



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Region 1

**5 Post Office Square, Suite 100
BOSTON, MA 02109-3912**

CERTIFIED MAIL RETURN RECEIPT REQUESTED

DEC 19 2011

Mr. Jamie Noon, Project Manager
John Moriarity & Associates
3 Church Street
Winchester, MA 01890

Re: Authorization to discharge under the Remediation General Permit (RGP) –
MAG910000. Brookline Ave. construction site at 121 Brookline Avenue, Boston, MA
02215 Suffolk County; Authorization # MAG910513

Dear Mr. Noon:

Based on the review of a Notice of Intent (NOI) submitted on behalf of Boylston Properties Co. Inc., by the firm McPhail Associates, Inc., for the site referenced above, the U.S. Environmental Protection Agency (EPA) hereby authorizes you, as the named 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 checklist 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 parameters that exceeded Appendix III limits. The checklist also includes other parameters for which your laboratory reports indicated there was insufficient sensitivity to detect these parameters at the minimum levels established in Appendix VI of the RGP.

In addition, EPA is requiring monitoring and effluent limits for total petroleum hydrocarbons (TPH), BTX (benzene, toluene, ethylbenzene, xylenes), total group I and group II polycyclic aromatic hydrocarbons (PAHs), benzo(a) anthracene, benzo(a) pyrene, benzo(b) florenthene, indeno(1,2,3-cd) pyrene and naphthalene, phenanthrene, pyrene, respectively, in view of historic pollutant concentrations. You may request a deletion of these and any other compounds not present in the influent during the first six months to a

year of continuously monitoring these compounds by filing a notice of change (NOC) request. Please see the notice of change (NOC) information under Appendix V on the RGP website.

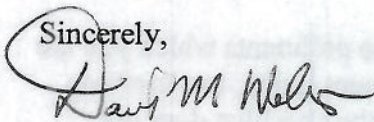
Also, please note that the metals included on the checklist are dilution dependent pollutants and subject to limitations based on a dilution factor range (DFR), due to the ample dilution at the point of discharge (277) the DFR applicable for this pollutant is greater than one hundred (>100) DFR established in the RGP. (See the RGP Appendix IV for Massachusetts facilities). Therefore, the limit for arsenic of 540 ug/L, copper of 520 ug/L, nickel of 2,380ug/L, selenium of 408 ug/L, zinc of 1,480 and iron of 5,000 ug/L, shall not be exceeded in the discharge.

Finally, please note the checklist 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 regulations.

This general permit and authorization to discharge will expire on September 9, 2015. You have reported that this project will terminate on 12/01/2012. 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: Kathleen Keohane, MassDEP
Mr. Francis M. McLaughlin, BWSC
Jonathan W. Patch, McPhail Associates

**2010 Remediation General Permit
Summary of Monitoring Parameters^[1]**

NPDES Authorization Number:	MAG910513
Authorization Issued:	December, 2011
Facility/Site Name:	Brookline Ave. Construction site
Facility/Site Address:	121 Brookline Avenue, Boston, MA 02215, Suffolk County
	Email address of owner: MAD@boylprop.com
Legal Name of Operator:	John Moriarity & Associates
Operator contact name, title, and Address:	Mr. Jamie Noon, Project Manager 3 Church Street, Winchester, MA 01890, Middlesex County Email: jnoon@jm-a.com
Estimated Date of Completion:	12/01/2012
Category and Sub-Category:	Category III. Contaminated Construction Dewatering. Sub-category B. Known Contaminated Sites
RGP Termination Date:	September 9, 2015
Receiving Water:	Charles River

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/ML5ug/L
	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/ML 5.0mg/L
	4. Cyanide (CN) ^{2, 3}	Freshwater = 5.2 ug/l ** Saltwater = 1.0 ug/L **/ Me#335.4/ML 10ug/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) 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

	<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)
	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/ ML 5ug/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/ML 50ug/L
	31. Total Phenols	300 ug/L Me#420.1&420.2/ML 2 ug/L/ Me# 420.4 /ML 50ug/L
	32. Pentachlorophenol (PCP)	1.0 ug/L /Me#8270D/ML 5ug/L,Me#604 &625/ML 10ug/L
	33. Total Phthalates (Phthalate esters) ⁶	3.0 ug/L ** /Me#8270D/ML 5ug/L, Me#606/ML 10ug/L& Me#625/ML 5ug/L
	34. Bis (2-Ethylhexyl) Phthalate [Di- (ethylhexyl) Phthalate]	6.0 ug/L /Me#8270D/ML 5ug/L,Me#606/ML 10ug/L & Me#625/ML 5ug/L
	35. Total Group I Polycyclic Aromatic Hydrocarbons (PAH)	10.0 ug/L
✓	a. Benzo(a) Anthracene ⁷	0.0038 ug/L /Me#8270D/ ML 5ug/L, Me#610/ML 5ug/L& Me#625/ML 5ug/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)
✓	b. Benzo(a) Pyrene ⁷	0.0038 ug/L /Me#8270D/ ML 5ug/L, Me#610/ML 5ug/L& Me#625/ML 5ug/L
✓	c. Benzo(b)Fluoranthene ⁷	0.0038 ug/L /Me#8270D/ ML 5ug/L, Me#610/ML 5ug/L& Me#625/ML 5ug/L
	d. Benzo(k)Fluoranthene ⁷	0.0038 ug/L /Me#8270D/ ML 5ug/L, Me#610/ML 5ug/L& Me#625/ML 5ug/L
	e. Chrysene ⁷	0.0038 ug/L /Me#8270D/ML 5ug/L, Me#610/ML 5ug/L& Me#625/ML 5ug/L
	f. Dibenzo(a,h)anthracene ⁷	0.0038 ug/L /Me#8270D/ML 5ug/L, Me#610/ML 5ug/L& Me#625/ML 5ug/L
✓	g. Indeno(1,2,3-cd) Pyrene ⁷	0.0038 ug/L /Me#8270D/ML 5ug/L, Me#610/ML 5ug/L& Me#625/ML 5ug/L
	36. Total Group II Polycyclic Aromatic Hydrocarbons (PAH)	100 ug/L
	h. Acenaphthene	X/Me#8270D/ML 5ug/L, Me#610/ML 5ug/L & Me#625/ML 5ug/L
	i. Acenaphthylene	X/Me#8270D/ML 5ug/L, Me#610/ML 5ug/L & Me#625/ML 5ug/L
	j. Anthracene	X/Me#8270D/ML 5ug/L, Me#610/ML 5ug/L & Me#625/ML 5ug/L
	k. Benzo(ghi) Perylene	X/Me#8270D/ML 5ug/L, Me#610/ML 5ug/L & Me#625/ML 5ug/L
	l. Fluoranthene	X/Me#8270D/ML 5ug/L, Me#610/ML 5ug/L & Me#625/ML 5ug/L
	m. Fluorene	X/Me#8270D/ML 5ug/L, Me#610/ML 5ug/L & Me#625/ML 5ug/L
✓	n. Naphthalene ⁵	20 ug/l / Me#8270/ML 5ug/L, Me#610/ML 5ug/L & Me#625/ML 5ug/L
✓	o. Phenanthrene	X/Me#8270D/ML 5ug/L, Me#610/ML 5ug/L & Me#625/ML 5ug/L
	p. Pyrene	X/Me#8270D/ML 5ug/L, Me#610/ML 5ug/L & Me#625/ML 5ug/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

		<u>Total Recoverable Metal Limit @ H ¹⁰ = 50 mg/l CaCO3 for discharges in Massachusetts (ug/l)</u> <u>11/12</u>		<u>Minimum level=ML</u>
	<u>Metal parameter</u>	<u>Freshwater</u>	<u>Saltwater</u>	
	39. Antimony	5.6/ML	10	
✓	40. Arsenic **	540/ML	20	

	Metal parameter	Total Recoverable Metal Limit @ H¹⁰ = 50 mg/l CaCO₃ for discharges in Massachusetts (ug/l) 11/12		Minimum level=ML	
		Freshwater	Saltwater		
	41. Cadmium **	0.2/ML10	8.9/ML 10		
✓	42. Chromium III (trivalent) **	48.8/ML15	100/ML 15		
	43. Chromium VI (hexavalent) **	11.4/ML10	50.3/ML 10		
✓	44. Copper **	520/ML15	3.7/ML 15		
	45. Lead **	1.3/ML20	8.5/ML 20		
	46. Mercury **	0.9/ML0.2	1.1/ML 0.2		
✓	47. Nickel **	2,380/ML20	8.2/ML 20		
✓	48. Selenium **	408/ML20	71/ML 20		
	49. Silver	1.2/ML10	2.2/ML 10		
✓	50. Zinc **	1,480/ML15	85.6/ML 15		
✓	51. Iron	5,000/ML 20			

	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 -Any Class SB water body - October to June	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 "Oroclor 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 $DF \times 1,000\text{ug/L}$ (the iron base limit). Therefore DF is 1.5, the iron limit will be 1,500 ug/L; DF 2, then iron limit = $1,000 \times 2 = 2,000 \text{ ug/L}$., 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



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

121 BROOKLINE AVENUE

BOSTON

MASSACHUSETTS

to

U.S. Environmental Protection Agency

December 9, 2011

Project No. 4542.9.08



Geotechnical Engineers

December 9, 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: 121 Brookline Avenue; Boston, Massachusetts
Notice of Intent for Construction Dewatering Discharge Under Massachusetts
Remedial General Permit 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 approval from the U.S. Environmental Protection Agency (EPA) for the temporary discharge of groundwater into the Charles River via a storm drain system 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 report was prepared in accordance with our proposals dated November 15, 2007 and November 1, 2011, and the subsequent authorizations of Boylston Properties Company, Inc. These services are subject to the limitations contained in **Appendix A**.

The required EPA Notice of Intent (NOI) and the BWSC Dewatering Discharge Permit Application are included in **Appendix B**.

Operator

The operator is:

John Moriarity & Associates
3 Church Street
Winchester, MA 01890

Attention: Mr. Jamie Noon

Telephone: 781-729-3900
Fax: 781-729-8456

Site Location and Current Conditions

Fronting onto Brookline Avenue to the southeast, the subject property is bounded by commercial property to the northeast and northwest, and Burlington Avenue to the southwest. The subject site occupies an approximate 22,112 square-foot plan area and is currently occupied by an L-shaped brick and concrete block building which occupies an approximate 15,000 square-foot plan area. The rear portion of the existing building consists of a one-story structure which is utilized for parking. The front portion of the structure consists of a two-story structure which is understood to contain a small basement. The



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remainder of the site is currently utilized as an at-grade bituminous concrete paved parking area. Existing site conditions are shown on the attached **Subsurface Exploration Plan, Figure 2**.

The existing ground surface across the subject site is relatively level, varying from approximately Elevation +16 to about Elevation +17. Elevations as referenced herein are in feet and refer to the Boston City Base (BCB) Datum which is 5.65 feet below the National Geodetic Vertical Datum (NGVD).

The site and surrounding properties are serviced by public utilities including gas, water and electricity. Wastewater is discharged into the City of Boston sanitary sewer system. Stormwater is collected in catch basins that discharge via storm drains to the Charles River.

Site History

Historically, the subject site was developed with two blocks of interconnected multi-story, attached residential buildings by 1890. One block fronted onto Burlington Avenue and the second fronted onto Brookline Avenue and extended from Burlington Avenue to Fullerton Street, then known as Butler Street. According to a Sanborn Map dated 1914, the subject site continued to be developed with multi-story residential units through this time.

According to a Sanborn Map dated 1937, the subject site was occupied by an "auto service" business fronting onto Burlington Avenue and a "filling station" with gasoline tanks fronting onto Brookline Avenue. In addition the subject site was also occupied by a small building fronting onto Burlington Avenue and identified as a store. Based on the Sanborn Map dated 1964, the gas station fronting onto Brookline Avenue is no longer present. Later uses of the building include storage of automobile accessories, an auto repair service from 1964 through 1995, and a small store and delicatessen in the section fronting onto Brookline Avenue.

Site Environmental Setting and Surrounding Historical Places

Based on the current Massachusetts Geographic Information Systems (GIS) Department of Environmental Protection (DEP) Priority Resources Map of Boston (**Figure 3**), the subject site is not located within the boundaries of a Potentially Productive Aquifer or within a Zone II, Interim Wellhead Protection Area as defined by the Massachusetts Department of Environmental Protection. There are no known public or private drinking water supply wells, no Areas of Critical Environmental Concern, no fish habitats, no habitats of Species of Special Concern or Threatened or Endangered Species within 500 feet of the subject site. There are no surface water bodies or wetland areas located at the subject site. The nearest surface water body is the Muddy River, classified by the DEP as a Class B Surface Water Body, that is located approximately 1,500 feet southwest of the subject site. The area immediately surrounding the Muddy River is indicated to be within the 100 year flood plain, and the banks are classified as Protected Open Spaces. The Charles River, classified by the DEP as a Class B Surface Water Body, is located approximately 2,000 feet to the north of the subject site. No Protected Open Spaces are located on or within 500 feet of the subject property. No areas designated as solid waste facilities (landfills) are located within 0.5 miles of the subject site.

A review of the most recent federal listing of threatened and endangered species published by the U.S. Fish and Wildlife Service identified no threatened and/or endangered species at or in the vicinity of the



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discharge location and/or discharge outfall. In addition, a review of the Massachusetts Division of Fisheries and Wildlife on-line database identified no threatened or endangered species at the point of discharge and/or the discharge outfall. A list of threatened and endangered species from the U.S. Fish and Wildlife Services and Massachusetts Division of Fisheries on-line databases is included in **Appendix C**.

A review of the most recent National Register of Historical Places for Suffolk County in Boston, Massachusetts did not identify records or addresses of Historic Places that exist in the immediate vicinity of the subject property and/or outfall location.

Release History

Based on the results of chemical testing conducted on soil samples, the presence of petroleum hydrocarbons, poly-aromatic hydrocarbons (PAH), and volatile organic compounds (VOCs) have been identified in fill soil at the subject site at levels which exceed the applicable reporting thresholds established in CMR 40.0000 the Massachusetts Contingency Plan (MCP). On April 9, 2008 the DEP was notified of a release to site soil which triggered a "120-day" reporting condition. Specifically, the contaminants of concern encountered on the subject site and reported to the DEP include total petroleum hydrocarbons, phenanthrene, naphthalene, indeno(1,2,3-cd)pyrene, benzo(b)fluoranthene, benzo(a)pyrene, and benzo(a)anthracene. The source of the petroleum-related contamination appears to be related to the historic filling and former use of the subject site as a filling station. These MCP release conditions are documented with the DEP under Release Tracking Number (RTN) 3-27622. The disposal site is classified as a Tier II site.

Groundwater samples obtained from on-site monitoring wells in 2007, 2008 and 2009 were chemically tested for the presence of VOCs, VPH, EPH and/or dissolved PP-13 metals. The results of the groundwater chemical analyses indicated no detectable levels and/or levels well below the applicable RCGW-2 reporting standards. Therefore, a reportable release to groundwater at the site has not been identified.

Based on the proposed area to be excavated as part of the proposed site development, and the approximate depth of impacted soils, the impacted soil will be removed under RTN 3-27622 as part of a Release Abatement Measure (RAM) Plan. Remedial activities will include the excavation and off-site disposal of petroleum-impacted soil. Due to the historical use of the site as a gasoline filling station, the potential for encountering petroleum-impacted groundwater during excavation exists. Therefore, temporary construction dewatering of petroleum-impacted groundwater may be required and temporary construction dewatering under the provisions of the RGP is requested.

