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

11 April 2016
File No. 42409-100

US Environmental Protection Agency
Dewatering Permit GP Processing
Industrial Permit Unit (OEP-06-4)
5 Post Office Square - Suite 100
Boston, MA 02109-3912

Attention: To Whom It May Concern

Subject: Notice of Intent (NOI)
Temporary Construction Dewatering
Lavietes Pavilion, Harvard University
45 North Harvard Street
Allston, MA

Ladies and Gentlemen:

On behalf of our client, President and Fellows of Harvard College, and in accordance with the National Pollutant Discharge Elimination System (NPDES) Dewatering General Permit (DGP) in Massachusetts, MAG070000, this letter submits a Notice of Intent (NOI) and the applicable documentation as required by the US Environmental Protection Agency (EPA) for temporary dewatering under the DGP. Temporary dewatering is planned in support of construction activities for a proposed building addition at the Lavietes Pavilion, located at the Harvard University Soldiers Field Athletic Complex at 45 North Harvard Street in Allston, Massachusetts, as shown on Figure 1 – Project Locus.

Site Description

The existing Lavietes Pavilion is a one-story steel framed structure supported on masonry exterior walls, located in Allston and is surrounded by pedestrian walkways. The building is believed to have been constructed in the late 1920's as the "Baseball Cage". The building is bounded by Soldiers Field Road to the north, Blodgett Pool to the east, Murr Center to the south and Dillon Field House to the west. The existing site grades are relatively flat and range between El. 12 and El. 13 Boston City Base (BCB).

Proposed Construction and Management of Dewatering Effluent

The latest conceptual drawing, indicate that the proposed addition to the Lavietes Pavilion will be located on the south side, between the existing Lavietes building and the Murr Center. The location of the proposed addition is shown on Figure 2. The addition size is approximately 25 ft by 160 ft in plan, with 1 to 2 above grade stories and no below grade space.

Where possible, the project will utilize on-site recharge of the dewatering effluent. However, where on-site recharge is not feasible, the project plans to direct the dewatering effluent to the existing storm drain system which drains to the Charles River (Figure 2). Site work and associated construction dewatering are currently anticipated to begin in May 2016 and are estimated to be completed within seven months.

The Contractor will design, operate, and maintain dewatering and sedimentation control systems for off-site discharge. The systems will be designed to meet the permit requirements for suspended solids, pH, and other constituents in the effluent stream prior to discharge into the nearby storm drain.

Haley & Aldrich will perform the required sampling and testing of the dewatering effluent and will report the results as required by the permit. The Contractor's sedimentation system and/or dewatering procedures will be designed as necessary to comply with the Permit Discharge Criteria.

Contact Information

Applicant:
President and Fellows of Harvard College
c/o Harvard University, Faculty of Arts and Sciences
60 John F. Kennedy Street
Cambridge, Massachusetts
Attention: Edward Milch, Senior Capital Project Manager
Tel: 617.496.2331

Representative preparing this application:
Haley & Aldrich, Inc.
465 Medford Street, Suite 2200
Boston, Massachusetts 02129-1400
Attention: R. Andrew Chan, Jr., P.E., Senior Project Manager
Tel: 617.886.7490

Analytical Testing

On 11 March 2016, Haley & Aldrich collected one groundwater sample from groundwater observation well HA15-2, located as shown on Figure 2. The sample was submitted to Alpha Analytical Laboratory of Westborough, Massachusetts, a MassDEP certified laboratory. Groundwater quality data are summarized on Table I.

Appendices

The completed "Suggested Notice of Intent" (NOI) form as provided in the DGP is enclosed in Appendix A. The site operator is Consigli Construction Company (Consigli). Consigli is the contractor retained to complete the dewatering activities. Haley & Aldrich will monitor the Contractor's dewatering activities on behalf of the property owner.

The MassDEP transmittal form and the Boston Water and Sewer Commission Dewatering ischarge Permit Application are included in Appendix B and C, respectively. Appendices D, C and E include the Areas of Critical Environmental Concern, Historic Places documentation and the Endangered Species Act Documentation, respectively. Appendix A provides the laboratory data reports for the groundwater quality sample collected.

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.

Kenneth N. Alepidis, P.G.
Senior Geologist

R. Andrew Chan, Jr., P.E.
Senior Project Manager

Table I – Groundwater Quality Data
Figure 1 – Project Locus
Figure 2 – Dewatering Discharge Plan

Appendix A- "Suggested Notice of Intent" (NOI) form as provided in Appendix V of the NPDES Dewatering General Permit
Appendix B - Boston Water and Sewer Permit
Appendix C - Areas of Critical Environmental Concern
Appendix D - National Register of Historic Places and Massachusetts Historical Commission Documentation
Appendix E - Endangered Species Act Documentation
Appendix F - Laboratory Data Reports

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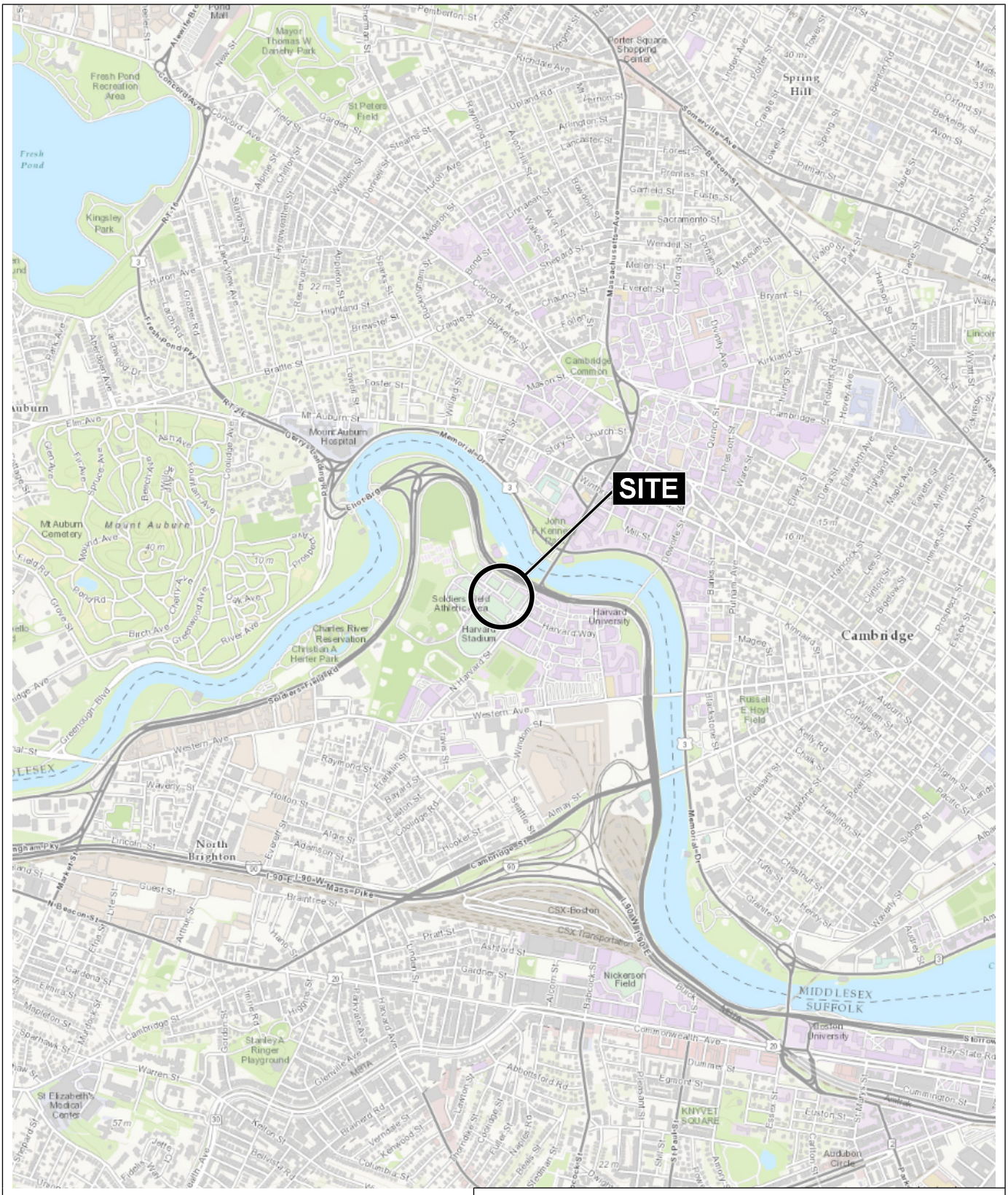
Table I
Groundwater Quality Data
Lavietes Addition
Allston, MA
File No. 42409

SAMPLE NAME SAMPLING DATE LAB SAMPLE ID SAMPLE TYPE	MCP 2014 Reportable Concentrations in Groundwater (RCGW-2)	NPDES Remediation General Permit (RGP) Discharge Limits	2016-0311-HA15-2 11-MAR-16 L1607164-01 Groundwater
Total Metals (mg/l)			
Antimony, Total	8	0.0056	ND(0.001)
Arsenic, Total	0.9	0.01	0.0006
Cadmium, Total	0.004	0.0002	ND(0.0001)
Chromium, Total	0.3	0.0488	0.0018
Copper, Total	100	0.0052	ND(0.0005)
Iron, Total	NA	1	0.07
Lead, Total	0.01	0.0013	ND(0.0005)
Mercury, Total	0.02	0.0009	ND(0.0001)
Nickel, Total	0.2	0.029	0.0049
Silver, Total	0.007	0.0012	ND(0.0002)
Zinc, Total	0.9	0.0666	ND(0.005)
General Chemistry			
Chloride (mg/l)	NA	NA	316
Total Suspended Solids (mg/l)	NA	50 / 100	ND(2.5)
pH (SU)	NA	6.5 to 8.3	7.1
Chromium, Hexavalent (mg/l)	0.3	0.0114	ND(0.005)

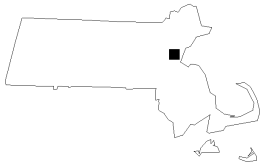
ABBREVIATIONS
ND (2.5): Not detected. Number in parentheses is 1/2 the laboratory detection limit.
NA: Not Applicable

NOTES
1. Limits shown for Total Suspended Solids and Total Residual Chlorine are average montly / maximum daily limits from the National Pollutant Discharge System (NPDES) General Permit for Dewatering Activity Discharges.



