/L
	28. Vinyl Chloride (Chloroethene)	2.0 ug/l /Me#8260C/ ML 5ug/L
✓	29. Acetone	Monitor Only (ug/L) /Me#8260C/ ML 50ug/L
	30. 1,4 Dioxane	Monitor Only /Me#1624C/ML50 ug/L
	31. Total Phenols	300 ug/l Me#420.1&420.2/ML 2 ug/L/ Me# 420.4 /ML50 ug/L
✓	32. Pentachlorophenol (PCP)	1.0 ug/l /Me#8270D/ML5ug/L,Me#604 &625/ML10ug/L
	33. Total Phthalates (Phthalate esters) ⁶	3.0 ug/L ** /Me#8270D/ML5ug/L,Me#606/ML10ug/L&

	<u>Parameter</u>	<u>Effluent Limit/Method#/ML</u> (All Effluent Limits are shown as Daily Maximum Limit, unless denoted by a **, in that case it will be a Monthly Average Limit)
		Me#625/ML5ug/L
	34. Bis (2-Ethylhexyl) Phthalate [Di- (ethylhexyl) Phthalate]	6.0 ug/l /Me#8270D/ML5ug/L,Me#606/ML10ug/L& Me#625/ML5ug/L
✓	35. Total Group I Polycyclic Aromatic Hydrocarbons (PAH)	10.0 ug/l
✓	a. Benzo(a) Anthracene ⁷	0.0038 ug/l /Me#8270D/ ML5ug/L, Me#610/ML5ug/L& Me#625/ML5ug/L
	b. Benzo(a) Pyrene ⁷	0.0038 ug/l /Me#8270D/ ML5ug/L, Me#610/ML5ug/L& Me#625/ML5ug/L
	c. Benzo(b)Fluoranthene ⁷	0.0038 ug/l /Me#8270D/ ML5ug/L, Me#610/ML5ug/L& Me#625/ML5ug/L
	d. Benzo(k)Fluoranthene ⁷	0.0038 ug/l /Me#8270D/ ML5ug/L, Me#610/ML5ug/L& Me#625/ML5ug/L
	e. Chrysene ⁷	0.0038 ug/l /Me#8270D/ ML5ug/L, Me#610/ML5ug/L& Me#625/ML5ug/L
	f. Dibenzo(a,h)anthracene ⁷	0.0038 ug/l /Me#8270D/ ML5ug/L, Me#610/ML5ug/L& Me#625/ML5ug/L
	g. Indeno(1,2,3-cd) Pyrene ⁷	0.0038 ug/l /Me#8270D/ ML5ug/L, Me#610/ML5ug/L& Me#625/ML5ug/L
	36. Total Group II Polycyclic Aromatic Hydrocarbons (PAH)	100 ug/l
✓	h. Acenaphthene	X/Me#8270D/ML5ug/L,Me#610/ML5ug/L & Me#625/ML5ug/L
	i. Acenaphthylene	X/Me#8270D/ML5ug/L,Me#610/ML5ug/L & Me#625/ML5ug/L
	j. Anthracene	X/Me#8270D/ML5ug/L,Me#610/ML5ug/L & Me#625/ML5ug/L
	k. Benzo(ghi) Perylene	X/Me#8270D/ML5ug/L,Me#610/ML5ug/L & Me#625/ML5ug/L
✓	l. Fluoranthene	X/Me#8270D/ML5ug/L,Me#610/ML5ug/L & Me#625/ML5ug/L
✓	m. Fluorene	X/Me#8270D/ML5ug/L,Me#610/ML5ug/L & Me#625/ML5ug/L
	n. Naphthalene ⁵	20 ug/l / Me#8270D/ ML5ug/L, Me#610/ML5ug/L & Me#625/ML5ug/L
	o. Phenanthrene	X/Me#8270D/ML5ug/L,Me#610/ML5ug/L & Me#625/ML5ug/L
	p. Pyrene	X/Me#8270D/ML5ug/L,Me#610/ML5ug/L & Me#625/ML5ug/L
✓	37. Total Polychlorinated Biphenyls (PCBs) ^{8,9}	0.000064 ug/L / Me# 608/ ML 0.5 ug/L
✓	38. Chloride	Monitor only/Me# 300.0/ ML 0.1ug/L

	Metal parameter	Total Recoverable Metal Limit @ H¹⁰ = 50 mg/l CaCO₃ for discharges in Massachusetts (ug/l)¹¹	
			Saltwater
✓	39. Antimony	5.6/10mL	
✓	40. Arsenic **		36/20mL
	41. Cadmium **		8.9/10mL
	42. Chromium III (trivalent) **		100/15mL
	43. Chromium VI (hexavalent) **		50.3/10mL
✓	44. Copper **		3.7/15mL
✓	45. Lead **		8.5/20mL
	46. Mercury **		1.1/0.2mL
	47. Nickel **		8.2/20mL
	48. Selenium **		71/20mL
	49. Silver		2.2/10mL
✓	50. Zinc **		85.6/15mL
✓	51. Iron	1,000/20mL	

	Other Parameters	Limit
✓	52. Instantaneous Flow	Site specific in CFS
✓	53. Total Flow	Site specific in CFS
	54. pH Range for Class A & Class B Waters in MA	6.5-8.3; 1/Month/Grab ¹³
✓	55. pH Range for Class SA & Class SB Waters in MA	6.5-8.3; 1/Month/Grab ¹³
	56. pH Range for Class B Waters in NH	6.5-8; 1/Month/Grab ¹³
	57. Daily maximum temperature - Warm water fisheries	83°F; 1/Month/Grab ¹⁴
	58. Daily maximum temperature - Cold water fisheries	68°F; 1/Month/Grab ¹⁴
	59. Maximum Change in Temperature in MA - Any Class A water body	1.5°F; 1/Month/Grab ¹⁴
	60. Maximum Change in Temperature in MA - Any Class B water body- Warm Water	5°F; 1/Month/Grab ¹⁴
	61. Maximum Change in Temperature in MA - Any Class B water body - Cold water and Lakes/Ponds	3°F; 1/Month/Grab ¹⁴
	62. Maximum Change in Temperature in MA - Any Class SA water body - Coastal	1.5°F; 1/Month/Grab ¹⁴
	63. Maximum Change in Temperature in MA - Any Class SB water body - July to September	1.5°F; 1/Month/Grab ¹⁴
	64. Maximum Change in Temperature in MA -	4°F; 1/Month/Grab ¹⁴

Footnotes:

¹ Although the maximum values for TRC are 11ug/l and 7.5 ug/l for freshwater, and saltwater respectively, the compliance limits are equal to the minimum level (ML) of the test method used as listed in Appendix VI (i.e., Method 330.5, 20 ug/l).

² Limits for cyanide are based on EPA's water quality criteria expressed as micrograms per liter. There is currently no EPA approved test method for free cyanide. Therefore, total cyanide must be reported.

³ Although the maximum values for cyanide are 5.2 ug/l and 1.0 ug/l for freshwater and saltwater, respectively, the compliance limits are equal to the minimum level (ML) of the Method 335.4 as listed in Appendix VI (i.e., 10 ug/l).

⁴ BTEX = sum of Benzene, Toluene, Ethylbenzene, and total Xylenes.

⁵ Naphthalene can be reported as both a purgeable (VOC) and extractable (SVOC) organic compound. If both VOC and SVOC are analyzed, the highest value must be used unless the QC criteria for one of the analyses is not met. In such cases, the value from the analysis meeting the QC criteria must be used.

⁶ The sum of individual phthalate compounds(not including the #34, Bis (2-Ethylhexyl) Phthalate . The compliance limits are equal to the minimum level (ML) of the test method used as listed in Appendix VI.

Total values calculated for reporting on NOIs and discharge monitoring reports shall be calculated by adding the measured concentration of each constituent. If the measurement of a constituent is less than the ML, the permittee shall use a value of zero for that constituent. For each test, the permittee shall also attach the raw data for each constituent to the discharge monitoring report, including the minimum level and minimum detection level for the analysis.

⁷ Although the maximum value for the individual PAH compounds is 0.0038 ug/l, the compliance limits are equal to the minimum level (ML) of the test method used as listed in Appendix VI.

⁸ In the November 2002 WQC, EPA has revised the definition of Total PCBs for aquatic life as total PCBs is the sum of all homologue, all isomer, all congener, or all "Orochlor analyses."Total values calculated for reporting on NOIs and discharge monitoring reports shall be calculated by adding the measured concentration of each constituent. If the measure of a constituent is less than the ML, the permittee shall use a value of zero for that constituent. For each test, the permittee shall also attach the raw data for each constituent to the discharge monitoring report, including the minimum level and minimum detection level for the analysis.

⁹Although the maximum value for total PCBs is 0.000064 ug/l, the compliance limit is equal to the minimum level (ML) of the test method used as listed in Appendix VI (i.e., 0.5 ug/l for Method 608 or 0.00005 ug/l when Method 1668a is approved).

¹⁰ Hardness. Cadmium, Chromium III, Copper, Lead, Nickel, Silver, and Zinc are Hardness Dependent.

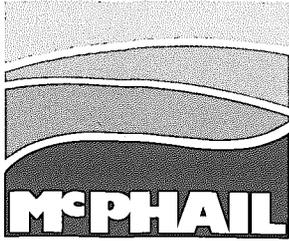
¹¹ For a Dilution Factor (DF) from 1 to 5, metals limits are calculated using DF times the base limit for the metal. See Appendix IV. For example, iron limits are calculated using DF x 1,000ug/L (the iron base limit). Therefore DF is 1.5, the iron limit will be 1,500 ug/L; DF 2, then iron limit =1,000 x 2 =2,000 ug/L., etc. not to exceed the DF=5.

¹² Minimum Level (ML) is the lowest level at which the analytical system gives a recognizable signal and acceptable calibration point for the analyte. The ML represents the lowest concentration at which an analyte can be measured with a

known level of confidence. The ML is calculated by multiplying the laboratory-determined method detection limit by 3.18 (see 40 CFR Part 136, Appendix B).

¹³ pH sampling for compliance with permit limits may be performed using field methods as provided for in EPA test Method 150.1.

¹⁴ Temperature sampling per Method 170.1



ASSOCIATES, INC

Geotechnical Engineers

**NOTICE OF INTENT FOR DISCHARGE
UNDER MASSACHUSETTS REMEDIAL
GENERAL PERMIT MAG910000**

**FAN PIER
PARCELS A AND B**

BOSTON MASSACHUSETTS

to

U.S. Environmental Protection Agency
and
Massachusetts Department of
Environmental Protection

April 25, 2011

Project No. 4426



Geotechnical Engineers

April 25, 2011

U.S Environmental Protection Agency
RGP-NOC Processing Municipal Assistance Unit (CMU)
1 Congress Street, Suite 1100
Boston, MA 02114-2023

Attention: RGP-NOC Processing

Reference: Fan Pier Parcels A and B; Boston, Massachusetts
Notice of Intent for Construction Dewatering Discharge Under Massachusetts
Remedial General Discharge MAG910000

Ladies and Gentlemen:

The purpose of this letter report is to provide a summary of the site and groundwater quality information in support of an application for permission from the U.S. Environmental Protection Agency (EPA) for the temporary discharge of groundwater into Boston's Inner Harbor during construction at the above referenced site. Refer to **Figure 1** Project Location Plan for the general site locus.

These services were performed and this permit application was prepared with the authorization of Fan Pier Development LLC. These services are subject to the limitations contained in **Attachment A**.

The Fan Pier development site is comprised of nine (9) individual parcels designated as A through I which occupy an approximate 21-acre site bounded by Boston Inner Harbor to the north, the John Joseph Moakley Federal Courthouse to the west, and a surface parking area to the east. With the exception of the recently completed Louis Boston building on Parcel D, the One Marina Park Drive building at Parcel F and the public green at Parcel G, the site is generally utilized as a surface parking lot. The Institute of Contemporary Art is located to the northeast of the Fan Pier site.

Parcel A occupies an approximate 60,000 square-foot rectangular plan area which fronts onto Northern Avenue to the south, and is bounded by Courthouse Way to the west, Fan Pier Parcel B to the north, and the recently constructed One Marina Park Drive building on Parcel F to the east, respectively. Parcel B occupies an approximate 65,000 square-foot rectangular plan area which fronts onto Courthouse Way to the west and is bounded by Fan Pier Parcels A, C and E to the south, north and east, respectively. Currently, both parcels are generally utilized as a surface parking lots. Existing ground surface across the site is relatively level varying from about Elevation +16 to +18. The limits of the subject site are shown on **Figure 2**, which is based on a plan entitled Subsurface Investigation Plan.

It is understood that the proposed development of Parcels A and B includes the construction of two (2) approximate 6- to 15-story towers both of which will be supported by three levels of below-grade parking. The below-grade garage will occupy the entire footprints of both Parcels A and B which equates to an approximate 465-foot by 540-foot rectangular plan area. The lowest level slab within the garage will be at about Elevation -15.5.

Parcel A of the subject site is listed with the Massachusetts Department of Environmental Protection (MA DEP) under Release Tracking Number (RTN) 3-19647 as a result of a release of PCBs to soil. In summary, the analysis of soil samples obtained from subsurface investigations previously completed by others at Parcel A detected reportable concentrations of PCBs in the fill material. The chemical testing recently completed by McPhail Associates, Inc. also indicated the presence of the COCs previously



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identified by others at depths generally below those addressed in the Method 3 Risk Characterization and Response Action Outcome for the MCP site. In addition, recent subsurface investigations performed by McPhail Associates, Inc. have detected reportable concentrations of PCBs and acetone in fill material at Parcel B.

Excavation within the proposed building footprint will extend to a depth of approximately 35 feet below the observed groundwater level. In order to permit construction of the below grade parking garage and provide an effective groundwater cut-off during construction, a continuously interlocking steel sheet pile wall will be installed just beyond the perimeter foundation walls of the structure. Hence, construction dewatering will be required within the groundwater cut-off area to allow the construction of the below-grade portion of the concrete slab and foundations. The majority of the anticipated dewatering will occur during excavation following the installation of the groundwater cut-off. Additional minor dewatering may occur during installation of the lowest elevation concrete slab and footings.

It is estimated that intermittent groundwater discharge required during the initial stages of the excavation phase of the construction will be on the order of 50 to 100 gallons per minute (GPM). The quantity of groundwater discharge is based on the relatively pervious nature of the upper portion of existing fill material and the presence of the sheet piling surrounding the excavation which will act as a groundwater cut-off. A reduction in the rate of discharge is anticipated to occur during excavation of the less permeable silty clay dredged fill deposit. A rate of discharge of 20 to 50 GPM is envisioned during this stage of excavation. These estimates of discharge do not include surface runoff which will be removed from the excavation during a limited duration of a rain storm and shortly thereafter.

Since the footprint of the proposed construction will occupy a majority of the Parcels' area and the groundwater cut-off wall will be installed at the perimeter of the site, temporary on-site collection and recharge of groundwater is not feasible. Therefore, construction dewatering will require the discharging of groundwater directly into Boston's Inner Harbor under the requested U.S. EPA Remediation General Permit (RGP).

The location of the discharge point into Boston Harbor with relation to the project site is indicated on **Figure 2** which is based on a drawing entitled "As-Built Plan" prepared by Nitsch Engineering, dated February 12, 2010.

Based on the results of groundwater chemical analyses, it is our opinion that a settling tank, bag filter and a cyanide treatment system will be required to settle out particulate matter and lower the elevated levels of cyanide in the water to meet allowable total suspended solids (TSS) and cyanide discharge limits established by the US EPA prior to discharge. The cyanide treatment system may include but is not limited to ion exchange, precipitation, coagulation and flocculation, adsorption and absorption. One settling tank 10,000-gallons in capacity, two bag filters and a cyanide treatment system will be incorporated into the discharge system in series in order to meet allowable discharge limits for TSS, cyanide and total metals established by the RGP. It is our opinion that the removal of sediment in conjunction with the cyanide treatment will also result in a reduction in total metals to levels below the RGP permit limits. A schematic of the treatment system is shown on **Figure 3**.

To document the effectiveness of the sedimentation and cyanide treatment system, samples of the discharge water will be obtained and tested for the presence of TSS, cyanide, and total metals prior to the start of discharge into the storm drain system. Should the pre-start up testing indicate that the levels of TSS, cyanide and/or total metals in the effluent from the treatment system exceed the limits established



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under the RGP, additional treatment of the effluent will be implemented prior to initial discharge.

Should the results of testing for cyanide and total metals continue to indicate an exceedance of the RGP limit concentrations appropriate treatment will be implemented to address the exceedances. In addition, should other contaminants be detected within the discharge water during the construction dewatering phase of the project at levels that exceed the effluent limitations, mitigative measures will be implemented to meet the allowable discharge limits.

In conclusion, it is our opinion that groundwater at the site is acceptable for discharge directly into Boston Harbor under a Remedial General Permit. Sampling and analysis of the effluent will be carried out in accordance with the terms of the Remedial General Permit.

Supplemental information appended to this letter in support of the RGP includes the following;

- Notice of Intent Transmittal Form for Permit Application (**Appendix B**)
- A summary of groundwater analysis (**Appendix C, Tables 1 and 2**);
- A review of Areas of Critical Concern and Endangered and Threatened Species (**Appendix D**);
- A review of National Historic Places (**Attachment E**); and
- Best Management Practice Plan (**Appendix F**)

We trust that the above satisfies your present requirements. Should you have any questions or comments concerning the above, please do not hesitate to contact us.

Very truly yours,

McPHAIL ASSOCIATES, INC.

A handwritten signature in black ink, appearing to read "William J. Burns".

William J. Burns

A handwritten signature in black ink, appearing to read "Ambrose J. Donovan".

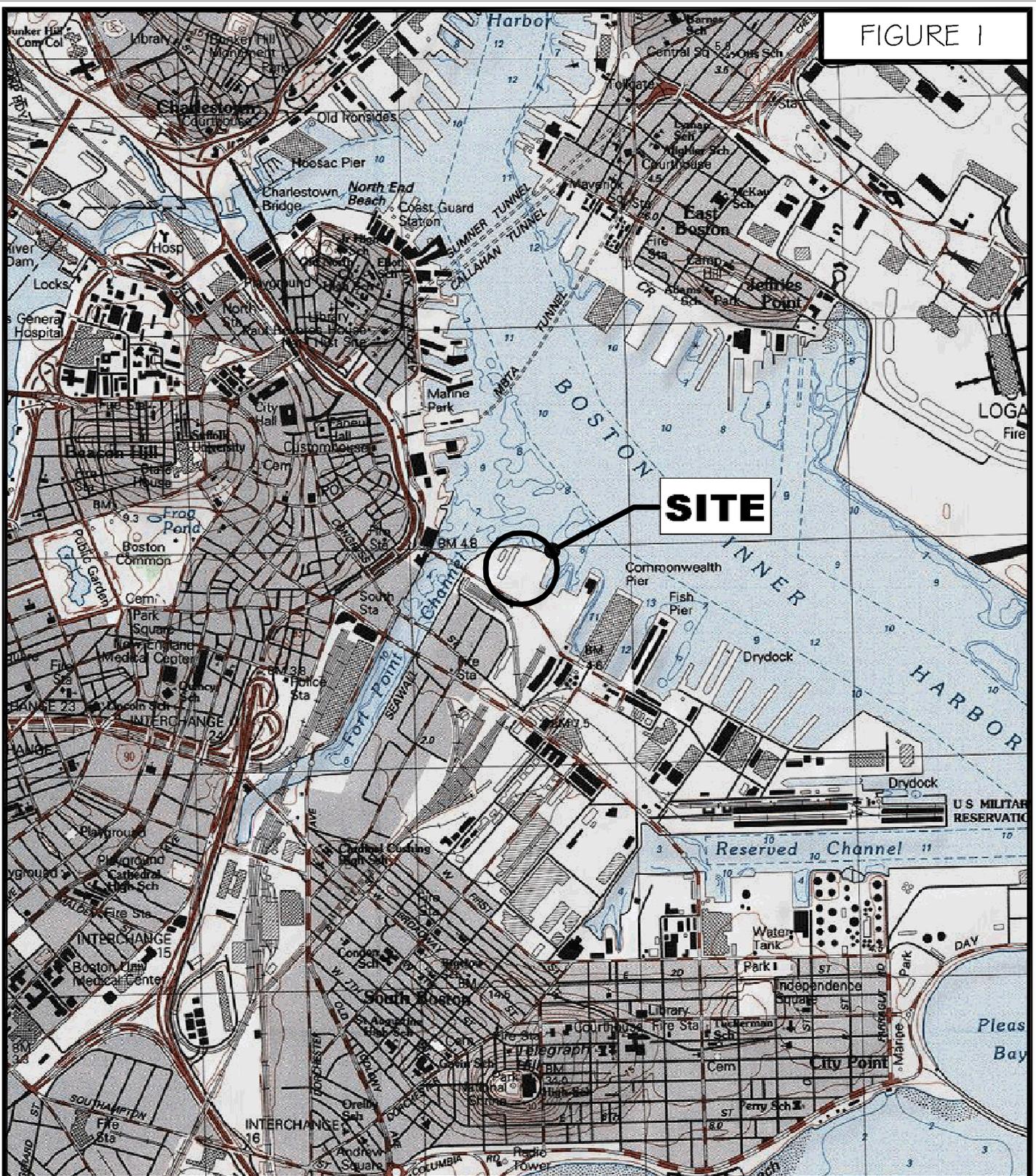
Ambrose J. Donovan, P.E., L.S.P.

Enclosures

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WJB/jwp/ajd

FIGURE 1



McPHAIL ASSOCIATES, INC.