Proposed Scope of Site Development

The scope of the proposed development is planned to consist of an 8-story hotel with a single below-grade level of parking. The proposed structure will have rectangular plan dimensions of approximately 100 feet by 215 feet. The lowest level slab within the garage will be at about Elevation +0.5. Foundation support for the proposed building will be provided by an approximate 3-foot thick waterproofed structural mat. The approximate 20-foot deep excavation to construct the below-grade level will be performed within a continuously interlocking steel sheet pile cofferdam which completely surrounds the proposed structure.



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Construction Site Dewatering

In order to permit construction of the below-grade portion of the structure an effective groundwater cut-off during construction will be provided by a perimeter steel sheet pile cofferdam which will extend to a depth of approximately 20 feet below the bottom of the excavation into a relatively impermeable silty clay deposit.

Excavation within the proposed building footprint will extend to a depth of approximately 20 feet below the current ground surface and approximately 8 to 10 feet below the observed groundwater level. Hence, construction dewatering will be required within the steel sheet pile 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 steel sheet piling. Additional minor dewatering may occur during installation of the lowest elevation concrete slab and foundations.

It is estimated that the typical continuous groundwater discharge required during the initial stages of the excavation phase of the construction, during which more permeable fill material will be excavated, will be on the order of 20 to 40 gallons per minute (GPM). The quantity of groundwater to be discharged is based on the relatively pervious nature of the existing fill material and the presence of the steel sheet pile wall 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 underlying soils. 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.

Construction dewatering will require the discharge of collected groundwater into the storm drain system under the requested Remedial General Permit. A review of relevant sewer and drainage plans provided by the Boston Water and Sewer Commission (BWSC) indicates that storm water lines adjacent to the planned construction area on Burlington Avenue connect into a 108-inch by 132-inch storm drain conduit that flows to the northeast along Brookline Avenue, then northwest along Deerfield Street to Outfall SDO042 in the Charles River. The locations of relevant catch basins with relation to the subject property are indicated on **Figure 2**. **Figure 4** shows the route of the storm drains along Brookline Avenue and Deerfield Street to the Charles River.

Summary of Groundwater Analysis

On November 10, 2011, McPhail Associates, Inc. obtained a sample of groundwater from monitoring well B-2 (OW) and submitted the sample to a certified laboratory for analysis for the presence of parameters required under the EPA's Remediation General Permit (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), total phenols, pesticides and PCBs, and total recoverable metals.

The results of the laboratory analysis are summarized in **Table 1**, and laboratory data is included in **Appendix D**. The results of laboratory analysis indicate the following:

1. **pH:** The tested sample exhibited a pH level of 6.5 Standard Units (S.U.) which is within the recommended range of 6.5 to 8.5 S.U. for discharge into freshwater.



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2. **TSS:** Total suspended solids (TSS) were detected in the tested sample at a concentration of 37 milligram per liter (mg/l), which is in excess of the upper limit of 30 mg/l established by the EPA for discharge into surface water. The detected level of TSS is considered to be attributable to the disturbance of suspended solids in the monitoring well during development of the well and subsequent sampling. However, it should be noted that groundwater will be pre-treated by passing the water through a sediment tank(s) and a bag filter(s) prior to discharge in order to reduce the concentration of TSS in the effluent.
3. **VOCs:** No VOC were detected in the tested sample above the laboratory's method detection limits.
4. **TPH:** Laboratory analysis of the groundwater sample indicated no detectable levels of TPH.
5. **PAHs and Total Phenols:** The laboratory reported no detectable levels of Group 1 PAHs, Group II PAHs or Total Phenols.
6. **PCBs:** The laboratory results indicated no detectable levels of PCBs.
7. **Cyanide:** Cyanide was not detected in the tested groundwater sample at a concentration in excess of the laboratory method detection limit of 0.5 mg/l.
8. **Total Metals:** The laboratory reported no detectable levels of antimony, cadmium, chromium III, chromium VI, lead, mercury, silver or zinc in the submitted sample of groundwater. Levels of arsenic, copper, nickel, selenium and iron were reported at levels of 1.1 microgram per liter (ug/l), 0.6 ug/l, 1.8 ug/l, 3 ug/l, and 26,000 ug/l, respectively. The detected levels of arsenic, copper, nickel and selenium are below the EPA effluent limits of 10 ug/l, 5.2 ug/l, 29 ug/l and 5 ug/l, respectively, for discharge to a freshwater body.

The detected level of iron exceeds the EPA effluent limit of 1,000 ug/l for discharge into a freshwater body. Furthermore, based on calculations of the applicable dilution factor as shown below, the detected concentration of iron continues to exceed the corresponding dilution concentration of 5,000 ug/l. It is our opinion that the detected level of iron in the tested sample from monitoring well B-2 is due to the accumulation of sediment. As discussed in further detail below, dewatered groundwater will pass through a sedimentation tank(s) to settle particulate matter out of the water and a bag filter(s) to meet allowable discharge limits prior to discharge. As a result, it is anticipated that the level of iron detected in groundwater will be reduced to below the EPA RGP effluent limitations prior to off-site discharge.

Dilution Factor Application for Total Iron

As mentioned above, total iron was detected at a concentration of 26,000 ug/l. The EPA freshwater effluent limitation for iron is 1,000 ug/l. As a result, a Dilution Factor (DF) was calculated for the detected level of total iron pursuant to the procedure contained in RGP MAG910000, Appendix V. The purpose of the DF calculation is to establish Total Recoverable Limits for metals, taking into consideration the anticipated dilution of the detected analyte upon discharge into the Charles River. The calculated DF was then used to find the appropriate Dilution Range Concentration (DRC) contained in MAG910000, Appendix IV. The Minimum Flow Rate calculated by the USGS Streamstats GIS database at the location of discharge into the Charles River for seven consecutive days with a recurrence interval of 10 years



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(7Q10 flow) is 24.7 thus resulting in a DF of 275. A DF in excess of 100 corresponds to a dilution concentration of 5,000 ug/l. Therefore, based on the calculation of the applicable dilution factor, the detected level of iron at 26,000 ug/l exceeds the dilution concentration of 5,000 ug/l for discharge into a freshwater body.

Groundwater Treatment

It is our opinion that the level of iron detected in the tested sample from monitoring well B-2 was due to the accumulation of sediment. To mitigate sediment in the discharge water as a result of construction activities, a sedimentation tank(s) and a bag filter(s) will be used to settle particulate matter out of the water to meet allowable discharge limits prior to discharge. A schematic of the treatment system is shown on **Figure 5**.

To document the effectiveness of the treatment system, samples of the discharge water will be obtained and tested for the presence of TSS 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 these compounds in the effluent exceed the limits established under the RGP, additional treatment of the effluent will be implemented prior to initial discharge. 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.

Summary and Conclusions

The purpose of this report is to assess site environmental conditions and groundwater data to support an application for a Massachusetts Remedial General Permit for off-site discharge of groundwater which will be encountered during construction of the proposed below-grade level at 121 Brookline Avenue in Boston.

In summary, the results of the groundwater chemical analyses indicate that most of the analytes were either not detected above the laboratory's detection limits or were detected at concentrations below the RGP effluent limitations.

It is our opinion that the level of iron detected in the tested sample from monitoring well B-2 was due to the accumulation of sediment. To mitigate sediment in the discharge water as a result of construction activities, a sedimentation tank(s) will be used to settle particulate matter out of the water to meet allowable discharge limits prior to discharge. A bag filter(s) will also be added at the outlet from the tank before the effluent is discharged into the storm drain system to mitigate the presence of total iron.

Based on the results of groundwater chemical analyses discussed above, it is our opinion that no additional treatment of the groundwater prior to discharge will be necessary. Further, based on dilution range concentrations, only iron exceeds the applicable dilution range concentration. It is our opinion that the metals are sorbed to the sediment in the groundwater, and the sediment will be settled out prior to discharge. It is therefore anticipated that metals will not be present in the discharge above permit limits.

Given that soils at the subject site indicate reportable releases of petroleum products, provision will be made for the addition of treatment for the presence of petroleum products in the discharge if the presence of petroleum products above permit limits is indicated in the start-up testing, or if indications of petroleum



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products in the discharge water are observed at any time. It is anticipated that the treatment will likely consist of granular activated carbon (GAC) filtration prior to discharge.

In order to ensure that the levels of TSS and total metals meet the terms of the discharge permit, a sample of the effluent will be submitted for laboratory analysis prior to discharge into the City of Boston storm drain system. However, should the effluent monitoring results indicate levels of TSS or total metals in excess of the limits established in the Massachusetts Remedial General Permit, additional mitigative measures will be implemented to meet the allowable discharge limits.

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 "Jonathan W. Patch".

Jonathan W. Patch, P.E.

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

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

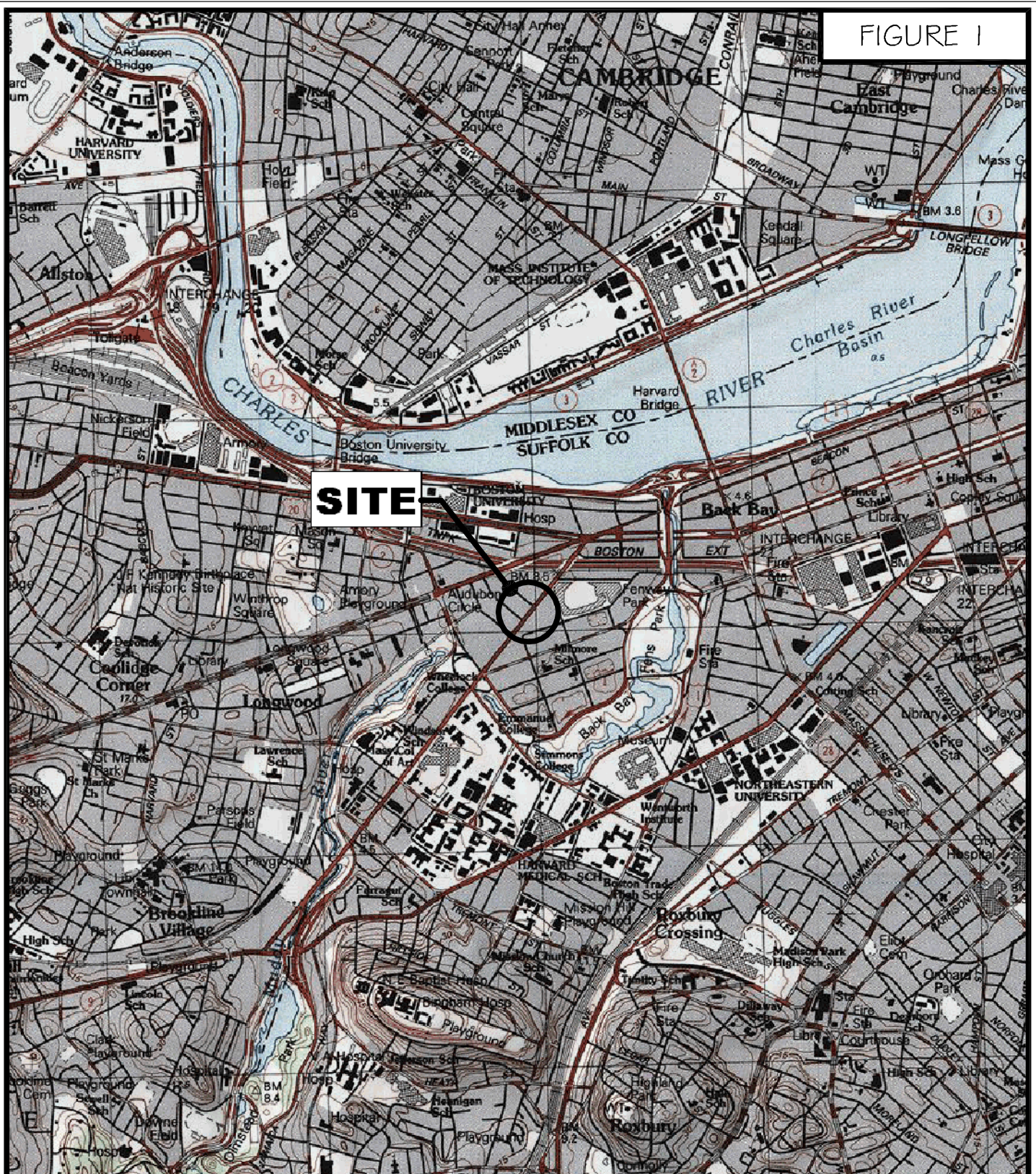
Enclosures

c: Boylston Properties Company, Inc. (Mr. Mark Deschenes)
Boston Water and Sewer Commission (Mr. Francis M. McLaughlin)

F:\WP5\REPORTS\4542_RGP_2011.wpd

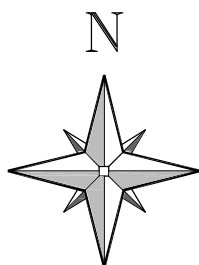
JWP/wjb/ajd

FIGURE 1



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2269 Massachusetts Avenue
Cambridge, MA 02140
617/868-1420
617/868-1423 (Fax)