MAP SOURCE: ESRI

SITE COORDINATES: 42°22'5"N, 71°7'32"W



HALEY ALDRICH

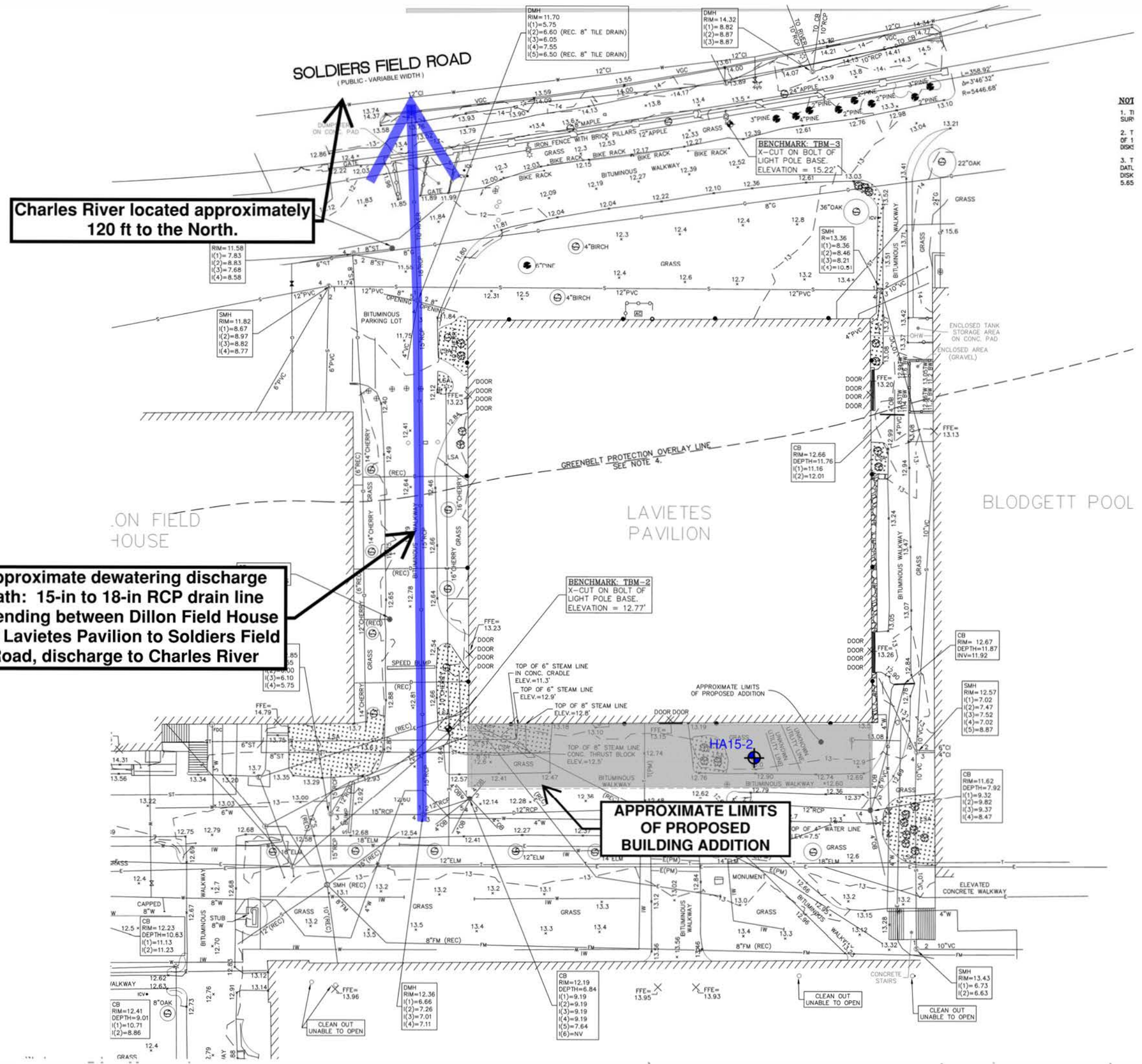
HARVARD LAVIETES PAVILION
45 NORTH HARVARD STREET
ALLSTON, MASSACHUSETTS

PROJECT LOCUS

APPROXIMATE SCALE: 1 IN = 2000 FT
MARCH 2016

FIGURE 1

42409-000_1_LOCUS.PDF



NOTES:

1. BASE PLAN TAKEN FROM ELECTRONIC FILE "119_0053_C3 Site Utility Plan.pdf".
2. ELEVATIONS ARE IN FEET AND REFERENCE BOSTON CITY BASE DATUM (BCB).

HALEY ALDRICH

HARVARD LAVIETES PAVILION
45 NORTH HARVARD STREET
ALLSTON, MASSACHUSETTS

DEWATERING DISCHARGE PLAN

SCALE: AS SHOWN
APRIL 2016

FIGURE 2

C:\Users\rac\Desktop\2015-0915-Lavietes Pavilion - Proposed Borings_RACcomments.pdf
RAC

APPENDIX A

"Suggested Notice of Intent" (NOI) form as provided in Appendix V of NPDES Dewatering General Permit

II. Suggested Notice of Intent (NOI) Form

1. General facility information. Please provide the following information about the facility.

a) Name of facility: Harvard University Lavietes Building Addition	**Mailing Address for the Facility:** 45 North Harvard Street Allston, Massachusetts	
b) Location Address of the Facility (if different from mailing address):	**Facility Location** **longitude:** 71 7 29.9 **latitude:** 42 22 4.95	**Type of Business:** University **Facility SIC codes:** NA

c) Name of facility owner: President and Fellows of Harvard College **Owner's email:** emilch@fas.harvard.edu

Owner's Tel #: Edward Filch, 617-496-2331 **Owner's Fax #:** _____

Address of owner (if different from facility address)

Owner is (check one): 1. Federal____ 2. State _____ 3.Tribal_____ 4. Private✔ 4. Other _____(Describe)

Legal name of Operator, if not owner: Consigli Construction Company

Operator Contact Name: Patrick Flanigan

Operator Tel Number: (508) 612-0284 **Fax Number:** _____

Operator's email: PFlanigan@consigli.com

Operator Address (if different from owner)

266 Summer Street Boston, MA 02210

d) Attach a topographic map indicating the location of the facility and the outfall(s) to the receiving water. Map attached? ✔

e) Check Yes or No for the following:

1. **Has a prior NPDES permit been granted for the discharge? Yes ____ No✔ If Yes, Permit Number: _____**
2. **Is the discharge a "new discharge" as defined by 40 CFR Section 122.22? Yes✔ No_____**
3. **Is the facility covered by an individual NPDES permit? Yes_____ No✔ If Yes, Permit Number ____**
4. **Is there a pending application on file with EPA for this discharge? Yes _____ No ✔ If Yes, date of submittal:**

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

a) **Name of receiving water into which discharge will occur:** Charles River
State Water Quality Classification: Class B **Freshwater:** X **Marine Water:** _____

b) **Describe the discharge activities for which the owner/applicant is seeking coverage:**
(1) **Construction dewatering of groundwater intrusion and/or storm water accumulation.**
2. **Short-term or long-term dewatering of foundation sumps.**
3. **Other.**

c) **Number of outfalls** 1

For each outfall:

d) **Estimate the maximum daily and average monthly flow of the discharge (in gallons per day – GPD). Max Daily Flow** 72,000 **GPD**
Average Monthly Flow 28,800 **GPD**

e) **What is the maximum and minimum monthly pH of the discharge (in s.u.)? Max pH** _____ **Min pH** _____

f) **Identify the source of the discharge (i.e. potable water, surface water, or groundwater). If groundwater, the facility shall submit effluent test results, as required in Section 4.4.5 of the General Permit.** Groundwater

g) **What treatment does the wastewater receive prior to discharge?** Sedimentation, filtration, and other treatment

h) **Is the discharge continuous? Yes** _____ **No** ✔ **If no, is the discharge periodic (P) (occurs regularly, i.e., monthly or seasonally, but is not continuous all year) or intermittent (I) (occurs sometimes but not regularly) or both (B)** I
If (P), number of days or months per year of the discharge _____ **and the specific months of discharge** _____;
If (I), number of days/year there is a discharge _____
Is the discharge temporary? Yes ✔ **No** _____
If yes, approximate start date of dewatering May 2016 **approximate end date of dewatering** December 2016

i) **Latitude and longitude of each discharge within 100 feet (See http://www.epa.gov/tri/report/siting_tool): Outfall 1: long.** -71.12427 **lat.** 42.36876;
Outfall 2: long._____ **lat.**_____; **Outfall 3: long.**_____ **lat.**_____.

j) **If the source of the discharge is potable water, please provide the reported or calculated seven day-ten year low flow (7Q10) of the receiving water and attach any calculation sheets used to support stream flow and dilution calculations** NA **cfs**
(See Appendix VII for equations and additional information)

MASSACHUSETTS FACILITIES: See Section 3.4 and Appendix 1 of the General Permit for more information on Areas of Critical Environmental Concern (ACEC):

k) Does the discharge occur in an ACEC? Yes _____ No ✔
If yes, provide the name of the ACEC: _____

3. Contaminant Information

a) Are any pH neutralization and/or dechlorination chemicals used in the discharge? If so, include the chemical name and manufacturer; maximum and average daily quantity used as well as the maximum and average daily expected concentrations (mg/l) in the discharge, and the vendor's reported aquatic toxicity (NOAEL and/or LC_{50} in percent for aquatic organism(s)). pH treatment, if necessary, to be determined.

b) Please report any known remediation activities or water-quality issues in the vicinity of the discharge. No known remediation activities in vicinity of discharge.

