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31 January 2012
File No. 37608-040

US Environmental Protection Agency
Industrial NPDES Permits (CIP)
1 Congress Street, Suite 1100
Boston, MA 02114-2023

Attention: Ms. Shelly Puleo

Subject: Notice of Intent (NOI)
Temporary Construction Dewatering
Brigham Green Parking Facility
Boston, Massachusetts
RTN 3-12332

Dear Ms. Puleo:

On behalf of our client, Brigham and Women's Hospital (BWH), and in accordance with the National Pollutant Discharge Elimination System (NPDES) Remediation General Permit (RGP) in Massachusetts, MAG910000, this letter submits a Notice of Intent (NOI) and the applicable documentation as required by the US Environmental Protection Agency (EPA) for temporary construction site dewatering under the RGP. Temporary dewatering is planned in support of the proposed site development which includes construction of an underground parking garage and above ground landscaped area at 15 Francis Street in Boston, Massachusetts as shown on Figure 1 – Project Locus.

The site is bound by Francis Street to the south, Brigham Hospital Buildings to the west and the north and Huntington Avenue to the east. Site grades range from approximately El. 43 to El. 53.[1] The site is currently a valet parking and patient drop off area. A Subsurface Exploration Location Plan is included as Figure 2.

Site History

According to Sanborn fire insurance maps and Ward Maps, the site located at the corner of Francis Street and Huntington Avenue was undeveloped in 1874. By 1890, unidentifiable buildings had been constructed on a portion of the site. The Peter Bent Brigham Hospital administration building was constructed in 1911 and included a courtyard space at the entrance to the building. The building has remained there to this date. By 1964, additions had been constructed on the building, extending the building into the courtyard area. In 1980, the Peter Bent Brigham Hospital merged with two other hospitals and became Brigham & Women's Hospital. Additions continued on the Peter Bent Brigham building through 1990, extending over more of the courtyard area.

[1] Elevations reported herein are in feet and reference the Boston City Base (BCB) datum which is 5.65 ft below the National Geodetic Vertical Datum of 1929 (NGVD 29).

Proposed Construction

Construction of the underground parking facility will require an excavation to a depth of 35 ft to 45 ft, approximately 20 ft. to 30 ft. below area groundwater levels. Excavation will occur within a concrete diaphragm wall extending to the top of rock. The excavation will be vertically cut in the rock below the groundwater, and the completed parking facility will contain several levels that are located below the groundwater table.

Environmental Conditions and Regulatory Background

The development site is located within an area of chlorinated solvent contamination in groundwater which is being addressed by Harvard Medical School (HMS) under MassDEP Release Tracking Number 3-12332. According to publicly-available MCP submittals, the development site is located downgradient from the source location at 1610-1618 Tremont Street (Mission Hill Ledge Site). Chlorinated solvents have been detected in groundwater in both the overburden and bedrock. Site regulatory documents are available on the MassDEP website (http://db.state.ma.us/dep/cleanup/sites/search.asp).

Groundwater samples were collected from the site monitoring wells in December 2010 (2 monitoring wells) and August 2011 (6 monitoring wells). The samples were analyzed for volatile organic compounds (VOCs) only. Groundwater quality indicated levels of tetrachloroethene (PCE) at concentrations that exceed the MCP Method 1 GW-2 standard for PCE in six of the eight wells during the 2011 round of sampling.

It is planned to manage remedial wastewater in accordance with the Massachusetts Contingency Plan (MCP), 310 CMR 40.0000 under a Release Abatement Measure (RAM) Plan for the subject site under RTN 3-12332.

Temporary Construction Dewatering Notice of Intent

In support of the NOI, one unfiltered groundwater sample was obtained from observation well HA-C4(OW-D), on 23 November 2011. The groundwater sample was submitted to Alpha Analytical, Inc. of Westborough, Massachusetts (Alpha Analytical) for analysis for NPDES permit parameters including VOCs, SVOCs, PAHs, metals, TPH, pesticides, PCBs, Total Suspended Solids (TSS), chloride, total cyanide, total phenolics and total residual chlorine. The analytical results for the groundwater sample identified concentrations of tetrachloroethene (PCE) and trichloroethene (TCE) above applicable NPDES RGP Effluent Limits and applicable MCP RCGW-2 Reportable Concentrations for PCE. The results of groundwater quality testing conducted for this NOI are summarized in Table I. The location of the observation well is shown on Figure 2.

Dewatering will be conducted from sumps located inside the excavation support system, and possibly from smaller, local excavations outside the proposed excavation support system, including utility installations and construction of groundwater infiltration systems. Dewatering is necessary to control groundwater, seepage, precipitation, surface water runoff and construction-generated water to enable below-grade construction activities in-the-dry. Below grade construction and temporary construction dewatering is anticipated to start in April 2012.

Prior to discharge, collected water will be routed through a sedimentation tank with an oil/water separator component and/or bag filters, at a minimum, to remove suspended solids and un-dissolved chemical constituents. Supplemental pretreatment is anticipated to be required to meet discharge criteria as shown in the Proposed Pretreatment System Schematic included in Figure 3. Supplemental pretreatment is anticipated to include Granulated Activated Carbon (GAC) to remove PCE and TCE from the water and a pH regulator. Construction dewatering under this RGP NOI will include piping and discharging to storm drains located near the site. The storm drains travel north and discharge directly into the Muddy River. The proposed discharge route is shown on Figure 2.

Appendices

The completed "Suggested Notice of Intent" (NOI) form as provided in the RGP is enclosed in Appendix A. The site operator is Walsh Brothers, Inc. (Walsh). Walsh is the construction manager and will hire a subcontractor to conduct the Site work, including the dewatering activities. Haley & Aldrich, Inc. (Haley & Aldrich) will monitor the Contractor's dewatering activities on behalf of BWH. In accordance with the requirements for this NOI submission, BWH as the owner and Walsh, as the operator, are listed as co-permittees for this NPDES RGP, and therefore both have signed the NOI form.

A Best Management Practices Plan (BMPP), which outlines the proposed discharge operations covered under the RGP, is included in Appendix B. Appendices C and D include Endangered Species Act Documentation and National Register of Historic Places, respectively. Appendix E provides the Boston Water and Sewer Commission Dewatering Permit Application to be submitted separately to the Boston Water and Sewer Commission. A copy of the groundwater testing laboratory results are provided in Appendix F. Appendix G provides Material Safety Data Sheets (MSDSs) and fact sheets for possible chemical additives or treatments to be used in the treatment system.

Dilution Factor Application for Metals

A Dilution Factor (DF) was not calculated as the detected levels of total metals greater than the applicable effluent limits.

Closing

Thank you very much for your consideration of this NOI. Please feel free to contact us should you wish to discuss the information contained herein or if you need additional information.

Sincerely yours,
HALEY & ALDRICH, INC

Stephanie M. Seki
Staff Engineer

Keith E. Johnson, P.E., L.S.P.
Vice President

Attachments:

- Table I – Summary of Groundwater Quality Data
- Figure 1 – Site Locus
- Figure 2 – Subsurface Exploration and Discharge Location Plan
- Figure 3 – Proposed Pretreatment System Schematic
- Appendix A – Notice of Intent (NOI) for Remediation General Permit (RGP)
- Appendix B – Best Management Practices Plan (BMPP)
- Appendix C – Endangered Species Act Documentation
- Appendix D – National Register of Historic Places and Massachusetts Historical Commission Documentation
- Appendix E – Boston Water and Sewer Commission Dewatering Permit Application
- Appendix F – Laboratory Data Reports
- Appendix G – Material Safety Data Sheets (MSDSs) and Fact Sheets

c: Brigham and Women's Hospital; Attn: Joseph O'Farrell
Walsh Brothers, Inc.; Attn: Jim Lyons
Boston Water and Sewer Commission; Attn: Francis McLaughlin

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Tables

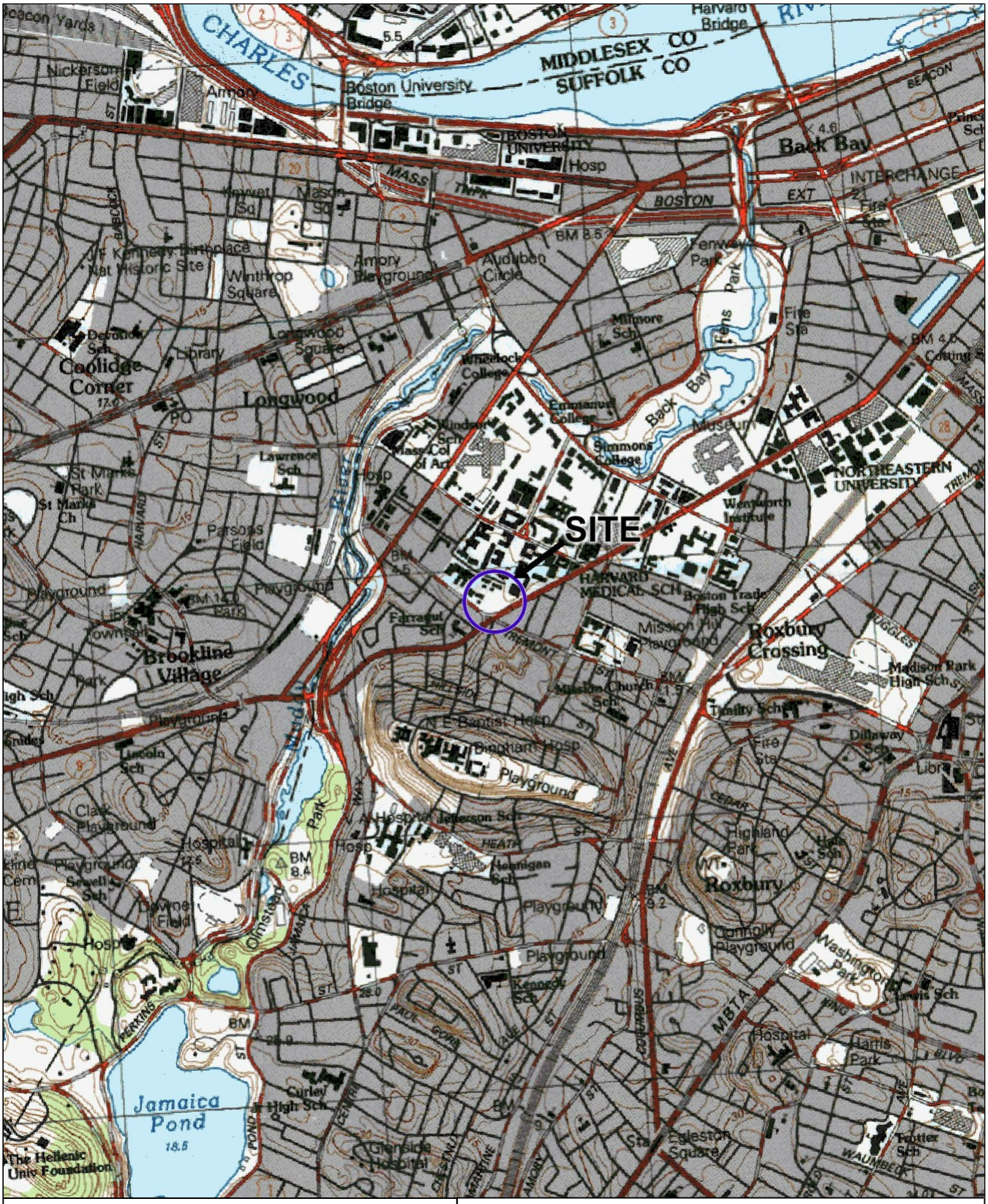
TABLE I
SUMMARY OF GROUNDWATER QUALITY DATA
BRIGHAM GREEN PARKING FACILITY
BOSTON, MASSACHUSETTS
FILE NO. 37608-040

LOCATION **SAMPLING DATE** **LAB SAMPLE ID** **SAMPLE TYPE**	**2008 RCGW-2 Reportable Concentrations**	**NPDES RGP EFFLUENT LIMITS (ug/L)**	**HA-C4 (OW-D)** **11/23/2011** **L1119648-01** **GROUNDWATER**
VOCs by GC/MS (ug/L)			
cis-1,2-Dichloroethene	100	70	15
Tetrachloroethene	50	5	***120***
Trichloroethene	30	5	*11*
Total VOCs	NA	NA	146
SVOCs by GC/MS (ug/L)			
Total SVOCs	NA	NA	ND
PAHs by GC/MS-SIM (ug/L)			
Total PAHs	NA	NA	ND
Pesticides by GC (ug/L)			
1,2-Dibromo-3-chloropropane	1000	NA	ND(0.0045)
1,2-Dibromoethane	2	0.05	ND(0.0045)
Total Metals (ug/L)			
Antimony	8000	5.6	ND(0.5)
Arsenic	900	10	ND(0.5)
Cadmium	4	0.2	ND(0.2)
Chromium	300	48.8	ND(0.5)
Copper	100000	5.2	1.6
Iron	NA	1000	70
Lead	10	1.3	ND(0.5)
Mercury	20	0.9	ND(0.1)
Nickel	200	29	4.5
Selenium	100	5	2
Silver	7	1.2	ND(0.4)
Zinc	900	66.6	12.1
PCBs by GC (ug/L)			
Total PCBs	5	0.000064	ND
General Chemistry			
Chlorine, Total Residual (ug/L)	NA	11.0	ND(10)
Chromium, Hexavalent (ug/L)	300	11.4	ND(5)
Cyanide, Total (ug/L)	30	5.2	ND(2.5)
Phenolics, Total (ug/L)	NA	300	ND(15)
Solids, Total Suspended (%)	NA	30000	ND(2500)
TPH (ug/L)	5000	5000	ND(2000)
Chloride (ug/L)	NA	NA	1500000

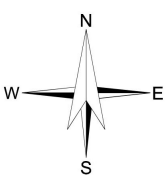
Abbreviations:
NA : Not applicable
ND(2.5): Not detected; number in parentheses is one-half the laboratory detection limit
VOCs: Volatile Organic Compounds
SVOCs: Semivolatile Organic Compounds
TPH: Total Petroleum Hydrocarbons
PCBs: Polychlorinated Biphenyls
PAHs: Polycyclic Aromatic Hydrocarbons

Notes:
1. NPDES Effluent Limits taken from Appendix III of the EPA Remediation & Miscellaneous Contaminated Sites General Permit (RGP)
2. NPDES RGP Effluent Limits provided for freshwater receiving waters.
3. Metals samples were not filtered, therefore are not applicable for comparison to MCP RCGW criteria.
4. Bold indicates exceedance of MCP Reportable Concentrations RCGW-2 Standards.
5. Italics indicates exceedance of applicable NPDES RGP Effluent Limits.

Figures



SITE COORDINATES:42°20'5"N 71°6'17"W



U.S.G.S. QUADRANGLE: BOSTON SOUTH, MA

HALEY & ALDRICH

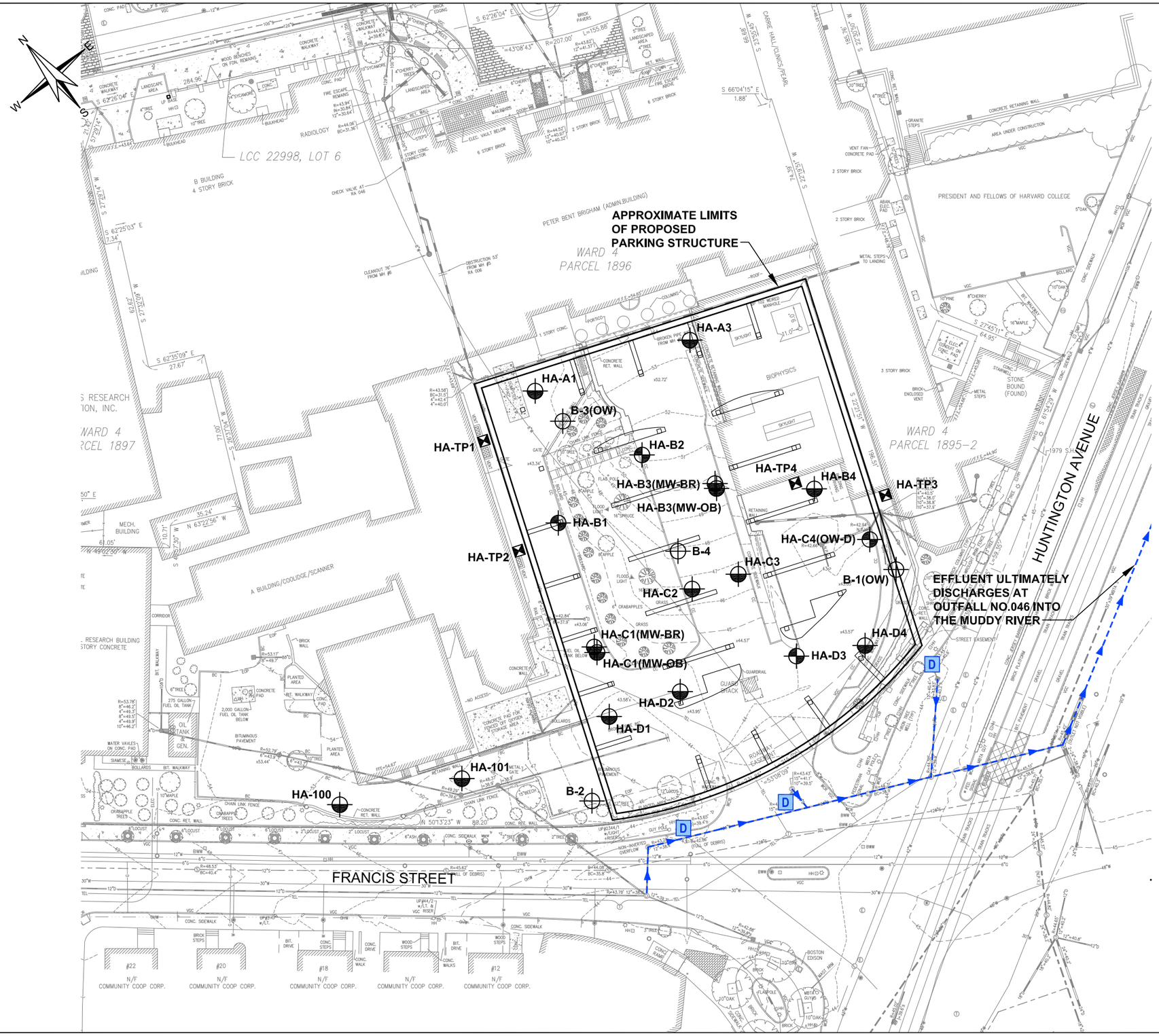
PROPOSED BRIGHAM GREEN PARKING FACILITY
BOSTON, MASSACHUSETTS

PROJECT LOCUS

SCALE: 1:24,000
JANUARY 2012

FIGURE 1

37608-040 1.PDF



LEGEND:

HA-TP3	DESIGNATION AND APPROXIMATE LOCATION OF TEST PIT CONDUCTED BY J. MARCHESE AND SONS OF EVERETT, MASSACHUSETTS AND MONITORED BY HALEY & ALDRICH, INC. ON 6 AUGUST 2011
HA-A3	DESIGNATION AND APPROXIMATE LOCATION OF TEST BORING DRILLED BY GEOLOGIC-EARTH EXPLORATION, INC. OF NORFOLK, MASSACHUSETTS AND MONITORED BY HALEY & ALDRICH, INC. FROM 3 TO 24 AUGUST 2011
HA-B1	DESIGNATION AND APPROXIMATE LOCATION OF TEST BORING DRILLED BY GEOLOGIC-EARTH EXPLORATION, INC. OF NORFOLK, MASSACHUSETTS AND MONITORED BY HALEY & ALDRICH, INC. FROM 26 TO 30 NOVEMBER 2010
B-1(OW)	DESIGNATION AND APPROXIMATE LOCATION OF TEST BORING DRILLED BY CARR-DEE CORP. OF MEDFORD, MASSACHUSETTS AND MONITORED BY OTHERS ON 23 JUNE 2003
(OW)	INDICATES OBSERVATION WELL INSTALLED IN COMPLETED BOREHOLE
D	APPROXIMATE LOCATION OF PROPOSED POINT OF DISCHARGE
→	APPROXIMATE ROUTE OF DISCHARGE TO OUTFALL

NOTES:

1. BASE PLAN TAKEN FROM DRAWING TITLED "11388-EX-LDD.DWG" PROVIDED BY VANASSE HANGEN BRUSTLIN, INC. ON 1 DECEMBER 2010.
2. PROPOSED LIMITS OF THE STRUCTURE TAKEN FROM DRAWING TITLED "LEVEL 2 PLAN (TYPICAL)" PREPARED BY TRO JUNG|BRANNEN DATED 30 NOVEMBER 2010.
3. ELEVATIONS ARE IN FEET AND REFERENCE BOSTON CITY BASE (BCB).

0 50 100
SCALE IN FEET

HALEY & ALDRICH

PROPOSED BRIGHAM GREEN PARKING FACILITY
BOSTON, MASSACHUSETTS

SUBSURFACE EXPLORATION AND DISCHARGE LOCATION PLAN

SCALE: AS SHOWN
JANUARY 2012

FIGURE 2

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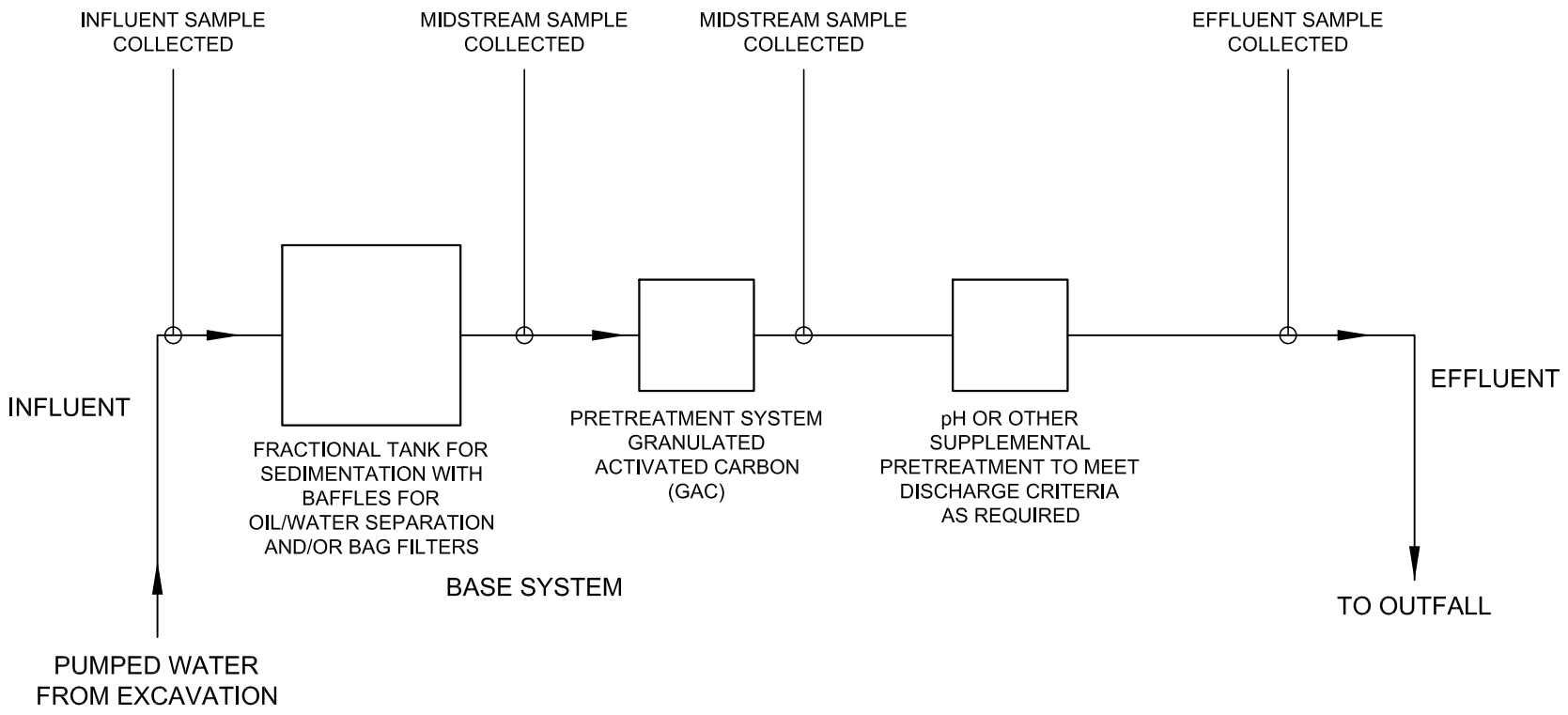


LEGEND:

→ DIRECTION OF FLOW

NOTE:

1. DETAILS OF TREATMENT SYSTEM MAY VARY FROM SYSTEM INDICATED ABOVE. SPECIFIC MEANS AND METHODS OF TREATMENT TO BE SELECTED BY CONTRACTOR. WATER WILL BE TREATED TO MEET REQUIRED EFFLUENT STANDARDS.

