



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Region 1

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

CERTIFIED MAIL RETURN RECEIPT REQUESTED

MAR 25 2015

Chris Pennie
Senior Vice President-Operations
Lee Kennedy Co. Inc.
122 Quincy Shore Drive
Quincy, MA 02171

Re: Authorization to discharge under the Remediation General Permit (RGP) – MAG910000.
Harvard Kennedy School site located at 79 John F. Kennedy Street, Cambridge, MA 02138 -
0000, Middlesex County; Authorization # MAG910668

Dear Mr. Pennie:

Based on the review of a Notice of Intent (NOI) submitted by Elizabeth J. Christmas from Haley & Aldrich on behalf of the Fellows of Harvard College, acting by and through Harvard Kennedy School, for the site referenced above, the U.S. Environmental Protection Agency (EPA) hereby authorizes you, as the named Operator to discharge in accordance with the provisions of the RGP at that site. Your authorization number is listed above.

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

Please note the enclosed checklist includes the pollutants total suspended solids (TSS) and iron which your consultant marked "Believed Present". If this information changes during the clean-up operations an adjustment on the list of the monitoring parameters is required using a notice of change (NOC).

Also, please note that the metal iron (the only metal reported) is included on the checklist, this is a dilution dependent pollutant and subject to limitations based on selected dilution ranges and technology-based ceiling limitations. For this parameter the dilution factor 27 for this site is within a dilution range greater than ten to fifty (>10 to 50), established in the RGP. (See the RGP Appendix IV for Massachusetts facilities). Therefore, the limits for iron of 5,000 ug/L, is required to achieve permit compliance at your site.

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

This general permit and authorization to discharge will expire on September 9, 2015. You have reported this project will terminate on April 1, 2017. Please be advised that in order for the site to continue discharging after the expiration date indicated above your consultant must seek a permit reissuance. A reapplication and reissuance notice will be indicated on the EPA website after the EPA Permit is reissued. Also, you are required to submit a Notice of Termination (NOT) to the attention of the contact person indicated below within 30 days of project completion.

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

Sincerely,



Thelma Murphy, Chief
Storm Water and Construction
Permits Section

Enclosure

cc: Robert Kubit, MassDEP
Lisa Peterson, Commissioner Cambridge DPW
Elizabeth J. Christmas, Haley and Aldrich

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

NPDES Authorization Number:		MAG910668
Authorization Issued:	March, 2015	
Facility/Site Name:	Harvard Kennedy School	
Facility/Site Address:	79 John F. Kennedy Street, Cambridge, MA 02138-0000	
	Email address of owner: arthi_kasetty@hks.harvard.edu	
Legal Name of Operator:	Lee Kennedy Co. Inc.	
Operator contact name, title, and Address:	Chris Pennie: Senior Vice President- Operations	
	Email: cpennie@leekennedy	
Estimated date of The Project Completion:	April 1, 2017	
Category and Sub-Category:	Category. Subcategory Category III- Contaminated Construction Dewatering. Subcategory A. General Urban Fill Sites and B. Known Contaminated Sites.	
RGP Termination Date:	September 2015	
Receiving Water:	Charles River	

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

	<u>Parameter</u>	<u>Effluent Limit/Method#/ML</u> (All Effluent Limits are shown as Daily Maximum Limit, unless denoted by a **, in that case it will be a Monthly Average Limit)
✓	1. Total Suspended Solids (TSS)	30 milligrams/liter (mg/L) **, 50 mg/L for hydrostatic testing ** Me#160.2/ML5ug/L
	2. Total Residual Chlorine (TRC) ¹	Freshwater = 11 ug/L ** Saltwater = 7.5 ug/L **/ Me#330.5/ML 20ug/L
	3. Total Petroleum Hydrocarbons (TPH)	5.0 mg/L/ Me# 1664A/ML 5.0 mg/L
	4. Cyanide (CN) ^{2, 3}	Freshwater = 5.2 ug/l ** Saltwater = 1.0 ug/L **/ Me#335.4/ML 10ug/L
	5. Benzene (B)	5ug/L /50.0 ug/L for hydrostatic testing only/ Me#8260C/ML 2 ug/L
	6. Toluene (T)	(limited as ug/L total BTEX)/ Me#8260C/ML 2ug/L
	7. Ethylbenzene (E)	(limited as ug/L total BTEX) Me#8260C/ML 2ug/L
	8. (m,p,o) Xylenes (X)	(limited as ug/L total BTEX) Me#8260C/ML 2ug/L

9. Total Benzene, Toluene, Ethyl Benzene, and Xylenes (BTEX) ⁴	100 ug/L/ Me#8260C/ ML 2ug/L
10. Ethylene Dibromide (EDB) (1,2- Dibromoethane)	0.05 ug/l/ Me#8260C/ ML 10ug/L
11. Methyl-tert-Butyl Ether (MtBE)	70.0 ug/l/Me#8260C/ML 10ug/L
12.tert-Butyl Alcohol (TBA) (TertiaryButanol)	Monitor Only(ug/L)/Me#8260C/ML 10ug/L
13. tert-Amyl Methyl Ether (TAME)	Monitor Only(ug/L)/Me#8260C/ML 10ug/L
14. Naphthalene ⁵	20 ug/L /Me#8260C/ML 2ug/L
15. Carbon Tetrachloride	4.4 ug/L /Me#8260C/ ML 5ug/L
16. 1,2 Dichlorobenzene (o-DCB)	600 ug/L /Me#8260C/ ML 5ug/L
17. 1,3 Dichlorobenzene (m-DCB)	320 ug/L /Me#8260C/ ML 5ug/L
18. 1,4 Dichlorobenzene (p-DCB)	5.0 ug/L /Me#8260C/ ML 5ug/L
18a. Total dichlorobenzene	763 ug/L - NH only /Me#8260C/ ML 5ug/L
19. 1,1 Dichloroethane (DCA)	70 ug/L /Me#8260C/ ML 5ug/L
20. 1,2 Dichloroethane (DCA)	5.0 ug/L /Me#8260C/ ML 5ug/L
21. 1,1 Dichloroethene (DCE)	3.2 ug/L/Me#8260C/ ML 5ug/L
22. cis-1,2 Dichloroethene (DCE)	70 ug/L/Me#8260C/ ML 5ug/L
23. Methylene Chloride	4.6 ug/L/Me#8260C/ ML 5ug/L
24. Tetrachloroethene (PCE)	5.0 ug/L/Me#8260C/ ML 5ug/L
25. 1,1,1 Trichloro-ethane (TCA)	200 ug/L/Me#8260C/ ML 5ug/L
26. 1,1,2 Trichloro-ethane (TCA)	5.0 ug/L /Me#8260C/ ML 5ug/L
27. Trichloroethene (TCE)	5.0 ug/L /Me#8260C/ ML 5ug/L
28. Vinyl Chloride (Chloroethene)	2.0 ug/L /Me#8260C/ ML 5ug/L
29. Acetone	Monitor Only(ug/L)/Me#8260C/ML 50ug/L
30. 1,4 Dioxane	Monitor Only /Me#1624C/ML 50ug/L
31. Total Phenols	300 ug/L Me#420.1&420.2/ML 2 ug/L/ Me# 420.4 /ML 50ug/L
32. Pentachlorophenol (PCP)	1.0 ug/L /Me#8270D/ML 5ug/L,Me#604 &625/ML 10ug/L
33. Total Phthalates (Phthalate esters) ⁶	3.0 ug/L ** /Me#8270D/ML 5ug/L, Me#606/ML 10ug/L& Me#625/ML 5ug/L
34. Bis (2-Ethylhexyl) Phthalate [Di- (ethylhexyl) Phthalate]	6.0 ug/L /Me#8270D/ML 5ug/L,Me#606/ML 10ug/L & Me#625/ML 5ug/L
35. Total Group I Polycyclic Aromatic Hydrocarbons (PAH)	10.0 ug/L
a. Benzo(a) Anthracene ⁷	0.0038 ug/L /Me#8270D/ ML 5ug/L, Me#610/ML 5ug/L& Me#625/ML 5ug/L

b. Benzo(a) Pyrene ⁷	0.0038 ug/L /Me#8270D/ ML 5ug/L, Me#610/ML 5ug/L& Me#625/ML 5ug/L
c. Benzo(b)Fluoranthene ⁷	0.0038 ug/L /Me#8270D/ ML 5ug/L, Me#610/ML 5ug/L& Me#625/ML 5ug/L
d. Benzo(k)Fluoranthene ⁷	0.0038 ug/L /Me#8270D/ ML 5ug/L, Me#610/ML 5ug/L& Me#625/ML 5ug/L
e. Chrysene ⁷	0.0038 ug/L /Me#8270D/ML 5ug/L, Me#610/ML 5ug/L& Me#625/ML 5ug/L
f. Dibenzo(a,h)anthracene ⁷	0.0038 ug/L /Me#8270D/ML 5ug/L, Me#610/ML 5ug/L& Me#625/ML 5ug/L
g. Indeno(1,2,3-cd) Pyrene ⁷	0.0038 ug/L /Me#8270D/ML 5ug/L, Me#610/ML 5ug/L& Me#625/ML 5ug/L
36. Total Group II Polycyclic Aromatic Hydrocarbons (PAH)	100 ug/L
h. Acenaphthene	X/Me#8270D/ML 5ug/L,Me#610/ML 5ug/L & Me#625/ML 5ug/L
i. Acenaphthylene	X/Me#8270D/ML 5ug/L,Me#610/ML 5ug/L & Me#625/ML 5ug/L
j. Anthracene	X/Me#8270D/ML 5ug/L,Me#610/ML 5ug/L & Me#625/ML 5ug/L
k. Benzo(ghi) Perylene	X/Me#8270D/ML 5ug/L,Me#610/ML 5ug/L & Me#625/ML 5ug/L
l. Fluoranthene	X/Me#8270D/ML 5ug/L,Me#610/ML 5ug/L & Me#625/ML 5ug/L
m. Fluorene	X/Me#8270D/ML 5ug/L,Me#610/ML 5ug/L & Me#625/ML 5ug/L
n. Naphthalene ⁵	20 ug/l / Me#8270/ML 5ug/L, Me#610/ML 5ug/L & Me#625/ML 5ug/L
o. Phenanthrene	X/Me#8270D/ML 5ug/L,Me#610/ML 5ug/L & Me#625/ML 5ug/L
p. Pyrene	X/Me#8270D/ML 5ug/L,Me#610/ML 5ug/L & Me#625/ML 5ug/L
37. Total Polychlorinated Biphenyls (PCBs) ^{8,9}	0.000064 ug/L/Me# 608/ ML 0.5 ug/L
✓ 38. Chloride	Monitor only/Me# 300.0/ ML 100 ug/L

	<u>Metal parameter</u>	<u>Total Recoverable Metal Limit @ H ¹⁰ = 50 mg/l CaCO₃ for discharges in Massachusetts (ug/l) ^{11/12}</u>		<u>Minimum level=ML</u>	
		<u>Freshwater</u>			
	39. Antimony	5.6/ML	10	ML	10
	40. Arsenic **	10/ML	20	ML	20
	41. Cadmium **	0.2/ML	10		10
	42. Chromium III (trivalent) **	48.8/ML	15		15
	43. Chromium VI (hexavalent) **	11.4		ML	10

	44. Copper **	5.2		ML	15
	45. Lead **	1.3		ML	20
	46. Mercury **	0.9		ML	0.2
	47. Nickel **	29		ML	20
	48. Selenium **	5		ML	20
	49. Silver	1.2		ML	10
	50. Zinc **	66.6		ML	15
✓	51. Iron	1,000		ML	20

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

Footnotes:

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

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

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

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

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

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

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

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

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

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

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

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

¹² Minimum Level (ML) is the lowest level at which the analytical system gives a recognizable signal and acceptable calibration point for the analyte. The ML represents the lowest concentration at which an analyte can be measured with a known level of confidence. The ML is calculated by multiplying the laboratory-determined method detection limit by 3.18 (see 40 CFR Part 136, Appendix B).

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

¹⁴ Temperature sampling per Method 170.1



Haley & Aldrich, Inc.
465 Medford St.
Suite 2200
Boston, MA 02129
617.886.7400

24 February 2015
File No. 38247-005

US Environmental Protection Agency - Region 1
Industrial NPDES Permits (CIP)
5 Post Office Square
Mail Code OEP06-4
Boston, Massachusetts 02109-3912

Attention: Remediation General Permit NOI Processing

Subject: Notice of Intent (NOI) for NPDES Remediation General Permit Temporary
Construction Dewatering
Harvard Kennedy School
79 John F. Kennedy Street
Cambridge, Massachusetts

Ladies and Gentlemen:

On behalf of our client, The President and Fellows of Harvard College, acting by and through Harvard Kennedy School, 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.

SITE HISTORY

The subject site is located in the former marshland adjacent to the Charles River. The site was partially developed prior to 1854, at which time several dwellings existed at the northern portion of the property. By 1886, the site had been filled and was occupied by a rail yard, owned by Cambridge Railway Company. The rail yard was constructed on a concrete 1 to 5 ft thick concrete mat supported on wood piles. The rail yard included sheds, a storage warehouse, and a painting shed by 1900 and was owned by Boston Elevated Railway Company. Through 1950, the site remained primarily occupied by the rail yard, owned at that time by Metropolitan Transit Authority, and in 1960, an electric substation was present on the northern portion of the property (near the intersection of Eliot Street and JFK Street). The site was redeveloped in the late 1970s by the Harvard Kennedy School by placing fill up to existing grade on the rail yard concrete mat. The concrete mat was largely left in place with building foundations constructed through holes made in the concrete. The Littauer Center was completed in 1978, with additions added through 1989. The Belfer Center and David Rubenstein Building were constructed in 1983 and 1986, respectively. The Taubman Building was constructed in 1990.

CURRENT SITE CONDITIONS

The site is currently the location of the Harvard Kennedy School Campus, occupied by four existing buildings (the Littauer Center, the Belfer Center, the David Rubenstein Building, and the Taubman Building). The buildings are positioned along the perimeter of the site and are typically steel structures with brick facades with a paved and landscaped courtyard in the center of the site. The site is approximately 2.9 acres in size. It is bordered by Eliot Street to the northeast, John F. Kennedy Street to the southwest, John F. Kennedy Park to the southeast, and by a pedestrian walkway followed by the Charles Hotel to the northwest. The north side of the site off of Eliot Street is at a higher elevation than the rest of the landscaped courtyard and slopes down toward Littauer. The general site location is shown on Figure 1, Site Locus.

PROPOSED CONSTRUCTION

The proposed buildings are 4-story additions with new classrooms, meeting rooms, offices and study areas. The existing courtyard level will be rebuilt at a higher elevation level with the Eliot Street entrance, creating a lower level for deliveries and service.

Some of the other features of the proposed development include:

- A suspended “Gateway” structure elevated over the current entrance to the courtyard from Eliot Street at the 4th floor level;
- A “Winter Garden” covered courtyard on the southwestern corner of the roof, adjacent to Rubenstein and Littauer existing buildings;
- Installation of new and relocation of existing subsurface utilities; and
- Underground storm water storage tanks within the courtyard.

REGULATORY BACKGROUND

Testing of soil samples collected during the soil precharacterization programs conducted at the Harvard-Kennedy School in October and December 2014 indicated the presence of contaminants in soils above the applicable Massachusetts Contingency Plan RCS-1 Reportable Concentrations for Soil. A Release Notification Form (RNF) will be submitted to MassDEP in March 2015, prior to the start of proposed construction in April 2015. Soil management will be conducted under a Release Abatement Measure (RAM) Plan.

GROUNDWATER SAMPLING AND ANALYSIS

In support of the NOI, Haley & Aldrich collected two field filtered groundwater samples from observation well HA-B6(OW) at the site on 31 October 2014 and 10 December 2014. The collected groundwater samples were submitted to Alpha Analytical, Inc. of Westborough, Massachusetts

(Alpha Analytical), a MassDEP certified laboratory for analysis, for NPDES permit parameters including volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), total and dissolved metals, polychlorinated biphenyls (PCBs), pesticides, extractable petroleum hydrocarbons (EPH), volatile petroleum hydrocarbons (VPH), total suspended solids (TSS), total and residual chloride, total cyanide, and/or total phenolics.

The analytical results for the groundwater sample indicated that the tested compounds were below the applicable NPDES RGP Category III Effluent Limits and MCP RCGW-2 Reportable Concentrations, with the exception of total iron that exceeded the NPDES RGP Criteria at zero dilution. Although total iron exceeded NPDES RGP criteria, the dissolved concentration was below the NPDES RGP criteria. The results of water quality testing conducted for this NOI are summarized in Table I. The location of the observation well is shown on Figure 2.

MANAGEMENT OF DEWATERING EFFLUENT

During construction, it will be necessary to perform temporary dewatering to control surface water runoff from precipitation, groundwater seepage and construction-generated water to enable construction in-the-dry. The excavations for the proposed construction will extend approximately 5 ft or more below the existing groundwater level. Construction and construction dewatering activities are currently anticipated to begin as early as April 2015. On average, we estimate effluent discharge rates of about 100 to 150 gallons per minute (gpm) or less, with occasional peak flows of approximately 300 gpm during significant precipitation events. Temporary dewatering will be conducted from sumps located in excavations.

As part of the dewatering, an effluent treatment system will be designed by the Contractor to meet NPDES RGP discharge criteria. Prior to discharge, collected water will be routed through a sedimentation tank and a bag filter, at a minimum, to remove suspended solids and undissolved chemical constituents. The Proposed Treatment System Schematic is included as Figure 3.

Construction dewatering under this RGP NOI will include piping and discharging to storm drains near the site that are managed by the City of Cambridge and are routed under Memorial Drive that is maintained by the Department of Conservation and Recreation (DCR). The storm drains travel a short distance south and ultimately discharge into the Charles River. The proposed discharge routes are shown on Figure 4, Proposed Dewatering Discharge Route.

DISCHARGE START DATE AND LENGTH OF DISCHARGE

Site work and associated construction dewatering is currently anticipated to begin in April 2015 and is estimated to take up to 24 months to complete. Dewatering activities during below-grade construction are anticipated to be periodic and intermittent.

DILUTION FACTOR APPLICATION FOR METALS

A Dilution Factor (DF) was calculated for the detected levels of total metals greater than the applicable effluent limits. The DF was calculated using the following equation:

$$DF = (Q_d + Q_s)/Q_d$$

where Q_d is the maximum discharge flow rate, assumed to be 300 gallons per minute (GPM) or approximately 0.67 cubic feet per second (cfs), and Q_s is the receiving water flow rate, minimum for 7 consecutive days with a recurrence interval of 10 years, assumed to be 17.7 cfs based on data collected by the United States Geological Survey (USGS) and published in the "Clean Charles 2005 Water Quality Report, 2003 Core Monitoring Report" prepared by the US EPA Office of Environmental Measurement and Evaluation dated November 2004. Using these assumed values, the DF is equal to 27.4.

Using a DF equal to 27.4 and according to Appendix IV of the Remediation General Permit, the ceiling limitation for the calculated dilution factor for iron is 5 mg/L, which would be sufficient to meet the necessary discharge criteria. If testing of the dewatering effluent indicates that iron concentration is greater than 5 mg/L, then additional pretreatment of the dewatering effluent will be included as necessary to remove dissolved metals as shown on Figure 3.

APPENDICES

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

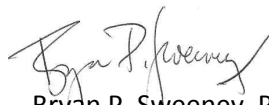
A Best Management Practices Plan (BMPP), which outlines the proposed discharge operations covered under the RGP, is included in Appendix B. Appendices C and D include Endangered Species Act and National Register of Historic Places Documentation, respectively. Appendix E provides copies of the groundwater testing laboratory data reports for samples obtained by Haley & Aldrich. Appendix F provides the Permit Application to be submitted separately to the City of Cambridge.

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.


Elizabeth J. Christmas
Staff Engineer


Bryan P. Sweeney, P.E.
Senior Vice President

Attachments:

Table I	Summary of Groundwater Quality Data
Figure 1	Site Locus
Figure 2	Site and Subsurface Exploration Location Plan
Figure 3	Proposed Treatment System Schematic
Figure 4	Proposed Dewatering Effluent Discharge Route (Parts 1 & 2)
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	Laboratory Data Reports
Appendix F	Copy of Cambridge Discharge and Dewatering Permit

c: Harvard Kennedy School; Attn: Arthi Kasetty
Harvard EH&S; Attn: Kelly McQueeney, Bree Carlson
CSL Consulting; Attn: Bryan Baldwin
Lee Kennedy Co; Attn: Chris Pennie

G:\38247- JF Kennedy School\NPDES RGP\Text\2015-0224-HAI-HKS NPDES RGP NOI-F.docx

Location Name	MCP 2014	NPDES	HA-B6	B6
Sample Name	RCGW-2	RGP	HA-B6	B6(OW)_12102014
Sample Date	Reportable	Category III	10/31/2014	12/10/2014
Lab Sample ID	Concentrations	Freshwater	L1426183-01 /	L1429682-01
	(mg/l)	Criteria (mg/l)	L1427563-01	
VOCs (mg/L)				
Total BTEX	NA	0.1	ND	-
Total VOCs	NA	NA	ND	-
SVOCs (mg/L)				
Total Group I PAHs	NA	0.01	ND	-
Total Group II PAHs	NA	0.1	ND	-
Total SVOCs		NA	ND	-
SVOCs (SIM) (mg/L)				
Total Group I PAHs	NA	0.01	ND	-
Total Group II PAHs	NA	0.1	ND	-
Total SVOCs	NA	NA	ND	-
EPH (mg/L)				
MADEP C11-C22 AROMATIC HYDROCARBO	5	NA	ND (0.1)	-
MADEP C19-C36 ALIPHATIC HYDROCARBO	50	NA	ND (0.1)	-
MADEP C9-C18 ALIPHATIC HYDROCARBON	5	NA	ND (0.1)	-
VPH (mg/L)				
MADEP C5-C8 ALIPHATIC HYDROCARBONS	3	NA	ND (0.05)	-
MADEP C9-C10 AROMATIC HYDROCARBON	4	NA	ND (0.05)	-
MADEP C9-C12 ALIPHATIC HYDROCARBON	5	NA	ND (0.05)	-
Pesticides (mg/l)				
Delta-BHC	1	1	ND(0.00001)	-
Lindane	0.004	0.004	ND(0.00001)	-
Alpha-BHC	5	5	ND(0.00001)	-
Beta-BHC	1	1	ND(0.00001)	-
Heptachlor	0.001	0.001	ND(0.00001)	-
Aldrin	0.002	0.002	ND(0.00001)	-
Heptachlor epoxide	0.002	0.002	ND(0.00001)	-
Endrin	0.005	0.005	ND(0.00002)	-
Endrin ketone	NA	NA	ND(0.00002)	-
Dieldrin	0.0005	0.0005	ND(0.00002)	-
4,4'-DDE	0.4	0.4	ND(0.00002)	-
4,4'-DDD	0.05	0.05	ND(0.00002)	-
4,4'-DDT	0.001	0.001	ND(0.00002)	-
Endosulfan I	0.002	0.002	ND(0.00001)	-
Endosulfan II	0.002	0.002	ND(0.00002)	-
Endosulfan sulfate	NA	NA	ND(0.00002)	-
Methoxychlor	0.01	0.01	ND(0.0001)	-
Chlordane	0.002	0.002	ND(0.0001)	-
Hexachlorobenzene	0.001	0.001	ND(0.00001)	-
Total Metals (mg/L)				
Antimony	8	0.0056	ND (0.003)	-
Arsenic	0.9	0.01	ND (0.005)	-
Barium	NA	NS	0.066	-
Beryllium	50	NA	ND (0.004)	-
Cadmium	0.2	0.0002	ND (0.004)	-
Chromium	0.3	0.0488	ND (0.01)	-
Chromium VI (Hexavalent)	0.3	0.0114	-	ND (0.05)
Copper	100	0.0052	ND (0.01)	-
Iron	NA	1	1.5	-
Lead	0.01	0.0013	ND (0.01)	-
Mercury	0.02	0.0009	ND (0.0002)	-
Nickel	0.2	0.029	ND (0.025)	-
Selenium	0.1	0.005	ND (0.01)	-
Silver	0.007	0.0012	ND (0.007)	-
Thallium	3	NS	ND (0.0005)	-
Vanadium	4	NS	ND (0.01)	-
Zinc	0.9	0.0666	ND (0.05)	-
Dissolved Metals (mg/L)				
Antimony	8	0.0056	ND (0.003)	-
Arsenic	0.9	0.01	ND (0.005)	-
Barium	NA	NA	0.062	-
Beryllium	50	NA	ND (0.004)	-
Cadmium	0.2	0.0002	ND (0.004)	-
Chromium	0.3	0.0488	ND (0.01)	-
Iron	NA	1	0.85	-
Lead	0.01	0.0013	ND (0.01)	-
Mercury	0.02	0.0009	ND (0.0002)	-
Nickel	0.2	0.029	ND (0.025)	-
Selenium	0.1	0.005	ND (0.01)	-
Silver	0.007	0.0012	ND (0.007)	-
Thallium	3	NA	ND (0.0005)	-
Vanadium	4	NA	ND (0.01)	-
Zinc	0.9	0.0666	ND (0.05)	-
PCBs (mg/L)				
Total PCBs	0.005	0.000000064	ND	-
Other (mg/L)				
Cyanide	0.03	0.0052	ND (0.005)	-
Cyanide (amenable)	0.03	0.0052	ND (0.01)	-
Cyanide (available)	0.03	0.0052	ND (0.005)	-
Chloride, Total	NA	Monitor Only	560	-
Chlorine, residual	NA	0.011	-	ND (0.02)
Total phenols	NA	0.3	ND (0.03)	-
Total Suspended Solids (TSS)	NA	30	31	-

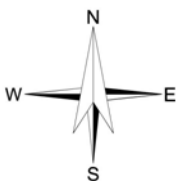
Notes & Abbreviations:
mg/L - milligram per liter
ND (1.0) - not detected, value is the reporting limit
NA - not available/no standard
1. **Bold** values exceed applicable NPDES RGP Criteria at **zero** dilution.



