



**NOTICE OF INTENT FOR DISCHARGE
PURSUANT TO MASSACHUSETTS
DEWATERING GENERAL PERMIT
MAG070000**

**11 BABSON COLLEGE DRIVE
BABSON PARK, MASSACHUSETTS**

NOVEMBER 8, 2018

Prepared For:
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
DEWATERING GP PROCESSING
INDUSTRIAL PERMIT UNIT (OEP 06-4)
5 POST OFFICE SQUARE, SUITE 100
BOSTON, MA 02109-3912

On Behalf Of:
Babson College
231 Forest Street
Babson Park, MA 02457

2269 Massachusetts Avenue
Cambridge, MA 02140
www.mcphailgeo.com
(617) 868-1420

PROJECT NO. 6434



November 8, 2018

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

Attention: To Whom It May Concern

Reference: 11 Babson College Drive; Babson Park, Massachusetts
Notice of Intent for Temporary Construction Dewatering Discharge;
Massachusetts Dewatering General Permit MAG070000

Ladies and Gentlemen:

In accordance with the provisions of the Dewatering General Permit MAG070000 (DGP) that was issued to the Commonwealth of Massachusetts by the US EPA, the following is a summary of the site and groundwater quality information in support of a Notice of Intent (NOI) for the discharge of construction dewatering into wetlands via the Babson College storm drain system and above-grade drainage ditches. The potential for temporary discharge of construction dewatering may occur during redevelopment of the 11 Babson College Drive property in Babson Park, Massachusetts (the "subject site"). Refer to **Figure 1**, Project Location Plan for the general site locus.

These services were performed and this permit application was prepared in accordance with our proposal dated August 24, 2018, and the subsequent authorization of Babson College. These services are subject to the limitations contained in **Appendix A**.

The applicable DGP Notice of Intent (NOI) Form is included in **Appendix B**.

Applicant/Operator

The applicant for the Notice of Intent-Dewatering General Permit is:

Lee Kennedy Co., Inc.
122 Quincy Shore Drive
Quincy, MA 02171

Attention: Mr. Paul Leonard
Email: pleonard@leekennedy.com

Telephone: (617)-825-6930



US EPA
11 Babson College Drive
November 8, 2018; Page 2

Existing Conditions

The subject site fronts onto Babson College Drive to the northeast and is bounded by the Horn Library to the southwest, Babson Hall to the northwest, and Gerber Hall to the southeast. Existing grades slope down gradually from approximately Elevation +203 near the Horn Library to approximately Elevation +196 at Babson College Drive.

Prior to the start of the recent construction, the site of the proposed development included a brick and concrete patio area, grassed and landscaped areas, and walkways. The patio areas and walkways have been demolished as part of the recent development.

The approximate location of the subject site is indicated on **Figure 2**.

Proposed Scope of Site Development

The proposed development is understood to consist of a rectangular-shaped structure occupying a footprint of approximately 6,300 square feet which will be built as an addition to the Horn Library. The proposed addition will be 2 stories tall with no below-grade space, but will be benched into the existing slopes. It is understood that the first floor of the addition will be located at approximately Elevation +196.

Site Environmental Setting, Review of MA DEP-listed Disposal Sites, Endangered Species and Surrounding Historical Places

Based on an on-line edition of the Massachusetts Geographic Information Systems MassDEP Phase I Site Assessment Map (GIS Map) viewed on October 8, 2018 the subject site is not located within the boundaries of a Sole Source Aquifer, Potentially Productive Aquifer or within a Zone II Interim Wellhead Protection Area as defined by the Massachusetts Department of Environmental Protection (MA DEP). A Zone II Interim Wellhead Protection area is located approximately 1,000 feet to the northeast of the subject site and a public water supply is located approximately 3,000 feet to the northeast of the subject site. The site is not located within the limits of the 100-year flood plain.