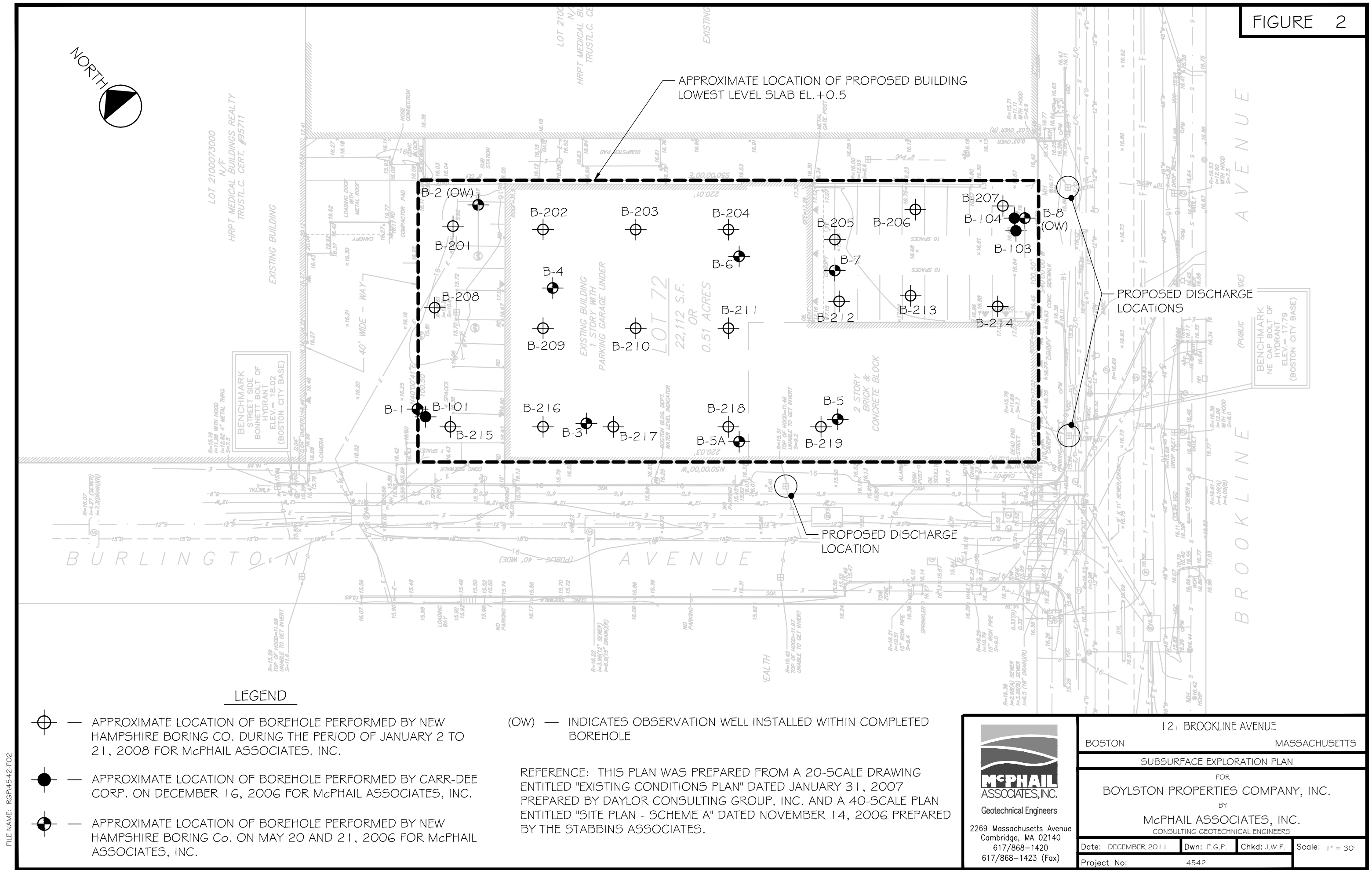
SCALE 1:25,000

PROJECT LOCATION PLAN

121 BROOKLINE AVENUE

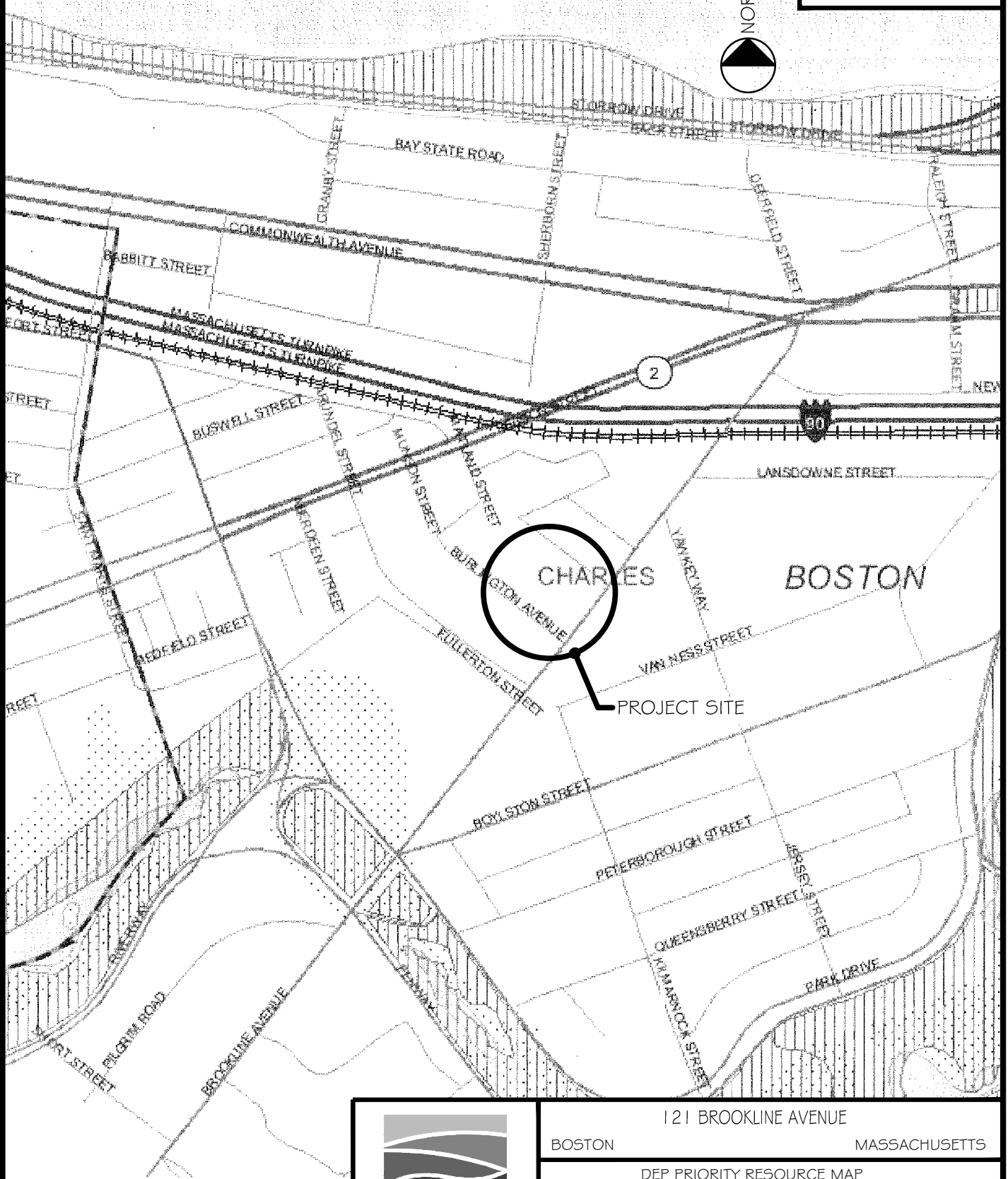
BOSTON

MASSACHUSETTS



AMBRIDGE

FIGURE 3



FILE NAME: RGP4542-F03

REFERENCE: THIS PLAN WAS
PREPARED FROM AN IMAGE
OBTAINED FROM THE MASS.GOV
WEBSITE



Geotechnical Engineers

2269 Massachusetts Avenue
Cambridge, MA 02140
617/868-1420
617/868-1423 (Fax)

121 BROOKLINE AVENUE

BOSTON

MASSACHUSETTS

DEP PRIORITY RESOURCE MAP

FOR

BOYLSTON PROPERTIES COMPANY, INC.

BY

McPHAIL ASSOCIATES, INC.

CONSULTING GEOTECHNICAL ENGINEERS

Date: DECEMBER 2011

Dwn: F.G.P.

Chkd: J.W.P.

Scale: N.T.S.

Project No:

4542

FIGURE 4



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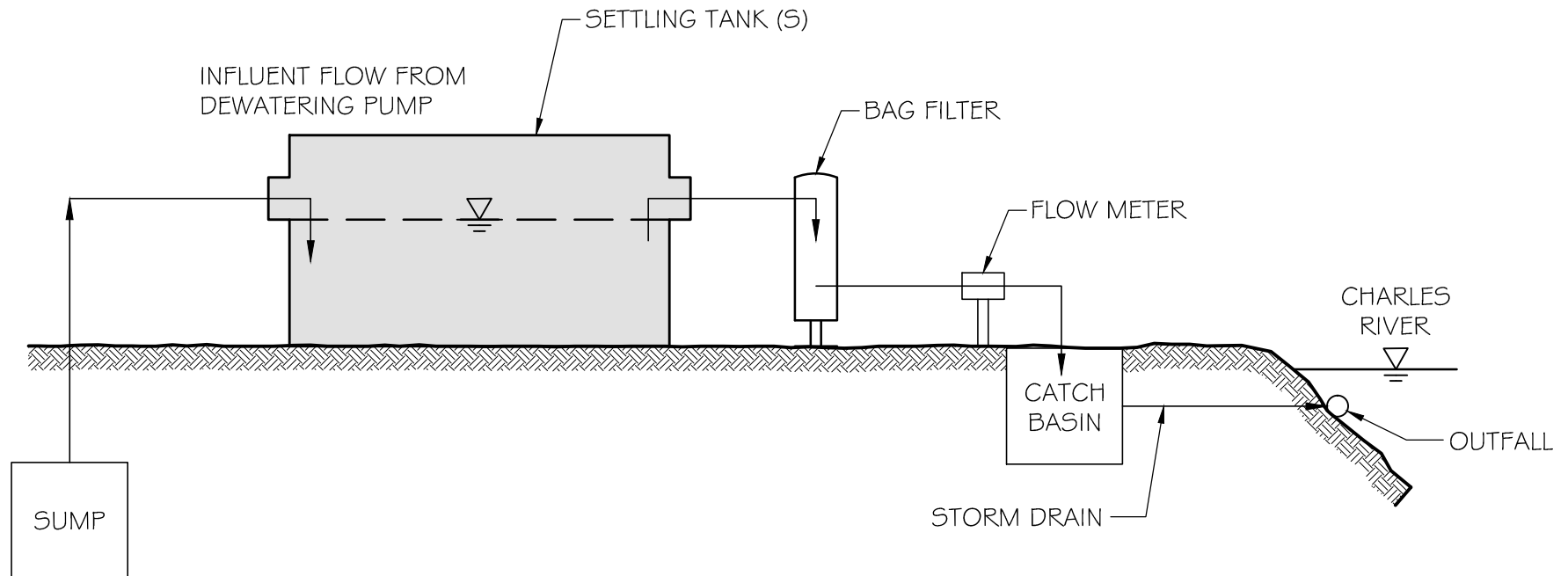
2269 Massachusetts Avenue
Cambridge, MA 02140
617/868-1420
617/868-1423 (Fax)

121 BROOKLINE AVENUE
BOSTON MASSACHUSETTS

OUTFALL LOCATION
FOR
BOYLSTON PROPERTIES COMPANY, INC.
BY
McPHAIL ASSOCIATES, INC.
CONSULTING GEOTECHNICAL ENGINEERS

Date: DECEMBER 2011	Dwn: F.G.P.	Chkd: J.W.P.	Scale: N.T.S.
Project No: 4542			

FIGURE 5



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2269 Massachusetts Avenue
Cambridge, MA 02140
617/868-1420
617/868-1423 (Fax)

121 BROOKLINE AVENUE

BOSTON

MASSACHUSETTS

SCHEMATIC OF WATER FLOW

FOR

BOYLSTON PROPERTIES COMPANY, INC.

BY

McPHAIL ASSOCIATES, INC.

CONSULTING GEOTECHNICAL ENGINEERS

Date: DECEMBER 2011

Dwn: F.G.P.

Chkd: J.W.P.

Scale: N.T.S.

Project No:

4542

Table 1
Analytical Results - Groundwater
(RGP Application)

121 Brookline Avenue
Boston, MA
McPhail Job No. 4542

LOCATION		RGP Limits	RGP Limits with DF	Units	B-2 (OW)
SAMPLING DATE					10-Nov-11
LAB SAMPLE ID					L1118707-01
1	Total Suspended Solids	30		mg/l	37
	pH (H)	6.5-8.3		SU	6.5
2	Total Residual Chlorine (freshwater)	11		ug/l	ND (20)
3	TPH	5000		ug/l	ND (4000)
4	Total Cyanide (freshwater)	5.2		ug/l	ND (5)
5	Benzene	Total BTEX		ug/l	ND (1)
6	Toluene	Total BTEX		ug/l	ND (1)
7	Ethylbenzene	Total BTEX		ug/l	ND (1)
8	Xylene (Total)	Total BTEX		ug/l	ND
9	Total BTEX	100		ug/l	ND
10	1,2-Dibromoethane	0.05		ug/l	ND (0.01)
11	Methyl-tert-Butyl Ether (MtBE)	70		ug/l	ND (20)
12	tert-Butyl Alcohol (TBA) (Tertiary Butanol)	Monitor Only		ug/l	ND (100)
13	tert-Amyl Methyl Ether (TAME)	Monitor Only		ug/l	ND (20)
14	Naphthalene (SVOC)	20		ug/l	ND (0.2)
15	Carbon tetrachloride	4.44		ug/l	ND (1)
16	1,2 Dichlorobenzene (o-DCB)	600		ug/l	ND (5)
17	1,3 Dichlorobenzene (m-DCB)	320		ug/l	ND (5)
18	1,4 Dichlorobenzene (p-DCB)	5		ug/l	ND (5)
19	1,1-Dichloroethane (DCA)	70		ug/l	ND (1.5)
20	1,2-Dichloroethane	5		ug/l	ND (1.5)
21	1,1-Dichloroethene	3.2		ug/l	ND (1)
22	cis-1,2-Dichloroethene	70		ug/l	ND (1)
23	Methylene Chloride	4.6		ug/l	ND (5)
24	Tetrachloroethene	5		ug/l	ND (1.5)
25	1,1,1-Trichloroethane	200		ug/l	ND (2)
26	1,1,2-Trichloroethane	5		ug/l	ND (1.5)
27	Trichloroethene	5		ug/l	ND (1)
28	Vinyl chloride	2		ug/l	ND (2)
29	Acetone	Monitor Only		ug/l	ND (10)
30	1,4 Dioxane	Monitor Only		ug/l	ND (2,000)
31	Total Phenolics	300		ug/l	ND (30)
32	Pentachlorophenol	1		ug/l	ND (0.8)
33	Total Phthalates (Phthalate esters)	3		ug/l	ND (5)
34	Bis(2-Ethylhexyl)phthalate	6		ug/l	ND (3)
35	Total Group I PAH	10		ug/l	ND
a	Benzo(a)anthracene	0.0038		ug/l	ND (0.2)
b	Benzo(a)pyrene	0.0038		ug/l	ND (0.2)
c	Benzo(b)fluoranthene	0.0038		ug/l	ND (0.2)
d	Benzo(k)fluoranthene	0.0038		ug/l	ND (0.2)
e	Chrysene	0.0038		ug/l	ND (0.2)
f	Dibenzo(a,h)anthracene	0.0038		ug/l	ND (0.2)
g	Indeno(1,2,3-cd)Pyrene	0.0038		ug/l	ND (0.2)
36	Total Group II PAH	10		ug/l	ND
h	Acenaphthene	Total Group II PAH		ug/l	ND (0.2)
i	Acenaphthylene	Total Group II PAH		ug/l	ND (0.2)
j	Anthracene	Total Group II PAH		ug/l	ND (0.2)
k	Benzo(ghi)perylene	Total Group II PAH		ug/l	ND (0.2)
l	Fluoranthene	Total Group II PAH		ug/l	ND (0.2)
m	Fluorene	Total Group II PAH		ug/l	ND (0.2)
n	Naphthalene	20		ug/l	ND (0.2)
o	Phenanthrene	Total Group II PAH		ug/l	ND (0.2)
p	Pyrene	Total Group II PAH		ug/l	ND (0.2)
37	Total PCBs	0.000046		ug/l	ND (0.25)
38	Chloride	Monitor Only		ug/l	340000
	Total Recoverable Metal Limits				
39	Antimony	5.6	141	ug/l	ND (0.5)
40	Arsenic (freshwater)	10	540	ug/l	1.1
41	Cadmium (freshwater)	3	20	ug/l	ND (0.2)
42	Chromium III (freshwater)	48.8	1710	ug/l	ND (50)
43	Chromium IV, Hexavalent (freshwater)	11.4	1140	ug/l	ND (50)
44	Copper	5.2	520	ug/l	0.6
45	Lead	1.3	132	ug/l	ND (0.5)
46	Mercury	0.9	2.3	ug/l	ND (0.2)
47	Nickel	29	2380	ug/l	1.8
48	Selenium	5	408	ug/l	3
49	Silver	1.2	115	ug/l	ND (0.4)
50	Zinc	66.6	1480	ug/l	ND(11.9)
51	Iron	1000	5000	ug/l	26000

ND()-not detected above laboratory method detection limits
Highlight-exceeds EPA Effluent Limit



APPENDIX A

Limitations



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Limitations

The purpose of this report is to present a summary of environmental conditions, including the results of testing of groundwater samples obtained from a monitoring well on the property located at 121 Brookline Avenue 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 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 analytical 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.