4. Determination of Endangered Species Act Eligibility: Provide documentation of ESA eligibility as required at Part 3.4 and Appendices III and IV. In addition, respond to the following questions.

a) Are any listed threatened or endangered species, or designated critical habitat, in proximity to the discharge? Yes____No✔
b) Has any consultation with the federal services been completed ? Yes✔ No__
c) Is consultation underway? Yes ____ No✔
d) What were the results of the consultation with the U.S. Fish and Wildlife Service and/or NOAA Fisheries Service (check one): a "no jeopardy" opinion _____or written concurrence✔ on a finding that the discharges are not likely to adversely affect any endangered species or critical habitat.
e) Which of the five eligibility criteria listed in Appendix 2, Section B (A,B,C,D,or E) have you met? A
f) Please attach a copy of the most current federal listing of endangered and threatened species, found at USF&W website.

5. Documentation of National Historic Preservation Act requirements: Please respond to the following questions:

a) Are any historic properties listed or eligible for listing on the National Register of Historic Places located on the facility site or in proximity to the discharge? Yes _____ No ✔
b) Have any State or Tribal historic preservation officers been consulted in this determination? Yes _____ or No ✔ If yes, attach the results of the consultation(s).
c) Which of the three National Historic Preservation Act requirements listed in Appendix 3, Section C (1,2 o3) have you met? 2

6. 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

7. Signature Requirements: The Notice of Intent must be signed by the operator in accordance with the signatory requirements of 40 CFR Section 122.22 (see below) including the following certification:

I certify under penalty of law that (1) no biocides or other chemical additives except for those used for pH adjustment and/or dechlorination are used in the dewatering system; (2) the discharge consists solely of dewatering and authorized pH adjustment and/or

dechlorination chemicals; (3) the discharge does not come in contact with any raw materials, intermediate product, water product or finished product; (4) if the discharge of dewatering subsequently mixes with other permitted wastewater (i.e.stormwater) prior to discharging to the receiving water, any monitoring provided under this permit will be only for dewatering discharge; (5) where applicable, the facility has complied with the requirements of this permit specific to the Endangered Species Act and National Historic Preservation Act; and (6) 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 Name: Harvard University Lavietes Building Addition

Operator signature:

Title: Project Superintendent

Date: 4/5/16

Federal regulations require this application to be signed as follows:

1. For a corporation, by a principal executive officer of at least the level of vice president;
2. For partnership or sole proprietorship, by a general partner or the proprietor, respectively, or,
3. For a municipality, State, Federal or other public facility, by either a principal executive officer or ranking elected official.

APPENDIX B

Boston Water and Sewer Permit

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

DEWATERING DISCHARGE PERMIT APPLICATION

OWNER / AUTHORIZED APPLICANT PROVIDE INFORMATION HERE:

Company Name: President and Fellows of Harvard College Address: 60 John F. Kennedy Street, Cambridge, Massachusetts

Phone number: 617.496.2331 Fax number: _____

Contact person name: Edward Milch Title: Senior Capital Project Manager, Harvard University, Faculty of Arts and Sciences

Cell number: _____ Email address: emilch@fas.harvard.edu

Permit Request (check one): [X] New Application ☐ Permit Extension ☐ Other (Specify): _____

Owner's Information (if different from above):

Owner of property being dewatered: President and Fellows of Harvard College, c/o Harvard University, Faculty of Arts and Sciences

Owner's mailing address: 60 John F. Kennedy Street, Cambridge, Massachusetts Phone number: 617.496.2331

Location of Discharge & Proposed Treatment System(s):

Street number and name: 45 North Harvard Street Neighborhood: Allston

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

Describe Proposed Pre-Treatment System(s): Sedimentation Tank and bag filters (if required)

BWSC Outfall No. DO-038 Receiving Waters Charles River

Temporary Discharges (Provide Anticipated Dates of Discharge): From May 2016 To December 2016

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

Permanent Discharges

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

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

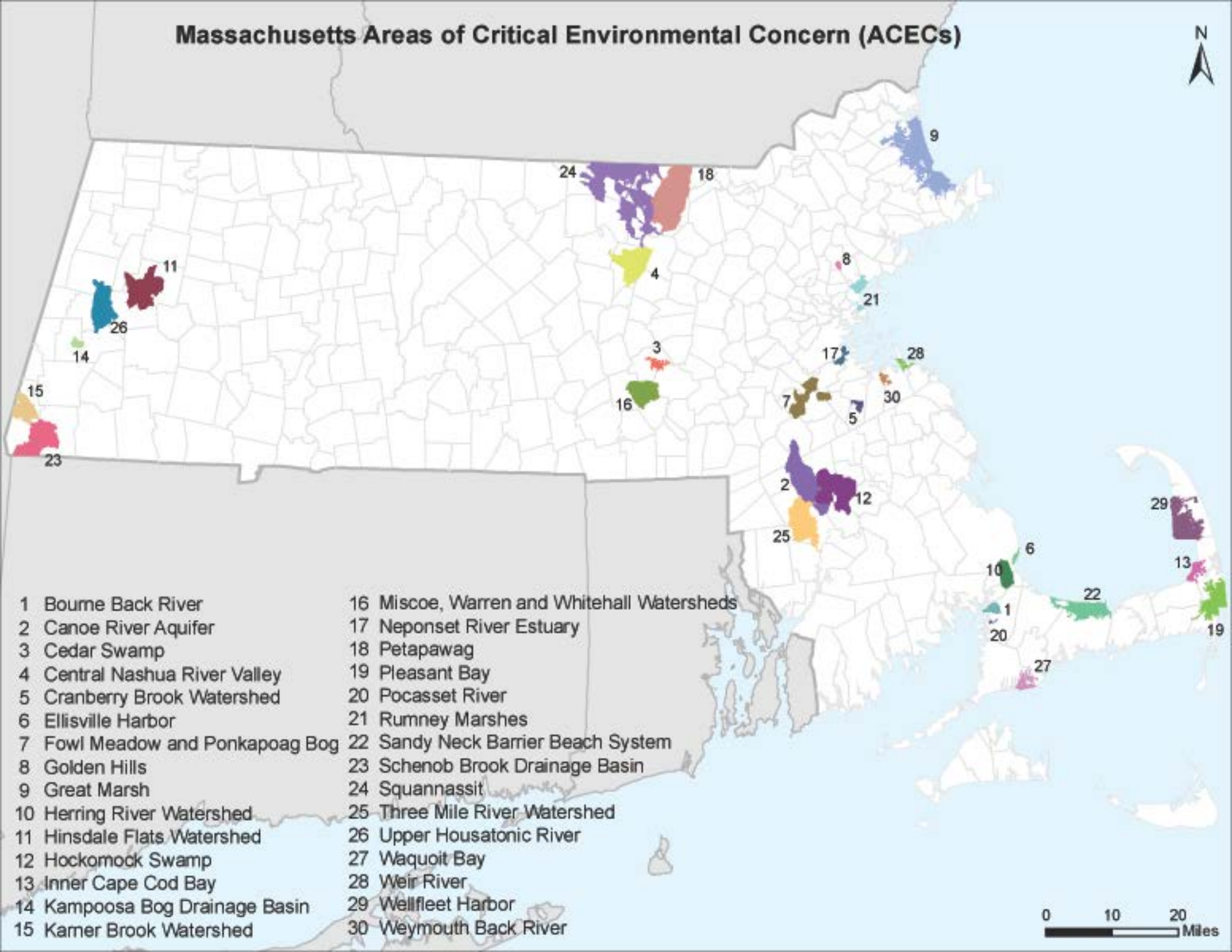
Submit Completed Application to: Boston Water and Sewer Commission
Engineering Customer Services
980 Harrison Avenue, Boston, MA 02119
Attn: Francis M. McLaughlin, Manager Engineering Customer Services
E-mail: MclaughlinF@bwsc.org
Phone: 617-989-7208 Fax: 617-989-7716

BWSC Use Only: Date Received _____ Comments: _____

APPENDIX C

Massachusetts Areas of Critical Environmental Concern

Massachusetts Areas of Critical Environmental Concern (ACECs)



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

MASSACHUSETTS AREAS OF CRITICAL ENVIRONMENTAL CONCERN
November 2010

Total Approximate Acreage: 268,000 acres
Approximate acreage and designation date follow ACEC names below.