SITE COORDINATES: 42°22'17"N, 71°7'19"W

**HALEY
ALDRICH**

79 JFK STREET
HARVARD KENNEDY SCHOOL
CAMBRIDGE, MASSACHUSETTS

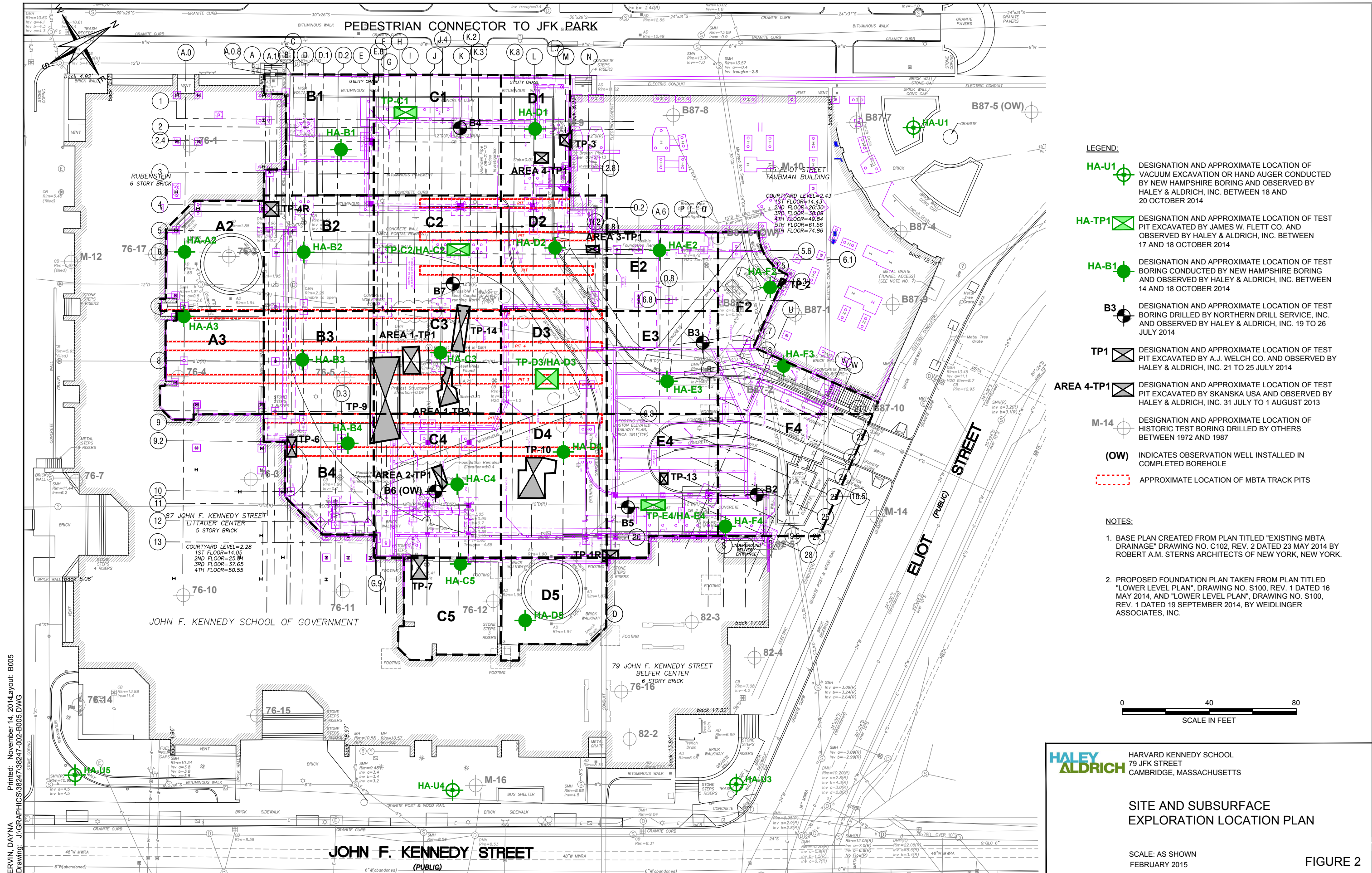


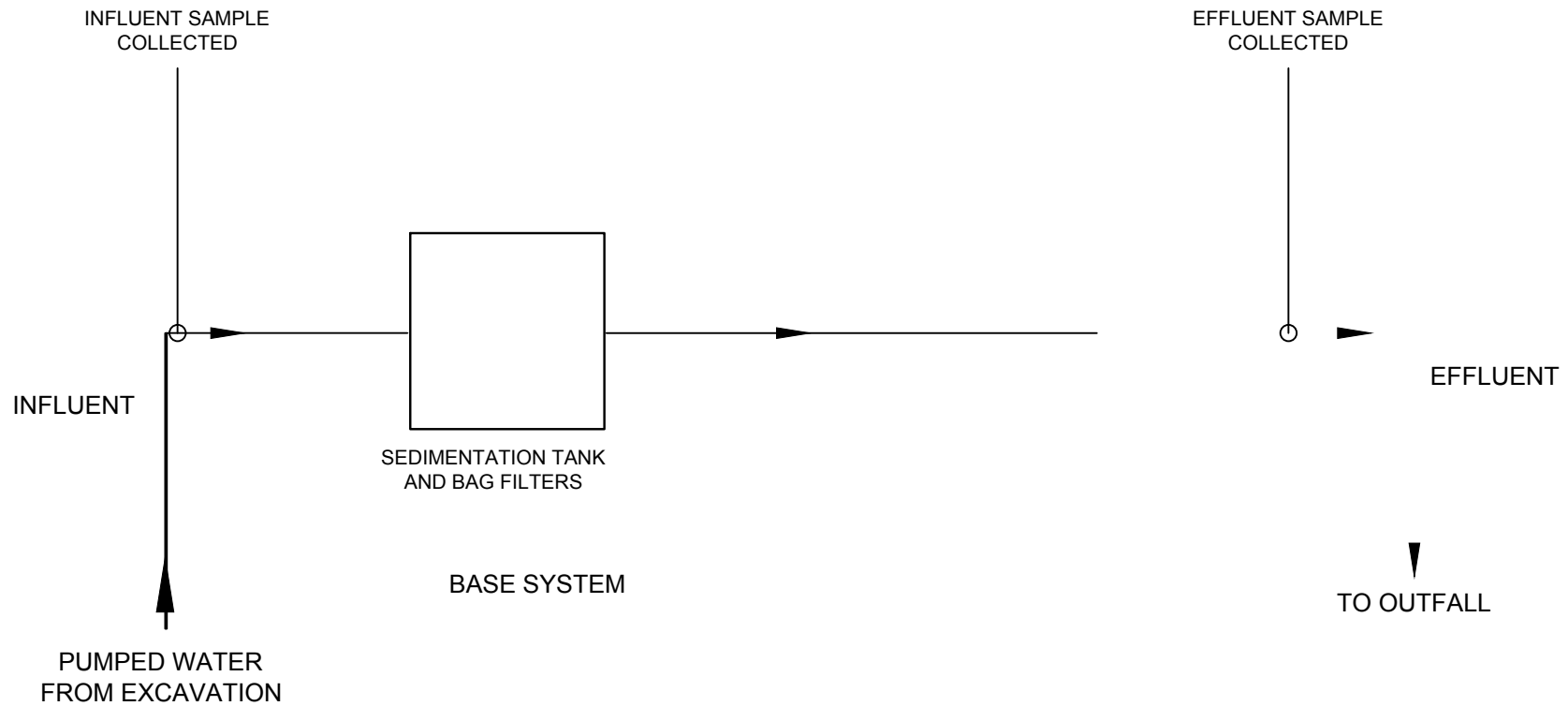
U.S.G.S. QUADRANGLE: BOSTON SOUTH, MA

SITE LOCUS

SCALE: 1:24,000
FEBRUARY 2015

FIGURE 1





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.

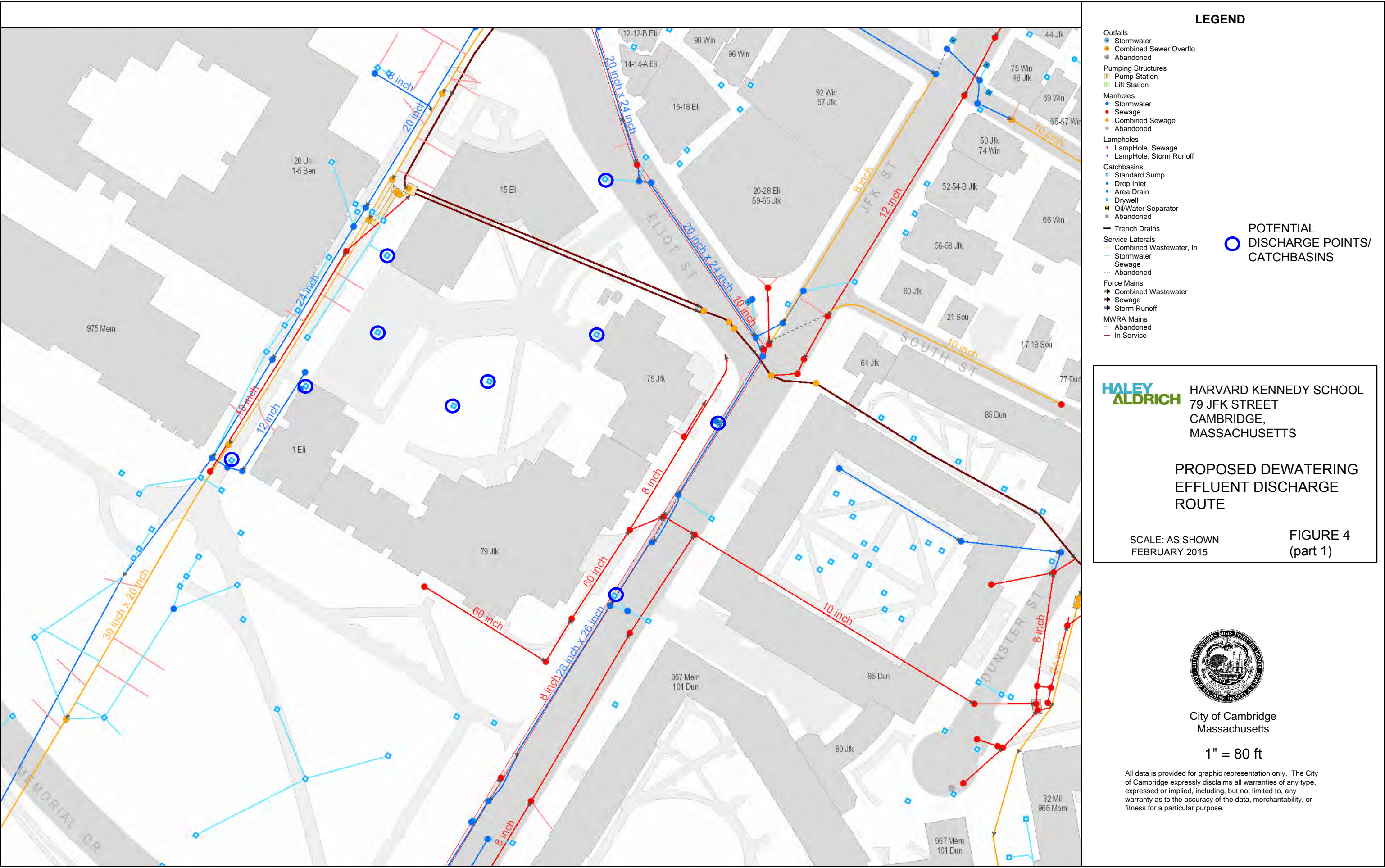
**HALEY
ALDRICH**

HARVARD KENNEDY SCHOOL
79 JOHN F. KENNEDY STREET
CAMBRIDGE, MASSACHUSETTS

**PROPOSED TREATMENT SYSTEM
SCHEMATIC**

SCALE: AS SHOWN
FEBRUARY 2015

FIGURE 3





LEGEND

- Pumping St
- Pump Station
- Lift Station
- Lampholes
 - LampHole, Sewage
 - LampHole, Storm Runoff
- Trench Drains
- Service Laterals
 - Combined Wastewater, In
 - Stormwater
 - Sewage
 - Abandoned
- MWRA Mains
 - Abandoned
 - In Service
- Underground Structures
 - Stormwater
 - Sewage
 - Combined Sewage

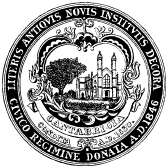


HARVARD KENNEDY SCHOOL
79 JFK STREET
CAMBRIDGE, MASSACHUSETTS

PROPOSED DEWATERING
EFFLUENT DISCHARGE ROUTE

SCALE: AS SHOWN
FEBRUARY 2015

FIGURE 4
(part 2)



City of Cambridge
Massachusetts

1" = 78 ft

All data is provided for graphic representation only. The City of Cambridge expressly disclaims all warranties of any type, expressed or implied, including, but not limited to, any warranty as to the accuracy of the data, merchantability, or fitness for a particular purpose.

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 :		Facility/site mailing address:	
Location of facility/site : longitude: _____ latitude: _____	Facility SIC code(s):	Street:	
b) Name of facility/site owner : Ms. Arthi Kasetty		Town:	
Email address of facility/site owner:	State:	Zip:	County:
Telephone no. of facility/site owner :			
Fax no. of facility/site owner :	Owner is (check one): 1. Federal____ 2. State/Tribal____ 3. Private____ 4. Other ____ if so, describe:		
Address of owner (if different from site):			
Street:			
Town:	State:	Zip:	County:
c) Legal name of operator :	Operator telephone no:		
	Operator fax no.:		Operator email:
Operator contact name and title:			
Address of operator (if different from owner):	Street:		
Town:	State:	Zip:	County:

<p>d) Check Y for “yes” or N for “no” for the following:</p> <p>1. Has a prior NPDES permit exclusion been granted for the discharge? Y___ N___, if Y, number:_____</p> <p>2. Has a prior NPDES application (Form 1 & 2C) ever been filed for the discharge? Y___ N___, if Y, date and tracking #:_____</p> <p>3. Is the discharge a “new discharge” as defined by 40 CFR 122.2? Y___ N___</p> <p>4. For sites in Massachusetts, is the discharge covered under the Massachusetts Contingency Plan (MCP) and exempt from state permitting? Y___ N___</p>	
<p>e) Is site/facility subject to any State permitting, license, or other action which is causing the generation of discharge? Y___ N___</p> <p>If Y, please list:</p> <p>1. site identification # assigned by the state of NH or MA: _____</p> <p>2. permit or license # assigned: _____</p> <p>3. state agency contact information: name, location, and telephone number: _____</p>	<p>f) Is the site/facility covered by any other EPA permit, including:</p> <p>1. Multi-Sector General Permit? Y___ N___,</p> <p>if Y, number: _____</p> <p>2. Final Dewatering General Permit? Y___ N___,</p> <p>if Y, number: _____</p> <p>3. EPA Construction General Permit? Y___ N___,</p> <p>if Y, number: _____</p> <p>4. Individual NPDES permit? Y___ N___,</p> <p>if Y, number: _____</p> <p>5. Any other water quality related individual or general permit? Y___ N___, if Y, number: _____</p>
<p>g) Is the site/facility located within or does it discharge to an Area of Critical Environmental Concern (ACEC)? Y___ N___</p>	
<p>h) Based on the facility/site information and any historical sampling data, identify the sub-category into which the potential discharge falls.</p>	
<u>Activity Category</u>	<u>Activity Sub-Category</u>
I - Petroleum Related Site Remediation	<p>A. Gasoline Only Sites _____</p> <p>B. Fuel Oils and Other Oil Sites (including Residential Non-Business Remediation Discharges) _____</p> <p>C. Petroleum Sites with Additional Contamination _____</p>
II - Non Petroleum Site Remediation	<p>A. Volatile Organic Compound (VOC) Only Sites _____</p> <p>B. VOC Sites with Additional Contamination _____</p> <p>C. Primarily Heavy Metal Sites _____</p>
III - Contaminated Construction Dewatering	<p>A. General Urban Fill Sites _____</p> <p>B. Known Contaminated Sites _____</p>

IV - Miscellaneous Related Discharges	A. Aquifer Pump Testing to Evaluate Formerly Contaminated Sites ____ B. Well Development/Rehabilitation at Contaminated/Formely 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:	
b) Provide the following information about each discharge:	
1) Number of discharge points:	2) What is the maximum and average flow rate of discharge (in cubic feet per second, ft ³ /s)? Max. flow _____ Is maximum flow a design value ? Y ____ N ____ Average flow (include units) _____ Is average flow a design value or estimate? _____
3) Latitude and longitude of each discharge within 100 feet: pt.1: lat. _____ long. _____; pt.2: lat. _____ long. _____; pt.3: lat. _____ long. _____; pt.4: lat. _____ long. _____; pt.5: lat. _____ long. _____; pt.6: lat. _____ long. _____; pt.7: lat. _____ long. _____; pt.8: lat. _____ long. _____; etc.	
4) If hydrostatic testing, total volume of the discharge (gals): _____	5) Is the discharge intermittent ____ or seasonal ____? Is discharge ongoing? Y ____ N ____
c) Expected dates of discharge (mm/dd/yy): start _____ end _____	
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).	

3. Contaminant information.

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

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

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

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

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

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

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

⁴The sum of individual phthalate compounds.

<u>Parameter *</u>	<u>CAS Number</u>	<u>Believed Absent</u>	<u>Believed Present</u>	<u># of Samples</u>	<u>Sample Type (e.g., grab)</u>	<u>Analytical Method Used (method #)</u>	<u>Minimum Level (ML) of Test Method</u>	<u>Maximum daily value</u>		<u>Average daily value</u>	
								<u>concentration (ug/l)</u>	<u>mass (kg)</u>	<u>concentration (ug/l)</u>	<u>mass (kg)</u>
h. Acenaphthene	83329										
i. Acenaphthylene	208968										
j. Anthracene	120127										
k. Benzo(ghi) Perylene	191242										
l. Fluoranthene	206440										
m. Fluorene	86737										
n. Naphthalene	91203										
o. Phenanthrene	85018										
p. Pyrene	129000										
37. Total Polychlorinated Biphenyls (PCBs)	85687; 84742; 117840; 84662; 131113; 117817.										
38. Chloride	16887006										
39. Antimony	7440360										
40. Arsenic	7440382										
41. Cadmium	7440439										
42. Chromium III (trivalent)	16065831										
43. Chromium VI (hexavalent)	18540299										
44. Copper	7440508										
45. Lead	7439921										
46. Mercury	7439976										
47. Nickel	7440020										
48. Selenium	7782492										
49. Silver	7440224										
50. Zinc	7440666										
51. Iron	7439896										
Other (describe):											

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

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

<p><i>Step 1:</i> Do any of the metals in the influent exceed the effluent limits in Appendix III (i.e., the limits set at zero dilution)? Y_____ N_____</p>	<p>If yes, which metals?</p>
<p><i>Step 2:</i> For any metals which exceed the Appendix III limits, calculate the dilution factor (DF) using the formula in Part I.A.3.c (step 2) of the NOI instructions or as determined by the State prior to the submission of this NOI. What is the dilution factor for applicable metals?</p> <p>Metal:_____ DF:_____</p> <p>Metal:_____ DF:_____</p> <p>Metal:_____ DF:_____</p> <p>Metal:_____ DF:_____</p> <p>Etc.</p>	<p>Look up the limit calculated at the corresponding dilution factor in Appendix IV. Do any of the metals in the influent have the potential to exceed the corresponding effluent limits in Appendix IV (i.e., is the influent concentration above the limit set at the calculated dilution factor)?</p> <p>Y_____ N_____ If Y, list which metals:</p>

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:

<p>a) A description of the treatment system, including a schematic of the proposed or existing treatment system:</p>						
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):			

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

Average flow rate of discharge _____ gpm Maximum flow rate of treatment system _____ gpm

Design flow rate of treatment system _____ gpm

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

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

a) Identify the discharge pathway:	Direct to receiving water _____	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:					
c) Attach a detailed map(s) indicating the site location and location of the outfall to the receiving water: 1. For multiple discharges, number the discharges sequentially. 2. For indirect dischargers, indicate the location of the discharge to the indirect conveyance and the discharge to surface water The map should also include the location and distance to the nearest sanitary sewer as well as the locus of nearby sensitive receptors (based on USGS topographical mapping), such as surface waters, drinking water supplies, and wetland areas.					
d) Provide the state water quality classification of the receiving water _____					
e) Provide the reported or calculated seven day-ten year low flow (7Q10) of the receiving water _____ cfs Please attach any calculation sheets used to support stream flow and dilution calculations.					
f) Is the receiving water a listed 303(d) water quality impaired or limited water? Y _____ N _____ If yes, for which pollutant(s)? _____					
Is there a final TMDL? Y _____ N _____ If yes, for which pollutant(s)? _____					

6. ESA and NHPA Eligibility.

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


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

7. Supplemental information.

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


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:	Harvard Kennedy School
Operator signature:	
Printed Name & Title:	Arthi Kasetty; Director - Facilities Mgmt. & Services; Harvard Kennedy School
Date:	2/11/2015

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:	Harvard Kennedy School
Operator signature:	
Printed Name & Title:	Chris Pennie, Senior Vice President - Operations; Lee Kennedy Co Inc
Date:	2/3/15

APPENDIX B

Best Management Practices Plan (BMPP)

**NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
REMEDATION GENERAL PERMIT
TEMPORARY CONSTRUCTION DEWATERING
HARVARD-KENNEDY SCHOOL
79 JOHN F. KENNEDY STREET
CAMBRIDGE, 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 dewatering planned to occur during the construction of the proposed Harvard Kennedy School located at 79 John F. Kennedy Street in Cambridge, 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 using a combination of drainage ditches and 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 and bag filters, as required, to remove suspended solids and undissolved chemical constituents. Proposed Treatment System Schematic is shown on Figure 3. Construction dewatering under this RGP NOI will include piping and discharging to storm drains located in John F. Kennedy Street, Eliot Street, and the private road adjacent to the site. The storm drains travel short distance south/southeast before discharging to the Charles River.

Discharge Monitoring and Compliance

Regular sampling and testing will be conducted by the Contractor 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.

**NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
REMEDATION GENERAL PERMIT
TEMPORARY CONSTRUCTION DEWATERING
HARVARD-KENNEDY SCHOOL
79 JOHN F. KENNEDY STREET
CAMBRIDGE, MASSACHUSETTS**

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

Miscellaneous Items

It is anticipated that the excavation support system, erosion control measures, and the nature of the site and surrounding infrastructure will minimize potential runoff to or from the site. The project specifications also include requirements for erosion control.

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

No adverse affects of designated water uses of surrounding surface water bodies is anticipated. The Charles River is the nearest surface water body to the site located adjacent to the construction activities on site. Dewatering effluent will be pumped to a sedimentation tank, bag filters, and any other treatment components (as required), prior to discharge to the storm drains.

Management of Treatment System Materials

Groundwater analytical data for the site is below the applicable MCP RCGW-2 criteria. 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. Bag filters 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 7, 2014

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 information currently available to us, no federally listed or proposed, threatened or endangered species or critical habitat under the jurisdiction of the U.S. Fish and Wildlife 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. No further Endangered Species Act coordination 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 Maria 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

MassDEP - Bureau of Waste Site Cleanup

Site Information:

79 JOHN F. KENNEDY STREET CAMBRIDGE, MA

NAD83 UTM Meters:

5216774mN, -7917276mE (Zone: 18)

November 19, 2014

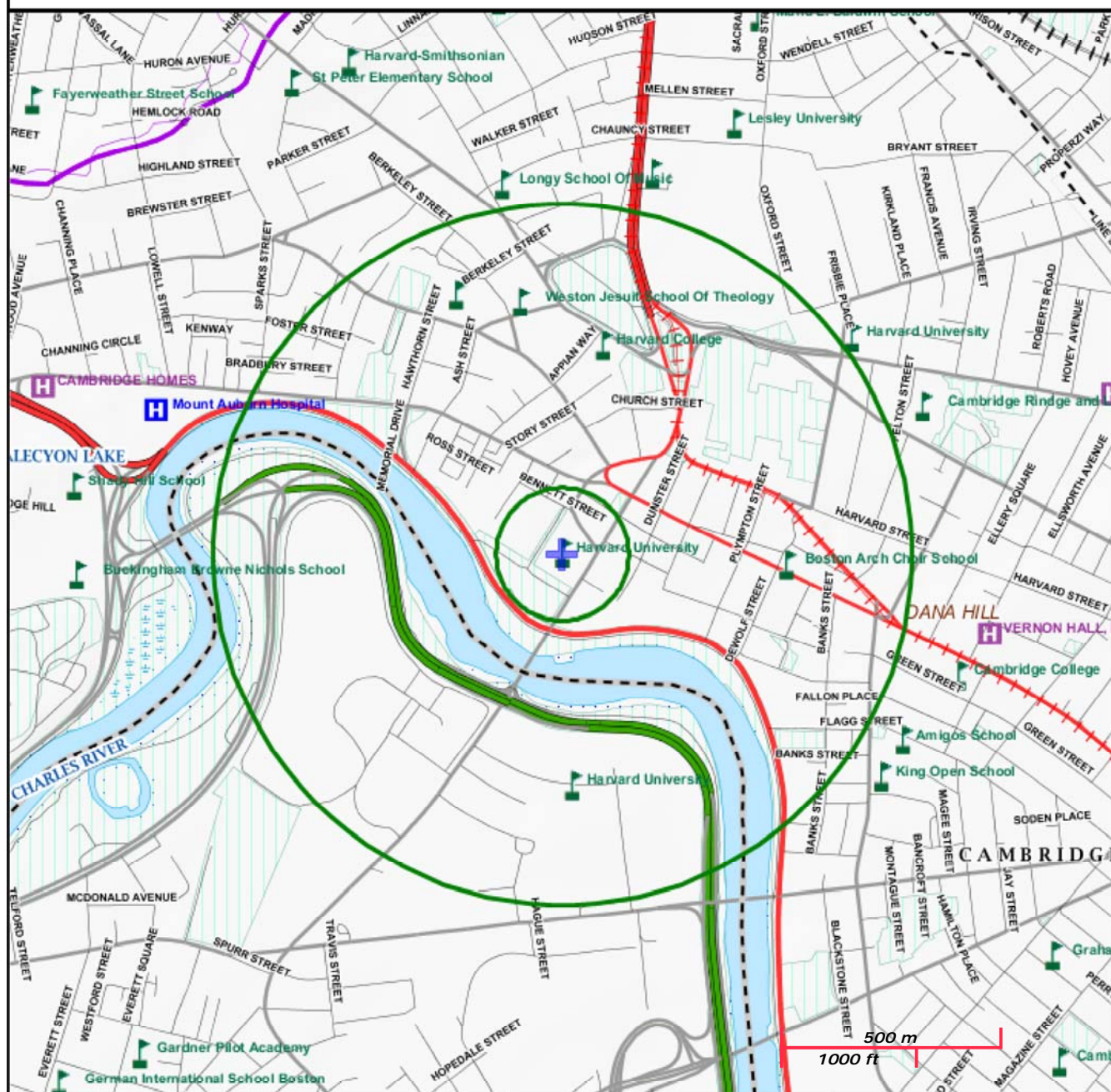
Phase 1 Site Assessment Map: 500 feet & 0.5 Mile Radii

The information shown is the best available at the date of printing. However, it may be incomplete. The responsible party and LSP are ultimately responsible 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.