Laboratory analyses have been performed for specific constituents during the course of this assessment, as described in the text. However, it should be noted that additional 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 Boylston Properties, Inc. and John Moriarity and Associates. This report and the findings contained herein shall not, in whole or in part, be disseminated or conveyed to any other party, other than the US EPA, nor used in whole or in part by any other party without prior written consent of McPhail Associates, Inc



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APPENDIX B

Notice of Intent for Construction Site Dewatering

Boston Water and Sewer Commission Dewatering Discharge Permit Application

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 : 121 Brookline Avenue		Facility/site mailing address:	
Location of facility/site : longitude: -71.10 latitude: 42.35	Facility SIC code(s):	Street: 121 Brookline Avenue	
b) Name of facility/site owner : Boylston Properties Company, Inc.		Town: Boston	
Email address of facility/site owner: MAD@boylprop.com	State: MA	Zip: 02215	County: Suffolk
Telephone no. of facility/site owner : (617) 262-4646	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) 262-1611			
Address of owner (if different from site):			
Street: 800 Boylston Street, Suite 1300			
Town: Boston	State: MA	Zip: 02199	County: Suffolk
c) Legal name of operator : John Moriarity & Associates		Operator telephone no: (781) 729-3900	
		Operator fax no.: (781) 729-8456	Operator email: jnoon@jm-a.com
Operator contact name and title: Mr. Jamie Noon, Project Manager			
Address of operator (if different from owner):	Street: 3 Church Street		
Town: Winchester	State: MA	Zip: 01890	County: Middlesex

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 type="checkbox"/> B. Known Contaminated Sites <input checked="" type="checkbox"/>

IV - Miscellaneous Related Discharges	A. Aquifer Pump Testing to Evaluate Formerly Contaminated Sites <input type="checkbox"/> B. Well Development/Rehabilitation at Contaminated/Formely 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			
b) Provide the following information about each discharge:			
1) Number of discharge points:	2) What is the maximum and average flow rate of discharge (in cubic feet per second, ft ³ /s)?		
1	Max. flow	0.09	Is maximum flow a design value ? Y <input type="radio"/> N <input checked="" type="radio"/>
	Average flow (include units)	20 GPM	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.	42.35	long.	-71.10
pt.2: lat.		long.	
pt.3: lat.		long.	
pt.4: lat.		long.	
pt.5: lat.		long.	
pt.6: lat.		long.	
pt.7: lat.		long.	
pt.8: lat.		long.	
etc.			
4) If hydrostatic testing, total volume of the discharge (gals):		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 02/01/2012 end 12/01/2012			
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).			
Please refer to Figure 5 in the 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"/>	1	grab	30, 2540D		37000	8.08		
2. Total Residual Chlorine (TRC)		<input checked="" type="checkbox"/>	<input type="checkbox"/>	1	grab	30,4500 CL-D	20	ND	0		
3. Total Petroleum Hydrocarbons (TPH)		<input checked="" type="checkbox"/>	<input type="checkbox"/>	1	grab	74,1664A	4000	ND	0		
4. Cyanide (CN)	57125	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1	grab	30,4500 CN-CE	5	ND	0		
5. Benzene (B)	71432	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1	grab	5,624	1	ND	0		
6. Toluene (T)	108883	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1	grab	5,624	1	ND	0		
7. Ethylbenzene (E)	100414	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1	grab	5,624	1	ND	0		
8. (m,p,o) Xylenes (X)	108883; 106423; 95476; 1330207	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1	grab	5,624	1	ND	0		
9. Total BTEX ²	n/a	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1	grab	5,624		ND	0		
10. Ethylene Dibromide (EDB) (1,2-Dibromoethane) ³	106934	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1	grab	14,504.1	0.01	ND	0		
11. Methyl-tert-Butyl Ether (MtBE)	1634044	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1	grab	5,624	20	ND	0		
12. tert-Butyl Alcohol (TBA) (Tertiary-Butanol)	75650	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1	grab	5,624	100	ND	0		

* 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"/>	1	grab	5,624	20	ND	0		
14. Naphthalene	91203	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1	grab	5,624	0.2	ND	0		
15. Carbon Tetrachloride	56235	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1	grab	5,624	1.0	ND	0		
16. 1,2 Dichlorobenzene (o-DCB)	95501	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1	grab	5,624	5.0	ND	0		
17. 1,3 Dichlorobenzene (m-DCB)	541731	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1	grab	5,624	5.0	ND	0		
18. 1,4 Dichlorobenzene (p-DCB)	106467	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1	grab	5,624	5.0	ND	0		
18a. Total dichlorobenzene		<input checked="" type="checkbox"/>	<input type="checkbox"/>	1	grab	5,624	5	ND	0		
19. 1,1 Dichloroethane (DCA)	75343	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1	grab	5,624	1.5	ND	0		
20. 1,2 Dichloroethane (DCA)	107062	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1	grab	5,624	1.5	ND	0		
21. 1,1 Dichloroethene (DCE)	75354	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1	grab	5,624	1.0	ND	0		
22. cis-1,2 Dichloroethene (DCE)	156592	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1	grab	5,624	1.0	ND	0		
23. Methylene Chloride	75092	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1	grab	5,624	5.0	ND	0		
24. Tetrachloroethene (PCE)	127184	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1	grab	5,624	1.5	ND	0		
25. 1,1,1 Trichloro-ethane (TCA)	71556	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1	grab	5,624	2.0	ND	0		
26. 1,1,2 Trichloro-ethane (TCA)	79005	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1	grab	5,624	1.5	ND	0		
27. Trichloroethene (TCE)	79016	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1	grab	5,624	1.0	ND	0		

<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"/>	1	grab	5,624	1.0	ND	0		
29. Acetone	67641	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1	grab	5,624	5.0	ND	0		
30. 1,4 Dioxane	123911	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1	grab	5,624	250	ND	0		
31. Total Phenols	108952	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1	grab	4,420.1	30	ND	0		
32. Pentachlorophenol (PCP)	87865	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1	grab	1,8270C-SIM	0.8	ND	0		
33. Total Phthalates (Phthalate esters) ⁴		<input checked="" type="checkbox"/>	<input type="checkbox"/>	1	grab	1,8270C	5.0	ND	0		
34. Bis (2-Ethylhexyl) Phthalate [Di-(ethylhexyl) Phthalate]	117817	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1	grab	1,8270C	3.0	ND	0		
35. Total Group I Polycyclic Aromatic Hydrocarbons (PAH)		<input checked="" type="checkbox"/>	<input type="checkbox"/>	1	grab	1,8270C		ND	0		
a. Benzo(a) Anthracene	56553	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1	grab	1,8270C-SIM	0.2	ND	0		
b. Benzo(a) Pyrene	50328	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1	grab	1,8270C-SIM	0.2	ND	0		
c. Benzo(b)Fluoranthene	205992	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1	grab	1,8270C-SIM	0.2	ND	0		
d. Benzo(k)Fluoranthene	207089	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1	grab	1,8270C-SIM	0.2	ND	0		
e. Chrysene	21801	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1	grab	1,8270C-SIM	0.2	ND	0		
f. Dibenzo(a,h)anthracene	53703	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1	grab	1,8270C-SIM	0.2	ND	0		
g. Indeno(1,2,3-cd) Pyrene	193395	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1	grab	1,8270C-SIM	0.2	ND	0		
36. Total Group II Polycyclic Aromatic Hydrocarbons (PAH)		<input checked="" type="checkbox"/>	<input type="checkbox"/>	1	grab	1,8270C-SIM		ND	0		

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 checked="" type="checkbox"/>	<input type="checkbox"/>	1	grab	1,8270C-SIM	0.2	ND	0		
i. Acenaphthylene	208968	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1	grab	1,8270C-SIM	0.2	ND	0		
j. Anthracene	120127	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1	grab	1,8270C-SIM	0.2	ND	0		
k. Benzo(ghi) Perylene	191242	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1	grab	1,8270C-SIM	0.2	ND	0		
l. Fluoranthene	206440	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1	grab	1,8270C-SIM	0.2	ND	0		
m. Fluorene	86737	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1	grab	1,8270C-SIM	0.2	ND	0		
n. Naphthalene	91203	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1	grab	1,8270C-SIM	0.2	ND	0		
o. Phenanthrene	85018	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1	grab	1,8270C-SIM	0.2	ND	0		
p. Pyrene	129000	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1	grab	1,8270C-SIM	0.2	ND	0		
37. Total Polychlorinated Biphenyls (PCBs)	85687; 84742; 117840; 84662; 131113; 117817.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1	grab	5,608	0.25	ND	0		
38. Chloride	16887006	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1	grab	44,300.0		340000	74.2		
39. Antimony	7440360	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1	grab	1,6020	0.5	ND	0		
40. Arsenic	7440382	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1	grab	1,6020		1.1	0.00024		
41. Cadmium	7440439	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1	grab	1,6020	0.2	ND	0		
42. Chromium III (trivalent)	16065831	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1	grab	30,3500-Cr	50	ND	0		
43. Chromium VI (hexavalent)	18540299	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1	grab	30,3500CR-D	50	ND	0		
44. Copper	7440508	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1	grab	1,6020		0.6	0.00013		
45. Lead	7439921	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1	grab	1,6020	0.5	ND	0		
46. Mercury	7439976	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1	grab	3,245.1	0.2	ND	0		
47. Nickel	7440020	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1	grab	1,6020		1.8	0.00039		
48. Selenium	7782492	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1	grab	1,6020		3.0	0.00066		
49. Silver	7440224	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1	grab	1,6020	0.4	ND	0		
50. Zinc	7440666	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1	grab	1,6020	11.9	ND	0		
51. Iron	7439896	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1	grab	19,200.7		26000	5.7		
Other (describe):		<input checked="" type="checkbox"/>	<input type="checkbox"/>								

<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>
		<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?</p> <p>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"> <tr> <td>Metal: iron</td> <td>DF: >100</td> </tr> <tr> <td>Metal: </td> <td>DF: </td> </tr> <tr> <td>Metal: </td> <td>DF: </td> </tr> <tr> <td>Metal: </td> <td>DF: </td> </tr> <tr> <td>Etc.</td> <td></td> </tr> </table>	Metal: iron	DF: >100	Metal:	DF:	Metal:	DF:	Metal:	DF:	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)?</p> <p>Y <input checked="" type="radio"/> N <input type="radio"/> If Y, list which metals:</p> <p>Iron</p>
Metal: iron	DF: >100										
Metal:	DF:										
Metal:	DF:										
Metal:	DF:										
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:						
Two 5,000-gallon settling tanks and a bag filter 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):			

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):

None

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 type="checkbox"/>	Within facility (sewer) <input type="checkbox"/>	Storm drain <input checked="" type="checkbox"/>	Wetlands <input type="checkbox"/>	Other (describe): <input type="text"/>
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b) Provide a narrative description of the discharge pathway, including the name(s) of the receiving waters:

Discharge into storm drain on Brookline Avenue that ultimately discharges to the Charles River. Please refer to attached report for further details and plan

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)?

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.

- 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 ☒ B ☐ C ☐ D ☐ E ☐ F ☐
- b) If you selected Criterion D or F, has consultation with the federal services been completed? Y ☐ N ☐ Underway ☐
- 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 ☐ N ☐
- d) Attach documentation of ESA eligibility as described in the NOI instructions and required by Appendix VII, Part I.C, Step 4.
- 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 ☐ 2 ☒ 3 ☐
- 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.


7. Supplemental information.

Please provide any supplemental information. Attach any analytical data used to support the application. Attach any certification(s) required by the general permit.

Please refer to attached report

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:	121 Brookline Avenue; Boston, MA
Operator signature:	
Printed Name & Title:	Jamie Noon, Project Manager
Date:	12-9-2011



**Boston Water and
Sewer Commission**
980 Harrison Avenue
Boston, MA 02119-2540

DEWATERING DISCHARGE PERMIT APPLICATION

OWNER / AUTHORIZED APPLICANT PROVIDE INFORMATION HERE:

Company Name: Boylston Properties Company, Inc. Address: 800 Boylston Street, Suite 1300, Boston, MA 02199

Phone number: 617-262-4646 Fax number: 617-262-1611

Contact person name: Mr. Mark Deschenes Title: Principal

Cell number: (617) -974-1131 Email address: MAD@boylprop.com

Permit Request (check one): ☒ New Application ☐ Permit Extension ☐ Other (Specify): _____

Owner's Information (if different from above):

Owner of property being dewatered: _____

Owner's mailing address: _____ Phone number: _____

Location of Discharge & Proposed Treatment System(s):

Street number and name: 121 Brookline Avenue Neighborhood Fenway

Discharge is to a: ☐ Sanitary Sewer ☐ Combined Sewer ☒ Storm Drain ☐ Other (specify): _____

Describe Proposed Pre-Treatment System(s): Sedimentation tank(s) and bag filter(s).

BWSC Outfall No. OF-042 Receiving Waters Charles River

Temporary Discharges (Provide Anticipated Dates of Discharge): From February 1, 2012 To December 1, 2012

<input type="checkbox"/> Groundwater Remediation	<input type="checkbox"/> Tank Removal/Installation	<input checked="" type="checkbox"/> Foundation Excavation
<input type="checkbox"/> Utility/Manhole Pumping	<input type="checkbox"/> Test Pipe	<input type="checkbox"/> Trench Excavation
<input type="checkbox"/> Accumulated Surface Water	<input type="checkbox"/> Hydrogeologic Testing	<input type="checkbox"/> Other _____

Permanent Discharges

<input type="checkbox"/> Foundation Drainage	<input type="checkbox"/> Crawl Space/Footing Drain
<input type="checkbox"/> Accumulated Surface Water	<input type="checkbox"/> Non-contact/Uncontaminated Cooling
<input type="checkbox"/> Non-contact/Uncontaminated Process	<input type="checkbox"/> Other; _____

1. Attach a Site Plan showing the source of the discharge and the location of the point of discharge (i.e. the sewer pipe or catch basin). Include meter type, meter number, size, make and start reading. Note. All discharges to the Commission's sewer system will be assessed current sewer charges.
2. If discharging to a sanitary or combined sewer, attach a copy of MWRA's Sewer Use Discharge permit or application.
3. If discharging to a separate storm drain, attach a copy of EPA's NPDES Permit or NOI application, or NPDES Permit exclusion letter for the discharge, as well as other relevant information.
4. Dewatering Drainage Permit will be denied or revoked if applicant fails to obtain the necessary permits from MWRA or EPA.