Bourne Back River
(1,850 acres, 1989) Bourne

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

Cedar Swamp
(1,650 acres, 1975) Hopkinton and Westborough

Central Nashua River Valley
(12,900 acres, 1996) Bolton, Harvard, Lancaster, and Leominster

Cranberry Brook Watershed
(1,050 acres, 1983) Braintree and Holbrook

Ellisville Harbor
(600 acres, 1980) Plymouth

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

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

Great Marsh (originally designated as Parker River/Essex Bay)
(25,500 acres, 1979) Essex, Gloucester, Ipswich, Newbury, and Rowley

Herring River Watershed
(4,450 acres, 1991) Bourne and Plymouth

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

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

Inner Cape Cod Bay
(2,600 acres, 1985) Brewster, Eastham, and Orleans

Kampoosa Bog Drainage Basin
(1,350 acres, 1995) Lee and Stockbridge

Karner Brook Watershed
(7,000 acres, 1992) Egremont and Mount Washington

Miscoe, Warren, and Whitehall Watersheds
(8,700 acres, 2000) Grafton, Hopkinton, and Upton

Neponset River Estuary
(1,300 acres, 1995) Boston, Milton, and Quincy

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

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

Pocasset River
(160 acres, 1980) Bourne

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

Sandy Neck Barrier Beach System
(9,130 acres, 1978) Barnstable and Sandwich

Schenob Brook Drainage Basin
(13,750 acres, 1990) Mount Washington and Sheffield

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

Three Mile River Watershed
(14,280 acres, 2008) Dighton, Norton, Taunton

Upper Housatonic River
(12,280 acres, 2009) Lee, Lenox, Pittsfield, Washington

Waquoit Bay
(2,580 acres, 1979) Falmouth and Mashpee

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

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

Weymouth Back River
(800 acres, 1982) Hingham and Weymouth

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

Towns with ACECs within their Boundaries — November 2010

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

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APPENDIX D

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 22, 2016

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 (accessed January 2016)

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

Endangered Species by Town: Boston

Town	Taxonomic Group	ScientificName	CommonName	MESA Status	Federal Status	Most Recent Observation
BOSTON	Butterfly/Moth	Abagrotis nefascia	Coastal Heathland Cutworm	SC		2001
BOSTON	Bird	Accipiter striatus	Sharp-shinned Hawk	SC		1898
BOSTON	Vascular Plant	Ageratina aromatica	Lesser Snakeroot	E		1896
BOSTON	Amphibian	Ambystoma laterale	Blue-spotted Salamander	SC		2013
BOSTON	Bird	Ammodramus savannarum	Grasshopper Sparrow	T		1993
BOSTON	Butterfly/Moth	Apodrepanulatrix liberaria	New Jersey Tea Inchworm	E		Historic
BOSTON	Vascular Plant	Aristida purpurascens	Purple Needlegrass	T		1800s
BOSTON	Vascular Plant	Aristida tuberculosa	Seabeach Needlegrass	T		1877
BOSTON	Vascular Plant	Asclepias verticillata	Linear-leaved Milkweed	T		1878
BOSTON	Bird	Bartramia longicauda	Upland Sandpiper	E		1993
BOSTON	Vascular Plant	Boechera missouriensis	Green Rock-cress	T		1930
BOSTON	Vascular Plant	Carex striata	Walter's Sedge	E		Historic
BOSTON	Bird	Charadrius melodus	Piping Plover	T	T	2011
BOSTON	Beetle	Cicindela duodecimguttata	Twelve-spotted Tiger Beetle	SC		1910
BOSTON	Beetle	Cicindela purpurea	Cow Path Tiger Beetle	SC		1928
BOSTON	Beetle	Cicindela rufiventris hentzii	Eastern Red-bellied Tiger Beetle	T		1927
BOSTON	Vascular Plant	Desmodium cuspidatum	Large-bracted Tick-trefoil	T		1896
BOSTON	Vascular Plant	Eriophorum gracile	Slender Cottongrass	T		1885
BOSTON	Bird	Falco peregrinus	Peregrine Falcon	E		2013
BOSTON	Fish	Gasterosteus aculeatus	Threespine Stickleback	T		2000
BOSTON	Bird	Gavia immer	Common Loon	SC		1824
BOSTON	Vascular Plant	Houstonia longifolia	Long-leaved Bluet	E		1918
BOSTON	Vascular Plant	Liatris scariosa var. novae-angliae	New England Blazing Star	SC		1933
BOSTON	Mussel	Ligumia nasuta	Eastern Pondmussel	SC		1841
BOSTON	Vascular Plant	Linum medium var. texanum	Rigid Flax	T		1909
BOSTON	Vascular Plant	Lycopus rubellus	Gypsywort	E		1896
BOSTON	Butterfly/Moth	Metarranthis apiciaria	Barrens Metarranthis	E		1934
BOSTON	Vascular Plant	Myriophyllum alterniflorum	Alternate-flowered Water-milfoil	E		Historic
BOSTON	Vascular Plant	Ophioglossum pusillum	Adder's-tongue Fern	T		1884
BOSTON	Vascular Plant	Platanthera flava var. herbiola	Pale Green Orchis	T		1908
BOSTON	Bird	Pooecetes gramineus	Vesper Sparrow	T		1985
BOSTON	Butterfly/Moth	Pyrrhia aurantiago	Orange Sallow Moth	SC		1988
BOSTON	Vascular Plant	Ranunculus micranthus	Tiny-flowered Buttercup	E		1891
BOSTON	Vascular Plant	Rumex pallidus	Seabeach Dock	T		1984
BOSTON	Vascular Plant	Sanicula odorata	Long-styled Sanicle	T		Historic
BOSTON	Amphibian	Scaphiopus holbrookii	Eastern Spadefoot	T		1932
BOSTON	Vascular Plant	Scirpus longii	Long's Bulrush	T		1907
BOSTON	Vascular Plant	Setaria parviflora	Bristly Foxtail	SC		2001
BOSTON	Dragonfly/Damselfly	Somatochlora linearis	Mocha Emerald	SC		2009
BOSTON	Bird	Sterna hirundo	Common Tern	SC		2012
BOSTON	Bird	Sternula antillarum	Least Tern	SC		2012
BOSTON	Vascular Plant	Suaeda calceoliformis	American Sea-blite	SC		1909
BOSTON	Reptile	Terrapene carolina	Eastern Box Turtle	SC		1939
BOSTON	Bird	Tyto alba	Barn Owl	SC		1989
BOSTON	Bird	Vermivora chrysoptera	Golden-winged Warbler	E		Historic
BOSTON	Vascular Plant	Viola brittoniana	Britton's Violet	T		1909

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.

Revised 10/7/2011

MassDEP - Bureau of Waste Site Cleanup

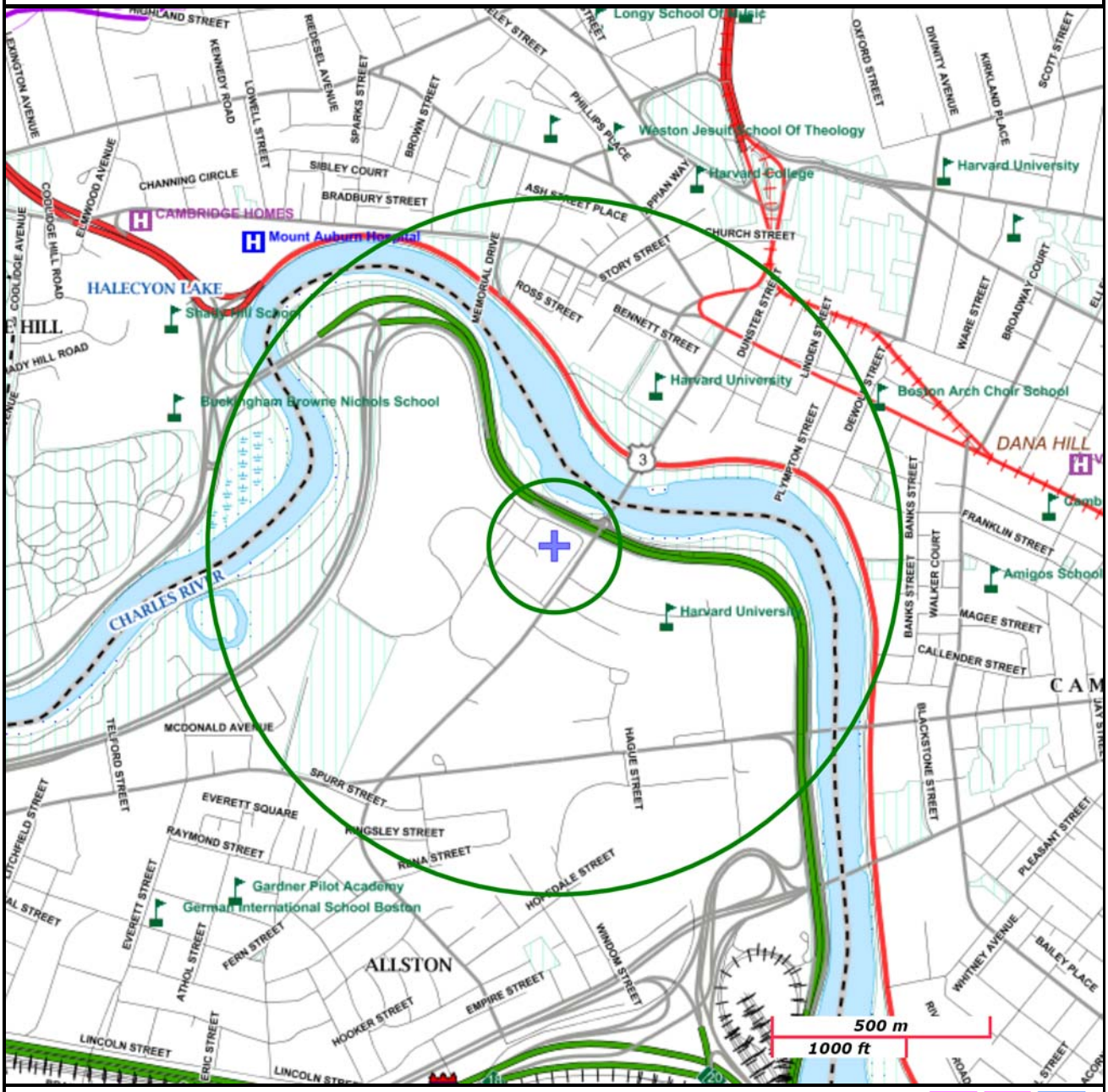
Phase 1 Site Assessment Map: 500 feet & 0.5 Mile Radii