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

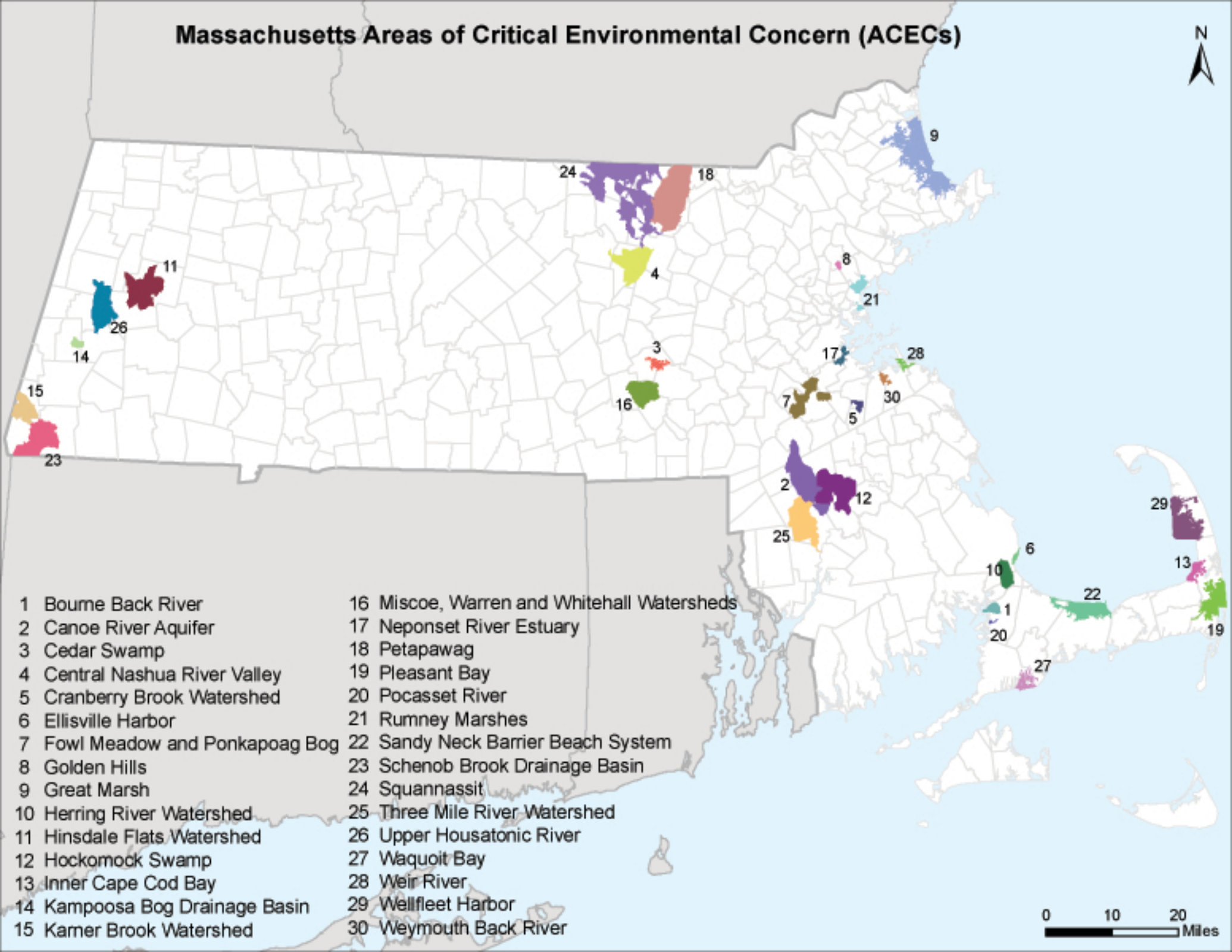
Weymouth Back River

(800 acres, 1982) Hingham and Weymouth

Towns with ACECs within their Boundaries**November 2010**

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

Massachusetts Areas of Critical Environmental Concern (ACECs)



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

0 10 20 Miles

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, Warwick
	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.	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.

The Natural Heritage & Endangered Species Program maintains a list of all documented MESA-listed species observations in the Commonwealth. Please select a town if you would like to see a table showing which listed species have been observed in that town. The selected town will also be highlighted on the map. Alternatively you can specify either the Common Name or Scientific Name of a species to see its distribution on the map and table showing the towns it has been observed in. Clicking on a column header in the table will sort the column. Clicking again on the same column heading will reverse the sort order.

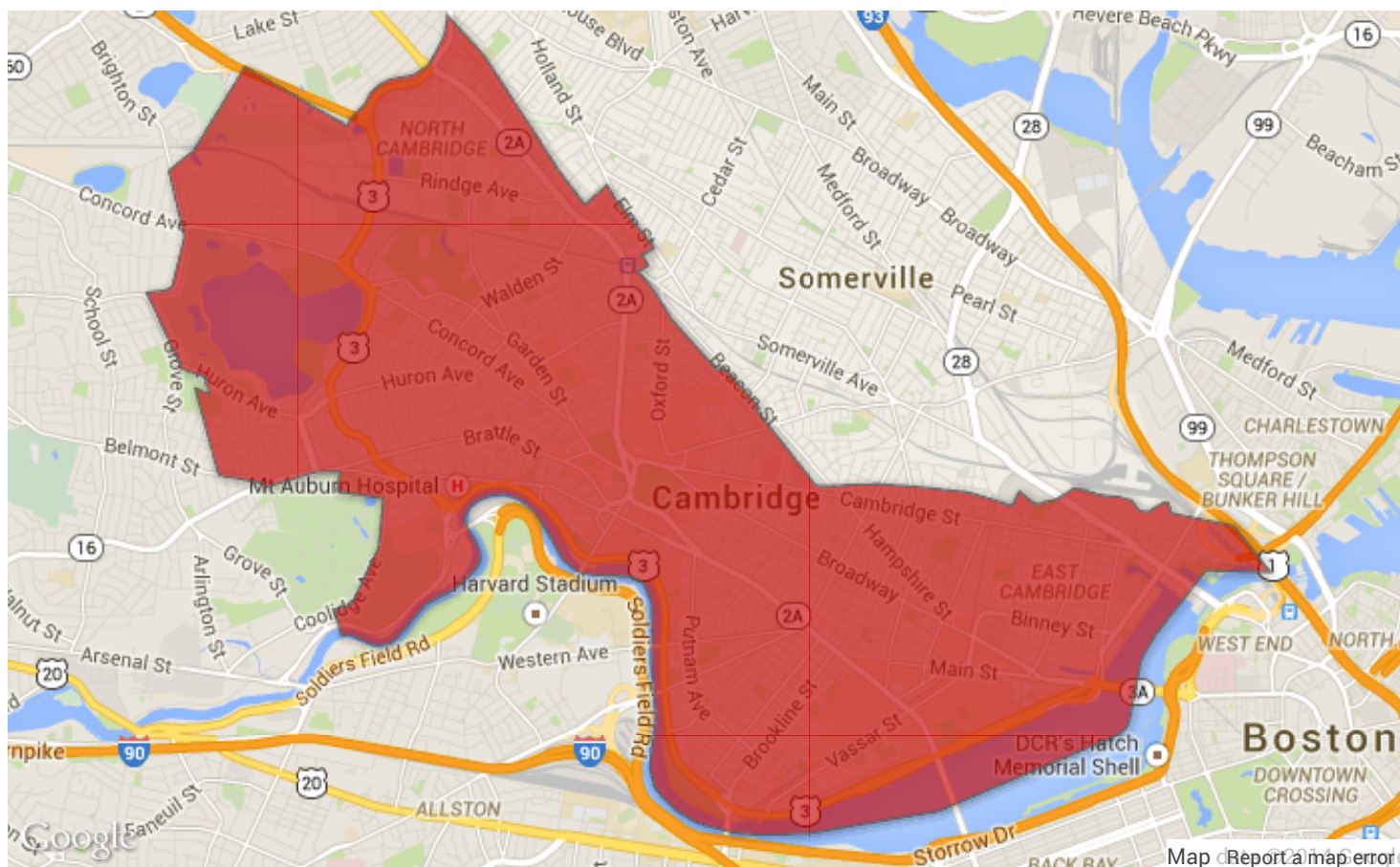
The Town List and Species Viewer will be updated at regular intervals as new data is accepted and entered into the NHESP database.

Town:

CAMBRIDGE

Species (Common Name):

Species (Scientific Name):



Showing 1 to 25 of 25 entries

Search:

First Previous 1 Next Last

Town	Taxonomic Group	Scientific Name	Common Name	MESA Status	Most Recent Obs
CAMBRIDGE	Amphibian	Ambystoma laterale	Blue-spotted Salamander	SC	1917
CAMBRIDGE	Bird	Ammodramus henslowii	Henslow's Sparrow	E	1871
CAMBRIDGE	Bird	Botaurus lentiginosus	American Bittern	E	1906
CAMBRIDGE	Vascular Plant	Carex gracilescens	Slender Woodland Sedge	E	1891
CAMBRIDGE	Beetle	Cicindela duodecimguttata	Twelve-spotted Tiger	SC	1932

			Beetle		
CAMBRIDGE	Bird	Cistothorus platensis	Sedge Wren	E	1840
CAMBRIDGE	Vascular Plant	Cyperus engelmannii	Engelmann's Umbrella-sedge	T	2008
CAMBRIDGE	Butterfly/Moth	Eacles imperialis	Imperial Moth	T	Historic
CAMBRIDGE	Bird	Falco peregrinus	Peregrine Falcon	E	2013
CAMBRIDGE	Bird	Gallinula chloropus	Common Moorhen	SC	1890
CAMBRIDGE	Vascular Plant	Gentiana andrewsii	Andrews' Bottle Gentian	E	2013
CAMBRIDGE	Reptile	Glyptemys insculpta	Wood Turtle	SC	Historic
CAMBRIDGE	Vascular Plant	Isoetes lacustris	Lake Quillwort	E	Historic
CAMBRIDGE	Bird	Ixobrychus exilis	Least Bittern	E	1890
CAMBRIDGE	Mussel	Ligumia nasuta	Eastern Pondmussel	SC	1940
CAMBRIDGE	Segmented Worm	Macrobdella sesteria	New England Medicinal Leech	SC	Historic
CAMBRIDGE	Fish	Notropis bifrenatus	Bridle Shiner	SC	1928
CAMBRIDGE	Vascular Plant	Platanthera flava var. herbiola	Pale Green Orchis	T	Historic
CAMBRIDGE	Vascular Plant	Potamogeton friesii	Fries' Pondweed	E	1880
CAMBRIDGE	Amphibian	Scaphiopus holbrookii	Eastern Spadefoot	T	1892
CAMBRIDGE	Vascular Plant	Scirpus longii	Long's Bulrush	T	1913
CAMBRIDGE	Vascular Plant	Suaeda calceoliformis	American Sea-blite	SC	1912
CAMBRIDGE	Reptile	Terrapene carolina	Eastern Box Turtle	SC	1892
CAMBRIDGE	Bird	Tyto alba	Barn Owl	SC	Historic
CAMBRIDGE	Vascular Plant	Viola brittoniana	Britton's Violet	T	1843

Show 25 ▼ entries

Hide Additional Info

Status

- 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.

For more information about a particular species, view the list of [Natural Heritage Fact Sheets](#).



U.S. Fish and Wildlife Service

Trust Resources List

This resource list is to be used for planning purposes only — it is not an official species list.

Endangered Species Act species list information for your project is available online and listed below for the following FWS Field Offices:

New England Ecological Services Field Office
70 COMMERCIAL STREET, SUITE 300
CONCORD, NH 3301
(603) 223-2541
<http://www.fws.gov/newengland>

Project Location Map:





Trust Resources List

Project Counties:

Middlesex, MA

Geographic coordinates (Open Geospatial Consortium Well-Known Text, NAD83):

MULTIPOLYGON (((-71.1231102 42.3710482, -71.1231424 42.3710482, -71.1220915 42.3723168, -71.1220164 42.3723326, -71.1211903 42.3714052, -71.1218877 42.3704933, -71.1231102 42.3710482)))

Project Type:

Dredge / Excavation

Endangered Species Act Species List ([USFWS Endangered Species Program](#)).

There are no listed species found within the vicinity of your project.

Critical habitats within your project area:

There are no critical habitats within your project area.

FWS National Wildlife Refuges ([USFWS National Wildlife Refuges Program](#)).

There are no refuges found within the vicinity of your project.

FWS Migratory Birds ([USFWS Migratory Bird Program](#)).

The protection of birds is regulated by the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA). Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. For more information regarding these Acts see: <http://www.fws.gov/migratorybirds/RegulationsandPolicies.html>.

All project proponents are responsible for complying with the appropriate regulations protecting birds when planning and developing a project. To meet these conservation obligations, proponents should identify potential or existing project-related impacts to migratory birds and their habitat and develop and implement conservation



Trust Resources List

measures that avoid, minimize, or compensate for these impacts. The Service's Birds of Conservation Concern (2008) report identifies species, subspecies, and populations of all migratory nongame birds that, without additional conservation actions, are likely to become listed under the Endangered Species Act as amended (16 U.S.C 1531 et seq.).

For information about Birds of Conservation Concern, go to:

<http://www.fws.gov/migratorybirds/CurrentBirdIssues/Management/BCC.html>.

To search and view summaries of year-round bird occurrence data within your project area, go to the Avian Knowledge Network Histogram Tool links in the Bird Conservation Tools section at: <http://www.fws.gov/migratorybirds/CCMB2.htm>.

For information about conservation measures that help avoid or minimize impacts to birds, please visit:

<http://www.fws.gov/migratorybirds/CCMB2.htm>.

Migratory birds of concern that may be affected by your project:

There are **19** birds on your Migratory birds of concern list. The underlying data layers used to generate the migratory bird list of concern will continue to be updated regularly as new and better information is obtained. User feedback is one method of identifying any needed improvements. Therefore, users are encouraged to submit comments about any questions regarding species ranges (e.g., a bird on the USFWS BCC list you know does not occur in the specified location appears on the list, or a BCC species that you know does occur there is not appearing on the list). Comments should be sent to [the ECOS Help Desk](#).

Species Name	Bird of Conservation Concern (BCC)	Species Profile	Seasonal Occurrence in Project Area
American Oystercatcher (<i>Haematopus palliatus</i>)	Yes	species info	Breeding
American bittern (<i>Botaurus lentiginosus</i>)	Yes	species info	Breeding
Bald eagle (<i>Haliaeetus leucocephalus</i>)	Yes	species info	Year-round
Black-billed Cuckoo (<i>Coccyzus erythrophthalmus</i>)	Yes	species info	Breeding
Blue-winged Warbler (<i>Vermivora pinus</i>)	Yes	species info	Breeding
Canada Warbler (<i>Wilsonia canadensis</i>)	Yes	species info	Breeding



Trust Resources List

Hudsonian Godwit (<i>Limosa haemastica</i>)	Yes	species info	Migrating
Least Bittern (<i>Ixobrychus exilis</i>)	Yes	species info	Breeding
Peregrine Falcon (<i>Falco peregrinus</i>)	Yes	species info	Breeding
Pied-billed Grebe (<i>Podilymbus podiceps</i>)	Yes	species info	Breeding
Prairie Warbler (<i>Dendroica discolor</i>)	Yes	species info	Breeding
Purple Sandpiper (<i>Calidris maritima</i>)	Yes	species info	Wintering
Saltmarsh Sparrow (<i>Ammodramus caudacutus</i>)	Yes	species info	Breeding
Seaside Sparrow (<i>Ammodramus maritimus</i>)	Yes	species info	Breeding
Short-eared Owl (<i>Asio flammeus</i>)	Yes	species info	Wintering
Snowy Egret (<i>Egretta thula</i>)	Yes	species info	Breeding
Upland Sandpiper (<i>Bartramia longicauda</i>)	Yes	species info	Breeding
Wood Thrush (<i>Hylocichla mustelina</i>)	Yes	species info	Breeding
Worm eating Warbler (<i>Helmitheros vermivorum</i>)	Yes	species info	Breeding

NWI Wetlands ([USFWS National Wetlands Inventory](#)).

The U.S. Fish and Wildlife Service is the principal Federal agency that provides information on the extent and status of wetlands in the U.S., via the National Wetlands Inventory Program (NWI). In addition to impacts to wetlands within your immediate project area, wetlands outside of your project area may need to be considered in any evaluation of project impacts, due to the hydrologic nature of wetlands (for example, project activities may affect local hydrology within, and outside of, your immediate project area). It may be helpful to refer to the USFWS National Wetland Inventory website. The designated FWS office can also assist you. Impacts to wetlands and other aquatic habitats from your project may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal Statutes. Project Proponents should discuss the relationship of these



Trust Resources List

requirements to their project with the Regulatory Program of the appropriate [U.S. Army Corps of Engineers District](#).

Data Limitations, Exclusions and Precautions

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery and/or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Exclusions - Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tubercid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Precautions - Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

IPaC is unable to display wetland information at this time.

APPENDIX D

National Register of Historic Places and Massachusetts Historical Commission Documentation

Massachusetts Cultural Resource Information System

MACRIS

MACRIS Search Results

Search Criteria: Town(s): Cambridge; Place: Harvard Square;

Inv. No.	Property Name	Street	Town	Year
CAM.AB	Harvard Square Historic District		Cambridge	
CAM.AD	Harvard Yard Historic District		Cambridge	
CAM.BE	Old Harvard Yard		Cambridge	
CAM.BG	Harvard Square Historic District		Cambridge	
CAM.1061	Harvard Catholic Student Center	20 Arrow St	Cambridge	c 1890
CAM.1062	Saint Paul's Church	24 Arrow St	Cambridge	r 1920
CAM.1063	Bicycle Exchange Building	3-7 Bow St	Cambridge	1901
CAM.1064		9 Bow St	Cambridge	1884
CAM.1066	Westmorly Court - Harvard University	15-29 Bow St	Cambridge	c 1898
CAM.12	Harvard Lampoon Building	44 Bow St	Cambridge	1909
CAM.1067	Randolph Hall - Harvard University	47-57 Bow St	Cambridge	1897
CAM.1068	Brattle Building	4 Brattle St	Cambridge	1913
CAM.1069	Atrium Building	9-11 Brattle St	Cambridge	1979
CAM.1071		12-16 Brattle St	Cambridge	1887
CAM.1070	Estes Block	13-15 Brattle St	Cambridge	1875
CAM.1072	Dow Block	17-35 Brattle St	Cambridge	c 1936
CAM.1073		18 Brattle St	Cambridge	1922
CAM.1074		26 Brattle St	Cambridge	1909
CAM.1075	Hadley Building	28-36 Brattle St	Cambridge	1974
CAM.1076	Cambridge Federal Savings Bank	38A Brattle St	Cambridge	1937
CAM.1077		39-41 Brattle St	Cambridge	1925
CAM.15	Brattle Hall	40 Brattle St	Cambridge	1889
CAM.1078		40A Brattle St	Cambridge	c 1925
CAM.16	Brattle, William House	42 Brattle St	Cambridge	c 1727
CAM.1079	Sage Building	43-45 Brattle St	Cambridge	1926
CAM.1080		44 Brattle St	Cambridge	1970
CAM.1081		46R Brattle St	Cambridge	1966

Inv. No.	Property Name	Street	Town	Year
CAM.1082		47-49 Brattle St	Cambridge	c 1926
CAM.1083	Design Research Building	48 Brattle St	Cambridge	1969
CAM.1084	Washington Court	51 Brattle St	Cambridge	1905
CAM.97	Memorial Hall	Cambridge St	Cambridge	r 1875
CAM.102	First Parish Church, Unitarian	1-3 Church St	Cambridge	1833
CAM.103		23-25 Church St	Cambridge	1936
CAM.1085		26-28 Church St	Cambridge	1857
CAM.104		27-29 Church St	Cambridge	1922
CAM.105	Cambridge Police Station	31-33 Church St	Cambridge	1864
CAM.1086	Oxford Grill	32-42 Church St	Cambridge	1931
CAM.1087	Hancock - Torrey House	53 Church St	Cambridge	1827
CAM.1088		54-56 Church St	Cambridge	1925
CAM.1089		59-63 Church St	Cambridge	1949
CAM.121	Second Cambridge Savings Bank Building	11-21 Dunster St	Cambridge	1897
CAM.1090	Union Railway Car barn	25-33 Dunster St	Cambridge	1860
CAM.1091	Second D. U. Club	45 Dunster St	Cambridge	1930
CAM.1092	Metcalf, Eliab Wight House	46 Dunster St	Cambridge	1820
CAM.1093	Edwards, Abraham - Moore, Mary House	53 Dunster St	Cambridge	1841
CAM.1094	Alpha Sigma Phi Club	54 Dunster St	Cambridge	1900
CAM.122	Wyeth, Augustus House	69 Dunster St	Cambridge	1829
CAM.1095		71-77 Dunster St	Cambridge	1894
CAM.1096	Hotel Packard	10-14 Eliot St	Cambridge	1869
CAM.1097		14A Eliot St	Cambridge	1900
CAM.1098		16-18 Eliot St	Cambridge	1898
CAM.800	Old Burying Ground	Garden St	Cambridge	r 1750
CAM.193	Austin Hall	Harvard University	Cambridge	1881
CAM.178	Holden Chapel - Harvard University	Harvard Yard	Cambridge	1764
CAM.179	Sever Hall	Harvard Yard	Cambridge	1880
CAM.180	University Hall	Harvard Yard	Cambridge	1812
CAM.181	Harvard Hall - Harvard University	Harvard Yard	Cambridge	1764
CAM.182	Hollis Hall - Harvard University	Harvard Yard	Cambridge	1762
CAM.183	Massachusetts Hall	Harvard Yard	Cambridge	1718
CAM.184	Weld Hall - Harvard University	Harvard Yard	Cambridge	1870
CAM.185	Boylston Hall - Harvard University	Harvard Yard	Cambridge	1857
CAM.186	Holworthy Hall - Harvard University	Harvard Yard	Cambridge	1811
CAM.187	Grays Hall - Harvard University	Harvard Yard	Cambridge	1862
CAM.188	Lehman Hall - Harvard University	Harvard Yard	Cambridge	1924
CAM.189	Matthews House - Harvard University	Harvard Yard	Cambridge	1871

Inv. No.	Property Name	Street	Town	Year
CAM.190	Straus Hall - Harvard University	Harvard Yard	Cambridge	1926
CAM.191	Thayer Hall - Harvard University	Harvard Yard	Cambridge	1869
CAM.192	Wigglesworth Hall - Harvard University	Harvard Yard	Cambridge	1930
CAM.953	Harvard University - 1857 Gate	Harvard Yard	Cambridge	1901
CAM.954	Harvard University - 1870 Gate	Harvard Yard	Cambridge	1901
CAM.955	Harvard University - 1873 Tablet	Harvard Yard	Cambridge	1901
CAM.956	Harvard University - 1874 Gate	Harvard Yard	Cambridge	1901
CAM.957	Harvard University - 1875 Gate	Harvard Yard	Cambridge	1901
CAM.958	Harvard University - 1881 Gate	Harvard Yard	Cambridge	1906
CAM.959	Harvard University - 1885 Gate	Harvard Yard	Cambridge	1904
CAM.960	Harvard University - 1886 Gate	Harvard Yard	Cambridge	1901
CAM.961	Harvard University - 1887 Gate	Harvard Yard	Cambridge	1906
CAM.962	Harvard University - 1888 Gate	Harvard Yard	Cambridge	1906
CAM.963	Harvard University - 1889 Gate	Harvard Yard	Cambridge	1901
CAM.964	Harvard University - 1890 Gate	Harvard Yard	Cambridge	1901
CAM.965	Harvard University - 1880 Gate	Harvard Yard	Cambridge	1902
CAM.966	Harvard University - Bradley Fountain	Harvard Yard	Cambridge	1910
CAM.967	Harvard University - Chinese Steel	Harvard Yard	Cambridge	r 1810
CAM.968	Harvard University - Delivery Gate	Harvard Yard	Cambridge	1948
CAM.969	Harvard University - Driveway Gate	Harvard Yard	Cambridge	1948
CAM.970	Harvard University - 1908 Gate	Harvard Yard	Cambridge	1936
CAM.971	Harvard University - Emerson Gate	Harvard Yard	Cambridge	1936
CAM.972	Harvard University - Fire Station Gate	Harvard Yard	Cambridge	1970
CAM.973	Harvard University - Hollis Pump	Harvard Yard	Cambridge	1936
CAM.974	Harvard University - 1876 Gate	Harvard Yard	Cambridge	1901
CAM.975	Harvard University - Harvard, John Statue	Harvard Yard	Cambridge	1884
CAM.976	Harvard University - Johnston Gate	Harvard Yard	Cambridge	1889
CAM.977	Harvard University - Lamont Gate	Harvard Yard	Cambridge	1948
CAM.978	Harvard University - Gatehouse	Harvard Yard	Cambridge	1983
CAM.979	Harvard University - 1879 Gate	Harvard Yard	Cambridge	1891
CAM.980	Harvard University - Onion	Harvard Yard	Cambridge	1965
CAM.981	Harvard University - Porcellian Gate	Harvard Yard	Cambridge	1901
CAM.982	Harvard University - Reclining Figure	Harvard Yard	Cambridge	1972
CAM.983	Harvard University - Robinson Gate	Harvard Yard	Cambridge	1936
CAM.984	Harvard University - 1870 Sundial	Harvard Yard	Cambridge	1901
CAM.985	Harvard University - 1877 Gate	Harvard Yard	Cambridge	1901
CAM.1214	Harvard University - Canaday Hall	Harvard Yard	Cambridge	1973
CAM.1215	Harvard University - Emerson Hall	Harvard Yard	Cambridge	1904

Inv. No.	Property Name	Street	Town	Year
CAM.1216	Harvard University - Houghton Library	Harvard Yard	Cambridge	1941
CAM.1217	Harvard University - Lamont Library	Harvard Yard	Cambridge	1947
CAM.1218	Harvard University - Lionel Hall	Harvard Yard	Cambridge	1924
CAM.1219	Harvard University - Memorial Church	Harvard Yard	Cambridge	1931
CAM.1220	Harvard University - Mower Hall	Harvard Yard	Cambridge	1924
CAM.1221	Brooks, Phillips House - Harvard University	Harvard Yard	Cambridge	1898
CAM.1222	Harvard University - Pusey Library	Harvard Yard	Cambridge	1973
CAM.1223	Harvard University - Robinson Hall	Harvard Yard	Cambridge	1900
CAM.1224	Harvard University - Stoughton Hall	Harvard Yard	Cambridge	1804
CAM.1227	Harvard University - Widener Library	Harvard Yard	Cambridge	1913
CAM.1100	Fly Club	2 Holyoke Pl	Cambridge	c 1899
CAM.1101		9 Holyoke Pl	Cambridge	c 1930
CAM.1102		8-10 Holyoke St	Cambridge	1927
CAM.201		12 Holyoke St	Cambridge	1887
CAM.1103	Apley Court	16 Holyoke St	Cambridge	1897
CAM.1104	Sawyer, Samuel F. House	20 Holyoke St	Cambridge	1818
CAM.1105		22 Holyoke St	Cambridge	1956
CAM.1106		24 Holyoke St	Cambridge	1963
CAM.1107		30 Holyoke St	Cambridge	1905
CAM.950	Winthrop Square Park	Kennedy St	Cambridge	1631
CAM.1108	Abbott Building	5 Kennedy St	Cambridge	1908
CAM.1109		9-25 Kennedy St	Cambridge	1887
CAM.1110		10-14 Kennedy St	Cambridge	c 1820
CAM.1111	Read Block	18-28 Kennedy St	Cambridge	1885
CAM.1112		29-41 Kennedy St	Cambridge	1971
CAM.1113		30 Kennedy St	Cambridge	1936
CAM.1114		34-42 Kennedy St	Cambridge	1924
CAM.1115	Fox Club	44 Kennedy St	Cambridge	1906
CAM.1116	Drayton Hall	48 Kennedy St	Cambridge	1901
CAM.1117		50 Kennedy St	Cambridge	1892
CAM.1118		52-54 Kennedy St	Cambridge	1884
CAM.1119		55-57 Kennedy St	Cambridge	1974
CAM.1120	Galeria	56 Kennedy St	Cambridge	1903
CAM.1121		60 Kennedy St	Cambridge	1929
CAM.1122		63-65 Kennedy St	Cambridge	1984
CAM.1123	S. A. E. Club	5-7 Linden St	Cambridge	c 1867
CAM.1124		8-10 Linden St	Cambridge	1908
CAM.1125		9 Linden St	Cambridge	1902