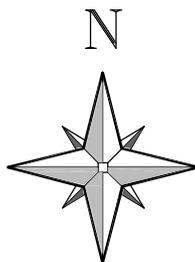
Geotechnical Engineers

2269 Massachusetts Avenue

Cambridge, MA 02140

617/868-1420

617/868-1423 (Fax)



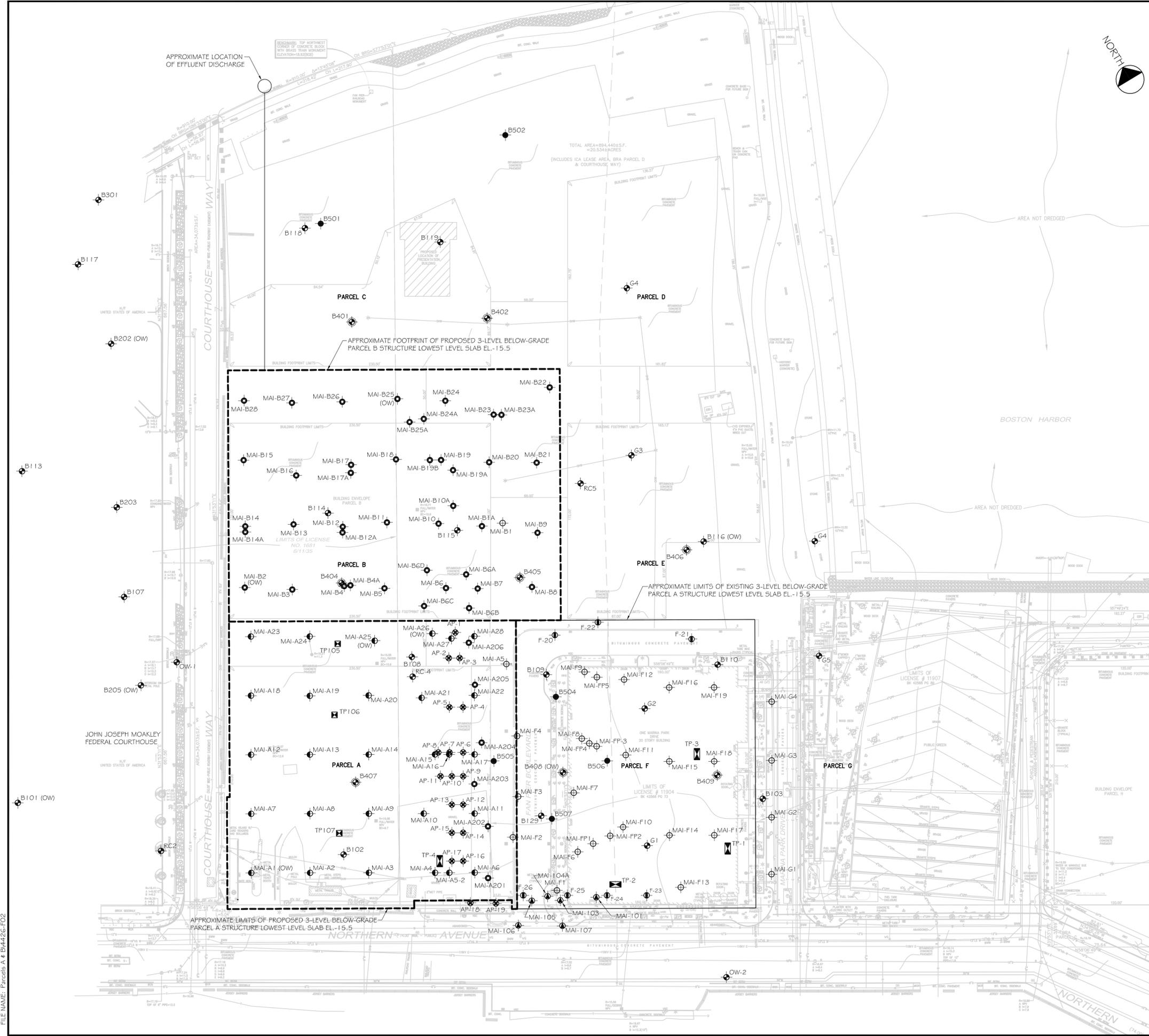
SCALE 1:25,000

PROJECT LOCATION PLAN

FAN PIER

BOSTON

MASSACHUSETTS



- LEGEND**
- APPROXIMATE LOCATION OF BOREHOLE PERFORMED BY CARR-DEE CORP. DURING 2008 FOR McPHAIL ASSOCIATES, INC.
 - APPROXIMATE LOCATION OF BOREHOLE PERFORMED BY CARR-DEE CORP. DURING 2006 OR 2007 FOR McPHAIL ASSOCIATES, INC.
 - APPROXIMATE LOCATION OF TEST PIT PERFORMED BY THE WELCH CORP. ON AUGUST 15, 2007 FOR McPHAIL ASSOCIATES, INC.
 - APPROXIMATE LOCATION OF BOREHOLE OR TEST PIT PERFORMED BY OTHERS
 - APPROXIMATE LOCATION OF BOREHOLE PERFORMED BY CARR-DEE CORP. DURING JANUARY AND FEBRUARY 2011 FOR McPHAIL ASSOCIATES, INC.
 - (OW) — INDICATES OBSERVATION WELL INSTALLED IN COMPLETED BOREHOLE

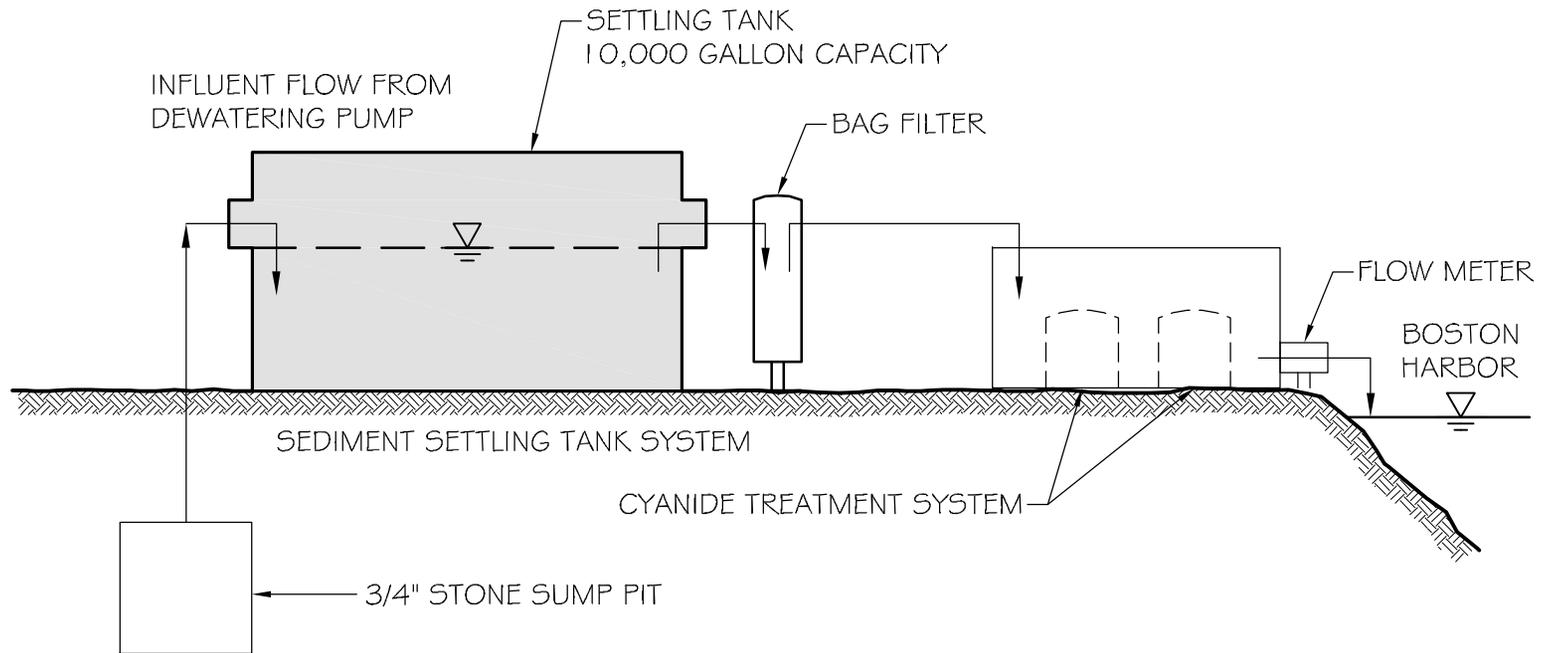
REFERENCE: THIS PLAN WAS PREPARED FROM A 20-SCALE DRAWING ENTITLED "AS-BUILT PLAN" DATED FEBRUARY 12, 2010 BY NITSCH ENGINEERING AND A 50-SCALE DRAWING ENTITLED "ELEVATION CONTOURS OF TOP NATURAL INORGANIC SOIL DATED MARCH 1, 2004 AND PREPARED BY HALEY AND ALDRICH, INC.



<p>McPHAIL ASSOCIATES, INC. Geotechnical Engineers 2269 Massachusetts Avenue Cambridge, MA 02140 617/868-1420 617/868-1423 (Fax)</p>	FAN PIER - PARCELS A AND B		
	BOSTON MASSACHUSETTS SUBSURFACE EXPLORATION PLAN FOR FAN PIER DEVELOPMENT LLC BY McPHAIL ASSOCIATES, INC. CONSULTING GEOTECHNICAL ENGINEERS		
Date: APRIL 2011	Dwn: M.B.S.	Chkd: W.J.B.	Scale: 1" = 40'
Project No: 4426			FIGURE 2

FILE NAME: Parcels A & B-4426-F02

FIGURE 3



 <p>McPHAIL ASSOCIATES, INC.</p> <p>Geotechnical Engineers</p> <p>2269 Massachusetts Avenue Cambridge, MA 02140 617/868-1420 617/868-1423 (Fax)</p>	FAN PIER - PARCELS A AND B		
	BOSTON	MASSACHUSETTS	
	SCHEMATIC OF WATER FLOW		
	FOR FAN PIER DEVELOPMENT LLC BY McPHAIL ASSOCIATES, INC. CONSULTING GEOTECHNICAL ENGINEERS		
Date: APRIL 2011	Dwn: M.B.S.	Chkd: W.J.B.	Scale: N.T.S.
Project No: 4426			



Geotechnical Engineers

ATTACHMENT A

LIMITATIONS

The purpose of this report is to present the results of testing of groundwater samples obtained from monitoring wells located at Fan Pier Parcels A and B in Boston, Massachusetts, in support of an application for approval of construction site dewatering discharge into surface waters of the Commonwealth of Massachusetts under EPA's Massachusetts Remedial General Permit MAG910000.

The observations were made under the conditions stated in this report. The conclusions presented above were based on these observations. If variations in the nature and extent of subsurface conditions between the widely spaced subsurface explorations become evident in the future, it will be necessary to re-evaluate the conclusions presented herein after performing on-site observations and noting the characteristics of any variations.

The conclusions submitted in this report are based in part upon chemical test data obtained from analysis of groundwater samples, and are contingent upon their validity. The data have been reviewed, and interpretations have been made in the text. It should also be noted that fluctuations in the types and levels of contaminants and variations in their flow paths may occur due to changes in seasonal water table, past practices used in disposal and other factors.

Chemical analyses have been performed for specific constituents during the course of this site assessment, as described in the text. However, it should be noted that additional chemical constituents not searched for during the current study may be present in soil and/or groundwater at the site.

This report and application have been prepared on behalf of and for the exclusive use of Fan Pier Development LLC. This report and the findings contained herein shall not, in whole or in part, be disseminated or conveyed to any other party nor used in whole or in part by any other party without prior written consent of McPhail Associates, Inc.



APPENDIX B

Notice of Intent Transmittal Form

B. Suggested Form for Notice of Intent (NOI) for the Remediation General Permit

1. General facility/site information. Please provide the following information about the site:

a) Name of facility/site : Fan Pier - Parcels A and B		Facility/site mailing address:			
Location of facility/site : longitude: -71.0457 latitude: 42.3535	Facility SIC code(s):	Street: 50 Northern Avenue			
b) Name of facility/site owner :		Town: Boston			
Email address of facility/site owner : rmartini@falloncompany.com		State: MA	Zip: 02210	County: Suffolk	
Telephone no. of facility/site owner : 617-737-4100		Owner is (check one): 1. Federal <input type="radio"/> 2. State/Tribal <input type="radio"/> 3. Private <input checked="" type="radio"/> 4. Other <input type="radio"/> if so, describe:			
Fax no. of facility/site owner : 617-737-4101					
Address of owner (if different from site):					
Street: One Marina Park Drive					
Town: Boston	State: MA	Zip: 02110	County: Suffolk		
c) Legal name of operator : Fan Pier Development LLC		Operator telephone no.: 617-737-4100			
		Operator fax no.: 617-737-4101	Operator email: rmartini@falloncompany.com		
Operator contact name and title: Mr. Richard Martini, Executive Vice President					
Address of operator (if different from owner):		Street:			
Town:	State:	Zip:	County:		

d) Check Y for “yes” or N for “no” for the following:
 1. Has a prior NPDES permit exclusion been granted for the discharge? Y N , if Y, number:
 2. Has a prior NPDES application (Form 1 & 2C) ever been filed for the discharge?
 Y N , if Y, date and tracking #:
 3. Is the discharge a “new discharge” as defined by 40 CFR 122.2? Y N
 4. For sites in Massachusetts, is the discharge covered under the Massachusetts Contingency Plan (MCP) and exempt from state permitting? Y N

e) Is site/facility subject to any State permitting, license, or other action which is causing the generation of discharge? Y N
 If Y, please list:
 1. site identification # assigned by the state of NH or MA:
 2. permit or license # assigned:
 3. state agency contact information: name, location, and telephone number:

f) Is the site/facility covered by any other EPA permit, including:
 1. Multi-Sector General Permit? Y N ,
 if Y, number:
 2. Final Dewatering General Permit? Y N ,
 if Y, number:
 3. EPA Construction General Permit? Y N ,
 if Y, number:
 4. Individual NPDES permit? Y N ,
 if Y, number:
 5. any other water quality related individual or general permit? Y
 N , if Y, number:

g) Is the site/facility located within or does it discharge to an Area of Critical Environmental Concern (ACEC)? Y N

h) Based on the facility/site information and any historical sampling data, identify the sub-category into which the potential discharge falls.

<u>Activity Category</u>	<u>Activity Sub-Category</u>
I - Petroleum Related Site Remediation	A. Gasoline Only Sites <input type="checkbox"/> B. Fuel Oils and Other Oil Sites (including Residential Non-Business Remediation Discharges) <input type="checkbox"/> C. Petroleum Sites with Additional Contamination <input type="checkbox"/>
II - Non Petroleum Site Remediation	A. Volatile Organic Compound (VOC) Only Sites <input type="checkbox"/> B. VOC Sites with Additional Contamination <input type="checkbox"/> C. Primarily Heavy Metal Sites <input type="checkbox"/>
III - Contaminated Construction Dewatering	A. General Urban Fill Sites <input checked="" type="checkbox"/> B. Known Contaminated Sites <input type="checkbox"/>

IV - Miscellaneous Related Discharges	A. Aquifer Pump Testing to Evaluate Formerly Contaminated Sites <input type="checkbox"/> B. Well Development/Rehabilitation at Contaminated/Formerly Contaminated Sites <input type="checkbox"/> C. Hydrostatic Testing of Pipelines and Tanks <input type="checkbox"/> D. Long-Term Remediation of Contaminated Sumps and Dikes <input type="checkbox"/> E. Short-term Contaminated Dredging Drain Back Waters (if not covered by 401/404 permit) <input type="checkbox"/>
---------------------------------------	---

2. Discharge information. Please provide information about the discharge, (attaching additional sheets as necessary) including:

a) Describe the discharge activities for which the owner/applicant is seeking coverage:	
Temporary construction dewatering of groundwater during the excavation of the building foundation	
b) Provide the following information about each discharge:	
1) Number of discharge points: <input type="text" value="1"/>	2) What is the maximum and average flow rate of discharge (in cubic feet per second, ft ³ /s)? Max. flow <input type="text" value="0.223"/> Is maximum flow a design value ? Y <input type="radio"/> N <input checked="" type="radio"/> Average flow (include units) <input type="text" value="0.078 ft3/s"/> Is average flow a design value or estimate? <input type="text" value="estimate"/>
3) Latitude and longitude of each discharge within 100 feet:	
pt.1: lat. <input type="text" value="42.35"/> long. <input type="text" value="-71.04"/>	pt.2: lat. <input type="text"/> long. <input type="text"/> ;
pt.3: lat. <input type="text"/> long. <input type="text"/>	pt.4: lat. <input type="text"/> long. <input type="text"/> ;
pt.5: lat. <input type="text"/> long. <input type="text"/>	pt.6: lat. <input type="text"/> long. <input type="text"/> ;
pt.7: lat. <input type="text"/> long. <input type="text"/>	pt.8: lat. <input type="text"/> long. <input type="text"/> ; etc.
4) If hydrostatic testing, total volume of the discharge (gals): <input type="text"/>	5) Is the discharge intermittent <input checked="" type="radio"/> or seasonal <input type="radio"/> ? Is discharge ongoing? Y <input type="radio"/> N <input type="radio"/>
c) Expected dates of discharge (mm/dd/yy): start <input type="text" value="06/01/2011"/> end <input type="text" value="06/01/2013"/>	
d) Please attach a line drawing or flow schematic showing water flow through the facility including: 1. sources of intake water. 2. contributing flow from the operation. 3. treatment units. and 4. discharge points and receiving waters(s). <input type="text" value="See attached report"/>	

3. Contaminant information.

a) Based on the sub-category selected (see Appendix III), indicate whether each listed chemical is **believed present** or **believed absent** in the potential discharge. Attach additional sheets as needed.

<u>Parameter *</u>	<u>CAS Number</u>	<u>Believed Absent</u>	<u>Believed Present</u>	<u># of Samples</u>	<u>Sample Type (e.g., grab)</u>	<u>Analytical Method Used (method #)</u>	<u>Minimum Level (ML) of Test Method</u>	<u>Maximum daily value</u>		<u>Average daily value</u>	
								<u>concentration (ug/l)</u>	<u>mass (kg)</u>	<u>concentration (ug/l)</u>	<u>mass (kg)</u>
1. Total Suspended Solids (TSS)		<input type="checkbox"/>	<input checked="" type="checkbox"/>	2	grab	30 2540D		32	6.144	32	6.144
2. Total Residual Chlorine (TRC)		<input checked="" type="checkbox"/>	<input type="checkbox"/>	2	grab	30 4500CL-D	20 ug/l	ND		ND	
3. Total Petroleum Hydrocarbons (TPH)		<input checked="" type="checkbox"/>	<input type="checkbox"/>	2	grab	74 1664A	4 mg/l	ND		ND	
4. Cyanide (CN)	57125	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2	grab	30 4500CN-CE	5 ug/l	6	0.001	4.25	0.00081
5. Benzene (B)	71432	<input checked="" type="checkbox"/>	<input type="checkbox"/>	2	grab	GC/MS 624	1 ug/l	ND		ND	
6. Toluene (T)	108883	<input checked="" type="checkbox"/>	<input type="checkbox"/>	2	grab	GC/MS 624	1 ug/l	ND		ND	
7. Ethylbenzene (E)	100414	<input checked="" type="checkbox"/>	<input type="checkbox"/>	2	grab	GC/MS 624	1 ug/l	ND		ND	
8. (m,p,o) Xylenes (X)	108883; 106423; 95476; 1330207	<input checked="" type="checkbox"/>	<input type="checkbox"/>	2	grab	GC/MS 624	2 ug/l	ND		ND	
9. Total BTEX ²	n/a	<input checked="" type="checkbox"/>	<input type="checkbox"/>	2	grab	GC/MS 624		ND		ND	
10. Ethylene Dibromide (EDB) (1,2-Dibromoethane) ³	106934	<input checked="" type="checkbox"/>	<input type="checkbox"/>	2	grab	GC 504.1	0.01 ug/l	ND		ND	
11. Methyl-tert-Butyl Ether (MtBE)	1634044	<input checked="" type="checkbox"/>	<input type="checkbox"/>	2	grab	GC/MS 624	20 ug/l	ND		ND	
12. tert-Butyl Alcohol (TBA) (Tertiary-Butanol)	75650	<input checked="" type="checkbox"/>	<input type="checkbox"/>	2	grab	GC/MS 624	100 ug/l	ND		ND	

* Numbering system is provided to allow cross-referencing to Effluent Limits and Monitoring Requirements by Sub-Category included in Appendix III, as well as the Test Methods and Minimum Levels associated with each parameter provided in Appendix VI.

² BTEX = Sum of Benzene, Toluene, Ethylbenzene, total Xylenes.

³ EDB is a groundwater contaminant at fuel spill and pesticide application sites in New England.

<u>Parameter *</u>	<u>CAS Number</u>	<u>Believed Absent</u>	<u>Believed Present</u>	<u># of Samples</u>	<u>Sample Type (e.g., grab)</u>	<u>Analytical Method Used (method #)</u>	<u>Minimum Level (ML) of Test Method</u>	<u>Maximum daily value</u>		<u>Average daily value</u>	
								<u>concentration (ug/l)</u>	<u>mass (kg)</u>	<u>concentration (ug/l)</u>	<u>mass (kg)</u>
13. tert-Amyl Methyl Ether (TAME)	9940508	<input checked="" type="checkbox"/>	<input type="checkbox"/>	2	grab	GC/MS 624	20 ug/l	ND		ND	
14. Naphthalene	91203	<input checked="" type="checkbox"/>	<input type="checkbox"/>	2	grab	GC/MS 624	0.2 ug/l	ND		ND	
15. Carbon Tetrachloride	56235	<input checked="" type="checkbox"/>	<input type="checkbox"/>	2	grab	GC/MS 624	1 ug/l	ND		ND	
16. 1,2 Dichlorobenzene (o-DCB)	95501	<input checked="" type="checkbox"/>	<input type="checkbox"/>	2	grab	GC/MS 624	5 ug/l	ND		ND	
17. 1,3 Dichlorobenzene (m-DCB)	541731	<input checked="" type="checkbox"/>	<input type="checkbox"/>	2	grab	GC/MS 624	5 ug/l	ND		ND	
18. 1,4 Dichlorobenzene (p-DCB)	106467	<input checked="" type="checkbox"/>	<input type="checkbox"/>	2	grab	GC/MS 624	5 ug/l	ND		ND	
18a. Total dichlorobenzene		<input checked="" type="checkbox"/>	<input type="checkbox"/>	2	grab	GC/MS 624		ND		ND	
19. 1,1 Dichloroethane (DCA)	75343	<input checked="" type="checkbox"/>	<input type="checkbox"/>	2	grab	GC/MS 624	1.5 ug/l	ND		ND	
20. 1,2 Dichloroethane (DCA)	107062	<input checked="" type="checkbox"/>	<input type="checkbox"/>	2	grab	GC/MS 624	1.5 ug/l	ND		ND	
21. 1,1 Dichloroethene (DCE)	75354	<input checked="" type="checkbox"/>	<input type="checkbox"/>	2	grab	GC/MS 624	1 ug/l	ND		ND	
22. cis-1,2 Dichloroethene (DCE)	156592	<input checked="" type="checkbox"/>	<input type="checkbox"/>	2	grab	GC/MS 624	1 ug/l	ND		ND	
23. Methylene Chloride	75092	<input checked="" type="checkbox"/>	<input type="checkbox"/>	2	grab	GC/MS 624	5 ug/l	ND		ND	
24. Tetrachloroethene (PCE)	127184	<input checked="" type="checkbox"/>	<input type="checkbox"/>	2	grab	GC/MS 624	1.5 ug/l	ND		ND	
25. 1,1,1 Trichloro-ethane (TCA)	71556	<input checked="" type="checkbox"/>	<input type="checkbox"/>	2	grab	GC/MS 624	2 ug/l	ND		ND	
26. 1,1,2 Trichloro-ethane (TCA)	79005	<input checked="" type="checkbox"/>	<input type="checkbox"/>	2	grab	GC/MS 624	1.5 ug/l	ND		ND	
27. Trichloroethene (TCE)	79016	<input checked="" type="checkbox"/>	<input type="checkbox"/>	2	grab	GC/MS 624	1 ug/l	ND		ND	

<u>Parameter *</u>	<u>CAS Number</u>	<u>Believed Absent</u>	<u>Believed Present</u>	<u># of Samples</u>	<u>Sample Type (e.g., grab)</u>	<u>Analytical Method Used (method #)</u>	<u>Minimum Level (ML) of Test Method</u>	<u>Maximum daily value</u>		<u>Average daily value</u>	
								<u>concentration (ug/l)</u>	<u>mass (kg)</u>	<u>concentration (ug/l)</u>	<u>mass (kg)</u>
28. Vinyl Chloride (Chloroethene)	75014	<input checked="" type="checkbox"/>	<input type="checkbox"/>	2	grab	GC/MS 624	2 ug/l	ND		ND	
29. Acetone	67641	<input checked="" type="checkbox"/>	<input type="checkbox"/>	2	grab	GC/MS 624	10 ug/l	ND		ND	
30. 1,4 Dioxane	123911	<input checked="" type="checkbox"/>	<input type="checkbox"/>	2	grab	GC/MS 624	2000 ug/l	ND		ND	
31. Total Phenols	108952	<input checked="" type="checkbox"/>	<input type="checkbox"/>	2	grab	420.1	30 ug/l	ND		ND	
32. Pentachlorophenol (PCP)	87865	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2	grab	GC/MS 8270- +	0.8 ug/l	0.84	0.00016	0.62	0.00012
33. Total Phthalates (Phthalate esters) ⁴		<input checked="" type="checkbox"/>	<input type="checkbox"/>	2	grab	GC/MS 8270C +		ND		ND	
34. Bis (2-Ethylhexyl) Phthalate [Di-(ethylhexyl) Phthalate]	117817	<input checked="" type="checkbox"/>	<input type="checkbox"/>	2	grab	GC/MS 8270C +	2 ug/l	ND		ND	
35. Total Group I Polycyclic Aromatic Hydrocarbons (PAH)		<input type="checkbox"/>	<input checked="" type="checkbox"/>	2	grab	GC/MS 8270C +		0.29		0.195	
a. Benzo(a) Anthracene	56553	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2	grab	GC/MS 8270-SIM	0.2 ug/l	0.29	0.00006	0.195	0.00004
b. Benzo(a) Pyrene	50328	<input checked="" type="checkbox"/>	<input type="checkbox"/>	2	grab	GC/MS 8270-SIM	0.2 ug/l	ND		ND	
c. Benzo(b)Fluoranthene	205992	<input checked="" type="checkbox"/>	<input type="checkbox"/>	2	grab	GC/MS 8270- +	0.2 ug/l	ND		ND	
d. Benzo(k)Fluoranthene	207089	<input checked="" type="checkbox"/>	<input type="checkbox"/>	2	grab	GC/MS 8270- +	0.2 ug/l	ND		ND	
e. Chrysene	21801	<input checked="" type="checkbox"/>	<input type="checkbox"/>	2	grab	GC/MS 8270-SIM	0.2 ug/l	ND		ND	
f. Dibenzo(a,h)anthracene	53703	<input checked="" type="checkbox"/>	<input type="checkbox"/>	2	grab	GC/MS 8270- +	0.2 ug/l	ND		ND	
g. Indeno(1,2,3-cd) Pyrene	193395	<input checked="" type="checkbox"/>	<input type="checkbox"/>	2	grab	GC/MS 8270- +	0.2 ug/l	ND		ND	
36. Total Group II Polycyclic Aromatic Hydrocarbons (PAH)		<input type="checkbox"/>	<input type="checkbox"/>	2	grab	GC/MS 8270- +		1.65		1.025	

⁴ The sum of individual phthalate compounds.