Submit Completed Application to: Boston Water and Sewer Commission
Engineering Customer Services
980 Harrison Avenue, Boston, MA 02119
Attn: Francis M. McLaughlin, Manager Engineering Customer Services
E-mail: MclaughlinF@bwsc.org
Phone: 617-989-7208 Fax: 617-989-7716

BWSC Use Only: Date Received _____ Comments: _____



APPENDIX C

U.S Fish and Wildlife Services Endangered Species List

Massachusetts Division of Fisheries and Wildlife Endangered Species List

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

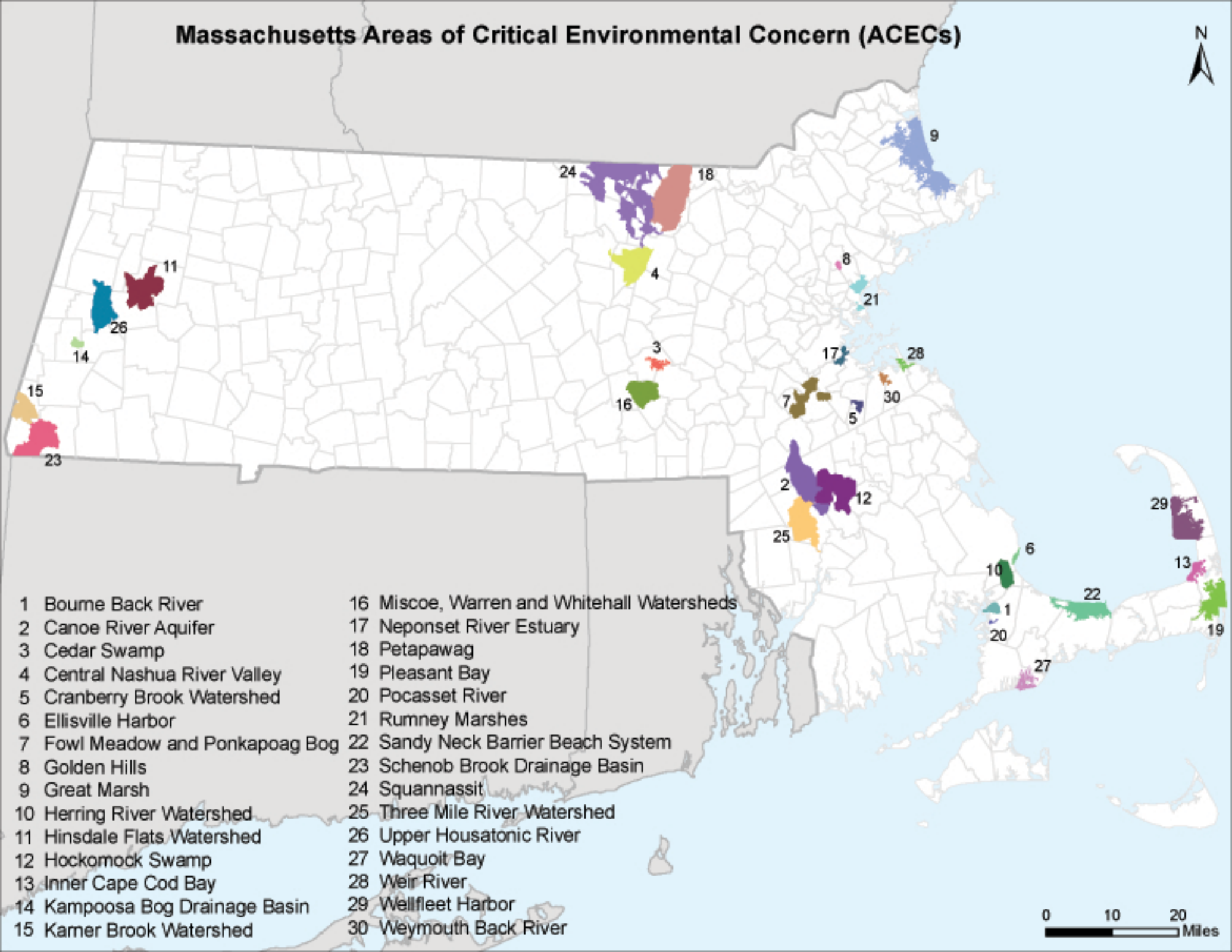
Weymouth Back River

(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)



0 10 20 Miles

- | | |
|---------------------------------|--|
| 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 Kampoosa Bog Drainage Basin | 29 Wellfleet Harbor |
| 15 Karter 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	Bourne (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



New England Field Office

Conserving the Nature of New England

Friday,
November 18, 2011

ENDANGERED SPECIES

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Endangered Species

New England Listed Species

The following federally-listed species are protected in New England. This list includes links to species information on our National Fish and Wildlife Service website including current Federal Register documents, HCPs, Recovery Plans, Life History accounts.

Vertebrates

Mammals

Eastern Cougar - [Puma \(=Felis\) concolor](#) cougar
Gray Wolf - [Canis lupus](#)
Indiana Bat - [Myotis sodalis](#)
Canada Lynx - [Lynx canadensis](#)

Birds

Atlantic Coast Piping Plover - [Charadrius melodus](#)
Birds of North America Species Account [Piping Plover](#)
Atlantic Coast piping plover website [Piping Plover](#)
Roseate Tern - [Sterna dougallii dougallii](#)
Birds of North America Species Account [Roseate Tern](#)

Reptiles

Bog Turtle - [Clemmys muhlenbergii](#)
Northern Redbelly Cooter (Plymouth redbelly turtle) [Pseudemys rubriventris bangsii](#)
[Northern Redbelly Cooter 5-year Review](#); (pdf size 1.6MB*) May 2007

Fish

Atlantic Salmon - [Salmo salar](#) (Maine only)
[Maine Atlantic Salmon Atlas](#)

Invertebrates

Insects

American Burying Beetle - [Nicrophorus americanus](#)
Karner Blue Butterfly - [Lycaeides melissa samuelis](#)
Karner Blue Butterfly [Fact sheet](#)
Northeastern Beach Tiger Beetle - [Cicindela dorsalis dorsalis](#)
Puritan Tiger Beetle - [Cicindela puritana](#)
[Draft Puritan Tiger Beetle](#); (pdf size 2.4MB*) 5-year Review

Mussels

Dwarf Wedgemussel - [Alasmidonta heterodon](#)
[Dwarf Wedgemussel 5-Year Status Review 2007](#) (pdf size 1.14MB*)

Plants

Jesup's Milkvetch - [Astragalus robbinsii var. jesupi](#)
Northeastern Bulrush - [Scirpus ancistrochaetus](#)
Sandplain Gerardia - [Agalinis acuta](#)
Small Whorled Pogonia - [Isotria medeoloides](#)
Seabeach Amaranth - [Amaranthus pumilus](#) (historic)
American Chaffseed - [Schwalbea americana](#) (historic)
Eastern Prairie Fringed Orchid - [Platanthera leucophaea](#) (Maine only)
Furbish's Lousewort - [Pedicularis furbishiae](#) (Maine only)

Candidate species and species recently delisted are identified below, including links for additional information regarding their status.

Candidate Species

The Service has recently completed a status assessment for the following species and determined that federal listing is "warranted, but precluded", i.e. the status of the species indicates that it should be listed but the listing is superceded by higher listing actions.

While there is currently no obligation for Federal Agencies to consult with us regarding these species, coordination is encouraged to avoid project delays that may occur as a result of the species becoming federally-listed during the planning or construction phases of a given project. In addition, the Service is interested in promoting conservation actions that may result in benefits to these species that will prevent the need to list it. Information regarding our [candidate conservation](#) program may help you decide if you would like to become involved.

- [New England Cottontail; *Sylvilagus transitionalis*](#)
- Red Knot [Calidris canutus rufa](#); [Red Knot Fact Sheet](#)

Delisted Species

Bald Eagle - [Haliaeetus leucocephalus](#)
[Bald Eagle Guidance](#)



NCTC Eagle Cam

This Bald Eagle image is a link to a Service website that chronicles the activities of the eagle nest located on the grounds of the USFWS National Conservation Training Center near the Potomac River in Shepherdstown, West Virginia. The nest has been active for four seasons, fledging several juvenile bald eagles.

Files in PDF format will require Acrobat Reader to access the content. If you do not have a copy, please select the link [or click the image] to take you to the Adobe website where you can download a free copy. [Get Adobe Acrobat Reader](#)

Last updated: October 28, 2010



APPENDIX D

Laboratory Data - Groundwater Testing B-2 (OW)



ANALYTICAL REPORT

Lab Number:	L1118707
Client:	McPhail Associates 2269 Massachusetts Avenue Cambridge, MA 02140
ATTN:	Ambrose Donovan
Phone:	(617) 868-1420
Project Name:	121 BROOKLINE AVE
Project Number:	4542
Report Date:	11/22/11

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NY (11148), CT (PH-0574), NH (2003), NJ NELAP (MA935), RI (LAO00065), ME (MA00086), PA (68-03671), USDA (Permit #P-330-11-00240), NC (666), TX (T104704476), DOD (L2217), US Army Corps of Engineers.

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com



Project Name: 121 BROOKLINE AVE
Project Number: 4542

Lab Number: L1118707
Report Date: 11/22/11

Alpha Sample ID	Client ID	Sample Location	Collection Date/Time
L1118707-01	B-2 (OW)	BOSTON, MA	11/10/11 09:30
L1118707-02	TRIP BLANK	BOSTON, MA	11/10/11 00:00

Project Name: 121 BROOKLINE AVE
Project Number: 4542

Lab Number: L1118707
Report Date: 11/22/11

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

For additional information, please contact Client Services at 800-624-9220.

Report Submission

This report replaces the report issued on November 16, 2011. MTBE, tert-Butyl Alcohol, Tert-Amyl Methyl Ether, and 1,4-Dioxane have been added to the Volatile Organics analysis.

Semivolatile Organics

The surrogate recoveries for L1118707-01 are above the acceptance criteria for Nitrobenzene-d5 (147%), 2-Fluorobiphenyl (159%), 2,4,6-Tribromophenol (149%) and 4-Terphenyl-d14 (198%). Since the sample was non-detect for all target analytes, re-analysis was not required.

Chromium, Hexavalent

L1118707-01 has an elevated detection limit due to the dilution required by the sample matrix.

The WG501659-4 MS recovery (0%), performed on L1118707-01, is below the acceptance criteria. This has

Project Name: 121 BROOKLINE AVE
Project Number: 4542

Lab Number: L1118707
Report Date: 11/22/11

Case Narrative (continued)

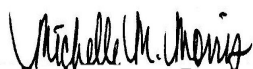
been attributed to matrix interference. The sample pH was adjusted with NaOH.

Chloride

L1118707-01 has an elevated detection limit due to the dilution required to quantitate the result within the calibration range.

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

Authorized Signature:



Michelle M. Morris

Title: Technical Director/Representative

Date: 11/22/11

ORGANICS

VOLATILES

Project Name: 121 BROOKLINE AVE**Lab Number:** L1118707**Project Number:** 4542**Report Date:** 11/22/11**SAMPLE RESULTS**

Lab ID: L1118707-01

Date Collected: 11/10/11 09:30

Client ID: B-2 (OW)

Date Received: 11/10/11

Sample Location: BOSTON, MA

Field Prep: Not Specified

Matrix: Water

Analytical Method: 14,504.1

Extraction Date: 11/15/11 14:30

Analytical Date: 11/15/11 17:57

Analyst: SH

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Pesticides by GC - Westborough Lab						
1,2-Dibromoethane	ND		ug/l	0.010	--	1

Project Name: 121 BROOKLINE AVE**Lab Number:** L1118707**Project Number:** 4542**Report Date:** 11/22/11**SAMPLE RESULTS**

Lab ID: L1118707-01
Client ID: B-2 (OW)
Sample Location: BOSTON, MA
Matrix: Water
Analytical Method: 5,624
Analytical Date: 11/14/11 17:23
Analyst: KL

Date Collected: 11/10/11 09:30
Date Received: 11/10/11
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	5.0	--	1
1,1-Dichloroethane	ND		ug/l	1.5	--	1
Carbon tetrachloride	ND		ug/l	1.0	--	1
1,1,2-Trichloroethane	ND		ug/l	1.5	--	1
Tetrachloroethene	ND		ug/l	1.5	--	1
1,2-Dichloroethane	ND		ug/l	1.5	--	1
1,1,1-Trichloroethane	ND		ug/l	2.0	--	1
Benzene	ND		ug/l	1.0	--	1
Toluene	ND		ug/l	1.0	--	1
Ethylbenzene	ND		ug/l	1.0	--	1
Vinyl chloride	ND		ug/l	2.0	--	1
1,1-Dichloroethene	ND		ug/l	1.0	--	1
cis-1,2-Dichloroethene ¹	ND		ug/l	1.0	--	1
Trichloroethene	ND		ug/l	1.0	--	1
1,2-Dichlorobenzene	ND		ug/l	5.0	--	1
1,3-Dichlorobenzene	ND		ug/l	5.0	--	1
1,4-Dichlorobenzene	ND		ug/l	5.0	--	1
p/m-Xylene ¹	ND		ug/l	2.0	--	1
o-xylene ¹	ND		ug/l	1.0	--	1
Acetone ¹	ND		ug/l	10	--	1
Methyl tert butyl Ether ¹	ND		ug/l	20	--	1
1,4-Dioxane ¹	ND		ug/l	2000	--	1
Tert-Butyl Alcohol ¹	ND		ug/l	100	--	1
Tertiary-Amyl Methyl Ether ¹	ND		ug/l	20	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Pentafluorobenzene	102		80-120
Fluorobenzene	104		80-120
4-Bromofluorobenzene	109		80-120

Project Name: 121 BROOKLINE AVE
Project Number: 4542

Lab Number: L1118707
Report Date: 11/22/11

SAMPLE RESULTS

Lab ID: L1118707-02
Client ID: TRIP BLANK
Sample Location: BOSTON, MA
Matrix: Water
Analytical Method: 14,504.1
Analytical Date: 11/15/11 18:12
Analyst: SH

Date Collected: 11/10/11 00:00
Date Received: 11/10/11
Field Prep: Not Specified
Extraction Date: 11/15/11 14:30

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Pesticides by GC - Westborough Lab						
1,2-Dibromoethane	ND		ug/l	0.010	--	1

Project Name: 121 BROOKLINE AVE**Lab Number:** L1118707**Project Number:** 4542**Report Date:** 11/22/11**SAMPLE RESULTS**

Lab ID: L1118707-02
Client ID: TRIP BLANK
Sample Location: BOSTON, MA
Matrix: Water
Analytical Method: 5,624
Analytical Date: 11/14/11 12:14
Analyst: KL

Date Collected: 11/10/11 00:00
Date Received: 11/10/11
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	5.0	--	1
1,1-Dichloroethane	ND		ug/l	1.5	--	1
Carbon tetrachloride	ND		ug/l	1.0	--	1
1,1,2-Trichloroethane	ND		ug/l	1.5	--	1
Tetrachloroethene	ND		ug/l	1.5	--	1
1,2-Dichloroethane	ND		ug/l	1.5	--	1
1,1,1-Trichloroethane	ND		ug/l	2.0	--	1
Benzene	ND		ug/l	1.0	--	1
Toluene	ND		ug/l	1.0	--	1
Ethylbenzene	ND		ug/l	1.0	--	1
Vinyl chloride	ND		ug/l	2.0	--	1
1,1-Dichloroethene	ND		ug/l	1.0	--	1
cis-1,2-Dichloroethene ¹	ND		ug/l	1.0	--	1
Trichloroethene	ND		ug/l	1.0	--	1
1,2-Dichlorobenzene	ND		ug/l	5.0	--	1
1,3-Dichlorobenzene	ND		ug/l	5.0	--	1
1,4-Dichlorobenzene	ND		ug/l	5.0	--	1
p/m-Xylene ¹	ND		ug/l	2.0	--	1
o-xylene ¹	ND		ug/l	1.0	--	1
Acetone ¹	ND		ug/l	10	--	1
Methyl tert butyl Ether ¹	ND		ug/l	20	--	1
1,4-Dioxane ¹	ND		ug/l	2000	--	1
Tert-Butyl Alcohol ¹	ND		ug/l	100	--	1
Tertiary-Amyl Methyl Ether ¹	ND		ug/l	20	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Pentafluorobenzene	105		80-120
Fluorobenzene	105		80-120
4-Bromofluorobenzene	112		80-120