Inv. No.	Property Name	Street	Town	Year
CAM.219	Apthorp, Rev. East House	10 Linden St	Cambridge	c 1760
CAM.901	Harvard Square Subway Kiosk	Massachusetts Ave	Cambridge	1928
CAM.1136		1230 Massachusetts Ave	Cambridge	1907
CAM.1137		1234-1238 Massachusetts Ave	Cambridge	c 1894
CAM.1138	Hamden Hall	1246-1260 Massachusetts Ave	Cambridge	1902
CAM.1139	A. D. Club	1268-1270 Massachusetts Ave	Cambridge	1899
CAM.1140	Niles Building	1280 Massachusetts Ave	Cambridge	1984
CAM.234	Fairfax, The	1300-1306 Massachusetts Ave	Cambridge	1869
CAM.1141	Fairfax - Hilton Block	1310-1312 Massachusetts Ave	Cambridge	1883
CAM.1142	Fairfax - Hilton Block	1316 Massachusetts Ave	Cambridge	1885
CAM.235	Porcellian Club	1320-1324 Massachusetts Ave	Cambridge	1890
CAM.1143	Manter Hall	1325 Massachusetts Ave	Cambridge	1885
CAM.236	Wadsworth House	1341 Massachusetts Ave	Cambridge	1726
CAM.237	Holyoke Center	1350 Massachusetts Ave	Cambridge	1961
CAM.1144	Cambridge Savings Bank	1372-1376 Massachusetts Ave	Cambridge	1923
CAM.1145	Read, Joseph Stacey House	1380-1382 Massachusetts Ave	Cambridge	c 1783
CAM.1146	Bartlett, Joseph House	1384-1392 Massachusetts Ave	Cambridge	c 1800
CAM.1147	Harvard Coop Society	1400 Massachusetts Ave	Cambridge	1924
CAM.1148	Harvard Coop Society	1408-1410 Massachusetts Ave	Cambridge	1956
CAM.1149	Harvard Trust Company	1414 Massachusetts Ave	Cambridge	1923
CAM.1150	College House	1420-1442 Massachusetts Ave	Cambridge	1832
CAM.1151		11-15 Mifflin Pl	Cambridge	1901
CAM.1152		12-14 Mifflin Pl	Cambridge	1913
CAM.1153		17-19 Mifflin Pl	Cambridge	1972
CAM.1155	Speakers Club	43-45 Mount Auburn St	Cambridge	1845
CAM.1156		45 1/2 Mount Auburn St	Cambridge	1971
CAM.1157		47-49 Mount Auburn St	Cambridge	1926
CAM.1158	Claverly Hall	63 Mount Auburn St	Cambridge	1892
CAM.1159		65R Mount Auburn St	Cambridge	1957
CAM.1160	Ridgely Hall	65 Mount Auburn St	Cambridge	1904
CAM.1161	Manter Hall School	71-77 Mount Auburn St	Cambridge	1927
CAM.1162	Phoenix - S. K. Club	72 Mount Auburn St	Cambridge	1915
CAM.1163	Iroquois Club	74 Mount Auburn St	Cambridge	1916
CAM.1164	Spee Club	76 Mount Auburn St	Cambridge	1931
CAM.1165	Willard, Lucy House	78 Mount Auburn St	Cambridge	1839
CAM.1166		90 Mount Auburn St	Cambridge	1971
CAM.1167		92-96 Mount Auburn St	Cambridge	1895
CAM.1168		95-97 Mount Auburn St	Cambridge	1920

Inv. No.	Property Name	Street	Town	Year
CAM.1169		99 Mount Auburn St	Cambridge	c 1919
CAM.1170	Cantabrigia Club	100 Mount Auburn St	Cambridge	c 1919
CAM.1171		102 Mount Auburn St	Cambridge	1869
CAM.1172		104 Mount Auburn St	Cambridge	1983
CAM.1173		110 Mount Auburn St	Cambridge	1959
CAM.9	Boston Elevated Railway Division 7 Headquarters	112 Mount Auburn St	Cambridge	c 1911
CAM.1175	Trinity Hall	114-120 Mount Auburn St	Cambridge	1892
CAM.1177	Waverly Hall	115 Mount Auburn St	Cambridge	1902
CAM.1178		119-123 Mount Auburn St	Cambridge	1988
CAM.1176		120R Mount Auburn St	Cambridge	1982
CAM.1126	U. S. Post Office - Cambridge Branch	125 Mount Auburn St	Cambridge	1953
CAM.1179	Coop Annex	18 Palmer St	Cambridge	1964
CAM.1180	Harvard Crimson Newspaper Office	14-18 Plympton St	Cambridge	1915
CAM.1181	Crimson Building Annex	22 Plympton St	Cambridge	1961
CAM.1182	Adams House Dining Hall	28 Plympton St	Cambridge	1930
CAM.1183	Russell Hall	28 Plympton St	Cambridge	1931
CAM.1184	Russell Hall	30-30A Plympton St	Cambridge	1887
CAM.986	Harvard University - Hallowell Gate	10 Quincy St	Cambridge	1928
CAM.952	Harvard University - Quincy Street Gate	17 Quincy St	Cambridge	1936
CAM.1213	Harvard University - President's House	17 Quincy St	Cambridge	1911
CAM.312	Stedman, Samuel House	17 South St	Cambridge	1826
CAM.1185	Harvard Advocate Building	21 South St	Cambridge	1956
CAM.1186		4-6 Story St	Cambridge	1966
CAM.1187		8-12 Story St	Cambridge	1969
CAM.1188		14-16 Story St	Cambridge	1970
CAM.316	Craigie Arms	2-6 University Rd	Cambridge	1897
CAM.1189	Metcalf, Lydia House	41 Winthrop St	Cambridge	1845
CAM.1190		65-67 Winthrop St	Cambridge	1887
CAM.1191	University Lutheran Church	66 Winthrop St	Cambridge	1950
CAM.1192		69 Winthrop St	Cambridge	r 1835
CAM.1193	Pi Eta Club	89 Winthrop St	Cambridge	r 1908
CAM.1194	Pi Eta Hall	95 Winthrop St	Cambridge	r 1896
CAM.1195	Hyde, Isaac - Taylor House	96 Winthrop St	Cambridge	1845
CAM.951	Winthrop Street Retaining Wall	98 Winthrop St	Cambridge	c 1725
CAM.1196	Dame School	106 Winthrop St	Cambridge	c 1800

Massachusetts Cultural Resource Information System

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Town(s): Cambridge

Street No: 79

Street Name: Kennedy St

Resource Type(s): Area, Building, Burial Ground, Object, Structure

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National Register of Historic Places

79000354	MASSACHUSETTS	Middlesex	Cambridge	Abbot, Edwin, House	1 Follen St.
82001965	MASSACHUSETTS	Middlesex	Cambridge	Noyes, J.A., House	1 Highland St.
82001985	MASSACHUSETTS	Middlesex	Cambridge	Willis, Stillman, House	1 Potter Park
96000520	MASSACHUSETTS	Middlesex	Cambridge	Beck--Warren House	1 Prescott St.
86001318	MASSACHUSETTS	Middlesex	Cambridge	Withey, S. B., House	10 Appian Way
75000298	MASSACHUSETTS	Middlesex	Cambridge	Bridgman, Percy, House	10 Buckingham Pl.
82001954	MASSACHUSETTS	Middlesex	Cambridge	Kingsley, Chester, House	10 Chester St.
83000822	MASSACHUSETTS	Middlesex	Cambridge	Orne, Sarah, House	10 Coolidge Hill Rd.
82001926	MASSACHUSETTS	Middlesex	Cambridge	Building at 10 Follen Street	10 Follen St.
82001942	MASSACHUSETTS	Middlesex	Cambridge	Frost, Walter, House	10 Frost St.
70000681	MASSACHUSETTS	Middlesex	Cambridge	Hastings, Oliver, House	101 Brattle St.
83000833	MASSACHUSETTS	Middlesex	Cambridge	Valentine Soap Workers Cottage	101 Pearl St.
83000790	MASSACHUSETTS	Middlesex	Cambridge	Building at 102-104 Inman Street	102-104 Inman St.
83000796	MASSACHUSETTS	Middlesex	Cambridge	cummings, e.e., House	104 Irving St.
83000789	MASSACHUSETTS	Middlesex	Cambridge	Building at 104-106 Hancock Street	104-106 Hancock St.
66000049	MASSACHUSETTS	Middlesex	Cambridge	Longfellow National Historic Site	105 Brattle St.
82001927	MASSACHUSETTS	Middlesex	Cambridge	Building at 106-108 Inman St	106-108 Inman St.
83004030	MASSACHUSETTS	Middlesex	Cambridge	Homer-Lovell House	11 Forest St.
82001959	MASSACHUSETTS	Middlesex	Cambridge	Mason, Josiah, Jr., House	11 Market St.
82001978	MASSACHUSETTS	Middlesex	Cambridge	Soule, Lawrence, House	11 Russell St.
83000781	MASSACHUSETTS	Middlesex	Cambridge	Atwood, Ephraim, House	110 Hancock St.
82001929	MASSACHUSETTS	Middlesex	Cambridge	Buildings at 110-112 Inman St.	110-112 Inman St.
86001315	MASSACHUSETTS	Middlesex	Cambridge	Stickney--Shepard House	11--13 Remington St.
83000826	MASSACHUSETTS	Middlesex	Cambridge	Second Cambridge Savings Bank Building	11-21 Dunster St.
86002081	MASSACHUSETTS	Middlesex	Cambridge	University Museum	11--25 Divinity Ave.
82001979	MASSACHUSETTS	Middlesex	Cambridge	Taylor Square Firehouse	113 Garden St.
86002071	MASSACHUSETTS	Middlesex	Cambridge	Divinity Hall	12 Divinity Ave.
78000442	MASSACHUSETTS	Middlesex	Cambridge	Hasty Pudding Club	12 Holyoke St.
86001682	MASSACHUSETTS	Middlesex	Cambridge	Dana--Palmer House	12--16 Quincy St.
83000799	MASSACHUSETTS	Middlesex	Cambridge	Fay, Issac, House	123 Antrim St.
89002285	MASSACHUSETTS	Middlesex	Cambridge	Kennedy, F. A., Steam Bakery	129 Franklin St.
83000800	MASSACHUSETTS	Middlesex	Cambridge	Flentje, Ernst, House	129 Magazine St.
83000824	MASSACHUSETTS	Middlesex	Cambridge	Porcellian Club	1320-24 Massachusetts Ave.
82001953	MASSACHUSETTS	Middlesex	Cambridge	Hoyt, Benjamin, House	134 Otis St.
82001971	MASSACHUSETTS	Middlesex	Cambridge	Read, Cheney, House	135 Western Ave.
86001283	MASSACHUSETTS	Middlesex	Cambridge	Gray Gardens East and West Historic District	1--37 Gray Gardens E, 3--24 Gray Gardens W, 91 Garden and 60 Raymond Sts.
82001935	MASSACHUSETTS	Middlesex	Cambridge	Day, Anna, House	139 Cushing St.
87002543	MASSACHUSETTS	Middlesex	Cambridge	Gale, George, House	14--16 Clinton St.
86001681	MASSACHUSETTS	Middlesex	Cambridge	Follen Street Historic District	1--44 and 5--29 Follen St.
83000808	MASSACHUSETTS	Middlesex	Cambridge	Holmes, Joseph, House	144 Coolidge Hill St.
82001976	MASSACHUSETTS	Middlesex	Cambridge	Sands, Ivory, House	145 Elm St.
82001952	MASSACHUSETTS	Middlesex	Cambridge	Kidder-Sargent-McCrehan House	146 Rindge Ave.
76001999	MASSACHUSETTS	Middlesex	Cambridge	Richards, Theodore W., House	15 Follen St.
82001930	MASSACHUSETTS	Middlesex	Cambridge	Buildings at 15-17 Lee St.	15-17 Lee St.
82001989	MASSACHUSETTS	Middlesex	Cambridge	Wyeth-Smith House	152 Vassal Lane
82001906	MASSACHUSETTS	Middlesex	Cambridge	American Net and Twine Company Factory	155 2nd St.
83000798	MASSACHUSETTS	Middlesex	Cambridge	Ellis, Asa, House	158 Auburn St.
79000355	MASSACHUSETTS	Middlesex	Cambridge	Hooper-Lee Nichols House	159 Brattle St.
86002070	MASSACHUSETTS	Middlesex	Cambridge	Littlefield--Roberts House	16 Prescott St.
86001311	MASSACHUSETTS	Middlesex	Cambridge	Montrose, The	1648 Massachusetts Ave.
86001279	MASSACHUSETTS	Middlesex	Cambridge	Dunvegan, The	1654 Massachusetts Ave.
83000807	MASSACHUSETTS	Middlesex	Cambridge	Hill, Aaron, House	17 Brown St.
76000306	MASSACHUSETTS	Middlesex	Cambridge	Davis, William Morris, House	17 Francis St.
83000787	MASSACHUSETTS	Middlesex	Cambridge	Building at 1707-1709 Cambridge Street	1707-1709 Cambridge St.
83000788	MASSACHUSETTS	Middlesex	Cambridge	Building at 1715-1717 Cambridge Street	1715-1717 Cambridge St.

82001973	MASSACHUSETTS	Middlesex	Cambridge	River Street Firehouse	176 River St.
86001265	MASSACHUSETTS	Middlesex	Cambridge	Berkeley Street Historic District (Boundary Increase)	1--8 Berkeley Pl.
82001984	MASSACHUSETTS	Middlesex	Cambridge	Watson, Abraham, House	181-183 Sherman St.
83000819	MASSACHUSETTS	Middlesex	Cambridge	North Avenue Congregational Church	183 Massachusetts Ave.
83000814	MASSACHUSETTS	Middlesex	Cambridge	Lovell Block	1853 Massachusetts Ave.
94000546	MASSACHUSETTS	Middlesex	Cambridge	Shell Oil Company "Spectacular" Sign	187 Magazine St.
82001962	MASSACHUSETTS	Middlesex	Cambridge	Melvin, Isaac, House	19 Centre St.
78000435	MASSACHUSETTS	Middlesex	Cambridge	Carpenter Center for the Visual Arts	19 Prescott St.
86001313	MASSACHUSETTS	Middlesex	Cambridge	Stanstead, The	19 Ware St.
82001972	MASSACHUSETTS	Middlesex	Cambridge	Reardon, Edmund, House	195 Erie St.
76000272	MASSACHUSETTS	Middlesex	Cambridge	Baldwin, Maria, House	196 Prospect St.
83000828	MASSACHUSETTS	Middlesex	Cambridge	St. James Episcopal Church	1991 Massachusetts Ave.
83000806	MASSACHUSETTS	Middlesex	Cambridge	Hall Tavern	20 Gray Gardens West St.
82001919	MASSACHUSETTS	Middlesex	Cambridge	Barnes, James B., House	200 Monsignor O'Brien Hwy.
82001924	MASSACHUSETTS	Middlesex	Cambridge	Bottle House Block	204-214 3rd St.
82001947	MASSACHUSETTS	Middlesex	Cambridge	Henderson Carriage Repository	2067-2089 Massachusetts Ave.
86002078	MASSACHUSETTS	Middlesex	Cambridge	Treadwell--Sparks House	21 Kirkland St.
72000124	MASSACHUSETTS	Middlesex	Cambridge	Cooper-Frost-Austin House	21 Linnaean St.
82001936	MASSACHUSETTS	Middlesex	Cambridge	Deane-Williams House	21-23 Fayette St.
82001917	MASSACHUSETTS	Middlesex	Cambridge	Athenaeum Press	215 1st St.
75000295	MASSACHUSETTS	Middlesex	Cambridge	Birkhoff, George D., House	22 Craigie
82001956	MASSACHUSETTS	Middlesex	Cambridge	Larches, The	22 Larch Rd.
76000238	MASSACHUSETTS	Middlesex	Cambridge	Sands, Hiram, House	22 Putnam Ave.
82001961	MASSACHUSETTS	Middlesex	Cambridge	Mead, Alpheus, House	2200 Massachusetts Ave.
82001960	MASSACHUSETTS	Middlesex	Cambridge	McLean, Isaac, House	2218 Massachusetts Ave.
82001939	MASSACHUSETTS	Middlesex	Cambridge	Farwell, R.H., House	2222-2224 Massachusetts Ave.
83000829	MASSACHUSETTS	Middlesex	Cambridge	St. John's Roman Catholic Church	2270 Massachusetts Ave.
82001963	MASSACHUSETTS	Middlesex	Cambridge	Newman, Andrew, House	23 Fairmont St.
76000305	MASSACHUSETTS	Middlesex	Cambridge	Daly, Reginald A., House	23 Hawthorn St.
82001940	MASSACHUSETTS	Middlesex	Cambridge	Fresh Pond Hotel	234 Lakeview Ave.
82001921	MASSACHUSETTS	Middlesex	Cambridge	Beth Israel Synagogue	238 Columbia St.
83000795	MASSACHUSETTS	Middlesex	Cambridge	Coolidge, Josiah, House	24 Coolidge Hill Rd.
82001969	MASSACHUSETTS	Middlesex	Cambridge	Opposition House	2-4 Hancock Pl.
82001958	MASSACHUSETTS	Middlesex	Cambridge	Lowell School	25 Lowell St.
83000809	MASSACHUSETTS	Middlesex	Cambridge	Hooper-Eliot House	25 Reservoir Rd.
05001209	MASSACHUSETTS	Middlesex	Cambridge	New England Confectionery Company Factory	250 Massachusetts Ave.
85002663	MASSACHUSETTS	Middlesex	Cambridge	Reversible Collar Company Building	25--27 Mt. Auburn & 10--12 Arrow Sts.
83000786	MASSACHUSETTS	Middlesex	Cambridge	Building at 259 Mount Auburn Street	259 Mt. Auburn St.
83000801	MASSACHUSETTS	Middlesex	Cambridge	Frost, David, House	26 Gray St.
86001575	MASSACHUSETTS	Middlesex	Cambridge	Craigie Arms	2--6 University Rd., 122 Mt. Auburn, and 6 Bennett Sts.
86001282	MASSACHUSETTS	Middlesex	Cambridge	Fogg Art Museum	26--32 Quincy St.
83000831	MASSACHUSETTS	Middlesex	Cambridge	Urban Rowhouse	26-32 River St.
86001308	MASSACHUSETTS	Middlesex	Cambridge	Jarvis, The	27 Everett St.
82001948	MASSACHUSETTS	Middlesex	Cambridge	Higginson, Col. Thomas Wentworth, House	29 Buckingham St.
83000793	MASSACHUSETTS	Middlesex	Cambridge	Cloverden	29 Fallen St.
82001938	MASSACHUSETTS	Middlesex	Cambridge	East Cambridge Savings Bank	292 Cambridge St.
82001941	MASSACHUSETTS	Middlesex	Cambridge	Frost, Robert, House	29-35 Brewster St.
86001319	MASSACHUSETTS	Middlesex	Cambridge	Wood, J. A., House	3 Sacramento St.
82001983	MASSACHUSETTS	Middlesex	Cambridge	Urban Rowhouse	30-38 Pearl St.
83000813	MASSACHUSETTS	Middlesex	Cambridge	Jones, William R., House	307 Harvard St.
83000834	MASSACHUSETTS	Middlesex	Cambridge	Vinal, Albert, House	325 Harvard St.
66000364	MASSACHUSETTS	Middlesex	Cambridge	Elmwood	33 Elmwood Ave.
83000815	MASSACHUSETTS	Middlesex	Cambridge	Lowell, The	33 Lexington Ave.
82001987	MASSACHUSETTS	Middlesex	Cambridge	Wyeth Brickyard Superintendent's House	336 Rindge Ave.
86002068	MASSACHUSETTS	Middlesex	Cambridge	Brooks, Luther, House	34 Kirkland St.
83000802	MASSACHUSETTS	Middlesex	Cambridge	Frost, Elizabeth, Tenanthouse	35 Bowdoin St.

86001272	MASSACHUSETTS	Middlesex	Cambridge	Bennink--Douglas Cottages	35--51 Walker St.
83000784	MASSACHUSETTS	Middlesex	Cambridge	Bradbury, William F., House	369 Harvard St.
82001949	MASSACHUSETTS	Middlesex	Cambridge	Howells, William Dean, House	37 Concord Ave.
86002076	MASSACHUSETTS	Middlesex	Cambridge	Lovering, Joseph, House	38 Kirkland St.
86001284	MASSACHUSETTS	Middlesex	Cambridge	Hapgood, Richard, House	382--392 Harvard St.
83000835	MASSACHUSETTS	Middlesex	Cambridge	Ware Hall	383 Harvard St.
82001968	MASSACHUSETTS	Middlesex	Cambridge	Old Cambridge Baptist Church	398 Harvard St.
82001925	MASSACHUSETTS	Middlesex	Cambridge	Brattle Hall	40 Brattle St.
82001982	MASSACHUSETTS	Middlesex	Cambridge	Urban Rowhouse	40-48 Pearl St.
82001883	MASSACHUSETTS	Middlesex	Cambridge	Aborn, John, House	41 Orchard St.
82001908	MASSACHUSETTS	Middlesex	Cambridge	Almshouse	41 Orchard St.
86001312	MASSACHUSETTS	Middlesex	Cambridge	Peabody Court Apartments	41--43 Linnaean St.
73000286	MASSACHUSETTS	Middlesex	Cambridge	Brattle, William, House	42 Brattle St.
82001928	MASSACHUSETTS	Middlesex	Cambridge	Building at 42 Edward J. Lopez Avenue	42 Edward J. Lopez Ave.
86001276	MASSACHUSETTS	Middlesex	Cambridge	Brabrook, E. H., House	42--44 Avon St.
78000440	MASSACHUSETTS	Middlesex	Cambridge	Harvard Lampoon Building	44 Bow St.
82001931	MASSACHUSETTS	Middlesex	Cambridge	Cambridge Public Library	449 Broadway St.
82001923	MASSACHUSETTS	Middlesex	Cambridge	Billings, Frederick, House	45 Orchard St.
82001957	MASSACHUSETTS	Middlesex	Cambridge	Lechmere Point Corporation Houses	45-51 Gore St. and 25 3rd St.
90000142	MASSACHUSETTS	Middlesex	Cambridge	DeRosay--McNamee House	50 Mt. Vernon St.
83000792	MASSACHUSETTS	Middlesex	Cambridge	Church of the New Jerusalem	50 Quincy St.
86001280	MASSACHUSETTS	Middlesex	Cambridge	Eliot Hall at Radcliffe College	51 Shepard St.
86001270	MASSACHUSETTS	Middlesex	Cambridge	Bertram Hall at Radcliffe College	53 Shepard St.
82001967	MASSACHUSETTS	Middlesex	Cambridge	Odd Fellows Hall	536 Massachusetts Ave.
73000288	MASSACHUSETTS	Middlesex	Cambridge	Pratt, Dexter, House	54 Brattle St.
82001988	MASSACHUSETTS	Middlesex	Cambridge	Wyeth, John, House	56 Aberdeen Ave.
83000832	MASSACHUSETTS	Middlesex	Cambridge	Valentine Soap Workers Cottage	5-7 Cottage St.
75000254	MASSACHUSETTS	Middlesex	Cambridge	Mount Auburn Cemetery	580 Mount Auburn St.
83000818	MASSACHUSETTS	Middlesex	Cambridge	Mount Auburn Cemetery Reception House	583 Mt. Auburn St.
82001943	MASSACHUSETTS	Middlesex	Cambridge	Greek Revival Cottage	59 Rice St.
83000811	MASSACHUSETTS	Middlesex	Cambridge	Howe House	6 Appleton St.
86001317	MASSACHUSETTS	Middlesex	Cambridge	Warren, Langford H., House	6 Garden Terr.
83000825	MASSACHUSETTS	Middlesex	Cambridge	Saunders, William, House	6 Prentiss St.
86002075	MASSACHUSETTS	Middlesex	Cambridge	Sears Tower--Harvard Observatory	60 Garden St.
82001980	MASSACHUSETTS	Middlesex	Cambridge	Union Railway Car Barn	613-621 Cambridge St.
02001189	MASSACHUSETTS	Middlesex	Cambridge	Cambridge Home for the Aged and Infirm	650 Concord Ave.
83000791	MASSACHUSETTS	Middlesex	Cambridge	Child, Francis J., House	67 Kirkland St.
82001974	MASSACHUSETTS	Middlesex	Cambridge	Sacred Heart Church, Rectory, School and Convent	6th and Thorndike Sts.
82004968	MASSACHUSETTS	Middlesex	Cambridge	Colburn, Sarah Foster, House	7 Dana St.
82001937	MASSACHUSETTS	Middlesex	Cambridge	Dodge, Edward, House	70 Sparks St.
82001934	MASSACHUSETTS	Middlesex	Cambridge	Cook, William, House	71 Appleton St.
71000686	MASSACHUSETTS	Middlesex	Cambridge	Fuller, Margaret, House	71 Cherry St.
82001955	MASSACHUSETTS	Middlesex	Cambridge	Lamson, Rufus, House	72-74 Hampshire St.
82001977	MASSACHUSETTS	Middlesex	Cambridge	Slowey, Patrick, House	73 Bolton St.
86001343	MASSACHUSETTS	Middlesex	Cambridge	US Post Office--Central Square	770 Massachusetts Ave.
82001918	MASSACHUSETTS	Middlesex	Cambridge	B and B Chemical Company	780 Memorial Dr.
83000817	MASSACHUSETTS	Middlesex	Cambridge	Mason, W. A., House	87 Raymond St.
66000655	MASSACHUSETTS	Middlesex	Cambridge	Gray, Asa, House	88 Garden St.
83000827	MASSACHUSETTS	Middlesex	Cambridge	Second Waterhouse House	9 Follen St.
89001246	MASSACHUSETTS	Middlesex	Cambridge	Stoughton, Mary Fisk, House	90 Brattle St.
73000284	MASSACHUSETTS	Middlesex	Cambridge	Fort Washington	95 Waverly St.
82001933	MASSACHUSETTS	Middlesex	Cambridge	Conventual Church of St. Mary and St. John	980 Memorial Dr.
86001310	MASSACHUSETTS	Middlesex	Cambridge	Memorial Drive Apartments Historic District	983--984, 985--986, 987--989, and 992--993 Memorial Dr.
82001970	MASSACHUSETTS	Middlesex	Cambridge	Prospect Congregational Church	99 Prospect St.
94000554	MASSACHUSETTS	Middlesex	Cambridge	Walden Street Cattle Pass	Adjacent to MBTA right-of-way at Walden St.
04000249	MASSACHUSETTS	Middlesex	Cambridge	Alewife Brook Parkway	Alewife Brook Parkway