Site Information:
LAVIETES PAVILION
45 NORTH HARVARD STREET BOSTON, MA

NAD83 UTM Meters:
4692828mN , 325029mE (Zone: 19)
March 29, 2016

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



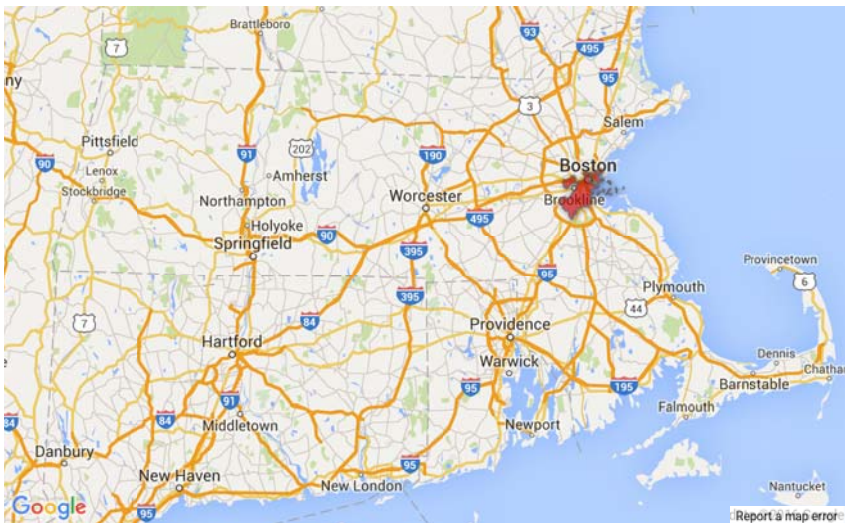
Roads: Limited Access, Divided, Other Hwy, Major Road, Minor Road, Track, Trail
Boundaries: Town, County, DEP Region; Train; Powerline; Pipeline; Aqueduct
Basins: Major, PWS; Streams: Perennial, Intermittent, Man Made Shore, Dam
Aquifers: Medium Yield, High Yield, EPA Sole Source
Non Potential Drinking 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.

Town Species Viewer

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 it's 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: BOSTON or Species (Common Name): or Species (Scientific Name):



Showing 1 to 46 of 46 entries Search:

First Previous 1 Next Last

Town	Taxonomic Group	Scientific Name	Common Name	MESA Status	Most Recent Obs
BOSTON	Butterfly/Moth	Abagrotis nefascia	Coastal Heathland Cutworm	SC	2001
BOSTON	Bird	Accipiter striatus	Sharp-shinned Hawk	SC	1898
BOSTON	Vascular Plant	Ageratina aromatica	Lesser Snakeroot	E	1896
BOSTON	Amphibian	Ambystoma laterale	Blue-spotted Salamander	SC	2013
BOSTON	Bird	Ammodramus savannarum	Grasshopper Sparrow	T	1993
BOSTON	Butterfly/Moth	Apodrepanulatrix liberaria	New Jersey Tea Inchworm	E	Historic
BOSTON	Vascular Plant	Aristida purpurascens	Purple Needlegrass	T	Historic
BOSTON	Vascular Plant	Aristida tuberculosa	Seabeach Needlegrass	T	1877

Download data as xls or csv file.

Did you find the information you were looking for on this page? *

- Yes
- No

Send Feedback

Natural Heritage & Endangered Species Program
Mass. Division of Fisheries & Wildlife

Questions/Comments to
natural.heritage@state.ma.us
Phone: (508) 389-6360

Species and Conservation Resources

- Species Information and Conservation
- NHESP Research and Inventory
- List of Rare Species in Massachusetts
- Report Rare Species
- Request Species Information
- Biodiversity in the Housatonic River Watershed
- Scientific Collection Permit (Education/Research)
- Rare Bird Conservation

See All

MassWildlife

Division of Fisheries & Wildlife
1 Rabbit Hill Road
Westborough, MA 01581
(508) 389-6300
mass.wildlife@state.ma.us
Contact ALL DFW Offices

Questions? Email Us

Subscribe to e-news

LIKE US ON facebook

Town	Taxonomic Group	ScientificName	CommonName	Status	Status	Recent
BOSTON	Butterfly/Moth	Abagrotis nefascia	Coastal Heathland Cutworm	SC		2001
BOSTON	Bird	Accipiter striatus	Sharp-shinned Hawk	SC		1898
BOSTON	Vascular Plant	Ageratina aromatica	Lesser Snakeroot	E		1896
BOSTON	Amphibian	Ambystoma laterale	Blue-spotted Salamander	SC		2013
BOSTON	Bird	Ammodramus savannarum	Grasshopper Sparrow	T		1993
BOSTON	Butterfly/Moth	Apodrepanulatrix liberaria	New Jersey Tea Inchworm	E		Historic
BOSTON	Vascular Plant	Aristida purpurascens	Purple Needlegrass	T		1800s
BOSTON	Vascular Plant	Aristida tuberculosa	Seabeach Needlegrass	T		1877
BOSTON	Vascular Plant	Asclepias verticillata	Linear-leaved Milkweed	T		1878
BOSTON	Bird	Bartramia longicauda	Upland Sandpiper	E		1993
BOSTON	Vascular Plant	Boechera missouriensis	Green Rock-cress	T		1930
BOSTON	Vascular Plant	Carex striata	Walter's Sedge	E		Historic
BOSTON	Bird	Charadrius melodus	Piping Plover	T	T	2011
BOSTON	Beetle	Cicindela duodecimguttata	Twelve-spotted Tiger Beetle	SC		1910
BOSTON	Beetle	Cicindela purpurea	Cow Path Tiger Beetle	SC		1928
BOSTON	Beetle	Cicindela rufiventris hentzii	Eastern Red-bellied Tiger Beetle	T		1927
BOSTON	Vascular Plant	Desmodium cuspidatum	Large-bracted Tick-trefoil	T		1896
BOSTON	Vascular Plant	Eriophorum gracile	Slender Cottongrass	T		1885
BOSTON	Bird	Falco peregrinus	Peregrine Falcon	E		2014
BOSTON	Fish	Gasterosteus aculeatus	Threespine Stickleback	T		2014
BOSTON	Bird	Gavia immer	Common Loon	SC		1824
BOSTON	Vascular Plant	Houstonia longifolia	Long-leaved Bluet	E		1918
BOSTON	Vascular Plant	Liatris scariosa var. novae-angliae	New England Blazing Star	SC		1933
BOSTON	Mussel	Ligumia nasuta	Eastern Pondmussel	SC		1841
BOSTON	Vascular Plant	Linum medium var. texanum	Rigid Flax	T		1909
BOSTON	Vascular Plant	Lycopus rubellus	Gypsywort	E		1896
BOSTON	Butterfly/Moth	Metarranthis apiciaria	Barrens Metarranthis	E		1934
BOSTON	Vascular Plant	Myriophyllum alterniflorum	Alternate-flowered Water-milfoil	E		Historic
BOSTON	Vascular Plant	Ophioglossum pusillum	Adder's-tongue Fern	T		1884
BOSTON	Vascular Plant	Platanthera flava var. herbiola	Pale Green Orchis	T		1908
BOSTON	Bird	Pooecetes gramineus	Vesper Sparrow	T		1985
BOSTON	Butterfly/Moth	Pyrrhia aurantiago	Orange Sallow Moth	SC		1988
BOSTON	Vascular Plant	Ranunculus micranthus	Tiny-flowered Buttercup	E		1891
BOSTON	Vascular Plant	Rumex pallidus	Seabeach Dock	T		1984
BOSTON	Vascular Plant	Sanicula odorata	Long-styled Sanicle	T		Historic
BOSTON	Amphibian	Scaphiopus holbrookii	Eastern Spadefoot	T		1932
BOSTON	Vascular Plant	Scirpus longii	Long's Bulrush	T		1907
BOSTON	Vascular Plant	Setaria parviflora	Bristly Foxtail	SC		2001
BOSTON	Dragonfly/Damselfly	Somatochlora linearis	Mocha Emerald	SC		2009
BOSTON	Bird	Sterna hirundo	Common Tern	SC		2013
BOSTON	Bird	Sternula antillarum	Least Tern	SC		2013
BOSTON	Vascular Plant	Suaeda calceoliformis	American Sea-blite	SC		1909
BOSTON	Reptile	Terrapene carolina	Eastern Box Turtle	SC		1939
BOSTON	Bird	Tyto alba	Barn Owl	SC		1989
BOSTON	Bird	Vermivora chrysoptera	Golden-winged Warbler	E		Historic
BOSTON	Vascular Plant	Viola brittoniana	Britton's Violet	T		1909

APPENDIX E

National Register of Historic Places and
Massachusetts Historical Commission Documentation

Massachusetts Cultural Resource Information System
MACRIS

MHC Home | MACRIS Home

Login

Results

Get Results in Report Format
PDF Spreadsheet

Below are the results of your search, using the following search criteria:
Town(s): Boston
Place: Allston
Street No: 45
Street Name: North Harvard
Resource Type(s): Area, Building, Burial Ground, Object, Structure

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

No Results Found.

New Search | New Search – Same Town(s) | Previous

MHC Home | MACRIS Home

Massachusetts Cultural Resource Information System

MACRIS

MACRIS Search Results

Search Criteria: Town(s): Boston; Place: Allston; Street Name: North Harvard;

Inv. No.	Property Name	Street	Town	Year
BOS.8286	Harvard Stadium	60 North Harvard St	Boston	1903
BOS.8285	Harvard University - Carey Cage	65 North Harvard St	Boston	1897
BOS.8067	Hill Memorial Baptist Church	279 North Harvard St	Boston	1903

APPENDIX F

Laboratory Data Reports

ANALYTICAL REPORT

Lab Number:	L1607160
Client:	Haley & Aldrich, Inc. 465 Medford Street, Suite 2200 Charlestown, MA 02129-1400
ATTN:	Deborah Gevalt
Phone:	(617) 886-7333
Project Name:	LAVIETES-HARVARD
Project Number:	42409-001
Report Date:	03/17/16

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: LAVIETES-HARVARD
Project Number: 42409-001

Lab Number: L1607160
Report Date: 03/17/16

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1607160-01	2016-0311-HA15-2	WATER	Not Specified	03/11/16 10:30	03/11/16

Project Name: LAVIETES-HARVARD **Lab Number:** L1607160
Project Number: 42409-001 **Report Date:** 03/17/16

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 NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. 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. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. 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.