<u>Parameter *</u>	<u>CAS Number</u>	<u>Believed Absent</u>	<u>Believed Present</u>	<u># of Samples</u>	<u>Sample Type (e.g., grab)</u>	<u>Analytical Method Used (method #)</u>	<u>Minimum Level (ML) of Test Method</u>	<u>Maximum daily value</u>		<u>Average daily value</u>	
								<u>concentration (ug/l)</u>	<u>mass (kg)</u>	<u>concentration (ug/l)</u>	<u>mass (kg)</u>
h. Acenaphthene	83329	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2	grab	GC/MS 8270-SIM	0.2 ug/l	0.5	0.0001	0.3	0.00006
i. Acenaphthylene	208968	<input checked="" type="checkbox"/>	<input type="checkbox"/>	2	grab	GC/MS 8270-SIM	0.2 ug/l	ND		ND	
j. Anthracene	120127	<input checked="" type="checkbox"/>	<input type="checkbox"/>	2	grab	GC/MS 8270-SIM	0.2 ug/l	ND		ND	
k. Benzo(ghi) Perylene	191242	<input checked="" type="checkbox"/>	<input type="checkbox"/>	2	grab	GC/MS 8270-SIM	0.2 ug/l	ND		ND	
l. Fluoranthene	206440	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2	grab	GC/MS 8270-SIM	0.2 ug/l	0.27	0.00005	0.185	0.00004
m. Fluorene	86737	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2	grab	GC/MS 8270-SIM	0.2 ug/l	0.28	0.00005	0.19	0.00004
n. Naphthalene	91203	<input checked="" type="checkbox"/>	<input type="checkbox"/>	2	grab	GC/MS 8270-SIM	0.2 ug/l	ND		ND	
o. Phenanthrene	85018	<input type="checkbox"/>	<input type="checkbox"/>	2	grab	GC/MS 8270-SIM	0.2 ug/l	0.6	0.00011	0.35	0.00007
p. Pyrene	129000	<input type="checkbox"/>	<input type="checkbox"/>	2	grab	GC/MS 8270-SIM	0.2 ug/l	ND		ND	
37. Total Polychlorinated Biphenyls (PCBs)	85687; 84742; 117840; 84662; 131113; 117817.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	2	grab	GC 608	0.5 ug/l	ND		ND	
38. Chloride	16887006	<input checked="" type="checkbox"/>	<input type="checkbox"/>								
39. Antimony	7440360	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2	grab	6020	10.0 ug/l	11.1	0.00212	8.05	0.00155
40. Arsenic	7440382	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2	grab	6020	10 ug/l	11.2	0.002	8.1	0.00155
41. Cadmium	7440439	<input checked="" type="checkbox"/>	<input type="checkbox"/>	2	grab	6020	4 ug/l	ND		ND	
42. Chromium III (trivalent)	16065831	<input checked="" type="checkbox"/>	<input type="checkbox"/>	2	grab	6020	10 ug/l	ND		ND	
43. Chromium VI (hexavalent)	18540299	<input checked="" type="checkbox"/>	<input type="checkbox"/>	2	grab	3500CR-D	10 ug/l	ND		ND	
44. Copper	7440508	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2	grab	6020		16.8	0.003	14.6	0.00279
45. Lead	7439921	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2	grab	6020	10 ug/l	18.8	0.004	11.9	0.00227
46. Mercury	7439976	<input checked="" type="checkbox"/>	<input type="checkbox"/>	2	grab	6020	0.2 ug/l	ND		ND	
47. Nickel	7440020	<input checked="" type="checkbox"/>	<input type="checkbox"/>	2	grab	6020	10 ug/l	ND		ND	
48. Selenium	7782492	<input checked="" type="checkbox"/>	<input type="checkbox"/>	2	grab	6020	20 ug/l	ND		ND	
49. Silver	7440224	<input checked="" type="checkbox"/>	<input type="checkbox"/>	2	grab	6020	8 ug/l	ND		ND	
50. Zinc	7440666	<input checked="" type="checkbox"/>	<input type="checkbox"/>	2	grab	6020	100 ug/l	ND		ND	
51. Iron	7439896	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2	grab	6020		28000	5.35	22500	4.298
Other (describe):		<input type="checkbox"/>	<input type="checkbox"/>								

Parameter *	CAS Number	Believed Absent	Believed Present	# of Samples	Sample Type (e.g., grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method	Maximum daily value		Average daily value	
								concentration (ug/l)	mass (kg)	concentration (ug/l)	mass (kg)
		<input type="checkbox"/>	<input type="checkbox"/>								
		<input type="checkbox"/>	<input type="checkbox"/>								

b) For discharges where **metals** are believed present, please fill out the following (attach results of any calculations):

<p><i>Step 1:</i> Do any of the metals in the influent exceed the effluent limits in Appendix III (i.e., the limits set at zero dilution)? Y <input checked="" type="radio"/> N <input type="radio"/></p>	<p>If yes, which metals? Antimony, Copper, Lead, Iron</p>										
<p><i>Step 2:</i> For any metals which exceed the Appendix III limits, calculate the dilution factor (DF) using the formula in Part I.A.3.c (step 2) of the NOI instructions or as determined by the State prior to the submission of this NOI. What is the dilution factor for applicable metals?</p> <table border="1" style="width: 100%;"> <tr> <td>Metal: Antimony</td> <td>DF: 0</td> </tr> <tr> <td>Metal: Copper</td> <td>DF: 0</td> </tr> <tr> <td>Metal: Iron</td> <td>DF: 0</td> </tr> <tr> <td>Metal: Lead</td> <td>DF: 0</td> </tr> <tr> <td>Etc.</td> <td></td> </tr> </table>	Metal: Antimony	DF: 0	Metal: Copper	DF: 0	Metal: Iron	DF: 0	Metal: Lead	DF: 0	Etc.		<p>Look up the limit calculated at the corresponding dilution factor in Appendix IV. Do any of the metals in the influent have the potential to exceed the corresponding effluent limits in Appendix IV (i.e., is the influent concentration above the limit set at the calculated dilution factor)? Y <input checked="" type="radio"/> N <input type="radio"/> If Y, list which metals: Antimony, Copper, Lead, Iron</p>
Metal: Antimony	DF: 0										
Metal: Copper	DF: 0										
Metal: Iron	DF: 0										
Metal: Lead	DF: 0										
Etc.											

4. Treatment system information. Please describe the treatment system using separate sheets as necessary, including:

a) A description of the treatment system, including a schematic of the proposed or existing treatment system:						
A 10,000-gallon capacity settling tank, with bag filter and ion exchange system/cyanide treatment system in series						
b) Identify each applicable treatment unit (check all that apply):	Frac. tank <input checked="" type="checkbox"/>	Air stripper <input type="checkbox"/>	Oil/water separator <input type="checkbox"/>	Equalization tanks <input type="checkbox"/>	Bag filter <input checked="" type="checkbox"/>	GAC filter <input type="checkbox"/>
	Chlorination <input type="checkbox"/>	De-chlorination <input type="checkbox"/>	Other (please describe):	Ionization exchange/treatment for Cyanide		

c) Proposed **average** and **maximum flow rates** (gallons per minute) for the discharge and the **design flow rate(s)** (gallons per minute) of the treatment system:
 Average flow rate of discharge gpm Maximum flow rate of treatment system gpm
 Design flow rate of treatment system gpm

d) A description of chemical additives being used or planned to be used (attach MSDS sheets):

5. Receiving surface water(s). Please provide information about the receiving water(s), using separate sheets as necessary:

a) Identify the discharge pathway:	Direct to receiving water <input checked="" type="checkbox"/>	Within facility (sewer) <input type="checkbox"/>	Storm drain <input type="checkbox"/>	Wetlands <input type="checkbox"/>	Other (describe): <input style="width: 95%; height: 20px;" type="text"/>
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b) Provide a narrative description of the discharge pathway, including the name(s) of the receiving waters:

c) Attach a detailed map(s) indicating the site location and location of the outfall to the receiving water:
 1. For multiple discharges, number the discharges sequentially.
 2. For indirect dischargers, indicate the location of the discharge to the indirect conveyance and the discharge to surface water
 The map should also include the location and distance to the nearest sanitary sewer as well as the locus of nearby sensitive receptors (based on USGS topographical mapping), such as surface waters, drinking water supplies, and wetland areas.

d) Provide the state water quality classification of the receiving water

e) Provide the reported or calculated seven day-ten year low flow (7Q10) of the receiving water cfs
 Please attach any calculation sheets used to support stream flow and dilution calculations.

f) Is the receiving water a listed 303(d) water quality impaired or limited water? Y N If yes, for which pollutant(s)?
 Pathogens, Priority Pollutants
 Is there a final TMDL? Y N If yes, for which pollutant(s)?

6. ESA and NHPA Eligibility.

Please provide the following information according to requirements of Permit Parts I.A.4 and I.A.5 Appendices II and VII.

<p>a) Using the instructions in Appendix VII and information on Appendix II, under which criterion listed in Part I.C are you eligible for coverage under this general permit? A <input checked="" type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E <input type="radio"/> F <input type="radio"/></p> <p>b) If you selected Criterion D or F, has consultation with the federal services been completed? Y <input type="radio"/> N <input type="radio"/> Underway <input type="radio"/></p> <p>c) If consultation with U.S. Fish and Wildlife Service and/or NOAA Fisheries Service was completed, was a written concurrence finding that the discharge is “not likely to adversely affect” listed species or critical habitat received? Y <input type="radio"/> N <input type="radio"/></p> <p>d) Attach documentation of ESA eligibility as described in the NOI instructions and required by Appendix VII, Part I.C, Step 4.</p>
<p>e) Using the instructions in Appendix VII, under which criterion listed in Part II.C are you eligible for coverage under this general permit? 1 <input type="radio"/> 2 <input checked="" type="radio"/> 3 <input type="radio"/></p> <p>f) If Criterion 3 was selected, attach all written correspondence with the State or Tribal historic preservation officers, including any terms and conditions that outline measures the applicant must follow to mitigate or prevent adverse effects due to activities regulated by the RGP.</p>

7. Supplemental information.

<p>Please provide any supplemental information. Attach any analytical data used to support the application. Attach any certification(s) required by the general permit.</p>
<p>See attached report.</p>

8. Signature Requirements: The Notice of Intent must be signed by the operator in accordance with the signatory requirements of 40 CFR Section 122.22, including the following certification:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, I certify that the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I certify that I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Facility/Site Name:	Fan Pier Parcels A and B
Operator signature:	
Printed Name & Title:	Richard Martini - Excecutive Vice President
Date:	4/19/11



Geotechnical Engineers

APPENDIX C

RESULTS OF GROUNDWATER ANALYSIS

On August 29, 2008, a representative of McPhail Associates, Inc. obtained groundwater samples from groundwater monitoring wells MAI-A1(OW) and MAI-A25(OW) located on Parcel A. The groundwater samples did not exhibit the presence of a sheen or other visual or olfactory evidence of petroleum contamination. The samples were sent to a certified laboratory and chemically analyzed for the presence of compounds required under the RGP application, including pH, total suspended solids (TSS), total residual chlorine, total petroleum hydrocarbons (TPH), cyanide, volatile organic compounds (VOCs) including total benzene, toluene, ethylbenzene and xylenes (BTEX), poly-aromatic hydrocarbons (PAHs) and semi-volatile organic compounds (SVOCs) including total phenols and total phthalates, pesticides and PCBs, and total recoverable metals. The location of the groundwater monitoring wells is shown on **Figure 2**. The results of the August 2008 analysis are summarized in **Table 1**.

In summary, with the exception of copper, nickel, and iron, the analytical results of both groundwater samples did not indicate the presence of the above mentioned compounds at concentrations which exceed the effluent limits established by RGP Permit for the discharge into a saltwater body.

Results for copper, nickel and iron were 11.0 micrograms per liter (ug/l), 13.1 ug/l and 13,000 ug/l, respectively. The RGP limits for these compounds are 3.7 ug/l, 8.2 ug/l, and 1,000 ug/l, respectively. Therefore, levels of copper, lead and iron are in excess of the RGP limits. Given that elevated levels of TSS were detected in the samples, the concentrations of copper, nickel and iron were considered attributable to the presence of soil particles in the tested samples.

On February 9, 2011, a representative of McPhail Associates, Inc. obtained groundwater samples from groundwater monitoring wells MA7-A1(OW) and MA7-B25(OW) located on Parcels A and B, respectively. The groundwater samples did not exhibit the presence of a sheen or other visual or olfactory evidence of petroleum contamination. The samples were sent to a certified laboratory and chemically analyzed for the presence of compounds required under the RGP application of which are listed above. The location of the groundwater monitoring wells is shown on **Figure 2**.

Chemical test results are summarized in **Table 2** and laboratory data is attached. The results of chemical testing indicate the following:

1. **pH:** The tested samples exhibited a level of 6.9 and 7.1 Standard Units (S.U.). The recommended range for pH discharge is 6.5 to 8.5 S.U.



Geotechnical Engineers

2. **TSS:** Both of the tested samples exhibited a concentration of TSS at 32 milligrams per liter (mg/l). The limit established by the US EPA for discharge into surface water is 30 mg/l. The detected levels of TSS are considered to be attributable to the disturbance of suspended solids in the monitoring wells during development of the well and subsequent sampling. However, it should be noted that groundwater will be pre-treated by passing the influent through a 10,000 gallon settling tank and a bag filter prior to discharge in order to reduce the concentration of TSS in the effluent.
3. **VOCs:** The groundwater samples indicated no detected levels of any of the target VOCs, including BTEX.
4. **TPH:** Chemical analysis of the groundwater samples indicated no detectable levels of TPH.
5. **PAHs and SVOCs:** The results of the analysis indicated the presence of pentachlorophenol at a concentration of 0.84 ug/l which is below the RGP effluent limit of 1 ug/l. The laboratory reported no detectable levels of the remaining Group I PAHs, total phenols, no bis(2-ethylhexyl)phthalate and total phthalates. However, Group II PAHs; acenaphthene, fluoranthene, flourene, and phenanthrene were detected at concentrations of 0.5 ug/l, 0.27 ug/l, 0.28 ug/l, and 0.6 ug/l, respectively. In summary, the total detected level of 1.65 ug/l for the Group II PAHs is below the RGP limit for discharge into salt water.
6. **PCBs:** The laboratory results indicated no detectable levels of PCBs.
7. **Cyanide:** Cyanide was detected at a concentration of 6 ug/l which exceeds the RGP effluent limit of 1 ug/l. As a result of the exceed level, a system designed to treat cyanide contaminated water which may include but is not limited to ion exchange, precipitation and flocculation, and absorption will be implemented prior to discharge.
8. **Total Metals:** The laboratory reported no detectable levels of cadmium, chromium III, chromium VI, mercury, nickel, silver and zinc. A level of arsenic was reported at maximum concentration of 11.2 ug/l which is below RGP permit limit of 36 ug/l for discharge to salt water.

Results for antimony, copper, lead and iron were 11.1 ug/l, 16.8 ug/l, 18.8 ug/l and 28,000 ug/l, respectively. The RGP limits for these compounds are 5.6 ug/l, 3.7 ug/l, 8.5 ug/l and 1,000 ug/l, respectively. Therefore, levels of copper, lead and iron are in excess of the RGP limits for discharge into salt water.

The results of chemical analysis for the total metals in conjunction with the elevated level of Total Suspended Solids in both samples, suggest that the elevated levels of total antimony, copper, lead and iron are attributable to the presence of soil particles in the tested sample. As noted above, TSS reduction measures to the groundwater will be implemented prior to discharge to reduce the concentration of TSS and thus the antimony, copper, lead and iron concentration in the effluent.

TABLE 1
Analytical Results-Groundwater
August 27, 2008

Fan Pier-Parcel A
 Boston, Massachusetts
 Project No. 4426

Sample ID		RGP Limits	Units	Methods per EPA	Methods per Alpha (for DLs)	Sample Type	MAI-A1(ow)	MAI-A25(ow)
Date Sampled	27-Aug-08						27-Aug-08	
Lab ID							L0711511-01	L0711511-02
1	TSS	30.0	mg/L	160.2	160.2	grab	18	430
	pH (Class SA & SB Waters)	6.5-8.5	S.U.	150.1	150.1	grab	6.4	7.6
2	Total Residual Chlorine	7.5	ug/L	330.5	330.1	grab	ND [20]	ND [20]
3	TPH	5.0	mg/L	1664	1664	grab	ND [4]	ND [4.4]
4	Cyanide	1.0	ug/L	335.4	335.2	grab	ND [5.0]	ND [5.0]
5	Benzene	5.0	ug/L	8260	624	grab	ND [1]	ND [1]
6	Toluene	Total BTEX	ug/L	624/8260C	624	grab	ND [1]	ND [1]
7	Ethylbenzene	Total BTEX	ug/L	624/8260C	624	grab	ND [1]	ND [1]
8	Total Xylenes	Total BTEX	ug/L	624/8260C	624	grab	ND [2]	ND [2]
9	Total BTEX	100.0	ug/L			grab	ND	ND
10	Ethylene Dibromide (1,2-Dibromoethane)	0.05	ug/L	504.1/8260C	504.1	grab	ND [0.019]	ND [0.019]
11	MTBE	70.0	ug/L	524.2/8260C	624	grab	ND [20]	ND [20]
12	tert-Butyl Alcohol	Monitor only	ug/L	8260C	624	grab	ND [100]	ND [100]
13	tert-Amyl Methyl Ether	Monitor only	ug/L	602/8260C	624	grab	ND [20]	ND [20]
14	Naphthalene	20	ug/L	625/8270D	624	grab	ND [4.9]	ND [4.9]
15	Carbon Tetrachloride	4.4	ug/L	8260	624	grab	ND [1]	ND [1]
16	1,4 Dichlorobenzene	5.0	ug/L	8260	624	grab	ND [5]	ND [5]
17	1,2 Dichlorobenzene	600	ug/L	8260	624	grab	ND [5]	ND [5]
18	1,3 Dichlorobenzene	320	ug/L	8260	624	grab	ND [5]	ND [5]
19	1,1 Dichloroethane	70	ug/L	8260	624	grab	ND [1.5]	ND [1.5]
20	1,2 Dichloroethane	5.0	ug/L	8260	624	grab	ND [1.5]	ND [1.5]
21	1,1 Dichloroethylene	3.2	ug/L	8260	624	grab	ND [1]	ND [1]
22	cis-1,2 Dichloroethylene	70	ug/L	8260	624	grab	ND [1]	ND [1]
23	Dichloromethane (Methylene Chloride)	4.6	ug/L	8260	624	grab	ND [5]	ND [5]
24	Tetrachloroethylene	5.0	ug/L	8260	624	grab	ND [1.5]	ND [1.5]
25	1,1,1 Trichloroethane	300	ug/L	8260	624	grab	ND [2]	ND [2]
26	1,1,2 Trichloroethane	5.0	ug/L	8260	624	grab	ND [1.5]	ND [1.5]
27	Trichloroethylene	5.0	ug/L	8260	624	grab	ND [1]	ND [1]
28	Vinyl Chloride	2.0	ug/L	8260	624	grab	ND [2]	ND [2]
29	Acetone	Monitor only	ug/L	8260	624	grab	ND [10]	ND [10]
30	1,4 Dioxane	Monitor only	ug/L	8260	624	grab	ND [2,000]	ND [2,000]
31	total Phenols	300	ug/L	625/8270D	420.1	grab	ND [30]	ND
32	Pentachlorophenol	1.0	ug/L	625/8270D	8270	grab	ND [0.78]	ND [0.78]
33	Total Phthalates (phtalate esthers)	3.0	ug/L	625/8270D	8270	grab	ND	ND
34	Bis (2-Ethylhexyl) Phthalate	6.0	ug/L	625/8270D	8270	grab	ND [9.8]	ND [9.8]
35	Total Group I PAH	10	ug/L			grab	ND	ND
a	Benzo(a)anthracene	0.0038	ug/L	625/8270D	8270-SIM	grab	ND [0.2]	ND [0.2]
b	Benzo(a)pyrene	0.0038	ug/L	625/8270D	8270-SIM	grab	ND [0.2]	ND [0.2]
c	Benzo(b)fluoranthene	0.0038	ug/L	625/8270D	8270-SIM	grab	ND [0.2]	ND [0.2]
d	Benzo(k)fluoranthene	0.0038	ug/L	625/8270D	8270-SIM	grab	ND [0.2]	ND [0.2]
e	Chrysene	0.0038	ug/L	625/8270D	8270-SIM	grab	ND [0.2]	ND [0.2]
f	Dibenzo(a,h)anthracene	0.0038	ug/L	625/8270D	8270-SIM	grab	ND [0.2]	ND [0.2]
g	Indeno (1,2,3-cd)pyrene	0.0038	ug/L	625/8270D	8270-SIM	grab	ND [0.2]	ND [0.2]
36	Total Group II PAH	100	ug/L			grab	ND	0.78
h	Acenaphthene	Total Group II PAH	ug/L	625/8270D	8270-SIM	grab	ND [0.2]	ND [0.2]
i	Acenaphthylene	Total Group II PAH	ug/L	625/8270D	8270-SIM	grab	ND [0.2]	ND [0.2]
j	Anthracene	Total Group II PAH	ug/L	625/8270D	8270-SIM	grab	ND [0.2]	ND [0.2]
k	Benzo(ghi)perylene	Total Group II PAH	ug/L	625/8270D	8270-SIM	grab	ND [0.2]	ND [0.2]
l	Fluoranthene	Total Group II PAH	ug/L	625/8270D	8270-SIM	grab	ND [0.2]	0.45
m	Fluorene	Total Group II PAH	ug/L	625/8270D	8270-SIM	grab	ND [0.2]	ND [0.2]
n	naphthalene	Total Group II PAH	ug/L	625/8270D	8270-SIM	grab	ND [0.2]	ND [0.2]
o	Phenanthrene	Total Group II PAH	ug/L	625/8270D	8270-SIM	grab	ND [0.2]	ND [0.2]
p	Pyrene	Total Group II PAH	ug/L	625/8270D	8270-SIM	grab	ND [0.2]	0.33
37	Total PCBs	0.000064	ug/L		608	grab	ND [0.255]	ND [1.02]
Total Recoverable Metal Limits		H= 50 mg/l CaCO3						
38	Antimony	5.6	ug/L			grab	ND [0.5]	ND [0.5]
39	Arsenic (salt water)	36	ug/L		200.7	grab	3.6	8.4
40	Cadmium (salt water)	8.9	ug/L		GFAA	grab	ND [0.2]	ND [1.0]
41	Chromium III (salt water)	100	ug/L		200.7	grab	ND [10]	24
42	Chromium VI (salt water)	50.3	ug/L		200.7	grab	ND [10]	ND [0.5]
43	Copper (salt water)	3.7	ug/L		200.7	grab	7	11
44	Lead (salt water)	8.5	ug/L		GFAA	grab	1.1	7.2
46	Mercury (salt water)	1.1	ug/L		245.2	grab	ND [0.2]	ND [0.2]
47	Nickel (salt water)	8.2	ug/L		200.7	grab	7.1	13.1
48	Selenium (salt water)	71.0	ug/L		200.7	grab	4	13
49	Silver (salt water)	2.2	ug/L		GFAA	grab	ND [0.4]	ND [0.4]
50	Zinc (salt water)	85.6	ug/L		200.7	grab	13	40.9
51	Iron	1000	ug/L		200.7	grab	5600	13000