82001916	MASSACHUSETTS	Middlesex	Cambridge	Ash Street Historic District	Ash St. and Ash St. Place between Brattle and Mount Auburn Sts.
82001920	MASSACHUSETTS	Middlesex	Cambridge	Berkeley Street Historic District	Berkeley St.
82001922	MASSACHUSETTS	Middlesex	Cambridge	Bigelow Street Historic District	Bigelow St.
78000436	MASSACHUSETTS	Middlesex	Cambridge	Charles River Basin Historic District	Both banks of Charles River from Eliot Bridge to Charles River Dam
97000561	MASSACHUSETTS	Middlesex	Cambridge	Blake and Knowles Steam Pump Company National Register District	Bounded by Third, Binney, Fifth, and Rogers Sts.
70000685	MASSACHUSETTS	Middlesex	Cambridge	Memorial Hall, Harvard University	Cambridge and Quincy Sts., Harvard University campus
83000820	MASSACHUSETTS	Middlesex	Cambridge	Old Cambridgeport Historic District	Cherry, Harvard and Washington Sts.
82001981	MASSACHUSETTS	Middlesex	Cambridge	Upper Magazine Street Historic District	Cottage, Magazine, William and Perry Sts.
04001429	MASSACHUSETTS	Middlesex	Cambridge	Fresh Pond Parkway--Metropolitan Park System of Greater Boston	Fresh Pond Parkway
66000140	MASSACHUSETTS	Middlesex	Cambridge	Christ Church	Garden St.
73000281	MASSACHUSETTS	Middlesex	Cambridge	Cambridge Common Historic District	Garden, Waterhouse, Cambridge, and Peabody Sts., and Massachusetts Ave.
83000803	MASSACHUSETTS	Middlesex	Cambridge	Garfield Street Historic District	Garfield St. between Massachusetts Ave. and Oxford St.
82001951	MASSACHUSETTS	Middlesex	Cambridge	Inman Square Historic District	Hampshire, Cambridge, and Inman Sts.
82001945	MASSACHUSETTS	Middlesex	Cambridge	Harvard Street Historic District	Harvard St. Between Ellery and Hancock Sts.
72000128	MASSACHUSETTS	Middlesex	Cambridge	Austin Hall	Harvard University campus
66000769	MASSACHUSETTS	Middlesex	Cambridge	Massachusetts Hall, Harvard University	Harvard University Yard
70000732	MASSACHUSETTS	Middlesex	Cambridge	Sever Hall, Harvard University	Harvard Yard
70000736	MASSACHUSETTS	Middlesex	Cambridge	University Hall, Harvard University	Harvard Yard
82001950	MASSACHUSETTS	Middlesex	Cambridge	Hubbard Park Historic District	Hubbard Park, Mercer Circle and Sparks Sts.
83000821	MASSACHUSETTS	Middlesex	Cambridge	Old Cambridge Historic District	Irregular pattern along Brattle St.
86001683	MASSACHUSETTS	Middlesex	Cambridge	Kirkland Place Historic District	Kirkland Pl.
75000249	MASSACHUSETTS	Middlesex	Cambridge	First Baptist Church	Magazine and River Sts.
83000816	MASSACHUSETTS	Middlesex	Cambridge	Maple Avenue Historic District	Maple Ave. between Marie Ave. and Broadway
78000441	MASSACHUSETTS	Middlesex	Cambridge	Harvard Square Subway Kiosk	Massachusetts Ave. and Boylston St.
73000287	MASSACHUSETTS	Middlesex	Cambridge	Old Harvard Yard	Massachusetts Ave. and Cambridge St.
83004293	MASSACHUSETTS	Middlesex	Cambridge	Cambridge Common Historic District Amendment	Massachusetts Ave. and Garden, Waterhouse, Cambridge, and Peabody Sts.
82001932	MASSACHUSETTS	Middlesex	Cambridge	City Hall Historic District	Massachusetts Ave., Bigelow and Temple Sts, Inman and Richard Allen Dr.
82001944	MASSACHUSETTS	Middlesex	Cambridge	Harvard Square Historic District	Massachusetts Ave., Boylston and Brattle Sts.
76001970	MASSACHUSETTS	Middlesex	Cambridge	Little, Arthur D., Inc., Building	Memorial Dr.
82001964	MASSACHUSETTS	Middlesex	Cambridge	Norfolk Street Historic District	Norfolk St. between Suffolk and Austin Sts.
87000500	MASSACHUSETTS	Middlesex	Cambridge	Harvard Union	Quincy and Harvard Sts.
83000797	MASSACHUSETTS	Middlesex	Cambridge	East Cambridge Historic District	Roughly bounded by Cambridge, Hurley and 5th Sts.
86003654	MASSACHUSETTS	Middlesex	Cambridge	Harvard Square Historic District (Boundary Increase)	Roughly bounded by Harvard & Massachusetts Aves., Mt. Auburn, Winthrop, Bennett, Story & Church Sts.
86002073	MASSACHUSETTS	Middlesex	Cambridge	Harvard Houses Historic District	Roughly bounded by Mt. Auburn & Grant & Cowperwaite Sts., Banks St. & Putman Ave., the Memorial River, & Boyleston St.
86001680	MASSACHUSETTS	Middlesex	Cambridge	Shady Hill Historic District	Roughly bounded by Museum, Beacon and Holden, and Kirkland Sts., and Francis Ave.
82001946	MASSACHUSETTS	Middlesex	Cambridge	Hastings Square Historic District	Roughly bounded by Rockingham, Henry, Chestnut and Brookline Sts.
87002137	MASSACHUSETTS	Middlesex	Cambridge	Harvard Yard Historic District	Roughly bounded by underpass, Broadway & Quincy Sts., Massachusetts Ave., & Peabody St.
90000128	MASSACHUSETTS	Middlesex	Cambridge	Central Square Historic District	Roughly Massachusetts Ave. from Clinton St. to Main St.
87000499	MASSACHUSETTS	Middlesex	Cambridge	Cambridge Common Historic District (Boundary Increase and Decrease)	Roughly NW of Waterhouse St. on Concord Ave. between Garden and Follen Sts.
82001975	MASSACHUSETTS	Middlesex	Cambridge	Salem-Auburn Streets Historic District	Salem and Auburn Sts.
83000782	MASSACHUSETTS	Middlesex	Cambridge	Avon Hill Historic District	Washington and Walnut Aves. and Agassiz, Humboldt, Arlington and Lancaster Sts.
82001986	MASSACHUSETTS	Middlesex	Cambridge	Winter Street Historic District	Winter St.

APPENDIX E

Laboratory Data Reports



ANALYTICAL REPORT

Lab Number:	L1426183
Client:	Haley & Aldrich, Inc. 465 Medford Street, Suite 2200 Charlestown, MA 02129-1400
ATTN:	Kate Dilawari
Phone:	(617) 886-7458
Project Name:	HARVARD KENNEDY SCHOOL
Project Number:	38247-004
Report Date:	02/24/15

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), VA (460195), MD (348), IL (200077), NC (666), TX (T104704476), DOD (L2217), USDA (Permit #P-330-11-00240).

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



Project Name: HARVARD KENNEDY SCHOOL
Project Number: 38247-004

Lab Number: L1426183
Report Date: 02/24/15

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1426183-01	HA-B6	WATER	Not Specified	10/31/14 09:40	10/31/14

Project Name: HARVARD KENNEDY SCHOOL

Lab Number: L1426183

Project Number: 38247-004

Report Date: 02/24/15

MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

An affirmative response to questions A through F is required for "Presumptive Certainty" status		
A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	YES
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	N/A
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES
A response to questions G, H and I is required for "Presumptive Certainty" status		
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	YES
H	Were all QC performance standards specified in the CAM protocol(s) achieved?	NO
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	NO
For any questions answered "No", please refer to the case narrative section on the following page(s).		

Please note that sample matrix information is located in the Sample Results section of this report.



Project Name: HARVARD KENNEDY SCHOOL
Project Number: 38247-004

Lab Number: L1426183
Report Date: 02/24/15

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. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

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.

HOLD POLICY

For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Client Services at 800-624-9220 with any questions.

Project Name: HARVARD KENNEDY SCHOOL
Project Number: 38247-004

Lab Number: L1426183
Report Date: 02/24/15

Case Narrative (continued)

Report Submission

This report replaces the report issued on November 07, 2014 and includes the results for Total Copper.

MCP Related Narratives

Volatile Organics

In reference to question H:

The initial calibration, associated with L1426183-01, did not meet the method required minimum response factor on the lowest calibration standard for 1,4-dioxane (0.00455), as well as the average response factor for 1,4-dioxane. In addition, a quadratic fit was utilized for acetone. The initial calibration verification is outside acceptance criteria for dichlorodifluoromethane (192%), but within overall method criteria.

The continuing calibration standard, associated with L1426183-01, is outside the acceptance criteria for several compounds; however, it is within overall method allowances. A copy of the continuing calibration standard is included as an addendum to this report.

Pesticides

A copy of the Degradation Standards for 4,4'-DDT and Endrin breakdown products is included as an addendum.

VPH

In reference to question I:

All samples were analyzed for a subset of MCP compounds per the Chain of Custody.

EPH

In reference to question I:

All samples were analyzed for a subset of MCP compounds per the Chain of Custody.

Project Name: HARVARD KENNEDY SCHOOL
Project Number: 38247-004

Lab Number: L1426183
Report Date: 02/24/15

Case Narrative (continued)


Dissolved Metals

In reference to question H:

The WG737044-2 LCS recovery, associated with L1426183-01, is outside the acceptance criteria for mercury (289%). Re-analysis of the LCS yielded an unacceptable recovery of 250%. The LCSD recovery was within acceptance criteria for this analyte; therefore, no further action was taken. In addition, the LCS/LCSD RPD, associated with L1426183-01, is above the acceptance criteria (111%).

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: 02/24/15

ORGANICS

VOLATILES

Project Name: HARVARD KENNEDY SCHOOL**Lab Number:** L1426183**Project Number:** 38247-004**Report Date:** 02/24/15**SAMPLE RESULTS**

Lab ID: L1426183-01
Client ID: HA-B6
Sample Location: Not Specified
Matrix: Water
Analytical Method: 97,8260C
Analytical Date: 11/05/14 17:02
Analyst: MM

Date Collected: 10/31/14 09:40
Date Received: 10/31/14
Field Prep: Not Specified

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

Project Name: HARVARD KENNEDY SCHOOL**Lab Number:** L1426183**Project Number:** 38247-004**Report Date:** 02/24/15**SAMPLE RESULTS****Lab ID:** L1426183-01**Date Collected:** 10/31/14 09:40**Client ID:** HA-B6**Date Received:** 10/31/14**Sample Location:** Not Specified**Field Prep:** Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/l	1.0	--	1
1,4-Dichlorobenzene	ND		ug/l	1.0	--	1
Methyl tert butyl ether	ND		ug/l	2.0	--	1
p/m-Xylene	ND		ug/l	2.0	--	1
o-Xylene	ND		ug/l	1.0	--	1
Xylene (Total)	ND		ug/l	1.0	--	1
cis-1,2-Dichloroethene	ND		ug/l	1.0	--	1
1,2-Dichloroethene (total)	ND		ug/l	1.0	--	1
Dibromomethane	ND		ug/l	2.0	--	1
1,2,3-Trichloropropane	ND		ug/l	2.0	--	1
Styrene	ND		ug/l	1.0	--	1
Dichlorodifluoromethane	ND		ug/l	2.0	--	1
Acetone	ND		ug/l	5.0	--	1
Carbon disulfide	ND		ug/l	2.0	--	1
2-Butanone	ND		ug/l	5.0	--	1
4-Methyl-2-pentanone	ND		ug/l	5.0	--	1
2-Hexanone	ND		ug/l	5.0	--	1
Bromochloromethane	ND		ug/l	2.0	--	1
Tetrahydrofuran	ND		ug/l	2.0	--	1
2,2-Dichloropropane	ND		ug/l	2.0	--	1
1,2-Dibromoethane	ND		ug/l	2.0	--	1
1,3-Dichloropropane	ND		ug/l	2.0	--	1
1,1,1,2-Tetrachloroethane	ND		ug/l	1.0	--	1
Bromobenzene	ND		ug/l	2.0	--	1
n-Butylbenzene	ND		ug/l	2.0	--	1
sec-Butylbenzene	ND		ug/l	2.0	--	1
tert-Butylbenzene	ND		ug/l	2.0	--	1
o-Chlorotoluene	ND		ug/l	2.0	--	1
p-Chlorotoluene	ND		ug/l	2.0	--	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.0	--	1
Hexachlorobutadiene	ND		ug/l	0.60	--	1
Isopropylbenzene	ND		ug/l	2.0	--	1
p-Isopropyltoluene	ND		ug/l	2.0	--	1
Naphthalene	ND		ug/l	2.0	--	1
n-Propylbenzene	ND		ug/l	2.0	--	1
1,2,3-Trichlorobenzene	ND		ug/l	2.0	--	1
1,2,4-Trichlorobenzene	ND		ug/l	2.0	--	1
1,3,5-Trimethylbenzene	ND		ug/l	2.0	--	1
1,2,4-Trimethylbenzene	ND		ug/l	2.0	--	1

Project Name: HARVARD KENNEDY SCHOOL
Project Number: 38247-004

Lab Number: L1426183
Report Date: 02/24/15

SAMPLE RESULTS

Lab ID: L1426183-01
Client ID: HA-B6
Sample Location: Not Specified

Date Collected: 10/31/14 09:40
Date Received: 10/31/14
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Ethyl ether	ND		ug/l	2.0	--	1
Isopropyl Ether	ND		ug/l	2.0	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.0	--	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	110		70-130
Toluene-d8	95		70-130
4-Bromofluorobenzene	96		70-130
Dibromofluoromethane	120		70-130

Project Name: HARVARD KENNEDY SCHOOL

Lab Number: L1426183

Project Number: 38247-004

Report Date: 02/24/15

Method Blank Analysis Batch Quality Control

Analytical Method: 97,8260C
 Analytical Date: 11/05/14 07:09
 Analyst: MM

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics - Westborough Lab for sample(s): 01 Batch: WG737643-3					
Methylene chloride	ND		ug/l	2.0	--
1,1-Dichloroethane	ND		ug/l	1.0	--
Chloroform	ND		ug/l	1.0	--
Carbon tetrachloride	ND		ug/l	1.0	--
1,2-Dichloropropane	ND		ug/l	1.0	--
Dibromochloromethane	ND		ug/l	1.0	--
1,1,2-Trichloroethane	ND		ug/l	1.0	--
Tetrachloroethene	ND		ug/l	1.0	--
Chlorobenzene	ND		ug/l	1.0	--
Trichlorofluoromethane	ND		ug/l	2.0	--
1,2-Dichloroethane	ND		ug/l	1.0	--
1,1,1-Trichloroethane	ND		ug/l	1.0	--
Bromodichloromethane	ND		ug/l	1.0	--
trans-1,3-Dichloropropene	ND		ug/l	0.50	--
cis-1,3-Dichloropropene	ND		ug/l	0.50	--
1,3-Dichloropropene, Total	ND		ug/l	0.50	--
1,1-Dichloropropene	ND		ug/l	2.0	--
Bromoform	ND		ug/l	2.0	--
1,1,2,2-Tetrachloroethane	ND		ug/l	1.0	--
Benzene	ND		ug/l	0.50	--
Toluene	ND		ug/l	1.0	--
Ethylbenzene	ND		ug/l	1.0	--
Chloromethane	ND		ug/l	2.0	--
Bromomethane	ND		ug/l	2.0	--
Vinyl chloride	ND		ug/l	1.0	--
Chloroethane	ND		ug/l	2.0	--
1,1-Dichloroethene	ND		ug/l	1.0	--
trans-1,2-Dichloroethene	ND		ug/l	1.0	--
Trichloroethene	ND		ug/l	1.0	--

Project Name: HARVARD KENNEDY SCHOOL

Lab Number: L1426183

Project Number: 38247-004

Report Date: 02/24/15

Method Blank Analysis Batch Quality Control

Analytical Method: 97,8260C
 Analytical Date: 11/05/14 07:09
 Analyst: MM

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics - Westborough Lab for sample(s): 01 Batch: WG737643-3					
1,2-Dichlorobenzene	ND		ug/l	1.0	--
1,3-Dichlorobenzene	ND		ug/l	1.0	--
1,4-Dichlorobenzene	ND		ug/l	1.0	--
Methyl tert butyl ether	ND		ug/l	2.0	--
p/m-Xylene	ND		ug/l	2.0	--
o-Xylene	ND		ug/l	1.0	--
Xylene (Total)	ND		ug/l	1.0	--
cis-1,2-Dichloroethene	ND		ug/l	1.0	--
1,2-Dichloroethene (total)	ND		ug/l	1.0	--
Dibromomethane	ND		ug/l	2.0	--
1,2,3-Trichloropropane	ND		ug/l	2.0	--
Styrene	ND		ug/l	1.0	--
Dichlorodifluoromethane	ND		ug/l	2.0	--
Acetone	ND		ug/l	5.0	--
Carbon disulfide	ND		ug/l	2.0	--
2-Butanone	ND		ug/l	5.0	--
4-Methyl-2-pentanone	ND		ug/l	5.0	--
2-Hexanone	ND		ug/l	5.0	--
Bromochloromethane	ND		ug/l	2.0	--
Tetrahydrofuran	ND		ug/l	2.0	--
2,2-Dichloropropane	ND		ug/l	2.0	--
1,2-Dibromoethane	ND		ug/l	2.0	--
1,3-Dichloropropane	ND		ug/l	2.0	--
1,1,1,2-Tetrachloroethane	ND		ug/l	1.0	--
Bromobenzene	ND		ug/l	2.0	--
n-Butylbenzene	ND		ug/l	2.0	--
sec-Butylbenzene	ND		ug/l	2.0	--
tert-Butylbenzene	ND		ug/l	2.0	--
o-Chlorotoluene	ND		ug/l	2.0	--

Project Name: HARVARD KENNEDY SCHOOL

Lab Number: L1426183

Project Number: 38247-004

Report Date: 02/24/15

Method Blank Analysis Batch Quality Control

Analytical Method: 97,8260C
 Analytical Date: 11/05/14 07:09
 Analyst: MM

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics - Westborough Lab for sample(s): 01 Batch: WG737643-3					
p-Chlorotoluene	ND		ug/l	2.0	--
1,2-Dibromo-3-chloropropane	ND		ug/l	2.0	--
Hexachlorobutadiene	ND		ug/l	0.60	--
Isopropylbenzene	ND		ug/l	2.0	--
p-Isopropyltoluene	ND		ug/l	2.0	--
Naphthalene	ND		ug/l	2.0	--
n-Propylbenzene	ND		ug/l	2.0	--
1,2,3-Trichlorobenzene	ND		ug/l	2.0	--
1,2,4-Trichlorobenzene	ND		ug/l	2.0	--
1,3,5-Trimethylbenzene	ND		ug/l	2.0	--
1,2,4-Trimethylbenzene	ND		ug/l	2.0	--
Ethyl ether	ND		ug/l	2.0	--
Isopropyl Ether	ND		ug/l	2.0	--
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	101		70-130
Toluene-d8	92		70-130
4-Bromofluorobenzene	104		70-130
Dibromofluoromethane	108		70-130

Lab Control Sample Analysis **Batch Quality Control**

Project Name: HARVARD KENNEDY SCHOOL

Project Number: 38247-004

Lab Number: L1426183

Report Date: 02/24/15

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics - Westborough Lab Associated sample(s): 01 Batch: WG737643-1 WG737643-2								
Methylene chloride	112		112		70-130	0		20
1,1-Dichloroethane	107		105		70-130	2		20
Chloroform	108		109		70-130	1		20
Carbon tetrachloride	96		97		70-130	1		20
1,2-Dichloropropane	94		108		70-130	14		20
Dibromochloromethane	88		89		70-130	1		20
1,1,2-Trichloroethane	99		101		70-130	2		20
Tetrachloroethene	94		94		70-130	0		20
Chlorobenzene	99		100		70-130	1		20
Trichlorofluoromethane	108		106		70-130	2		20
1,2-Dichloroethane	109		108		70-130	1		20
1,1,1-Trichloroethane	105		104		70-130	1		20
Bromodichloromethane	106		107		70-130	1		20
trans-1,3-Dichloropropene	91		92		70-130	1		20
cis-1,3-Dichloropropene	99		96		70-130	3		20
1,1-Dichloropropene	107		106		70-130	1		20
Bromoform	78		80		70-130	3		20
1,1,2,2-Tetrachloroethane	97		100		70-130	3		20
Benzene	108		108		70-130	0		20
Toluene	99		100		70-130	1		20
Ethylbenzene	99		99		70-130	0		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: HARVARD KENNEDY SCHOOL

Project Number: 38247-004

Lab Number: L1426183

Report Date: 02/24/15

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics - Westborough Lab Associated sample(s): 01 Batch: WG737643-1 WG737643-2								
Chloromethane	106		102		70-130	4		20
Bromomethane	107		100		70-130	7		20
Vinyl chloride	107		104		70-130	3		20
Chloroethane	114		116		70-130	2		20
1,1-Dichloroethene	111		108		70-130	3		20
trans-1,2-Dichloroethene	112		110		70-130	2		20
Trichloroethene	110		108		70-130	2		20
1,2-Dichlorobenzene	100		100		70-130	0		20
1,3-Dichlorobenzene	97		100		70-130	3		20
1,4-Dichlorobenzene	100		97		70-130	3		20
Methyl tert butyl ether	106		104		70-130	2		20
p/m-Xylene	98		99		70-130	1		20
o-Xylene	96		98		70-130	2		20
cis-1,2-Dichloroethene	108		109		70-130	1		20
Dibromomethane	109		108		70-130	1		20
1,2,3-Trichloropropane	94		96		70-130	2		20
Styrene	98		99		70-130	1		20
Dichlorodifluoromethane	97		93		70-130	4		20
Acetone	145	Q	131	Q	70-130	10		20
Carbon disulfide	104		104		70-130	0		20
2-Butanone	123		125		70-130	2		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: HARVARD KENNEDY SCHOOL

Project Number: 38247-004

Lab Number: L1426183

Report Date: 02/24/15

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics - Westborough Lab Associated sample(s): 01 Batch: WG737643-1 WG737643-2								
4-Methyl-2-pentanone	101		100		70-130	1		20
2-Hexanone	102		100		70-130	2		20
Bromochloromethane	110		110		70-130	0		20
Tetrahydrofuran	106		113		70-130	6		20
2,2-Dichloropropane	103		104		70-130	1		20
1,2-Dibromoethane	95		97		70-130	2		20
1,3-Dichloropropane	100		100		70-130	0		20
1,1,1,2-Tetrachloroethane	90		93		70-130	3		20
Bromobenzene	94		93		70-130	1		20
n-Butylbenzene	94		94		70-130	0		20
sec-Butylbenzene	92		94		70-130	2		20
tert-Butylbenzene	94		93		70-130	1		20
o-Chlorotoluene	90		92		70-130	2		20
p-Chlorotoluene	94		94		70-130	0		20
1,2-Dibromo-3-chloropropane	80		94		70-130	16		20
Hexachlorobutadiene	87		88		70-130	1		20
Isopropylbenzene	102		103		70-130	1		20
p-Isopropyltoluene	92		94		70-130	2		20
Naphthalene	98		100		70-130	2		20
n-Propylbenzene	92		93		70-130	1		20
1,2,3-Trichlorobenzene	92		93		70-130	1		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: HARVARD KENNEDY SCHOOL

Project Number: 38247-004

Lab Number: L1426183

Report Date: 02/24/15

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics - Westborough Lab Associated sample(s): 01 Batch: WG737643-1 WG737643-2								
1,2,4-Trichlorobenzene	93		97		70-130	4		20
1,3,5-Trimethylbenzene	94		93		70-130	1		20
1,2,4-Trimethylbenzene	94		94		70-130	0		20
Ethyl ether	110		110		70-130	0		20
Isopropyl Ether	100		100		70-130	0		20
Ethyl-Tert-Butyl-Ether	97		98		70-130	1		20
Tertiary-Amyl Methyl Ether	98		99		70-130	1		20
1,4-Dioxane	81		108		70-130	29	Q	20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	99		98		70-130
Toluene-d8	95		95		70-130
4-Bromofluorobenzene	98		97		70-130
Dibromofluoromethane	105		106		70-130

SEMIVOLATILES

Project Name: HARVARD KENNEDY SCHOOL
Project Number: 38247-004

Lab Number: L1426183
Report Date: 02/24/15

SAMPLE RESULTS

Lab ID: L1426183-01
Client ID: HA-B6
Sample Location: Not Specified
Matrix: Water
Analytical Method: 97,8270D
Analytical Date: 11/07/14 11:39
Analyst: RC

Date Collected: 10/31/14 09:40
Date Received: 10/31/14
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 11/06/14 13:11

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Acenaphthene	ND		ug/l	2.0	--	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
2-Chloronaphthalene	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
Fluoranthene	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
Hexachloroethane	ND		ug/l	2.0	--	1
Isophorone	ND		ug/l	5.0	--	1
Naphthalene	ND		ug/l	2.0	--	1
Nitrobenzene	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
Benzo(a)anthracene	ND		ug/l	2.0	--	1
Benzo(a)pyrene	ND		ug/l	2.0	--	1
Benzo(b)fluoranthene	ND		ug/l	2.0	--	1

Project Name: HARVARD KENNEDY SCHOOL**Lab Number:** L1426183**Project Number:** 38247-004**Report Date:** 02/24/15**SAMPLE RESULTS****Lab ID:** L1426183-01**Date Collected:** 10/31/14 09:40**Client ID:** HA-B6**Date Received:** 10/31/14**Sample Location:** Not Specified**Field Prep:** Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Benzo(k)fluoranthene	ND		ug/l	2.0	--	1
Chrysene	ND		ug/l	2.0	--	1
Acenaphthylene	ND		ug/l	2.0	--	1
Anthracene	ND		ug/l	2.0	--	1
Benzo(ghi)perylene	ND		ug/l	2.0	--	1
Fluorene	ND		ug/l	2.0	--	1
Phenanthrene	ND		ug/l	2.0	--	1
Dibenzo(a,h)anthracene	ND		ug/l	2.0	--	1
Indeno(1,2,3-cd)Pyrene	ND		ug/l	2.0	--	1
Pyrene	ND		ug/l	2.0	--	1
Aniline	ND		ug/l	2.0	--	1
4-Chloroaniline	ND		ug/l	5.0	--	1
Dibenzofuran	ND		ug/l	2.0	--	1
2-Methylnaphthalene	ND		ug/l	2.0	--	1
Acetophenone	ND		ug/l	5.0	--	1
2,4,6-Trichlorophenol	ND		ug/l	5.0	--	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
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

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	55		15-110
Phenol-d6	37		15-110
Nitrobenzene-d5	81		30-130
2-Fluorobiphenyl	87		30-130
2,4,6-Tribromophenol	88		15-110
4-Terphenyl-d14	93		30-130

Project Name: HARVARD KENNEDY SCHOOL
Project Number: 38247-004

Lab Number: L1426183
Report Date: 02/24/15

SAMPLE RESULTS

Lab ID: L1426183-01
Client ID: HA-B6
Sample Location: Not Specified
Matrix: Water
Analytical Method: 97,8270D-SIM
Analytical Date: 11/03/14 12:23
Analyst: KV

Date Collected: 10/31/14 09:40
Date Received: 10/31/14
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 11/01/14 11:01

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics by 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
Hexachlorobutadiene	ND		ug/l	0.50	--	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
2-Methylnaphthalene	ND		ug/l	0.20	--	1
Pentachlorophenol	ND		ug/l	0.80	--	1
Hexachlorobenzene	ND		ug/l	0.80	--	1
Hexachloroethane	ND		ug/l	0.80	--	1

Project Name: HARVARD KENNEDY SCHOOL**Lab Number:** L1426183**Project Number:** 38247-004**Report Date:** 02/24/15**SAMPLE RESULTS**