HALEY & ALDRICH

PROPOSED BRIGHAM GREEN PARKING FACILITY
BOSTON, MASSACHUSETTS

PROPOSED
PRETREATMENT SYSTEM
SCHEMATIC

SCALE: NONE
JANUARY 2012

FIGURE 3

APPENDIX A

Notice of Intent (NOI) for Remediation General Permit (RGP)

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**: Brigham Green Parking Facility		**Facility/site** mailing address:			
Location of **facility/site**: longitude: 71° 6' 17" W latitude: 42° 20' 5" N	Facility SIC code(s): 1542	Street: 15 Francis Street			
b) Name of **facility/site owner:**		Town: Boston			
Email address of facility/site owner: jofarrell@partners.org		State: MA	Zip: 02115	County: Suffolk	
Telephone no. of facility/site **owner**: 617.730.3694					
Fax no. of facility/site **owner**: 617.730.3697		**Owner** is (check one): 1. Federal__○__ 2. State/Tribal__○__ 3. Private __⊙__ 4. Other __○__ if so, describe:			
Address of **owner** (if different from site):					
Street: 20 Kent Street					
Town: Brookline	State: MA	Zip: 02445	County: Norfolk		
c) Legal name of **operator**: Walsh Brothers, Inc.		**Operator** telephone no: 617.878.4800			
		Operator fax no.: 617.720.6116	**Operator** email: jlyons@walshbrothers.com		
Operator contact name and title: Jim Lyons, Project Executive					
Address of **operator** (if different from owner):		Street: 210 Commercial Street			
Town: Boston	State: MA	Zip: 02109	County: Suffolk		

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.

Activity Category	**Activity Sub-Category**
I - Petroleum Related Site Remediation	A. Gasoline Only Sites ___ B. Fuel Oils and Other Oil Sites (including Residential Non-Business Remediation Discharges) ___ C. Petroleum Sites with Additional Contamination ___
II - Non Petroleum Site Remediation	A. Volatile Organic Compound (VOC) Only Sites ___ B. VOC Sites with Additional Contamination ___ C. Primarily Heavy Metal Sites ___
III - Contaminated Construction Dewatering	A. General Urban Fill Sites ___ B. Known Contaminated Sites ___

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

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: 3

2) What is the **maximum** and **average flow rate** of discharge (in cubic feet per second, ft^3/s)?
Max. flow 0.11 Is maximum flow a **design value**? Y ○ N ○
Average flow (include units) 0.07 Is average flow a design value or estimate? estimate

3) Latitude and longitude of each discharge within 100 feet:

pt.1: lat. 71 6 19	long. 42 20 4		pt.2: lat. 71 6 18	long. 42 20 4	;
pt.3: lat. 71 6 17	long. 42 20 4		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 ⊙ or seasonal ○ ?
Is discharge ongoing? Y ○ N ⊙

c) Expected dates of discharge (mm/dd/yy): start Apr 1, 2012 end Nov 30, 2013

d) Please attach a line drawing or flow schematic showing water flow through the facility including:
1. sources of intake water, 2. contributing flow from the operation, 3. treatment units, and 4. discharge points and receiving waters(s). See Figures 3 and 4

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.

Parameter *	CAS Number	Believed Absent	Believed Present	# of Samples	Sample Type (e.g., grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method	Maximum daily value		Average daily value	
								concentration (ug/l)	mass (kg)	concentration (ug/l)	mass (kg)
1. Total Suspended Solids (TSS)		☒	☐	1	GRAB	2540D	5000	ND		ND	
2. Total Residual Chlorine (TRC)		☒	☐	1	GRAB	4500CL-D	20	ND		ND	
3. Total Petroleum Hydrocarbons (TPH)		☒	☐	1	GRAB	1664A	4000	ND		ND	
4. Cyanide (CN)	57125	☒	☐	1	GRAB	4500CN-CE	5	ND		ND	
5. Benzene (B)	71432	☒	☐	1	GRAB	8260B	1	ND		ND	
6. Toluene (T)	108883	☒	☐	1	GRAB	8260B	1.5	ND		ND	
7. Ethylbenzene (E)	100414	☒	☐	1	GRAB	8260B	1	ND		ND	
8. (m,p,o) Xylenes (X)	108883; 106423; 95476; 1330207	☒	☐	1	GRAB	8260B	2	ND		ND	
9. Total BTEX [2]	n/a	☒	☐	1	GRAB	8260B	NA	ND		ND	
10. Ethylene Dibromide (EDB) (1,2-Dibromoethane) [3]	106934	☒	☐	1	GRAB	8260B	4	ND		ND	
11. Methyl-tert-Butyl Ether (MtBE)	1634044	☒	☐	1	GRAB	8260B	2	ND		ND	
12. tert-Butyl Alcohol (TBA) (Tertiary-Butanol)	75650	☒	☐	1	GRAB	8260B	20	ND		ND	

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

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

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

Parameter *	CAS Number	Believed Absent	Believed Present	# of Samples	Sample Type (e.g., grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method	Maximum daily value		Average daily value	
								concentration (ug/l)	mass (kg)	concentration (ug/l)	mass (kg)
13. tert-Amyl Methyl Ether (TAME)	9940508	☒	☐	1	GRAB	8260B	4	ND		ND	
14. Naphthalene	91203	☒	☐	1	GRAB	8260B	5	ND		ND	
15. Carbon Tetrachloride	56235	☒	☐	1	GRAB	8260B	1	ND		ND	
16. 1,2 Dichlorobenzene (o-DCB)	95501	☒	☐	1	GRAB	8260B	5	ND		ND	
17. 1,3 Dichlorobenzene (m-DCB)	541731	☒	☐	1	GRAB	8260B	5	ND		ND	
18. 1,4 Dichlorobenzene (p-DCB)	106467	☒	☐	1	GRAB	8260B	5	ND		ND	
18a. Total dichlorobenzene		☒	☐	1	GRAB	8260B	NA	ND		ND	
19. 1,1 Dichloroethane (DCA)	75343	☒	☐	1	GRAB	8260B	1.5	ND		ND	
20. 1,2 Dichloroethane (DCA)	107062	☒	☐	1	GRAB	8260B	1	ND		ND	
21. 1,1 Dichloroethene (DCE)	75354	☒	☐	1	GRAB	8260B	1	ND		ND	
22. cis-1,2 Dichloroethene (DCE)	156592	☐	☒	1	GRAB	8260B	1	15		15	
23. Methylene Chloride	75092	☒	☐	1	GRAB	8260B	6	ND		ND	
24. Tetrachloroethene (PCE)	127184	☐	☒	1	GRAB	8260B	1	120		120	
25. 1,1,1 Trichloro-ethane (TCA)	71556	☒	☐	1	GRAB	8260B	1	ND		ND	
26. 1,1,2 Trichloro-ethane (TCA)	79005	☒	☐	1	GRAB	8260B	1.5	ND		ND	
27. Trichloroethene (TCE)	79016	☐	☒	1	GRAB	8260B	1	11		11	

Parameter *	CAS Number	Believed Absent	Believed Present	# of Samples	Sample Type (e.g., grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method	Maximum daily value		Average daily value	
								concentration (ug/l)	mass (kg)	concentration (ug/l)	mass (kg)
28. Vinyl Chloride (Chloroethene)	75014	☒	☐	1	GRAB	8260B	2	ND		ND	
29. Acetone	67641	☒	☐	1	GRAB	8260B	10	ND		ND	
30. 1,4 Dioxane	123911	☒	☐	1	GRAB	8260B	500	ND		ND	
31. Total Phenols	108952	☒	☐	1	GRAB	420.1	30	ND		ND	
32. Pentachlorophenol (PCP)	87865	☒	☐	1	GRAB	8270C	10	ND		ND	
33. Total Phthalates (Phthalate esters) [4]		☒	☐	1	GRAB	8270C	NA	ND		ND	
34. Bis (2-Ethylhexyl) Phthalate [Di-(ethylhexyl) Phthalate]	117817	☒	☐	1	GRAB	8270C	3	ND		ND	
35. Total Group I Polycyclic Aromatic Hydrocarbons (PAH)		☐	☐	1	GRAB						
a. Benzo(a) Anthracene	56553	☒	☐	1	GRAB	8270C-SIM	0.2	ND		ND	
b. Benzo(a) Pyrene	50328	☒	☐	1	GRAB	8270C-SIM	0.2	ND		ND	
c. Benzo(b)Fluoranthene	205992	☒	☐	1	GRAB	8270C-SIM	0.2	ND		ND	
d. Benzo(k)Fluoranthene	207089	☒	☐	1	GRAB	8720C-SIM	0.2	ND		ND	
e. Chrysene	21801	☒	☐	1	GRAB	8270C-SIM	0.2	ND		ND	
f. Dibenzo(a,h)anthracene	53703	☒	☐	1	GRAB	8270C-SIM	0.2	ND		ND	
g. Indeno(1,2,3-cd) Pyrene	193395	☒	☐	1	GRAB	8270C-SIM	0.2	ND		ND	
36. Total Group II Polycyclic Aromatic Hydrocarbons (PAH)		☐	☐	1	GRAB						

[4] The sum of individual phthalate compounds.

Parameter *	CAS Number	Believed Absent	Believed Present	# of Samples	Sample Type (e.g., grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method	Maximum daily value		Average daily value	
								concentration (ug/l)	mass (kg)	concentration (ug/l)	mass (kg)
h. Acenaphthene	83329	☒	☐	1	GRAB	8270C-SIM	0.2	ND		ND	
i. Acenaphthylene	208968	☒	☐	1	GRAB	8270C-SIM	0.2	ND		ND	
j. Anthracene	120127	☒	☐	1	GRAB	8270C-SIM	0.2	ND		ND	
k. Benzo(ghi) Perylene	191242	☒	☐	1	GRAB	8270C-SIM	0.2	ND		ND	
l. Fluoranthene	206440	☒	☐	1	GRAB	8270C-SIM	0.2	ND		ND	
m. Fluorene	86737	☒	☐	1	GRAB	8270C-SIM	0.2	ND		ND	
n. Naphthalene	91203	☒	☐	1	GRAB	8270C-SIM	0.2	ND		ND	
o. Phenanthrene	85018	☒	☐	1	GRAB	8270C-SIM	0.2	ND		ND	
p. Pyrene	129000	☒	☐	1	GRAB	8270C-SIM	0.2	ND		ND	
37. Total Polychlorinated Biphenyls (PCBs)	85687; 84742; 117840; 84662; 131113; 117817.	☒	☐	1	GRAB	608	0.25	ND		ND	
38. Chloride	16887006	☐	☒	1	GRAB	300.0	50000	1500000		1500000	
39. Antimony	7440360	☒	☐	1	GRAB	6020	1	ND		ND	
40. Arsenic	7440382	☒	☐	1	GRAB	6020	1	ND		ND	
41. Cadmium	7440439	☒	☐	1	GRAB	6020	0.4	ND		ND	
42. Chromium III (trivalent)	16065831	☒	☐	1	GRAB	6020	1	ND		ND	
43. Chromium VI (hexavalent)	18540299	☒	☐	1	GRAB	3500CR-D	10	ND		ND	
44. Copper	7440508	☐	☒	1	GRAB	6020	1	1.6		1.6	
45. Lead	7439921	☒	☐	1	GRAB	6020	1	ND		ND	
46. Mercury	7439976	☒	☐	1	GRAB	245.1	0.2	ND		ND	
47. Nickel	7440020	☐	☒	1	GRAB	6020	1	4.5		4.5	
48. Selenium	7782492	☐	☒	1	GRAB	6020	2	2		2	
49. Silver	7440224	☒	☐	1	GRAB	6020	0.8	ND		ND	
50. Zinc	7440666	☐	☒	1	GRAB	6020	10	12.1		12.1	
51. Iron	7439896	☐	☒	1	GRAB	200.7	50	70		70	
Other (describe):		☐	☐								

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

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

Step 1: Do any of the metals in the influent exceed the effluent limits in Appendix III (i.e., the limits set at zero dilution)? Y__ N__	If yes, which metals?
Step 2: 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? Metal: DF: Metal: DF: Metal: DF: Metal: DF: Etc.	Look up the limit calculated at the corresponding dilution factor in **Appendix IV.** Do any of the metals in the **influent** have the potential to exceed the corresponding **effluent** limits in Appendix IV (i.e., is the influent concentration above the limit set at the calculated dilution factor)? Y__ N__ If Y, list which metals:

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:

See Attached Figure 3

b) Identify each applicable treatment unit (check all that apply):	Frac. tank ☒	Air stripper ☐	Oil/water separator ☒	Equalization tanks ☐	Bag filter ☒	GAC filter ☒
	Chlorination ☐	De-chlorination ☐	Other (please describe):	pH regulator		

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 30 gpm Maximum flow rate of treatment system 50 gpm
Design flow rate of treatment system 50 gpm

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

NA

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_☐__	Within facility (sewer) _☐__	Storm drain_☒__	Wetlands _☐__	Other (describe):

b) Provide a narrative description of the discharge pathway, including the name(s) of the receiving waters:
Effluent will be discharged to a storm drain/catch basin located near the site which discharges into the Muddy River at BOS 046

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 B

e) Provide the reported or calculated seven day-ten year low flow (7Q10) of the receiving water N/A 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)?
E.coli, dissolved oxygen, PCB in fish tissue, total phosphorus, taste and odor, turbidity, oil and grease,

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.

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:	Brigham Green Patient Parking Garage
Operator signature:	James F Lyons
Printed Name &Title:	JAMES F. LYONS / Project Executive NALSH BROTHERS
Date:	1/31/2012

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:	Brigham Green Patient Parking Garage
Operator signature:	
Printed Name &Title:	JOSEPH O'FARRELL, SNR PROJECT MANAGER.
Date:	1/31/12

APPENDIX B

Best Management Practices Plan (BMPP)

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
REMEDIATION GENERAL PERMIT
TEMPORARY CONSTRUCTION DEWATERING
BRIGHAM GREEN PARKING FACILITY
BOSTON, MASSACHUSETTS

Best Management Practices Plan

A Notice of Intent for a Remediation General Permit (RGP) under the National Pollutant Discharge Elimination System (NPDES) has been submitted to the US Environmental Protection Agency (EPA) in anticipation of temporary construction site dewatering planned to occur during proposed construction of a 4 to 5 level underground parking garage at the Brigham and Women's Hospital in Boston, Massachusetts. This Best Management Practices Plan (BMPP) has been prepared as an Appendix to the RGP and will be posted at the site during the time period that temporary construction dewatering is occurring at the site.

Water Treatment and Management

Construction dewatering will be conducted from sumps located inside the excavation. The treatment system will be designed by the contractor. Prior to discharge, collected water will likely be routed through a sedimentation tank with an oil/water separator component or bag filters, at a minimum, to remove suspended solids and undissolved chemical constituents. Supplemental pretreatment is anticipated to be required to meet discharge criteria as shown in the Proposed Treatment System Schematic included in Figure 3. Supplemental pretreatment is anticipated to include Granulated Activated Carbon (GAC) and a pH regulator. Construction dewatering under this RGP NOI will include piping and discharging to storm drains located near the site. The storm drains travel north and discharge at outfall no. 046 directly into the Muddy River.

Discharge Monitoring and Compliance

Regular sampling and testing will be conducted at the treated effluent as required by the RGP. This includes chemical testing required within the first month of discharging, and the monthly testing to be conducted through the end of the scheduled discharge.

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

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

Monthly monitoring reports will be compiled and maintained at the site.

System Maintenance

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

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

Miscellaneous Items

Due to the nature of the excavation, erosion control and the nature of the site and surrounding infrastructure, it is not anticipated that there will be any run off into the site from other sources, as well as no run off from the site.

Site security for the treatment system can be covered within the overall site security plan.

No adverse affects of designated water uses of surrounding surface water bodies is anticipated. The Muddy River is the nearest surface water body to the site located approximately 0.3 miles from the construction activities on site. As mentioned earlier, the discharged effluent will be pumped directly to a storm drain located near the site and into existing below grade infrastructure.

Management of Treatment System Materials

Groundwater at the site has been impacted by concentrations of VOCs from an upgradient source. Groundwater will be managed under the MCP as a Release Abatement Measure (RAM). Dewatering effluent will be pumped directly to the treatment system from the excavation with use of hoses and sumps to minimize handling. The contractor will establish staging areas on the site for any equipment or materials storage which may be possible sources of pollution away from any dewatering activities.

Sediment from the fractionalization tank used in the treatment system will be characterized and disposed of as soil at an appropriate receiving facility in accordance with applicable laws and regulations. If used, GAC will be likely recycled and/or manifested to the appropriate receiving facility. Bag filters, if used, will be placed in drums and manifested for off-site disposal.

APPENDIX C

Endangered Species Act Documentation

United States Department of the Interior

FISH AND WILDLIFE SERVICE

New England Field Office
70 Commercial Street, Suite 300
Concord, NH 03301-5087
http://www.fws.gov/newengland

January 3, 2011

To Whom It May Concern:

This project was reviewed for the presence of federally-listed or proposed, threatened or endangered species or critical habitat per instructions provided on the U.S. Fish and Wildlife Service's New England Field Office website:

(http://www.fws.gov/newengland/EndangeredSpec-Consultation.htm)

Based on the information currently available, no federally-listed or proposed, threatened or endangered species or critical habitat under the jurisdiction of the U.S. Fish and Wildlife Service (Service) are known to occur in the project area(s). Preparation of a Biological Assessment or further consultation with us under section 7 of the Endangered Species Act is not required.

This concludes the review of listed species and critical habitat in the project location(s) and environs referenced above. No further Endangered Species Act coordination of this type is necessary for a period of one year from the date of this letter, unless additional information on listed or proposed species becomes available.

Thank you for your cooperation. Please contact Mr. Anthony Tur of this office at 603-223-2541 if we can be of further assistance.

Sincerely yours,

Thomas R. Chapman
Supervisor
New England Field Office

MASSACHUSETTS AREAS OF CRITICAL ENVIRONMENTAL CONCERN
November 2010

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

ACEC acreages above are based on MassGIS calculations and may differ from numbers originally presented in designation documents and other ACEC publications due to improvements in accuracy of GIS data and boundary clarifications. Listed acreages have been rounded to the nearest 50 or 10 depending on whether boundary clarification has occurred. For more information please see, http://www.mass.gov/dcr/stewardship/acec/aboutMaps.htm.

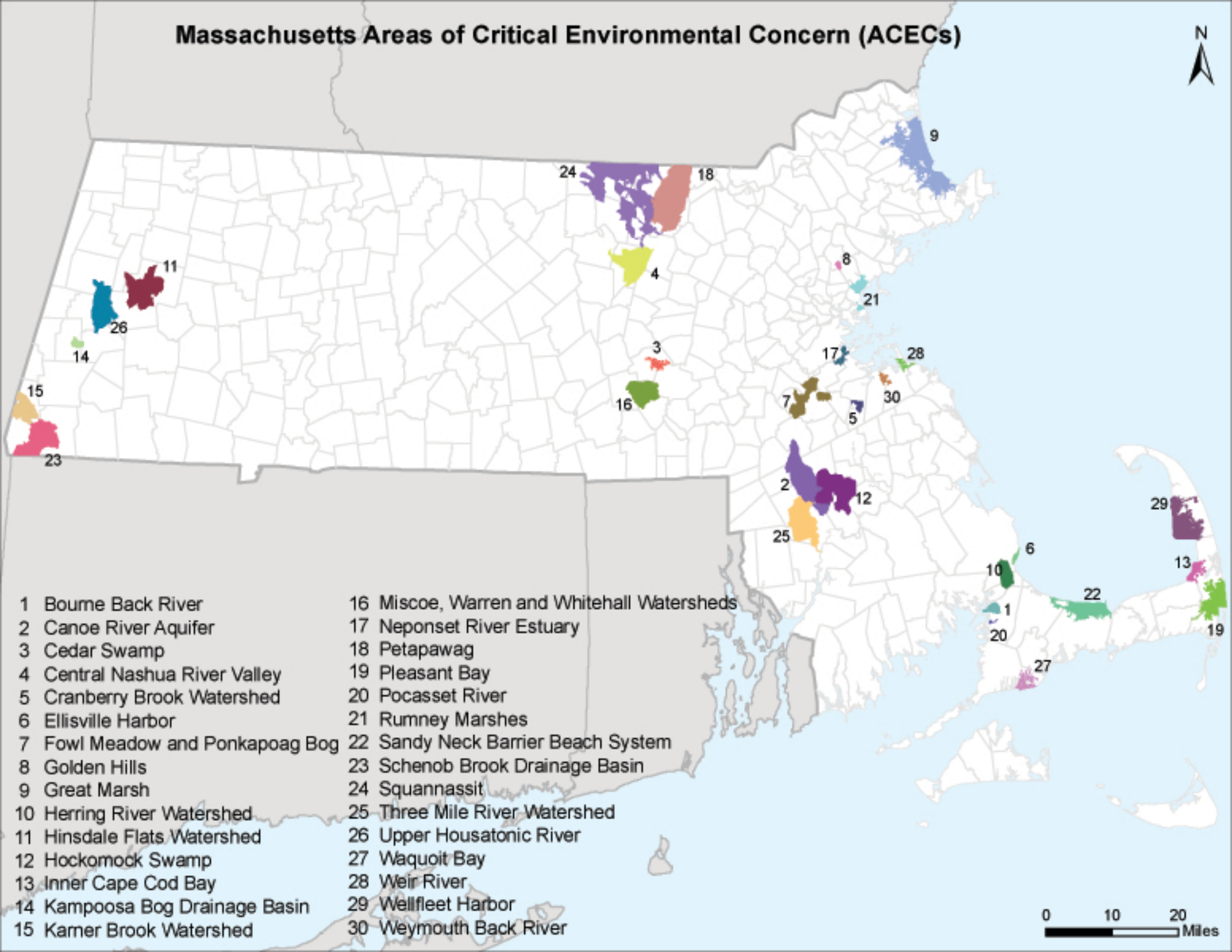
Towns with ACECs within their Boundaries November 2010

TOWN	ACEC
Ashby	Squannassit
Ayer	Petapawag
	Squannassit
Barnstable	Sandy Neck Barrier Beach System
Bolton	Central Nashua River Valley
Boston	Rumney Marshes
	Fowl Meadow and Ponkapoag Bog
	Neponset River Estuary
Bourne	Pocasset River
	Bourne Back River
	Herring River Watershed
Braintree	Cranberry Brook Watershed
Brewster	Pleasant Bay
	Inner Cape Cod Bay
Bridgewater	Hockomock Swamp
Canton	Fowl Meadow and Ponkapoag Bog
Chatham	Pleasant Bay
Cohasset	Weir River
Dalton	Hinsdale Flats Watershed
Dedham	Fowl Meadow and Ponkapoag Bog
Dighton	Three Mile River Watershed
Dunstable	Petapawag
Eastham	Inner Cape Cod Bay
	Wellfleet Harbor
Easton	Canoe River Aquifer
	Hockomock Swamp
Egremont	Karner Brook Watershed
Essex	Great Marsh
Falmouth	Waquoit Bay
Foxborough	Canoe River Aquifer
Gloucester	Great Marsh
Grafton	Miscoe-Warren-Whitehall Watersheds
Groton	Petapawag
	Squannassit
Harvard	Central Nashua River Valley
	Squannassit
Harwich	Pleasant Bay
Hingham	Weir River
	Weymouth Back River
Hinsdale	Hinsdale Flats Watershed
Holbrook	Cranberry Brook Watershed
Hopkinton	Miscoe-Warren-Whitehall Watersheds
	Cedar Swamp
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

TOWN	ACEC
Mt. Washington	Karner Brook Watershed
	Schenob Brook
Newbury	Great Marsh
Norton	Hockomock Swamp
	Canoe River Aquifer
	Three Mile River Watershed
Norwood	Fowl Meadow and Ponkapoag Bog
Orleans	Inner Cape Cod Bay
	Pleasant Bay
Pepperell	Petapawag
	Squannassit
Peru	Hinsdale Flats Watershed
Pittsfield	Upper Housatonic River
Plymouth	Herring River Watershed
	Ellisville Harbor
Quincy	Neponset River Estuary
Randolph	Fowl Meadow and Ponkapoag Bog
Raynham	Hockomock Swamp
Revere	Rumney Marshes
Rowley	Great Marsh
Sandwich	Sandy Neck Barrier Beach System
Saugus	Rumney Marshes
	Golden Hills
Sharon	Canoe River Aquifer
	Fowl Meadow and Ponkapoag Bog
Sheffield	Schenob Brook
Shirley	Squannassit
Stockbridge	Kampoosa Bog Drainage Basin
Taunton	Hockomock Swamp
	Canoe River Aquifer
	Three Mile River Watershed
Truro	Wellfleet Harbor
Townsend	Squannassit
Tyngsborough	Petapawag
Upton	Miscoe-Warren-Whitehall Watersheds
Wakefield	Golden Hills
Washington	Hinsdale Flats Watershed
	Upper Housatonic River
Wellfleet	Wellfleet Harbor
W Bridgewater	Hockomock Swamp
Westborough	Cedar Swamp
Westwood	Fowl Meadow and Ponkapoag Bog
Weymouth	Weymouth Back River
Winthrop	Rumney Marshes

.