ND = denotes none detected above laboratory method detection limits
 Shaded areas indicated exceedance of RGP Limit

TABLE 2
Analytical Results-Groundwater
February 11, 2011

Fan Pier Parcels A and B
 Boston, Massachusetts
 Project No. 4426

Sample ID		RGP Limits	Units	MA7-A1	MA7-B25
Date Sampled				9-Feb-11	9-Feb-11
Lab ID			L1101732-01	L1101732-02	
1	TSS	30.0	mg/L	32	32
	pH (Class SA & SB Waters)	6.5-8.5	S.U.	6.9	7.1
2	Total Residual Chlorine	7.5	ug/L	ND [20]	ND [20]
3	TPH	5.0	mg/L	ND [4]	ND [4]
4	Cyanide	1.0	ug/L	ND [5.0]	6
5	Benzene	5.0	ug/L	ND [1]	ND [1]
6	Toluene	Total BTEX	ug/L	ND [1]	ND [1]
7	Ethylbenzene	Total BTEX	ug/L	ND [1]	ND [1]
8	Total Xylenes	Total BTEX	ug/L	ND [2]	ND [2]
9	Total BTEX	100.0	ug/L	ND	ND
10	Ethylene Dibromide (1,2-Dibromoethane)	0.05	ug/L	ND [0.01]	ND [0.01]
11	MTBE	70.0	ug/L	ND [20]	ND [20]
12	tert-Butyl Alcohol	Monitor only	ug/L	ND [100]	ND [100]
13	tert-Amyl Methyl Ether	Monitor only	ug/L	ND [20]	ND [20]
14	Naphthalene	20	ug/L	ND [0.2]	ND [0.2]
15	Carbon Tetrachloride	4.4	ug/L	ND [1]	ND [1]
16	1,4 Dichlorobenzene	5.0	ug/L	ND [5]	ND [5]
17	1,2 Dichlorobenzene	600	ug/L	ND [5]	ND [5]
18	1,3 Dichlorobenzene	320	ug/L	ND [5]	ND [5]
19	1,1 Dichloroethane	70	ug/L	ND [1.5]	ND [1.5]
20	1,2 Dichloroethane	5.0	ug/L	ND [1.5]	ND [1.5]
21	1,1 Dichloroethylene	3.2	ug/L	ND [1]	ND [1]
22	cis-1,2 Dichloroethylene	70	ug/L	ND [1]	ND [1]
23	Dichloromethane (Methylene Chloride)	4.6	ug/L	ND [5]	ND [5]
24	Tetrachloroethylene	5.0	ug/L	ND [1.5]	ND [1.5]
25	1,1,1 Trichloroethane	300	ug/L	ND [2]	ND [2]
26	1,1,2 Trichloroethane	5.0	ug/L	ND [1.5]	ND [1.5]
27	Trichloroethylene	5.0	ug/L	ND [1]	ND [1]
28	Vinyl Chloride	2.0	ug/L	ND [2]	ND [2]
29	Acetone	Monitor only	ug/L	ND [10]	ND [10]
30	1,4 Dioxane	Monitor only	ug/L	ND [2,000]	ND [2,000]
31	total Phenols	300	ug/L	ND [30]	ND [30]
32	Pentachlorophenol	1.0	ug/L	0.84	ND [0.8]
33	Total Phthalates (phthalate esthers)	3.0	ug/L	ND	ND
34	Bis (2-Ethylhexyl) Phthalate	6.0	ug/L	ND [2]	ND [2]
35	Total Group I PAH	10	ug/L	0.29	ND
a	Benzo(a)anthracene	0.0038	ug/L	0.29	ND [0.2]
b	Benzo(a)pyrene	0.0038	ug/L	ND [0.2]	ND [0.2]
c	Benzo(b)fluoranthene	0.0038	ug/L	ND [0.2]	ND [0.2]
d	Benzo(k)fluoranthene	0.0038	ug/L	ND [0.2]	ND [0.2]
e	Chrysene	0.0038	ug/L	ND [0.2]	ND [0.2]
f	Dibenzo(a,h)anthracene	0.0038	ug/L	ND [0.2]	ND [0.2]
g	Indeno (1,2,3-cd)pyrene	0.0038	ug/L	ND [0.2]	ND [0.2]
36	Total Group II PAH	100	ug/L	1.65	ND
h	Acenaphthene	Total Group II PAH	ug/L	0.5	ND [0.2]
i	Acenaphthylene	Total Group II PAH	ug/L	ND [0.2]	ND [0.2]
j	Anthracene	Total Group II PAH	ug/L	ND [0.2]	ND [0.2]
k	Benzo(ghi)perylene	Total Group II PAH	ug/L	ND [0.2]	ND [0.2]
l	Fluoranthene	Total Group II PAH	ug/L	0.27	ND [0.2]
m	Fluorene	Total Group II PAH	ug/L	0.28	ND [0.2]
n	naphthalene	Total Group II PAH	ug/L	ND [0.2]	ND [0.2]
o	Phenanthrene	Total Group II PAH	ug/L	0.6	ND [0.2]
p	Pyrene	Total Group II PAH	ug/L	ND [0.2]	ND [0.2]
37	Total PCBs	0.000064	ug/L	ND [0.5]	ND [0.5]
	Total Recoverable Metal Limits	H= 50 mg/l CaCO3			
38	Antimony	5.6	ug/L	11.1	ND [10.0]
39	Arsenic (salt water)	36	ug/L	ND [10]	11.2
40	Cadmium (salt water)	8.9	ug/L	ND [4]	ND [4]
41	Chromium III (salt water)	100	ug/L	ND [10]	ND [10]
42	Chromium VI (salt water)	50.3	ug/L	ND [10]	ND [10]
43	Copper (salt water)	3.7	ug/L	16.8	12.4
44	Lead (salt water)	8.5	ug/L	ND [10]	18.8
46	Mercury (salt water)	1.1	ug/L	ND [0.2]	ND [0.2]
47	Nickel (salt water)	8.2	ug/L	ND [10]	ND [10]
48	Selenium (salt water)	71.0	ug/L	ND [20]	ND [20]
49	Silver (salt water)	2.2	ug/L	ND [8.0]	ND [8.0]
50	Zinc (salt water)	85.6	ug/L	ND [100]	ND [100]
51	Iron	1000	ug/L	28000	17000

ND = denotes none detected above laboratory method detection limits
 Shaded areas indicated exceedance of RGP Limit

ALPHA ANALYTICAL

Eight Walkup Drive
Westborough, Massachusetts 01581-1019
(508) 898-9220 www.alphalab.com
MA:M-MA086 NH:2003 CT:PH-0574 ME:MA0086 RI:LAO00065 NY:11148 NJ:MA935 Army:USACE

CERTIFICATE OF ANALYSIS

Client: McPhail Associates **Laboratory Job Number:** L1101732
Address: 2269 Massachusetts Avenue **Date Received:** 09-FEB-2011
Cambridge, MA 02140 **Date Reported:** 18-FEB-2011
Attn: Mr. Ambrose Donovan **Delivery Method:** Alpha
Project Number: 4426.9.B3 **Site:** FAN PIER PARCELS A+B

ALPHA SAMPLE NUMBER	CLIENT IDENTIFICATION	SAMPLE LOCATION
L1101732-01	MA7-A1	SOUTH BOSTON, MA
L1101732-02	MA7-B25	SOUTH BOSTON, MA
L1101732-03	TRIP BLANK	SOUTH BOSTON, MA

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized by: Michelle M. Morris
Technical Representative

ALPHA ANALYTICAL
NARRATIVE REPORT

Laboratory Job Number: L1101732

The samples were received in accordance with the chain of custody and no significant deviations were encountered during preparation or analysis unless otherwise noted below.

Sample Receipt

A Trip Blank was received in the laboratory but not listed on the Chain of Custody. At the client's request, the Trip Blank was not analyzed.

Metals

L1101732-01 and -02 have elevated detection limits for all analytes by Method 6020 due to the 20x dilutions required by the high concentrations of non-target analytes. The requested reporting limits were not achieved.

**ALPHA ANALYTICAL
CERTIFICATE OF ANALYSIS**

MA:M-MA086 NH:2003 CT:PH-0574 ME:MA0086 RI:LAO00065 NY:11148 NJ:MA935 Army:USACE

Laboratory Sample Number: L1101732-01	Date Collected: 09-FEB-2011 10:00
MA7-A1	Date Received : 09-FEB-2011
Sample Matrix: WATER	Date Reported : 18-FEB-2011
Condition of Sample: Satisfactory	Field Prep: None

Number & Type of Containers: 7-Amber,5-Plastic,4-Vial

Comments:
Fan Pier Parcel B

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
General Chemistry - Westborough Lab							
Solids, Total Suspended	32	mg/l	5.0	30 2540D		0214 14:55	DW
Cyanide, Total	ND	mg/l	0.0050	30 4500CN-CE	0214 16:15	0215 13:58	JO
Chlorine, Total Residual	ND	mg/l	0.02	30 4500CL-D		0209 19:00	AT
pH (H)	6.9	SU	-	30 4500H+-B		0209 22:19	AT
TPH	ND	mg/l	4.00	74 1664A	0210 12:30	0214 13:30	JO
Phenolics, Total	ND	mg/l	0.03	4 420.1	0215 17:00	0215 22:59	TP
Chromium, Hexavalent	ND	mg/l	0.010	30 3500CR-D	0210 00:30	0210 01:39	TP
Total Metals - Westborough Lab							
Antimony, Total	0.0111	mg/l	0.0100	1 6020	0210 09:00	0214 18:01	BM
Arsenic, Total	ND	mg/l	0.0100	1 6020	0210 09:00	0214 18:01	BM
Cadmium, Total	ND	mg/l	0.0040	1 6020	0210 09:00	0214 18:01	BM
Chromium, Total	ND	mg/l	0.0100	1 6020	0210 09:00	0214 18:01	BM
Copper, Total	0.0168	mg/l	0.0100	1 6020	0210 09:00	0214 18:01	BM
Iron, Total	28	mg/l	0.05	19 200.7	0210 09:00	0211 09:21	AI
Lead, Total	ND	mg/l	0.0100	1 6020	0210 09:00	0214 18:01	BM
Mercury, Total	ND	mg/l	0.0002	3 245.1	0217 16:20	0218 11:33	DM
Nickel, Total	ND	mg/l	0.0100	1 6020	0210 09:00	0214 18:01	BM
Selenium, Total	ND	mg/l	0.020	1 6020	0210 09:00	0214 18:01	BM
Silver, Total	ND	mg/l	0.0080	1 6020	0210 09:00	0214 18:01	BM
Zinc, Total	ND	mg/l	0.1000	1 6020	0210 09:00	0214 18:01	BM
Pesticides by GC - Westborough Lab							
1,2-Dibromoethane	ND	ug/l	0.010	14 504.1	0215 07:30	0215 09:40	SH
1,2-Dibromo-3-chloropropane	ND	ug/l	0.010				
Volatile Organics by GC/MS - Westborough Lab							
Methylene chloride	ND	ug/l	5.0	5 624		0210 09:41	TT
1,1-Dichloroethane	ND	ug/l	1.5				
Chloroform	ND	ug/l	1.5				
Carbon tetrachloride	ND	ug/l	1.0				
1,2-Dichloropropane	ND	ug/l	3.5				
Dibromochloromethane	ND	ug/l	1.0				

Comments: Complete list of References and Glossary of Terms found in Addendum I

**ALPHA ANALYTICAL
CERTIFICATE OF ANALYSIS**

Laboratory Sample Number: L1101732-01
MA7-A1

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Volatile Organics by GC/MS - Westborough Lab cont'd				5 624	0210 09:41 TT		
1,1,2-Trichloroethane	ND	ug/l	1.5				
2-Chloroethylvinyl ether	ND	ug/l	10.				
Tetrachloroethene	ND	ug/l	1.5				
Chlorobenzene	ND	ug/l	3.5				
Trichlorofluoromethane	ND	ug/l	5.0				
1,2-Dichloroethane	ND	ug/l	1.5				
1,1,1-Trichloroethane	ND	ug/l	2.0				
Bromodichloromethane	ND	ug/l	1.0				
trans-1,3-Dichloropropene	ND	ug/l	1.5				
cis-1,3-Dichloropropene	ND	ug/l	1.5				
Bromoform	ND	ug/l	1.0				
1,1,2,2-Tetrachloroethane	ND	ug/l	1.0				
Benzene	ND	ug/l	1.0				
Toluene	ND	ug/l	1.0				
Ethylbenzene	ND	ug/l	1.0				
Chloromethane	ND	ug/l	10.				
Bromomethane	ND	ug/l	5.0				
Vinyl chloride	ND	ug/l	2.0				
Chloroethane	ND	ug/l	2.0				
1,1-Dichloroethene	ND	ug/l	1.0				
trans-1,2-Dichloroethene	ND	ug/l	1.5				
cis-1,2-Dichloroethene	ND	ug/l	1.0				
Trichloroethene	ND	ug/l	1.0				
1,2-Dichlorobenzene	ND	ug/l	5.0				
1,3-Dichlorobenzene	ND	ug/l	5.0				
1,4-Dichlorobenzene	ND	ug/l	5.0				
p/m-Xylene	ND	ug/l	2.0				
o-xylene	ND	ug/l	1.0				
Xylene (Total)	ND	ug/l	2.0				
Styrene	ND	ug/l	1.0				
Acetone	ND	ug/l	10.				
Carbon disulfide	ND	ug/l	5.0				
2-Butanone	ND	ug/l	10.				
Vinyl acetate	ND	ug/l	20.				
4-Methyl-2-pentanone	ND	ug/l	10.				
2-Hexanone	ND	ug/l	10.				
Acrolein	ND	ug/l	8.0				
Acrylonitrile	ND	ug/l	10.				
Methyl tert butyl ether	ND	ug/l	20.				
Dibromomethane	ND	ug/l	1.0				
1,4-Dioxane	ND	ug/l	2000				
Tert-Butyl Alcohol	ND	ug/l	100				
Tertiary-Amyl Methyl Ether	ND	ug/l	20.				
Surrogate(s)	Recovery		QC Criteria				
Pentafluorobenzene	88.0	%	80-120				
Fluorobenzene	98.0	%	80-120				
4-Bromofluorobenzene	116	%	80-120				

Comments: Complete list of References and Glossary of Terms found in Addendum I

**ALPHA ANALYTICAL
CERTIFICATE OF ANALYSIS**

Laboratory Sample Number: L1101732-01
MA7-A1

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Semivolatile Organics by GC/MS - Westborough Lab				1 8270C	0210 12:27	0211 13:55	JB
Benzidine	ND	ug/l	50.				
1,2,4-Trichlorobenzene	ND	ug/l	5.0				
Bis(2-chloroethyl)ether	ND	ug/l	5.0				
1,2-Dichlorobenzene	ND	ug/l	5.0				
1,3-Dichlorobenzene	ND	ug/l	5.0				
1,4-Dichlorobenzene	ND	ug/l	5.0				
3,3'-Dichlorobenzidine	ND	ug/l	50.				
2,4-Dinitrotoluene	ND	ug/l	6.0				
2,6-Dinitrotoluene	ND	ug/l	5.0				
Azobenzene	ND	ug/l	5.0				
4-Chlorophenyl phenyl ether	ND	ug/l	5.0				
4-Bromophenyl phenyl ether	ND	ug/l	5.0				
Bis(2-chloroisopropyl)ether	ND	ug/l	5.0				
Bis(2-chloroethoxy)methane	ND	ug/l	5.0				
Hexachlorocyclopentadiene	ND	ug/l	30.				
Isophorone	ND	ug/l	5.0				
Nitrobenzene	ND	ug/l	5.0				
NitrosoDiPhenylAmine(NDPA)/DPA	ND	ug/l	15.				
Bis(2-Ethylhexyl)phthalate	ND	ug/l	5.0				
Butyl benzyl phthalate	ND	ug/l	5.0				
Di-n-butylphthalate	ND	ug/l	5.0				
Di-n-octylphthalate	ND	ug/l	5.0				
Diethyl phthalate	ND	ug/l	5.0				
Dimethyl phthalate	ND	ug/l	5.0				
Aniline	ND	ug/l	20.				
4-Chloroaniline	ND	ug/l	5.0				
2-Nitroaniline	ND	ug/l	5.0				
3-Nitroaniline	ND	ug/l	5.0				
4-Nitroaniline	ND	ug/l	7.0				
Dibenzofuran	ND	ug/l	5.0				
n-Nitrosodimethylamine	ND	ug/l	50.				
2,4,6-Trichlorophenol	ND	ug/l	5.0				
p-Chloro-M-Cresol	ND	ug/l	5.0				
2-Chlorophenol	ND	ug/l	6.0				
2,4-Dichlorophenol	ND	ug/l	10.				
2,4-Dimethylphenol	ND	ug/l	10.				
2-Nitrophenol	ND	ug/l	20.				
4-Nitrophenol	ND	ug/l	10.				
2,4-Dinitrophenol	ND	ug/l	30.				
4,6-Dinitro-o-cresol	ND	ug/l	20.				
Phenol	ND	ug/l	7.0				
2-Methylphenol	ND	ug/l	6.0				
3-Methylphenol/4-Methylphenol	ND	ug/l	6.0				
2,4,5-Trichlorophenol	ND	ug/l	5.0				
Benzoic Acid	ND	ug/l	50.				
Benzyl Alcohol	ND	ug/l	10.				
Carbazole	ND	ug/l	5.0				
Pyridine	ND	ug/l	50.				

Comments: Complete list of References and Glossary of Terms found in Addendum I

**ALPHA ANALYTICAL
CERTIFICATE OF ANALYSIS**

Laboratory Sample Number: L1101732-01
MA7-A1

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Semivolatile Organics by GC/MS - Westborough Lab cont'd				1	8270C	0210 12:27	0211 13:55 JB
Surrogate(s)	Recovery			QC Criteria			
2-Fluorophenol	34.0	%	21-120				
Phenol-d6	24.0	%	10-120				
Nitrobenzene-d5	65.0	%	23-120				
2-Fluorobiphenyl	74.0	%	15-120				
2,4,6-Tribromophenol	87.0	%	10-120				
4-Terphenyl-d14	91.0	%	33-120				
Semivolatile Organics by GC/MS-SIM - Westborough Lab				1	8270C-SIM	0210 12:31	0211 13:47 JC
Acenaphthene	0.50	ug/l	0.20				
2-Chloronaphthalene	ND	ug/l	0.20				
Fluoranthene	0.27	ug/l	0.20				
Hexachlorobutadiene	ND	ug/l	0.50				
Naphthalene	ND	ug/l	0.20				
Benzo(a)anthracene	0.29	ug/l	0.20				
Benzo(a)pyrene	ND	ug/l	0.20				
Benzo(b)fluoranthene	ND	ug/l	0.20				
Benzo(k)fluoranthene	ND	ug/l	0.20				
Chrysene	ND	ug/l	0.20				
Acenaphthylene	ND	ug/l	0.20				
Anthracene	ND	ug/l	0.20				
Benzo(ghi)perylene	ND	ug/l	0.20				
Fluorene	0.28	ug/l	0.20				
Phenanthrene	0.60	ug/l	0.20				
Dibenzo(a,h)anthracene	ND	ug/l	0.20				
Indeno(1,2,3-cd)Pyrene	ND	ug/l	0.20				
Pyrene	ND	ug/l	0.20				
1-Methylnaphthalene	0.22	ug/l	0.20				
2-Methylnaphthalene	ND	ug/l	0.20				
Pentachlorophenol	0.84	ug/l	0.80				
Hexachlorobenzene	ND	ug/l	0.80				
Hexachloroethane	ND	ug/l	0.80				
Surrogate(s)	Recovery			QC Criteria			
2-Fluorophenol	35.0	%	21-120				
Phenol-d6	23.0	%	10-120				
Nitrobenzene-d5	79.0	%	23-120				
2-Fluorobiphenyl	66.0	%	15-120				
2,4,6-Tribromophenol	103	%	10-120				
4-Terphenyl-d14	96.0	%	33-120				
Polychlorinated Biphenyls by GC - Westborough Lab				5	608	0210 20:12	0211 12:40 SH
Aroclor 1016	ND	ug/l	0.250				
Aroclor 1221	ND	ug/l	0.250				
Aroclor 1232	ND	ug/l	0.250				
Aroclor 1242	ND	ug/l	0.250				
Aroclor 1248	ND	ug/l	0.250				
Aroclor 1254	ND	ug/l	0.250				
Aroclor 1260	ND	ug/l	0.250				

Comments: Complete list of References and Glossary of Terms found in Addendum I

**ALPHA ANALYTICAL
CERTIFICATE OF ANALYSIS**

Laboratory Sample Number: L1101732-01
MA7-A1

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Polychlorinated Biphenyls by GC - Westborough Lab cont'd				5 608	0210 20:12	0211 12:40	SH
Surrogate(s)	Recovery			QC Criteria			
2,4,5,6-Tetrachloro-m-xylene	81.0	%		30-150			
Decachlorobiphenyl	92.0	%		30-150			