Lab ID: L1426183-01

Date Collected: 10/31/14 09:40

Client ID: HA-B6

Date Received: 10/31/14

Sample Location: Not Specified

Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
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MCP Semivolatile Organics by SIM - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	32		15-110
Phenol-d6	23		15-110
Nitrobenzene-d5	74		30-130
2-Fluorobiphenyl	80		30-130
2,4,6-Tribromophenol	99		15-110
4-Terphenyl-d14	87		30-130

Project Name: HARVARD KENNEDY SCHOOL

Lab Number: L1426183

Project Number: 38247-004

Report Date: 02/24/15

Method Blank Analysis Batch Quality Control

Analytical Method: 97,8270D-SIM

Extraction Method: EPA 3510C

Analytical Date: 11/03/14 09:49

Extraction Date: 11/01/14 11:01

Analyst: KV

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics by SIM - Westborough Lab for sample(s): 01 Batch: WG736653-1					
Acenaphthene	ND		ug/l	0.20	--
2-Chloronaphthalene	ND		ug/l	0.20	--
Fluoranthene	ND		ug/l	0.20	--
Hexachlorobutadiene	ND		ug/l	0.50	--
Naphthalene	ND		ug/l	0.20	--
Benzo(a)anthracene	ND		ug/l	0.20	--
Benzo(a)pyrene	ND		ug/l	0.20	--
Benzo(b)fluoranthene	ND		ug/l	0.20	--
Benzo(k)fluoranthene	ND		ug/l	0.20	--
Chrysene	ND		ug/l	0.20	--
Acenaphthylene	ND		ug/l	0.20	--
Anthracene	ND		ug/l	0.20	--
Benzo(ghi)perylene	ND		ug/l	0.20	--
Fluorene	ND		ug/l	0.20	--
Phenanthrene	ND		ug/l	0.20	--
Dibenzo(a,h)anthracene	ND		ug/l	0.20	--
Indeno(1,2,3-cd)Pyrene	ND		ug/l	0.20	--
Pyrene	ND		ug/l	0.20	--
2-Methylnaphthalene	ND		ug/l	0.20	--
Pentachlorophenol	ND		ug/l	0.80	--
Hexachlorobenzene	ND		ug/l	0.80	--
Hexachloroethane	ND		ug/l	0.80	--

Project Name: HARVARD KENNEDY SCHOOL

Lab Number: L1426183

Project Number: 38247-004

Report Date: 02/24/15

Method Blank Analysis Batch Quality Control

Analytical Method: 97,8270D-SIM

Extraction Method: EPA 3510C

Analytical Date: 11/03/14 09:49

Extraction Date: 11/01/14 11:01

Analyst: KV

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics by SIM - Westborough Lab for sample(s): 01 Batch: WG736653-1					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	37		15-110
Phenol-d6	25		15-110
Nitrobenzene-d5	75		30-130
2-Fluorobiphenyl	74		30-130
2,4,6-Tribromophenol	86		15-110
4-Terphenyl-d14	76		30-130

Project Name: HARVARD KENNEDY SCHOOL

Lab Number: L1426183

Project Number: 38247-004

Report Date: 02/24/15

Method Blank Analysis Batch Quality Control

Analytical Method: 97,8270D
 Analytical Date: 11/07/14 09:37
 Analyst: RC

Extraction Method: EPA 3510C
 Extraction Date: 11/06/14 13:11

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 01 Batch: WG738172-1					
Acenaphthene	ND		ug/l	2.0	--
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-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	--
Hexachloroethane	ND		ug/l	2.0	--
Isophorone	ND		ug/l	5.0	--
Naphthalene	ND		ug/l	2.0	--
Nitrobenzene	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	--
Benzo(a)anthracene	ND		ug/l	2.0	--
Benzo(a)pyrene	ND		ug/l	2.0	--

Project Name: HARVARD KENNEDY SCHOOL

Lab Number: L1426183

Project Number: 38247-004

Report Date: 02/24/15

Method Blank Analysis Batch Quality Control

Analytical Method: 97,8270D
 Analytical Date: 11/07/14 09:37
 Analyst: RC

Extraction Method: EPA 3510C
 Extraction Date: 11/06/14 13:11

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 01 Batch: WG738172-1					
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	--
Dibenzofuran	ND		ug/l	2.0	--
2-Methylnaphthalene	ND		ug/l	2.0	--
Acetophenone	ND		ug/l	5.0	--
2,4,6-Trichlorophenol	ND		ug/l	5.0	--
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	--
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	--

Project Name: HARVARD KENNEDY SCHOOL**Lab Number:** L1426183**Project Number:** 38247-004**Report Date:** 02/24/15**Method Blank Analysis**
Batch Quality ControlAnalytical Method: 97,8270D
Analytical Date: 11/07/14 09:37
Analyst: RCExtraction Method: EPA 3510C
Extraction Date: 11/06/14 13:11

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 01 Batch: WG738172-1					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	46		15-110
Phenol-d6	32		15-110
Nitrobenzene-d5	70		30-130
2-Fluorobiphenyl	79		30-130
2,4,6-Tribromophenol	85		15-110
4-Terphenyl-d14	95		30-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: HARVARD KENNEDY SCHOOL

Project Number: 38247-004

Lab Number: L1426183

Report Date: 02/24/15

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics by SIM - Westborough Lab Associated sample(s): 01 Batch: WG736653-2 WG736653-3								
Acenaphthene	83		68		40-140	20		20
2-Chloronaphthalene	83		68		40-140	20		20
Fluoranthene	90		74		40-140	20		20
Hexachlorobutadiene	67		55		40-140	20		20
Naphthalene	78		63		40-140	21	Q	20
Benzo(a)anthracene	95		77		40-140	21	Q	20
Benzo(a)pyrene	101		82		40-140	21	Q	20
Benzo(b)fluoranthene	109		89		40-140	20		20
Benzo(k)fluoranthene	100		84		40-140	17		20
Chrysene	91		75		40-140	19		20
Acenaphthylene	75		62		40-140	19		20
Anthracene	84		67		40-140	23	Q	20
Benzo(ghi)perylene	103		83		40-140	22	Q	20
Fluorene	90		73		40-140	21	Q	20
Phenanthrene	84		67		40-140	23	Q	20
Dibenzo(a,h)anthracene	104		84		40-140	21	Q	20
Indeno(1,2,3-cd)Pyrene	104		85		40-140	20		20
Pyrene	89		72		40-140	21	Q	20
2-Methylnaphthalene	86		70		40-140	21	Q	20
Pentachlorophenol	77		54		30-130	35	Q	20
Hexachlorobenzene	83		67		40-140	21	Q	20

Lab Control Sample Analysis**Batch Quality Control****Project Name:** HARVARD KENNEDY SCHOOL**Lab Number:** L1426183**Project Number:** 38247-004**Report Date:** 02/24/15

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics by SIM - Westborough Lab Associated sample(s): 01 Batch: WG736653-2 WG736653-3								
Hexachloroethane	69		56		40-140	21	Q	20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	43		37		15-110
Phenol-d6	29		28		15-110
Nitrobenzene-d5	85		70		30-130
2-Fluorobiphenyl	82		68		30-130
2,4,6-Tribromophenol	95		64		15-110
4-Terphenyl-d14	81		67		30-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: HARVARD KENNEDY SCHOOL

Project Number: 38247-004

Lab Number: L1426183

Report Date: 02/24/15

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 01 Batch: WG738172-2 WG738172-3								
Acenaphthene	73		71		40-140	3		20
1,2,4-Trichlorobenzene	69		68		40-140	1		20
Hexachlorobenzene	77		74		40-140	4		20
Bis(2-chloroethyl)ether	66		62		40-140	6		20
2-Chloronaphthalene	75		72		40-140	4		20
1,2-Dichlorobenzene	63		60		40-140	5		20
1,3-Dichlorobenzene	60		58		40-140	3		20
1,4-Dichlorobenzene	62		58		40-140	7		20
3,3'-Dichlorobenzidine	84		79		40-140	6		20
2,4-Dinitrotoluene	85		80		40-140	6		20
2,6-Dinitrotoluene	83		79		40-140	5		20
Azobenzene	82		79		40-140	4		20
Fluoranthene	87		81		40-140	7		20
4-Bromophenyl phenyl ether	80		77		40-140	4		20
Bis(2-chloroisopropyl)ether	65		61		40-140	6		20
Bis(2-chloroethoxy)methane	70		66		40-140	6		20
Hexachlorobutadiene	65		64		40-140	2		20
Hexachloroethane	57		55		40-140	4		20
Isophorone	72		69		40-140	4		20
Naphthalene	67		65		40-140	3		20
Nitrobenzene	68		65		40-140	5		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: HARVARD KENNEDY SCHOOL

Project Number: 38247-004

Lab Number: L1426183

Report Date: 02/24/15

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 01 Batch: WG738172-2 WG738172-3								
Bis(2-Ethylhexyl)phthalate	89		85		40-140	5		20
Butyl benzyl phthalate	88		82		40-140	7		20
Di-n-butylphthalate	84		81		40-140	4		20
Di-n-octylphthalate	94		90		40-140	4		20
Diethyl phthalate	77		76		40-140	1		20
Dimethyl phthalate	79		76		40-140	4		20
Benzo(a)anthracene	82		79		40-140	4		20
Benzo(a)pyrene	82		79		40-140	4		20
Benzo(b)fluoranthene	82		81		40-140	1		20
Benzo(k)fluoranthene	80		75		40-140	6		20
Chrysene	80		77		40-140	4		20
Acenaphthylene	77		76		40-140	1		20
Anthracene	78		78		40-140	0		20
Benzo(ghi)perylene	80		77		40-140	4		20
Fluorene	79		76		40-140	4		20
Phenanthrene	79		76		40-140	4		20
Dibenzo(a,h)anthracene	83		81		40-140	2		20
Indeno(1,2,3-cd)Pyrene	84		79		40-140	6		20
Pyrene	85		80		40-140	6		20
Aniline	42		30	Q	40-140	33	Q	20
4-Chloroaniline	80		54		40-140	39	Q	20

Lab Control Sample Analysis

Batch Quality Control

Project Name: HARVARD KENNEDY SCHOOL

Project Number: 38247-004

Lab Number: L1426183

Report Date: 02/24/15

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 01 Batch: WG738172-2 WG738172-3								
Dibenzofuran	80		77		40-140	4		20
2-Methylnaphthalene	76		73		40-140	4		20
Acetophenone	78		72		40-140	8		20
2,4,6-Trichlorophenol	87		84		30-130	4		20
2-Chlorophenol	73		66		30-130	10		20
2,4-Dichlorophenol	84		81		30-130	4		20
2,4-Dimethylphenol	82		76		30-130	8		20
2-Nitrophenol	79		74		30-130	7		20
4-Nitrophenol	55		52		30-130	6		20
2,4-Dinitrophenol	88		86		30-130	2		20
Pentachlorophenol	84		81		30-130	4		20
Phenol	38		35		30-130	8		20
2-Methylphenol	70		66		30-130	6		20
3-Methylphenol/4-Methylphenol	66		61		30-130	8		20
2,4,5-Trichlorophenol	92		91		30-130	1		20

Lab Control Sample Analysis**Batch Quality Control****Project Name:** HARVARD KENNEDY SCHOOL**Project Number:** 38247-004**Lab Number:** L1426183**Report Date:** 02/24/15

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
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MCP Semivolatile Organics - Westborough Lab Associated sample(s): 01 Batch: WG738172-2 WG738172-3

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	48		44		15-110
Phenol-d6	36		33		15-110
Nitrobenzene-d5	74		69		30-130
2-Fluorobiphenyl	80		78		30-130
2,4,6-Tribromophenol	82		79		15-110
4-Terphenyl-d14	88		83		30-130

PETROLEUM HYDROCARBONS

Project Name: HARVARD KENNEDY SCHOOL**Lab Number:** L1426183**Project Number:** 38247-004**Report Date:** 02/24/15**SAMPLE RESULTS**

Lab ID: L1426183-01
Client ID: HA-B6
Sample Location:
Matrix: Water
Analytical Method: 100, VPH-04-1.1
Analytical Date: 11/03/14 17:19
Analyst: BS

Date Collected: 10/31/14 09:40
Date Received: 10/31/14
Field Prep: Not Specified

Quality Control Information

Condition of sample received:

Satisfactory

Aqueous Preservative:

Laboratory Provided Preserved
Container

Sample Temperature upon receipt:

Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
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Volatile Petroleum Hydrocarbons - Westborough Lab

C5-C8 Aliphatics	ND		ug/l	50.0	--	1
C9-C12 Aliphatics	ND		ug/l	50.0	--	1
C9-C10 Aromatics	ND		ug/l	50.0	--	1
C5-C8 Aliphatics, Adjusted	ND		ug/l	50.0	--	1
C9-C12 Aliphatics, Adjusted	ND		ug/l	50.0	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,5-Dibromotoluene-PID	112		70-130
2,5-Dibromotoluene-FID	100		70-130

Project Name: HARVARD KENNEDY SCHOOL**Lab Number:** L1426183**Project Number:** 38247-004**Report Date:** 02/24/15**SAMPLE RESULTS**

Lab ID: L1426183-01
 Client ID: HA-B6
 Sample Location:
 Matrix: Water
 Analytical Method: 98,EPH-04-1.1
 Analytical Date: 11/07/14 14:18
 Analyst: SR

Date Collected: 10/31/14 09:40
 Date Received: 10/31/14
 Field Prep: Not Specified
 Extraction Method: EPA 3510C
 Extraction Date: 11/07/14 08:56
 Cleanup Method1: EPH-04-1
 Cleanup Date1: 11/07/14

Quality Control Information

Condition of sample received: Satisfactory
 Aqueous Preservative: Laboratory Provided Preserved Container
 Sample Temperature upon receipt: Received on Ice
 Sample Extraction method: Extracted Per the Method

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Extractable Petroleum Hydrocarbons - Westborough Lab						
C9-C18 Aliphatics	ND		ug/l	100	--	1
C19-C36 Aliphatics	ND		ug/l	100	--	1
C11-C22 Aromatics	ND		ug/l	100	--	1
C11-C22 Aromatics, Adjusted	ND		ug/l	100	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	53		40-140
o-Terphenyl	92		40-140
2-Fluorobiphenyl	92		40-140
2-Bromonaphthalene	95		40-140

Project Name: HARVARD KENNEDY SCHOOL

Lab Number: L1426183

Project Number: 38247-004

Report Date: 02/24/15

Method Blank Analysis Batch Quality Control

Analytical Method: 100, VPH-04-1.1

Analytical Date: 11/03/14 11:18

Analyst: BS

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Petroleum Hydrocarbons - Westborough Lab for sample(s): 01 Batch: WG737272-3					
C5-C8 Aliphatics	ND		ug/l	50.0	--
C9-C12 Aliphatics	ND		ug/l	50.0	--
C9-C10 Aromatics	ND		ug/l	50.0	--
C5-C8 Aliphatics, Adjusted	ND		ug/l	50.0	--
C9-C12 Aliphatics, Adjusted	ND		ug/l	50.0	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2,5-Dibromotoluene-PID	111		70-130
2,5-Dibromotoluene-FID	100		70-130

Project Name: HARVARD KENNEDY SCHOOL

Lab Number: L1426183

Project Number: 38247-004

Report Date: 02/24/15

Method Blank Analysis Batch Quality Control

Analytical Method: 98,EPH-04-1.1

Analytical Date: 11/07/14 13:46

Analyst: SR

Extraction Method: EPA 3510C

Extraction Date: 11/07/14 08:56

Cleanup Method: EPH-04-1

Cleanup Date: 11/07/14

Parameter	Result	Qualifier	Units	RL	MDL
Extractable Petroleum Hydrocarbons - Westborough Lab for sample(s): 01 Batch: WG738467-1					
C9-C18 Aliphatics	ND		ug/l	100	--
C19-C36 Aliphatics	ND		ug/l	100	--
C11-C22 Aromatics	ND		ug/l	100	--
C11-C22 Aromatics, Adjusted	ND		ug/l	100	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	74		40-140
o-Terphenyl	79		40-140
2-Fluorobiphenyl	80		40-140
2-Bromonaphthalene	82		40-140

Lab Control Sample Analysis **Batch Quality Control**

Project Name: HARVARD KENNEDY SCHOOL

Project Number: 38247-004

Lab Number: L1426183

Report Date: 02/24/15

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 01 Batch: WG737272-1 WG737272-2								
C5-C8 Aliphatics	106		95		70-130	11		25
C9-C12 Aliphatics	98		87		70-130	12		25
C9-C10 Aromatics	106		101		70-130	5		25
Benzene	115		108		70-130	6		25
Toluene	117		110		70-130	6		25
Ethylbenzene	118		110		70-130	7		25
p/m-Xylene	115		108		70-130	6		25
o-Xylene	115		108		70-130	6		25
Methyl tert butyl ether	109		107		70-130	2		25
Naphthalene	107		106		70-130	1		25
1,2,4-Trimethylbenzene	106		101		70-130	5		25
Pentane	104		93		70-130	11		25
2-Methylpentane	107		96		70-130	11		25
2,2,4-Trimethylpentane	106		95		70-130	11		25
n-Nonane	100		90		30-130	11		25
n-Decane	91		80		70-130	12		25
n-Butylcyclohexane	102		91		70-130	11		25

Lab Control Sample Analysis**Batch Quality Control****Project Name:** HARVARD KENNEDY SCHOOL**Project Number:** 38247-004**Lab Number:** L1426183**Report Date:** 02/24/15

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
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Volatile Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 01 Batch: WG737272-1 WG737272-2

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2,5-Dibromotoluene-PID	103		99		70-130
2,5-Dibromotoluene-FID	92		88		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: HARVARD KENNEDY SCHOOL

Project Number: 38247-004

Lab Number: L1426183

Report Date: 02/24/15

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Extractable Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 01 Batch: WG738467-2 WG738467-3								
C9-C18 Aliphatics	49		57		40-140	15		25
C19-C36 Aliphatics	60		77		40-140	25		25
C11-C22 Aromatics	89		70		40-140	24		25
Naphthalene	67		55		40-140	20		25
2-Methylnaphthalene	74		61		40-140	19		25
Acenaphthylene	72		59		40-140	20		25
Acenaphthene	76		62		40-140	20		25
Fluorene	78		64		40-140	20		25
Phenanthrene	82		70		40-140	16		25
Anthracene	88		75		40-140	16		25
Fluoranthene	84		73		40-140	14		25
Pyrene	88		76		40-140	15		25
Benzo(a)anthracene	84		72		40-140	15		25
Chrysene	90		77		40-140	16		25
Benzo(b)fluoranthene	89		73		40-140	20		25
Benzo(k)fluoranthene	83		75		40-140	10		25
Benzo(a)pyrene	91		78		40-140	15		25
Indeno(1,2,3-cd)Pyrene	70		61		40-140	14		25
Dibenzo(a,h)anthracene	82		72		40-140	13		25
Benzo(ghi)perylene	85		74		40-140	14		25
Nonane (C9)	42		46		30-140	9		25

Lab Control Sample Analysis

Batch Quality Control

Project Name: HARVARD KENNEDY SCHOOL

Project Number: 38247-004

Lab Number: L1426183

Report Date: 02/24/15

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Extractable Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 01 Batch: WG738467-2 WG738467-3								
Decane (C10)	48		54		40-140	12		25
Dodecane (C12)	52		59		40-140	13		25
Tetradecane (C14)	54		63		40-140	15		25
Hexadecane (C16)	58		70		40-140	19		25
Octadecane (C18)	61		77		40-140	23		25
Nonadecane (C19)	61		79		40-140	26	Q	25
Eicosane (C20)	61		79		40-140	26	Q	25
Docosane (C22)	63		81		40-140	25		25
Tetracosane (C24)	63		82		40-140	26	Q	25
Hexacosane (C26)	64		82		40-140	25		25
Octacosane (C28)	62		80		40-140	25		25
Triacontane (C30)	62		80		40-140	25		25
Hexatriacontane (C36)	69		88		40-140	24		25

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Chloro-Octadecane	42		62		40-140
o-Terphenyl	72		63		40-140
2-Fluorobiphenyl	70		68		40-140
2-Bromonaphthalene	74		69		40-140
% Naphthalene Breakthrough	0		0		
% 2-Methylnaphthalene Breakthrough	0		0		

PCBS

Project Name: HARVARD KENNEDY SCHOOL
Project Number: 38247-004

Lab Number: L1426183
Report Date: 02/24/15

SAMPLE RESULTS

Lab ID: L1426183-01
Client ID: HA-B6
Sample Location: Not Specified
Matrix: Water
Analytical Method: 97,8082
Analytical Date: 11/06/14 00:57
Analyst: JT

Date Collected: 10/31/14 09:40
Date Received: 10/31/14
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 11/01/14 08:13
Cleanup Method: EPA 3665A
Cleanup Date: 11/03/14
Cleanup Method: EPA 3660B
Cleanup Date: 11/03/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/l	0.250	--	1	A
Aroclor 1221	ND		ug/l	0.250	--	1	A
Aroclor 1232	ND		ug/l	0.250	--	1	A
Aroclor 1242	ND		ug/l	0.250	--	1	A
Aroclor 1248	ND		ug/l	0.250	--	1	A
Aroclor 1254	ND		ug/l	0.250	--	1	A
Aroclor 1260	ND		ug/l	0.250	--	1	A
Aroclor 1262	ND		ug/l	0.250	--	1	A
Aroclor 1268	ND		ug/l	0.250	--	1	A
PCBs, Total	ND		ug/l	0.250	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	72		30-150	A
Decachlorobiphenyl	82		30-150	A
2,4,5,6-Tetrachloro-m-xylene	79		30-150	B
Decachlorobiphenyl	100		30-150	B

Project Name: HARVARD KENNEDY SCHOOL**Lab Number:** L1426183**Project Number:** 38247-004**Report Date:** 02/24/15

Method Blank Analysis Batch Quality Control

Analytical Method: 97,8082
 Analytical Date: 11/03/14 23:14
 Analyst: JT

Extraction Method: EPA 3510C
 Extraction Date: 11/01/14 08:13
 Cleanup Method: EPA 3665A
 Cleanup Date: 11/03/14
 Cleanup Method: EPA 3660B
 Cleanup Date: 11/03/14

Parameter	Result	Qualifier	Units	RL	MDL	Column
MCP Polychlorinated Biphenyls - Westborough Lab for sample(s): 01 Batch: WG736638-1						
Aroclor 1016	ND		ug/l	0.250	--	A
Aroclor 1221	ND		ug/l	0.250	--	A
Aroclor 1232	ND		ug/l	0.250	--	A
Aroclor 1242	ND		ug/l	0.250	--	A
Aroclor 1248	ND		ug/l	0.250	--	A
Aroclor 1254	ND		ug/l	0.250	--	A
Aroclor 1260	ND		ug/l	0.250	--	A
Aroclor 1262	ND		ug/l	0.250	--	A
Aroclor 1268	ND		ug/l	0.250	--	A
PCBs, Total	ND		ug/l	0.250	--	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	43		30-150	A
Decachlorobiphenyl	57		30-150	A
2,4,5,6-Tetrachloro-m-xylene	47		30-150	B
Decachlorobiphenyl	64		30-150	B

Lab Control Sample Analysis

Batch Quality Control

Project Name: HARVARD KENNEDY SCHOOL

Project Number: 38247-004

Lab Number: L1426183

Report Date: 02/24/15

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
MCP Polychlorinated Biphenyls - Westborough Lab Associated sample(s): 01 Batch: WG736638-2 WG736638-3									
Aroclor 1016	66		57		40-140	15		20	A
Aroclor 1260	75		61		40-140	19		20	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	61		52		30-150	A
Decachlorobiphenyl	80		63		30-150	A
2,4,5,6-Tetrachloro-m-xylene	66		55		30-150	B
Decachlorobiphenyl	89		68		30-150	B

PESTICIDES

Project Name: HARVARD KENNEDY SCHOOL
Project Number: 38247-004

Lab Number: L1426183
Report Date: 02/24/15

SAMPLE RESULTS

Lab ID: L1426183-01
Client ID: HA-B6
Sample Location: Not Specified
Matrix: Water
Analytical Method: 97,8081B
Analytical Date: 11/04/14 14:28
Analyst: TQ

Date Collected: 10/31/14 09:40
Date Received: 10/31/14
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 11/02/14 08:56
Cleanup Method: EPA 3620B
Cleanup Date: 11/04/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Organochlorine Pesticides - Westborough Lab							
Delta-BHC	ND		ug/l	0.020	--	1	A
Lindane	ND		ug/l	0.020	--	1	A
Alpha-BHC	ND		ug/l	0.020	--	1	A
Beta-BHC	ND		ug/l	0.020	--	1	A
Heptachlor	ND		ug/l	0.020	--	1	A
Aldrin	ND		ug/l	0.020	--	1	A
Heptachlor epoxide	ND		ug/l	0.020	--	1	A
Endrin	ND		ug/l	0.040	--	1	A
Endrin ketone	ND		ug/l	0.040	--	1	A
Dieldrin	ND		ug/l	0.040	--	1	A
4,4'-DDE	ND		ug/l	0.040	--	1	A
4,4'-DDD	ND		ug/l	0.040	--	1	A
4,4'-DDT	ND		ug/l	0.040	--	1	A
Endosulfan I	ND		ug/l	0.020	--	1	A
Endosulfan II	ND		ug/l	0.040	--	1	A
Endosulfan sulfate	ND		ug/l	0.040	--	1	A
Methoxychlor	ND		ug/l	0.200	--	1	A
Chlordane	ND		ug/l	0.200	--	1	A
Hexachlorobenzene	ND		ug/l	0.020	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	74		30-150	B
Decachlorobiphenyl	62		30-150	B
2,4,5,6-Tetrachloro-m-xylene	87		30-150	A
Decachlorobiphenyl	61		30-150	A

Project Name: HARVARD KENNEDY SCHOOL

Lab Number: L1426183

Project Number: 38247-004

Report Date: 02/24/15

Method Blank Analysis Batch Quality Control

Analytical Method: 97,8081B
 Analytical Date: 11/04/14 13:49
 Analyst: TQ

Extraction Method: EPA 3510C
 Extraction Date: 11/02/14 08:56
 Cleanup Method: EPA 3620B
 Cleanup Date: 11/04/14

Parameter	Result	Qualifier	Units	RL	MDL	Column
MCP Organochlorine Pesticides - Westborough Lab for sample(s): 01				Batch: WG736767-1		
Delta-BHC	ND		ug/l	0.020	--	A
Lindane	ND		ug/l	0.020	--	A
Alpha-BHC	ND		ug/l	0.020	--	A
Beta-BHC	ND		ug/l	0.020	--	A
Heptachlor	ND		ug/l	0.020	--	A
Aldrin	ND		ug/l	0.020	--	A
Heptachlor epoxide	ND		ug/l	0.020	--	A
Endrin	ND		ug/l	0.040	--	A
Endrin ketone	ND		ug/l	0.040	--	A
Dieldrin	ND		ug/l	0.040	--	A
4,4'-DDE	ND		ug/l	0.040	--	A
4,4'-DDD	ND		ug/l	0.040	--	A
4,4'-DDT	ND		ug/l	0.040	--	A
Endosulfan I	ND		ug/l	0.020	--	A
Endosulfan II	ND		ug/l	0.040	--	A
Endosulfan sulfate	ND		ug/l	0.040	--	A
Methoxychlor	ND		ug/l	0.200	--	A
Chlordane	ND		ug/l	0.200	--	A
Hexachlorobenzene	ND		ug/l	0.020	--	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	74		30-150	B
Decachlorobiphenyl	78		30-150	B
2,4,5,6-Tetrachloro-m-xylene	78		30-150	A
Decachlorobiphenyl	71		30-150	A