Massachusetts Areas of Critical Environmental Concern (ACECs)



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

MassDEP - Bureau of Waste Site Cleanup

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

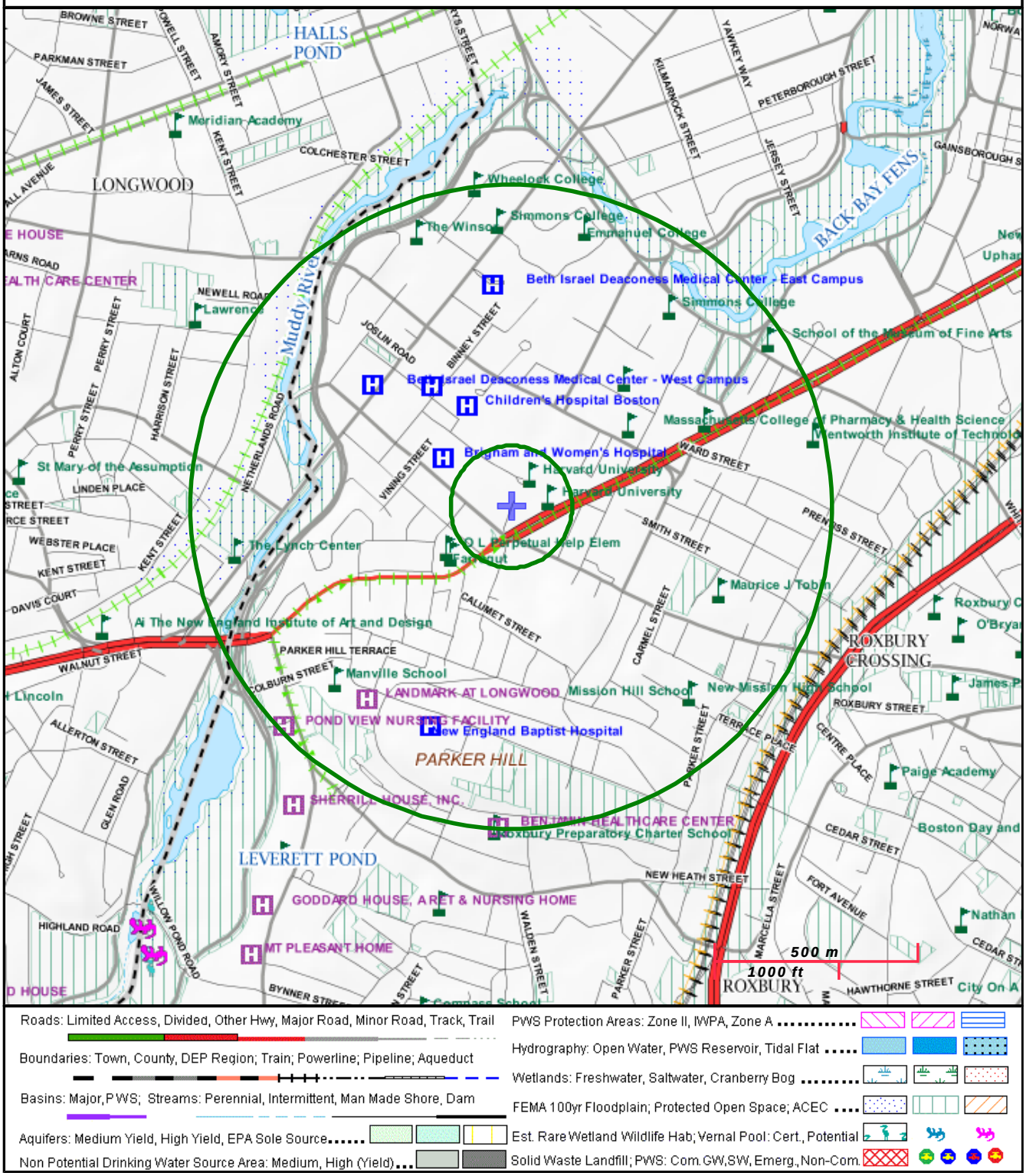
BRIGHAM GREEN PARKING FACILITY
15 FRANCIS STREET BOSTON, MA

NAD83 UTM Meters:
4689101mN , 326610mE (Zone: 19)

December 15, 2011

The information shown is the best available at the date of printing. However, it may be incomplete. The responsible party and LSP are ultimately repsponsible for ascertaining the true conditions surrounding the site. Metadata for data layers shown on this map can be found at: http://www.mass.gov/mgis/.

MassDEP
Commonwealth of Massachusetts
Department of Environmental Protection



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

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	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	Gloucester, 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, Wareham, Halifax, and Pembroke
	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.

Revised 06/22/2009

Rare Species by Town

MESA (Massachusetts Endangered Species Act) and Federal Status

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E = Endangered T = Threatened SC = Special Concern

Most Recent Observation

This field represents the most recent observation of that species in a town. However, because they are rare, many MESA-listed species are difficult to detect even when they are present. Natural Heritage does not have the resources to be able to conduct methodical species surveys in each town on a regular basis. Therefore, the fact that the 'Most Recent Observation' recorded for a species may be several years old should not be interpreted as meaning that the species no longer occurs in a town. However, Natural Heritage regards records older than twenty-five years historic.

Click on a town below to view MESA-listed species for that town. To print the species for a particular town, highlight the species using your mouse, go to Print under the File Menu, click on 'Selection' under 'Print Range' and click OK.

For more information about a particular species, view the list of Natural Heritage Fact Sheets.

These data were extracted from the database of the Natural Heritage and Endangered Species Program in September 2009.

Barnstable | Barre | Becket | Bedford | Belchertown | Bellingham | Belmont | Berkley | Berlin | Bernardston | Beverly | Billerica | Blackstone | Blandford | Bolton | Boston | Bourne | Boxborough | Boxford | Boylston | Braintree | Brewster | Bridgewater | Brimfield | Brockton | Brookfield | Brookline | Buckland | Burlington

Town	Taxonomic Group	Scientific Name	Common Name	MESA Status	Federal Status	Most Recent Observation
BARNSTABLE	Amphibian	Scaphiopus holbrookii	Eastern Spadefoot	T		2009
BARNSTABLE	Bird	Ammodramus savannarum	Grasshopper Sparrow	T		1993
BARNSTABLE	Bird	Asio flammeus	Short-eared Owl	E		Historic
BARNSTABLE	Bird	Asio otus	Long-eared Owl	SC		1978
BARNSTABLE	Bird	Charadrius melodus	Piping Plover	T	T	2006
BARNSTABLE	Bird	Parula americana	Northern Parula	T		1989
BARNSTABLE	Bird	Sterna dougallii	Roseate Tern	E	E	2008

BARNSTABLE	Bird	Sterna hirundo	Common Tern	SC	2008
BARNSTABLE	Bird	Sterna paradisaea	Arctic Tern	SC	1901
BARNSTABLE	Bird	Sternula antillarum	Least Tern	SC	2007
BARNSTABLE	Butterfly/Moth	Abagrotis nefascia	Coastal Heathland Cutworm	SC	1982
BARNSTABLE	Butterfly/Moth	Bagisara rectifascia	Straight Lined Mallow Moth	SC	1951
BARNSTABLE	Butterfly/Moth	Cingilia catenaria	Chain Dot Geometer	SC	1954
BARNSTABLE	Butterfly/Moth	Hemileuca maia	Barrens Buckmoth	SC	1994
BARNSTABLE	Butterfly/Moth	Itame sp. 1 nr. inextricata	Pine Barrens Itame	SC	1968
BARNSTABLE	Butterfly/Moth	Papaipema stenocelis	Chain Fern Borer Moth	T	1950
BARNSTABLE	Butterfly/Moth	Papaipema sulphurata	Water-willow Stem Borer	T	2004
BARNSTABLE	Butterfly/Moth	Pieris oleracea	Mustard White	T	1949
BARNSTABLE	Butterfly/Moth	Satyrium favonius	Oak Hairstreak	SC	1982
BARNSTABLE	Butterfly/Moth	Zale sp. 1 nr. lunifera	Pine Barrens Zale	SC	1951
BARNSTABLE	Crustacean	Eulimnadia agassizii	Agassiz's Clam Shrimp	E	2009
BARNSTABLE	Dragonfly/Damselfly	Anax longipes	Comet Darner	SC	2004
BARNSTABLE	Dragonfly/Damselfly	Enallagma carunculatum	Tule Bluet	SC	1941
BARNSTABLE	Dragonfly/Damselfly	Enallagma laterale	New England Bluet	SC	1989
BARNSTABLE	Dragonfly/Damselfly	Enallagma pictum	Scarlet Bluet	T	2005
BARNSTABLE	Dragonfly/Damselfly	Enallagma recurvatum	Pine Barrens Bluet	T	2004
BARNSTABLE	Fish	Notropis bifrenatus	Bridle Shiner	SC	1993
BARNSTABLE	Mussel	Alasmidonta undulata	Triangle Floater	SC	2007
BARNSTABLE	Mussel	Leptodea ochracea	Tidewater Mucket	SC	2007
BARNSTABLE	Mussel	Ligumia nasuta	Eastern Pondmussel	SC	2007
BARNSTABLE	Reptile	Malaclemys terrapin	Diamond-backed Terrapin	T	2007
BARNSTABLE	Reptile	Terrapene carolina	Eastern Box Turtle	SC	2007
BARNSTABLE	Snail	Ferrissia walkeri	Walker's Limpet	SC	2006
BARNSTABLE	Vascular Plant	Amelanchier nantucketensis	Nantucket Shadbush	SC	1993
BARNSTABLE	Vascular Plant	Aristida purpurascens	Purple Needlegrass	T	1916
BARNSTABLE	Vascular Plant	Carex mitchelliana	Mitchell's Sedge	T	1988
BARNSTABLE	Vascular Plant	Corema conradii	Broom Crowberry	SC	1916
BARNSTABLE	Vascular Plant	Crocanthemum dumosum	Bushy Rockrose	SC	1999

BARNSTABLE	Vascular Plant	Dichanthelium ovale ssp. pseudopubescens	Commons's Panic-grass	SC	1986
BARNSTABLE	Vascular Plant	Dichanthelium wrightianum	Wright's Panic-grass	SC	2004
BARNSTABLE	Vascular Plant	Lachnanthes caroliana	Redroot	SC	2004
BARNSTABLE	Vascular Plant	Liatris scariosa var. novae-angliae	New England Blazing Star	SC	2006
BARNSTABLE	Vascular Plant	Linum intercursum	Sandplain Flax	SC	1989
BARNSTABLE	Vascular Plant	Linum medium var. texanum	Rigid Flax	T	1983
BARNSTABLE	Vascular Plant	Lipocarpha micrantha	Dwarf Bulrush	T	1898
BARNSTABLE	Vascular Plant	Listera cordata	Heartleaf Twayblade	E	1916
BARNSTABLE	Vascular Plant	Malaxis bayardii	Bayard's Green Adder's-mouth	E	1989
BARNSTABLE	Vascular Plant	Ophioglossum pusillum	Adder's-tongue Fern	T	1960s
BARNSTABLE	Vascular Plant	Panicum philadelphicum ssp. philadelphicum	Philadelphia Panic-grass	SC	1989
BARNSTABLE	Vascular Plant	Polygonum puritanorum	Pondshore Knotweed	SC	2003
BARNSTABLE	Vascular Plant	Rhexia mariana	Maryland Meadow Beauty	E	1967
BARNSTABLE	Vascular Plant	Rhynchospora nitens	Short-beaked Bald-sedge	T	2002
BARNSTABLE	Vascular Plant	Rhynchospora scirpoides	Long-beaked Bald-sedge	SC	1995
BARNSTABLE	Vascular Plant	Rhynchospora torreyana	Torrey's Beak-sedge	E	2007
BARNSTABLE	Vascular Plant	Sabatia campanulata	Slender Marsh Pink	E	2008
BARNSTABLE	Vascular Plant	Sabatia kennedyana	Plymouth Gentian	SC	2008
BARNSTABLE	Vascular Plant	Sagittaria teres	Terete Arrowhead	SC	2004
BARNSTABLE	Vascular Plant	Scleria pauciflora	Papillose Nut Sedge	E	1986
BARNSTABLE	Vascular Plant	Setaria parviflora	Bristly Foxtail	SC	1919
BARNSTABLE	Vascular Plant	Sphenopholis pensylvanica	Swamp Oats	T	1988
BARNSTABLE	Vascular Plant	Spiranthes vernalis	Grass-leaved Ladies'-tresses	T	1986
BARNSTABLE	Vascular Plant	Tipularia discolor	Cranefly Orchid	E	1983
BARNSTABLE	Vascular Plant	Utricularia subulata	Subulate Bladderwort	SC	1918

Town	Taxonomic Group	Scientific Name	Common Name	MESA Status	Federal Status	Most Recent Observation
BARRE	Beetle	Cicindela duodecimguttata	Twelve-spotted Tiger Beetle	SC		2007

BARRE	Bird	Botaurus lentiginosus	American Bittern	E		1930
BARRE	Bird	Ixobrychus exilis	Least Bittern	E		2005
BARRE	Butterfly/Moth	Psectraglaea carnosa	Pink Sallow	SC		2007
BARRE	Dragonfly/Damselfly	Neurocordulia yamaskanensis	Stygian Shadowdragon	SC		2004
BARRE	Fish	Notropis bifrenatus	Bridle Shiner	SC		2005
BARRE	Mussel	Alasmidonta undulata	Triangle Floater	SC		1999
BARRE	Mussel	Strophitus undulatus	Creeper	SC		1999
BARRE	Reptile	Glyptemys insculpta	Wood Turtle	SC		2006
BARRE	Reptile	Terrapene carolina	Eastern Box Turtle	SC		2005
BARRE	Vascular Plant	Asclepias purpurascens	Purple Milkweed	E		1865
BARRE	Vascular Plant	Clematis occidentalis	Purple Clematis	SC		2008
BARRE	Vascular Plant	Liatris scariosa var. novae-angliae	New England Blazing Star	SC		1950
BARRE	Vascular Plant	Ophioglossum pusillum	Adder's-tongue Fern	T		1870
BARRE	Vascular Plant	Viola adunca	Sand Violet	SC		2006

Town	Taxonomic Group	Scientific Name	Common Name	MESA Status	Federal Status	Most Recent Observation
BECKET	Bird	Botaurus lentiginosus	American Bittern	E		1991
BECKET	Butterfly/Moth	Erora laeta	Early Hairstreak	T		2005
BECKET	Dragonfly/Damselfly	Boyeria grafiana	Ocellated Darner	SC		2004
BECKET	Dragonfly/Damselfly	Somatochlora forcipata	Forcipate Emerald	SC		1973
BECKET	Fish	Catostomus catostomus	Longnose Sucker	SC		1979
BECKET	Fish	Notropis bifrenatus	Bridle Shiner	SC		1994
BECKET	Reptile	Glyptemys insculpta	Wood Turtle	SC		2006
BECKET	Vascular Plant	Arceuthobium pusillum	Dwarf Mistletoe	SC		1904
BECKET	Vascular Plant	Carex livida	Glaucous Sedge	E		Historic
BECKET	Vascular Plant	Carex pauciflora	Few-flowered Sedge	E		Historic
BECKET	Vascular Plant	Lygodium palmatum	Climbing Fern	SC		Historic
BECKET	Vascular Plant	Sisyrinchium mucronatum	Slender Blue-eyed Grass	E		2001

Town	Taxonomic Group	Scientific Name	Common Name	MESA Status	Federal Status	Most Recent Observation
BEDFORD	Amphibian	Ambystoma laterale	Blue-spotted Salamander	SC		2009
BEDFORD	Bird	Accipiter striatus	Sharp-shinned Hawk	SC		1902
BEDFORD	Bird	Bartramia longicauda	Upland Sandpiper	E		2000
BEDFORD	Fish	Notropis bifrenatus	Bridle Shiner	SC		1998
BEDFORD	Reptile	Emydoidea blandingii	Blanding's Turtle	T		2008
BEDFORD	Reptile	Glyptemys insculpta	Wood Turtle	SC		1995
BEDFORD	Reptile	Terrapene carolina	Eastern Box Turtle	SC		2004
BEDFORD	Vascular Plant	Aristida purpurascens	Purple Needlegrass	T		1884

BEDFORD	Vascular Plant	Bolboschoenus fluviatilis	River Bulrush	SC		2002
BEDFORD	Vascular Plant	Carex oligosperma	Few-fruited Sedge	E		2007
BEDFORD	Vascular Plant	Gentiana andrewsii	Andrews' Bottle Gentian	E		1882
BEDFORD	Vascular Plant	Liatris scariosa var. novae-angliae	New England Blazing Star	SC		1899
BEDFORD	Vascular Plant	Ludwigia sphaerocarpa	Round-fruited False-loosestrife	E		1885
BEDFORD	Vascular Plant	Nabalus serpentarius	Lion's Foot	E		1883
BEDFORD	Vascular Plant	Nuphar microphylla	Tiny Cow-lily	E		1883
BEDFORD	Vascular Plant	Ophioglossum pusillum	Adder's-tongue Fern	T		1900
BEDFORD	Vascular Plant	Platanthera flava var. herbiola	Pale Green Orchis	T		1888
BEDFORD	Vascular Plant	Scirpus longii	Long's Bulrush	T		2007
BEDFORD	Vascular Plant	Senna hebecarpa	Wild Senna	E		1883
BEDFORD	Vascular Plant	Viola brittoniana	Britton's Violet	T		2007

Town	Taxonomic Group	Scientific Name	Common Name	MESA Status	Federal Status	Most Recent Observation
BELCHERTOWN	Amphibian	Ambystoma opacum	Marbled Salamander	T		2006
BELCHERTOWN	Beetle	Cicindela purpurea	Purple Tiger Beetle	SC		1941
BELCHERTOWN	Bird	Botaurus lentiginosus	American Bittern	E		2008
BELCHERTOWN	Bird	Gallinula chloropus	Common Moorhen	SC		1932
BELCHERTOWN	Bird	Haliaeetus leucocephalus	Bald Eagle	E		2008
BELCHERTOWN	Bird	Ixobrychus exilis	Least Bittern	E		2007
BELCHERTOWN	Bird	Podilymbus podiceps	Pied-billed Grebe	E		1932
BELCHERTOWN	Bird	Tyto alba	Barn Owl	SC		1951
BELCHERTOWN	Crustacean	Eubranchipus intricatus	Intricate Fairy Shrimp	SC		1970s
BELCHERTOWN	Dragonfly/Damselfly	Enallagma laterale	New England Bluet	SC		2008
BELCHERTOWN	Fish	Notropis bifrenatus	Bridle Shiner	SC		1998
BELCHERTOWN	Mammal	Synaptomys cooperi	Southern Bog Lemming	SC		1974
BELCHERTOWN	Reptile	Glyptemys insculpta	Wood Turtle	SC		2007
BELCHERTOWN	Reptile	Terrapene carolina	Eastern Box Turtle	SC		2006
BELCHERTOWN	Vascular Plant	Acer nigrum	Black Maple	SC		1891
BELCHERTOWN	Vascular Plant	Asclepias purpurascens	Purple Milkweed	E		1875
BELCHERTOWN	Vascular Plant	Blephilia ciliata	Downy Wood-mint	E		1891
BELCHERTOWN	Vascular Plant	Lygodium palmatum	Climbing Fern	SC		2000

BELCHERTOWN	Vascular Plant	Ophioglossum pusillum	Adder's-tongue Fern	T		1883
BELCHERTOWN	Vascular Plant	Podostemum ceratophyllum	Threadfoot	SC		1925
BELCHERTOWN	Vascular Plant	Ranunculus pensylvanicus	Bristly Buttercup	SC		1871
BELCHERTOWN	Vascular Plant	Scheuchzeria palustris	Pod-grass	E		1872
BELCHERTOWN	Vascular Plant	Utricularia resupinata	Resupinate Bladderwort	T		1873

Town	Taxonomic Group	Scientific Name	Common Name	MESA Status	Federal Status	Most Recent Observation
BELLINGHAM	Amphibian	Ambystoma opacum	Marbled Salamander	T		2007
BELLINGHAM	Fish	Lampetra appendix	American Brook Lamprey	T		2001
BELLINGHAM	Vascular Plant	Aristida purpurascens	Purple Needlegrass	T		1894
BELLINGHAM	Vascular Plant	Goodyera repens	Dwarf Rattlesnake-plantain	E		1886
BELLINGHAM	Vascular Plant	Panicum philadelphicum ssp. philadelphicum	Philadelphia Panic-grass	SC		1986

Town	Taxonomic Group	Scientific Name	Common Name	MESA Status	Federal Status	Most Recent Observation
BELMONT	Amphibian	Ambystoma jeffersonianum	Jefferson Salamander	SC		1800s
BELMONT	Beetle	Cicindela purpurea	Purple Tiger Beetle	SC		Historic
BELMONT	Bird	Tyto alba	Barn Owl	SC		1952
BELMONT	Bird	Gallinula chloropus	Common Moorhen	SC		Historic
BELMONT	Bird	Cistothorus platensis	Sedge Wren	E		1868
BELMONT	Dragonfly/Damselfly	Somatochlora linearis	Mocha Emerald	SC		2005
BELMONT	Vascular Plant	Aristida purpurascens	Purple Needlegrass	T		1852
BELMONT	Vascular Plant	Carex gracilescens	Slender Woodland Sedge	E		1932

Town	Taxonomic Group	Scientific Name	Common Name	MESA Status	Federal Status	Most Recent Observation
BERKLEY	Beetle	Cicindela duodecimguttata	Twelve-spotted Tiger Beetle	SC		1913
BERKLEY	Beetle	Cicindela purpurea	Purple Tiger Beetle	SC		1912
BERKLEY	Reptile	Glyptemys insculpta	Wood Turtle	SC		1991
BERKLEY	Reptile	Malaclemys terrapin	Diamond-backed Terrapin	T		1982
BERKLEY	Reptile	Terrapene carolina	Eastern Box Turtle	SC		2007
BERKLEY	Vascular Plant	Bidens eatonii	Eaton's Beggar-ticks	E		1923

BERKLEY	Vascular Plant	Cardamine longii	Long's Bitter-cress	E		1997
BERKLEY	Vascular Plant	Carex polymorpha	Variable Sedge	E		1908

Town	Taxonomic Group	Scientific Name	Common Name	MESA Status	Federal Status	Most Recent Observation
BERLIN	Amphibian	Ambystoma laterale	Blue-spotted Salamander	SC		1800s
BERLIN	Amphibian	Ambystoma opacum	Marbled Salamander	T		2000
BERLIN	Bird	Accipiter striatus	Sharp-shinned Hawk	SC		1936
BERLIN	Bird	Ammodramus henslowii	Henslow's Sparrow	E		Historic
BERLIN	Mussel	Alasmidonta varicosa	Brook Floater (Swollen Wedgemussel)	E		1859
BERLIN	Reptile	Glyptemys insculpta	Wood Turtle	SC		1993
BERLIN	Reptile	Terrapene carolina	Eastern Box Turtle	SC		1991
BERLIN	Vascular Plant	Asclepias purpurascens	Purple Milkweed	E		1915
BERLIN	Vascular Plant	Panicum philadelphicum ssp. philadelphicum	Philadelphia Panic-grass	SC		1944

Town	Taxonomic Group	Scientific Name	Common Name	MESA Status	Federal Status	Most Recent Observation
BERNARDSTON	Butterfly/Moth	Erora laeta	Early Hairstreak	T		1988
BERNARDSTON	Vascular Plant	Actaea racemosa	Black Cohosh	E		1998

Town	Taxonomic Group	Scientific Name	Common Name	MESA Status	Federal Status	Most Recent Observation
BEVERLY	Beetle	Cicindela purpurea	Purple Tiger Beetle	SC		1925
BEVERLY	Bird	Vermivora chrysoptera	Golden-winged Warbler	E		1987
BEVERLY	Vascular Plant	Magnolia virginiana	Sweetbay Magnolia	E		1995
BEVERLY	Vascular Plant	Ophioglossum pusillum	Adder's-tongue Fern	T		1874
BEVERLY	Vascular Plant	Potamogeton vaseyi	Vasey's Pondweed	E		1878
BEVERLY	Vascular Plant	Suaeda calceoliformis	American Sea-blite	SC		1902

Town	Taxonomic Group	Scientific Name	Common Name	MESA Status	Federal Status	Most Recent Observation
BILLERICA	Amphibian	Ambystoma laterale	Blue-spotted Salamander	SC		2008
BILLERICA	Fish	Notropis bifrenatus	Bridle Shiner	SC		1961
BILLERICA	Reptile	Emydoidea blandingii	Blanding's Turtle	T		1992
BILLERICA	Vascular Plant	Liatris scariosa var. novae -angliae	New England Blazing Star	SC		1917
BILLERICA	Vascular Plant	Ludwigia sphaerocarpa	Round-fruited False-loosestrife	E		1889
BILLERICA	Vascular Plant	Nabalus serpentarius	Lion's Foot	E		1871