Comments: Complete list of References and Glossary of Terms found in Addendum I

**ALPHA ANALYTICAL
CERTIFICATE OF ANALYSIS**

MA:M-MA086 NH:2003 CT:PH-0574 ME:MA0086 RI:LAO00065 NY:11148 NJ:MA935 Army:USACE

Laboratory Sample Number: L1101732-02	Date Collected: 09-FEB-2011 11:30
MA7-B25	Date Received : 09-FEB-2011
Sample Matrix: WATER	Date Reported : 18-FEB-2011
Condition of Sample: Satisfactory	Field Prep: None

Number & Type of Containers: 7-Amber,5-Plastic,4-Vial

Comments:
Fan Pier Parcel B

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
General Chemistry - Westborough Lab							
Solids, Total Suspended	32	mg/l	5.0	30 2540D		0214 14:55	DW
Cyanide, Total	0.006	mg/l	0.005	30 4500CN-CE	0214 16:15	0215 14:00	JO
Chlorine, Total Residual	ND	mg/l	0.02	30 4500CL-D		0209 19:00	AT
pH (H)	7.1	SU	-	30 4500H+-B		0209 22:19	AT
TPH	ND	mg/l	4.00	74 1664A	0210 12:30	0214 13:30	JO
Phenolics, Total	ND	mg/l	0.03	4 420.1	0215 17:00	0215 23:00	TP
Chromium, Hexavalent	ND	mg/l	0.010	30 3500CR-D	0210 00:30	0210 01:40	TP
Total Metals - Westborough Lab							
Antimony, Total	ND	mg/l	0.0100	1 6020	0210 09:00	0214 18:07	BM
Arsenic, Total	0.0112	mg/l	0.0100	1 6020	0210 09:00	0214 18:07	BM
Cadmium, Total	ND	mg/l	0.0040	1 6020	0210 09:00	0214 18:07	BM
Chromium, Total	ND	mg/l	0.0100	1 6020	0210 09:00	0214 18:07	BM
Copper, Total	0.0124	mg/l	0.0100	1 6020	0210 09:00	0214 18:07	BM
Iron, Total	17	mg/l	0.05	19 200.7	0210 09:00	0211 09:24	AI
Lead, Total	0.0188	mg/l	0.0100	1 6020	0210 09:00	0214 18:07	BM
Mercury, Total	ND	mg/l	0.0002	3 245.1	0217 16:20	0218 11:35	DM
Nickel, Total	ND	mg/l	0.0100	1 6020	0210 09:00	0214 18:07	BM
Selenium, Total	ND	mg/l	0.020	1 6020	0210 09:00	0214 18:07	BM
Silver, Total	ND	mg/l	0.0080	1 6020	0210 09:00	0214 18:07	BM
Zinc, Total	ND	mg/l	0.1000	1 6020	0210 09:00	0214 18:07	BM
Pesticides by GC - Westborough Lab							
1,2-Dibromoethane	ND	ug/l	0.010	14 504.1	0215 07:30	0215 09:53	SH
1,2-Dibromo-3-chloropropane	ND	ug/l	0.010				
Volatile Organics by GC/MS - Westborough Lab							
Methylene chloride	ND	ug/l	5.0	5 624		0210 10:17	TT
1,1-Dichloroethane	ND	ug/l	1.5				
Chloroform	ND	ug/l	1.5				
Carbon tetrachloride	ND	ug/l	1.0				
1,2-Dichloropropane	ND	ug/l	3.5				
Dibromochloromethane	ND	ug/l	1.0				

Comments: Complete list of References and Glossary of Terms found in Addendum I

**ALPHA ANALYTICAL
CERTIFICATE OF ANALYSIS**

Laboratory Sample Number: L1101732-02
MA7-B25

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Volatile Organics by GC/MS - Westborough Lab cont'd				5 624	0210 10:17 TT		
1,1,2-Trichloroethane	ND	ug/l	1.5				
2-Chloroethylvinyl ether	ND	ug/l	10.				
Tetrachloroethene	ND	ug/l	1.5				
Chlorobenzene	ND	ug/l	3.5				
Trichlorofluoromethane	ND	ug/l	5.0				
1,2-Dichloroethane	ND	ug/l	1.5				
1,1,1-Trichloroethane	ND	ug/l	2.0				
Bromodichloromethane	ND	ug/l	1.0				
trans-1,3-Dichloropropene	ND	ug/l	1.5				
cis-1,3-Dichloropropene	ND	ug/l	1.5				
Bromoform	ND	ug/l	1.0				
1,1,2,2-Tetrachloroethane	ND	ug/l	1.0				
Benzene	ND	ug/l	1.0				
Toluene	ND	ug/l	1.0				
Ethylbenzene	ND	ug/l	1.0				
Chloromethane	ND	ug/l	10.				
Bromomethane	ND	ug/l	5.0				
Vinyl chloride	ND	ug/l	2.0				
Chloroethane	ND	ug/l	2.0				
1,1-Dichloroethene	ND	ug/l	1.0				
trans-1,2-Dichloroethene	ND	ug/l	1.5				
cis-1,2-Dichloroethene	ND	ug/l	1.0				
Trichloroethene	ND	ug/l	1.0				
1,2-Dichlorobenzene	ND	ug/l	5.0				
1,3-Dichlorobenzene	ND	ug/l	5.0				
1,4-Dichlorobenzene	ND	ug/l	5.0				
p/m-Xylene	ND	ug/l	2.0				
o-xylene	ND	ug/l	1.0				
Xylene (Total)	ND	ug/l	2.0				
Styrene	ND	ug/l	1.0				
Acetone	ND	ug/l	10.				
Carbon disulfide	ND	ug/l	5.0				
2-Butanone	ND	ug/l	10.				
Vinyl acetate	ND	ug/l	20.				
4-Methyl-2-pentanone	ND	ug/l	10.				
2-Hexanone	ND	ug/l	10.				
Acrolein	ND	ug/l	8.0				
Acrylonitrile	ND	ug/l	10.				
Methyl tert butyl ether	ND	ug/l	20.				
Dibromomethane	ND	ug/l	1.0				
1,4-Dioxane	ND	ug/l	2000				
Tert-Butyl Alcohol	ND	ug/l	100				
Tertiary-Amyl Methyl Ether	ND	ug/l	20.				
Surrogate(s)	Recovery		QC Criteria				
Pentafluorobenzene	86.0	%	80-120				
Fluorobenzene	96.0	%	80-120				
4-Bromofluorobenzene	113	%	80-120				

Comments: Complete list of References and Glossary of Terms found in Addendum I

**ALPHA ANALYTICAL
CERTIFICATE OF ANALYSIS**

Laboratory Sample Number: L1101732-02
MA7-B25

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Semivolatile Organics by GC/MS - Westborough Lab				1 8270C	0210 12:27	0211 14:19	JB
Benzidine	ND	ug/l	50.				
1,2,4-Trichlorobenzene	ND	ug/l	5.0				
Bis(2-chloroethyl)ether	ND	ug/l	5.0				
1,2-Dichlorobenzene	ND	ug/l	5.0				
1,3-Dichlorobenzene	ND	ug/l	5.0				
1,4-Dichlorobenzene	ND	ug/l	5.0				
3,3'-Dichlorobenzidine	ND	ug/l	50.				
2,4-Dinitrotoluene	ND	ug/l	6.0				
2,6-Dinitrotoluene	ND	ug/l	5.0				
Azobenzene	ND	ug/l	5.0				
4-Chlorophenyl phenyl ether	ND	ug/l	5.0				
4-Bromophenyl phenyl ether	ND	ug/l	5.0				
Bis(2-chloroisopropyl)ether	ND	ug/l	5.0				
Bis(2-chloroethoxy)methane	ND	ug/l	5.0				
Hexachlorocyclopentadiene	ND	ug/l	30.				
Isophorone	ND	ug/l	5.0				
Nitrobenzene	ND	ug/l	5.0				
NitrosoDiPhenylAmine(NDPA)/DPA	ND	ug/l	15.				
Bis(2-Ethylhexyl)phthalate	ND	ug/l	5.0				
Butyl benzyl phthalate	ND	ug/l	5.0				
Di-n-butylphthalate	ND	ug/l	5.0				
Di-n-octylphthalate	ND	ug/l	5.0				
Diethyl phthalate	ND	ug/l	5.0				
Dimethyl phthalate	ND	ug/l	5.0				
Aniline	ND	ug/l	20.				
4-Chloroaniline	ND	ug/l	5.0				
2-Nitroaniline	ND	ug/l	5.0				
3-Nitroaniline	ND	ug/l	5.0				
4-Nitroaniline	ND	ug/l	7.0				
Dibenzofuran	ND	ug/l	5.0				
n-Nitrosodimethylamine	ND	ug/l	50.				
2,4,6-Trichlorophenol	ND	ug/l	5.0				
p-Chloro-M-Cresol	ND	ug/l	5.0				
2-Chlorophenol	ND	ug/l	6.0				
2,4-Dichlorophenol	ND	ug/l	10.				
2,4-Dimethylphenol	ND	ug/l	10.				
2-Nitrophenol	ND	ug/l	20.				
4-Nitrophenol	ND	ug/l	10.				
2,4-Dinitrophenol	ND	ug/l	30.				
4,6-Dinitro-o-cresol	ND	ug/l	20.				
Phenol	ND	ug/l	7.0				
2-Methylphenol	ND	ug/l	6.0				
3-Methylphenol/4-Methylphenol	ND	ug/l	6.0				
2,4,5-Trichlorophenol	ND	ug/l	5.0				
Benzoic Acid	ND	ug/l	50.				
Benzyl Alcohol	ND	ug/l	10.				
Carbazole	ND	ug/l	5.0				
Pyridine	ND	ug/l	50.				

Comments: Complete list of References and Glossary of Terms found in Addendum I

**ALPHA ANALYTICAL
CERTIFICATE OF ANALYSIS**

Laboratory Sample Number: L1101732-02
MA7-B25

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Semivolatile Organics by GC/MS - Westborough Lab cont'd				1	8270C	0210 12:27	0211 14:19 JB
Surrogate(s)	Recovery			QC Criteria			
2-Fluorophenol	38.0	%	21-120				
Phenol-d6	28.0	%	10-120				
Nitrobenzene-d5	64.0	%	23-120				
2-Fluorobiphenyl	75.0	%	15-120				
2,4,6-Tribromophenol	92.0	%	10-120				
4-Terphenyl-d14	86.0	%	33-120				
Semivolatile Organics by GC/MS-SIM - Westborough Lab				1	8270C-SIM	0210 12:31	0211 14:18 JC
Acenaphthene	ND	ug/l	0.20				
2-Chloronaphthalene	ND	ug/l	0.20				
Fluoranthene	ND	ug/l	0.20				
Hexachlorobutadiene	ND	ug/l	0.50				
Naphthalene	ND	ug/l	0.20				
Benzo(a)anthracene	ND	ug/l	0.20				
Benzo(a)pyrene	ND	ug/l	0.20				
Benzo(b)fluoranthene	ND	ug/l	0.20				
Benzo(k)fluoranthene	ND	ug/l	0.20				
Chrysene	ND	ug/l	0.20				
Acenaphthylene	ND	ug/l	0.20				
Anthracene	ND	ug/l	0.20				
Benzo(ghi)perylene	ND	ug/l	0.20				
Fluorene	ND	ug/l	0.20				
Phenanthrene	ND	ug/l	0.20				
Dibenzo(a,h)anthracene	ND	ug/l	0.20				
Indeno(1,2,3-cd)Pyrene	ND	ug/l	0.20				
Pyrene	ND	ug/l	0.20				
1-Methylnaphthalene	ND	ug/l	0.20				
2-Methylnaphthalene	ND	ug/l	0.20				
Pentachlorophenol	ND	ug/l	0.80				
Hexachlorobenzene	ND	ug/l	0.80				
Hexachloroethane	ND	ug/l	0.80				
Surrogate(s)	Recovery			QC Criteria			
2-Fluorophenol	43.0	%	21-120				
Phenol-d6	29.0	%	10-120				
Nitrobenzene-d5	85.0	%	23-120				
2-Fluorobiphenyl	70.0	%	15-120				
2,4,6-Tribromophenol	107	%	10-120				
4-Terphenyl-d14	99.0	%	33-120				
Polychlorinated Biphenyls by GC - Westborough Lab				5	608	0210 20:12	0211 12:52 SH
Aroclor 1016	ND	ug/l	0.250				
Aroclor 1221	ND	ug/l	0.250				
Aroclor 1232	ND	ug/l	0.250				
Aroclor 1242	ND	ug/l	0.250				
Aroclor 1248	ND	ug/l	0.250				
Aroclor 1254	ND	ug/l	0.250				
Aroclor 1260	ND	ug/l	0.250				

Comments: Complete list of References and Glossary of Terms found in Addendum I

**ALPHA ANALYTICAL
CERTIFICATE OF ANALYSIS**

Laboratory Sample Number: L1101732-02
MA7-B25

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Polychlorinated Biphenyls by GC - Westborough Lab cont'd				5 608	0210 20:12	0211 12:52	SH
Surrogate(s)	Recovery			QC Criteria			
2,4,5,6-Tetrachloro-m-xylene	80.0	%		30-150			
Decachlorobiphenyl	54.0	%		30-150			

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL
QUALITY ASSURANCE BATCH DUPLICATE ANALYSIS

Laboratory Job Number: L1101732

Parameter	Value 1	Value 2	Units	RPD	RPD Limits
General Chemistry - Westborough Lab for sample(s) 01-02 (L1101712-01, WG454904-2)					
Solids, Total Suspended	78	68	mg/l	14	32
General Chemistry - Westborough Lab for sample(s) 01-02 (L1101732-01, WG454999-4)					
Cyanide, Total	ND	0.005	mg/l	NC	30
General Chemistry - Westborough Lab for sample(s) 01-02 (L1101697-01, WG454484-3)					
Chlorine, Total Residual	0.51	0.50	mg/l	2	20
General Chemistry - Westborough Lab for sample(s) 01-02 (L1101296-42, WG454507-2)					
pH (H)	7.1	7.1	SU	0	5
General Chemistry - Westborough Lab for sample(s) 01-02 (L1101727-01, WG454596-4)					
TPH	4.24	7.88	mg/l	60	34
General Chemistry - Westborough Lab for sample(s) 01-02 (L1101805-01, WG455206-4)					
Phenolics, Total	0.03	ND	mg/l	NC	12
General Chemistry - Westborough Lab for sample(s) 01-02 (L1101732-01, WG454502-4)					
Chromium, Hexavalent	ND	ND	mg/l	NC	20
Total Metals - Westborough Lab for sample(s) 01-02 (L1101718-02, WG454551-3)					
Iron, Total	ND	ND	mg/l	NC	20
Total Metals - Westborough Lab for sample(s) 01-02 (L1101718-02, WG454552-3)					
Cadmium, Total	ND	ND	mg/l	NC	20
Total Metals - Westborough Lab for sample(s) 01-02 (L1102057-01, WG455621-3)					
Mercury, Total	ND	ND	mg/l	NC	20
Volatile Organics by GC/MS - Westborough Lab for sample(s) 01-02 (L1101618-01, WG454379-4)					
Methylene chloride	ND	ND	ug/l	NC	30
1,1-Dichloroethane	ND	ND	ug/l	NC	30
Chloroform	ND	ND	ug/l	NC	30
Carbon tetrachloride	ND	ND	ug/l	NC	30
1,2-Dichloropropane	ND	ND	ug/l	NC	30
Dibromochloromethane	ND	ND	ug/l	NC	30
1,1,2-Trichloroethane	ND	ND	ug/l	NC	30
2-Chloroethylvinyl ether	ND	ND	ug/l	NC	30
Tetrachloroethene	ND	ND	ug/l	NC	30
Chlorobenzene	ND	ND	ug/l	NC	30
Trichlorofluoromethane	ND	ND	ug/l	NC	30
1,2-Dichloroethane	ND	ND	ug/l	NC	30
1,1,1-Trichloroethane	ND	ND	ug/l	NC	30
Bromodichloromethane	ND	ND	ug/l	NC	30
trans-1,3-Dichloropropene	ND	ND	ug/l	NC	30
cis-1,3-Dichloropropene	ND	ND	ug/l	NC	30
Bromoform	ND	ND	ug/l	NC	30
1,1,2,2-Tetrachloroethane	ND	ND	ug/l	NC	30

ALPHA ANALYTICAL
QUALITY ASSURANCE BATCH DUPLICATE ANALYSIS

Laboratory Job Number: L1101732

Continued

Parameter	Value 1	Value 2	Units	RPD	RPD Limits
Volatile Organics by GC/MS - Westborough Lab for sample(s) 01-02 (L1101618-01, WG454379-4)					
Benzene	ND	ND	ug/l	NC	30
Toluene	ND	ND	ug/l	NC	30
Ethylbenzene	ND	ND	ug/l	NC	30
Chloromethane	ND	ND	ug/l	NC	30
Bromomethane	ND	ND	ug/l	NC	30
Vinyl chloride	ND	ND	ug/l	NC	30
Chloroethane	ND	ND	ug/l	NC	30
1,1-Dichloroethene	ND	ND	ug/l	NC	30
trans-1,2-Dichloroethene	ND	ND	ug/l	NC	30
cis-1,2-Dichloroethene	ND	ND	ug/l	NC	30
Trichloroethene	ND	ND	ug/l	NC	30
1,2-Dichlorobenzene	ND	ND	ug/l	NC	30
1,3-Dichlorobenzene	ND	ND	ug/l	NC	30
1,4-Dichlorobenzene	ND	ND	ug/l	NC	30
p/m-Xylene	ND	ND	ug/l	NC	30
o-xylene	ND	ND	ug/l	NC	30
Xylene (Total)	ND	ND	ug/l	NC	30
Styrene	ND	ND	ug/l	NC	30
Acetone	ND	ND	ug/l	NC	30
Carbon disulfide	ND	ND	ug/l	NC	30
2-Butanone	ND	ND	ug/l	NC	30
Vinyl acetate	ND	ND	ug/l	NC	30
4-Methyl-2-pentanone	ND	ND	ug/l	NC	30
2-Hexanone	ND	ND	ug/l	NC	30
Acrolein	ND	ND	ug/l	NC	30
Acrylonitrile	ND	ND	ug/l	NC	30
Dibromomethane	ND	ND	ug/l	NC	30
Surrogate(s)	Recovery			QC Criteria	
Pentafluorobenzene	88.0	90.0	%	80-120	
Fluorobenzene	97.0	98.0	%	80-120	
4-Bromofluorobenzene	116	112	%	80-120	
Polychlorinated Biphenyls by GC - Westborough Lab for sample(s) 01-02 (L1101732-01, WG454657-4)					
Aroclor 1016	ND	ND	ug/l	NC	30
Aroclor 1221	ND	ND	ug/l	NC	30
Aroclor 1232	ND	ND	ug/l	NC	30
Aroclor 1242	ND	ND	ug/l	NC	30
Aroclor 1248	ND	ND	ug/l	NC	30
Aroclor 1254	ND	ND	ug/l	NC	30
Aroclor 1260	ND	ND	ug/l	NC	30
Surrogate(s)	Recovery			QC Criteria	
2,4,5,6-Tetrachloro-m-xylene	81.0	88.0	%	30-150	
Decachlorobiphenyl	92.0	105	%	30-150	

**ALPHA ANALYTICAL
QUALITY ASSURANCE BATCH SPIKE ANALYSES**

Laboratory Job Number: L1101732

Parameter	% Recovery	QC Criteria
General Chemistry - Westborough Lab LCS for sample(s) 01-02 (WG454999-1)		
Cyanide, Total	100	90-110
General Chemistry - Westborough Lab LCS for sample(s) 01-02 (WG454484-2)		
Chlorine, Total Residual	96	90-110
General Chemistry - Westborough Lab LCS for sample(s) 01-02 (WG454507-1)		
pH	100	99-101
General Chemistry - Westborough Lab LCS for sample(s) 01-02 (WG454596-1)		
TPH	85	64-132
General Chemistry - Westborough Lab LCS for sample(s) 01-02 (WG455206-2)		
Phenolics, Total	101	82-111
General Chemistry - Westborough Lab LCS for sample(s) 01-02 (WG454502-2)		
Chromium, Hexavalent	100	85-115
Total Metals - Westborough Lab LCS for sample(s) 01-02 (WG454551-2)		
Iron, Total	100	85-115
Total Metals - Westborough Lab LCS for sample(s) 01-02 (WG454552-2)		
Antimony, Total	97	80-120
Arsenic, Total	100	80-120
Cadmium, Total	106	80-120
Chromium, Total	102	80-120
Copper, Total	99	80-120
Lead, Total	102	80-120
Nickel, Total	100	80-120
Selenium, Total	102	80-120
Silver, Total	100	80-120
Zinc, Total	103	80-120
Total Metals - Westborough Lab LCS for sample(s) 01-02 (WG455621-2)		
Mercury, Total	100	85-115
Volatile Organics by GC/MS - Westborough Lab LCS for sample(s) 01-02 (WG454379-5)		
Methylene chloride	88	1-221
1,1-Dichloroethane	102	59-155
Chloroform	101	51-138
Carbon tetrachloride	118	70-140
1,2-Dichloropropane	101	1-210
Dibromochloromethane	107	53-149
1,1,2-Trichloroethane	113	52-150
2-Chloroethylvinyl ether	104	1-305
Tetrachloroethene	122	64-148
Chlorobenzene	102	37-160
Trichlorofluoromethane	96	17-181
1,2-Dichloroethane	97	49-155

ALPHA ANALYTICAL
QUALITY ASSURANCE BATCH SPIKE ANALYSES

Laboratory Job Number: L1101732

Continued

Parameter	% Recovery	QC Criteria
Volatile Organics by GC/MS - Westborough Lab LCS for sample(s) 01-02 (WG454379-5)		
1,1,1-Trichloroethane	103	52-162
Bromodichloromethane	109	35-155
trans-1,3-Dichloropropene	99	17-183
cis-1,3-Dichloropropene	99	1-227
Bromoform	96	45-169
1,1,2,2-Tetrachloroethane	101	46-157
Benzene	103	37-151
Toluene	108	47-150
Ethylbenzene	110	37-162
Chloromethane	129	1-273
Bromomethane	80	1-242
Vinyl chloride	65	1-251
Chloroethane	84	14-230
1,1-Dichloroethene	105	1-234
trans-1,2-Dichloroethene	113	54-156
cis-1,2-Dichloroethene	101	60-140
Trichloroethene	101	71-157
1,2-Dichlorobenzene	100	18-190
1,3-Dichlorobenzene	100	59-156
1,4-Dichlorobenzene	103	18-190
p/m-Xylene	106	40-160
o-Xylene	98	40-160
XYLENE (TOTAL)	104	40-160
Styrene	93	40-160
Acetone	84	40-160
Carbon disulfide	87	40-160
2-Butanone	91	40-160
Vinyl acetate	102	40-160
4-Methyl-2-pentanone	109	40-160
2-Hexanone	107	40-160
Acrolein	68	40-160
Acrylonitrile	98	40-160
Dibromomethane	100	70-130
Surrogate(s)		
Pentafluorobenzene	93	80-120
Fluorobenzene	99	80-120
4-Bromofluorobenzene	104	80-120
Polychlorinated Biphenyls by GC - Westborough Lab LCS for sample(s) 01-02 (WG454657-2)		
Aroclor 1016	90	40-126
Aroclor 1260	108	40-127
Surrogate(s)		
2,4,5,6-Tetrachloro-m-xylene	81	30-150
Decachlorobiphenyl	98	30-150