Project Name: 121 BROOKLINE AVE

Lab Number: L1118707

Project Number: 4542

Report Date: 11/22/11

Method Blank Analysis Batch Quality Control

Analytical Method: 5,624

Analytical Date: 11/14/11 11:08

Analyst: KL

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-02 Batch: WG502124-6					
Methylene chloride	ND		ug/l	5.0	--
1,1-Dichloroethane	ND		ug/l	1.5	--
Carbon tetrachloride	ND		ug/l	1.0	--
1,1,2-Trichloroethane	ND		ug/l	1.5	--
Tetrachloroethene	ND		ug/l	1.5	--
1,2-Dichloroethane	ND		ug/l	1.5	--
1,1,1-Trichloroethane	ND		ug/l	2.0	--
Benzene	ND		ug/l	1.0	--
Toluene	ND		ug/l	1.0	--
Ethylbenzene	ND		ug/l	1.0	--
Vinyl chloride	ND		ug/l	2.0	--
1,1-Dichloroethene	ND		ug/l	1.0	--
cis-1,2-Dichloroethene ¹	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 ¹	ND		ug/l	2.0	--
o-xylene ¹	ND		ug/l	1.0	--
Acetone ¹	ND		ug/l	10	--
Methyl tert butyl Ether ¹	ND		ug/l	20	--
1,4-Dioxane ¹	ND		ug/l	2000	--
Tert-Butyl Alcohol ¹	ND		ug/l	100	--
Tertiary-Amyl Methyl Ether ¹	ND		ug/l	20	--

Project Name: 121 BROOKLINE AVE**Lab Number:** L1118707**Project Number:** 4542**Report Date:** 11/22/11**Method Blank Analysis**
Batch Quality Control

Analytical Method: 5,624

Analytical Date: 11/14/11 11:08

Analyst: KL

Parameter	Result	Qualifier	Units	RL	MDL
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Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-02 Batch: WG502124-6					
---	--	--	--	--	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Pentafluorobenzene	109		80-120
Fluorobenzene	108		80-120
4-Bromofluorobenzene	108		80-120

Project Name: 121 BROOKLINE AVE**Lab Number:** L1118707**Project Number:** 4542**Report Date:** 11/22/11**Method Blank Analysis**
Batch Quality Control

Analytical Method: 14,504.1

Analytical Date: 11/15/11 17:11

Analyst: SH

Extraction Date: 11/15/11 14:30

Parameter	Result	Qualifier	Units	RL	MDL
Pesticides by GC - Westborough Lab for sample(s): 01-02 Batch: WG502519-1					
1,2-Dibromoethane	ND		ug/l	0.010	--

Lab Control Sample Analysis **Batch Quality Control**

Project Name: 121 BROOKLINE AVE
Project Number: 4542

Lab Number: L1118707
Report Date: 11/22/11

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-02 Batch: WG502124-5								
Methylene chloride	102		-		1-221	-		30
1,1-Dichloroethane	101		-		59-155	-		30
Chloroform	101		-		51-138	-		30
Carbon tetrachloride	107		-		70-140	-		30
1,2-Dichloropropane ¹	101		-		1-210	-		30
Dibromochloromethane	94		-		53-149	-		30
1,1,2-Trichloroethane	92		-		52-150	-		30
2-Chloroethylvinyl ether	58		-		1-305	-		30
Tetrachloroethene	101		-		64-148	-		30
Chlorobenzene	109		-		37-160	-		30
Trichlorofluoromethane	121		-		17-181	-		30
1,2-Dichloroethane	102		-		49-155	-		30
1,1,1-Trichloroethane	105		-		52-162	-		30
Bromodichloromethane	103		-		35-155	-		30
trans-1,3-Dichloropropene	87		-		17-183	-		30
cis-1,3-Dichloropropene	92		-		1-227	-		30
Bromoform	94		-		45-169	-		30
1,1,2,2-Tetrachloroethane	100		-		46-157	-		30
Benzene	105		-		37-151	-		30
Toluene	103		-		47-150	-		30
Ethylbenzene	113		-		37-162	-		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: 121 BROOKLINE AVE
Project Number: 4542

Lab Number: L1118707
Report Date: 11/22/11

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-02 Batch: WG502124-5								
Chloromethane	138		-		1-273	-		30
Bromomethane	152		-		1-242	-		30
Vinyl chloride	112		-		1-251	-		30
Chloroethane	119		-		14-230	-		30
1,1-Dichloroethene	107		-		1-234	-		30
trans-1,2-Dichloroethene	108		-		54-156	-		30
cis-1,2-Dichloroethene ¹	100		-		60-140	-		30
Trichloroethene	106		-		71-157	-		30
1,2-Dichlorobenzene	108		-		18-190	-		30
1,3-Dichlorobenzene	111		-		59-156	-		30
1,4-Dichlorobenzene	112		-		18-190	-		30
p/m-Xylene ¹	113		-		40-160	-		30
o-Xylene ¹	111		-		40-160	-		30
XYLENE (TOTAL) ¹	112		-		40-160	-		30
Styrene ¹	148		-		40-160	-		30
Acetone ¹	93		-		40-160	-		30
Carbon disulfide ¹	105		-		40-160	-		30
2-Butanone ¹	78		-		40-160	-		30
Vinyl acetate ¹	494	Q	-		40-160	-		30
4-Methyl-2-pentanone ¹	91		-		40-160	-		30
2-Hexanone ¹	83		-		40-160	-		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: 121 BROOKLINE AVE
Project Number: 4542

Lab Number: L1118707
Report Date: 11/22/11

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-02 Batch: WG502124-5								
Acrolein ¹	121		-		40-160	-		30
Acrylonitrile ¹	97		-		40-160	-		30
Methyl tert butyl ether ¹	99		-			-		30
Dibromomethane ¹	109		-		70-130	-		30
1,4-Dioxane ¹	87		-			-		30
tert-Butyl Alcohol ¹	88		-			-		30
Tertiary-Amyl Methyl Ether ¹	96		-			-		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Pentafluorobenzene	108				80-120
Fluorobenzene	107				80-120
4-Bromofluorobenzene	110				80-120

Lab Control Sample Analysis

Batch Quality Control

Project Name: 121 BROOKLINE AVE

Project Number: 4542

Lab Number: L1118707

Report Date: 11/22/11

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Pesticides by GC - Westborough Lab Associated sample(s): 01-02 Batch: WG502519-2								
1,2-Dibromoethane	106		-		70-130	-		20
1,2-Dibromo-3-chloropropane	95		-		70-130	-		20

Matrix Spike Analysis

Batch Quality Control

Project Name: 121 BROOKLINE AVE
Project Number: 4542

Lab Number: L1118707
Report Date: 11/22/11

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-02 QC Batch ID: WG502124-4 QC Sample: L1118732-01 Client ID: MS Sample												
Methylene chloride	ND	200	200	98		-	-		1-221	-		30
1,1-Dichloroethane	ND	200	190	95		-	-		59-155	-		30
Chloroform	ND	200	200	102		-	-		51-138	-		30
Carbon tetrachloride	ND	200	240	122		-	-		70-140	-		30
1,2-Dichloropropane ¹	ND	200	190	96		-	-		1-210	-		30
Dibromochloromethane	ND	200	210	105		-	-		53-149	-		30
1,1,2-Trichloroethane	ND	200	180	90		-	-		52-150	-		30
2-Chloroethylvinyl ether	ND	200	110	56		-	-		1-305	-		30
Tetrachloroethene	ND	200	190	97		-	-		64-148	-		30
Chlorobenzene	ND	200	200	101		-	-		37-160	-		30
Trichlorofluoromethane	ND	200	250	124		-	-		17-181	-		30
1,2-Dichloroethane	ND	200	190	97		-	-		49-155	-		30
1,1,1-Trichloroethane	ND	200	220	111		-	-		52-162	-		30
Bromodichloromethane	ND	200	220	110		-	-		35-155	-		30
trans-1,3-Dichloropropene	ND	200	190	94		-	-		17-183	-		30
cis-1,3-Dichloropropene	ND	200	170	87		-	-		1-227	-		30
Bromoform	ND	200	220	108		-	-		45-169	-		30
1,1,2,2-Tetrachloroethane	ND	200	190	93		-	-		46-157	-		30
Benzene	ND	200	200	102		-	-		35-151	-		30
Toluene	ND	200	200	98		-	-		47-150	-		30
Ethylbenzene	ND	200	210	106		-	-		37-162	-		30

Matrix Spike Analysis

Batch Quality Control

Project Name: 121 BROOKLINE AVE
Project Number: 4542

Lab Number: L1118707
Report Date: 11/22/11

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-02 QC Batch ID: WG502124-4 QC Sample: L1118732-01 Client ID: MS Sample												
Chloromethane	ND	200	260	130		-	-		1-273	-		30
Bromomethane	ND	200	230	115		-	-		1-242	-		30
Vinyl chloride	ND	200	230	116		-	-		1-251	-		30
Chloroethane	ND	200	220	112		-	-		14-230	-		30
1,1-Dichloroethene	ND	200	210	104		-	-		1-234	-		30
trans-1,2-Dichloroethene	ND	200	200	101		-	-		54-156	-		30
cis-1,2-Dichloroethene ¹	ND	200	190	95		-	-		60-140	-		30
Trichloroethene	ND	200	210	103		-	-		71-157	-		30
1,2-Dichlorobenzene	ND	200	190	96		-	-		18-190	-		30
1,3-Dichlorobenzene	ND	200	200	98		-	-		59-156	-		30
1,4-Dichlorobenzene	ND	200	200	100		-	-		18-190	-		30
p/m-Xylene ¹	ND	400	420	105		-	-		40-160	-		30
o-Xylene ¹	ND	200	210	104		-	-		40-160	-		30
XYLENE (TOTAL) ¹	ND	600	630	105		-	-		40-160	-		30
Styrene ¹	ND	200	270	137		-	-		40-160	-		30
Acetone ¹	110	500	380	55		-	-		40-160	-		30
Carbon disulfide ¹	ND	200	220	111		-	-		40-160	-		30
2-Butanone ¹	ND	500	360	73		-	-		40-160	-		30
Vinyl acetate ¹	ND	400	1300	321	Q	-	-		40-160	-		30
4-Methyl-2-pentanone ¹	ND	500	430	86		-	-		40-160	-		30
2-Hexanone ¹	ND	500	410	81		-	-		40-160	-		30

Matrix Spike Analysis

Batch Quality Control

Project Name: 121 BROOKLINE AVE
Project Number: 4542

Lab Number: L1118707
Report Date: 11/22/11

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
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Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-02 QC Batch ID: WG502124-4 QC Sample: L1118732-01 Client ID: MS Sample

Acrolein ¹	ND	400	360	89		-	-		40-160	-		30
Acrylonitrile ¹	ND	400	370	93		-	-		40-160	-		30
Dibromomethane ¹	ND	200	210	105		-	-			-		30

Surrogate	MS % Recovery	Qualifier	MSD % Recovery	Qualifier	Acceptance Criteria
4-Bromofluorobenzene	103				80-120
Fluorobenzene	104				80-120
Pentafluorobenzene	102				80-120

Pesticides by GC - Westborough Lab Associated sample(s): 01-02 QC Batch ID: WG502519-3 QC Sample: L1118707-01 Client ID: B-2 (OW)

1,2-Dibromoethane	ND	0.255	0.263	103		-	-		70-130	-		20
1,2-Dibromo-3-chloropropane	ND	0.255	0.244	96		-	-		70-130	-		20

Project Name: 121 BROOKLINE AVE
Project Number: 4542

Lab Duplicate Analysis
Batch Quality Control

Lab Number: L1118707
Report Date: 11/22/11

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-02 QC Batch ID: WG502124-3 QC Sample: L1118732-01 Client ID: DUP Sample						
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 ¹	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
Benzene	ND	ND	ug/l	NC		30

Project Name: 121 BROOKLINE AVE
Project Number: 4542

Lab Duplicate Analysis
Batch Quality Control

Lab Number: L1118707
Report Date: 11/22/11

Parameter	Native Sample	Duplicate Sample	Units	RPD	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-02 QC Batch ID: WG502124-3 QC Sample: L1118732-01 Client ID: DUP Sample					
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 ¹	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 ¹	ND	ND	ug/l	NC	30
o-Xylene ¹	ND	ND	ug/l	NC	30
XYLENE (TOTAL) ¹	ND	ND	ug/l	NC	30
Styrene ¹	ND	ND	ug/l	NC	30
Acetone ¹	110	120	ug/l	9	30
Carbon disulfide ¹	ND	ND	ug/l	NC	30

Project Name: 121 BROOKLINE AVE
Project Number: 4542

Lab Duplicate Analysis

Batch Quality Control

Lab Number: L1118707
Report Date: 11/22/11

Parameter	Native Sample	Duplicate Sample	Units	RPD	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-02 QC Batch ID: WG502124-3 QC Sample: L1118732-01 Client ID: DUP Sample					
2-Butanone ¹	ND	ND	ug/l	NC	30
Vinyl acetate ¹	ND	ND	ug/l	NC	30
4-Methyl-2-pentanone ¹	ND	ND	ug/l	NC	30
2-Hexanone ¹	ND	ND	ug/l	NC	30
Acrolein ¹	ND	ND	ug/l	NC	30
Acrylonitrile ¹	ND	ND	ug/l	NC	30
Dibromomethane ¹	ND	ND	ug/l	NC	30

Surrogate	%Recovery	Qualifier	%Recovery	Qualifier	Acceptance Criteria
Pentafluorobenzene	102		104		80-120
Fluorobenzene	103		105		80-120
4-Bromofluorobenzene	108		107		80-120

SEMIVOLATILES

Project Name: 121 BROOKLINE AVE
Project Number: 4542

Lab Number: L1118707
Report Date: 11/22/11

SAMPLE RESULTS

Lab ID: L1118707-01
 Client ID: B-2 (OW)
 Sample Location: BOSTON, MA
 Matrix: Water
 Analytical Method: 1,8270C
 Analytical Date: 11/14/11 12:23
 Analyst: JB

Date Collected: 11/10/11 09:30
 Date Received: 11/10/11
 Field Prep: Not Specified
 Extraction Method: EPA 3510C
 Extraction Date: 11/11/11 16:50

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Bis(2-ethylhexyl)phthalate	ND		ug/l	3.0	--	1
Butyl benzyl phthalate	ND		ug/l	5.0	--	1
Di-n-butylphthalate	ND		ug/l	5.0	--	1
Di-n-octylphthalate	ND		ug/l	5.0	--	1
Diethyl phthalate	ND		ug/l	5.0	--	1
Dimethyl phthalate	ND		ug/l	5.0	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	71		21-120
Phenol-d6	46		10-120
Nitrobenzene-d5	147	Q	23-120
2-Fluorobiphenyl	159	Q	15-120
2,4,6-Tribromophenol	149	Q	10-120
4-Terphenyl-d14	198	Q	41-149