BILLERICA	Vascular Plant	Nuphar microphylla	Tiny Cow-lily	E		1869
BILLERICA	Vascular Plant	Ophioglossum pusillum	Adder's-tongue Fern	T		1900
BILLERICA	Vascular Plant	Viola brittoniana	Britton's Violet	T		1915

Town	Taxonomic Group	Scientific Name	Common Name	MESA Status	Federal Status	Most Recent Observation
BLACKSTONE	Fish	Lampetra appendix	American Brook Lamprey	T		2001
BLACKSTONE	Mussel	Alasmidonta undulata	Triangle Floater	SC		1999
BLACKSTONE	Mussel	Strophitus undulatus	Creeper	SC		1999

Town	Taxonomic Group	Scientific Name	Common Name	MESA Status	Federal Status	Most Recent Observation
BLANDFORD	Bird	Bartramia longicauda	Upland Sandpiper	E		Historic
BLANDFORD	Bird	Botaurus lentiginosus	American Bittern	E		2005
BLANDFORD	Bird	Circus cyaneus	Northern Harrier	T		1923
BLANDFORD	Bird	Cistothorus platensis	Sedge Wren	E		1982
BLANDFORD	Dragonfly/Damselfly	Enallagma laterale	New England Bluet	SC		2008
BLANDFORD	Reptile	Glyptemys insculpta	Wood Turtle	SC		1995
BLANDFORD	Vascular Plant	Rhododendron maximum	Great Laurel	T		1946
BLANDFORD	Vascular Plant	Sisyrinchium mucronatum	Slender Blue-eyed Grass	E		1919

Town	Taxonomic Group	Scientific Name	Common Name	MESA Status	Federal Status	Most Recent Observation
BOLTON	Amphibian	Ambystoma laterale	Blue-spotted Salamander	SC		2006
BOLTON	Amphibian	Ambystoma opacum	Marbled Salamander	T		2008
BOLTON	Beetle	Cicindela duodecimguttata	Twelve-spotted Tiger Beetle	SC		2007
BOLTON	Bird	Botaurus lentiginosus	American Bittern	E		1990
BOLTON	Bird	Ixobrychus exilis	Least Bittern	E		1985
BOLTON	Bird	Podilymbus podiceps	Pied-billed Grebe	E		1984
BOLTON	Bird	Rallus elegans	King Rail	T		1999
BOLTON	Reptile	Emydoidea blandingii	Blanding's Turtle	T		2009
BOLTON	Reptile	Glyptemys insculpta	Wood Turtle	SC		1999
BOLTON	Reptile	Terrapene carolina	Eastern Box Turtle	SC		1989
BOLTON	Vascular Plant	Carex typhina	Cat-tail Sedge	T		1999
BOLTON	Vascular Plant	Corallorhiza odontorhiza	Autumn Coralroot	SC		2006

Town	Taxonomic Group	Scientific Name	Common Name	MESA Status	Federal Status	Most Recent Observation
BOSTON	Amphibian	Ambystoma laterale	Blue-spotted Salamander	SC		2003
BOSTON	Amphibian	Scaphiopus holbrookii	Eastern Spadefoot	T		1932
BOSTON	Beetle	Cicindela duodecimguttata	Twelve-spotted Tiger Beetle	SC		1910
BOSTON	Beetle	Cicindela purpurea	Purple Tiger Beetle	SC		1928
BOSTON	Beetle	Cicindela rufiventris hentzii	Hentz's Redbelly Tiger Beetle	T		1927
BOSTON	Bird	Accipiter striatus	Sharp-shinned Hawk	SC		1898
BOSTON	Bird	Ammodramus savannarum	Grasshopper Sparrow	T		1993
BOSTON	Bird	Bartramia longicauda	Upland Sandpiper	E		1993
BOSTON	Bird	Falco peregrinus	Peregrine Falcon	E		2007
BOSTON	Bird	Gavia immer	Common Loon	SC		1824
BOSTON	Bird	Pooecetes gramineus	Vesper Sparrow	T		1985
BOSTON	Bird	Sterna hirundo	Common Tern	SC		2008
BOSTON	Bird	Sternula antillarum	Least Tern	SC		2007
BOSTON	Bird	Tyto alba	Barn Owl	SC		1989
BOSTON	Bird	Vermivora chrysoptera	Golden-winged Warbler	E		Historic
BOSTON	Butterfly/Moth	Apodrepanulatrix liberaria	New Jersey Tea Inchworm	E		Historic
BOSTON	Butterfly/Moth	Abagrotis nefascia	Coastal Heathland Cutworm	SC		2001
BOSTON	Butterfly/Moth	Metarranthis apiciaria	Barrens Metarranthis Moth	E		1934
BOSTON	Butterfly/Moth	Rhodoecia aurantiago	Orange Sallow Moth	T		1988
BOSTON	Dragonfly/Damselfly	Somatochlora linearis	Mocha Emerald	SC		2009
BOSTON	Fish	Gasterosteus aculeatus	Threespine Stickleback	T		2000
BOSTON	Mussel	Alasmidonta undulata	Triangle Floater	SC		2005
BOSTON	Mussel	Ligumia nasuta	Eastern Pondmussel	SC		1841
BOSTON	Reptile	Terrapene carolina	Eastern Box Turtle	SC		1939
BOSTON	Vascular Plant	Ageratina aromatica	Lesser Snakeroot	E		1896
BOSTON	Vascular Plant	Aristida purpurascens	Purple Needlegrass	T		1800s
BOSTON	Vascular Plant	Aristida tuberculosa	Seabeach Needlegrass	T		1877
BOSTON	Vascular Plant	Asclepias verticillata	Linear-leaved Milkweed	T		1878
BOSTON	Vascular Plant	Boechera missouriensis	Green Rock-cress	T		1930
BOSTON	Vascular Plant	Carex striata	Walter's Sedge	E		Historic
BOSTON	Vascular Plant	Desmodium cuspidatum	Large-bracted Tick-trefoil	T		1896
BOSTON	Vascular Plant	Eriophorum gracile	Slender Cottongrass	T		1885

BOSTON	Vascular Plant	Houstonia longifolia	Long-leaved Bluet	E		1918
BOSTON	Vascular Plant	Liatris scariosa var. novae-angliae	New England Blazing Star	SC		1933
BOSTON	Vascular Plant	Linum medium var. texanum	Rigid Flax	T		1909
BOSTON	Vascular Plant	Lycopus rubellus	Gypsywort	E		1896
BOSTON	Vascular Plant	Myriophyllum alterniflorum	Alternate-flowered Water-milfoil	E		Historic
BOSTON	Vascular Plant	Ophioglossum pusillum	Adder's-tongue Fern	T		1884
BOSTON	Vascular Plant	Platanthera flava var. herbiola	Pale Green Orchis	T		1908
BOSTON	Vascular Plant	Ranunculus micranthus	Tiny-flowered Buttercup	E		1891
BOSTON	Vascular Plant	Rumex pallidus	Seabeach Dock	T		1984
BOSTON	Vascular Plant	Sanicula odorata	Long-styled Sanicle	T		Historic
BOSTON	Vascular Plant	Scirpus longii	Long's Bulrush	T		1907
BOSTON	Vascular Plant	Setaria parviflora	Bristly Foxtail	SC		2001
BOSTON	Vascular Plant	Suaeda calceoliformis	American Sea-blite	SC		1909
BOSTON	Vascular Plant	Viola brittoniana	Britton's Violet	T		1909

Town	Taxonomic Group	Scientific Name	Common Name	MESA Status	Federal Status	Most Recent Observation
BOURNE	Amphibian	Ambystoma opacum	Marbled Salamander	T		1936
BOURNE	Amphibian	Scaphiopus holbrookii	Eastern Spadefoot	T		2003
BOURNE	Beetle	Cicindela purpurea	Purple Tiger Beetle	SC		1935
BOURNE	Bird	Accipiter striatus	Sharp-shinned Hawk	SC		2001
BOURNE	Bird	Ammodramus savannarum	Grasshopper Sparrow	T		2007
BOURNE	Bird	Charadrius melodus	Piping Plover	T	T	2006
BOURNE	Bird	Circus cyaneus	Northern Harrier	T		2007
BOURNE	Bird	Pooecetes gramineus	Vesper Sparrow	T		2006
BOURNE	Bird	Sterna dougallii	Roseate Tern	E	E	2008
BOURNE	Bird	Sterna hirundo	Common Tern	SC		2008
BOURNE	Bird	Sternula antillarum	Least Tern	SC		2007
BOURNE	Bird	Tyto alba	Barn Owl	SC		1974
BOURNE	Butterfly/Moth	Abagrotis nefascia	Coastal Heathland Cutworm	SC		1996
BOURNE	Butterfly/Moth	Acronicta albarufa	Barrens Daggermoth	T		1998
BOURNE	Butterfly/Moth	Bagisara rectifascia	Straight Lined Mallow Moth	SC		1998
BOURNE	Butterfly/Moth	Catocala herodias gerhardi	Gerhard's Underwing Moth	SC		1999
BOURNE	Butterfly/Moth	Cicinnus melsheimeri	Melsheimer's Sack Bearer	T		1998
BOURNE	Butterfly/Moth	Cingilia catenaria	Chain Dot Geometer	SC		2006
BOURNE	Butterfly/Moth	Hemileuca maia	Barrens Buckmoth	SC		2006
BOURNE	Butterfly/Moth	Itame sp. 1 nr. inextricata	Pine Barrens Itame	SC		1998

BOURNE	Butterfly/Moth	Metarranthis pilosaria	Coastal Swamp Metarranthis Moth	SC		1998
BOURNE	Butterfly/Moth	Papaipema sulphurata	Water-willow Stem Borer	T		1994
BOURNE	Butterfly/Moth	Zale sp. 1 nr. lunifera	Pine Barrens Zale	SC		1997
BOURNE	Dragonfly/Damselfly	Anax longipes	Comet Darner	SC		2007
BOURNE	Dragonfly/Damselfly	Enallagma laterale	New England Bluet	SC		2004
BOURNE	Dragonfly/Damselfly	Enallagma recurvatum	Pine Barrens Bluet	T		1998
BOURNE	Dragonfly/Damselfly	Rhionaeschna mutata	Spatterdock Darner	SC		2007
BOURNE	Fish	Notropis bifrenatus	Bridle Shiner	SC		1993
BOURNE	Mussel	Leptodea ochracea	Tidewater Mucket	SC		1996
BOURNE	Mussel	Ligumia nasuta	Eastern Pondmussel	SC		1997
BOURNE	Reptile	Malaclemys terrapin	Diamond-backed Terrapin	T		2004
BOURNE	Reptile	Pseudemys rubriventris pop. 1	Northern Red-bellied Cooter	E	E	2003
BOURNE	Reptile	Terrapene carolina	Eastern Box Turtle	SC		2009
BOURNE	Vascular Plant	Aristida purpurascens	Purple Needlegrass	T		1901
BOURNE	Vascular Plant	Asclepias verticillata	Linear-leaved Milkweed	T		1915
BOURNE	Vascular Plant	Crocanthemum dumosum	Bushy Rockrose	SC		2000
BOURNE	Vascular Plant	Eleocharis ovata	Ovate Spike-sedge	E		1992
BOURNE	Vascular Plant	Hypericum adpressum	Creeping St. John's-wort	T		2007
BOURNE	Vascular Plant	Juncus debilis	Weak Rush	E		1993
BOURNE	Vascular Plant	Liatris scariosa var. novae-angliae	New England Blazing Star	SC		2005
BOURNE	Vascular Plant	Lygodium palmatum	Climbing Fern	SC		1992
BOURNE	Vascular Plant	Malaxis bayardii	Bayard's Green Adder's-mouth	E		1919
BOURNE	Vascular Plant	Ophioglossum pusillum	Adder's-tongue Fern	T		2006
BOURNE	Vascular Plant	Polygonum glaucum	Sea-beach Knotweed	SC		1913
BOURNE	Vascular Plant	Polygonum puritanorum	Pondshore Knotweed	SC		1994
BOURNE	Vascular Plant	Rhynchospora scirpoides	Long-beaked Bald-sedge	SC		1986
BOURNE	Vascular Plant	Sabatia kennedyana	Plymouth Gentian	SC		1996
BOURNE	Vascular Plant	Sagittaria teres	Terete Arrowhead	SC		1994
BOURNE	Vascular Plant	Setaria parviflora	Bristly Foxtail	SC		1913
BOURNE	Vascular Plant	Spiranthes vernalis	Grass-leaved Ladies'-tresses	T		1896
BOURNE	Vascular Plant	Suaeda calceoliformis	American Sea-blite	SC		1995
BOURNE	Vascular Plant	Triosteum perfoliatum	Broad Tinker's-weed	E		2004

Town	Taxonomic Group	Scientific Name	Common Name	MESA Status	Federal Status	Most Recent Observation

BOXBOROUGH	Amphibian	Ambystoma laterale	Blue-spotted Salamander	SC		2007
BOXBOROUGH	Reptile	Emydoidea blandingii	Blanding's Turtle	T		2003
BOXBOROUGH	Reptile	Glyptemys insculpta	Wood Turtle	SC		2002
BOXBOROUGH	Reptile	Terrapene carolina	Eastern Box Turtle	SC		2001

Town	Taxonomic Group	Scientific Name	Common Name	MESA Status	Federal Status	Most Recent Observation
BOXFORD	Amphibian	Ambystoma laterale	Blue-spotted Salamander	SC		2008
BOXFORD	Amphibian	Ambystoma opacum	Marbled Salamander	T		1983
BOXFORD	Bird	Tyto alba	Barn Owl	SC		1957
BOXFORD	Fish	Notropis bifrenatus	Bridle Shiner	SC		1999
BOXFORD	Mussel	Ligumia nasuta	Eastern Pondmussel	SC		Historic
BOXFORD	Reptile	Emydoidea blandingii	Blanding's Turtle	T		2008
BOXFORD	Reptile	Glyptemys insculpta	Wood Turtle	SC		2000
BOXFORD	Vascular Plant	Asclepias purpurascens	Purple Milkweed	E		1883
BOXFORD	Vascular Plant	Carex livida	Glaucous Sedge	E		1890
BOXFORD	Vascular Plant	Eriophorum gracile	Slender Cottongrass	T		1909
BOXFORD	Vascular Plant	Gentiana andrewsii	Andrews' Bottle Gentian	E		1881
BOXFORD	Vascular Plant	Houstonia longifolia	Long-leaved Bluet	E		1882
BOXFORD	Vascular Plant	Liatris scariosa var. novae-angliae	New England Blazing Star	SC		2004
BOXFORD	Vascular Plant	Myriophyllum alterniflorum	Alternate-flowered Water-milfoil	E		2004
BOXFORD	Vascular Plant	Ophioglossum pusillum	Adder's-tongue Fern	T		1905
BOXFORD	Vascular Plant	Panicum philadelphicum ssp. philadelphicum	Philadelphia Panic-grass	SC		1953
BOXFORD	Vascular Plant	Platanthera flava var. herbiola	Pale Green Orchis	T		1881
BOXFORD	Vascular Plant	Potamogeton vaseyi	Vasey's Pondweed	E		2004
BOXFORD	Vascular Plant	Senna hebecarpa	Wild Senna	E		1882
BOXFORD	Vascular Plant	Sparganium natans	Small Bur-reed	E		1997
BOXFORD	Vascular Plant	Viola adunca	Sand Violet	SC		2004

Town	Taxonomic Group	Scientific Name	Common Name	MESA Status	Federal Status	Most Recent Observation
BOYLSTON	Amphibian	Ambystoma opacum	Marbled Salamander	T		1995
BOYLSTON	Bird	Gavia immer	Common Loon	SC		2008
BOYLSTON	Bird	Haliaeetus leucocephalus	Bald Eagle	E		2009
BOYLSTON	Bird	Podilymbus podiceps	Pied-billed Grebe	E		1978
BOYLSTON	Butterfly/Moth	Rhodoecia aurantiago	Orange Sallow Moth	T		2008
BOYLSTON	Fish	Notropis bifrenatus	Bridle Shiner	SC		1951
BOYLSTON	Reptile	Glyptemys insculpta	Wood Turtle	SC		1983

BOYLSTON	Vascular Plant	Hydrophyllum canadense	Broad Waterleaf	E		1943
BOYLSTON	Vascular Plant	Liatris scariosa var. novae-angliae	New England Blazing Star	SC		1932
BOYLSTON	Vascular Plant	Ophioglossum pusillum	Adder's-tongue Fern	T		2000

Town	Taxonomic Group	Scientific Name	Common Name	MESA Status	Federal Status	Most Recent Observation
BRAINTREE	Dragonfly/Damselfly	Anax longipes	Comet Darner	SC		1970
BRAINTREE	Dragonfly/Damselfly	Enallagma laterale	New England Bluet	SC		1969
BRAINTREE	Dragonfly/Damselfly	Somatochlora linearis	Mocha Emerald	SC		1989
BRAINTREE	Mussel	Ligumia nasuta	Eastern Pondmussel	SC		2000
BRAINTREE	Reptile	Terrapene carolina	Eastern Box Turtle	SC		1997
BRAINTREE	Vascular Plant	Asclepias purpurascens	Purple Milkweed	E		1922
BRAINTREE	Vascular Plant	Houstonia longifolia	Long-leaved Bluet	E		1886

Town	Taxonomic Group	Scientific Name	Common Name	MESA Status	Federal Status	Most Recent Observation
BREWSTER	Bird	Charadrius melodus	Piping Plover	T	T	2006
BREWSTER	Bird	Parula americana	Northern Parula	T		2006
BREWSTER	Bird	Sterna dougallii	Roseate Tern	E	E	2008
BREWSTER	Bird	Sterna hirundo	Common Tern	SC		2008
BREWSTER	Butterfly/Moth	Abagrotis nefascia	Coastal Heathland Cutworm	SC		1981
BREWSTER	Butterfly/Moth	Apamea inebriata	Drunk Apamea Moth	SC		1981
BREWSTER	Butterfly/Moth	Bagisara rectifascia	Straight Lined Mallow Moth	SC		1982
BREWSTER	Butterfly/Moth	Papaipema sulphurata	Water-willow Stem Borer	T		1994
BREWSTER	Dragonfly/Damselfly	Enallagma laterale	New England Bluet	SC		2000
BREWSTER	Dragonfly/Damselfly	Enallagma pictum	Scarlet Bluet	T		2003
BREWSTER	Dragonfly/Damselfly	Enallagma recurvatum	Pine Barrens Bluet	T		2005
BREWSTER	Dragonfly/Damselfly	Rhionaeschna mutata	Spatterdock Darner	SC		1987
BREWSTER	Fish	Notropis bifrenatus	Bridle Shiner	SC		1961
BREWSTER	Reptile	Malaclemys terrapin	Diamond-backed Terrapin	T		2002
BREWSTER	Reptile	Terrapene carolina	Eastern Box Turtle	SC		2008
BREWSTER	Vascular Plant	Carex mitchelliana	Mitchell's Sedge	T		2006
BREWSTER	Vascular Plant	Corema conradii	Broom Crowberry	SC		1994
BREWSTER	Vascular Plant	Crocanthemum dumosum	Bushy Rockrose	SC		2006
BREWSTER	Vascular Plant	Dichanthelium dichotomum ssp. mattamuskeetense	Mattamuskeet Panic-grass	E		1918

BREWSTER	Vascular Plant	Dichanthelium ovale ssp. pseudopubescens	Commons's Panic-grass	SC		2006
BREWSTER	Vascular Plant	Gamochaeta purpurea	Purple Cudweed	E		1924
BREWSTER	Vascular Plant	Isoetes acadiensis	Acadian Quillwort	E		1989
BREWSTER	Vascular Plant	Lachnanthes caroliana	Redroot	SC		2002
BREWSTER	Vascular Plant	Liatris scariosa var. novae-angliae	New England Blazing Star	SC		1931
BREWSTER	Vascular Plant	Lipocarpha micrantha	Dwarf Bulrush	T		2006
BREWSTER	Vascular Plant	Mertensia maritima	Oysterleaf	E		2001
BREWSTER	Vascular Plant	Ophioglossum pusillum	Adder's-tongue Fern	T		1992
BREWSTER	Vascular Plant	Opuntia humifusa	Prickly Pear	E		1989
BREWSTER	Vascular Plant	Polygonum puritanorum	Pondshore Knotweed	SC		2003
BREWSTER	Vascular Plant	Rhexia mariana	Maryland Meadow Beauty	E		2008
BREWSTER	Vascular Plant	Rhynchospora scirpoides	Long-beaked Bald-sedge	SC		1986
BREWSTER	Vascular Plant	Rumex pallidus	Seabeach Dock	T		1994
BREWSTER	Vascular Plant	Sabatia kennedyana	Plymouth Gentian	SC		2004
BREWSTER	Vascular Plant	Sagittaria teres	Terete Arrowhead	SC		2008
BREWSTER	Vascular Plant	Spartina cynosuroides	Salt Reedgrass	T		2004
BREWSTER	Vascular Plant	Utricularia resupinata	Resupinate Bladderwort	T		2002

Town	Taxonomic Group	Scientific Name	Common Name	MESA Status	Federal Status	Most Recent Observation
BRIDGEWATER	Bird	Ammodramus savannarum	Grasshopper Sparrow	T		1997
BRIDGEWATER	Bird	Asio otus	Long-eared Owl	SC		1978
BRIDGEWATER	Bird	Bartramia longicauda	Upland Sandpiper	E		1980
BRIDGEWATER	Bird	Tyto alba	Barn Owl	SC		1981
BRIDGEWATER	Butterfly/Moth	Papaipema sulphurata	Water-willow Stem Borer	T		1994
BRIDGEWATER	Dragonfly/Damselfly	Enallagma laterale	New England Bluet	SC		1994
BRIDGEWATER	Dragonfly/Damselfly	Enallagma pictum	Scarlet Bluet	T		2004
BRIDGEWATER	Mussel	Alasmidonta undulata	Triangle Floater	SC		1999
BRIDGEWATER	Mussel	Leptodea ochracea	Tidewater Mucket	SC		1997
BRIDGEWATER	Mussel	Ligumia nasuta	Eastern Pondmussel	SC		1997

BRIDGEWATER	Reptile	Glyptemys insculpta	Wood Turtle	SC		2004
BRIDGEWATER	Reptile	Pseudemys rubriventris pop. 1	Northern Red-bellied Cooter	E	E	2005
BRIDGEWATER	Reptile	Terrapene carolina	Eastern Box Turtle	SC		2009
BRIDGEWATER	Vascular Plant	Ludwigia sphaerocarpa	Round-fruited False-loosestrife	E		2005
BRIDGEWATER	Vascular Plant	Platanthera flava var. herbiola	Pale Green Orchis	T		1912
BRIDGEWATER	Vascular Plant	Sabatia kennedyana	Plymouth Gentian	SC		2005
BRIDGEWATER	Vascular Plant	Scirpus longii	Long's Bulrush	T		1988

Town	Taxonomic Group	Scientific Name	Common Name	MESA Status	Federal Status	Most Recent Observation
BRIMFIELD	Amphibian	Ambystoma laterale	Blue-spotted Salamander	SC		2000
BRIMFIELD	Bird	Botaurus lentiginosus	American Bittern	E		1997
BRIMFIELD	Bird	Ixobrychus exilis	Least Bittern	E		2007
BRIMFIELD	Dragonfly/Damselfly	Ophiogomphus aspersus	Brook Snaketail	SC		2004
BRIMFIELD	Fish	Notropis bifrenatus	Bridle Shiner	SC		1999
BRIMFIELD	Mussel	Alasmidonta undulata	Triangle Floater	SC		1982
BRIMFIELD	Mussel	Strophitus undulatus	Creeper	SC		1982
BRIMFIELD	Reptile	Glyptemys insculpta	Wood Turtle	SC		2006
BRIMFIELD	Vascular Plant	Isoetes lacustris	Lake Quillwort	E		1930

Town	Taxonomic Group	Scientific Name	Common Name	MESA Status	Federal Status	Most Recent Observation
BROCKTON	Butterfly/Moth	Metarranthis apiciaria	Barrens Metarranthis Moth	E		1909
BROCKTON	Dragonfly/Damselfly	Enallagma laterale	New England Bluet	SC		2003
BROCKTON	Vascular Plant	Liatris scariosa var. novae-angliae	New England Blazing Star	SC		1900
BROCKTON	Vascular Plant	Platanthera flava var. herbiola	Pale Green Orchis	T		1902

Town	Taxonomic Group	Scientific Name	Common Name	MESA Status	Federal Status	Most Recent Observation
BROOKFIELD	Amphibian	Ambystoma laterale	Blue-spotted Salamander	SC		1990