**ALPHA ANALYTICAL
QUALITY ASSURANCE BATCH SPIKE ANALYSES**

Laboratory Job Number: L1101732

Continued

Parameter	% Recovery	QC Criteria
General Chemistry - Westborough Lab SPIKE for sample(s) 01-02 (L1101732-02, WG454999-3)		
Cyanide, Total	109	90-110
General Chemistry - Westborough Lab SPIKE for sample(s) 01-02 (L1101732-02, WG454596-3)		
TPH	72	64-132
General Chemistry - Westborough Lab SPIKE for sample(s) 01-02 (L1101895-01, WG455206-3)		
Phenolics, Total	99	77-124
General Chemistry - Westborough Lab SPIKE for sample(s) 01-02 (L1101732-01, WG454502-3)		
Chromium, Hexavalent	104	85-115
Total Metals - Westborough Lab SPIKE for sample(s) 01-02 (L1101718-02, WG454551-4)		
Iron, Total	100	75-125
Total Metals - Westborough Lab SPIKE for sample(s) 01-02 (L1101718-02, WG454552-4)		
Antimony, Total	103	80-120
Arsenic, Total	105	80-120
Cadmium, Total	109	80-120
Chromium, Total	105	80-120
Copper, Total	102	80-120
Lead, Total	108	80-120
Nickel, Total	102	80-120
Selenium, Total	103	80-120
Silver, Total	104	80-120
Zinc, Total	106	80-120
Total Metals - Westborough Lab SPIKE for sample(s) 01-02 (L1102057-01, WG455621-4)		
Mercury, Total	124	70-130
Pesticides by GC - Westborough Lab SPIKE for sample(s) 01-02 (L1101865-01, WG455049-4)		
1,2-Dibromoethane	94	70-130
1,2-Dibromo-3-chloropropane	89	70-130
Volatile Organics by GC/MS - Westborough Lab SPIKE for sample(s) 01-02 (L1101618-01, WG454379-3)		
Methylene chloride	84	1-221
1,1-Dichloroethane	102	59-155
Chloroform	101	51-138
Carbon tetrachloride	116	70-140
1,2-Dichloropropane	98	1-210
Dibromochloromethane	109	53-149
1,1,2-Trichloroethane	110	52-150
2-Chloroethylvinyl ether	92	1-305
Tetrachloroethene	116	64-148
Chlorobenzene	95	37-160
Trichlorofluoromethane	95	17-181
1,2-Dichloroethane	95	49-155
1,1,1-Trichloroethane	99	52-162
Bromodichloromethane	109	35-155

ALPHA ANALYTICAL
QUALITY ASSURANCE BATCH SPIKE ANALYSES

Laboratory Job Number: L1101732

Continued

Parameter	% Recovery	QC Criteria
Volatile Organics by GC/MS - Westborough Lab SPIKE for sample(s) 01-02 (L1101618-01, WG454379-3)		
trans-1,3-Dichloropropene	98	17-183
cis-1,3-Dichloropropene	96	1-227
Bromoform	97	45-169
1,1,2,2-Tetrachloroethane	101	46-157
Benzene	102	35-151
Toluene	103	47-150
Ethylbenzene	104	37-162
Chloromethane	116	1-273
Bromomethane	72	1-242
Vinyl chloride	63	1-251
Chloroethane	78	14-230
1,1-Dichloroethene	99	1-234
trans-1,2-Dichloroethene	110	54-156
cis-1,2-Dichloroethene	98	60-140
Trichloroethene	98	71-157
1,2-Dichlorobenzene	95	18-190
1,3-Dichlorobenzene	92	59-156
1,4-Dichlorobenzene	97	18-190
p/m-Xylene	100	40-160
o-Xylene	93	40-160
XYLENE (TOTAL)	98	40-160
Styrene	90	40-160
Acetone	82	40-160
Carbon disulfide	81	40-160
2-Butanone	96	40-160
Vinyl acetate	99	40-160
4-Methyl-2-pentanone	106	40-160
2-Hexanone	110	40-160
Acrolein	72	40-160
Acrylonitrile	104	40-160
Dibromomethane	92	
Surrogate(s)		
Pentafluorobenzene	94	80-120
Fluorobenzene	101	80-120
4-Bromofluorobenzene	103	80-120
Polychlorinated Biphenyls by GC - Westborough Lab SPIKE for sample(s) 01-02 (L1101732-01, WG454379-3)		
Aroclor 1016	100	40-126
Aroclor 1260	105	40-127
Surrogate(s)		
2,4,5,6-Tetrachloro-m-xylene	86	30-150
Decachlorobiphenyl	98	30-150

ALPHA ANALYTICAL
QUALITY ASSURANCE BATCH LCS/LCSD ANALYSIS

Laboratory Job Number: L1101732

Parameter	LCS %	LCSD %	RPD	RPD Limit	QC Limits
Pesticides by GC - Westborough Lab for sample(s) 01-02 (WG455049-2, WG455049-3)					
1,2-Dibromoethane	96	98	2	20	70-130
1,2-Dibromo-3-chloropropane	91	94	3	20	70-130
Semivolatile Organics by GC/MS - Westborough Lab for sample(s) 01-02 (WG454581-2, WG454581-3)					
Acenaphthene	63	64	2	30	37-111
1,2,4-Trichlorobenzene	57	52	9	30	39-98
2-Chloronaphthalene	82	67	20	30	40-140
1,2-Dichlorobenzene	60	56	7	30	40-140
1,4-Dichlorobenzene	56	53	6	30	36-97
2,4-Dinitrotoluene	74	71	4	30	24-96
2,6-Dinitrotoluene	77	70	10	30	40-140
Fluoranthene	73	80	9	30	40-140
4-Chlorophenyl phenyl ether	71	66	7	30	40-140
n-Nitrosodi-n-propylamine	71	70	1	30	41-116
Butyl benzyl phthalate	80	81	1	30	40-140
Anthracene	77	78	1	30	40-140
Pyrene	73	77	5	30	26-127
p-Chloro-m-Cresol	75	68	10	30	23-97
2-Chlorophenol	71	64	10	30	27-123
2-Nitrophenol	74	70	6	30	30-130
4-Nitrophenol	33	29	13	30	10-80
2,4-Dinitrophenol	57	60	5	30	20-130
Pentachlorophenol	62	68	9	30	9-103
Phenol	28	27	4	30	12-110
Surrogate(s)					
2-Fluorophenol	40	38	5		21-120
Phenol-d6	27	24	12		10-120
Nitrobenzene-d5	71	65	9		23-120
2-Fluorobiphenyl	73	66	10		15-120
2,4,6-Tribromophenol	77	80	4		10-120
4-Terphenyl-d14	83	87	5		33-120
Semivolatile Organics by GC/MS-SIM - Westborough Lab for sample(s) 01-02 (WG454582-2, WG454582-3)					
Acenaphthene	71	68	4	40	37-111
2-Chloronaphthalene	88	83	6	40	40-140
Fluoranthene	104	96	8	40	40-140
Anthracene	92	88	4	40	40-140
Pyrene	97	90	7	40	26-127
Pentachlorophenol	103	96	7	40	9-103
Surrogate(s)					
2-Fluorophenol	43	44	2		21-120
Phenol-d6	28	28	0		10-120
Nitrobenzene-d5	94	92	2		23-120
2-Fluorobiphenyl	74	70	6		15-120
2,4,6-Tribromophenol	98	94	4		10-120
4-Terphenyl-d14	101	93	8		33-120

**ALPHA ANALYTICAL
QUALITY ASSURANCE BATCH BLANK ANALYSIS**

Laboratory Job Number: L1101732

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Blank Analysis for sample(s) 01-02 (WG454904-1)							
General Chemistry - Westborough Lab							
Solids, Total Suspended	ND	mg/l	5.0	30 2540D		0214 14:55	DW
Blank Analysis for sample(s) 01-02 (WG454999-2)							
General Chemistry - Westborough Lab							
Cyanide, Total	ND	mg/l	0.005	30 4500CN-CE	0214 16:15	0215 13:55	JO
Blank Analysis for sample(s) 01-02 (WG454484-1)							
General Chemistry - Westborough Lab							
Chlorine, Total Residual	ND	mg/l	0.02	30 4500CL-D		0209 19:00	AT
Blank Analysis for sample(s) 01-02 (WG454596-2)							
General Chemistry - Westborough Lab							
TPH	ND	mg/l	4.00	74 1664A	0210 12:30	0214 13:30	JO
Blank Analysis for sample(s) 01-02 (WG455206-1)							
General Chemistry - Westborough Lab							
Phenolics, Total	ND	mg/l	0.03	4 420.1	0215 17:00	0215 22:57	TP
Blank Analysis for sample(s) 01-02 (WG454502-1)							
General Chemistry - Westborough Lab							
Chromium, Hexavalent	ND	mg/l	0.010	30 3500CR-D	0210 00:30	0210 00:58	TP
Blank Analysis for sample(s) 01-02 (WG454551-1)							
Total Metals - Westborough Lab							
Iron, Total	ND	mg/l	0.05	19 200.7	0210 09:00	0211 08:58	AI
Blank Analysis for sample(s) 01-02 (WG454552-1)							
Total Metals - Westborough Lab							
Antimony, Total	ND	mg/l	0.0005	1 6020	0210 09:00	0214 15:55	BM
Arsenic, Total	ND	mg/l	0.0005	1 6020	0210 09:00	0214 15:55	BM
Cadmium, Total	ND	mg/l	0.0002	1 6020	0210 09:00	0214 15:55	BM
Chromium, Total	ND	mg/l	0.0005	1 6020	0210 09:00	0214 15:55	BM
Copper, Total	ND	mg/l	0.0005	1 6020	0210 09:00	0214 15:55	BM
Lead, Total	ND	mg/l	0.0005	1 6020	0210 09:00	0214 15:55	BM
Nickel, Total	ND	mg/l	0.0005	1 6020	0210 09:00	0214 15:55	BM
Selenium, Total	ND	mg/l	0.001	1 6020	0210 09:00	0214 15:55	BM
Silver, Total	ND	mg/l	0.0004	1 6020	0210 09:00	0214 15:55	BM
Zinc, Total	ND	mg/l	0.0050	1 6020	0210 09:00	0214 15:55	BM

**ALPHA ANALYTICAL
QUALITY ASSURANCE BATCH BLANK ANALYSIS**

Laboratory Job Number: L1101732

Continued

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Blank Analysis for sample(s) 01-02 (WG455621-1)							
Total Metals - Westborough Lab							
Mercury, Total	ND	mg/l	0.0002	3 245.1	0217 16:20	0218 11:30	DM
Blank Analysis for sample(s) 01-02 (WG455049-1)							
Pesticides by GC - Westborough Lab							
				14 504.1	0215 07:30	0215 08:36	SH
1,2-Dibromoethane	ND	ug/l	0.010				
1,2-Dibromo-3-chloropropane	ND	ug/l	0.010				
Blank Analysis for sample(s) 01-02 (WG454379-6)							
Volatile Organics by GC/MS - Westborough Lab							
				5 624		0210 07:19	TT
Methylene chloride	ND	ug/l	5.0				
1,1-Dichloroethane	ND	ug/l	1.5				
Chloroform	ND	ug/l	1.5				
Carbon tetrachloride	ND	ug/l	1.0				
1,2-Dichloropropane	ND	ug/l	3.5				
Dibromochloromethane	ND	ug/l	1.0				
1,1,2-Trichloroethane	ND	ug/l	1.5				
2-Chloroethylvinyl ether	ND	ug/l	10.				
Tetrachloroethene	ND	ug/l	1.5				
Chlorobenzene	ND	ug/l	3.5				
Trichlorofluoromethane	ND	ug/l	5.0				
1,2-Dichloroethane	ND	ug/l	1.5				
1,1,1-Trichloroethane	ND	ug/l	2.0				
Bromodichloromethane	ND	ug/l	1.0				
trans-1,3-Dichloropropene	ND	ug/l	1.5				
cis-1,3-Dichloropropene	ND	ug/l	1.5				
Bromoform	ND	ug/l	1.0				
1,1,2,2-Tetrachloroethane	ND	ug/l	1.0				
Benzene	ND	ug/l	1.0				
Toluene	ND	ug/l	1.0				
Ethylbenzene	ND	ug/l	1.0				
Chloromethane	ND	ug/l	10.				
Bromomethane	ND	ug/l	5.0				
Vinyl chloride	ND	ug/l	2.0				
Chloroethane	ND	ug/l	2.0				
1,1-Dichloroethene	ND	ug/l	1.0				
trans-1,2-Dichloroethene	ND	ug/l	1.5				
cis-1,2-Dichloroethene	ND	ug/l	1.0				
Trichloroethene	ND	ug/l	1.0				
1,2-Dichlorobenzene	ND	ug/l	5.0				
1,3-Dichlorobenzene	ND	ug/l	5.0				
1,4-Dichlorobenzene	ND	ug/l	5.0				
p/m-Xylene	ND	ug/l	2.0				
o-xylene	ND	ug/l	1.0				
Xylene (Total)	ND	ug/l	2.0				
Styrene	ND	ug/l	1.0				

ALPHA ANALYTICAL
QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L1101732

Continued

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Blank Analysis for sample(s) 01-02 (WG454379-6)							
Volatile Organics by GC/MS - Westborough Lab cont'd				5 624		0210 07:19	TT
Acetone	ND	ug/l	10.				
Carbon disulfide	ND	ug/l	5.0				
2-Butanone	ND	ug/l	10.				
Vinyl acetate	ND	ug/l	20.				
4-Methyl-2-pentanone	ND	ug/l	10.				
2-Hexanone	ND	ug/l	10.				
Acrolein	ND	ug/l	8.0				
Acrylonitrile	ND	ug/l	10.				
Methyl tert butyl ether	ND	ug/l	20.				
Dibromomethane	ND	ug/l	1.0				
1,4-Dioxane	ND	ug/l	2000				
Tert-Butyl Alcohol	ND	ug/l	100				
Tertiary-Amyl Methyl Ether	ND	ug/l	20.				
Surrogate(s)	Recovery		QC Criteria				
Pentafluorobenzene	91.0	%	80-120				
Fluorobenzene	98.0	%	80-120				
4-Bromofluorobenzene	111	%	80-120				
Blank Analysis for sample(s) 01-02 (WG454581-1)							
Semivolatile Organics by GC/MS - Westborough Lab				1 8270C		0210 10:34	0211 12:06 JB
Acenaphthene	ND	ug/l	5.0				
Benzidine	ND	ug/l	50.				
1,2,4-Trichlorobenzene	ND	ug/l	5.0				
Hexachlorobenzene	ND	ug/l	5.0				
Bis(2-chloroethyl)ether	ND	ug/l	5.0				
2-Chloronaphthalene	ND	ug/l	6.0				
1,2-Dichlorobenzene	ND	ug/l	5.0				
1,3-Dichlorobenzene	ND	ug/l	5.0				
1,4-Dichlorobenzene	ND	ug/l	5.0				
3,3'-Dichlorobenzidine	ND	ug/l	50.				
2,4-Dinitrotoluene	ND	ug/l	6.0				
2,6-Dinitrotoluene	ND	ug/l	5.0				
Azobenzene	ND	ug/l	5.0				
Fluoranthene	ND	ug/l	5.0				
4-Chlorophenyl phenyl ether	ND	ug/l	5.0				
4-Bromophenyl phenyl ether	ND	ug/l	5.0				
Bis(2-chloroisopropyl)ether	ND	ug/l	5.0				
Bis(2-chloroethoxy)methane	ND	ug/l	5.0				
Hexachlorobutadiene	ND	ug/l	10.				
Hexachlorocyclopentadiene	ND	ug/l	30.				
Hexachloroethane	ND	ug/l	5.0				
Isophorone	ND	ug/l	5.0				
Naphthalene	ND	ug/l	5.0				
Nitrobenzene	ND	ug/l	5.0				
NitrosoDiPhenylAmine(NDPA)/DPA	ND	ug/l	15.				

ALPHA ANALYTICAL
QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L1101732

Continued

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Blank Analysis for sample(s) 01-02 (WG454581-1)							
Semivolatile Organics by GC/MS - Westborough Lab cont'd				1 8270C	0210 10:34	0211 12:06	JB
Bis(2-Ethylhexyl)phthalate	ND	ug/l	5.0				
Butyl benzyl phthalate	ND	ug/l	5.0				
Di-n-butylphthalate	ND	ug/l	5.0				
Di-n-octylphthalate	ND	ug/l	5.0				
Diethyl phthalate	ND	ug/l	5.0				
Dimethyl phthalate	ND	ug/l	5.0				
Benzo(a)anthracene	ND	ug/l	5.0				
Benzo(a)pyrene	ND	ug/l	5.0				
Benzo(b)fluoranthene	ND	ug/l	5.0				
Benzo(k)fluoranthene	ND	ug/l	5.0				
Chrysene	ND	ug/l	5.0				
Acenaphthylene	ND	ug/l	5.0				
Anthracene	ND	ug/l	5.0				
Benzo(ghi)perylene	ND	ug/l	5.0				
Fluorene	ND	ug/l	5.0				
Phenanthrene	ND	ug/l	5.0				
Dibenzo(a,h)anthracene	ND	ug/l	5.0				
Indeno(1,2,3-cd)Pyrene	ND	ug/l	7.0				
Pyrene	ND	ug/l	5.0				
Aniline	ND	ug/l	20.				
4-Chloroaniline	ND	ug/l	5.0				
1-Methylnaphthalene	ND	ug/l	5.0				
2-Nitroaniline	ND	ug/l	5.0				
3-Nitroaniline	ND	ug/l	5.0				
4-Nitroaniline	ND	ug/l	7.0				
Dibenzofuran	ND	ug/l	5.0				
2-Methylnaphthalene	ND	ug/l	5.0				
n-Nitrosodimethylamine	ND	ug/l	50.				
2,4,6-Trichlorophenol	ND	ug/l	5.0				
p-Chloro-M-Cresol	ND	ug/l	5.0				
2-Chlorophenol	ND	ug/l	6.0				
2,4-Dichlorophenol	ND	ug/l	10.				
2,4-Dimethylphenol	ND	ug/l	10.				
2-Nitrophenol	ND	ug/l	20.				
4-Nitrophenol	ND	ug/l	10.				
2,4-Dinitrophenol	ND	ug/l	30.				
4,6-Dinitro-o-cresol	ND	ug/l	20.				
Pentachlorophenol	ND	ug/l	10.				
Phenol	ND	ug/l	7.0				
2-Methylphenol	ND	ug/l	6.0				
3-Methylphenol/4-Methylphenol	ND	ug/l	6.0				
2,4,5-Trichlorophenol	ND	ug/l	5.0				
Benzoic Acid	ND	ug/l	50.				
Benzyl Alcohol	ND	ug/l	10.				
Carbazole	ND	ug/l	5.0				
Pyridine	ND	ug/l	50.				

ALPHA ANALYTICAL
QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L1101732

Continued

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Blank Analysis for sample(s) 01-02 (WG454581-1)							
Semivolatile Organics by GC/MS - Westborough Lab cont'd				1	8270C	0210 10:34	0211 12:06 JB
Surrogate(s)	Recovery			QC Criteria			
2-Fluorophenol	33.0	%		21-120			
Phenol-d6	21.0	%		10-120			
Nitrobenzene-d5	63.0	%		23-120			
2-Fluorobiphenyl	59.0	%		15-120			
2,4,6-Tribromophenol	77.0	%		10-120			
4-Terphenyl-d14	79.0	%		33-120			
Blank Analysis for sample(s) 01-02 (WG454582-1)							
Semivolatile Organics by GC/MS-SIM - Westborough Lab				1	8270C-SIM	0210 10:34	0211 10:56 JC
Acenaphthene	ND	ug/l		0.20			
2-Chloronaphthalene	ND	ug/l		0.20			
Fluoranthene	ND	ug/l		0.20			
Hexachlorobutadiene	ND	ug/l		0.50			
Naphthalene	ND	ug/l		0.20			
Benzo(a)anthracene	ND	ug/l		0.20			
Benzo(a)pyrene	ND	ug/l		0.20			
Benzo(b)fluoranthene	ND	ug/l		0.20			
Benzo(k)fluoranthene	ND	ug/l		0.20			
Chrysene	ND	ug/l		0.20			
Acenaphthylene	ND	ug/l		0.20			
Anthracene	ND	ug/l		0.20			
Benzo(ghi)perylene	ND	ug/l		0.20			
Fluorene	ND	ug/l		0.20			
Phenanthrene	ND	ug/l		0.20			
Dibenzo(a,h)anthracene	ND	ug/l		0.20			
Indeno(1,2,3-cd)Pyrene	ND	ug/l		0.20			
Pyrene	ND	ug/l		0.20			
1-Methylnaphthalene	ND	ug/l		0.20			
2-Methylnaphthalene	ND	ug/l		0.20			
Pentachlorophenol	ND	ug/l		0.80			
Hexachlorobenzene	ND	ug/l		0.80			
Hexachloroethane	ND	ug/l		0.80			
Surrogate(s)	Recovery			QC Criteria			
2-Fluorophenol	37.0	%		21-120			
Phenol-d6	23.0	%		10-120			
Nitrobenzene-d5	85.0	%		23-120			
2-Fluorobiphenyl	63.0	%		15-120			
2,4,6-Tribromophenol	78.0	%		10-120			
4-Terphenyl-d14	93.0	%		33-120			
Blank Analysis for sample(s) 01-02 (WG454657-1)							
Polychlorinated Biphenyls by GC - Westborough Lab				5	608	0210 20:12	0211 11:35 SH
Aroclor 1016	ND	ug/l		0.250			
Aroclor 1221	ND	ug/l		0.250			

ALPHA ANALYTICAL
 QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L1101732

Continued

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Blank Analysis for sample(s) 01-02 (WG454657-1)							
Polychlorinated Biphenyls by GC - Westborough Lab cont'd				5 608	0210 20:12	0211 11:35	SH
Aroclor 1232	ND	ug/l	0.250				
Aroclor 1242	ND	ug/l	0.250				
Aroclor 1248	ND	ug/l	0.250				
Aroclor 1254	ND	ug/l	0.250				
Aroclor 1260	ND	ug/l	0.250				
Surrogate(s)	Recovery			QC Criteria			
2,4,5,6-Tetrachloro-m-xylene	81.0	%		30-150			
Decachlorobiphenyl	113	%		30-150			

**ALPHA ANALYTICAL
ADDENDUM I**

REFERENCES

1. Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IIIA, 1997.
3. Methods for the Determination of Metals in Environmental Samples, Supplement I. EPA/600/R-94/111. May 1994.
4. Methods for Chemical Analysis of Water and Wastes. EPA 600/4-79-020. Revised March 1983.
5. Methods for the Organic Chemical Analysis of Municipal and Industrial Wastewater. Appendix A, Part 136, 40 CFR (Code of Federal Regulations).
14. Methods for the Determination of Organic Compounds in Finished Drinking Water and Raw Source Water. EPA/600/4-88/039, Revised July 1991.
19. Inductively Coupled Plasma Atomic Emission Spectrometric Method for Trace Element Analysis of Water and Wastes. Appendix C, Part 136, 40 CFR (Code of Federal Regulations). July 1, 1999 edition.
30. Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WPCF. 18th Edition. 1992.
74. Method 1664, Revision A: N-Hexane Extractable Material (HEM; Oil & Grease) and Silica Gel Treated N-Hexane Extractable Material (SGT-HEM; Non-polar Material) by Extraction and Gravimetry, EPA-821-R-98-002, February 1999.