Lab Control Sample Analysis

Batch Quality Control

Project Name: HARVARD KENNEDY SCHOOL

Project Number: 38247-004

Lab Number: L1426183

Report Date: 02/24/15

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
MCP Organochlorine Pesticides - Westborough Lab Associated sample(s): 01 Batch: WG736767-2 WG736767-3									
Delta-BHC	78		85		40-140	8		30	A
Lindane	85		93		40-140	9		30	A
Alpha-BHC	77		84		40-140	9		30	A
Beta-BHC	83		92		40-140	10		30	A
Heptachlor	79		88		40-140	11		30	A
Aldrin	77		86		40-140	11		30	A
Heptachlor epoxide	79		89		40-140	11		30	A
Endrin	87		97		40-140	11		30	A
Endrin ketone	67		74		40-140	10		30	A
Dieldrin	84		93		40-140	11		30	A
4,4'-DDE	78		87		40-140	11		30	A
4,4'-DDD	82		92		40-140	12		30	A
4,4'-DDT	75		86		40-140	13		30	A
Endosulfan I	78		88		40-140	11		30	A
Endosulfan II	71		79		40-140	10		30	A
Endosulfan sulfate	74		80		40-140	8		30	A
Methoxychlor	68		75		40-140	10		30	A
Hexachlorobenzene	65		70		40-140	9		30	A

Lab Control Sample Analysis**Batch Quality Control****Project Name:** HARVARD KENNEDY SCHOOL**Project Number:** 38247-004**Lab Number:** L1426183**Report Date:** 02/24/15

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
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MCP Organochlorine Pesticides - Westborough Lab Associated sample(s): 01 Batch: WG736767-2 WG736767-3

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	72		77		30-150	B
Decachlorobiphenyl	73		81		30-150	B
2,4,5,6-Tetrachloro-m-xylene	72		82		30-150	A
Decachlorobiphenyl	74		82		30-150	A

METALS

Project Name: HARVARD KENNEDY SCHOOL

Lab Number: L1426183

Project Number: 38247-004

Report Date: 02/24/15

SAMPLE RESULTS

Lab ID: L1426183-01

Date Collected: 10/31/14 09:40

Client ID: HA-B6

Date Received: 10/31/14

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
MCP Total Metals - Westborough Lab											
Antimony, Total	ND		mg/l	0.0030	--	1	11/03/14 14:54	11/04/14 13:11	EPA 3005A	97,6020A	KL
Arsenic, Total	ND		mg/l	0.0050	--	1	11/03/14 14:54	11/05/14 19:38	EPA 3005A	97,6010C	TT
Barium, Total	0.066		mg/l	0.010	--	1	11/03/14 14:54	11/05/14 19:38	EPA 3005A	97,6010C	TT
Beryllium, Total	ND		mg/l	0.004	--	1	11/03/14 14:54	11/05/14 19:38	EPA 3005A	97,6010C	TT
Cadmium, Total	ND		mg/l	0.004	--	1	11/03/14 14:54	11/05/14 19:38	EPA 3005A	97,6010C	TT
Chromium, Total	ND		mg/l	0.010	--	1	11/03/14 14:54	11/05/14 19:38	EPA 3005A	97,6010C	TT
Copper, Total	ND		mg/l	0.010	--	1	11/03/14 14:54	11/05/14 19:38	EPA 3005A	97,6010C	TT
Lead, Total	ND		mg/l	0.010	--	1	11/03/14 14:54	11/05/14 19:38	EPA 3005A	97,6010C	TT
Mercury, Total	ND		mg/l	0.0002	--	1	11/03/14 10:41	11/03/14 20:50	EPA 7470A	97,7470A	AK
Nickel, Total	ND		mg/l	0.025	--	1	11/03/14 14:54	11/05/14 19:38	EPA 3005A	97,6010C	TT
Selenium, Total	ND		mg/l	0.010	--	1	11/03/14 14:54	11/05/14 19:38	EPA 3005A	97,6010C	TT
Silver, Total	ND		mg/l	0.007	--	1	11/03/14 14:54	11/05/14 19:38	EPA 3005A	97,6010C	TT
Thallium, Total	ND		mg/l	0.0005	--	1	11/03/14 14:54	11/04/14 13:11	EPA 3005A	97,6020A	KL
Vanadium, Total	ND		mg/l	0.010	--	1	11/03/14 14:54	11/05/14 19:38	EPA 3005A	97,6010C	TT
Zinc, Total	ND		mg/l	0.050	--	1	11/03/14 14:54	11/05/14 19:38	EPA 3005A	97,6010C	TT

MCP Dissolved Metals - Westborough Lab

Antimony, Dissolved	ND		mg/l	0.0030	--	1	11/03/14 09:51	11/04/14 15:42	NA	97,6020A	KL
Arsenic, Dissolved	ND		mg/l	0.005	--	1	11/03/14 09:51	11/04/14 02:14	NA	97,6010C	BC
Barium, Dissolved	0.062		mg/l	0.010	--	1	11/03/14 09:51	11/04/14 02:14	NA	97,6010C	BC
Beryllium, Dissolved	ND		mg/l	0.004	--	1	11/03/14 09:51	11/04/14 02:14	NA	97,6010C	BC
Cadmium, Dissolved	ND		mg/l	0.004	--	1	11/03/14 09:51	11/04/14 02:14	NA	97,6010C	BC
Chromium, Dissolved	ND		mg/l	0.01	--	1	11/03/14 09:51	11/04/14 02:14	NA	97,6010C	BC
Lead, Dissolved	ND		mg/l	0.010	--	1	11/03/14 09:51	11/04/14 02:14	NA	97,6010C	BC
Mercury, Dissolved	ND		mg/l	0.0002	--	1	11/03/14 15:20	11/03/14 22:00	EPA 7470A	97,7470A	AK
Nickel, Dissolved	ND		mg/l	0.025	--	1	11/03/14 09:51	11/04/14 02:14	NA	97,6010C	BC
Selenium, Dissolved	ND		mg/l	0.010	--	1	11/03/14 09:51	11/04/14 02:14	NA	97,6010C	BC
Silver, Dissolved	ND		mg/l	0.007	--	1	11/03/14 09:51	11/04/14 02:14	NA	97,6010C	BC
Thallium, Dissolved	ND		mg/l	0.0005	--	1	11/03/14 09:51	11/04/14 15:42	NA	97,6020A	KL
Vanadium, Dissolved	ND		mg/l	0.010	--	1	11/03/14 09:51	11/04/14 02:14	NA	97,6010C	BC
Zinc, Dissolved	ND		mg/l	0.050	--	1	11/03/14 09:51	11/04/14 02:14	NA	97,6010C	BC



Project Name: HARVARD KENNEDY SCHOOL

Lab Number: L1426183

Project Number: 38247-004

Report Date: 02/24/15

Method Blank Analysis Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Dissolved Metals - Westborough Lab for sample(s): 01 Batch: WG736913-1										
Antimony, Dissolved	ND		mg/l	0.0030	--	1	11/03/14 09:51	11/04/14 15:13	97,6020A	KL
Thallium, Dissolved	ND		mg/l	0.0005	--	1	11/03/14 09:51	11/04/14 15:13	97,6020A	KL

Prep Information

Digestion Method: NA

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Total Metals - Westborough Lab for sample(s): 01 Batch: WG736914-1										
Mercury, Total	ND		mg/l	0.0002	--	1	11/03/14 10:41	11/03/14 20:14	97,7470A	AK

Prep Information

Digestion Method: EPA 7470A

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Total Metals - Westborough Lab for sample(s): 01 Batch: WG737014-1										
Arsenic, Total	ND		mg/l	0.005	--	1	11/03/14 14:54	11/05/14 19:23	97,6010C	TT
Barium, Total	ND		mg/l	0.010	--	1	11/03/14 14:54	11/05/14 19:23	97,6010C	TT
Beryllium, Total	ND		mg/l	0.004	--	1	11/03/14 14:54	11/05/14 19:23	97,6010C	TT
Cadmium, Total	ND		mg/l	0.004	--	1	11/03/14 14:54	11/05/14 19:23	97,6010C	TT
Chromium, Total	ND		mg/l	0.01	--	1	11/03/14 14:54	11/05/14 19:23	97,6010C	TT
Copper, Total	ND		mg/l	0.010	--	1	11/03/14 14:54	11/05/14 19:23	97,6010C	TT
Lead, Total	ND		mg/l	0.010	--	1	11/03/14 14:54	11/05/14 19:23	97,6010C	TT
Nickel, Total	ND		mg/l	0.025	--	1	11/03/14 14:54	11/05/14 19:23	97,6010C	TT
Selenium, Total	ND		mg/l	0.010	--	1	11/03/14 14:54	11/05/14 19:23	97,6010C	TT
Silver, Total	ND		mg/l	0.007	--	1	11/03/14 14:54	11/05/14 19:23	97,6010C	TT
Vanadium, Total	ND		mg/l	0.010	--	1	11/03/14 14:54	11/05/14 19:23	97,6010C	TT
Zinc, Total	ND		mg/l	0.050	--	1	11/03/14 14:54	11/05/14 19:23	97,6010C	TT

Project Name: HARVARD KENNEDY SCHOOL

Lab Number: L1426183

Project Number: 38247-004

Report Date: 02/24/15

Method Blank Analysis Batch Quality Control

Prep Information

Digestion Method: EPA 3005A

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Total Metals - Westborough Lab for sample(s): 01 Batch: WG737015-1										
Antimony, Total	ND		mg/l	0.0030	--	1	11/03/14 14:54	11/04/14 13:04	97,6020A	KL
Thallium, Total	ND		mg/l	0.0005	--	1	11/03/14 14:54	11/04/14 13:04	97,6020A	KL

Prep Information

Digestion Method: EPA 3005A

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Dissolved Metals - Westborough Lab for sample(s): 01 Batch: WG737044-1										
Mercury, Dissolved	ND		mg/l	0.0002	--	1	11/03/14 15:20	11/03/14 21:07	97,7470A	AK

Prep Information

Digestion Method: EPA 7470A

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Dissolved Metals - Westborough Lab for sample(s): 01 Batch: WG737047-1										
Arsenic, Dissolved	ND		mg/l	0.005	--	1	11/03/14 09:51	11/04/14 01:54	97,6010C	BC
Barium, Dissolved	ND		mg/l	0.010	--	1	11/03/14 09:51	11/04/14 01:54	97,6010C	BC
Beryllium, Dissolved	ND		mg/l	0.004	--	1	11/03/14 09:51	11/04/14 01:54	97,6010C	BC
Cadmium, Dissolved	ND		mg/l	0.004	--	1	11/03/14 09:51	11/04/14 01:54	97,6010C	BC
Chromium, Dissolved	ND		mg/l	0.01	--	1	11/03/14 09:51	11/04/14 01:54	97,6010C	BC
Lead, Dissolved	ND		mg/l	0.010	--	1	11/03/14 09:51	11/04/14 01:54	97,6010C	BC
Nickel, Dissolved	ND		mg/l	0.025	--	1	11/03/14 09:51	11/04/14 01:54	97,6010C	BC
Selenium, Dissolved	ND		mg/l	0.010	--	1	11/03/14 09:51	11/04/14 01:54	97,6010C	BC
Silver, Dissolved	ND		mg/l	0.007	--	1	11/03/14 09:51	11/04/14 01:54	97,6010C	BC
Vanadium, Dissolved	ND		mg/l	0.010	--	1	11/03/14 09:51	11/04/14 01:54	97,6010C	BC
Zinc, Dissolved	ND		mg/l	0.050	--	1	11/03/14 09:51	11/04/14 01:54	97,6010C	BC



Project Name: HARVARD KENNEDY SCHOOL

Lab Number: L1426183

Project Number: 38247-004

Report Date: 02/24/15

Method Blank Analysis Batch Quality Control

Prep Information

Digestion Method: NA

Lab Control Sample Analysis

Batch Quality Control

Project Name: HARVARD KENNEDY SCHOOL

Project Number: 38247-004

Lab Number: L1426183

Report Date: 02/24/15

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Dissolved Metals - Westborough Lab Associated sample(s): 01 Batch: WG736913-2 WG736913-3								
Antimony, Dissolved	92		90		80-120	2		20
Thallium, Dissolved	92		93		80-120	1		20
MCP Total Metals - Westborough Lab Associated sample(s): 01 Batch: WG736914-2 WG736914-3								
Mercury, Total	96		99		80-120	3		20
MCP Total Metals - Westborough Lab Associated sample(s): 01 Batch: WG737014-2 WG737014-3								
Arsenic, Total	111		110		80-120	1		20
Barium, Total	100		103		80-120	3		20
Beryllium, Total	103		106		80-120	3		20
Cadmium, Total	107		108		80-120	1		20
Chromium, Total	100		105		80-120	5		20
Copper, Total	102		103		80-120	1		20
Lead, Total	107		109		80-120	2		20
Nickel, Total	101		102		80-120	1		20
Selenium, Total	112		112		80-120	0		20
Silver, Total	103		104		80-120	1		20
Vanadium, Total	104		106		80-120	2		20
Zinc, Total	103		105		80-120	2		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: HARVARD KENNEDY SCHOOL

Project Number: 38247-004

Lab Number: L1426183

Report Date: 02/24/15

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
MCP Total Metals - Westborough Lab Associated sample(s): 01 Batch: WG737015-2 WG737015-3					
Antimony, Total	88	96	80-120	9	20
Thallium, Total	97	99	80-120	2	20
MCP Dissolved Metals - Westborough Lab Associated sample(s): 01 Batch: WG737044-2 WG737044-3					
Mercury, Dissolved	289	Q	80-120	111	Q
MCP Dissolved Metals - Westborough Lab Associated sample(s): 01 Batch: WG737047-2 WG737047-3					
Arsenic, Dissolved	103	105	80-120	2	20
Barium, Dissolved	96	100	80-120	4	20
Beryllium, Dissolved	97	101	80-120	4	20
Cadmium, Dissolved	102	104	80-120	2	20
Chromium, Dissolved	95	100	80-120	5	20
Lead, Dissolved	101	104	80-120	3	20
Nickel, Dissolved	95	98	80-120	3	20
Selenium, Dissolved	106	109	80-120	3	20
Silver, Dissolved	94	96	80-120	2	20
Vanadium, Dissolved	98	101	80-120	3	20
Zinc, Dissolved	99	102	80-120	3	20

INORGANICS & MISCELLANEOUS

Project Name: HARVARD KENNEDY SCHOOL
Project Number: 38247-004

Lab Number: L1426183
Report Date: 02/24/15

SAMPLE RESULTS

Lab ID: L1426183-01
Client ID: HA-B6
Sample Location: Not Specified
Matrix: Water

Date Collected: 10/31/14 09:40
Date Received: 10/31/14
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP General Chemistry - Westborough Lab										
Cyanide, Total	ND		mg/l	0.005	--	1	11/03/14 08:50	11/03/14 13:39	97,9014	JO
Cyanide, Physiologically Available	ND		mg/l	0.005	--	1	11/04/14 09:56	11/04/14 12:54	97,9014	JO
General Chemistry - Westborough Lab										
Solids, Total Suspended	31.		mg/l	5.0	NA	1	-	11/05/14 13:40	30,2540D	DW
Cyanide, Amenable	ND		mg/l	0.010	--	2	11/03/14 13:23	11/04/14 14:25	30,4500CN-G	SP
Chlorine, Total Residual	ND		mg/l	0.02	--	1	-	11/01/14 00:41	30,4500CL-D	MR
Chloride	560		mg/l	10	--	10	-	11/03/14 11:11	1,9251	LA
Phenolics, Total	ND		mg/l	0.03	--	1	11/04/14 10:45	11/04/14 16:50	1,9065	MP



Project Name: HARVARD KENNEDY SCHOOL**Lab Number:** L1426183**Project Number:** 38247-004**Report Date:** 02/24/15

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: WG736599-1										
Chlorine, Total Residual	ND		mg/l	0.02	--	1	-	11/01/14 00:41	30,4500CL-D	MR
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG736865-1										
Chloride	ND		mg/l	1.0	--	1	-	11/03/14 10:12	1,9251	LA
MCP General Chemistry - Westborough Lab for sample(s): 01 Batch: WG736894-1										
Cyanide, Total	ND		mg/l	0.005	--	1	11/03/14 08:50	11/03/14 13:24	97,9014	JO
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG737034-1										
Cyanide, Amenable	ND		mg/l	0.010	--	2	11/03/14 13:23	11/04/14 14:25	30,4500CN-G	SP
MCP General Chemistry - Westborough Lab for sample(s): 01 Batch: WG737300-1										
Cyanide, Physiologically Available	ND		mg/l	0.005	--	1	11/04/14 09:56	11/04/14 12:50	97,9014	JO
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG737302-1										
Phenolics, Total	ND		mg/l	0.03	--	1	11/04/14 10:45	11/04/14 16:48	1,9065	MP
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG737620-1										
Solids, Total Suspended	ND		mg/l	5.0	NA	1	-	11/05/14 13:40	30,2540D	DW

Lab Control Sample Analysis

Batch Quality Control

Project Name: HARVARD KENNEDY SCHOOL

Project Number: 38247-004

Lab Number: L1426183

Report Date: 02/24/15

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG736599-2								
Chlorine, Total Residual	97		-		90-110	-		
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG736865-2								
Chloride	97		-		90-110	-		
MCP General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG736894-2 WG736894-3								
Cyanide, Total	91		93		80-120	2		20
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG737034-2								
Cyanide, Amenable	95		-			-		
MCP General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG737300-2 WG737300-3								
Cyanide, Physiologically Available	88		91		80-120	3		20
MCP General Chemistry - Westborough Lab NEGATIVE LCS Associated sample(s): 01 Batch: WG737300-4								
Cyanide, Physiologically Available	1		-		0-10	-		20
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG737302-2								
Phenolics, Total	98		-		70-130	-		

Matrix Spike Analysis

Batch Quality Control

Project Name: HARVARD KENNEDY SCHOOL

Project Number: 38247-004

Lab Number: L1426183

Report Date: 02/24/15

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: WG736865-4 QC Sample: L1425853-01 Client ID: MS Sample												
Chloride	82	20	100	90		-	-		58-140	-		7
MCP General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG736894-4 WG736894-5 QC Sample: L1425920-01 Client ID: MS Sample												
Cyanide, Total	0.774	0.2	0.992	109		0.987	106		75-125	7		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG737302-4 QC Sample: L1426183-01 Client ID: HA-B6												
Phenolics, Total	ND	0.4	0.39	98		-	-		70-130	-		20

Project Name: HARVARD KENNEDY SCHOOL
Project Number: 38247-004

Lab Duplicate Analysis

Batch Quality Control

Lab Number: L1426183
Report Date: 02/24/15

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG736599-3 QC Sample: L1426183-01 Client ID: HA-B6						
Chlorine, Total Residual	ND	ND	mg/l	NC		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG736865-3 QC Sample: L1425853-01 Client ID: DUP Sample						
Chloride	82	84	mg/l	2		7
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG737034-3 QC Sample: L1426183-01 Client ID: HA-B6						
Cyanide, Amenable	ND	ND	mg/l	NC		
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG737302-3 QC Sample: L1426183-01 Client ID: HA-B6						
Phenolics, Total	ND	ND	mg/l	NC		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG737620-2 QC Sample: L1425844-01 Client ID: DUP Sample						
Solids, Total Suspended	73	85	mg/l	15		29

Project Name: HARVARD KENNEDY SCHOOL

Project Number: 38247-004

Lab Number: L1426183

Report Date: 02/24/15

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Reagent H2O Preserved Vials Frozen on: NA

Cooler Information Custody Seal

Cooler

B Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1426183-01A	Vial HCl preserved	B	N/A	2.6	Y	Absent	MCP-8260-10(14)
L1426183-01B	Vial HCl preserved	B	N/A	2.6	Y	Absent	MCP-8260-10(14)
L1426183-01C	Vial HCl preserved	B	N/A	2.6	Y	Absent	MCP-8260-10(14)
L1426183-01D	Vial HCl preserved	B	N/A	2.6	Y	Absent	VPH-10(14)
L1426183-01E	Vial HCl preserved	B	N/A	2.6	Y	Absent	VPH-10(14)
L1426183-01F	Vial HCl preserved	B	N/A	2.6	Y	Absent	VPH-10(14)
L1426183-01G	Plastic 250ml HNO3 preserved	B	<2	2.6	Y	Absent	MCP-CD-6010S-10(180),MCP-7470S-10(28),MCP-AG-6010S-10(180),MCP-SB-6020S-10(180),MCP-ZN-6010S-10(180),MCP-AS-6010S-10(180),MCP-CR-6010S-10(180),MCP-TL-6020S-10(180),MCP-BA-6010S-10(180),MCP-BE-6010S-10(180),MCP-PB-6010S-10(180),MCP-NI-6010S-10(180),MCP-SE-6010S-10(180),MCP-V-6010S-10(180)
L1426183-01H	Plastic 250ml HNO3 preserved	B	<2	2.6	Y	Absent	MCP-CR-6010T-10(180),MCP-7470T-10(28),MCP-AS-6010T-10(180),MCP-TL-6020T-10(180),MCP-CD-6010T-10(180),MCP-AG-6010T-10(180),MCP-CU-6010T-10(180),MCP-ZN-6010T-10(180),MCP-BE-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-SB-6020T-10(180),MCP-V-6010T-10(180),MCP-NI-6010T-10(180),MCP-PB-6010T-10(180)
L1426183-01I	Plastic 250ml NaOH preserved	B	>12	2.6	Y	Absent	MCP-TCN9014-10(14),ACN-4500(14),MCP-PACN9014-10(14)
L1426183-01J	Plastic 500ml unpreserved	B	7	2.6	Y	Absent	CL-9251(28),TRC-4500(1)
L1426183-01K	Plastic 950ml unpreserved	B	7	2.6	Y	Absent	TSS-2540(7)

*Values in parentheses indicate holding time in days



Project Name: HARVARD KENNEDY SCHOOL**Project Number:** 38247-004**Lab Number:** L1426183**Report Date:** 02/24/15**Container Information**

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1426183-01L	Amber 500ml H2SO4 preserved	B	<2	2.6	Y	Absent	TPHENOL-9065(28)
L1426183-01M	Amber 1000ml unpreserved	B	7	2.6	Y	Absent	MCP-8081-10(7)
L1426183-01N	Amber 1000ml unpreserved	B	7	2.6	Y	Absent	MCP-8081-10(7)
L1426183-01O	Amber 1000ml unpreserved	B	7	2.6	Y	Absent	MCP-8082-10(365)
L1426183-01P	Amber 1000ml unpreserved	B	7	2.6	Y	Absent	MCP-8082-10(365)
L1426183-01Q	Amber 1000ml HCl preserved	B	<2	2.6	Y	Absent	EPH-10(14)
L1426183-01R	Amber 1000ml HCl preserved	B	<2	2.6	Y	Absent	EPH-10(14)
L1426183-01S	Amber 1000ml unpreserved	B	7	2.6	Y	Absent	MCP-8270-10(7),MCP-8270SIM-10(7)
L1426183-01T	Amber 1000ml unpreserved	B	7	2.6	Y	Absent	MCP-8270-10(7),MCP-8270SIM-10(7)

Container Comments

L1426183-01G

*Values in parentheses indicate holding time in days

Project Name: HARVARD KENNEDY SCHOOL
Project Number: 38247-004

Lab Number: L1426183
Report Date: 02/24/15

GLOSSARY

Acronyms

EDL	- Estimated 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 EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
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

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

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 ten times (10x) 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. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- 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.

Report Format: Data Usability Report



Project Name: HARVARD KENNEDY SCHOOL
Project Number: 38247-004

Lab Number: L1426183
Report Date: 02/24/15

Data Qualifiers

- 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 lower value for the two columns 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.
- 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.
- S** - Analytical results are from modified screening analysis.
- J** - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- ND** - Not detected at the reporting limit (RL) for the sample.

Project Name: HARVARD KENNEDY SCHOOL
Project Number: 38247-004

Lab Number: L1426183
Report Date: 02/24/15

REFERENCES

- 1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IV, 2007.
- 30 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WPCF. 18th Edition. 1992.
- 97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.
- 98 Method for the Determination of Extractable Petroleum Hydrocarbons (EPH), MassDEP, May 2004, Revision 1.1 with QC Requirements & Performance Standards for the Analysis of EPH under the Massachusetts Contingency Plan, WSC-CAM-IVB, July 2010.
- 100 Method for the Determination of Volatile Petroleum Hydrocarbons (VPH), MassDEP, May 2004, Revision 1.1 with QC Requirements & Performance Standards for the Analysis of VPH under the Massachusetts Contingency Plan, WSC-CAM-IVA, July 2010.

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.



Certification Information

Last revised December 16, 2014

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

Westborough Facility

EPA 524.2: Acetone, 2-Butanone (Methyl ethyl ketone (MEK)), Tert-butyl alcohol, 2-Hexanone, Tetrahydrofuran, 1,3,5-Trichlorobenzene, 4-Methyl-2-pentanone (MIBK), Carbon disulfide, Diethyl ether.

EPA 8260C: 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene, Iodomethane (methyl iodide), Methyl methacrylate, Azobenzene.

EPA 8270D: 1-Methylnaphthalene, Dimethylnaphthalene, 1,4-Diphenylhydrazine.

EPA 625: 4-Chloroaniline, 4-Methylphenol.

SM4500: Soil: Total Phosphorus, TKN, NO₂, NO₃.

EPA 9071: Total Petroleum Hydrocarbons, Oil & Grease.

Mansfield Facility

EPA 8270D: Biphenyl.

EPA 2540D: TSS

EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

The following analytes are included in our Massachusetts DEP Scope of Accreditation, Westborough Facility:

Drinking Water

EPA 200.8: Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Ni, Se, Tl; **EPA 200.7:** Ba, Be, Ca, Cd, Cr, Cu, Na; **EPA 245.1:** Mercury;

EPA 300.0: Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO₃-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B**

EPA 332: Perchlorate.

Microbiology: SM9215B; SM9223-P/A, SM9223B-Colilert-QT, Enterolert-QT.

Non-Potable Water

EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, Tl, Zn;

EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, Ti, Tl, V, Zn;

EPA 245.1, SM4500H-B, EPA 120.1, SM2510B, SM2540C, SM2340B, SM2320B, SM4500CL-E, SM4500F-BC, SM426C, SM4500NH₃-BH, EPA 350.1: Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **SM4500NO₃-F, EPA 353.2:** Nitrate-N, **SM4500NH₃-BC-NES, EPA 351.1, SM4500P-E, SM4500P-B, E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.**

EPA 624: Volatile Halocarbons & Aromatics,

EPA 608: 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

EPA 625: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045:** PCB-Oil.

Microbiology: SM9223B-Colilert-QT; Enterolert-QT, SM9222D-MF.