BROOKFIELD	Amphibian	Ambystoma opacum	Marbled Salamander	T	1996
BROOKFIELD	Bird	Bartramia longicauda	Upland Sandpiper	E	Historic
BROOKFIELD	Bird	Botaurus lentiginosus	American Bittern	E	2008
BROOKFIELD	Bird	Cistothorus platensis	Sedge Wren	E	1992
BROOKFIELD	Bird	Haliaeetus leucocephalus	Bald Eagle	E	2008
BROOKFIELD	Bird	Ixobrychus exilis	Least Bittern	E	2007
BROOKFIELD	Bird	Podilymbus podiceps	Pied-billed Grebe	E	1993
BROOKFIELD	Bird	Rallus elegans	King Rail	T	2007
BROOKFIELD	Dragonfly/Damselfly	Rhionaeschna mutata	Spatterdock Darner	SC	2003
BROOKFIELD	Fish	Notropis bifrenatus	Bridle Shiner	SC	2003
BROOKFIELD	Mussel	Alasmidonta undulata	Triangle Floater	SC	1999
BROOKFIELD	Vascular Plant	Carex polymorpha	Variable Sedge	E	2004
BROOKFIELD	Vascular Plant	Clematis occidentalis	Purple Clematis	SC	2007
BROOKFIELD	Vascular Plant	Lipocarpha micrantha	Dwarf Bulrush	T	2007
BROOKFIELD	Vascular Plant	Myriophyllum alterniflorum	Alternate-flowered Water-milfoil	E	1898
BROOKFIELD	Vascular Plant	Poa saltuensis ssp. languida	Drooping Speargrass	E	2000
BROOKFIELD	Vascular Plant	Potamogeton vaseyi	Vasey's Pondweed	E	1998
BROOKFIELD	Vascular Plant	Ranunculus pensylvanicus	Bristly Buttercup	SC	2007
BROOKFIELD	Vascular Plant	Scirpus longii	Long's Bulrush	T	2000

Town	Taxonomic Group	Scientific Name	Common Name	MESA Status	Federal Status	Most Recent Observation
BROOKLINE	Beetle	Cicindela purpurea	Purple Tiger Beetle	SC		Historic
BROOKLINE	Beetle	Cicindela rufiventris hentzii	Hentz's Redbelly Tiger Beetle	T		Historic
BROOKLINE	Bird	Accipiter striatus	Sharp-shinned Hawk	SC		1905
BROOKLINE	Bird	Vermivora chrysoptera	Golden-winged Warbler	E		1932
BROOKLINE	Vascular Plant	Houstonia longifolia	Long-leaved Bluet	E		1897
BROOKLINE	Vascular Plant	Linum medium var. texanum	Rigid Flax	T		1903
BROOKLINE	Vascular Plant	Lipocarpha micrantha	Dwarf Bulrush	T		1902
BROOKLINE	Vascular Plant	Platanthera flava var. herbiola	Pale Green Orchis	T		1912

BROOKLINE	Vascular Plant	Viola brittoniana	Britton's Violet	T		1913

Town	Taxonomic Group	Scientific Name	Common Name	MESA Status	Federal Status	Most Recent Observation
BUCKLAND	Amphibian	Ambystoma jeffersonianum	Jefferson Salamander	SC		1989
BUCKLAND	Beetle	Cicindela duodecimguttata	Twelve-spotted Tiger Beetle	SC		2001
BUCKLAND	Butterfly/Moth	Erora laeta	Early Hairstreak	T		1988
BUCKLAND	Dragonfly/Damselfly	Boyeria grafiana	Ocellated Darner	SC		2004
BUCKLAND	Dragonfly/Damselfly	Gomphus abbreviatus	Spine-crowned Clubtail	E		2004
BUCKLAND	Dragonfly/Damselfly	Neurocordulia yamaskanensis	Stygian Shadowdragon	SC		2004
BUCKLAND	Dragonfly/Damselfly	Rhionaeschna mutata	Spatterdock Darner	SC		2004
BUCKLAND	Fish	Catostomus catostomus	Longnose Sucker	SC		1989
BUCKLAND	Reptile	Glyptemys insculpta	Wood Turtle	SC		2007
BUCKLAND	Vascular Plant	Alnus viridis ssp. crispa	Mountain Alder	T		2004
BUCKLAND	Vascular Plant	Amelanchier sanguinea	Roundleaf Shadbush	SC		1911
BUCKLAND	Vascular Plant	Aplectrum hyemale	Putty-root	E		1904
BUCKLAND	Vascular Plant	Corallorhiza odontorhiza	Autumn Coralroot	SC		2006
BUCKLAND	Vascular Plant	Huperzia selago	Mountain Firmoss	E		1899
BUCKLAND	Vascular Plant	Ophioglossum pusillum	Adder's-tongue Fern	T		1913
BUCKLAND	Vascular Plant	Platanthera dilatata	Leafy White Orchis	T		1932
BUCKLAND	Vascular Plant	Sanicula odorata	Long-styled Sanicle	T		1907
BUCKLAND	Vascular Plant	Symphyotrichum tradescantii	Tradescant's Aster	T		2002

Town	Taxonomic Group	Scientific Name	Common Name	MESA Status	Federal Status	Most Recent Observation
BURLINGTON	Fish	Notropis bifrenatus	Bridle Shiner	SC		1994
BURLINGTON	Reptile	Terrapene carolina	Eastern Box Turtle	SC		1998
BURLINGTON	Vascular Plant	Carex polymorpha	Variable Sedge	E		2008
BURLINGTON	Vascular Plant	Nabalus serpentarius	Lion's Foot	E		1906

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Updated: October 27, 2009

Massachusetts Division of Fisheries and Wildlife, 1 Rabbit Hill Rd, Westborough, MA 01581
Tel: (508) 389-6300; Fax: (508) 389-7890
Natural Heritage & Endangered Species Program Tel: (508) 389-6360; Fax: (508) 389-7891

APPENDIX D

National Register of Historic Places and Massachusetts Historical Commission Documentation

TOTAL P.02

The Commonwealth of Massachusetts

William Francis Galvin, Secretary of the Commonwealth
Massachusetts Historical Commission

2006 AUG -4 P 3:02

July 28, 2006

Secretary Stephen R. Pritchard
Executive Office of Environmental Affairs
Attn.: William Gage, MEPA Unit
100 Cambridge Street, Suite 900
Boston, MA 02114

RE: 70 Francis Street / Brigham Green, Restoration / House Moving, Francis Street and Fenwood Road; Brigham and Women's Hospital and Roxbury Tenants; Boston (Fenway), MA; MHC# RC.28575. EOEA #12644.

Dear Secretary Pritchard:

The Massachusetts Historical Commission has reviewed an updated plan and perspective views for 70 Francis Street, received June 29, 2006, 2005, concerning the proposed project referenced above. As you are aware, the proposed project site is within proximity to Massachusetts Mental Health Center at 74 Fenwood Road, which is listed in the State and National Registers of Historic Places. The Peter Bent Brigham Hospital (MHC# BOS.7497), also within proximity, at 721 Huntington Avenue (also addressed as 15 Francis Street) is included in MHC's Inventory of Historic and Archaeological Assets of the Commonwealth and may be eligible for listing on the National Register of Historic Places (36 CFR 60). The Francis Street and Fenwood Road Area roughly bounded by Binney Street, Francis Street, Huntington Avenue, and Fenwood Road has been determined eligible for listing in the National Register of Historic Places under Criterion C at the local level as a well preserved collection of residential properties.

The project work at 70 Francis Street is the subject of a Memorandum of Agreement (MOA) that was developed and signed to address the adverse effect of the relocation and rehabilitation of six residential structures located at 54, 56, 57, and 68 Francis Street and 71 and 73 Fenwood Road to vacant lots at 51, 53, 54, 55, and 57 Fenwood Road and 36 Francis Street. The proposed project at 70 Francis Street involves the construction of a ten-story building with a below-grade parking facility.

After reviewing the updated plan and perspective views of 70 Francis Street, the MHC has no further comments concerning its design. Should the project plans change, the MHC requests notification in the form of revised plans, elevations, and perspective views as early as possible in the planning process. The MHC encourages the project developer to continue consultation with the Boston Landmarks Commission and the Boston Redevelopment Authority to address any concerns they may have.

These comments are offered to assist in compliance with the terms of the Memorandum of Agreement for the above referenced project; Section 106 of the National Historic Preservation Act of 1966, as amended (36 CFR 800); M.G.L. Chapter 9, Section 26-27C, as amended by Chapter 254 of the Acts of 1988 (950 CMR 71.00); and MEPA (301 CMR 11). Please feel free to contact Ryan Maciej of my staff at this office if you have any questions.

Sincerely,

Brona Simon

Brona Simon
Deputy State Historic Preservation Officer
Massachusetts Historical Commission

xc: Arthur Mombourquette, Brigham and Women's Hospital
Maureen Cavanaugh, Epsilon Associates, Inc.
John Sharratt, John Sharratt Associates, Inc.
Kathryn West, Partners Healthcare System, Inc.
John Dromey, HUD
MHEFA
Boston Landmarks Commission
Harry Collings, Boston Redevelopment Authority

220 Morrissey Boulevard, Boston, Massachusetts 02125
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AUG-10-2006 23:05 BRA-EDIC 6177427783 P.02/02

The Commonwealth of Massachusetts

William Francis Galvin, Secretary of the Commonwealth

Massachusetts Historical Commission

November 10, 2004

Secretary Ellen Roy Herzfelder
Executive Office of Environmental Affairs
Attn.: William Gage, MEPA Unit
251 Causeway Street, Suite 900
Boston, MA 02114

RE: 70 Francis Street / Brigham Green, Restoration / House Moving, Francis Street and Fenwood Road; Brigham and Women's Hospital and Roxbury Tenants; Boston (Fenway), MA; MHC# RC.28575

Dear Secretary Herzfelder:

The Massachusetts Historical Commission has reviewed the requested information Epsilon Associates, Inc., submitted concerning the proposed project referenced above. As you are aware, the proposed project site is within proximity to Massachusetts Mental Health Center at 74 Fenwood Road, which is listed in the State and National Registers of Historic Places. The Peter Bent Brigham Hospital (MHC# BOS.7497), also within proximity, at 721 Huntington Avenue (also addressed as 15 Francis Street) is included in MHC's Inventory of Historic and Archaeological Assets of the Commonwealth and may be eligible for listing on the National Register of Historic Places (36 CFR 60). The Francis Street and Fenwood Road Area roughly bounded by Binney Street, Francis Street, Huntington Avenue, and Fenwood Road has been determined eligible for listing in the National Register of Historic Places under Criterion C at the local level as a well preserved collection of residential properties.

The project work at 70 Francis Street is the subject of a Memorandum of Agreement (MOA) that was developed and signed to address the adverse effect of the relocation and rehabilitation of six residential structures located at 54, 56, 57, and 68 Francis Street and 71 and 73 Fenwood Road to vacant lots at 51, 53, 54, 55, and 57 Fenwood Road and 36 Francis Street. The proposed project involves the construction of a ten-story building with a below-grade parking facility. The proposed project also involves the Brigham Green Enhancement and Parking project.

The MHC understands that Roxbury Tenants of Harvard Association, Inc., will be submitting the documentation of the properties at 54, 56, 57, and 68 Francis Street and 71 and 73 Fenwood Road per Stipulation 1 of the signed MOA. The MHC looks forward to receiving and reviewing the above requested information. The MHC has reviewed the additional information concerning the Biophysics Building and has determined that it is not a contributing element of the Peter Bent Brigham Hospital complex identified above. Concerning the proposed Brigham Green Enhancement and Parking project, no further review by this office is required.

The MHC has also reviewed the additional information concerning the proposed building at 70 Francis Street. The MHC understands that 70 Francis Street is in the conceptual stage of design development and that detailed plans, elevations, and specifications will be submitted to the MHC and Boston Landmarks Commission (BLC) per Stipulation 4 of the MOA when they are available. At this time, the MHC encourages the project proponent to explore the feasibility of reducing the amount of fenestration in the lower levels to reduce light leakage at night in the adjacent historic residential neighborhood and to more closely approximate the solid-to-void ratio in adjacent residential buildings. The MHC also encourages the project proponent to explore the feasibility of locating the Francis Street pedestrian connector underground. The MHC looks forward to continued consultation on this project.

These comments are offered to assist in compliance with the terms of the Memorandum of Agreement for the above referenced project; Section 106 of the National Historic Preservation Act of 1966, as amended (36 CFR 800); M.G.L. Chapter 9, Section 26-27C, as amended by Chapter 254 of the Acts of 1988 (950 CMR 71.00); and MEPA (301 CMR 11). Please feel free to contact Ryan Maciej of my staff at this office if you have any questions.

Sincerely,

Brona Simon

Brona Simon
Deputy State Historic Preservation Officer
Massachusetts Historical Commission

xc: Arthur Mombourquette, Brigham and Women's Hospital
Epsilon Associates, Inc.
John Sharrat, John Sharratt Associates, Inc.
Kathryn West, Partners Healthcare System, Inc.
John Dromey, HUD
MHEFA
Boston Landmarks Commission
Harry Collings, Boston Redevelopment Authority

220 Morrissey Boulevard, Boston, Massachusetts 02125
(617) 727-8470 • Fax: (617) 727-5128
www.state.ma.us/sec/mhc

CS

The Commonwealth of Massachusetts

William Francis Galvin, Secretary of the Commonwealth

Massachusetts Historical Commission

September 22, 2004

Secretary Ellen Roy Herzfelder
Executive Office of Environmental Affairs
Attn.: William Gage, MEPA Unit
251 Causeway Street, Suite 900
Boston, MA 02114

RE: 70 Francis Street / Brigham Green, Restoration / House Moving, Francis Street and Fenwood Road; Brigham and Women's Hospital and Roxbury Tenants; Boston (Fenway), MA; MHC# RC.28575

Dear Secretary Herzfelder:

The Massachusetts Historical Commission has reviewed the information The Brigham and Women's Hospital, Inc., submitted, received August 14, 2004, concerning the proposed project referenced above. The proposed project site is within proximity to Massachusetts Mental Health Center at 74 Fenwood Road, which is listed in the State and National Registers of Historic Places. The Peter Bent Brigham Hospital, also within proximity, at 721 Huntington Avenue (also addressed as 15 Francis Street) is included in MHC's Inventory of Historic and Archaeological Assets of the Commonwealth and may be eligible for listing on the National Register of Historic Places (36 CFR 60). The Francis Street and Fenwood Road Area roughly bounded by Binney Street, Francis Street, Huntington Avenue, and Fenwood Road has been determined eligible for listing in the National Register of Historic Places under Criterion C at the local level as a well preserved collection of residential properties.

The project work at 70 Francis Street is the subject of a Memorandum of Agreement (MOA) that was developed and signed to address the adverse effect of the relocation and rehabilitation of six residential structures located at 54, 56, 57, and 68 Francis Street and 71 and 73 Fenwood Road to vacant lots at 51, 53, 54, 55, and 57 Fenwood Road and 36 Francis Street. After a review of the information submitted, MHC staff have the following comments.

The revised proposed project involves the construction of a ten-story building with a below-grade parking facility. A second story elevated pedestrian bridge will connect the proposed building at 70 Francis Street with the Armory at 75 Francis Street, which will receive façade renovations and partial recladding for hospital entry identification and complex integration enhancement. The proposed project also involves the Brigham Green Enhancement and Parking project, which involves creating a landscaped open space in front of the Peter Bent Brigham Hospital building at 15 Francis Street, by removing existing surface parking and the Biophysics Building, and creating approximately 400 parking spaces within up to four below-grade parking levels under the green.

The MHC requests the submission of the documentation of the properties at 54, 56, 57, and 68 Francis Street and 71 and 73 Fenwood Road per Stipulation 1 of the signed MOA. The MHC also requests current detailed original photographs of the Biophysics building keyed to a sketch map, to assist MHC in determining if the Biophysics Building now proposed for demolition is part of the complex identified in MHC's Inventory of Historic and Archaeological Assets of the Commonwealth as the Peter Bent Brigham Hospital. The MHC also requests specifications, detailed elevations, and before-and-after perspectives (taken from different vantage points) of the proposed building at 70 Francis Street. The MHC looks forward to receiving and reviewing the above requested information.

These comments are offered to assist in compliance with the terms of the Memorandum of Agreement for the above referenced project; Section 106 of the National Historic Preservation Act of 1966, as amended (36 CFR 800); M.G.L. Chapter 9, Section 26-27C, as amended by Chapter 254 of the Acts of 1988 (950 CMR 71.00); and MEPA (301 CMR 11). Please feel free to contact Ryan Maciej of my staff at this office if you have any questions.

Sincerely,

Brona Simon

Brona Simon
Deputy State Historic Preservation Officer
Massachusetts Historical Commission

xc: Arthur Mombourquette, Brigham and Women's Hospital
Epsilon Associates, Inc.
John Sharrat, John Sharratt Associates, Inc.
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MHEFA
Boston Landmarks Commission
Harry Collings, Boston Redevelopment Authority

220 Morrissey Boulevard, Boston, Massachusetts 02125
(617) 727-8470 • Fax: (617) 727-5128
www.state.ma.us/sec/mhc

Massachusetts Historical Commission

William Francis Galvin, Secretary of the Commonwealth

Massachusetts Cultural Resource Information System

MACRIS

Scanned forms and photos now available for selected towns!

The Massachusetts Cultural Resource Information System (MACRIS) allows you to search the Massachusetts Historical Commission database for information on historic properties and areas in the Commonwealth.

Users of the database should keep in mind that it does not include information on all historic properties and areas in Massachusetts, nor does it reflect all the information on file on historic properties and areas at the Massachusetts Historical Commission.

Click here to begin your search of the MACRIS database.

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For more information about this page and how to use it, click here.

Inventory No:	BOS.7497
Historic Name:	Brigham, Peter Bent Hospital
Common Name:	Brigham and Women's Hospital
Address:	721 Huntington Ave
City/Town:	Boston
Village/Neighborhood:	Fenway - Longwood; Fenway
Local No:	525
Year Constructed:	1911
Architect(s):	Codman and Despradelle
Architectural Style(s):	Classical Revival
Use(s):	Hospital
Significance:	Architecture; Education; Health Medicine; Science
Area(s):	
Designation(s):	

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Inventory No:	BOS.7419
Historic Name:	Crowley, Daniel Apartment Building
Common Name:	
Address:	30 Francis St
City/Town:	Boston
Village/Neighborhood:	Fenway - Longwood; Fenway
Local No:	36
Year Constructed:	R 1900
Architect(s):	
Architectural Style(s):	Colonial Revival
Use(s):	Apartment House
Significance:	Architecture
Area(s):	
Designation(s):	

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Inventory No:	BOS.7421
Historic Name:	Ilse, Fredericka Three Decker
Common Name:	O'Neil Three Decker
Address:	50 Francis St
City/Town:	Boston
Village/Neighborhood:	Fenway - Longwood; Fenway
Local No:	37
Year Constructed:	1900
Architect(s):	Spillane, Jeremiah C.
Architectural Style(s):	Colonial Revival; Triple-decker
Use(s):	Multiple Family Dwelling House
Significance:	Architecture
Area(s):	
Designation(s):	

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Inventory No:	BOS.7422
Historic Name:	Dooley, Rose H. Three Decker
Common Name:	
Address:	56 Francis St
City/Town:	Boston
Village/Neighborhood:	Fenway - Longwood; Fenway
Local No:	38
Year Constructed:	C 1901
Architect(s):	Spillane, Jeremiah C.
Architectural Style(s):	Colonial Revival; Triple-decker
Use(s):	Multiple Family Dwelling House
Significance:	Architecture
Area(s):	
Designation(s):	

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Inventory No:	BOS.7423
Historic Name:	Donovan, Jereh Three Decker
Common Name:	
Address:	58 Francis St
City/Town:	Boston
Village/Neighborhood:	Fenway - Longwood; Fenway
Local No:	38
Year Constructed:	1901
Architect(s):	Spillane, Jeremiah C.
Architectural Style(s):	Colonial Revival; Triple-decker
Use(s):	Multiple Family Dwelling House
Significance:	Architecture
Area(s):	
Designation(s):	

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Inventory No:	BOS.7851
Historic Name:	Geiger, Albert Row House
Common Name:	Twomey, Hannah M. Row House
Address:	698 Huntington Ave
City/Town:	Boston
Village/Neighborhood:	Parker Hill - Mission Hill; Mission Hill North Slope
Local No:	81
Year Constructed:	1888
Architect(s):	Besarick, John H.; Bosquet and Pepin
Architectural Style(s):	Queen Anne; Row House
Use(s):	Single Family Dwelling House
Significance:	Architecture
Area(s):	BOS.JJ: Mission Hill Triangle Historic District
Designation(s):	Local Landmark (6/25/1985); Nat'l Register District (11/6/1989)

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Inventory No:	BOS.7852
Historic Name:	Geiger, Albert Row House
Common Name:	Scannel, R. F. Row House
Address:	700 Huntington Ave
City/Town:	Boston
Village/Neighborhood:	Parker Hill - Mission Hill; Mission Hill North Slope
Local No:	81
Year Constructed:	1888
Architect(s):	Besarick, John H.; Bosquet and Pepin
Architectural Style(s):	Queen Anne; Row House
Use(s):	Single Family Dwelling House
Significance:	Architecture
Area(s):	BOS.JJ: Mission Hill Triangle Historic District
Designation(s):	Local Landmark (6/25/1985); Nat'l Register District (11/6/1989)

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Inventory No:	BOS.7853
Historic Name:	Geiger, Albert Row House
Common Name:	Gunsenheiser, Abraham Row House
Address:	702 Huntington Ave
City/Town:	Boston
Village/Neighborhood:	Parker Hill - Mission Hill; Mission Hill North Slope
Local No:	81
Year Constructed:	1888
Architect(s):	Besarick, John H.; Bosquet and Pepin
Architectural Style(s):	Queen Anne; Row House
Use(s):	Single Family Dwelling House
Significance:	Architecture
Area(s):	BOS.JJ: Mission Hill Triangle Historic District
Designation(s):	Local Landmark (6/25/1985); Nat'l Register District (11/6/1989)

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Inventory No:	BOS.7854
Historic Name:	Geiger, Albert Row House
Common Name:	Hyneman, Berkhardt Row House
Address:	704 Huntington Ave
City/Town:	Boston
Village/Neighborhood:	Parker Hill - Mission Hill; Mission Hill North Slope
Local No:	81
Year Constructed:	1888
Architect(s):	Besarick, John H.; Bosquet and Pepin
Architectural Style(s):	Queen Anne; Row House
Use(s):	Single Family Dwelling House
Significance:	Architecture
Area(s):	BOS.JJ: Mission Hill Triangle Historic District
Designation(s):	Local Landmark (6/25/1985); Nat'l Register District (11/6/1989)

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Inventory No:	BOS.7855
Historic Name:	Helvetia, The
Common Name:	Brigham Hospital Dormitory and Business Office
Address:	706-712 Huntington Ave
City/Town:	Boston
Village/Neighborhood:	Parker Hill - Mission Hill; Mission Hill North Slope
Local No:	82
Year Constructed:	1885
Architect(s):	Geiger, Albert
Architectural Style(s):	Queen Anne
Use(s):	Apartment House; Business Office; Dormitory; Other Commercial
Significance:	Architecture; Commerce; Health Medicine
Area(s):	BOS.JJ: Mission Hill Triangle Historic District
Designation(s):	Local Landmark (6/25/1985); Nat'l Register District (11/6/1989)

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Inventory No:	BOS.7498
Historic Name:	Harmon, James Apartment House
Common Name:	
Address:	733-739 Huntington Ave
City/Town:	Boston
Village/Neighborhood:	Fenway - Longwood; Fenway
Local No:	406A
Year Constructed:	1899
Architect(s):	Harmon, James; Rantin, Samuel and Son
Architectural Style(s):	Classical Revival
Use(s):	Apartment House; Commercial Block
Significance:	Architecture; Commerce
Area(s):	
Designation(s):	

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For more information about this page and how to use it, click here.

Inventory No:	BOS.7499
Historic Name:	Lyons, L. J. Apartment House
Common Name:	
Address:	741-747 Huntington Ave
City/Town:	Boston
Village/Neighborhood:	Fenway - Longwood; Fenway
Local No:	406A
Year Constructed:	1899
Architect(s):	Emhoff, Joe; Gey Brothers; Russell, Cornelius A.
Architectural Style(s):	Classical Revival
Use(s):	Apartment House; Commercial Block
Significance:	Architecture; Commerce
Area(s):	
Designation(s):	

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National Register of Historic Places Program: Research

The National Register of Historic Places is the official list of the Nation's historic places worthy of preservation. Authorized by the National Historic Preservation Act of 1966, the National Park Service's National Register of Historic Places is part of a national program to coordinate and support public and private efforts to identify, evaluate, and protect America's historic and archeological resources.

To search for properties listed in the National Register use the

National Register of Historic Places database

Since its inception in 1966, more than 80,000 properties have been listed in the National Register. Together these records hold information on more than 1.4 million individual resources--buildings, sites, districts, structures, and objects--and therefore provide a link to the country's heritage at the national, state, and local levels.