**ALPHA ANALYTICAL
ADDENDUM I**

REFERENCES

GLOSSARY OF TERMS AND SYMBOLS

REF Reference number in which test method may be found.
METHOD Method number by which analysis was performed.
ID Initials of the analyst.
ND Not detected in comparison to the reported detection limit.
NI Not Ignitable.
ug/cart Micrograms per Cartridge.
H The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

LIMITATION OF LIABILITIES

Alpha Analytical, Inc. performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical, Inc., shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical, Inc. be held liable for any incidental consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical, Inc.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding times and splitting of samples in the field.

Certificate/Approval Program Summary

Last revised February 18, 2011 - Westboro Facility

The following list includes only those analytes/methods for which certification/approval is currently held.
For a complete listing of analytes for the referenced methods, please contact your Alpha Customer Service Representative.

Connecticut Department of Public Health Certificate/Lab ID: PH-0574. **NELAP Accredited Solid Waste/Soil.**

Drinking Water (Inorganic Parameters: Color, pH, Turbidity, Conductivity, Alkalinity, Chloride, Free Residual Chlorine, Fluoride, Calcium Hardness, Sulfate, Nitrate, Nitrite, Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Vanadium, Zinc, Total Dissolved Solids, Total Organic Carbon, Total Cyanide, Perchlorate. Organic Parameters: Volatile Organics 524.2, Total Trihalomethanes 524.2, 1,2-Dibromo-3-chloropropane (DBCP), Ethylene Dibromide (EDB), 1,4-Dioxane (Mod 8270). Microbiology Parameters: Total Coliform-MF mEndo (SM9222B), Total Coliform – Colilert (SM9223 P/A), E. Coli. – Colilert (SM9223 P/A), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D))

Wastewater/Non-Potable Water (Inorganic Parameters: Color, pH, Conductivity, Acidity, Alkalinity, Chloride, Total Residual Chlorine, Fluoride, Total Hardness, Silica, Sulfate, Sulfide, Ammonia, Kjeldahl Nitrogen, Nitrate, Nitrite, O-Phosphate, Total Phosphorus, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Titanium, Vanadium, Zinc, Total Residue (Solids), Total Dissolved Solids, Total Suspended Solids (non-filterable), BOD, CBOD, COD, TOC, Total Cyanide, Phenolics, Foaming Agents (MBAS), Bromide, Oil and Grease. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Acid Extractables (Phenols), Benzidines, Phthalate Esters, Nitrosamines, Nitroaromatics & Isophorone, Polynuclear Aromatic Hydrocarbons, Haloethers, Chlorinated Hydrocarbons, Volatile Organics, TPH (HEM/SGT), Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH. Microbiology Parameters: Total Coliform – MF mEndo (SM9222B), Total Coliform – MTF (SM9221B), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D), Fecal Coliform – A-1 Broth (SM9221E).)

Solid Waste/Soil (Inorganic Parameters: pH, Sulfide, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Tin, Vanadium, Zinc, Total Cyanide, Ignitability, Phenolics, Corrosivity, TCLP Leach (1311), SPLP Leach (1312 metals only), Reactivity. Organic Parameters: PCBs, PCBs in Oil, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH, Dicamba, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Volatile Organics, Acid Extractables (Phenols), 3,3'-Dichlorobenzidine, Phthalates, Nitrosamines, Nitroaromatics & Cyclic Ketones, PAHs, Haloethers, Chlorinated Hydrocarbons.)

Maine Department of Human Services Certificate/Lab ID: 2009024.

Drinking Water (Inorganic Parameters: SM9215B, 9222D, 9223B, EPA 180.1, 353.2, SM2130B, 2320B, 4500CI-D, 4500CN-C, 4500CN-E, 4500F-C, 4500H+B, 4500NO3-F, EPA 200.7, EPA 200.8, 245.1, EPA 300.0. Organic Parameters: 504.1, 524.2.)

Wastewater/Non-Potable Water (Inorganic Parameters: EPA 120.1, 1664A, 350.1, 351.1, 353.2, 410.4, 420.1, SM2320B, 2510B, 2540C, 2540D, 426C, 4500CI-D, 4500CI-E, 4500CN-C, 4500CN-E, 4500F-B, 4500F-C, 4500H+B, 4500Norg-B, 4500Norg-C, 4500NH3-B, 4500NH3-G, 4500NH3-H, 4500NO3-F, 4500P-B, 4500P-E, 5210B, 5220D, 5310C, EPA 200.7, 200.8, 245.1. Organic Parameters: 608, 624, ME-DRO, ME-GRO, MA-EPH, MA-VPH.)

Solid Waste/Soil (Organic Parameters: ME-DRO, ME-GRO, MA-EPH, MA-VPH.)

Massachusetts Department of Environmental Protection Certificate/Lab ID: M-MA086.

Drinking Water (Inorganic Parameters: (EPA 200.8 for: Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Tl) (EPA 200.7 for: Ba,Be,Ca,Cd,Cr,Cu,Na,Ni) 245.1, (300.0 for: Nitrate-N, Fluoride, Sulfate); (EPA 353.2 for: Nitrate-N, Nitrite-N); (SM4500NO3-F for: Nitrate-N and Nitrite-N); 4500F-C, 4500CN-CE, EPA 180.1, SM2130B, SM4500CI-D, 2320B, SM2540C, SM4500H-B. Organic Parameters: (EPA 524.2 for: Trihalomethanes, Volatile Organics); (504.1 for: 1,2-Dibromoethane, 1,2-Dibromo-3-Chloropropane), EPA 332. Microbiology Parameters: SM9215B; ENZ. SUB. SM9223; ColilertQT SM9223B; MF-SM9222D.)

Non-Potable Water (Inorganic Parameters:, (EPA 200.8 for: Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn); (EPA 200.7 for: Al,Sb,As,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Mo,Ni,K,Se,Ag,Na,Sr,Ti,Tl, V,Zn); 245.1, SM4500H,B, EPA 120.1, SM2510B, 2540C, 2340B, 2320B, 4500CL-E, 4500F-BC, 426C, SM4500NH3-BH, (EPA 350.1 for: Ammonia-N), LCHAT 10-107-06-1-B for Ammonia-N, SM4500NO3-F, 353.2 for Nitrate-N, SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, 4500P-B,E, 5220D, EPA 410.4, SM 5210B, 5310C, 4500CL-D, EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.

Organic Parameters: (EPA 624 for Volatile Halocarbons, Volatile Aromatics),(608 for: Chlordane, Aldrin, Dieldrin, DDD, DDE, DDT, Heptachlor, Heptachlor Epoxide, PCBs-Water), (EPA 625 for SVOC Acid Extractables and SVOC Base/Neutral Extractables), 600/4-81-045-PCB-Oil. Microbiology Parameters: (ColilertQT SM9223B;Enterolert-QT: SM9222D-MF.)

New Hampshire Department of Environmental Services Certificate/Lab ID: 200307. *NELAP Accredited.*

Drinking Water (Inorganic Parameters: SM 9222B, 9223B, 9215B, EPA 200.7, 200.8, 245.2, 300.0, SM4500CN-E, 4500H+B, 4500NO3-F, 2320B, 2510B, 2540C, 4500F-C, 5310C, 2120B, EPA 332.0. Organic Parameters: 504.1, 524.2.)

Non-Potable Water (Inorganic Parameters: SM9222D, 9221B, 9222B, 9221E-EC, EPA 3005A, 200.7, 200.8, 245.1, 245.2, SW-846 6010B, 6020, 7196A, 7470A, SM3500-CR-D, EPA 120.1, 300.0, 350.1, 351.1, 353.2, 410.4, 420.1, 1664A, SW-846 9010, 9030, 9040B, 9050A, SM426C, SM2120B, 2310B, 2320B, 2540B, 2540D, 4500H+B, 4500CL-E, 4500CN-E, 4500NH3-H, 4500NO3-F, 4500NO2-B, 4500P-E, 4500-S2-D, 5210B, 5220D, 2510B, 2540C, 4500F-C, 5310C, 5540C, LACHAT 10-204-00-1-A, LACHAT 10-107-06-2-D. Organic Parameters: SW-846 3510C, 5030B, 8260B, 8270C, 8330, EPA 624, 625, 608, SW-846 8082, 8081A, 8151A.)

Solid & Chemical Materials (Inorganic Parameters: SW-846 6010B, 7196A, 7471A, 1010, 1030, 9010, 9012A, 9014, 9030B, 9040B, 9045C, 9050C, 9065,1311, 1312, 3005A, 3050B. Organic Parameters: SW-846 3540C, 3546, 3580A, 5030B, 5035, 8260B, 8270C, 8330, 8151A, 8015B, 8082, 8081A.)

New Jersey Department of Environmental Protection Certificate/Lab ID: MA935. *NELAP Accredited.*

Drinking Water (Inorganic Parameters: SM9222B, 9221E, 9223B, 9215B, 4500CN-CE, 4500NO3-F, 4500F-C, EPA 300.0, 200.7, 200.8, 245.2, 2540C, SM2120B, 2320B, 2510B, 5310C, SM4500H-B. Organic Parameters: EPA 332, 504.1, 524.2.)

Non-Potable Water (Inorganic Parameters: SM5210B, EPA 410.4, SM5220D, 4500CI-E, EPA 300.0, SM2120B, SM4500F-BC, EPA 200.7, 351.1, LACHAT 10-107-06-2-D, EPA 353.2, SM4500NO3-F, 4500NO2-B, EPA 1664A, SM5310B, C or D, 4500-PE, EPA 420.1, SM510ABC, SM4500P-B5+E, 2540B, 2540C, 2540D, EPA 120.1, SM2510B, SM15 426C, 9222D, 9221B, 9221C, 9221E, 9222B, 9215B, 2310B, 2320B, 4500NH3-H, 4500-S D, EPA 350.1, 350.2, SW-846 1312, 6020, 7470A, 5540C, 4500H-B, EPA 200.8, SM3500Cr-D, 4500CN-CE, EPA 245.1, 245.2, SW-846 9040B, 3005A, EPA 6010B, 7196A, SW-846 9010B, 9030B. Organic Parameters: SW-846 8260B, 8270C, 3510C, EPA 608, 624, 625, SW-846 3630C, 5030B, 8081A, 8082, 8151A, 8330, NJ OQA-QAM-025 Rev.7, NJ EPH.)

Solid & Chemical Materials (Inorganic Parameters: SW-846, 6010B, 7196A, 9010B, 9030B, 1010, 1030, 1311, 1312, 3005A, 3050B, 7471A, 9014, 9012A, 9040B, 9045C, 9050A, 9065. Organic Parameters: SW-846 8015B, 8081A, 8082, 8151A, 8330, 8260B, 8270C, 3540C, 3545, 3546, 3550B, 3580A, 3630C, 5030B, 5035L, 5035H, NJ OQA-QAM-025 Rev.7, NJ EPH.)

New York Department of Health Certificate/Lab ID: 11148. *NELAP Accredited.*

Drinking Water (Inorganic Parameters: SM9223B, 9222B, 9215B, EPA 200.8, 200.7, 245.2, SM5310C, EPA 332.0, SM2320B, EPA 300.0, SM2120B, 4500CN-E, 4500F-C, 4500H-B, 4500NO3-F, 2540C, SM 2510B. Organic Parameters: EPA 524.2, 504.1.)

Non-Potable Water (Inorganic Parameters: SM9221E, 9222D, 9221B, 9222B, 9215B, 5210B, 5310C, EPA 410.4, SM5220D, 2310B-4a, 2320B, EPA 200.7, 300.0, SM4500CL-E, 4500F-C, SM15 426C, EPA 350.1, SM4500NH3-BH, EPA 351.1, LACHAT 10-107-06-2, EPA 353.2, LACHAT 10-107-04-1-C, SM4500-NO3-F, 4500-NO2-B, 4500P-E, 2540C, 2540B, 2540D, EPA 200.8, EPA 6010B, 6020, EPA 7196A, SM3500Cr-D, EPA 245.1, 245.2, 7470A, SM2120B, LACHAT 10-204-00-1-A, EPA 9040B, SM4500-HB, EPA 1664A, EPA 420.1, SM14 510C, EPA 120.1, SM2510B, SM4500S-D, SM5540C, EPA 3005A, 9010B, 9030B. Organic Parameters: EPA 624, 8260B, 8270C, 625, 608, 8081A, 8151A, 8330, 8082, EPA 3510C, 5030B.)

Solid & Hazardous Waste (Inorganic Parameters: 1010, 1030, EPA 6010B, 7196A, 7471A, 9012A, 9014, 9040B, 9045C, 9065, 9050, EPA 1311, 1312, 3005A, 3050B, 9010B, 9030B. Organic Parameters: EPA 8260B, 8270C, 8015B, 8081A, 8151A, 8330, 8082, 3540C, 3545, 3546, 3580, 5030B, 5035.)

North Carolina Department of the Environment and Natural Resources Certificate/Lab ID : 666. Organic Parameters: MA-EPH, MA-VPH.

Pennsylvania Department of Environmental Protection Certificate/Lab ID : 68-03671. *NELAP Accredited.*

Drinking Water (Organic Parameters: EPA 524.2)

Non-Potable Water (Inorganic Parameters: EPA 1312. Organic Parameters: EPA 3510C, 5030B, 625, 624, 608, 8081A, 8082, 8151A, 8260B, 8270C, 8330)

Solid & Hazardous Waste (Inorganic Parameters: EPA 350.1, 1010, 1030, 1311, 1312, 3050B, 6010B, 7196A, 7471A, 9010B, 9012A, 9014, 9040B, 9045C, 9050, 9065, SM 4500NH3-H. Organic Parameters: 3540C, 3545, 3546, 3550B,

3580A, 3630C, 5035, 8015B, 8081A, 8082, 8151A, 8260B, 8270C, 8330)

Rhode Island Department of Health Certificate/Lab ID: LAO00065. *NELAP Accredited via NY-DOH.*

Refer to MA-DEP Certificate for Potable and Non-Potable Water.

Refer to NJ-DEP Certificate for Potable and Non-Potable Water.

Texas Commission on Environmental Quality Certificate/Lab ID: T104704476-09-1. *NELAP Accredited.*

Non-Potable Water (Inorganic Parameters: EPA 120.1, 1664, 200.7, 200.8, 245.1, 245.2, 300.0, 350.1, 351.1, 353.2, 376.2, 410.4, 420.1, 6010, 6020, 7196, 7470, 9040, SM 2120B, 2310B, 2320B, 2510B, 2540B, 2540C, 2540D, 426C, 4500CL-E, 4500CN-E, 4500F-C, 4500H+B, 4500NH3-H, 4500NO2B, 4500P-E, 4500 S²⁻ D, 510C, 5210B, 5220D, 5310C, 5540C. Organic Parameters: EPA 608, 624, 625, 8081, 8082, 8151, 8260, 8270, 8330.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 1311, 1312, 9012, 9014, 9040, 9045, 9050, 9065.)

Department of Defense Certificate/Lab ID: L2217.

Drinking Water (Inorganic Parameters: SM 4500H-B. Organic Parameters: EPA 524.2, 504.1.)

Non-Potable Water (Inorganic Parameters: EPA 200.7, 200.8, 6010B, 6020, 245.1, 245.2, 7470A, 9040B, 300.0, 332.0, 6860, 353.2, 410.4, 9060, 1664A, SM 4500CN-E, 4500H-B, 4500NO3-F, 5220D, 5310C, 2320B, 2540C, 3005A, 3015, 9010B, 9056. Organic Parameters: EPA 8260B, 8270C, 8330A, 625, 8082, 8081A, 3510C, 5030B, MassDEP EPH, MassDEP VPH.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 200.7, 6010B, 7471A, 9010, 9012A, 6860, 1311, 1312, 3050B, 7196A, 9010B, 3500-CR-D, 4500CN-CE, 2540G, Organic Parameters: EPA 8260B, 8270C, 8330A/B-prep, 8082, 8081A, 3540C, 3546, 3580A, 5035A, MassDEP EPH, MassDEP VPH.)

Analytes Not Accredited by NELAP

Certification is not available by NELAP for the following analytes: **EPA 8260B:** Freon-113, 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene. **EPA 8330A:** PETN, Picric Acid, Nitroglycerine, 2,6-DANT, 2,4-DANT. **EPA 8270C:** Methyl naphthalene, Dimethyl naphthalene, Total Methyl naphthalenes, Total Dimethyl naphthalenes, 1,4-Diphenylhydrazine (Azobenzene). **EPA 625:** 4-Chloroaniline. **EPA 350.1** for Ammonia in a Soil matrix.



CHAIN OF CUSTODY

PAGE 1 OF 1

WESTBORO, MA
TEL: 508-898-9220
FAX: 508-898-9193

MANSFIELD, MA
TEL: 508-822-9300
FAX: 508-822-3288

Date Rec'd in Lab: 2/9/11ALPHA Job #: L110732**Project Information**Project Name: Fan Pier Parcel A+BProject Location: South Boston, MAProject #: 4426.9.B3Project Manager: PJD

ALPHA Quote #:

Report Information - Data Deliverables
 FAX EMAIL
 ADEX Add'l Deliverables
Billing Information Same as Client info PO #:**Client Information**Client: McPhaul Assoc LLCAddress: 2269 MeadowCambridge, MAPhone: 617-868-1420Fax: 617-868-1422Email: pdecheva@mcphaulgeo.com These samples have been previously analyzed by Alpha**Turn-Around Time** Standard RUSH (only confirmed if pre-approved!)Date Due: 2/16/11 Time:**Regulatory Requirements/Report Limits**State/Fed Program MA DEP Criteria**MA MCP PRESUMPTIVE CERTAINTY --- CT REASONABLE CONFIDENCE PROTO**

Yes No Are MCP Analytical Methods Required? CW 2/18/11

Yes No Is Matrix Spike (MS) Required on this SDG? (If yes see note in Comments)

Yes No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:

If MS is required, indicate in Sample Specific Comments which samples and what tests MS to be performed.
(Note: All CAM methods for inorganic analyses require MS every 20 soil samples)

RGP EFFLUENT SDS.

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection		Sample Matrix	Sampler's Initials	ANALYSIS										TOTAL # BOTTLES	
		Date	Time			504	624	Total Metals	TSS	PBS	TRC	TCN	TPhenol	8270 w/PAH SIM	TPA-1664		HexCr
<u>1732.1</u>	<u>MA7-A1</u>	<u>2/9/11</u>	<u>10:00</u>	<u>A20</u>	<u>TMC</u>	<u>2</u>	<u>2</u>	<u>1</u>	<u>1</u>	<u>2</u>	<u>1</u>	<u>1</u>	<u>2</u>	<u>2</u>	<u>1</u>		<u>16</u>
<u>.2</u>	<u>MA7-B25</u>	<u>2/9/11</u>	<u>11:30</u>	<u>H20</u>	<u>TMC</u>	<u>2</u>	<u>2</u>	<u>1</u>	<u>1</u>	<u>2</u>	<u>1</u>	<u>1</u>	<u>2</u>	<u>2</u>	<u>1</u>		<u>16</u>

SAMPLE HANDLING

Filtration _____

Done

Not needed

Lab to do Preservation

Lab to do

(Please specify below)

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT MA MCP or CT RCP?

Container Type	<u>V</u>	<u>U</u>	<u>P</u>	<u>P</u>	<u>A</u>	<u>P</u>	<u>D</u>	<u>A</u>	<u>A</u>	<u>P</u>
Preservative	<u>H</u>	<u>H</u>	<u>C</u>	<u>A</u>	<u>A</u>	<u>A</u>	<u>E</u>	<u>D</u>	<u>B</u>	<u>A</u>

Relinquished By: [Signature] Date/Time: 2/9/11 13:00

Received By: [Signature] Date/Time: 2/9/11 17:00

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.



Geotechnical Engineers

ATTACHMENT D

AREAS OF CRITICAL CONCERN, ENDANGERED AND THREATENED SPECIES

Fan Pier Parcels A and B are located south of Boston's Inner Harbor within the South Boston Seaport District. Based on a review of Massachusetts Geographic Information Systems DEP Priority Resources' Map, there are no drinking water supplies, no Areas of Critical Environmental Concern, no Sole Source Aquifers, no fish habitats, and no habitats of Species of Special Concern or Threatened or Endangered Species at or within 500-feet of the subject site. No Protected Open Space is indicated within 500-feet of the subject property. Wetlands and a 500-year flood zone are indicated along part of the seawall to the north of the property.

There are no surface water bodies located within the site boundaries however, Boston's Inner Harbor is located immediately to the north of the subject property. In addition, Fort Point Channel is located on the opposite side of the Federal Courthouse, approximately 500 feet to the west of the subject property.

A review of the most recent federal listing of threatened and endangered species published by the U.S. Fish and Wildlife Service did not identify the presence of threatened and/or endangered species or critical habitats at or in the vicinity of the discharge location and/or discharge outfall. In addition, a review of the Massachusetts Division of Fisheries and Wildlife on-line database did not indicate the presence of threatened or endangered species at the point of discharge and/or the discharge outfall.

Based upon the above, the site is considered criterion A pursuant to Appendix IV of the RGP.

MassDEP - Bureau of Waste Site Cleanup

MCP Numerical Ranking System Map: 500 feet & 0.5 Mile Radii

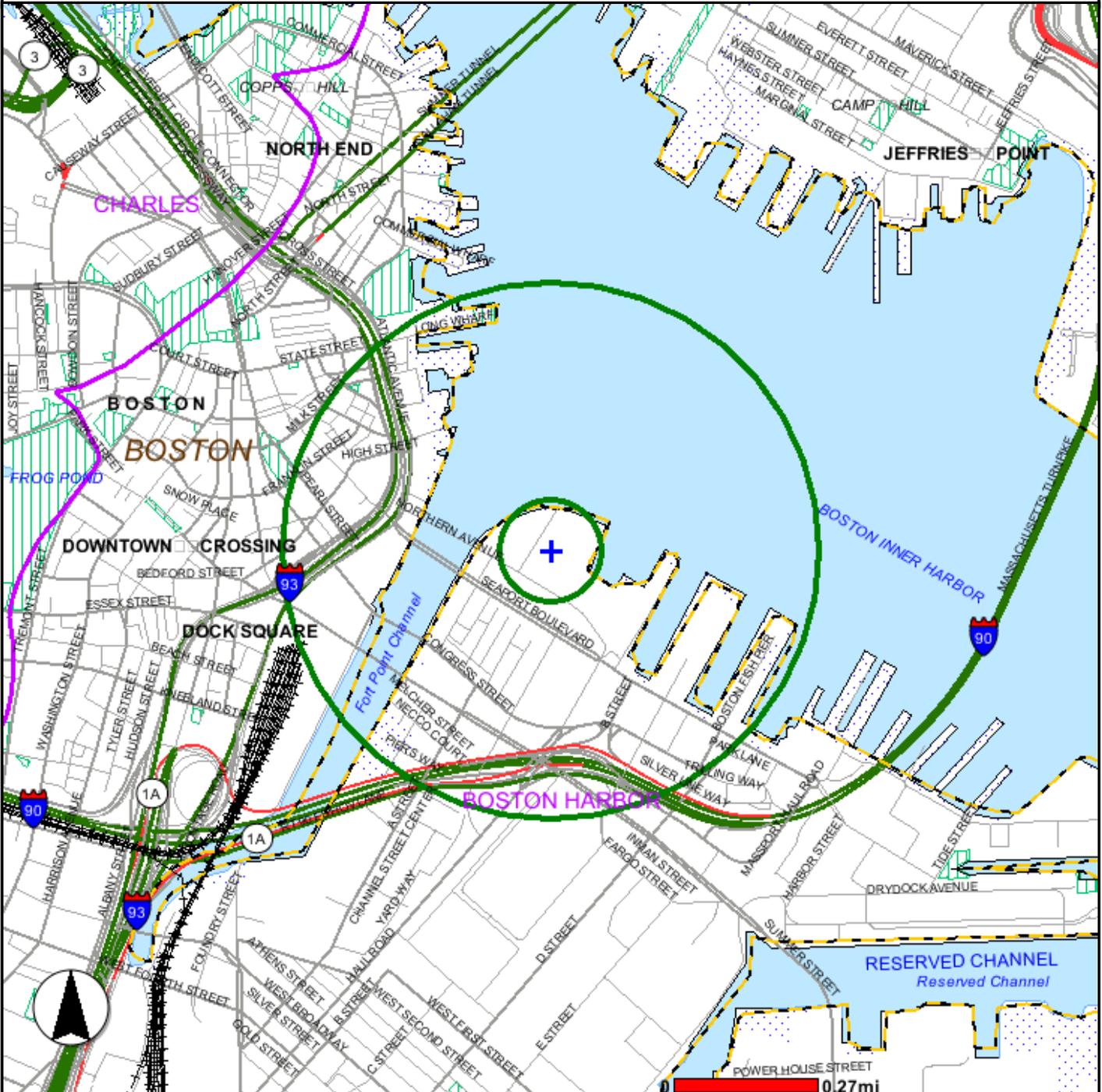
Site Name:
Fan Pier Parcels A and B
RTN:
NAD83 MA Coordinates:
237425mE, 900488mN



The information shown on this map is the best available at the date of printing. For more information please refer to www.mass.gov/mgis/massgis.htm



April 12, 2011



Roads: Limited Access, Divided, Other Hwy, Major Road, Minor Road, Track, Trail	PWS Protection Areas: Zone II, IWPA, Zone A			
Boundaries: Town, County, DEP Region; Train; Powerline; Pipeline; Aqueduct	Hydrography: Open Water, PWS Reservoir, Tidal Flat			
Basins: Major, Sub; Streams: Perennial, Intermittent, Man Made Shore, Dam	Wetlands: Freshwater, Saltwater, Cranberry Bog			
Aquifers: Medium Yield, High Yield, EPA Sole Source	FEMA 100yr Floodplain, Protected Open Space, ACEC			
Non Potential Drinking Water Source Area: Medium, High (Yield)	NHESP: Est Rare Wetland Habitat, Certified Vernal Pool			
	DEP Permitted Solid Waste Landfill			

MASSACHUSETTS AREAS OF CRITICAL ENVIRONMENTAL CONCERN

June 2009

Total Approximate Acreage: 268,000 acres

Approximate acreage and designation date follow ACEC names below.