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

7A
Volatile Organics CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1426183

Instrument ID: Jack.i Calibration Date: 05-NOV-2014 Time: 05:31

Lab File ID: 1105A02 Init. Calib. Date(s): 20-OCT-2 20-OCT-2

Sample No: 8260 CCAL Init. Calib. Times : 16:38 21:32

Compound	RRF	RRF	MIN RRF	%D	MAX %D	
=====	=====	=====	=====	=====	=====	
dichlorodifluoromethane	.47152	.45803	.1	-3	20	
chloromethane	.76147	.80557	.1	6	20	
vinyl chloride	.80466	.85919	.1	7	20	
bromomethane	.4362	.46618	.1	7	20	
chloroethane	.59149	.67456	.1	14	20	
trichlorofluoromethane	1.3052	1.4034	.1	8	20	
ethyl ether	.31293	.34364	.05	10	20	
1,1,-dichloroethene	.77597	.86283	.1	11	20	
carbon disulfide	1.8888	1.9583	.1	4	20	
freon-113	.70304	.78546	.1	12	20	
iodomethane	.73642	.39152	.05	-47	20	F
acrolein	.07944	.08948	.05	13	20	
methylene chloride	.84126	.94412	.1	12	20	
acetone	100	145	.1	45	20	F
trans-1,2-dichloroethene	.85908	.96695	.1	13	20	
methyl acetate	.27507	.29041	.1	6	20	
methyl tert butyl ether	1.4800	1.5763	.1	7	20	
tert butyl alcohol	.03378	.02849	.05	-16	20	F
Diisopropyl Ether	1.9803	1.9761	.01	0	20	
1,1-dichloroethane	1.4968	1.6044	.2	7	20	
acrylonitrile	.12875	.12826	.05	0	20	
Halothane	.58558	.60141	.05	3	20	
Ethyl-Tert-Butyl-Ether	1.7386	1.6933	.05	-3	20	
vinyl acetate	1.2424	1.1810	.05	-5	20	
cis-1,2-dichloroethene	.95936	1.0416	.1	9	20	
2,2-dichloropropane	1.2826	1.3255	.05	3	20	
cyclohexane	1.2311	1.2479	.01	1	30	
bromochloromethane	.45592	.50235	.05	10	20	
chloroform	1.5399	1.6604	.2	8	20	
carbontetrachloride	1.3291	1.2832	.1	-3	20	
tetrahydrofuran	.12649	.13453	.05	6	20	
ethyl acetate	.38915	.37869	.05	-3	20	
1,1,1-trichloroethane	1.4532	1.5224	.1	5	20	
1,1-dichloropropene	1.2438	1.3286	.05	7	20	
2-butanone	.16157	.19905	.1	23	20	F
benzene	3.5635	3.8567	.5	8	20	
Tertiary-Amyl Methyl Ether	1.5862	1.5467	.05	-2	20	
1,2-dichloroethane	.94078	1.0230	.1	9	20	

FORM VII MCP-8260-10

7A
CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1426183

Instrument ID: Jack.i Calibration Date: 05-NOV-2014 Time: 05:31

Lab File ID: 1105A02 Init. Calib. Date(s): 20-OCT-2 20-OCT-2

Sample No: 8260 CCAL Init. Calib. Times : 16:38 21:32

Compound	RRF	RRF	MIN RRF	%D	MAX %D
=====	=====	=====	=====	=====	=====
methyl cyclohexane	1.3536	1.4249	.01	5	30
trichloroethene	.94745	1.0409	.2	10	20
dibromomethane	.45543	.49462	.05	9	20
1,2-dichloropropane	.94457	.89174	.1	-6	20
bromodichloromethane	.85767	.91233	.2	6	20
1,4-dioxane	.00426	.00344	.05	-19	20
2-chloroethylvinyl ether	.30946	.31406	.05	1	20
cis-1,3-dichloropropene	1.3880	1.3717	.2	-1	20
toluene	2.7735	2.7534	.4	-1	20
tetrachloroethene	1.3676	1.2840	.2	-6	20
4-methyl-2-pentanone	.1427	.14364	.1	1	20
trans-1,3-dichloropropene	1.2910	1.1739	.1	-9	20
1,1,2-trichloroethane	.61425	.60829	.1	-1	20
ethyl-methacrylate	.75969	.71128	.01	-6	30
chlorodibromomethane	.97881	.85632	.1	-13	20
1,3-dichloropropane	1.2718	1.2709	.05	0	20
1,2-dibromoethane	.77342	.7351	.1	-5	20
2-hexanone	.28007	.2866	.1	2	20
chlorobenzene	3.2799	3.2414	.5	-1	20
ethyl benzene	5.6394	5.5762	.1	-1	20
1,1,1,2-tetrachloroethane	1.1684	1.0515	.05	-10	20
p/m xylene	2.3747	2.3269	.1	-2	20
o xylene	2.0773	2.0029	.3	-4	20
bromoform	1.0047	.78359	.1	-22	20
styrene	3.4045	3.3546	.3	-1	20
isopropylbenzene	11.630	11.900	.1	2	20
bromobenzene	2.5595	2.4052	.05	-6	20
n-propylbenzene	12.209	11.278	.05	-8	20
1,4-dichlorobutane	1.6884	1.4480	.01	-14	20
1,1,2,2,-tetrachloroethane	1.4191	1.3812	.3	-3	20
4-ethyltoluene	9.3299	8.5876	.05	-8	20
2-chlorotoluene	8.1115	7.3293	.05	-10	20
1,2,3-trichloropropane	1.1671	1.0971	.05	-6	20
1,3,5-trimethybenzene	8.8578	8.2800	.05	-7	20
trans-1,4-dichloro-2-butene	.30883	.26156	.05	-15	20
4-chlorotoluene	7.1120	6.6981	.05	-6	20
tert-butylbenzene	8.0231	7.5180	.05	-6	20
1,2,4-trimethylbenzene	8.8045	8.2416	.05	-6	20

FORM VII MCP-8260-10

I:\Pest15\141104a\15141104a-01.d

Data File Name **15141104a-01.d**
 Data File Path **I:\Pest15\141104a**
 Operator **pest15:gp**
 Date Acquired **11/4/2014 5:32**
 Acq. Method File **PEST.M**
 Sample Name **pem141104a01,42ee,,deg**
 Instrument Name **Pest 15**

Name	Ret Time	Response	
4,4'-DDT	4.81	94554082.52	% Breakdown
4,4'-DDE	4.15	725824.18	
4,4'-DDD	4.61	604575.261	1.39%
Endrin	4.54	112525078.4	% Breakdown
Endrin Aldehyde	5.01	1435114.311	
Endrin Ketone	5.51	1347109.362	2.41%
1-br-2-nb_Pesticides #2			
4,4'-DDT #2	5.34	71117572.38	% Breakdown
4,4'-DDE #2	4.69	676197.752	
4,4'-DDD #2	5.12	550346.846	1.70%
Endrin #2	5.04	83523922.59	% Breakdown
Endrin Aldehyde #2	5.45	2653639.75	
Endrin Ketone #2	0.00	0	3.08%

wg736767-1,2,3

L1426183-01



ANALYTICAL REPORT

Lab Number:	L1427563
Client:	Haley & Aldrich, Inc. 465 Medford Street, Suite 2200 Charlestown, MA 02129-1400
ATTN:	Kate Dilawari
Phone:	(617) 886-7458
Project Name:	HARVARD KENNEDY SCHOOL
Project Number:	38247-004
Report Date:	11/18/14

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: HARVARD KENNEDY SCHOOL
Project Number: 38247-004

Lab Number: L1427563
Report Date: 11/18/14

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1427563-01	HA-B6	WATER	Not Specified	10/31/14 09:40	10/31/14

Project Name: HARVARD KENNEDY SCHOOL

Lab Number: L1427563

Project Number: 38247-004

Report Date: 11/18/14

MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

An affirmative response to questions A through F is required for "Presumptive Certainty" status		
A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	N/A
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	N/A
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES
A response to questions G, H and I is required for "Presumptive Certainty" status		
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	YES
H	Were all QC performance standards specified in the CAM protocol(s) achieved?	YES
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	NO
For any questions answered "No", please refer to the case narrative section on the following page(s).		

Please note that sample matrix information is located in the Sample Results section of this report.



Project Name: HARVARD KENNEDY SCHOOL
Project Number: 38247-004

Lab Number: L1427563
Report Date: 11/18/14

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. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

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.

HOLD POLICY

For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Client Services at 800-624-9220 with any questions.

Project Name: HARVARD KENNEDY SCHOOL
Project Number: 38247-004

Lab Number: L1427563
Report Date: 11/18/14

Case Narrative (continued)

MCP Related Narratives


Total / Dissolved Metals

In reference to question I:

All samples were analyzed for a subset of MCP elements per the Chain of Custody.

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: 11/18/14

METALS

Project Name: HARVARD KENNEDY SCHOOL**Lab Number:** L1427563**Project Number:** 38247-004**Report Date:** 11/18/14**SAMPLE RESULTS**

Lab ID: L1427563-01

Date Collected: 10/31/14 09:40

Client ID: HA-B6

Date Received: 10/31/14

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
-----------	--------	-----------	-------	----	-----	-----------------	---------------	---------------	-------------	-------------------	---------

MCP Total Metals - Westborough Lab

Iron, Total	1.5		mg/l	0.05	--	1	11/03/14 14:54	11/05/14 19:38	EPA 3005A	97,6010C	TT
-------------	-----	--	------	------	----	---	----------------	----------------	-----------	----------	----

MCP Dissolved Metals - Westborough Lab

Iron, Dissolved	0.85		mg/l	0.10	--	2	11/03/14 09:51	11/14/14 16:18	NA	97,6010C	TT
-----------------	------	--	------	------	----	---	----------------	----------------	----	----------	----



Project Name: HARVARD KENNEDY SCHOOL

Lab Number: L1427563

Project Number: 38247-004

Report Date: 11/18/14

Method Blank Analysis Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Dissolved Metals - Westborough Lab for sample(s): 01 Batch: WG741088-1										
Iron, Dissolved	ND		mg/l	0.05	--	1	11/03/14 09:51	11/14/14 16:29	97,6010C	TT

Prep Information

Digestion Method: NA

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Total Metals - Westborough Lab for sample(s): 01 Batch: WG741093-1										
Iron, Total	ND		mg/l	0.05	--	1	11/03/14 14:54	11/05/14 19:23	97,6010C	TT

Prep Information

Digestion Method: EPA 3005A

Lab Control Sample Analysis

Batch Quality Control

Project Name: HARVARD KENNEDY SCHOOL

Project Number: 38247-004

Lab Number: L1427563

Report Date: 11/18/14

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Dissolved Metals - Westborough Lab Associated sample(s): 01 Batch: WG741088-2 WG741088-3								
Iron, Dissolved	100		100		80-120	0		20
MCP Total Metals - Westborough Lab Associated sample(s): 01 Batch: WG741093-2 WG741093-3								
Iron, Total	97		99		80-120	2		20

Project Name: HARVARD KENNEDY SCHOOL**Project Number:** 38247-004**Lab Number:** L1427563**Report Date:** 11/18/14**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(*)
L1427563-01A	Plastic 250ml HNO3 preserved	A	<2	2.6	Y	Absent	MCP-FE-6010S-10(180)

*Values in parentheses indicate holding time in days

Project Name: HARVARD KENNEDY SCHOOL
Project Number: 38247-004

Lab Number: L1427563
Report Date: 11/18/14

GLOSSARY

Acronyms

EDL	- Estimated 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 EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
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

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

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 ten times (10x) 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. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- 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.

Report Format: Data Usability Report



Project Name: HARVARD KENNEDY SCHOOL
Project Number: 38247-004

Lab Number: L1427563
Report Date: 11/18/14

Data Qualifiers

- 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 lower value for the two columns 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.
- 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.
- S** - Analytical results are from modified screening analysis.
- J** - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- ND** - Not detected at the reporting limit (RL) for the sample.

Project Name: HARVARD KENNEDY SCHOOL
Project Number: 38247-004

Lab Number: L1427563
Report Date: 11/18/14

REFERENCES

- 97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.

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.



Certification Information

Last revised April 15, 2014

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

Westborough Facility

EPA 524.2: Acetone, 2-Butanone (Methyl ethyl ketone (MEK)), Tert-butyl alcohol, 2-Hexanone, Tetrahydrofuran, 1,3,5-Trichlorobenzene, 4-Methyl-2-pentanone (MIBK), Carbon disulfide, Diethyl ether.

EPA 8260C: 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene, Iodomethane (methyl iodide), Methyl methacrylate, Azobenzene.

EPA 8330A/B: PETN, Picric Acid, Nitroglycerine, 2,6-DANT, 2,4-DANT.

EPA 8270D: 1-Methylnaphthalene, Dimethylnaphthalene, 1,4-Diphenylhydrazine.

EPA 625: 4-Chloroaniline, 4-Methylphenol.

SM4500: Soil: Total Phosphorus, TKN, NO₂, NO₃.

EPA 9071: Total Petroleum Hydrocarbons, Oil & Grease.

Mansfield Facility

EPA 8270D: Biphenyl.

EPA 2540D: TSS

EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

The following analytes are included in our Massachusetts DEP Scope of Accreditation, Westborough Facility:

Drinking Water

EPA 200.8: Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Ni, Se, Ti; **EPA 200.7:** Ba, Be, Ca, Cd, Cr, Cu, Na; **EPA 245.1:** Mercury;

EPA 300.0: Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO₃-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B**

EPA 332: Perchlorate.

Microbiology: SM9215B; SM9223-P/A, SM9223B-Colilert-QT, Enterolert-QT.

Non-Potable Water

EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, Ti, Zn;

EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, Ti, Tl, V, Zn;

EPA 245.1, SM4500H-B, EPA 120.1, SM2510B, SM2540C, SM2340B, SM2320B, SM4500CL-E, SM4500F-BC,

SM426C, SM4500NH₃-BH, EPA 350.1: Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **SM4500NO₃-F,**

EPA 353.2: Nitrate-N, **SM4500NH₃-BC-NES, EPA 351.1, SM4500P-E, SM4500P-B, E, SM5220D, EPA 410.4,**

SM5210B, SM5310C, SM4500CL-D, EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.

EPA 624: Volatile Halocarbons & Aromatics,

EPA 608: 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

EPA 625: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045:** PCB-Oil.

Microbiology: SM9223B-Colilert-QT; Enterolert-QT, SM9222D-MF.

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

HALEY & ALDRICHHaley & Aldrich, Inc.
465 Medford St.,
Suite 2200,
Boston, MA 02129-1402**CHAIN OF CUSTODY RECORD**Phone (617) 886-7400
Fax (617) 886-7600

Page of

H&A FILE NO. 38247-004
PROJECT NAME Harvard Kennedy School
H&A CONTACT K. DilawariLABORATORY Alpha Analytical
ADDRESS Westborough, MA
CONTACT Gina HallDELIVERY DATE 10/31/2014
TURNAROUND TIME Standard
PROJECT MANAGER K. Dilawari

Sample No.	Date	Time	Depth	Type	Analysis Requested															No Containers	Notes, additional method numbers, etc.)
					DMCP14	MC214	TSS	Cl, FRC	VPH	EPH	TICN, ACN, PACN	Total Phenols	Pesticides	PCBs	SVOCs	850					
HA-B6	10/31/2014	940	---	GW	X	X	X	X	X	X	X	X	X	X	X	X	20	Laboratory to use applicable DEP CAM methods, unless otherwise directed.			

Sampled and Relinquished by	Received by	LIQUID	SAMPLING COMMENTS
Sign <u>Alex Fleming</u> Print Alex Fleming Firm Haley and Aldrich Date <u>10/31/14</u> Time <u>1240</u>	Sign <u>M. Curtis</u> Print <u>M. Curtis</u> Firm <u>Alpha</u> Date <u>10/31/14</u> Time <u>1630</u>	X VOA Vial X Amber Glass X Plastic Bottle X Preservative X Volume	
Relinquished by Sign <u>M. Curtis</u> Print <u>M. Curtis</u> Firm <u>Alpha</u> Date <u>10/31/14</u> Time <u>1630</u>	Received by Sign <u>Wayne Plummer</u> Print <u>Wayne Plummer</u> Firm <u>Alpha</u> Date <u>10/31/14</u> Time <u>1630</u>	SOLID VOA Vial Amber Glass Clear Glass Preservative Volume	
Relinquished by Sign <u>Wayne Plummer</u> Print <u>Wayne Plummer</u> Firm <u>Alpha</u> Date <u>10/31/14</u> Time <u>1818</u>	Received by Sign <u>Rodolfo Roman</u> Print <u>Rodolfo Roman</u> Firm <u>ALPHA</u> Date <u>10/31/14</u> Time <u>1818</u>	PRESERVATION KEY A Sample chilled C NaOH E H ₂ SO ₄ G Methanol B Sample filtered D HNO ₃ F HCL H Water/NaHSO ₄ (circle)	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)	Required Reporting Limits and Data Quality Objectives
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. Matrix Spike (MS) samples for MCP Metals and/or Cyanide are included and identified herein. This Chain of Custody Record (specify) <u>X</u> includes <u>X</u> does not include samples defined as Drinking Water Samples. 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) <u>analyze</u>	RC-S1 S1 GW1 RC-S2 S2 GW2 RC-GW1 S3 GW3 RC-GW2



ANALYTICAL REPORT

Lab Number:	L1429682
Client:	Haley & Aldrich, Inc. 465 Medford Street, Suite 2200 Charlestown, MA 02129-1400
ATTN:	Kate Dilawari
Phone:	(617) 886-7458
Project Name:	HARVARD KENNEDY SCHOOL
Project Number:	38247-004
Report Date:	12/12/14

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: HARVARD KENNEDY SCHOOL
Project Number: 38247-004

Lab Number: L1429682
Report Date: 12/12/14

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1429682-01	B6(OW)_12102014	WATER	Not Specified	12/10/14 15:10	12/10/14
L1429682-02	B6(OW)_12102014 (FIELD FILTERED)	WATER	Not Specified	12/10/14 15:10	12/10/14

Project Name: HARVARD KENNEDY SCHOOL
Project Number: 38247-004

Lab Number: L1429682
Report Date: 12/12/14

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. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

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.

HOLD POLICY

For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Client Services at 800-624-9220 with any questions.

Project Name: HARVARD KENNEDY SCHOOL
Project Number: 38247-004

Lab Number: L1429682
Report Date: 12/12/14

Case Narrative (continued)

Chromium, Hexavalent

L1429682-01 has an elevated detection limit due to the dilution required by the sample matrix.

The WG747471-4 MS recovery (15%), performed on L1429682-01, is outside the acceptance criteria; however, the associated LCS recovery is within overall method allowances. No further action was required.

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:



Cristin Walker

Title: Technical Director/Representative

Date: 12/12/14

INORGANICS & MISCELLANEOUS

Project Name: HARVARD KENNEDY SCHOOL

Lab Number: L1429682

Project Number: 38247-004

Report Date: 12/12/14

SAMPLE RESULTS

Lab ID: L1429682-01
 Client ID: B6(OW)_12102014
 Sample Location: Not Specified
 Matrix: Water

Date Collected: 12/10/14 15:10
 Date Received: 12/10/14
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Chlorine, Total Residual	ND		mg/l	0.02	--	1	-	12/10/14 23:50	30,4500CL-D	LH
Chromium, Hexavalent	ND		mg/l	0.050	--	5	12/10/14 22:00	12/10/14 22:16	30,3500CR-D	MR



Project Name: HARVARD KENNEDY SCHOOL
Project Number: 38247-004

Lab Number: L1429682
Report Date: 12/12/14

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: WG747471-1										
Chromium, Hexavalent	ND		mg/l	0.010	--	1	12/10/14 22:00	12/10/14 22:15	30,3500CR-D	MR
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG747500-1										
Chlorine, Total Residual	ND		mg/l	0.02	--	1	-	12/10/14 23:50	30,4500CL-D	LH

Lab Control Sample Analysis**Batch Quality Control****Project Name:** HARVARD KENNEDY SCHOOL**Project Number:** 38247-004**Lab Number:** L1429682**Report Date:** 12/12/14

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG747471-2								
Chromium, Hexavalent	98		-		85-115	-		20
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG747500-2								
Chlorine, Total Residual	101		-		90-110	-		

Matrix Spike Analysis

Batch Quality Control

Project Name: HARVARD KENNEDY SCHOOL

Project Number: 38247-004

Lab Number: L1429682

Report Date: 12/12/14

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: WG747471-4 QC Sample: L1429682-01 Client ID: B6(OW)_12102014												
Chromium, Hexavalent	ND	0.5	0.074	15	Q	-	-		85-115	-		20

Lab Duplicate Analysis **Batch Quality Control**

Project Name: HARVARD KENNEDY SCHOOL

Project Number: 38247-004

Lab Number: L1429682

Report Date: 12/12/14

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG747471-3 QC Sample: L1429682-01 Client ID: B6(OW)_12102014						
Chromium, Hexavalent	ND	ND	mg/l	NC		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG747500-3 QC Sample: L1429682-01 Client ID: B6(OW)_12102014						
Chlorine, Total Residual	ND	ND	mg/l	NC		20

Project Name: HARVARD KENNEDY SCHOOL**Project Number:** 38247-004**Lab Number:** L1429682**Report Date:** 12/12/14**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(*)
L1429682-01A	Plastic 950ml unpreserved	A	8	3.0	Y	Absent	HEXCR-3500(1)
L1429682-01B	Plastic 950ml unpreserved	A	8	3.0	Y	Absent	TRC-4500(1)
L1429682-02A	Plastic 950ml unpreserved	A	8	3.0	Y	Absent	HOLD-WETCHEM()

*Values in parentheses indicate holding time in days

Project Name: HARVARD KENNEDY SCHOOL
Project Number: 38247-004

Lab Number: L1429682
Report Date: 12/12/14

GLOSSARY

Acronyms

EDL	- Estimated 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 EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
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

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

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 ten times (10x) 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. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- 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.

Report Format: Data Usability Report



Project Name: HARVARD KENNEDY SCHOOL
Project Number: 38247-004

Lab Number: L1429682
Report Date: 12/12/14

Data Qualifiers

- 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 lower value for the two columns 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.
- 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.
- S** - Analytical results are from modified screening analysis.
- J** - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- ND** - Not detected at the reporting limit (RL) for the sample.

Project Name: HARVARD KENNEDY SCHOOL
Project Number: 38247-004

Lab Number: L1429682
Report Date: 12/12/14

REFERENCES

- 30 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WPCF. 18th Edition. 1992.

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.



Certification Information

Last revised April 15, 2014

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

Westborough Facility

EPA 524.2: Acetone, 2-Butanone (Methyl ethyl ketone (MEK)), Tert-butyl alcohol, 2-Hexanone, Tetrahydrofuran, 1,3,5-Trichlorobenzene, 4-Methyl-2-pentanone (MIBK), Carbon disulfide, Diethyl ether.

EPA 8260C: 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene, Iodomethane (methyl iodide), Methyl methacrylate, Azobenzene.

EPA 8330A/B: PETN, Picric Acid, Nitroglycerine, 2,6-DANT, 2,4-DANT.

EPA 8270D: 1-Methylnaphthalene, Dimethylnaphthalene, 1,4-Diphenylhydrazine.

EPA 625: 4-Chloroaniline, 4-Methylphenol.

SM4500: Soil: Total Phosphorus, TKN, NO₂, NO₃.

EPA 9071: Total Petroleum Hydrocarbons, Oil & Grease.

Mansfield Facility

EPA 8270D: Biphenyl.

EPA 2540D: TSS

EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

The following analytes are included in our Massachusetts DEP Scope of Accreditation, Westborough Facility:

Drinking Water

EPA 200.8: Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Ni, Se, Ti; **EPA 200.7:** Ba, Be, Ca, Cd, Cr, Cu, Na; **EPA 245.1:** Mercury;

EPA 300.0: Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO₃-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B**

EPA 332: Perchlorate.

Microbiology: SM9215B; SM9223-P/A, SM9223B-Colilert-QT, Enterolert-QT.

Non-Potable Water

EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, Ti, Zn;

EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, Ti, V, Zn;

EPA 245.1, SM4500H-B, EPA 120.1, SM2510B, SM2540C, SM2340B, SM2320B, SM4500CL-E, SM4500F-BC,

SM426C, SM4500NH₃-BH, EPA 350.1: Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **SM4500NO₃-F,**

EPA 353.2: Nitrate-N, **SM4500NH₃-BC-NES, EPA 351.1, SM4500P-E, SM4500P-B, E, SM5220D, EPA 410.4,**

SM5210B, SM5310C, SM4500CL-D, EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.

EPA 624: Volatile Halocarbons & Aromatics,

EPA 608: 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

EPA 625: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045:** PCB-Oil.

Microbiology: SM9223B-Colilert-QT; Enterolert-QT, SM9222D-MF.

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

AUGUST 2003

APPENDIX F

Copy of Cambridge Discharge and Dewatering Permit



PERMIT TO DEWATER

Location:

Temporary

Owner:

Permanent

Contractor:

The property owner, _____ agrees to hold harmless and indemnify the City of Cambridge for any liability on the part of the City directly or indirectly arising out of the dewatering operation.

The issuance of this permit is based in part in the submission packet of the applicant with documentation as follows:

In addition, the application has been reviewed by the City under third party agreement as documented in the following reports:

All activities conducted in conjunction with the issuance of this permit must be in accordance with the provisions of the aforementioned reports. Any deviations in conditions must be reported to and approved by the Commissioner of Public Works.

This permit is in addition to any other street permit issued by the Department in connection with any street excavation or obstruction; and all conditions as specified in the Discharge Permit for Dewatering.

For the entire period of time the groundwater is being discharged to a storm drain, the property owner shall provide copies of each Discharge Monitoring Report Form submitted to the EPA, pursuant to the owner's discharge permit.

If in the future the EPA requires the City of Cambridge to bring existing stormwater drainage into compliance with EPA quality standards, as a condition to the continuation of discharge of that stormwater (also including groundwater) into an EPA regulated system into which the _____ (property owner) drains, the owner will agree to maintain its water discharge with such EPA water quality standards.

The property owner and contractor shall at all times meet the conditions specified in the requisite legal agreement/affidavits.

All groundwater pumped from the work shall be disposed of without damage to pavements, other surfaces or property.

Where material or debris has washed or flowed into or has been placed in existing gutters, drains, pipes or structures, such material or debris shall be entirely removed and satisfactorily disposed of by the

Contractor during the progress of work as directed by the Public Works Department.

Any flooding or damage of property and possessions caused by siltation of existing gutters, pipes or structures shall be the responsibility of the Contractor.

Provisions shall be made to insure that no material, water or solid, will freeze on any pavement or in any location which will cause inconvenience or hazard to the general public.

Upon completion of the work, existing gutters, drains, pipes and structures shall be (bucket) cleaned and material disposed of satisfactorily prior to release by the Public Works Department.

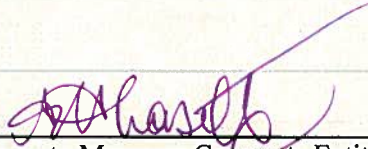
Any permit issued by the City of Cambridge shall be revoked upon transfer of any ownership interest unless and until subsequent owner(s) or parties of interest agree to the foregoing terms.

This permit shall remain in effect for one year and shall be renewable thereafter at the agreement of the parties.

The following special conditions as set forth below are part of the permit.

Not Applicable

City Manager



Property Manager: Corporate Entity
President, General Partner or Trustee
Trustee with Instrument of Authority

Date

Date 

Lee Kennedy Co., Inc.

City Solicitor

Contractor

2/3/15

Date

Date

Commissioner of Public

Contractor

Date

Date

CC: Engineering
Supervisor of Sewer Maintenance and Engineering
Superintendent of Streets
Commissioner of Inspectional Services

 **Print Form**