Project Name: 121 BROOKLINE AVE**Lab Number:** L1118707**Project Number:** 4542**Report Date:** 11/22/11**SAMPLE RESULTS**

Lab ID: L1118707-01
Client ID: B-2 (OW)
Sample Location: BOSTON, MA
Matrix: Water
Analytical Method: 1,8270C-SIM
Analytical Date: 11/13/11 11:40
Analyst: JC

Date Collected: 11/10/11 09:30
Date Received: 11/10/11
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 11/11/11 17:38

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Acenaphthene	ND		ug/l	0.20	--	1
Fluoranthene	ND		ug/l	0.20	--	1
Naphthalene	ND		ug/l	0.20	--	1
Benzo(a)anthracene	ND		ug/l	0.20	--	1
Benzo(a)pyrene	ND		ug/l	0.20	--	1
Benzo(b)fluoranthene	ND		ug/l	0.20	--	1
Benzo(k)fluoranthene	ND		ug/l	0.20	--	1
Chrysene	ND		ug/l	0.20	--	1
Acenaphthylene	ND		ug/l	0.20	--	1
Anthracene	ND		ug/l	0.20	--	1
Benzo(ghi)perylene	ND		ug/l	0.20	--	1
Fluorene	ND		ug/l	0.20	--	1
Phenanthrene	ND		ug/l	0.20	--	1
Dibenzo(a,h)anthracene	ND		ug/l	0.20	--	1
Indeno(1,2,3-cd)pyrene	ND		ug/l	0.20	--	1
Pyrene	ND		ug/l	0.20	--	1
Pentachlorophenol	ND		ug/l	0.80	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	45		21-120
Phenol-d6	32		10-120
Nitrobenzene-d5	100		23-120
2-Fluorobiphenyl	94		15-120
2,4,6-Tribromophenol	108		10-120
4-Terphenyl-d14	136		41-149

Project Name: 121 BROOKLINE AVE

Lab Number: L1118707

Project Number: 4542

Report Date: 11/22/11

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8270C
 Analytical Date: 11/13/11 16:42
 Analyst: JB

Extraction Method: EPA 3510C
 Extraction Date: 11/11/11 16:50

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG501814-1					
Bis(2-ethylhexyl)phthalate	ND		ug/l	3.0	--
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	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	30		21-120
Phenol-d6	19		10-120
Nitrobenzene-d5	50		23-120
2-Fluorobiphenyl	64		15-120
2,4,6-Tribromophenol	73		10-120
4-Terphenyl-d14	87		41-149

Project Name: 121 BROOKLINE AVE

Lab Number: L1118707

Project Number: 4542

Report Date: 11/22/11

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8270C-SIM

Extraction Method: EPA 3510C

Analytical Date: 11/12/11 21:50

Extraction Date: 11/11/11 17:38

Analyst: JC

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 01 Batch: WG501816-1					
Acenaphthene	ND		ug/l	0.20	--
Fluoranthene	ND		ug/l	0.20	--
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	--
Pentachlorophenol	ND		ug/l	0.80	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	33		21-120
Phenol-d6	23		10-120
Nitrobenzene-d5	67		23-120
2-Fluorobiphenyl	65		15-120
2,4,6-Tribromophenol	70		10-120
4-Terphenyl-d14	95		41-149

Lab Control Sample Analysis **Batch Quality Control**

Project Name: 121 BROOKLINE AVE

Project Number: 4542

Lab Number: L1118707

Report Date: 11/22/11

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG501814-2 WG501814-3								
Acenaphthene	62		69		37-111	11		30
1,2,4-Trichlorobenzene	54		67		39-98	21		30
2-Chloronaphthalene	72		96		40-140	29		30
1,2-Dichlorobenzene	56		66		40-140	16		30
1,4-Dichlorobenzene	52		65		36-97	22		30
2,4-Dinitrotoluene	86		99	Q	24-96	14		30
2,6-Dinitrotoluene	80		98		40-140	20		30
Fluoranthene	86		90		40-140	5		30
4-Chlorophenyl phenyl ether	67		73		40-140	9		30
n-Nitrosodi-n-propylamine	54		70		41-116	26		30
Butyl benzyl phthalate	95		107		40-140	12		30
Anthracene	84		88		40-140	5		30
Pyrene	88		92		26-127	4		30
P-Chloro-M-Cresol	72		85		23-97	17		30
2-Chlorophenol	51		64		27-123	23		30
2-Nitrophenol	62		75		30-130	19		30
4-Nitrophenol	33		37		10-80	11		30
2,4-Dinitrophenol	32		48		20-130	40	Q	30
Pentachlorophenol	56		68		9-103	19		30
Phenol	21		25		12-110	17		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: 121 BROOKLINE AVE
Project Number: 4542

Lab Number: L1118707
Report Date: 11/22/11

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG501814-2 WG501814-3								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	32		36		21-120
Phenol-d6	22		27		10-120
Nitrobenzene-d5	55		73		23-120
2-Fluorobiphenyl	69		84		15-120
2,4,6-Tribromophenol	98		108		10-120
4-Terphenyl-d14	90		100		41-149

Semivolatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 01 Batch: WG501816-2 WG501816-3

Acenaphthene	69		66		37-111	4	40
2-Chloronaphthalene	79		75		40-140	5	40
Fluoranthene	92		92		40-140	0	40
Anthracene	92		88		40-140	4	40
Pyrene	90		88		26-127	2	40
Pentachlorophenol	83		83		9-103	0	40

Lab Control Sample Analysis

Batch Quality Control

Project Name: 121 BROOKLINE AVE

Project Number: 4542

Lab Number: L1118707

Report Date: 11/22/11

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
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Semivolatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 01 Batch: WG501816-2 WG501816-3

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	39		41		21-120
Phenol-d6	26		27		10-120
Nitrobenzene-d5	76		74		23-120
2-Fluorobiphenyl	72		69		15-120
2,4,6-Tribromophenol	87		85		10-120
4-Terphenyl-d14	103		102		41-149

PCBS

Project Name: 121 BROOKLINE AVE**Lab Number:** L1118707**Project Number:** 4542**Report Date:** 11/22/11**SAMPLE RESULTS**

Lab ID: L1118707-01
Client ID: B-2 (OW)
Sample Location: BOSTON, MA
Matrix: Water
Analytical Method: 5,608
Analytical Date: 11/13/11 18:59
Analyst: SH

Date Collected: 11/10/11 09:30
Date Received: 11/10/11
Field Prep: Not Specified
Extraction Method: EPA 608
Extraction Date: 11/11/11 20:53
Cleanup Method1: EPA 3665A
Cleanup Date1: 11/12/11
Cleanup Method2: EPA 3660B
Cleanup Date2: 11/12/11

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Polychlorinated Biphenyls by GC - Westborough Lab						
Aroclor 1016	ND		ug/l	0.250	--	1
Aroclor 1221	ND		ug/l	0.250	--	1
Aroclor 1232	ND		ug/l	0.250	--	1
Aroclor 1242	ND		ug/l	0.250	--	1
Aroclor 1248	ND		ug/l	0.250	--	1
Aroclor 1254	ND		ug/l	0.250	--	1
Aroclor 1260	ND		ug/l	0.250	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	106		30-150	A
Decachlorobiphenyl	79		30-150	A

Project Name: 121 BROOKLINE AVE**Lab Number:** L1118707**Project Number:** 4542**Report Date:** 11/22/11

Method Blank Analysis Batch Quality Control

Analytical Method: 5,608
 Analytical Date: 11/13/11 17:56
 Analyst: SH

Extraction Method: EPA 608
 Extraction Date: 11/11/11 20:53
 Cleanup Method1: EPA 3665A
 Cleanup Date1: 11/12/11
 Cleanup Method2: EPA 3660B
 Cleanup Date2: 11/12/11

Parameter	Result	Qualifier	Units	RL	MDL
Polychlorinated Biphenyls by GC - Westborough Lab for sample(s): 01 Batch: WG501880-1					
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	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	99		30-150	A
Decachlorobiphenyl	91		30-150	A

Matrix Spike Analysis

Batch Quality Control

Project Name: 121 BROOKLINE AVE
Project Number: 4542

Lab Number: L1118707
Report Date: 11/22/11

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Polychlorinated Biphenyls by GC - Westborough Lab Associated sample(s): 01 QC Batch ID: WG501880-3 QC Sample: L1118781-01 Client ID: MS Sample												
Aroclor 1016	ND	1	1.28	128	Q	-	-		40-126	-		30
Aroclor 1260	ND	1	0.906	91		-	-		40-127	-		30

Surrogate	MS % Recovery	Qualifier	MSD % Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	89				30-150	A
Decachlorobiphenyl	71				30-150	A

Lab Control Sample Analysis**Batch Quality Control****Project Name:** 121 BROOKLINE AVE**Project Number:** 4542**Lab Number:** L1118707**Report Date:** 11/22/11

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Polychlorinated Biphenyls by GC - Westborough Lab Associated sample(s): 01 Batch: WG501880-2								
Aroclor 1016	112		-		40-126	-		30
Aroclor 1260	105		-		40-127	-		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	108				30-150	A
Decachlorobiphenyl	100				30-150	A

Project Name: 121 BROOKLINE AVE
Project Number: 4542

Lab Duplicate Analysis

Batch Quality Control

Lab Number: L1118707
Report Date: 11/22/11

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Polychlorinated Biphenyls by GC - Westborough Lab Associated sample(s): 01 QC Batch ID: WG501880-4 QC Sample: L1118781-01 Client ID: DUP Sample						
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	%Recovery	Qualifier	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	97		96		30-150	A
Decachlorobiphenyl	69		84		30-150	A

METALS

Project Name: 121 BROOKLINE AVE

Lab Number: L1118707

Project Number: 4542

Report Date: 11/22/11

SAMPLE RESULTS

Lab ID: L1118707-01

Date Collected: 11/10/11 09:30

Client ID: B-2 (OW)

Date Received: 11/10/11

Sample Location: BOSTON, MA

Field Prep: Not Specified

Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Westborough Lab											
Antimony, Total	ND		mg/l	0.0005	--	1	11/14/11 09:40	11/14/11 20:54	EPA 3005A	1,6020	BM
Arsenic, Total	0.0011		mg/l	0.0005	--	1	11/14/11 09:40	11/14/11 20:54	EPA 3005A	1,6020	BM
Cadmium, Total	ND		mg/l	0.0002	--	1	11/14/11 09:40	11/14/11 20:54	EPA 3005A	1,6020	BM
Chromium, Total	0.0010		mg/l	0.0005	--	1	11/14/11 09:40	11/14/11 20:54	EPA 3005A	1,6020	BM
Copper, Total	0.0006		mg/l	0.0005	--	1	11/14/11 09:40	11/14/11 20:54	EPA 3005A	1,6020	BM
Iron, Total	26		mg/l	0.05	--	1	11/14/11 09:40	11/16/11 10:19	EPA 3005A	19,200.7	AI
Lead, Total	ND		mg/l	0.0005	--	1	11/14/11 09:40	11/14/11 20:54	EPA 3005A	1,6020	BM
Mercury, Total	ND		mg/l	0.0002	--	1	11/15/11 11:05	11/15/11 19:58	EPA 245.1	3,245.1	JP
Nickel, Total	0.0018		mg/l	0.0005	--	1	11/14/11 09:40	11/14/11 20:54	EPA 3005A	1,6020	BM
Selenium, Total	0.003		mg/l	0.001	--	1	11/14/11 09:40	11/14/11 20:54	EPA 3005A	1,6020	BM
Silver, Total	ND		mg/l	0.0004	--	1	11/14/11 09:40	11/14/11 20:54	EPA 3005A	1,6020	BM
Zinc, Total	0.0119		mg/l	0.0050	--	1	11/14/11 09:40	11/14/11 20:54	EPA 3005A	1,6020	BM



Project Name: 121 BROOKLINE AVE

Lab Number: L1118707

Project Number: 4542

Report Date: 11/22/11

Method Blank Analysis Batch Quality Control

Parameter	Result Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Westborough Lab for sample(s): 01 Batch: WG502093-1									
Antimony, Total	ND	mg/l	0.0005	--	1	11/14/11 09:40	11/14/11 19:20	1,6020	BM
Arsenic, Total	ND	mg/l	0.0005	--	1	11/14/11 09:40	11/14/11 19:20	1,6020	BM
Cadmium, Total	ND	mg/l	0.0002	--	1	11/14/11 09:40	11/14/11 19:20	1,6020	BM
Chromium, Total	ND	mg/l	0.0005	--	1	11/14/11 09:40	11/14/11 19:20	1,6020	BM
Copper, Total	ND	mg/l	0.0005	--	1	11/14/11 09:40	11/14/11 19:20	1,6020	BM
Lead, Total	ND	mg/l	0.0005	--	1	11/14/11 09:40	11/14/11 19:20	1,6020	BM
Nickel, Total	ND	mg/l	0.0005	--	1	11/14/11 09:40	11/14/11 19:20	1,6020	BM
Selenium, Total	ND	mg/l	0.001	--	1	11/14/11 09:40	11/14/11 19:20	1,6020	BM
Silver, Total	ND	mg/l	0.0004	--	1	11/14/11 09:40	11/14/11 19:20	1,6020	BM
Zinc, Total	ND	mg/l	0.0050	--	1	11/14/11 09:40	11/14/11 19:20	1,6020	BM

Prep Information

Digestion Method: EPA 3005A

Parameter	Result Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Westborough Lab for sample(s): 01 Batch: WG502097-1									
Iron, Total	ND	mg/l	0.05	--	1	11/14/11 09:40	11/16/11 10:13	19,200.7	AI

Prep Information

Digestion Method: EPA 3005A

Parameter	Result Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Westborough Lab for sample(s): 01 Batch: WG502562-1									
Mercury, Total	ND	mg/l	0.0002	--	1	11/15/11 11:05	11/15/11 19:31	3,245.1	JP

Prep Information

Digestion Method: EPA 245.1

Lab Control Sample Analysis

Batch Quality Control

Project Name: 121 BROOKLINE AVE

Project Number: 4542

Lab Number: L1118707

Report Date: 11/22/11

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Westborough Lab Associated sample(s): 01 Batch: WG502093-2								
Antimony, Total	100		-		80-120	-		
Arsenic, Total	108		-		80-120	-		
Cadmium, Total	111		-		80-120	-		
Chromium, Total	99		-		80-120	-		
Copper, Total	105		-		80-120	-		
Lead, Total	106		-		80-120	-		
Nickel, Total	104		-		80-120	-		
Selenium, Total	111		-		80-120	-		
Silver, Total	102		-		80-120	-		
Zinc, Total	112		-		80-120	-		
Total Metals - Westborough Lab Associated sample(s): 01 Batch: WG502097-2								
Iron, Total	97		-		85-115	-		
Total Metals - Westborough Lab Associated sample(s): 01 Batch: WG502562-2								
Mercury, Total	104		-		85-115	-		