Bourne Back River

(1,850 acres, 1989) Bourne

Canoe River Aquifer and Associated Areas (17,200 acres, 1991) Easton, Foxborough, Mansfield, Norton, Sharon, and Taunton

Cedar Swamp

(1,650 acres, 1975) Hopkinton and Westborough

Central Nashua River Valley

(12,900 acres, 1996) Bolton, Harvard, Lancaster, and Leominster

Cranberry Brook Watershed

(1,050 acres, 1983) Braintree and Holbrook

Ellisville Harbor

(600 acres, 1980) Plymouth

Fowl Meadow and Ponkapoag Bog

(8,350 acres, 1992) Boston, Canton, Dedham, Milton, Norwood, Randolph, Sharon, and Westwood

Golden Hills

(500 acres, 1987) Melrose, Saugus, and Wakefield

Great Marsh (originally designated as Parker River/Essex Bay)

(25,500 acres, 1979) Essex, Gloucester, Ipswich, Newbury, and Rowley

Herring River Watershed

(4,450 acres, 1991) Bourne and Plymouth

Hinsdale Flats Watershed

(14,500 acres, 1992) Dalton, Hinsdale, Peru, and Washington

Hockomock Swamp

(16,950 acres, 1990) Bridgewater, Easton, Norton, Raynham, Taunton, and West Bridgewater

Inner Cape Cod Bay

(2,600 acres, 1985) Brewster, Eastham, and Orleans

Kampoosa Bog Drainage Basin

(1,350 acres, 1995) Lee and Stockbridge

Karner Brook Watershed

(7,000 acres, 1992) Egremont and Mount Washington

Miscoe, Warren, and Whitehall Watersheds

(8,700 acres, 2000) Grafton, Hopkinton, and Upton

Neponset River Estuary

(1,300 acres, 1995) Boston, Milton, and Quincy

Petapawag

(25,680 acres, 2002) Ayer, Dunstable, Groton, Pepperell, and Tyngsborough

Pleasant Bay

(9,240 acres, 1987) Brewster, Chatham, Harwich, and Orleans

Pocasset River

(160 acres, 1980) Bourne

Rumney Marshes

(2,800 acres, 1988) Boston, Lynn, Revere, Saugus, and Winthrop

Sandy Neck Barrier Beach System

(9,130 acres, 1978) Barnstable and Sandwich

Schenob Brook Drainage Basin

(13,750 acres, 1990) Mount Washington and Sheffield

Squannassit

(37,420 acres, 2002) Ashby, Ayer, Groton, Harvard, Lancaster, Lunenburg, Pepperell, Shirley, and Townsend

Three Mile River Watershed

(14,280 acres, 2008) Dighton, Norton, Taunton

Upper Housatonic River

(12,280 acres, 2009) Lee, Lenox, Pittsfield, Washington

Waquoit Bay

(2,580 acres, 1979) Falmouth and Mashpee

Weir River

(950 acres, 1986) Cohasset, Hingham, and Hull

Wellfleet Harbor

(12,480 acres, 1989) Eastham, Truro, and Wellfleet

Weymouth Back River

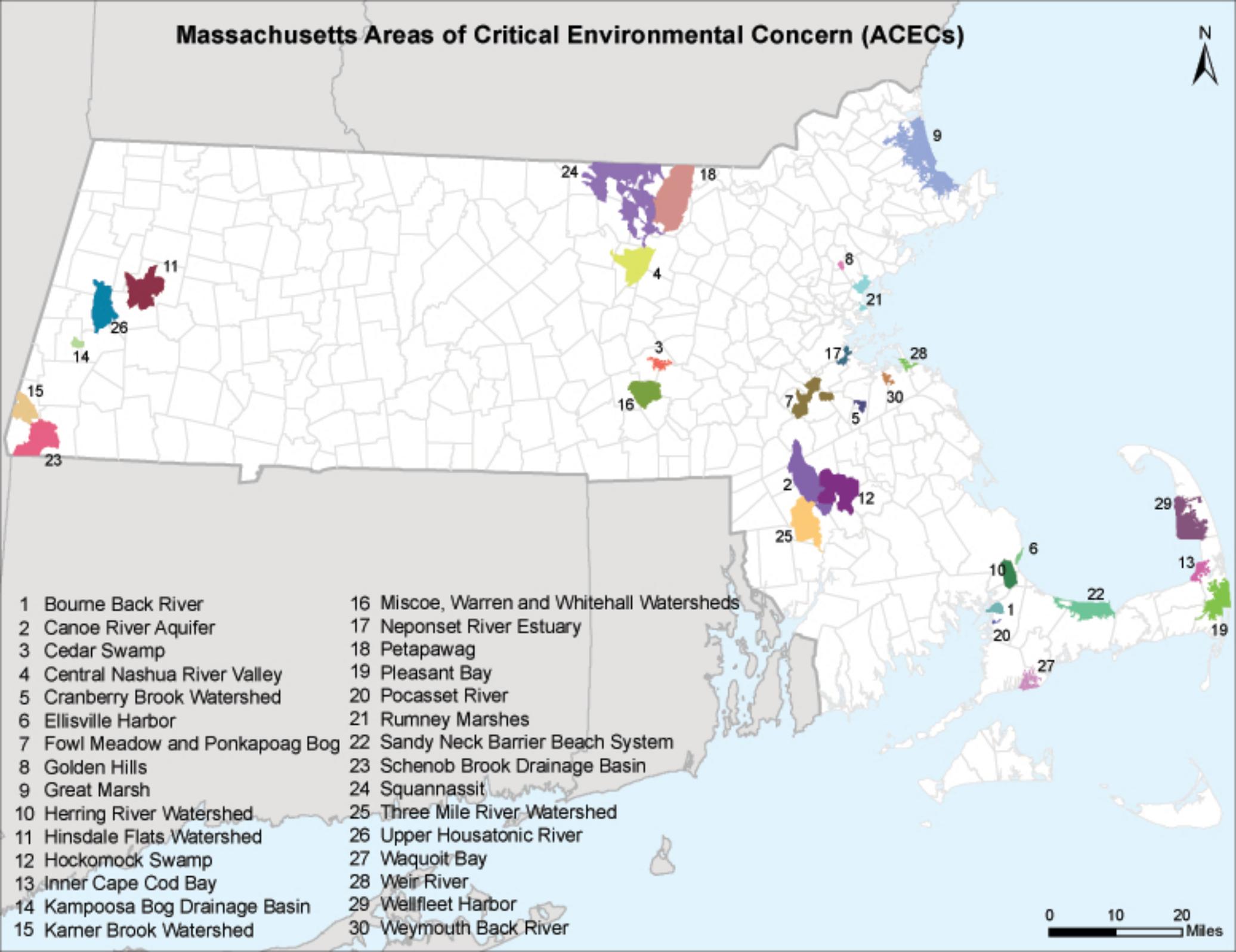
(800 acres, 1982) Hingham and Weymouth

Towns with ACECs within their Boundaries

June 2009

TOWN	ACEC	TOWN	ACEC
Ashby	Squannassit	Mt. Washington	Karner Brook Watershed
Ayer	Petapawag		Schenob Brook
	Squannassit	Newbury	Great Marsh
Barnstable	Sandy Neck Barrier Beach System	Norton	Hockomock Swamp
Bolton	Central Nashua River Valley		Canoe River Aquifer
Boston	Rumney Marshes		Three Mile River Watershed
	Fowl Meadow and Ponkapoag Bog	Norwood	Fowl Meadow and Ponkapoag Bog
	Neponset River Estuary	Orleans	Inner Cape Cod Bay
Bourne	Pocasset River		Pleasant Bay
	Bourne Back River	Pepperell	Petapawag
	Herring River Watershed		Squannassit
Braintree	Cranberry Brook Watershed	Peru	Hinsdale Flats Watershed
Brewster	Pleasant Bay	Pittsfield	Upper Housatonic River
	Inner Cape Cod Bay	Plymouth	Herring River Watershed
Bridgewater	Hockomock Swamp		Ellisville Harbor
Canton	Fowl Meadow and Ponkapoag Bog	Quincy	Neponset River Estuary
Chatham	Pleasant Bay	Randolph	Fowl Meadow and Ponkapoag Bog
Cohasset	Weir River	Raynham	Hockomock Swamp
Dalton	Hinsdale Flats Watershed	Revere	Rumney Marshes
Dedham	Fowl Meadow and Ponkapoag Bog	Rowley	Great Marsh
Dighton	Three Mile River Watershed	Sandwich	Sandy Neck Barrier Beach System
Dunstable	Petapawag	Saugus	Rumney Marshes
Eastham	Inner Cape Cod Bay		Golden Hills
	Wellfleet Harbor	Sharon	Canoe River Aquifer
Easton	Canoe River Aquifer		Fowl Meadow and Ponkapoag Bog
	Hockomock Swamp	Sheffield	Schenob Brook
Egremont	Karner Brook Watershed	Shirley	Squannassit
Essex	Great Marsh	Stockbridge	Kampoosa Bog Drainage Basin
Falmouth	Waquoit Bay	Taunton	Hockomock Swamp
Foxborough	Canoe River Aquifer		Canoe River Aquifer
Gloucester	Great Marsh		Three Mile River Watershed
Grafton	Miscoe-Warren-Whitehall Watersheds	Truro	Wellfleet Harbor
		Townsend	Squannassit
Groton	Petapawag	Tyngsborough	Petapawag
	Squannassit	Upton	Miscoe-Warren-Whitehall Watersheds
Harvard	Central Nashua River Valley		
	Squannassit	Wakefield	Golden Hills
Harwich	Pleasant Bay	Washington	Hinsdale Flats Watershed
Hingham	Weir River		Upper Housatonic River
	Weymouth Back River	Wellfleet	Wellfleet Harbor
Hinsdale	Hinsdale Flats Watershed	W Bridgewater	Hockomock Swamp
Holbrook	Cranberry Brook Watershed	Westborough	Cedar Swamp
Hopkinton	Miscoe-Warren-Whitehall Watersheds	Westwood	Fowl Meadow and Ponkapoag Bog
		Weymouth	Weymouth Back River
	Cedar Swamp	Winthrop	Rumney Marshes
Hull	Weir River		
Ipswich	Great Marsh		
Lancaster	Central Nashua River Valley		
	Squannassit		
Lee	Kampoosa Bog Drainage Basin		
	Upper Housatonic River		
Lenox	Upper Housatonic River		
Leominster	Central Nashua River Valley		
Lunenburg	Squannassit		
Lynn	Rumney Marshes		
Mansfield	Canoe River Aquifer		
Mashpee	Waquoit Bay		
Melrose	Golden Hills		
Milton	Fowl Meadow and Ponkapoag Bog		
	Neponset River Estuary		

Massachusetts Areas of Critical Environmental Concern (ACECs)



- | | |
|---------------------------------|--|
| 1 Bourne Back River | 16 Miscoe, Warren and Whitehall Watersheds |
| 2 Canoe River Aquifer | 17 Neponset River Estuary |
| 3 Cedar Swamp | 18 Petapawag |
| 4 Central Nashua River Valley | 19 Pleasant Bay |
| 5 Cranberry Brook Watershed | 20 Pocasset River |
| 6 Ellisville Harbor | 21 Rumney Marshes |
| 7 Fowl Meadow and Ponkapoag Bog | 22 Sandy Neck Barrier Beach System |
| 8 Golden Hills | 23 Schenob Brook Drainage Basin |
| 9 Great Marsh | 24 Squannassit |
| 10 Herring River Watershed | 25 Three Mile River Watershed |
| 11 Hinsdale Flats Watershed | 26 Upper Housatonic River |
| 12 Hockomock Swamp | 27 Waquoit Bay |
| 13 Inner Cape Cod Bay | 28 Weir River |
| 14 Kamposoa Bog Drainage Basin | 29 Wellfleet Harbor |
| 15 Kerner Brook Watershed | 30 Weymouth Back River |



**FEDERALLY LISTED ENDANGERED AND THREATENED SPECIES
 IN MASSACHUSETTS**

COUNTY	SPECIES	FEDERAL STATUS	GENERAL LOCATION/HABITAT	TOWNS
Barnstable	Piping Plover	Threatened	Coastal Beaches	All Towns
	Roseate Tern	Endangered	Coastal beaches and the Atlantic Ocean	All Towns
	Northeastern beach tiger beetle	Threatened	Coastal Beaches	Chatham
	Sandplain gerardia	Endangered	Open areas with sandy soils.	Sandwich and Falmouth.
	Northern Red-bellied cooter	Endangered	Inland Ponds and Rivers	Boume (north of the Cape Cod Canal)
Berkshire	Bog Turtle	Threatened	Wetlands	Egremont and Sheffield
Bristol	Piping Plover	Threatened	Coastal Beaches	Fairhaven, Dartmouth, Westport
	Roseate Tern	Endangered	Coastal beaches and the Atlantic Ocean	Fairhaven, New Bedford, Dartmouth, Westport
	Northern Red-bellied cooter	Endangered	Inland Ponds and Rivers	Raynham and Taunton
Dukes	Roseate Tern	Endangered	Coastal beaches and the Atlantic Ocean	All Towns
	Piping Plover	Threatened	Coastal Beaches	All Towns
	Northeastern beach tiger beetle	Threatened	Coastal Beaches	Aquinnah and Chilmark
	Sandplain gerardia	Endangered	Open areas with sandy soils.	West Tisbury
Essex	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Gloucester, Essex and Manchester
	Piping Plover	Threatened	Coastal Beaches	Glocester, Essex, Ipswich, Rowley, Revere, Newbury, Newburyport and Salisbury
Franklin	Northeastern bulrush	Endangered	Wetlands	Montague
	Dwarf wedgemussel	Endangered	Mill River	Whately
Hampshire	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Hadley
	Puritan tiger beetle	Threatened	Sandy beaches along the Connecticut River	Northampton and Hadley
	Dwarf wedgemussel	Endangered	Rivers and Streams.	Hadley, Hatfield, Amherst and Northampton
Hampden	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Southwick
Middlesex	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Groton
Nantucket	Piping Plover	Threatened	Coastal Beaches	Nantucket
	Roseate Tern	Endangered	Coastal beaches and the Atlantic Ocean	Nantucket
	American burying beetle	Endangered	Upland grassy meadows	Nantucket
Plymouth	Piping Plover	Threatened	Coastal Beaches	Scituate, Marshfield, Duxbury, Plymouth, Wareham and Mattapoisett
	Northern Red-bellied cooter	Endangered	Inland Ponds and Rivers	Kingston, Middleborough, Carver, Plymouth, Bourne, and Wareham
	Roseate Tern	Endangered	Coastal beaches and the Atlantic Ocean	Plymouth, Marion, Wareham, and Mattapoisett.
Suffolk	Piping Plover	Threatened	Coastal Beaches	Winthrop
Worcester	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Leominster

- Eastern cougar and gray wolf are considered extirpated in Massachusetts.
- Endangered gray wolves are not known to be present in Massachusetts, but dispersing individuals from source populations in Canada may occur statewide.
- Critical habitat for the Northern Red-bellied cooter is present in Plymouth County.

7/31/2008

**FEDERALLY LISTED ENDANGERED AND THREATENED SPECIES
 IN NEW HAMPSHIRE**

COUNTY	SPECIES	FEDERAL STATUS	GENERAL LOCATION/HABITAT	TOWNS
Belknap	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Meredith, Alton and Laconia
Carroll	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Albany, Eaton, Madison Wolfeboro, Brookfield and Wakefield
Coos	Canada Lynx	Threatened	Regenerating softwood forest, usually with a high density of snowshoe hare.	All Towns
	Dwarf wedgemussel	Endangered	Connecticut River main channel and Johns River	Northumberland, Lancaster and Dalton
Cheshire	Dwarf wedgemussel	Endangered	S. Branch Ashuelot River and Ashuelot River	Swanzy, Keene and Surry
Grafton	Dwarf wedgemussel	Endangered	Connecticut River main channel	Haverhill, Piermont, Orford and Lyme
	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Holderness
Hillsborough	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Weare
Merrimack	Karner Blue Butterfly	Endangered	Pine Barrens with wild blue lupine	Concord and Pembroke
	Small whorled Pogonia	Threatened	Forests	Danbury, Epsom, Warner and Allenstown
Rockingham	Piping Plover	Threatened	Coastal Beaches	Hampton and Seabrook
	Roseate Tern	Endangered	Atlantic Ocean and nesting at the Isle of Shoals	
	Small whorled Pogonia	Threatened	Forests	Northwood, Nottingham, and Epping
Strafford	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Middleton, New Durham, Milton, Farmington, Strafford, Barrington, and Madbury
Sullivan	Northeastern bulrush	Endangered	Wetlands	Acworth, Charlestown, Langdon and Walpole
	Dwarf wedgemussel	Endangered	Connecticut River main channel	Plainfield, Cornish, Claremont and Charlestown
	Jesup's milk-vetch	Endangered	Banks of the Connecticut River	Plainfield and Claremont

- Eastern cougar, gray wolf and Puritan tiger beetle are considered extirpated in New Hampshire.
- Endangered gray wolves are not known to be present in New Hampshire, but dispersing individuals from source populations in Canada may occur statewide.
- There is no federally-designated Critical Habitat in New Hampshire.

7/31/2008



Geotechnical Engineers

ATTACHMENT E

NATIONAL REGISTER OF HISTORIC PLACES

The National Register of Historic Places on-line database was reviewed for listings located within the immediate vicinity of the subject site in Boston, Massachusetts. A review of the most recent National Register of Historical Places for Suffolk County, Massachusetts did not identify records or addresses of Historic Places that exist in the immediate vicinity of the subject site and/or outfall location. The nearest National Historic Place to the subject site is the Congress Street Fire Station which is located approximately 0.25 miles to the southwest of the subject site. It is not anticipated that dewatering activities at the subject site will affect the Congress Street Fire Station National Historic Place.

Based upon the above, the site considered criterion 2 pursuant to Appendix IV of the RGP.



Geotechnical Engineers

APPENDIX F

Best Management Practice Plan

A Notice of Intent for a Remediation General Permit (RGP) under the National Pollutant Discharge Elimination System (NPDES) has been submitted to the US Environmental Protection Agency (EPA) in anticipation of temporary construction dewatering planned to occur at Fan Pier Parcels A and B located in Boston, Massachusetts. This Best Management Practices Plan (BMPP) has been prepared as an Appendix to the RGP and will be posted at the site during the time period that temporary construction dewatering is occurring at the site.

Water Treatment and Management

Construction dewatering effluent is anticipated to be pumped from localized sumps and trenches within the excavation and directly into a settling tank. The effluent will then flow through any necessary treatment systems and discharge through hoses directly into Boston Harbor located adjacent to the north of the subject site. Dewatering effluent treatment may consist of bag filters, ion exchange, and/or precipitation, as required.

Discharge Monitoring and Compliance

Regular sampling and testing will be conducted at the influent to the system and the treated effluent as required by the RGP. This includes chemical testing required within days 1 and 3 of initial discharge and the monthly testing to be conducted through the end of the scheduled discharge.

Monitoring will include checking the condition of the treatment system, assessing the need for treatment system adjustments based on monitoring data, observing and recording daily flow rates and discharge quantities, and verifying the flow path of the discharged effluent.

The total monthly flow will be monitored by checking and documenting the flow through the flow meter to be installed on the system. Flow will be maintained below the "system design flow" by regularly monitoring flow and adjusting the amount of construction dewatering as needed.

Monthly monitoring reports will be compiled and maintained at the site



Geotechnical Engineers

System Maintenance

A number of methods will be used to minimize the potential for violations for the term of this permit. Scheduled regular maintenance of the treatment system will be conducted to verify proper operation. Regular maintenance will include checking the condition of the treatment system equipment such as the settling tanks, bag filters, cyanide treatment system, filters, hoses, pumps, and flow meters. Equipment will be monitored daily for potential issues or unscheduled maintenance requirements.

Employees who have direct or indirect responsibility for ensuring compliance with the RGP will be trained by the Contractor.

Miscellaneous Items

It is anticipated that the erosion control measures and the nature of the site will minimize potential runoff to or from the site. The project specifications also include requirements for erosion control. Site security for the treatment system will be covered within the overall site security plan.

No adverse affects on designated uses of surrounding surface water bodies is anticipated. The nearest surface water body is Boston Harbor which is located adjacent to the north of the subject site. Dewatering effluent will be pumped to a settling tank. Water within the settling tank will be pumped through bag filters and a cyanide treatment system in series prior to discharge to the storm drains.

Management of Treatment System Materials

Dewatering effluent will be pumped directly to the treatment system from the excavation with use of hoses and sumps to minimize handling. The Contractor will establish staging areas for equipment or materials storage that may be possible sources of pollution away from any dewatering activities, to the extent practicable.

Sediment from the tank used in the treatment system will be characterized and removed from the site to an appropriate receiving facility, in accordance with applicable laws and regulations. If used, the ion exchange resin may be recycled and/or removed from the site to an appropriate receiving facility. Bag filters, will be disposed of as necessary.