The Documentation consists of

• National Register registration form, which provides a physical description of the place, information about its history and significance, and a bibliography.

• Photographs
• Maps (We are plotting our properties into Google Earth layers)

• Use of photographs and forms is available under Fair Use, see our Content and Copyright page for more information

Examine sample National Register nominations by looking at our Sample Nominations page or a highlighted property in our weekly list.

Research our Collection:

• We are currently digitizing our records and have put many of them online in our database at: http://nrhp.focus.nps.gov/

• Our database contains digitized files for National Historic Landmarks, National Park properties that are listed in the National Register, Multiple Property (MPS) Covers, and the files for many states.

• The download center has many useful finding aids: for historic contexts (MPS Covers), all listed properties, and Determinations of Eligibility.

• Visit our archives. Open Monday through Friday 9:00am to noon. For security reasons, an appointment is necessary to access our building. To schedule an appointment please contact Jeff Joeckel: 202-354-2225 or e-mail

• Many State Historic Preservation Offices (SHPOs) have digitized their files and put them online. The depth of information available varies from state to state, but ranges from basic locational information to searchable databases with downloadable narrative descriptions and photos. You can check their websites to see if they have the information you need. List of SHPOs extended information.

• Request copies of individual nominations either via e-mailplease include your mailing address and the property name, county, and state. or postal mail:
National Register of Historic Places
National Park Service
1849 C St., NW (MS 2280)
Washington, DC 20240

Please note, due to irradiation of USPS mail in Washington, DC, we recommend sending official correspondence to us by direct or overnight mail at the following address:

1201 Eye St., NW
8th Floor (MS 2280)
Washington, DC 20005

Quicklinks

- Search the National Register Database
- Find out what we listed this past week
- What's New / Features / Calendar of Events

Find Out About: Bethel Baptist Church, Parsonage, and Guard House
Even dynamite couldn't stop this Birmingham , Alabama , community! Here you can explore the infamous Bethel Baptist Church and its prominent place in Civil Rights history.

APPENDIX E

Boston Water and Sewer Commission
Dewatering Permit Application

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

DEWATERING DISCHARGE PERMIT APPLICATION

OWNER / AUTHORIZED APPLICANT PROVIDE INFORMATION HERE:

Company Name: BRIGHAM AND WOMEN'S HOSPITAL Address: 20 KENT STREET

Phone number: 617.730.3694 Fax number: 617.730.3697

Contact person name: JOSEPH O'FARRELL Title: SENIOR PROJECT MANAGER

Cell number: 617.730.3694 Email address: JOFARRELL@PARTNERS.ORG

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: 15 FRANCIS STREET Neighborhood BOSTON/LONGWOOD MEDICAL AREA

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

Describe Proposed Pre-Treatment System(s): SEDIMENTATION TANK, BAG FILTERS (IF NECESSARY), GRANULATED ACTIVATED CARBON, pH REGULATOR

BWSC Outfall No. 046 Receiving Waters MUDDY RIVER`

Temporary Discharges (Provide Anticipated Dates of Discharge): From APRIL 2012 To NOVEMBER 2013

- ☐ Groundwater Remediation
- ☐ Utility/Manhole Pumping
- ☐ Accumulated Surface Water
- ☐ Tank Removal/Installation
- ☐ Test Pipe
- ☐ Hydrogeologic Testing
- ☒ Foundation Excavation
- ☒ Trench Excavation
- ☐ Other _____

Permanent Discharges

- ☐ Foundation Drainage
- ☐ Accumulated Surface Water
- ☐ Non-contact/Uncontaminated Process
- ☐ Crawl Space/Footing Drain
- ☐ Non-contact/Uncontaminated Cooling
- ☐ 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 F

Laboratory Data Reports

ANALYTICAL REPORT

Lab Number:	L1119648
Client:	Haley & Aldrich, Inc. 465 Medford Street, Suite 2200 Charlestown, MA 02129-1400
ATTN:	Mark Balfe
Phone:	(617) 886-7304
Project Name:	BRIGHAM GREEN PARKING FACILITY
Project Number:	37608-030
Report Date:	12/20/11

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: BRIGHAM GREEN PARKING FACILITY
Project Number: 37608-030

Lab Number: L1119648
Report Date: 12/20/11

Alpha Sample ID	Client ID	Sample Location	Collection Date/Time
L1119648-01	HA-C4 (OW-D)	Not Specified	11/23/11 11:12
L1119648-02	TRIP BLANK	Not Specified	11/23/11 00:00

Project Name: BRIGHAM GREEN PARKING FACILITY **Lab Number:** L1119648
Project Number: 37608-030 **Report Date:** 12/20/11

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 December 2, 2011. 1,4-Dioxane is now included in the Volatile Organics analysis.

Volatile Organics

L1119648-01 has elevated detection limits due to the dilution required by the elevated concentrations of target compounds in the sample.

Semivolatile Organics

The WG504463-2/-3 LCSD recoveries, associated with L1119648-01, were above the acceptance criteria for 2,4-Dinitrotoluene (LCSD at 103%), P-Chloro-M-Cresol (98%/100%), and Pentachlorophenol (105%/105%); however, the associated sample was non-detect for these target compounds. The results of the original

Project Name:	BRIGHAM GREEN PARKING FACILITY	**Lab Number:**	L1119648
Project Number:	37608-030	**Report Date:**	12/20/11

Case Narrative (continued)

analysis are reported.

Metals

L1119648-01 has elevated detection limits for all analytes, with the exception of Iron, Mercury, and Nickel, due to the dilutions required by the high concentrations of non-target analytes. The requested reporting limits were not achieved.

L1119648-01 has an elevated detection limit for Nickel due to the dilution required by the high concentrations of non-target analytes. The requested reporting limits were achieved.

Chloride

L1119648-01 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: Lisa Westerlind

Title: Technical Director/Representative Date: 12/20/11

ORGANICS

VOLATILES

Project Name: BRIGHAM GREEN PARKING FACILITY **Lab Number:** L1119648

Project Number: 37608-030 **Report Date:** 12/20/11

SAMPLE RESULTS

Lab ID:	L1119648-01	Date Collected:	11/23/11 11:12
Client ID:	HA-C4 (OW-D)	Date Received:	11/23/11
Sample Location:	Not Specified	Field Prep:	Not Specified
Matrix:	Water		
Analytical Method:	14,504.1		
Analytical Date:	11/30/11 16:24		
Analyst:	SS		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Pesticides by GC - Westborough Lab						
1,2-Dibromoethane	ND		ug/l	0.0090	--	1
1,2-Dibromo-3-chloropropane	ND		ug/l	0.0090	--	1

Project Name: BRIGHAM GREEN PARKING FACILITY **Lab Number:** L1119648

Project Number: 37608-030 **Report Date:** 12/20/11

SAMPLE RESULTS

Lab ID:	L1119648-01	D	Date Collected:	11/23/11 11:12
Client ID:	HA-C4 (OW-D)		Date Received:	11/23/11
Sample Location:	Not Specified		Field Prep:	Not Specified
Matrix:	Water			
Analytical Method:	1,8260B			
Analytical Date:	11/28/11 12:24			
Analyst:	PD			

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	6.0	--	2
1,1-Dichloroethane	ND		ug/l	1.5	--	2
Chloroform	ND		ug/l	1.5	--	2
Carbon tetrachloride	ND		ug/l	1.0	--	2
1,2-Dichloropropane	ND		ug/l	3.5	--	2
Dibromochloromethane	ND		ug/l	1.0	--	2
1,1,2-Trichloroethane	ND		ug/l	1.5	--	2
Tetrachloroethene	120		ug/l	1.0	--	2
Chlorobenzene	ND		ug/l	1.0	--	2
Trichlorofluoromethane	ND		ug/l	5.0	--	2
1,2-Dichloroethane	ND		ug/l	1.0	--	2
1,1,1-Trichloroethane	ND		ug/l	1.0	--	2
Bromodichloromethane	ND		ug/l	1.0	--	2
trans-1,3-Dichloropropene	ND		ug/l	1.0	--	2
cis-1,3-Dichloropropene	ND		ug/l	1.0	--	2
1,1-Dichloropropene	ND		ug/l	5.0	--	2
Bromoform	ND		ug/l	4.0	--	2
1,1,2,2-Tetrachloroethane	ND		ug/l	1.0	--	2
Benzene	ND		ug/l	1.0	--	2
Toluene	ND		ug/l	1.5	--	2
Ethylbenzene	ND		ug/l	1.0	--	2
Chloromethane	ND		ug/l	5.0	--	2
Bromomethane	ND		ug/l	2.0	--	2
Vinyl chloride	ND		ug/l	2.0	--	2
Chloroethane	ND		ug/l	2.0	--	2
1,1-Dichloroethene	ND		ug/l	1.0	--	2
trans-1,2-Dichloroethene	ND		ug/l	1.5	--	2
Trichloroethene	11		ug/l	1.0	--	2
1,2-Dichlorobenzene	ND		ug/l	5.0	--	2
1,3-Dichlorobenzene	ND		ug/l	5.0	--	2
1,4-Dichlorobenzene	ND		ug/l	5.0	--	2

Project Name: BRIGHAM GREEN PARKING FACILITY **Lab Number:** L1119648

Project Number: 37608-030 **Report Date:** 12/20/11

SAMPLE RESULTS

Lab ID: L1119648-01 D Date Collected: 11/23/11 11:12

Client ID: HA-C4 (OW-D) Date Received: 11/23/11

Sample Location: Not Specified Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methyl tert butyl ether	ND		ug/l	2.0	--	2
p/m-Xylene	ND		ug/l	2.0	--	2
o-Xylene	ND		ug/l	2.0	--	2
cis-1,2-Dichloroethene	15		ug/l	1.0	--	2
Dibromomethane	ND		ug/l	10	--	2
1,4-Dichlorobutane	ND		ug/l	10	--	2
1,2,3-Trichloropropane	ND		ug/l	10	--	2
Styrene	ND		ug/l	2.0	--	2
Dichlorodifluoromethane	ND		ug/l	10	--	2
Acetone	ND		ug/l	10	--	2
Carbon disulfide	ND		ug/l	10	--	2
2-Butanone	ND		ug/l	10	--	2
Vinyl acetate	ND		ug/l	10	--	2
4-Methyl-2-pentanone	ND		ug/l	10	--	2
2-Hexanone	ND		ug/l	10	--	2
Ethyl methacrylate	ND		ug/l	10	--	2
Acrylonitrile	ND		ug/l	10	--	2
Bromochloromethane	ND		ug/l	5.0	--	2
Tetrahydrofuran	ND		ug/l	10	--	2
2,2-Dichloropropane	ND		ug/l	5.0	--	2
1,2-Dibromoethane	ND		ug/l	4.0	--	2
1,3-Dichloropropane	ND		ug/l	5.0	--	2
1,1,1,2-Tetrachloroethane	ND		ug/l	1.0	--	2
Bromobenzene	ND		ug/l	5.0	--	2
n-Butylbenzene	ND		ug/l	1.0	--	2
sec-Butylbenzene	ND		ug/l	1.0	--	2
tert-Butylbenzene	ND		ug/l	5.0	--	2
o-Chlorotoluene	ND		ug/l	5.0	--	2
p-Chlorotoluene	ND		ug/l	5.0	--	2
1,2-Dibromo-3-chloropropane	ND		ug/l	5.0	--	2
Hexachlorobutadiene	ND		ug/l	1.0	--	2
Isopropylbenzene	ND		ug/l	1.0	--	2
p-Isopropyltoluene	ND		ug/l	1.0	--	2
Naphthalene	ND		ug/l	5.0	--	2
n-Propylbenzene	ND		ug/l	1.0	--	2
1,2,3-Trichlorobenzene	ND		ug/l	5.0	--	2
1,2,4-Trichlorobenzene	ND		ug/l	5.0	--	2
1,3,5-Trimethylbenzene	ND		ug/l	5.0	--	2
1,2,4-Trimethylbenzene	ND		ug/l	5.0	--	2

Project Name: BRIGHAM GREEN PARKING FACILITY **Lab Number:** L1119648

Project Number: 37608-030 **Report Date:** 12/20/11

SAMPLE RESULTS

Lab ID:	L1119648-01	D	Date Collected:	11/23/11 11:12
Client ID:	HA-C4 (OW-D)		Date Received:	11/23/11
Sample Location:	Not Specified		Field Prep:	Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
trans-1,4-Dichloro-2-butene	ND		ug/l	5.0	--	2
Ethyl ether	ND		ug/l	5.0	--	2
Tert-Butyl Alcohol	ND		ug/l	20	--	2
Tertiary-Amyl Methyl Ether	ND		ug/l	4.0	--	2
1,4-Dioxane	ND		ug/l	500	--	2

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	105		70-130
Toluene-d8	106		70-130
4-Bromofluorobenzene	104		70-130
Dibromofluoromethane	98		70-130

Project Name: BRIGHAM GREEN PARKING FACILITY **Lab Number:** L1119648

Project Number: 37608-030 **Report Date:** 12/20/11

SAMPLE RESULTS

Lab ID:	L1119648-02	Date Collected:	11/23/11 00:00
Client ID:	TRIP BLANK	Date Received:	11/23/11
Sample Location:	Not Specified	Field Prep:	Not Specified
Matrix:	Water		
Analytical Method:	1,8260B		
Analytical Date:	11/28/11 12:49		
Analyst:	PD		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	3.0	--	1
1,1-Dichloroethane	ND		ug/l	0.75	--	1
Chloroform	ND		ug/l	0.75	--	1
Carbon tetrachloride	ND		ug/l	0.50	--	1
1,2-Dichloropropane	ND		ug/l	1.8	--	1
Dibromochloromethane	ND		ug/l	0.50	--	1
1,1,2-Trichloroethane	ND		ug/l	0.75	--	1
Tetrachloroethene	ND		ug/l	0.50	--	1
Chlorobenzene	ND		ug/l	0.50	--	1
Trichlorofluoromethane	ND		ug/l	2.5	--	1
1,2-Dichloroethane	ND		ug/l	0.50	--	1
1,1,1-Trichloroethane	ND		ug/l	0.50	--	1
Bromodichloromethane	ND		ug/l	0.50	--	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	--	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	--	1
1,1-Dichloropropene	ND		ug/l	2.5	--	1
Bromoform	ND		ug/l	2.0	--	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	--	1
Benzene	ND		ug/l	0.50	--	1
Toluene	ND		ug/l	0.75	--	1
Ethylbenzene	ND		ug/l	0.50	--	1
Chloromethane	ND		ug/l	2.5	--	1
Bromomethane	ND		ug/l	1.0	--	1
Vinyl chloride	ND		ug/l	1.0	--	1
Chloroethane	ND		ug/l	1.0	--	1
1,1-Dichloroethene	ND		ug/l	0.50	--	1
trans-1,2-Dichloroethene	ND		ug/l	0.75	--	1
Trichloroethene	ND		ug/l	0.50	--	1
1,2-Dichlorobenzene	ND		ug/l	2.5	--	1
1,3-Dichlorobenzene	ND		ug/l	2.5	--	1
1,4-Dichlorobenzene	ND		ug/l	2.5	--	1

Project Name: BRIGHAM GREEN PARKING FACILITY **Lab Number:** L1119648

Project Number: 37608-030 **Report Date:** 12/20/11

SAMPLE RESULTS

Lab ID: L1119648-02 Date Collected: 11/23/11 00:00

Client ID: TRIP BLANK Date Received: 11/23/11

Sample Location: Not Specified Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methyl tert butyl ether	ND		ug/l	1.0	--	1
p/m-Xylene	ND		ug/l	1.0	--	1
o-Xylene	ND		ug/l	1.0	--	1
cis-1,2-Dichloroethene	ND		ug/l	0.50	--	1
Dibromomethane	ND		ug/l	5.0	--	1
1,4-Dichlorobutane	ND		ug/l	5.0	--	1
1,2,3-Trichloropropane	ND		ug/l	5.0	--	1
Styrene	ND		ug/l	1.0	--	1
Dichlorodifluoromethane	ND		ug/l	5.0	--	1
Acetone	ND		ug/l	5.0	--	1
Carbon disulfide	ND		ug/l	5.0	--	1
2-Butanone	ND		ug/l	5.0	--	1
Vinyl acetate	ND		ug/l	5.0	--	1
4-Methyl-2-pentanone	ND		ug/l	5.0	--	1
2-Hexanone	ND		ug/l	5.0	--	1
Ethyl methacrylate	ND		ug/l	5.0	--	1
Acrylonitrile	ND		ug/l	5.0	--	1
Bromochloromethane	ND		ug/l	2.5	--	1
Tetrahydrofuran	ND		ug/l	5.0	--	1
2,2-Dichloropropane	ND		ug/l	2.5	--	1
1,2-Dibromoethane	ND		ug/l	2.0	--	1
1,3-Dichloropropane	ND		ug/l	2.5	--	1
1,1,1,2-Tetrachloroethane	ND		ug/l	0.50	--	1
Bromobenzene	ND		ug/l	2.5	--	1
n-Butylbenzene	ND		ug/l	0.50	--	1
sec-Butylbenzene	ND		ug/l	0.50	--	1
tert-Butylbenzene	ND		ug/l	2.5	--	1
o-Chlorotoluene	ND		ug/l	2.5	--	1
p-Chlorotoluene	ND		ug/l	2.5	--	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	--	1
Hexachlorobutadiene	ND		ug/l	0.50	--	1
Isopropylbenzene	ND		ug/l	0.50	--	1
p-Isopropyltoluene	ND		ug/l	0.50	--	1
Naphthalene	ND		ug/l	2.5	--	1
n-Propylbenzene	ND		ug/l	0.50	--	1
1,2,3-Trichlorobenzene	ND		ug/l	2.5	--	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5	--	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	--	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	--	1

Project Name: BRIGHAM GREEN PARKING FACILITY **Lab Number:** L1119648

Project Number: 37608-030 **Report Date:** 12/20/11

SAMPLE RESULTS

Lab ID:	L1119648-02	Date Collected:	11/23/11 00:00
Client ID:	TRIP BLANK	Date Received:	11/23/11
Sample Location:	Not Specified	Field Prep:	Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	--	1
Ethyl ether	ND		ug/l	2.5	--	1
Tert-Butyl Alcohol	ND		ug/l	10	--	1
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0	--	1
1,4-Dioxane	ND		ug/l	250	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	106		70-130
Toluene-d8	108		70-130
4-Bromofluorobenzene	103		70-130
Dibromofluoromethane	101		70-130

Project Name: BRIGHAM GREEN PARKING FACILITY **Lab Number:** L1119648

Project Number: 37608-030 **Report Date:** 12/20/11

SAMPLE RESULTS

Lab ID:	L1119648-02	Date Collected:	11/23/11 00:00
Client ID:	TRIP BLANK	Date Received:	11/23/11
Sample Location:	Not Specified	Field Prep:	Not Specified
Matrix:	Water		
Analytical Method:	14,504.1		
Analytical Date:	11/30/11 16:40		
Analyst:	SS		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Pesticides by GC - Westborough Lab						
1,2-Dibromoethane	ND		ug/l	0.010	--	1
1,2-Dibromo-3-chloropropane	ND		ug/l	0.010	--	1

Project Name: BRIGHAM GREEN PARKING FACILITY **Lab Number:** L1119648

Project Number: 37608-030 **Report Date:** 12/20/11

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260B
Analytical Date: 11/28/11 10:42
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-02 Batch: WG504751-3					
Methylene chloride	ND		ug/l	3.0	--
1,1-Dichloroethane	ND		ug/l	0.75	--
Chloroform	ND		ug/l	0.75	--
Carbon tetrachloride	ND		ug/l	0.50	--
1,2-Dichloropropane	ND		ug/l	1.8	--
Dibromochloromethane	ND		ug/l	0.50	--
1,1,2-Trichloroethane	ND		ug/l	0.75	--
Tetrachloroethene	ND		ug/l	0.50	--
Chlorobenzene	ND		ug/l	0.50	--
Trichlorofluoromethane	ND		ug/l	2.5	--
1,2-Dichloroethane	ND		ug/l	0.50	--
1,1,1-Trichloroethane	ND		ug/l	0.50	--
Bromodichloromethane	ND		ug/l	0.50	--
trans-1,3-Dichloropropene	ND		ug/l	0.50	--
cis-1,3-Dichloropropene	ND		ug/l	0.50	--
1,1-Dichloropropene	ND		ug/l	2.5	--
Bromoform	ND		ug/l	2.0	--
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	--
Benzene	ND		ug/l	0.50	--
Toluene	ND		ug/l	0.75	--
Ethylbenzene	ND		ug/l	0.50	--
Chloromethane	ND		ug/l	2.5	--
Bromomethane	ND		ug/l	1.0	--
Vinyl chloride	ND		ug/l	1.0	--
Chloroethane	ND		ug/l	1.0	--
1,1-Dichloroethene	ND		ug/l	0.50	--
trans-1,2-Dichloroethene	ND		ug/l	0.75	--
Trichloroethene	ND		ug/l	0.50	--
1,2-Dichlorobenzene	ND		ug/l	2.5	--
1,3-Dichlorobenzene	ND		ug/l	2.5	--
1,4-Dichlorobenzene	ND		ug/l	2.5	--

Project Name: BRIGHAM GREEN PARKING FACILITY **Lab Number:** L1119648

Project Number: 37608-030 **Report Date:** 12/20/11

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260B
Analytical Date: 11/28/11 10:42
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-02 Batch: WG504751-3					
Methyl tert butyl ether	ND		ug/l	1.0	--
p/m-Xylene	ND		ug/l	1.0	--
o-Xylene	ND		ug/l	1.0	--
cis-1,2-Dichloroethene	ND		ug/l	0.50	--
Dibromomethane	ND		ug/l	5.0	--
1,4-Dichlorobutane	ND		ug/l	5.0	--
1,2,3-Trichloropropane	ND		ug/l	5.0	--
Styrene	ND		ug/l	1.0	--
Dichlorodifluoromethane	ND		ug/l	5.0	--
Acetone	ND		ug/l	5.0	--
Carbon disulfide	ND		ug/l	5.0	--
2-Butanone	ND		ug/l	5.0	--
Vinyl acetate	ND		ug/l	5.0	--
4-Methyl-2-pentanone	ND		ug/l	5.0	--
2-Hexanone	ND		ug/l	5.0	--
Ethyl methacrylate	ND		ug/l	5.0	--
Acrylonitrile	ND		ug/l	5.0	--
Bromochloromethane	ND		ug/l	2.5	--
Tetrahydrofuran	ND		ug/l	5.0	--
2,2-Dichloropropane	ND		ug/l	2.5	--
1,2-Dibromoethane	ND		ug/l	2.0	--
1,3-Dichloropropane	ND		ug/l	2.5	--
1,1,1,2-Tetrachloroethane	ND		ug/l	0.50	--
Bromobenzene	ND		ug/l	2.5	--
n-Butylbenzene	ND		ug/l	0.50	--
sec-Butylbenzene	ND		ug/l	0.50	--
tert-Butylbenzene	ND		ug/l	2.5	--
o-Chlorotoluene	ND		ug/l	2.5	--
p-Chlorotoluene	ND		ug/l	2.5	--
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	--
Hexachlorobutadiene	ND		ug/l	0.50	--

Project Name: BRIGHAM GREEN PARKING FACILITY **Lab Number:** L1119648

Project Number: 37608-030 **Report Date:** 12/20/11

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260B
Analytical Date: 11/28/11 10:42
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-02 Batch: WG504751-3					
Isopropylbenzene	ND		ug/l	0.50	--
p-Isopropyltoluene	ND		ug/l	0.50	--
Naphthalene	ND		ug/l	2.5	--
n-Propylbenzene	ND		ug/l	0.50	--
1,2,3-Trichlorobenzene	ND		ug/l	2.5	--
1,2,4-Trichlorobenzene	ND		ug/l	2.5	--
1,3,5-Trimethylbenzene	ND		ug/l	2.5	--
1,3,5-Trichlorobenzene	ND		ug/l	2.0	--
1,2,4-Trimethylbenzene	ND		ug/l	2.5	--
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	--
Ethyl ether	ND		ug/l	2.5	--
Isopropyl Ether	ND		ug/l	2.0	--
Tert-Butyl Alcohol	ND		ug/l	10	--
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.0	--
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0	--
1,4-Dioxane	ND		ug/l	250	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	106		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	101		70-130
Dibromofluoromethane	100		70-130

Project Name: BRIGHAM GREEN PARKING FACILITY **Lab Number:** L1119648

Project Number: 37608-030 **Report Date:** 12/20/11

Method Blank Analysis
Batch Quality Control

Analytical Method: 14,504.1
Analytical Date: 11/30/11 14:04
Analyst: SS

Extraction Date: 11/30/11 11:00

Parameter	Result	Qualifier	Units	RL	MDL
Pesticides by GC - Westborough Lab for sample(s): 01-02 Batch: WG505365-1					
1,2-Dibromoethane	ND		ug/l	0.010	--
1,2-Dibromo-3-chloropropane	ND		ug/l	0.010	--