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: Lura L Troy

Title: Technical Director/Representative Date: 03/17/16

INORGANICS
&
MISCELLANEOUS

Project Name: LAVIETES-HARVARD
Project Number: 42409-001

Lab Number: L1607160
Report Date: 03/17/16

SAMPLE RESULTS

Lab ID: L1607160-01
Client ID: 2016-0311-HA15-2
Sample Location: Not Specified
Matrix: Water

Date Collected: 03/11/16 10:30
Date Received: 03/11/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total Suspended	ND		mg/l	5.0	NA	1	-	03/17/16 03:12	30,2540D	RT

Project Name: LAVIETES-HARVARD
Project Number: 42409-001
Lab Number: L1607160
Report Date: 03/17/16

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: WG874594-1										
Solids, Total Suspended	ND		mg/l	5.0	NA	1	-	03/17/16 03:12	30,2540D	RT

Lab Duplicate Analysis
Batch Quality Control

Project Name: LAVIETES-HARVARD
Project Number: 42409-001

Lab Number: L1607160
Report Date: 03/17/16

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG874594-2 QC Sample: L1607102-01 Client ID: DUP Sample						
Solids, Total Suspended	32	33	mg/l	3		29

Project Name: LAVIETES-HARVARD
Project Number: 42409-001

Lab Number: L1607160
Report Date: 03/17/16

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information Custody Seal

Cooler	
A	Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1607160-01A	Plastic 950ml unpreserved	A	6	4.3	Y	Absent	TSS-2540(7)

*Values in parentheses indicate holding time in days

Project Name:	LAVIETES-HARVARD	**Lab Number:**	L1607160
Project Number:	42409-001	**Report Date:**	03/17/16

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.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

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.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

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).

Report Format: Data Usability Report

Project Name:	LAVIETES-HARVARD	**Lab Number:**	L1607160
Project Number:	42409-001	**Report Date:**	03/17/16

Data Qualifiers

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The 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.

Report Format: Data Usability Report

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

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

Westborough Facility
EPA 524.2: 1,2-Dibromo-3-chloropropane, 1,2-Dibromoethane, m/p-xylene, o-xylene
EPA 624: 2-Butanone (MEK), 1,4-Dioxane, tert-Amylmethyl Ether, tert-Butyl Alcohol, m/p-xylene, o-xylene
EPA 625: Aniline, Benzoic Acid, Benzyl Alcohol, 4-Chloroaniline, 3-Methylphenol, 4-Methylphenol.
EPA 1010A: NPW: Ignitability
EPA 6010C: NPW: Strontium; SCM: Strontium
EPA 8151A: NPW: 2,4-DB, Dicamba, Dichloroprop, MCPA, MCPP; SCM: 2,4-DB, Dichloroprop, MCPA, MCPP
EPA 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene, Isopropanol; SCM: Iodomethane (methyl iodide), Methyl methacrylate (soil); 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D: NPW: Pentachloronitrobenzene, 1-Methylnaphthalene, Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Pentachloronitrobenzene, 1-Methylnaphthalene, Dimethylnaphthalene,1,4-Diphenylhydrazine.
EPA 9010: NPW: Amenable Cyanide Distillation, Total Cyanide Distillation
EPA 9038: NPW: Sulfate
EPA 9050A: NPW: Specific Conductance
EPA 9056: NPW: Chloride, Nitrate, Sulfate
EPA 9065: NPW: Phenols
EPA 9251: NPW: Chloride
SM3500: NPW: Ferrous Iron
SM4500: NPW: Amenable Cyanide, Dissolved Oxygen; SCM: Total Phosphorus, TKN, NO2, NO3.
SM5310C: DW: Dissolved Organic Carbon

Mansfield Facility
EPA 8270D: NPW: Biphenyl; SCM: Biphenyl, Caprolactam
EPA 8270D-SIM Isotope Dilution: SCM: 1,4-Dioxane
SM 2540D: TSS
SM2540G: SCM: Percent Solids
EPA 1631E: SCM: Mercury
EPA 7474: SCM: Mercury
EPA 8081B: NPW and SCM: Mirex, Hexachlorobenzene.
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA 8270-SIM: NPW and SCM: Alkylated PAHs.
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, n-Butylbenzene, n-Propylbenzene, sec-Butylbenzene, tert-Butylbenzene.
Biological Tissue Matrix: ***8270D-SIM; 3050B; 3051A; 7471B; 8081B; 8082A; 6020A:*** Lead***; 8270D:*** bis(2-ethylhexyl)phthalate, Butylbenzylphthalate, Diethyl phthalate, Dimethyl phthalate, Di-n-butyl phthalate, Di-n-octyl phthalate, Fluoranthene, Pentachlorophenol.

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, SM4500Cl-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.

coc edits by Gina Hall 3/14/16

Serial No:03171615:33

L1607160

HALEY & ALDRICH

Haley & Aldrich, Inc.
465 Medford St.,
Suite 2200,
Boston, MA 02129-1402

CHAIN OF CUSTODY RECORD

Phone (617) 886-7400
Fax (617) 886-7600

Page 1 of 2

H&A FILE NO.	42409-001	LABORATORY	ALPHA ANALYTICAL	DELIVERY DATE	03/11/16
PROJECT NAME	Lavietes - Harvard	ADDRESS	WESTBOROUGH, MA	TURNAROUND TIME	5 day
H&A CONTACT	Bryan Gammons	CONTACT	Gina Hall	PROJECT MANAGER	Deborah Gevalt

Sample No.	Date	Time	Depth	Type	Analysis Requested: Total Suspended Solids	Number of Containers	Comments (special instructions, precautions, additional method numbers, etc.)
~~2016-0311-HA15-2~~	03/11/16	1030	-	AQ	X	1	Laboratory to use applicable DEP CAM methods, unless otherwise directed.
2016-0311-HA15-2 -							

Sampled and Relinquished by	Received by	LIQUID	Sampling Comments
Sign Cody Smith	Sign	VOA Vial	pH 5.51
Print Cody Smith	Print	Amber Glass	
Firm HHA	Firm	Plastic Bottle	
Date 03/11/16 Time	Date 3/11/16 Time 16:50	Preservative	
		Volume	
Relinquished by	**Received by**	**SOLID**	
Sign	Sign	VOA Vial	
Print	Print Wayne Pinnow	Amber Glass	
Firm	Firm Alpha	Clear Glass	
Date 3/11/16 Time 1632	Date 3/11/16 Time 1630	Preservative	
Relinquished by	**Received by**	Volume	Evidence samples were tampered with? YES NO
Sign	Sign		If YES, please explain in section below.
Print Wayne Pinnow	Print		
Firm Alpha	Firm		
Date 3/11/16 Time 1838	Date 3/11/16 Time 1838		

PRESERVATION KEY

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

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

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

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

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

X This Chain of Custody Record (specify) _____ includes ____X__ 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)_____ analyze

Required Reporting Limits and Data Quality Objectives

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

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

APRIL 2011

Form 3003

Serial No:03171615:33

L1607160

HALEY & ALDRICH

Haley & Aldrich, Inc.
465 Medford St.,
Suite 2200,
Boston, MA 02129-1402

CHAIN OF CUSTODY RECORD

Phone (617) 886-7400
Fax (617) 886-7600

H&A FILE NO.	42409-001	LABORATORY	ALPHA ANALYTICAL	DELIVERY DATE	03/11/16
PROJECT NAME	Lavietes - Harvard	ADDRESS	WESTBOROUGH, MA	TURNAROUND TIME	5 day
H&A CONTACT	Bryan Gammons	CONTACT	Gina Hall	PROJECT MANAGER	Deborah Gevalt

Sample No.	Date	Time	Depth	Type	Analysis Requested: Total Suspended Solids	Total [redacted]	[redacted]	[redacted]	Number of Containers	Comments (special instructions, precautions, additional method numbers, etc.)
2016-0311-HA15-2	03/11/16	1030	-	AQ	X				1	Laboratory to use applicable DEP CAM methods, unless otherwise directed.

Sampled and Relinquished by	Received by
Sign Cody Smith	Sign [redacted]
Print Cody Smith	Print [redacted]
Firm H&A	Firm H&A
Date 03/11/16 Time	Date 3/11/16 Time 16:30
Relinquished by	**Received by**
Sign [redacted]	Sign [redacted]
Print [redacted]	Print Wayne Pinnock
Firm H&A	Firm Alpha
Date 3/11/16 Time 1632	Date 3/11/16 Time 1630
Relinquished by	**Received by**
Sign [redacted]	Sign [redacted]
Print Wayne Pinnock	Print [redacted]
Firm Alpha	Firm A[redacted]
Date 3/11/16 Time 1838	Date 3/11/16 Time 1838

LIQUID		SOLID	
VOA Vial		VOA Vial	
Amber Glass		Amber Glass	
Plastic Bottle		Clear Glass	
Preservative		Preservative	
Volume		Volume	

Sampling Comments

PH 5.51

Evidence samples were tampered with? YES NO

If YES, please explain in section below.

PRESERVATION KEY

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

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

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

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

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

X This Chain of Custody Record (specify) _____ includes ____X__ 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)_____ analyze

Required Reporting Limits and Data Quality Objectives

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

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

APRIL 2011

Form 3003

ANALYTICAL REPORT

Lab Number:	L1607164
Client:	Haley & Aldrich, Inc. 465 Medford Street, Suite 2200 Charlestown, MA 02129-1400
ATTN:	Andrew Chan
Phone:	(617) 886-7490
Project Name:	LAVIETES-HARVARD
Project Number:	42409-001
Report Date:	03/21/16

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: LAVIETES-HARVARD
Project Number: 42409-001

Lab Number: L1607164
Report Date: 03/21/16

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1607164-01	2016-0311-HA15-2	WATER	Not Specified	03/11/16 10:30	03/11/16

Project Name: LAVIETES-HARVARD **Lab Number:** L1607164
Project Number: 42409-001 **Report Date:** 03/21/16

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 NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. 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. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. 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.