Matrix Spike Analysis **Batch Quality Control**

Project Name: 121 BROOKLINE AVE
Project Number: 4542

Lab Number: L1118707
Report Date: 11/22/11

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Westborough Lab Associated sample(s): 01 QC Batch ID: WG502093-4 QC Sample: L1118689-01 Client ID: MS Sample												
Antimony, Total	ND	0.5	0.5225	104		-	-		80-120	-		20
Arsenic, Total	0.0013	0.12	0.1343	111		-	-		80-120	-		20
Cadmium, Total	ND	0.051	0.0549	108		-	-		80-120	-		20
Chromium, Total	0.0006	0.2	0.1951	97		-	-		80-120	-		20
Copper, Total	0.0013	0.25	0.2579	103		-	-		80-120	-		20
Lead, Total	ND	0.51	0.5418	106		-	-		80-120	-		20
Nickel, Total	0.0019	0.5	0.5101	102		-	-		80-120	-		20
Selenium, Total	ND	0.12	0.127	106		-	-		80-120	-		20
Silver, Total	ND	0.05	0.0507	101		-	-		80-120	-		20
Zinc, Total	0.0209	0.5	0.5619	108		-	-		80-120	-		20
Total Metals - Westborough Lab Associated sample(s): 01 QC Batch ID: WG502097-4 QC Sample: L1118707-01 Client ID: B-2 (OW)												
Iron, Total	26	1	27	100		-	-		75-125	-		20
Total Metals - Westborough Lab Associated sample(s): 01 QC Batch ID: WG502562-4 QC Sample: L1118562-01 Client ID: MS Sample												
Mercury, Total	ND	0.001	0.0013	126		-	-		70-130	-		20

Project Name: 121 BROOKLINE AVE
Project Number: 4542

Lab Duplicate Analysis

Batch Quality Control

Lab Number: L1118707
Report Date: 11/22/11

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Westborough Lab Associated sample(s): 01 QC Batch ID: WG502093-3 QC Sample: L1118689-01 Client ID: DUP Sample						
Cadmium, Total	ND	ND	mg/l	NC		20
Copper, Total	0.0013	0.0013	mg/l	1		20
Lead, Total	ND	ND	mg/l	NC		20
Nickel, Total	0.0019	0.0019	mg/l	0		20
Zinc, Total	0.0209	0.0199	mg/l	5		20
Total Metals - Westborough Lab Associated sample(s): 01 QC Batch ID: WG502097-3 QC Sample: L1118707-01 Client ID: B-2 (OW)						
Iron, Total	26	26	mg/l	0		20
Total Metals - Westborough Lab Associated sample(s): 01 QC Batch ID: WG502562-3 QC Sample: L1118562-01 Client ID: DUP Sample						
Mercury, Total	ND	ND	mg/l	NC		20

INORGANICS & MISCELLANEOUS

Project Name: 121 BROOKLINE AVE
Project Number: 4542

Lab Number: L1118707
Report Date: 11/22/11

SAMPLE RESULTS

Lab ID: L1118707-01
Client ID: B-2 (OW)
Sample Location: BOSTON, MA
Matrix: Water

Date Collected: 11/10/11 09:30
Date Received: 11/10/11
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total Suspended	37		mg/l	5.0	NA	1	-	11/14/11 14:30	30,2540D	DW
Cyanide, Total	ND		mg/l	0.005	--	1	11/11/11 15:30	11/15/11 16:33	30,4500CN-CE	JO
Chlorine, Total Residual	ND		mg/l	0.02	--	1	-	11/11/11 03:00	30,4500CL-D	KK
pH (H)	6.5		SU	-	NA	1	-	11/11/11 02:30	30,4500H+-B	KK
TPH	ND		mg/l	4.00	--	1	11/14/11 14:00	11/16/11 14:30	74,1664A	JO
Phenolics, Total	ND		mg/l	0.03	--	1	11/15/11 18:00	11/15/11 21:34	4,420.1	TP
Chromium, Hexavalent	ND		mg/l	0.050	--	5	11/11/11 04:30	11/11/11 04:42	30,3500CR-D	KK
General Chemistry										
Trivalent Chromium	ND		mg/l	0.05	--	5	-	11/16/11 14:00	30,3500-Cr	ED
Anions by Ion Chromatography - Westborough Lab										
Chloride	340		mg/l	5.0	--	10	-	11/12/11 03:41	44,300.0	AU



Project Name: 121 BROOKLINE AVE

Lab Number: L1118707

Project Number: 4542

Report Date: 11/22/11

Method Blank Analysis Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG501642-1										
Chlorine, Total Residual	ND		mg/l	0.02	--	1	-	11/11/11 03:00	30,4500CL-D	KK
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG501659-1										
Chromium, Hexavalent	ND		mg/l	0.010	--	1	11/11/11 04:30	11/11/11 04:38	30,3500CR-D	KK
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG501832-2										
Cyanide, Total	ND		mg/l	0.005	--	1	11/11/11 15:30	11/15/11 15:44	30,4500CN-CE	JO
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG502020-1										
Solids, Total Suspended	ND		mg/l	5.0	NA	1	-	11/14/11 14:30	30,2540D	DW
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG502217-2										
TPH	ND		mg/l	4.00	--	1	11/14/11 14:00	11/16/11 14:30	74,1664A	JO
Anions by Ion Chromatography - Westborough Lab for sample(s): 01 Batch: WG502260-1										
Chloride	ND		mg/l	0.50	--	1	-	11/12/11 00:05	44,300.0	AU
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG502569-1										
Phenolics, Total	ND		mg/l	0.03	--	1	11/15/11 18:00	11/15/11 21:32	4,420.1	TP

Lab Control Sample Analysis Batch Quality Control

Project Name: 121 BROOKLINE AVE

Project Number: 4542

Lab Number: L1118707

Report Date: 11/22/11

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG501634-1								
pH	100		-		99-101	-		5
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG501642-2								
Chlorine, Total Residual	105		-		90-110	-		
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG501659-2								
Chromium, Hexavalent	99		-		85-115	-		20
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG501832-1								
Cyanide, Total	90		-		90-110	-		
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG502217-1								
TPH	90		-		64-132	-		34
Anions by Ion Chromatography - Westborough Lab Associated sample(s): 01 Batch: WG502260-2								
Chloride	102		-		90-110	-		
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG502569-2								
Phenolics, Total	95		-		82-111	-		12

Matrix Spike Analysis

Batch Quality Control

Project Name: 121 BROOKLINE AVE
Project Number: 4542

Lab Number: L1118707
Report Date: 11/22/11

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG501659-4 QC Sample: L1118707-01 Client ID: B-2 (OW)												
Chromium, Hexavalent	ND	0.2	0.003	0	Q	-	-		85-115	-		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG501832-3 QC Sample: L1118594-02 Client ID: MS Sample												
Cyanide, Total	ND	0.2	0.025	13	Q	-	-		90-110	-		30
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG502217-3 QC Sample: L1118707-01 Client ID: B-2 (OW)												
TPH	ND	20.4	16.7	82		-	-		64-132	-		34
Anions by Ion Chromatography - Westborough Lab Associated sample(s): 01 QC Batch ID: WG502260-3 QC Sample: L1118550-03 Client ID: MS Sample												
Chloride	ND	4	4.3	108		-	-		40-151	-		18
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG502569-3 QC Sample: L1118800-02 Client ID: MS Sample												
Phenolics, Total	ND	0.8	0.75	94		-	-		77-124	-		12

Project Name: 121 BROOKLINE AVE
Project Number: 4542

Lab Duplicate Analysis

Batch Quality Control

Lab Number: L1118707
Report Date: 11/22/11

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG501634-2 QC Sample: L1118657-01 Client ID: DUP Sample						
pH	6.0	6.0	SU	0		5
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG501642-3 QC Sample: L1118652-01 Client ID: DUP Sample						
Chlorine, Total Residual	ND	ND	mg/l	NC		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG501659-3 QC Sample: L1118707-01 Client ID: B-2 (OW)						
Chromium, Hexavalent	ND	ND	mg/l	NC		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG501832-4 QC Sample: L1118704-01 Client ID: DUP Sample						
Cyanide, Total	ND	ND	mg/l	NC		30
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG502020-2 QC Sample: L1118576-01 Client ID: DUP Sample						
Solids, Total Suspended	120	120	mg/l	0		32
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG502217-4 QC Sample: L1118743-02 Client ID: DUP Sample						
TPH	ND	ND	mg/l	NC		34
Anions by Ion Chromatography - Westborough Lab Associated sample(s): 01 QC Batch ID: WG502260-4 QC Sample: L1118550-03 Client ID: DUP Sample						
Chloride	ND	ND	mg/l	NC		18
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG502569-4 QC Sample: L1118800-01 Client ID: DUP Sample						
Phenolics, Total	ND	0.03	mg/l	NC		12

Project Name: 121 BROOKLINE AVE

Project Number: 4542

Lab Number: L1118707

Report Date: 11/22/11

Sample Receipt and Container Information

Were project specific reporting limits specified?

YES

Reagent H2O Preserved Vials Frozen on: NA

Cooler Information Custody Seal

Cooler

A Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1118707-01A	Vial HCl preserved	A	N/A	3	Y	Absent	624(14)
L1118707-01B	Vial HCl preserved	A	N/A	3	Y	Absent	624(14)
L1118707-01C	Vial Na2S2O3 preserved	A	N/A	3	Y	Absent	504(14)
L1118707-01D	Vial Na2S2O3 preserved	A	N/A	3	Y	Absent	504(14)
L1118707-01F	Amber 1000ml unpreserved	A	7	3	Y	Absent	8270TCL(7),8270TCL-SIM(7)
L1118707-01G	Amber 1000ml unpreserved	A	7	3	Y	Absent	8270TCL(7),8270TCL-SIM(7)
L1118707-01H	Plastic 250ml HNO3 preserved	A	<2	3	Y	Absent	SE-6020T(180),CR-6020T(180),NI-6020T(180),CU-6020T(180),ZN-6020T(180),FE-UI(180),PB-6020T(180),HG-U(28),AS-6020T(180),SB-6020T(180),AG-6020T(180),CD-6020T(180),SPECWC(0)
L1118707-01I	Plastic 1000ml unpreserved	A	7	3	Y	Absent	SPECWC(),CL-300(28),HEXCR-3500(1),TRC-4500(1),PH-4500(.01)
L1118707-01J	Plastic 1000ml unpreserved	A	7	3	Y	Absent	TSS-2540(7)
L1118707-01K	Plastic 250ml NaOH preserved	A	>12	3	Y	Absent	TCN-4500(14)
L1118707-01L	Amber 1000ml Na2S2O3	A	7	3	Y	Absent	PCB-608(7)
L1118707-01M	Amber 1000ml Na2S2O3	A	7	3	Y	Absent	PCB-608(7)
L1118707-01N	Amber 1000ml HCl preserved	A	<2	3	Y	Absent	TPH-1664(28)
L1118707-01O	Amber 1000ml HCl preserved	A	<2	3	Y	Absent	TPH-1664(28)
L1118707-01P	Amber 500ml H2SO4preserved	A	<2	3	Y	Absent	TPHENOL-420(28)
L1118707-02A	Vial HCl preserved	A	N/A	3	Y	Absent	624(14)
L1118707-02B	Vial Na2S2O3 preserved	A	N/A	3	Y	Absent	504(14)
L1118707-02C	Vial Na2S2O3 preserved	A	N/A	3	Y	Absent	504(14)

*Values in parentheses indicate holding time in days

Project Name: 121 BROOKLINE AVE
Project Number: 4542

Lab Number: L1118707
Report Date: 11/22/11

GLOSSARY

Acronyms

EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NI	- Not Ignitable.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

Footnotes

- 1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Data Qualifiers

- | | |
|-----------|---|
| A | - Spectra identified as "Aldol Condensation Product". |
| B | - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than five times (5x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. |
| C | - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses. |
| D | - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte. |
| E | - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument. |
| G | - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated. |
| H | - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection. |
| I | - The RPD between the results for the two columns exceeds the method-specified criteria; however, the lower value has been reported due to obvious interference. |
| M | - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte. |
| NJ | - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search. |

Report Format: Data Usability Report



Project Name: 121 BROOKLINE AVE
Project Number: 4542

Lab Number: L1118707
Report Date: 11/22/11

Data Qualifiers

- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- J** - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- ND** - Not detected at the reporting limit (RL) for the sample.

Report Format: Data Usability Report



Project Name: 121 BROOKLINE AVE
Project Number: 4542

Lab Number: L1118707
Report Date: 11/22/11

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.
- 44 Methods for the Determination of Inorganic Substances in Environmental Samples, EPA/600/R-93/100, August 1993.
- 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.

LIMITATION OF LIABILITIES

Alpha Analytical 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 shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical 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.

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



Certificate/Approval Program Summary

Last revised November 17, 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, 2540C, 4500Cl-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, 4500Cl-D, 4500Cl-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, 9010B, 9040B, 9030B, 7470A, 7196A, 2340B, EPA 200.7, 6010, 200.8, 6020, 245.1, 1311, 1312, 3005A, Enterolert, 9223D, 9222D. Organic Parameters: 608, 8081, 8082, 8330, 8151A, 624, 8260, 3510C, 3630C, 5030B, ME-DRO, ME-GRO, MA-EPH, MA-VPH.)

Solid Waste/Soil (Inorganic Parameters: 9010B, 9012A, 9014A, 9040B, 9045C, 6010B, 7471A, 7196A, 9050A, 1010, 1030, 9065, 1311, 1312, 3005A, 3050B. Organic Parameters: ME-DRO, ME-GRO, MA-EPH, MA-VPH, 8260B, 8270C, 8330, 8151A, 8081A, 8082, 3540C, 3546, 3580A, 3630C, 5030B, 5035.)

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, SM4500Cl-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.)

SM2510B, 2540C, 2340B, 2320B, 4500CL-E, 4500F-BC, 426C, SM4500NH3-BH, (EPA 350.1 for: Ammonia-N), LACHAT 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, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, 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, 350.2, 351.1, 353.2, 410.4, 420.1, 1664A, SW-846 9010, 9030, 9040B, 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, 3630C, 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, 3550B, 3580A, 3630C, 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, 6020A, 7470A, 5540C, 4500H-B, EPA 200.8, SM3500Cr-D, 4500CN-CE, EPA 245.1, 245.2, SW-846 9040B, 3005A, 3015, EPA 6010B, 6010C, 7196A, 3060A, SW-846 9010B, 9030B. Organic Parameters: SW-846 8260B, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 3510C, EPA 608, 624, 625, SW-846 3630C, 5030B, 8081A, 8081B, 8082, 8082A, 8151A, 8330, NJ OQA-QAM-025 Rev.7, NJ EPH.)

Solid & Chemical Materials (Inorganic Parameters: SW-846, 6010B, 6010C, 7196A, 3060A, 9010B, 9030B, 1010, 1030, 1311, 1312, 3005A, 3050B, 7471A, 7471B, 9014, 9012A, 9040B, 9045C, 9050A, 9065. Organic Parameters: SW-846 8015B, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8330, 8260B, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 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, 504.1)

Non-Potable Water (Inorganic Parameters: EPA 1312, 200.7, 410.4, 1664A, SM2540D, 5210B, 5220D, 4500-P, BE.
Organic Parameters: EPA 3510C, 3005A, 3630C, 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, 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.)

The following analytes are not included in our current NELAP/TNI Scope of Accreditation:

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, 4-Methylphenol. Total Phosphorus in a soil matrix, Chloride in a soil matrix, TKN in a soil matrix, NO₂ in a soil matrix, NO₃ in a soil matrix, SO₄ in a soil matrix.