Lab Control Sample Analysis

Batch Quality Control

Project Name: BRIGHAM GREEN PARKING FACILITY

Project Number: 37608-030

Lab Number: L1119648

Report Date: 12/20/11

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: WG504751-1 WG504751-2								
Chlorobenzene	90		92		75-130	2		25
Benzene	116		126		76-127	8		25
Toluene	90		92		76-125	2		25
1,1-Dichloroethene	111		122		61-145	9		25
Trichloroethene	115		119		71-120	3		25

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	98		103		70-130
Toluene-d8	88		85		70-130
4-Bromofluorobenzene	98		98		70-130
Dibromofluoromethane	103		103		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: BRIGHAM GREEN PARKING FACILITY

Project Number: 37608-030

Lab Number: L1119648

Report Date: 12/20/11

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Pesticides by GC - Westborough Lab Associated sample(s): 01-02 Batch: WG505365-2								
1,2-Dibromoethane	100		-		70-130	-		20
1,2-Dibromo-3-chloropropane	111		-		70-130	-		20

Matrix Spike Analysis
Batch Quality Control

Project Name: BRIGHAM GREEN PARKING FACILITY
Project Number: 37608-030

Lab Number: L1119648
Report Date: 12/20/11

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Pesticides by GC - Westborough Lab Associated sample(s): 01-02 QC Batch ID: WG505365-3 QC Sample: L1119444-01 Client ID: MS Sample												
1,2-Dibromoethane	ND	0.245	0.249	101		-	-		70-130	-		20
1,2-Dibromo-3-chloropropane	ND	0.245	0.270	110		-	-		70-130	-		20

SEMIVOLATILES

Project Name: BRIGHAM GREEN PARKING FACILITY **Lab Number:** L1119648

Project Number: 37608-030 **Report Date:** 12/20/11

SAMPLE RESULTS

Lab ID:	L1119648-01	Date Collected:	11/23/11 11:12
Client ID:	HA-C4 (OW-D)	Date Received:	11/23/11
Sample Location:	Not Specified	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8270C	Extraction Date:	11/25/11 22:48
Analytical Date:	11/28/11 10:20		
Analyst:	JC		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PAHs by GC/MS-SIM - Westborough Lab						
Acenaphthene	ND		ug/l	0.20	--	1
2-Chloronaphthalene	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
1-Methylnaphthalene	ND		ug/l	0.20	--	1
2-Methylnaphthalene	ND		ug/l	0.20	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	84		23-120
2-Fluorobiphenyl	75		15-120
4-Terphenyl-d14	98		41-149

Project Name: BRIGHAM GREEN PARKING FACILITY **Lab Number:** L1119648

Project Number: 37608-030 **Report Date:** 12/20/11

SAMPLE RESULTS

Lab ID:	L1119648-01	Date Collected:	11/23/11 11:12
Client ID:	HA-C4 (OW-D)	Date Received:	11/23/11
Sample Location:	Not Specified	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8270C	Extraction Date:	11/26/11 03:48
Analytical Date:	11/28/11 12:43		
Analyst:	RC		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Benzidine	ND		ug/l	20	--	1
1,2,4-Trichlorobenzene	ND		ug/l	5.0	--	1
Hexachlorobenzene	ND		ug/l	2.0	--	1
Bis(2-chloroethyl)ether	ND		ug/l	2.0	--	1
1,2-Dichlorobenzene	ND		ug/l	2.0	--	1
1,3-Dichlorobenzene	ND		ug/l	2.0	--	1
1,4-Dichlorobenzene	ND		ug/l	2.0	--	1
3,3'-Dichlorobenzidine	ND		ug/l	5.0	--	1
2,4-Dinitrotoluene	ND		ug/l	5.0	--	1
2,6-Dinitrotoluene	ND		ug/l	5.0	--	1
Azobenzene	ND		ug/l	2.0	--	1
4-Chlorophenyl phenyl ether	ND		ug/l	2.0	--	1
4-Bromophenyl phenyl ether	ND		ug/l	2.0	--	1
Bis(2-chloroisopropyl)ether	ND		ug/l	2.0	--	1
Bis(2-chloroethoxy)methane	ND		ug/l	5.0	--	1
Hexachlorobutadiene	ND		ug/l	2.0	--	1
Hexachlorocyclopentadiene	ND		ug/l	20	--	1
Hexachloroethane	ND		ug/l	2.0	--	1
Isophorone	ND		ug/l	5.0	--	1
Nitrobenzene	ND		ug/l	2.0	--	1
NitrosoDiPhenylAmine(NDPA)/DPA	ND		ug/l	2.0	--	1
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
Aniline	ND		ug/l	2.0	--	1
4-Chloroaniline	ND		ug/l	5.0	--	1
2-Nitroaniline	ND		ug/l	5.0	--	1
3-Nitroaniline	ND		ug/l	5.0	--	1

Project Name: BRIGHAM GREEN PARKING FACILITY **Lab Number:** L1119648

Project Number: 37608-030 **Report Date:** 12/20/11

SAMPLE RESULTS

Lab ID:	L1119648-01	Date Collected:	11/23/11 11:12
Client ID:	HA-C4 (OW-D)	Date Received:	11/23/11
Sample Location:	Not Specified	Field Prep:	Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
4-Nitroaniline	ND		ug/l	5.0	--	1
Dibenzofuran	ND		ug/l	2.0	--	1
n-Nitrosodimethylamine	ND		ug/l	2.0	--	1
2,4,6-Trichlorophenol	ND		ug/l	5.0	--	1
P-Chloro-M-Cresol	ND		ug/l	2.0	--	1
2-Chlorophenol	ND		ug/l	2.0	--	1
2,4-Dichlorophenol	ND		ug/l	5.0	--	1
2,4-Dimethylphenol	ND		ug/l	5.0	--	1
2-Nitrophenol	ND		ug/l	10	--	1
4-Nitrophenol	ND		ug/l	10	--	1
2,4-Dinitrophenol	ND		ug/l	20	--	1
4,6-Dinitro-o-cresol	ND		ug/l	10	--	1
Pentachlorophenol	ND		ug/l	10	--	1
Phenol	ND		ug/l	5.0	--	1
2-Methylphenol	ND		ug/l	5.0	--	1
3-Methylphenol/4-Methylphenol	ND		ug/l	5.0	--	1
2,4,5-Trichlorophenol	ND		ug/l	5.0	--	1
Benzoic Acid	ND		ug/l	50	--	1
Benzyl Alcohol	ND		ug/l	2.0	--	1
Carbazole	ND		ug/l	2.0	--	1
Pyridine	ND		ug/l	5.0	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	47		21-120
Phenol-d6	33		10-120
Nitrobenzene-d5	73		23-120
2-Fluorobiphenyl	82		15-120
2,4,6-Tribromophenol	100		10-120
4-Terphenyl-d14	99		41-149

Project Name: BRIGHAM GREEN PARKING FACILITY
Project Number: 37608-030

Lab Number: L1119648
Report Date: 12/20/11

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270C
Analytical Date: 11/28/11 09:15
Analyst: JC

Extraction Method: EPA 3510C
Extraction Date: 11/25/11 22:48

Parameter	Result	Qualifier	Units	RL	MDL
PAHs by GC/MS-SIM - Westborough Lab for sample(s): 01 Batch: WG504456-1					
Acenaphthene	ND		ug/l	0.20	--
2-Chloronaphthalene	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	--
1-Methylnaphthalene	ND		ug/l	0.20	--
2-Methylnaphthalene	ND		ug/l	0.20	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	83		23-120
2-Fluorobiphenyl	74		15-120
4-Terphenyl-d14	91		41-149

Project Name: BRIGHAM GREEN PARKING FACILITY **Lab Number:** L1119648

Project Number: 37608-030 **Report Date:** 12/20/11

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270C
Analytical Date: 11/28/11 11:29
Analyst: RC

Extraction Method: EPA 3510C
Extraction Date: 11/26/11 03:48

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG504463-1					
Acenaphthene	ND		ug/l	2.0	--
Benzidine	ND		ug/l	20	--
1,2,4-Trichlorobenzene	ND		ug/l	5.0	--
Hexachlorobenzene	ND		ug/l	2.0	--
Bis(2-chloroethyl)ether	ND		ug/l	2.0	--
2-Chloronaphthalene	ND		ug/l	2.0	--
1,2-Dichlorobenzene	ND		ug/l	2.0	--
1,3-Dichlorobenzene	ND		ug/l	2.0	--
1,4-Dichlorobenzene	ND		ug/l	2.0	--
3,3'-Dichlorobenzidine	ND		ug/l	5.0	--
2,4-Dinitrotoluene	ND		ug/l	5.0	--
2,6-Dinitrotoluene	ND		ug/l	5.0	--
Azobenzene	ND		ug/l	2.0	--
Fluoranthene	ND		ug/l	2.0	--
4-Chlorophenyl phenyl ether	ND		ug/l	2.0	--
4-Bromophenyl phenyl ether	ND		ug/l	2.0	--
Bis(2-chloroisopropyl)ether	ND		ug/l	2.0	--
Bis(2-chloroethoxy)methane	ND		ug/l	5.0	--
Hexachlorobutadiene	ND		ug/l	2.0	--
Hexachlorocyclopentadiene	ND		ug/l	20	--
Hexachloroethane	ND		ug/l	2.0	--
Isophorone	ND		ug/l	5.0	--
Naphthalene	ND		ug/l	2.0	--
Nitrobenzene	ND		ug/l	2.0	--
NitrosoDiPhenylAmine(NDPA)/DPA	ND		ug/l	2.0	--
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	--

Project Name: BRIGHAM GREEN PARKING FACILITY **Lab Number:** L1119648

Project Number: 37608-030 **Report Date:** 12/20/11

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270C
Analytical Date: 11/28/11 11:29
Analyst: RC

Extraction Method: EPA 3510C
Extraction Date: 11/26/11 03:48

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG504463-1					
Benzo(a)anthracene	ND		ug/l	2.0	--
Benzo(a)pyrene	ND		ug/l	2.0	--
Benzo(b)fluoranthene	ND		ug/l	2.0	--
Benzo(k)fluoranthene	ND		ug/l	2.0	--
Chrysene	ND		ug/l	2.0	--
Acenaphthylene	ND		ug/l	2.0	--
Anthracene	ND		ug/l	2.0	--
Benzo(ghi)perylene	ND		ug/l	2.0	--
Fluorene	ND		ug/l	2.0	--
Phenanthrene	ND		ug/l	2.0	--
Dibenzo(a,h)anthracene	ND		ug/l	2.0	--
Indeno(1,2,3-cd)Pyrene	ND		ug/l	2.0	--
Pyrene	ND		ug/l	2.0	--
Aniline	ND		ug/l	2.0	--
4-Chloroaniline	ND		ug/l	5.0	--
1-Methylnaphthalene	ND		ug/l	2.0	--
2-Nitroaniline	ND		ug/l	5.0	--
3-Nitroaniline	ND		ug/l	5.0	--
4-Nitroaniline	ND		ug/l	5.0	--
Dibenzofuran	ND		ug/l	2.0	--
2-Methylnaphthalene	ND		ug/l	2.0	--
n-Nitrosodimethylamine	ND		ug/l	2.0	--
2,4,6-Trichlorophenol	ND		ug/l	5.0	--
P-Chloro-M-Cresol	ND		ug/l	2.0	--
2-Chlorophenol	ND		ug/l	2.0	--
2,4-Dichlorophenol	ND		ug/l	5.0	--
2,4-Dimethylphenol	ND		ug/l	5.0	--
2-Nitrophenol	ND		ug/l	10	--
4-Nitrophenol	ND		ug/l	10	--
2,4-Dinitrophenol	ND		ug/l	20	--
4,6-Dinitro-o-cresol	ND		ug/l	10	--

Project Name: BRIGHAM GREEN PARKING FACILITY
Project Number: 37608-030

Lab Number: L1119648
Report Date: 12/20/11

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270C
Analytical Date: 11/28/11 11:29
Analyst: RC

Extraction Method: EPA 3510C
Extraction Date: 11/26/11 03:48

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG504463-1					
Pentachlorophenol	ND		ug/l	10	--
Phenol	ND		ug/l	5.0	--
2-Methylphenol	ND		ug/l	5.0	--
3-Methylphenol/4-Methylphenol	ND		ug/l	5.0	--
2,4,5-Trichlorophenol	ND		ug/l	5.0	--
Benzoic Acid	ND		ug/l	50	--
Benzyl Alcohol	ND		ug/l	2.0	--
Carbazole	ND		ug/l	2.0	--
Pyridine	ND		ug/l	5.0	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	42		21-120
Phenol-d6	29		10-120
Nitrobenzene-d5	67		23-120
2-Fluorobiphenyl	78		15-120
2,4,6-Tribromophenol	108		10-120
4-Terphenyl-d14	89		41-149

Lab Control Sample Analysis
Batch Quality Control

Project Name: BRIGHAM GREEN PARKING FACILITY
Project Number: 37608-030

Lab Number: L1119648
Report Date: 12/20/11

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
PAHs by GC/MS-SIM - Westborough Lab Associated sample(s): 01 Batch: WG504456-2 WG504456-3								
Acenaphthene	71		79		37-111	11		40
2-Chloronaphthalene	104		115		40-140	10		40
Fluoranthene	95		99		40-140	4		40
Anthracene	88		95		40-140	8		40
Pyrene	92		97		40-140	5		40

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Nitrobenzene-d5	80		92		23-120
2-Fluorobiphenyl	71		78		15-120
4-Terphenyl-d14	90		93		41-149

Lab Control Sample Analysis
Batch Quality Control

Project Name: BRIGHAM GREEN PARKING FACILITY
Project Number: 37608-030

Lab Number: L1119648
Report Date: 12/20/11

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: WG504463-2 WG504463-3								
Acenaphthene	77		77		37-111	0		30
1,2,4-Trichlorobenzene	74		71		39-98	4		30
2-Chloronaphthalene	110		110		40-140	0		30
1,2-Dichlorobenzene	71		72		40-140	1		30
1,4-Dichlorobenzene	68		71		36-97	4		30
2,4-Dinitrotoluene	96		**103**	Q	24-96	7		30
2,6-Dinitrotoluene	98		98		40-140	0		30
Fluoranthene	92		96		40-140	4		30
4-Chlorophenyl phenyl ether	88		92		40-140	4		30
n-Nitrosodi-n-propylamine	72		71		41-116	1		30
Butyl benzyl phthalate	103		108		40-140	5		30
Anthracene	89		94		40-140	5		30
Pyrene	92		97		26-127	5		30
P-Chloro-M-Cresol	**98**	Q	**100**	Q	23-97	2		30
2-Chlorophenol	75		76		27-123	1		30
2-Nitrophenol	83		81		30-130	2		30
4-Nitrophenol	44		48		10-80	9		30
2,4-Dinitrophenol	49		55		20-130	12		30
Pentachlorophenol	**105**	Q	**105**	Q	9-103	0		30
Phenol	36		34		12-110	6		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: BRIGHAM GREEN PARKING FACILITY

Project Number: 37608-030

Lab Number: L1119648

Report Date: 12/20/11

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: WG504463-2 WG504463-3								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	49		48		21-120
Phenol-d6	35		34		10-120
Nitrobenzene-d5	81		80		23-120
2-Fluorobiphenyl	93		88		15-120
2,4,6-Tribromophenol	102		103		10-120
4-Terphenyl-d14	98		100		41-149

PCBS

Project Name: BRIGHAM GREEN PARKING FACILITY **Lab Number:** L1119648

Project Number: 37608-030 **Report Date:** 12/20/11

SAMPLE RESULTS

Lab ID:	L1119648-01	Date Collected:	11/23/11 11:12
Client ID:	HA-C4 (OW-D)	Date Received:	11/23/11
Sample Location:	Not Specified	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 608
Analytical Method:	5,608	Extraction Date:	11/27/11 15:11
Analytical Date:	11/28/11 17:24	Cleanup Method1:	EPA 3665A
Analyst:	GT	Cleanup Date1:	11/28/11
		Cleanup Method2:	EPA 3660B
		Cleanup Date2:	11/28/11

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
2,4,5,6-Tetrachloro-m-xylene	76		30-150
Decachlorobiphenyl	99		30-150

Project Name: BRIGHAM GREEN PARKING FACILITY

Lab Number: L1119648

Project Number: 37608-030

Report Date: 12/20/11

Method Blank Analysis
Batch Quality Control

Analytical Method: 5,608
Analytical Date: 11/28/11 15:39
Analyst: GT

Extraction Method: EPA 608
Extraction Date: 11/27/11 15:11
Cleanup Method1: EPA 3665A
Cleanup Date1: 11/28/11
Cleanup Method2: EPA 3660B
Cleanup Date2: 11/28/11

Parameter	Result	Qualifier	Units	RL	MDL
Polychlorinated Biphenyls by GC - Westborough Lab for sample(s): 01 Batch: WG504573-1					
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
2,4,5,6-Tetrachloro-m-xylene	92		30-150
Decachlorobiphenyl	108		30-150

Matrix Spike Analysis
Batch Quality Control

Project Name: BRIGHAM GREEN PARKING FACILITY
Project Number: 37608-030
Lab Number: L1119648
Report Date: 12/20/11

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: WG504573-3 QC Sample: L1119475-02 Client ID: MS Sample												
Aroclor 1016	ND	2	1.84	92		-	-		40-140	-		50
Aroclor 1260	ND	2	1.68	84		-	-		40-140	-		50

Surrogate	MS % Recovery	MS Qualifier	MSD % Recovery	MSD Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	89				30-150
Decachlorobiphenyl	101				30-150

Lab Control Sample Analysis

Batch Quality Control

Project Name: BRIGHAM GREEN PARKING FACILITY

Project Number: 37608-030

Lab Number: L1119648

Report Date: 12/20/11

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Polychlorinated Biphenyls by GC - Westborough Lab Associated sample(s): 01 Batch: WG504573-2								
Aroclor 1016	71		-		40-140	-		50
Aroclor 1260	64		-		40-140	-		50

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	65				30-150
Decachlorobiphenyl	75				30-150

Lab Duplicate Analysis
Batch Quality Control

Project Name: BRIGHAM GREEN PARKING FACILITY
Project Number: 37608-030

Lab Number: L1119648
Report Date: 12/20/11

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Polychlorinated Biphenyls by GC - Westborough Lab Associated sample(s): 01 QC Batch ID: WG504573-4 QC Sample: L1119475-02 Client ID: DUP Sample						
Aroclor 1016	ND	ND	ug/l	NC		50
Aroclor 1221	ND	ND	ug/l	NC		50
Aroclor 1232	ND	ND	ug/l	NC		50
Aroclor 1242	ND	ND	ug/l	NC		50
Aroclor 1248	ND	ND	ug/l	NC		50
Aroclor 1254	ND	ND	ug/l	NC		50
Aroclor 1260	ND	ND	ug/l	NC		50

Surrogate	%Recovery	Qualifier	%Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	90		94		30-150
Decachlorobiphenyl	104		106		30-150

METALS

Project Name: BRIGHAM GREEN PARKING FACILITY **Lab Number:** L1119648

Project Number: 37608-030 **Report Date:** 12/20/11

SAMPLE RESULTS

Lab ID: L1119648-01 Date Collected: 11/23/11 11:12

Client ID: HA-C4 (OW-D) Date Received: 11/23/11

Sample Location: Not Specified 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	0.0010	--	2	11/26/11 14:30	11/29/11 15:20	EPA 3005A	1,6020	BM
Arsenic, Total	ND		mg/l	0.0010	--	2	11/26/11 14:30	11/29/11 15:20	EPA 3005A	1,6020	BM
Cadmium, Total	ND		mg/l	0.0004	--	2	11/26/11 14:30	11/29/11 15:20	EPA 3005A	1,6020	BM
Chromium, Total	ND		mg/l	0.0010	--	2	11/26/11 14:30	11/29/11 15:20	EPA 3005A	1,6020	BM
Copper, Total	0.0016		mg/l	0.0010	--	2	11/26/11 14:30	11/29/11 15:20	EPA 3005A	1,6020	BM
Iron, Total	0.07		mg/l	0.05	--	1	11/26/11 14:30	12/01/11 14:54	EPA 3005A	19,200.7	AI
Lead, Total	ND		mg/l	0.0010	--	2	11/26/11 14:30	11/29/11 15:20	EPA 3005A	1,6020	BM
Mercury, Total	ND		mg/l	0.0002	--	1	11/30/11 10:50	11/30/11 16:50	EPA 245.1	3,245.1	JP
Nickel, Total	0.0045		mg/l	0.0010	--	2	11/29/11 16:50	11/30/11 22:17	EPA 3005A	1,6020	BM
Selenium, Total	0.002		mg/l	0.002	--	2	11/26/11 14:30	11/29/11 15:20	EPA 3005A	1,6020	BM
Silver, Total	ND		mg/l	0.0008	--	2	11/26/11 14:30	11/29/11 15:20	EPA 3005A	1,6020	BM
Zinc, Total	0.0121		mg/l	0.0100	--	2	11/26/11 14:30	11/29/11 15:20	EPA 3005A	1,6020	BM

Project Name: BRIGHAM GREEN PARKING FACILITY **Lab Number:** L1119648

Project Number: 37608-030 **Report Date:** 12/20/11

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: WG504537-1										
Iron, Total	ND		mg/l	0.05	--	1	11/26/11 14:30	12/01/11 14:48	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: WG504538-1										
Antimony, Total	ND		mg/l	0.0005	--	1	11/26/11 14:30	11/29/11 03:01	1,6020	BM
Arsenic, Total	ND		mg/l	0.0005	--	1	11/26/11 14:30	11/29/11 03:01	1,6020	BM
Cadmium, Total	ND		mg/l	0.0002	--	1	11/26/11 14:30	11/29/11 03:01	1,6020	BM
Chromium, Total	ND		mg/l	0.0005	--	1	11/26/11 14:30	11/29/11 03:01	1,6020	BM
Copper, Total	ND		mg/l	0.0005	--	1	11/26/11 14:30	11/29/11 03:01	1,6020	BM
Lead, Total	ND		mg/l	0.0005	--	1	11/26/11 14:30	11/29/11 03:01	1,6020	BM
Selenium, Total	ND		mg/l	0.001	--	1	11/26/11 14:30	11/29/11 03:01	1,6020	BM
Silver, Total	ND		mg/l	0.0004	--	1	11/26/11 14:30	11/29/11 03:01	1,6020	BM
Zinc, Total	ND		mg/l	0.0050	--	1	11/26/11 14:30	11/29/11 03:01	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: WG505141-1										
Nickel, Total	ND		mg/l	0.0005	--	1	11/29/11 16:50	11/30/11 20:19	1,6020	BM

Prep Information

Digestion Method: EPA 3005A

Project Name: BRIGHAM GREEN PARKING FACILITY **Lab Number:** L1119648

Project Number: 37608-030 **Report Date:** 12/20/11

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: WG505363-1										
Mercury, Total	ND		mg/l	0.0002	--	1	11/30/11 10:50	11/30/11 16:37	3,245.1	JP

Prep Information

Digestion Method: EPA 245.1

Lab Control Sample Analysis
Batch Quality Control

Project Name: BRIGHAM GREEN PARKING FACILITY
Project Number: 37608-030

Lab Number: L1119648
Report Date: 12/20/11

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Westborough Lab Associated sample(s): 01 Batch: WG504537-2								
Iron, Total	91		-		85-115	-		
Total Metals - Westborough Lab Associated sample(s): 01 Batch: WG504538-2								
Antimony, Total	104		-		80-120	-		
Arsenic, Total	105		-		80-120	-		
Cadmium, Total	109		-		80-120	-		
Chromium, Total	97		-		80-120	-		
Copper, Total	102		-		80-120	-		
Lead, Total	107		-		80-120	-		
Selenium, Total	105		-		80-120	-		
Silver, Total	103		-		80-120	-		
Zinc, Total	103		-		80-120	-		
Total Metals - Westborough Lab Associated sample(s): 01 Batch: WG505141-2								
Nickel, Total	98		-		80-120	-		
Total Metals - Westborough Lab Associated sample(s): 01 Batch: WG505363-2								
Mercury, Total	107		-		85-115	-		

Matrix Spike Analysis
Batch Quality Control

Project Name: BRIGHAM GREEN PARKING FACILITY
Project Number: 37608-030
Lab Number: L1119648
Report Date: 12/20/11