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: Lura L Troy

Title: Technical Director/Representative Date: 03/21/16

METALS

Project Name: LAVIETES-HARVARD
Lab Number: L1607164
Project Number: 42409-001
Report Date: 03/21/16

SAMPLE RESULTS

Lab ID: L1607164-01
Client ID: 2016-0311-HA15-2
Sample Location: Not Specified
Matrix: Water
Date Collected: 03/11/16 10:30
Date Received: 03/11/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Westborough Lab											
Antimony, Total	ND		mg/l	0.0020	--	1	03/16/16 10:25	03/20/16 23:22	EPA 3005A	1,6020A	BM
Arsenic, Total	0.0006		mg/l	0.0005	--	1	03/16/16 10:25	03/20/16 23:22	EPA 3005A	1,6020A	BM
Cadmium, Total	ND		mg/l	0.0002	--	1	03/16/16 10:25	03/20/16 23:22	EPA 3005A	1,6020A	BM
Chromium, Total	0.0018		mg/l	0.0010	--	1	03/16/16 10:25	03/20/16 23:22	EPA 3005A	1,6020A	BM
Copper, Total	ND		mg/l	0.0010	--	1	03/16/16 10:25	03/20/16 23:22	EPA 3005A	1,6020A	BM
Iron, Total	0.07		mg/l	0.05	--	1	03/16/16 10:25	03/21/16 15:31	EPA 3005A	19,200.7	PS
Lead, Total	ND		mg/l	0.0010	--	1	03/16/16 10:25	03/20/16 23:22	EPA 3005A	1,6020A	BM
Mercury, Total	ND		mg/l	0.00020	--	1	03/15/16 14:47	03/16/16 23:49	EPA 245.1	3,245.1	EA
Nickel, Total	0.0049		mg/l	0.0030	--	1	03/16/16 10:25	03/20/16 23:22	EPA 3005A	1,6020A	BM
Silver, Total	ND		mg/l	0.0004	--	1	03/16/16 10:25	03/20/16 23:22	EPA 3005A	1,6020A	BM
Zinc, Total	ND		mg/l	0.0100	--	1	03/16/16 10:25	03/20/16 23:22	EPA 3005A	1,6020A	BM

Project Name: LAVIETES-HARVARD **Lab Number:** L1607164

Project Number: 42409-001 **Report Date:** 03/21/16

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Westborough Lab for sample(s): 01 Batch: WG873998-1										
Mercury, Total	ND		mg/l	0.00020	--	1	03/15/16 14:47	03/16/16 23:38	3,245.1	EA

Prep Information

Digestion Method: EPA 245.1

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Westborough Lab for sample(s): 01 Batch: WG874256-1										
Antimony, Total	ND		mg/l	0.0020	--	1	03/16/16 10:25	03/17/16 16:10	1,6020A	TT
Arsenic, Total	ND		mg/l	0.0005	--	1	03/16/16 10:25	03/17/16 16:10	1,6020A	TT
Cadmium, Total	ND		mg/l	0.0002	--	1	03/16/16 10:25	03/17/16 16:10	1,6020A	TT
Chromium, Total	ND		mg/l	0.0010	--	1	03/16/16 10:25	03/17/16 16:10	1,6020A	TT
Copper, Total	ND		mg/l	0.0010	--	1	03/16/16 10:25	03/17/16 16:10	1,6020A	TT
Lead, Total	ND		mg/l	0.0010	--	1	03/16/16 10:25	03/17/16 16:10	1,6020A	TT
Nickel, Total	ND		mg/l	0.0030	--	1	03/16/16 10:25	03/17/16 16:10	1,6020A	TT
Silver, Total	ND		mg/l	0.0004	--	1	03/16/16 10:25	03/17/16 16:10	1,6020A	TT
Zinc, Total	ND		mg/l	0.0100	--	1	03/16/16 10:25	03/17/16 16:10	1,6020A	TT

Prep Information

Digestion Method: EPA 3005A

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Westborough Lab for sample(s): 01 Batch: WG875050-1										
Iron, Total	ND		mg/l	0.05	--	1	03/16/16 10:25	03/21/16 14:59	19,200.7	PS

Prep Information

Digestion Method: EPA 3005A

Lab Control Sample Analysis

Batch Quality Control

Project Name: LAVIETES-HARVARD

Project Number: 42409-001

Lab Number: L1607164

Report Date: 03/21/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Westborough Lab Associated sample(s): 01 Batch: WG873998-2								
Mercury, Total	109		-		85-115	-		
Total Metals - Westborough Lab Associated sample(s): 01 Batch: WG874256-2								
Antimony, Total	100		-		80-120	-		
Arsenic, Total	104		-		80-120	-		
Cadmium, Total	107		-		80-120	-		
Chromium, Total	98		-		80-120	-		
Copper, Total	104		-		80-120	-		
Lead, Total	110		-		80-120	-		
Nickel, Total	103		-		80-120	-		
Silver, Total	102		-		80-120	-		
Zinc, Total	98		-		80-120	-		
Total Metals - Westborough Lab Associated sample(s): 01 Batch: WG875050-2								
Iron, Total	86		-		85-115	-		

Matrix Spike Analysis
Batch Quality Control

Project Name: LAVIETES-HARVARD
Project Number: 42409-001

Lab Number: L1607164
Report Date: 03/21/16

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Westborough Lab Associated sample(s): 01 QC Batch ID: WG873998-4 QC Sample: L1607107-01 Client ID: MS Sample												
Mercury, Total	ND	0.005	0.00029	**6**	Q	-	-		70-130	-		20
Total Metals - Westborough Lab Associated sample(s): 01 QC Batch ID: WG874256-3 WG874256-4 QC Sample: L1606590-08 Client ID: MS Sample												
Antimony, Total	ND	0.5	0.6084	122		0.5380	108		75-125	12		20
Arsenic, Total	0.0008	0.12	0.1470	122		0.1329	110		75-125	10		20
Cadmium, Total	ND	0.051	0.0644	**126**	Q	0.0617	121		75-125	4		20
Chromium, Total	0.0020	0.2	0.2164	107		0.2023	100		75-125	7		20
Copper, Total	ND	0.25	0.3044	122		0.2708	108		75-125	12		20
Lead, Total	ND	0.51	0.6642	**130**	Q	0.5929	116		75-125	11		20
Nickel, Total	0.0046	0.5	0.5952	118		0.5410	107		75-125	10		20
Silver, Total	ND	0.05	0.0578	116		0.0529	106		75-125	9		20
Zinc, Total	ND	0.5	0.5480	110		0.4932	99		75-125	11		20
Total Metals - Westborough Lab Associated sample(s): 01 QC Batch ID: WG875050-3 WG875050-4 QC Sample: L1600003-91 Client ID: MS Sample												
Iron, Total	0.05	1	1.0	95		0.95	90		75-125	5		20

Lab Duplicate Analysis
Batch Quality Control

Project Name: LAVIETES-HARVARD
Project Number: 42409-001

Lab Number: L1607164
Report Date: 03/21/16

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Westborough Lab Associated sample(s): 01 QC Batch ID: WG873998-3 QC Sample: L1607107-01 Client ID: DUP Sample						
Mercury, Total	ND	ND	mg/l	NC		20

INORGANICS
&
MISCELLANEOUS

Project Name: LAVIETES-HARVARD
Project Number: 42409-001

Lab Number: L1607164
Report Date: 03/21/16

SAMPLE RESULTS

Lab ID: L1607164-01
Client ID: 2016-0311-HA15-2
Sample Location: Not Specified
Matrix: Water

Date Collected: 03/11/16 10:30
Date Received: 03/11/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Chromium, Hexavalent	ND		mg/l	0.010	--	1	03/11/16 22:50	03/11/16 23:05	119,3500CR-B	LH
Anions by Ion Chromatography - Westborough Lab										
Chloride	316.		mg/l	12.5	--	25	-	03/16/16 18:18	44,300.0	AU

Project Name: LAVIETES-HARVARD
Project Number: 42409-001
Lab Number: L1607164
Report Date: 03/21/16

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: WG874158-1										
Chromium, Hexavalent	ND		mg/l	0.010	--	1	03/11/16 22:50	03/11/16 23:04	119,3500CR-B	LH
Anions by Ion Chromatography - Westborough Lab for sample(s): 01 Batch: WG874924-1										
Chloride	ND		mg/l	0.500	--	1	-	03/16/16 17:06	44,300.0	AU

Lab Control Sample Analysis

Batch Quality Control

Project Name: LAVIETES-HARVARD

Project Number: 42409-001

Lab Number: L1607164

Report Date: 03/21/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG874158-2								
Chromium, Hexavalent	100		-		85-115	-		20
Anions by Ion Chromatography - Westborough Lab Associated sample(s): 01 Batch: WG874924-2								
Chloride	104		-		90-110	-		

Matrix Spike Analysis
Batch Quality Control

Project Name: LAVIETES-HARVARD
Project Number: 42409-001

Lab Number: L1607164
Report Date: 03/21/16

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: WG874158-4 QC Sample: L1607164-01 Client ID: 2016-0311-HA15-2												
Chromium, Hexavalent	ND	0.1	0.104	104		-	-		85-115	-		20
Anions by Ion Chromatography - Westborough Lab Associated sample(s): 01 QC Batch ID: WG874924-3 QC Sample: L1607269-09 Client ID: MS Sample												
Chloride	27.3	4	30.4	77		-	-		40-151	-		18

Lab Duplicate Analysis
Batch Quality Control

Project Name: LAVIETES-HARVARD
Project Number: 42409-001

Lab Number: L1607164
Report Date: 03/21/16

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG874158-3 QC Sample: L1607164-01 Client ID: 2016-0311-HA15-2						
Chromium, Hexavalent	ND	ND	mg/l	NC		20
Anions by Ion Chromatography - Westborough Lab Associated sample(s): 01 QC Batch ID: WG874924-4 QC Sample: L1607269-09 Client ID: DUP Sample						
Chloride	27.3	27.3	mg/l	0		18

Project Name: LAVIETES-HARVARD
Project Number: 42409-001

Lab Number: L1607164
Report Date: 03/21/16

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information Custody Seal

Cooler	
A	Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1607164-01A	Plastic 250ml HNO3 preserved	A	<2	4.3	Y	Absent	CR-6020T(180),NI-6020T(180),CU-6020T(180),ZN-6020T(180),FE-UI(180),PB-6020T(180),HG-U(28),AS-6020T(180),SB-6020T(180),AG-6020T(180),CD-6020T(180)
L1607164-01B	Plastic 500ml unpreserved	A	7	4.3	Y	Absent	HEXCR-3500(1)
L1607164-01C	Plastic 250ml unpreserved	A	7	4.3	Y	Absent	CL-300(28)

Container Comments

L1607164-01B

*Values in parentheses indicate holding time in days

Project Name:	LAVIETES-HARVARD	**Lab Number:**	L1607164
Project Number:	42409-001	**Report Date:**	03/21/16

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.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
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.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

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).