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: WG504537-4 QC Sample: L1119648-01 Client ID: HA-C4 (OW-D)												
Iron, Total	0.07	1	0.96	89		-	-		75-125	-		20
Total Metals - Westborough Lab Associated sample(s): 01 QC Batch ID: WG504538-4 QC Sample: L1119648-01 Client ID: HA-C4 (OW-D)												
Antimony, Total	ND	0.5	0.5187	104		-	-		80-120	-		20
Arsenic, Total	ND	0.12	0.1291	108		-	-		80-120	-		20
Cadmium, Total	ND	0.051	0.0531	104		-	-		80-120	-		20
Chromium, Total	ND	0.2	0.1882	94		-	-		80-120	-		20
Copper, Total	0.0016	0.25	0.2411	96		-	-		80-120	-		20
Lead, Total	ND	0.51	0.5521	108		-	-		80-120	-		20
Selenium, Total	0.002	0.12	0.125	102		-	-		80-120	-		20
Silver, Total	ND	0.05	0.0495	99		-	-		80-120	-		20
Zinc, Total	0.0121	0.5	0.4873	95		-	-		80-120	-		20
Total Metals - Westborough Lab Associated sample(s): 01 QC Batch ID: WG505141-4 QC Sample: L1119542-01 Client ID: MS Sample												
Nickel, Total	0.002	0.5	0.5160	103		-	-		80-120	-		20
Total Metals - Westborough Lab Associated sample(s): 01 QC Batch ID: WG505363-4 QC Sample: L1119013-01 Client ID: MS Sample												
Mercury, Total	ND	0.001	0.0014	**136**	Q	-	-		70-130	-		20

Lab Duplicate Analysis
Batch Quality Control

Project Name: BRIGHAM GREEN PARKING FACILITY
Project Number: 37608-030

Lab Number: L1119648
Report Date: 12/20/11

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Westborough Lab Associated sample(s): 01 QC Batch ID: WG504537-3 QC Sample: L1119648-01 Client ID: HA-C4 (OW-D)						
Iron, Total	0.07	0.06	mg/l	5		20
Total Metals - Westborough Lab Associated sample(s): 01 QC Batch ID: WG504538-3 QC Sample: L1119648-01 Client ID: HA-C4 (OW-D)						
Antimony, Total	ND	ND	mg/l	NC		20
Arsenic, Total	ND	ND	mg/l	NC		20
Cadmium, Total	ND	ND	mg/l	NC		20
Chromium, Total	ND	ND	mg/l	NC		20
Copper, Total	0.0016	0.0016	mg/l	0		20
Lead, Total	ND	ND	mg/l	NC		20
Selenium, Total	0.002	0.002	mg/l	5		20
Silver, Total	ND	ND	mg/l	NC		20
Zinc, Total	0.0121	0.0112	mg/l	7		20
Total Metals - Westborough Lab Associated sample(s): 01 QC Batch ID: WG505141-3 QC Sample: L1119542-01 Client ID: DUP Sample						
Nickel, Total	0.002	0.0018	mg/l	9		20
Total Metals - Westborough Lab Associated sample(s): 01 QC Batch ID: WG505363-3 QC Sample: L1119013-01 Client ID: DUP Sample						
Mercury, Total	ND	ND	mg/l	NC		20

INORGANICS
&
MISCELLANEOUS

Project Name: BRIGHAM GREEN PARKING FACILITY
Project Number: 37608-030

Lab Number: L1119648
Report Date: 12/20/11

SAMPLE RESULTS

Lab ID: L1119648-01
Client ID: HA-C4 (OW-D)
Sample Location: Not Specified
Matrix: Water

Date Collected: 11/23/11 11:12
Date Received: 11/23/11
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	ND		mg/l	5.0	NA	1	-	11/29/11 15:15	30,2540D	DW
Cyanide, Total	ND		mg/l	0.005	--	1	11/28/11 12:00	11/29/11 17:27	30,4500CN-CE	JO
Chlorine, Total Residual	ND		mg/l	0.02	--	1	-	11/23/11 21:30	30,4500CL-D	KK
TPH	ND		mg/l	4.00	--	1	11/27/11 17:45	11/29/11 15:00	74,1664A	JO
Phenolics, Total	ND		mg/l	0.03	--	1	12/01/11 18:45	12/01/11 21:32	4,420.1	TP
Chromium, Hexavalent	ND		mg/l	0.010	--	1	11/23/11 22:10	11/23/11 22:22	30,3500CR-D	KK
Anions by Ion Chromatography - Westborough Lab										
Chloride	1500		mg/l	50	--	100	-	11/29/11 22:21	44,300.0	AU

Project Name: BRIGHAM GREEN PARKING FACILITY
Project Number: 37608-030
Lab Number: L1119648
Report Date: 12/20/11

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: WG504384-1										
Chlorine, Total Residual	ND		mg/l	0.02	--	1	-	11/23/11 21:30	30,4500CL-D	KK
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG504391-1										
Chromium, Hexavalent	ND		mg/l	0.010	--	1	11/23/11 22:10	11/23/11 22:20	30,3500CR-D	KK
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG504587-2										
TPH	ND		mg/l	4.00	--	1	11/27/11 17:45	11/29/11 15:00	74,1664A	JO
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG504690-2										
Cyanide, Total	ND		mg/l	0.005	--	1	11/28/11 12:00	11/29/11 17:10	30,4500CN-CE	JO
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG504948-1										
Solids, Total Suspended	ND		mg/l	5.0	NA	1	-	11/29/11 15:15	30,2540D	DW
Anions by Ion Chromatography - Westborough Lab for sample(s): 01 Batch: WG505385-1										
Chloride	ND		mg/l	0.50	--	1	-	11/29/11 18:56	44,300.0	AU
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG505632-1										
Phenolics, Total	ND		mg/l	0.03	--	1	12/01/11 18:45	12/01/11 21:29	4,420.1	TP

Lab Control Sample Analysis
Batch Quality Control

Project Name: BRIGHAM GREEN PARKING FACILITY
Project Number: 37608-030

Lab Number: L1119648
Report Date: 12/20/11

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG504384-2								
Chlorine, Total Residual	101		-		90-110	-		
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG504391-2								
Chromium, Hexavalent	102		-		85-115	-		20
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG504587-1								
TPH	85		-		64-132	-		34
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG504690-1								
Cyanide, Total	92		-		90-110	-		
Anions by Ion Chromatography - Westborough Lab Associated sample(s): 01 Batch: WG505385-2								
Chloride	98		-		90-110	-		
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG505632-2								
Phenolics, Total	104		-		82-111	-		12

Matrix Spike Analysis
Batch Quality Control

Project Name: BRIGHAM GREEN PARKING FACILITY
Project Number: 37608-030

Lab Number: L1119648
Report Date: 12/20/11

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: WG504391-4 QC Sample: L1119648-01 Client ID: HA-C4 (OW-D)												
Chromium, Hexavalent	ND	0.1	0.098	98		-	-		85-115	-		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG504587-3 QC Sample: L1119447-04 Client ID: MS Sample												
TPH	ND	22	16.9	77		-	-		64-132	-		34
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG504690-3 QC Sample: L1119226-02 Client ID: MS Sample												
Cyanide, Total	ND	0.2	0.200	100		-	-		90-110	-		30
Anions by Ion Chromatography - Westborough Lab Associated sample(s): 01 QC Batch ID: WG505385-3 QC Sample: L1119542-01 Client ID: MS Sample												
Chloride	170	100	250	82		-	-		40-151	-		18
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG505632-3 QC Sample: L1119763-01 Client ID: MS Sample												
Phenolics, Total	ND	0.8	0.80	100		-	-		77-124	-		12

Lab Duplicate Analysis
Batch Quality Control

Project Name: BRIGHAM GREEN PARKING FACILITY
Project Number: 37608-030

Lab Number: L1119648
Report Date: 12/20/11

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG504384-3 QC Sample: L1119648-01 Client ID: HA-C4 (OW-D)						
Chlorine, Total Residual	ND	ND	mg/l	NC		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG504391-3 QC Sample: L1119648-01 Client ID: HA-C4 (OW-D)						
Chromium, Hexavalent	ND	ND	mg/l	NC		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG504587-4 QC Sample: L1119447-01 Client ID: DUP Sample						
TPH	ND	ND	mg/l	NC		34
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG504690-4 QC Sample: L1119331-01 Client ID: DUP Sample						
Cyanide, Total	ND	ND	mg/l	NC		30
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG504948-2 QC Sample: L1119600-04 Client ID: DUP Sample						
Solids, Total Suspended	120	160	mg/l	29		32
Anions by Ion Chromatography - Westborough Lab Associated sample(s): 01 QC Batch ID: WG505385-4 QC Sample: L1119542-01 Client ID: DUP Sample						
Chloride	170	170	mg/l	0		18
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG505632-4 QC Sample: L1119762-01 Client ID: DUP Sample						
Phenolics, Total	ND	ND	mg/l	NC		12

Project Name: BRIGHAM GREEN PARKING FACILITY
Project Number: 37608-030

Lab Number: L1119648
Report Date: 12/20/11

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(*)
L1119648-01A	Vial HCl preserved	A	N/A	3.1	Y	Absent	8260(14)
L1119648-01B	Vial HCl preserved	A	N/A	3.1	Y	Absent	8260(14)
L1119648-01C	Vial Na2S2O3 preserved	A	N/A	3.1	Y	Absent	504(14)
L1119648-01D	Vial Na2S2O3 preserved	A	N/A	3.1	Y	Absent	504(14)
L1119648-01E	Amber 1000ml unpreserved	A	7	3.1	Y	Absent	PAHTCL-SIM(7),8270TCL(7)
L1119648-01F	Amber 1000ml unpreserved	A	7	3.1	Y	Absent	PAHTCL-SIM(7),8270TCL(7)
L1119648-01G	Amber 1000ml unpreserved	A	7	3.1	Y	Absent	PAHTCL-SIM(7),8270TCL(7)
L1119648-01H	Amber 1000ml unpreserved	A	7	3.1	Y	Absent	PAHTCL-SIM(7),8270TCL(7)
L1119648-01I	Amber 1000ml Na2S2O3	A	7	3.1	Y	Absent	PCB-608(7)
L1119648-01J	Amber 1000ml Na2S2O3	A	7	3.1	Y	Absent	PCB-608(7)
L1119648-01K	Amber 1000ml HCl preserved	A	<2	3.1	Y	Absent	TPH-1664(28)
L1119648-01L	Amber 1000ml HCl preserved	A	<2	3.1	Y	Absent	TPH-1664(28)
L1119648-01M	Amber 1000ml H2SO4 preserved	A	<2	3.1	Y	Absent	TPHENOL-420(28)
L1119648-01N	Plastic 1000ml unpreserved	A	7	3.1	Y	Absent	TSS-2540(7)
L1119648-01O	Plastic 1000ml unpreserved	A	7	3.1	Y	Absent	HEXCR-3500(1),TRC-4500(1)
L1119648-01P	Plastic 250ml HNO3 preserved	A	<2	3.1	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)
L1119648-01Q	Plastic 250ml NaOH preserved	A	>12	3.1	Y	Absent	TCN-4500(14)
L1119648-01R	Plastic 250ml unpreserved	A	7	3.1	Y	Absent	CL-300(28)
L1119648-02A	Vial HCl preserved	A	N/A	3.1	Y	Absent	8260(14)
L1119648-02B	Vial Na2S2O3 preserved	A	N/A	3.1	Y	Absent	504(14)

Container Comments

L1119648-01O

*Values in parentheses indicate holding time in days

Project Name:	BRIGHAM GREEN PARKING FACILITY	**Lab Number:**	L1119648
Project Number:	37608-030	**Report Date:**	12/20/11

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:	BRIGHAM GREEN PARKING FACILITY	**Lab Number:**	L1119648
Project Number:	37608-030	**Report Date:**	12/20/11

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:	BRIGHAM GREEN PARKING FACILITY	**Lab Number:**	L1119648
Project Number:	37608-030	**Report Date:**	12/20/11

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 December 9, 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.)

*Non-Potable Water (*Inorganic Parameters:, (EPA 200.8 for: Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn); (EPA 200.7 for: Al,Sb,As,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Mo,Ni,K,Se,Ag,Na,Sr,Ti,Tl,V,Zn); 245.1, SM4500H,B, EPA 120.1,

SM2510B, 2540C, 2340B, 2320B, 4500CL-E, 4500F-BC, 426C, SM4500NH3-BH, (EPA 350.1 for: Ammonia-N), 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, 4500Cl-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.

Drinking Water Program Certificate/Lab ID: 25700. (Inorganic Parameters: Chloride EPA 300.0. Organic Parameters: 524.2)

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, 8081B, 8082, 802A, 8151A, 8260B, 8270C, 8270D, 8330)

Solid & Hazardous Waste (Inorganic Parameters: EPA 350.1, 1010, 1030, 1311, 1312, 3050B, 3060A, 6010B, 6010C, 7196A, 7471A, 9010B, 9012A, 9014, 9040B, 9045C, 9050, 9065, SM 4500NH3-H. Organic Parameters: 3540C, 3546, 3580A, 3630C, 5035, 8015B, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8260B, 8270C, 8270D, 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 Commisson 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 Methylnapthalenes, Total Dimethylnaphthalenes, 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.

ALPHA Job # L1119648

HALEY & ALDRICH

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465 Medford St.,
Suite 2200,
Boston, MA 02129-1400

CHAIN OF CUSTODY RECORD

Phone (617) 886-7400
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Page 1 of 1

H&A FILE NO.	37608-030	LABORATORY	Alpha Analytical	DELIVERY DATE	23 Nov 11
PROJECT NAME	Brigham Green Parking Facility	ADDRESS	Westborough, MA	TURNAROUND TIME	Standard
H&A CONTACT	S. Sekai	CONTACT	Gene H	PROJECT MANAGER	M. Balfe

Analysis Requested

Sample No.	Date	Time	Depth	Type	(1) VOC	(2) Acids Part only	(3) MCP Metals	(4) Pesticides PCBs	(5) VOH Full Suite Compounds only	(6) BNA Full Suite Compounds only	(7) TPH (specify)	(8) TCN (specify)	(9) Reactivity Ignitability Corrosivity	(10)	(11)	(12)	(13)	Number of Containers
HA-C4 (CW-1)	11/23/11	1112	GW	AQ	X	X	X	X	X	X	X	X	X	X	X	X	X	20

Comments (special instructions, precautions, additional method numbers, etc.)

Laboratory to use applicable DEP CAM methods, unless otherwise directed.

(1) EDB/504
(2) 8260
(3) 8260 Trip Blank
(4) EDB/504 Trip Blank
(5) PAH SIM
(6) 8270
(7) TPH 1664
(8) Total Phenol
(9) PCB-608
(10) TCN
(11) Chloride 300
(12) Total Metals
(13) TRC, HexCr
(14) TSS

Sampled and Relinquished by	Received by
Sign [signature]	Sign [signature]
Print Bryan Warner	Print Wayne Plumer
Firm H&A	Firm Alpha
Date 11/23/11 Time 1530	Date 11/23/11 Time 1530

Relinquished by	Received by
Sign [signature]	Sign [signature]
Print Wayne Plumer	Print Jon Angen
Firm Alpha	Firm Alpha
Date 11/23/11 Time 1710	Date 11/23/11 Time 1710

Relinquished by	Received by
Sign	Sign
Print	Print
Firm	Firm
Date Time	Date Time

LIQUID 20 TOTAL

VOA Vial	X													
Amber Glass					X									
Plastic Bottle										X				X
Preservative	A,I	A,F			A,I	A,E			A,F	A,E	A,I	A,C	A	A,D A
Volume	40 ml				1L							250 ml		1L

SOLID

VOA Vial														
Amber Glass														
Clear Glass														
Preservative														
Volume														

Sampling Comments

Evidence samples were tampered with? YES NO
If YES, please explain in section below.

PRESERVATION KEY

A Sample chilled	C NaOH	E H_2SO_4	G Methanol I $Na_2S_2O_3$
B Sample filtered	D HNO_3	F HCL	H Water/NaHSO4 (circle)

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

If Presumptive Certainty Data Package is needed, initial all sections:

✓ The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty.

NA Matrix Spike (MS) samples for MCP Metals and/or Cyanide are included and identified herein.

✓ This Chain of Custody Record (specify) _____ includes _____ does not include samples defined as Drinking Water Samples.

NA If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and identified and analysis of TICs are required, as appropriate. Laboratory should (specify if applicable) _____ analyz

Required Reporting Limits and Data Quality Objectives

- ☐ RC-S1
- ☐ RC-S2
- ☐ RC-GW1
- ☐ RC-GW2
- ☐ S1
- ☐ S2
- ☐ S3
- ☒ GW1
- ☐ GW2
- ☐ GW3

WHITE - Laboratory CANARY - Project Manager PINK - Haley & Aldrich Laboratory

AUGUST 2008

Form 3003

Serial_No:12201116:53

Edits by G. Seki 11/23/11

ALPHA Job # L1119648

HALEY & ALDRICH

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CHAIN OF CUSTODY RECORD

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Page 1 of 1

H&A FILE NO.	37608-030	LABORATORY	Alpha Analytical	DELIVERY DATE	23 Nov 11
PROJECT NAME	Brickman Green Parkway Facility	ADDRESS	Westborough, MA	TURNAROUND TIME	Standard
H&A CONTACT	S. Seki	CONTACT	Steve H	PROJECT MANAGER	M. Balke

Sample No.	Date	Time	Depth	Type	(1) EDB/504	(2) Alpha PAH 8270	(3) MCP Metals	(4) Pesticides PCB	(5) VOH Full Scan Clients only	(6) Pesticides Clients only	(7) TPH 1664	(8) TCN	(9) Total Phenol	(10) Chloride	(11)	(12)	(13)	Number of Containers	Comments (special instructions, precautions, additional method numbers, etc.)
HA-C4 (CW-1)	11/23/11	1112	GW	AQ	X	X	X	X	X	X	X	X	X	X	X	X	X	26	Laboratory to use applicable DEP CAM methods, unless otherwise directed.

(1) EDB/504
(2) 8260
(3) 8260 Trip Blank
(4) EDB/504 Trip Blank
(5) PAH SIM
(6) 8270
(7) TPH 1664
(8) Total Phenol
(9) PCB-608
(10) TCN
(11) Chloride 300
(12) Total Metals (Sb, As, Cd, Cr, Cu, Pb, Hg, Ni, Se, Ag, Zn, Fe)
(13) TRC, Hex Cr
(14) TSS

Sampled and Relinquished by	Received by
Sign [signature]	Sign
Print Daylot Warner	Print
Firm H&A	Firm
Date 11/23/11 Time	Date Time
Relinquished by	**Received by**
Sign	Sign
Print	Print
Firm	Firm
Date Time	Date Time
Relinquished by	**Received by**
Sign	Sign
Print	Print
Firm	Firm
Date Time	Date Time

LIQUID 20 TOTAL

X →	VOA Vial
X →	Amber Glass
X → X	Plastic Bottle
A, I A, F → A, I A, G → A, F A, E A, I A, C A A, D A	Preservative
40 ml → 1L → 250 ml →	Volume

SOLID

	VOA Vial
	Amber Glass
	Clear Glass
	Preservative
	Volume

PRESERVATION KEY

A Sample chilled	C NaOH	E H_2SO_4	G Methanol	I $Na_2S_2O_3$
B Sample filtered	D HNO_3	F HCL	H Water/NaHSO4 (circle)	

Sampling Comments

Sample Submitted for NPDES REP Permit application. Please follow appropriate testing methods and minimum detection limits as required by EPA for the REP.

Evidence samples were tampered with? YES NO

If YES, please explain in section below.

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

If Presumptive Certainty Data Package is needed, initial all sections:

✓ The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty.

MA Matrix Spike (MS) samples for MCP Metals and/or Cyanide are included and identified herein.

This Chain of Custody Record (specify) _____ includes _____ does not include samples defined as Drinking Water Samples.

NA If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and identified and analysis of TICs are required, as appropriate. Laboratory should (specify if applicable) _____ analyz

Required Reporting Limits and Data Quality Objectives

☐ RC-S1	☐ S1	☒ GW1
☐ RC-S2	☐ S2	☐ GW2
☐ RC-GW1	☐ S3	☐ GW3
☐ RC-GW2		

WHITE - Laboratory CANARY - Project Manager PINK - Haley & Aldrich Laboratory

AUGUST 2008

Serial_No:12201116:53

APPENDIX G

Material Safety Data Sheets (MSDSs) and Fact Sheets

USFILTER WESTATES CARBON AQUACARB® 830 AND 1240

Coal based granular activated carbon

(Formerly KG-401 and KG-502)

FOR MUNICIPAL, INDUSTRIAL AND REMEDIAL WATER TREATMENT

Description & Applications

AquaCarb® 830 and AquaCarb® 1240 are high activity granular activated carbons manufactured from selected grades of bituminous coal. Manufactured by direct activation, they exhibit exceptional hardness and attrition resistance and have become a cost effective choice for use in municipal, industrial and remedial water treatment applications. These high surface area microporous carbons have been specifically developed for the removal of a broad range of organic contaminants from potable, waste and process waters.

- ANSI/NSF Standard 61 classified for use in potable water applications
- Fully conforms to physical, performance and leachability requirements established by the current ANSI/AWWA B604 (which includes the Food Chemical Codex requirements)
- A detailed quality assurance program guarantees consistent quality from lot to lot and shipment to shipment

Quality Control

All AquaCarb® activated carbons are extensively quality checked at our State of California certified environmental and carbon testing laboratory located in Los Angeles, CA. USFilter's laboratory is fully equipped to provide complete quality control analyses using ASTM standard test methods in order to assure the consistent quality of all AquaCarb® carbons.

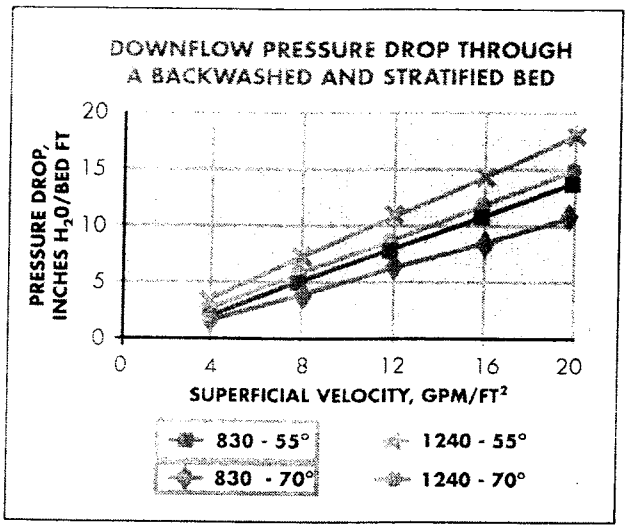
Our technical staff offers hands-on guidance in selecting the most appropriate system, operating conditions and carbon to meet your needs. For more information, contact your nearest USFilter representative.

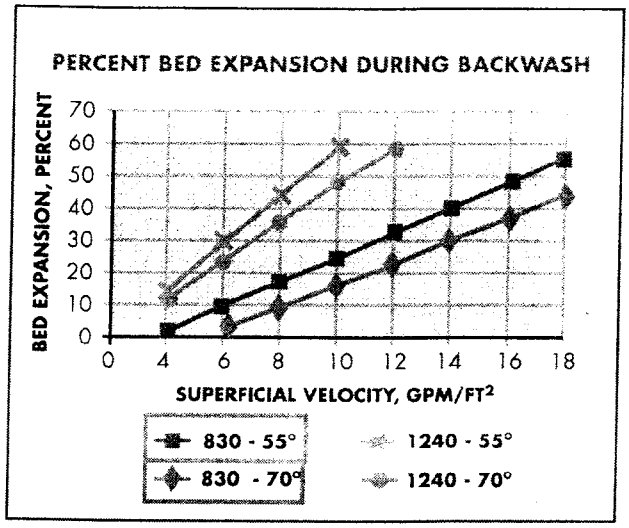
USFilter

AQUACARB® 830
AQUACARB® 1240

Coal based granular activated carbon

(Formerly KG-401 and KG-502)





Safety Note: Wet activated carbon depletes oxygen from the air and therefore dangerously low levels of oxygen may be encountered. Whenever workers enter a vessel containing activated carbon, the vessel's oxygen content should be determined and work procedures for potentially low oxygen areas should be followed. Read Material Safety Data Sheet (MSDS) before using this product.

All information presented herein is believed reliable and in accordance with accepted engineering practices. USFilter makes no warranties as to the completeness of this information. Users are responsible for evaluating individual product suitability for specific applications. USFilter assumes no liability whatsoever for any special, indirect or consequential damages arising from the sale, resale or misuse of its products.

SPECIFICATIONS/TYPICAL PROPERTIES

Specification	AquaCarb® 830	AquaCarb® 1240
Carbon Type	Bituminous Coal	Bituminous Coal
Mesh Size, U.S. Sieve	8 x 30	12 x 40
Effective Size, mm	0.8 - 1.1	0.55 - 0.75
Uniformity Coefficient (max)	2.1	1.9
Iodine No., mgI_2/g (min.)	900	1000
Abrasion No., Wt. % (min.)	80	80
Apparent Density, g/cc	0.46 - 0.54	0.46 - 0.54

USFilter

Westates
Customer and
Technical Service Network:

Gulf Coast Region 800.659.1723
(Louisiana) 225.744.3153
Western Region 800.659.1771
Mid-Atlantic Region 800.659.1717
Midwest Region 708.345.7290
Northwest Region 800.659.1718
Southeast Region 225.744.3153
New England Region 800.659.1717

www.usfilter.com

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