Report Format: Data Usability Report

Project Name:	LAVIETES-HARVARD	**Lab Number:**	L1607164
Project Number:	42409-001	**Report Date:**	03/21/16

Data Qualifiers

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The 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.

Report Format: Data Usability Report

Project Name:	LAVIETES-HARVARD	**Lab Number:**	L1607164
Project Number:	42409-001	**Report Date:**	03/21/16

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IV, 2007.

3 Methods for the Determination of Metals in Environmental Samples, Supplement I. EPA/600/R-94/111. May 1994.

19 Inductively Coupled Plasma Atomic Emission Spectrometric Method for Trace Element Analysis of Water and Wastes. Appendix C, Part 136, 40 CFR (Code of Federal Regulations). July 1, 1999 edition.

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

119 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WPCF. 21st Edition.

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

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

Westborough Facility
EPA 524.2: 1,2-Dibromo-3-chloropropane, 1,2-Dibromoethane, m/p-xylene, o-xylene
EPA 624: 2-Butanone (MEK), 1,4-Dioxane, tert-Amylmethyl Ether, tert-Butyl Alcohol, m/p-xylene, o-xylene
EPA 625: Aniline, Benzoic Acid, Benzyl Alcohol, 4-Chloroaniline, 3-Methylphenol, 4-Methylphenol.
EPA 1010A: NPW: Ignitability
EPA 6010C: NPW: Strontium; SCM: Strontium
EPA 8151A: NPW: 2,4-DB, Dicamba, Dichloroprop, MCPA, MCPP; SCM: 2,4-DB, Dichloroprop, MCPA, MCPP
EPA 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene, Isopropanol; SCM: Iodomethane (methyl iodide), Methyl methacrylate (soil); 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D: NPW: Pentachloronitrobenzene, 1-Methylnaphthalene, Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Pentachloronitrobenzene, 1-Methylnaphthalene, Dimethylnaphthalene,1,4-Diphenylhydrazine.
EPA 9010: NPW: Amenable Cyanide Distillation, Total Cyanide Distillation
EPA 9038: NPW: Sulfate
EPA 9050A: NPW: Specific Conductance
EPA 9056: NPW: Chloride, Nitrate, Sulfate
EPA 9065: NPW: Phenols
EPA 9251: NPW: Chloride
SM3500: NPW: Ferrous Iron
SM4500: NPW: Amenable Cyanide, Dissolved Oxygen; SCM: Total Phosphorus, TKN, NO2, NO3.
SM5310C: DW: Dissolved Organic Carbon

Mansfield Facility
EPA 8270D: NPW: Biphenyl; SCM: Biphenyl, Caprolactam
EPA 8270D-SIM Isotope Dilution: SCM: 1,4-Dioxane
SM 2540D: TSS
SM2540G: SCM: Percent Solids
EPA 1631E: SCM: Mercury
EPA 7474: SCM: Mercury
EPA 8081B: NPW and SCM: Mirex, Hexachlorobenzene.
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA 8270-SIM: NPW and SCM: Alkylated PAHs.
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, n-Butylbenzene, n-Propylbenzene, sec-Butylbenzene, tert-Butylbenzene.
Biological Tissue Matrix: ***8270D-SIM; 3050B; 3051A; 7471B; 8081B; 8082A; 6020A:*** Lead***; 8270D:*** bis(2-ethylhexyl)phthalate, Butylbenzylphthalate, Diethyl phthalate, Dimethyl phthalate, Di-n-butyl phthalate, Di-n-octyl phthalate, Fluoranthene, Pentachlorophenol.

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, SM4500Cl-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.

CHAIN OF CUSTODY RECORD 460716

HALEY & ALDRICH
Haley & Aldrich, Inc.
465 Medford St.,
Suite 2200,
Boston, MA 02129-1402

Phone (617) 886-7400
Fax (617) 886-7600

H&A FILE NO. 42409-001
PROJECT NAME Lavietes - Harvard
H&A CONTACT Bryan Gammons

LABORATORY ALPHA ANALYTICAL
ADDRESS WESTBOROUGH, MA
CONTACT Gina Hall

DELIVERY DATE 03/11/16
TURNAROUND TIME ~~5 Day~~ HOLD
PROJECT MANAGER Andrew Chan

Sample No.	Date	Time	Depth	Type	Total Metals* (HOLD)	Chloride* (HOLD)	* Hex Cr ASSOC WORK	Number of Containers
2016-0311-HA15-2	03/11/16	1030	–	AQ	X	X	X	3

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

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

~~*HOLD SAMPLES. DO NOT ANALYZE UNLESS AUTHORIZED~~

~~* RUN HEX CR BUT DO NOT REPORT UNLESS AUTHORIZED~~

analyze upfront for
* Total antimony, arsenic, cadmium, chromium, copper, iron, mercury, nickel, silver, zinc, lead
* Hex Cr
* Chloride

Sampled and Relinquished by	Received by
Sign [illegible]	Sign [illegible]
Print Cory Smith	Print MAUSH
Firm H+A	Firm H&A
Date 03/11/16 Time	Date 3/11/16 Time 1630

Relinquished by	Received by
Sign [illegible]	Sign [illegible]
Print MAUSH	Print Wayne Plummer
Firm H&A	Firm Alpha
Date 3/11/16 Time 1613	Date 3/11/16 Time 1630

Relinquished by	Received by
Sign [illegible]	Sign [illegible]
Print Wayne Plummer	Print [illegible]
Firm Alpha	Firm Alpha
Date 3/11/16 Time 1838	Date 3/11/16 Time 1837

LIQUID	
	VOA Vial
	Amber Glass
	Plastic Bottle
	Preservative
	Volume

SOLID	
	VOA Vial
	Amber Glass
	Clear Glass
	Preservative
	Volume

Sampling Comments

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

PRESERVATION KEY

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

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

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

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

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

X This Chain of Custody Record (specify) _____ includes X 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) _____ analyze

Required Reporting Limits and Data Quality Objectives

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

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

APRIL 2011

Form 3003

HALEY & ALDRICH
Haley & Aldrich, Inc.
465 Medford St.,
Suite 2200,
Boston, MA 02129-1402

CHAIN OF CUSTODY RECORD L1607164

Phone (617) 886-7400
Fax (617) 886-7600

Page 2 of 2

H&A FILE NO.	42409-001	LABORATORY	ALPHA ANALYTICAL	DELIVERY DATE	03/11/16
PROJECT NAME	Lavietes - Harvard	ADDRESS	WESTBOROUGH, MA	TURNAROUND TIME	~~5-Day~~ HOLD
H&A CONTACT	Bryan Gammons	CONTACT	Gina Hall	PROJECT MANAGER	Andrew Chan

Analysis Requested

Sample No.	Date	Time	Depth	Type	Total Metals* (HOLD)	Chloride* (HOLD)	* Hex Cr	(see note)	Number of Containers	Comments (special instructions, precautions, additional method numbers, etc.)
2016-0311-HA15-2	03/11/16	1030	–	AQ	X	X	X		3	Laboratory to use applicable DEP CAM methods, unless otherwise directed. *HOLD SAMPLES. DO NOT ANALYZE UNLESS AUTHORIZED. * RUN HEX CR BUT DO NOT REPORT UNLESS AUTHORIZED

Sampled and Relinquished by	Received by
Sign: [signature]	Sign: [signature]
Print: Cody Smith	Print: M Ausk
Firm: H+A	Firm: H&A
Date: 03/11/16 Time:	Date: 3/11/16 Time: 1630

Relinquished by	Received by
Sign: [signature]	Sign: [signature]
Print: M Ausush	Print: Wayne Plummer
Firm: H&A	Firm: Alpha
Date: 3/11/16 Time: 1613	Date: 3/11/16 Time: 1630

Relinquished by	Received by
Sign: [signature]	Sign: [signature]
Print: Wayne Plummer	Print: William MCL
Firm: Alpha	Firm: Alph
Date: 3/11/16 Time: 1838	Date: 3/11/16 Time: 1838

LIQUID: VOA Vial, Amber Glass, Plastic Bottle, Preservative, Volume

SOLID: VOA Vial, Amber Glass, Clear Glass, Preservative, Volume

Sampling Comments

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

PRESERVATION KEY

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

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

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

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

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

X This Chain of Custody Record (specify) ________ includes X 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)________analyze

Required Reporting Limits and Data Quality Objectives

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

WHITE - Laboratory CANARY - Project Manager PINK - Haley & Aldrich Laboratory GOLDENROD - Haley & Aldrich Contact APRIL 2011

Form 3003