The GIS Map indicates that there are no water bodies or wetland areas at the subject site. The nearest named water body is Fuller Brook which is located approximately 2,900 feet to the southwest of the subject site. There are several wetlands areas located within 2,000 feet of the subject site. No areas designated as solid waste sites (landfills) are noted as being located within 1,000 feet of the site. A copy of the GIS Map is included in **Appendix C**.

Based on our review, the project site is not listed on the MA DEP on-line database of listed DEP release sites.



US EPA
11 Babson College Drive
November 8, 2018; Page 3

Based upon a review of information provided in an Information for Planning and Conservation Trust Resource Report (IPaC Report) prepared by the U.S. Fish and Wildlife Service for the subject site, the proposed discharge site is located within the territory of the Northern Long-eared Bat which is a threatened species in the northeastern portions of the United States. However, the Long-eared Bat is not a species of concern under the Endangered Species Act and the DGP, and therefore the proposed discharge is not considered likely to adversely affect the species. In addition, the IPaC Report did not identify the presence of a critical habitat in the vicinity of the discharge. Based upon the above, the site is considered a Criterion C pursuant to Appendix IV of the DGP. A copy of the IPaC Report is included in **Appendix C**.

A review of the online Massachusetts Cultural Resource Information System (MACRIS) and the National Register of Historical Places for Suffolk County in Boston, Massachusetts did not identify records or addresses of historic places that exist in the immediate vicinity of the subject site and/or outfall location. A copy of the MACRIS results are included in **Appendix C**.

Construction Site Dewatering

Groundwater was encountered within two (2) of the three (3) borings recently completed at the site at depths ranging from 12 to 15 feet below ground surface, or from approximately Elevation +185 to Elevation +188, respectively. It is likely that groundwater is perched within the relatively impervious glacial till deposit and future groundwater levels across the site may vary from those reported herein due to factors such as normal seasonal changes, runoff particularly during or following periods of heavy precipitation, and alterations of existing drainage patterns.

In order to facilitate construction of the new addition, excavation is anticipated to extend to approximately Elevation +189. It is anticipated that limited dewatering will be required to enable construction of the proposed addition, primarily following periods of precipitation. The contractor intends to recharge water collected in the excavations on-site whenever possible, but at times off-site discharge may be required in order to adequately manage the site conditions.

A review of stormwater and sewer plans provided by Babson College facilities department indicates catch basins adjacent to the site located within Babson College Drive flow to a dedicated storm drain. The storm drain system ultimately discharges to a series of drainage ditches which flow into a wetlands area. The location of the discharge locations in relation to the subject site are indicated on **Figure 2**. The flow path of the discharge is shown on **Figure 3**.



US EPA
11 Babson College Drive
November 8, 2018; Page 4

Summary of Groundwater Analysis

On May 17, 2017 a groundwater sample was obtained from a construction sump pit that was installed at the subject site. The purpose of the groundwater sample was to characterize the groundwater for off-site discharge in anticipation of construction dewatering activities.

The sample was submitted for chemical testing for the Dewatering General Permit (DGP) parameters which included chemical testing for presence of pH, hardness, cyanide, DGP Total Metals, Hexavalent Chromium (Hex-Cr), Total Suspended Solids (TSS), chloride, ammonia, and Total Residual Chlorine.

The pH level of the tested sample was slightly above the discharge limits established by the EPA. The results of the laboratory analysis did not detect the presence of the remaining constituents tested for at concentrations in excess of the applicable DGP effluent limits or in excess of the applicable Massachusetts Department of Environmental Protection (MA DEP) RCGW-2 reporting standards. Furthermore, the results of the chemical testing were not detected above the applicable laboratory reporting limits. A summary of the chemical test results is provided in **Table 1** and chemical test data is included in **Appendix D**.

Groundwater Treatment

Based on the results of the above referenced groundwater analyses, it is recommended that a 5,000-gallon capacity settling tank be utilized to settle out suspended particulates in the discharge during construction dewatering to meet applicable effluent limits established by the US EPA prior to off-site discharge. A schematic of the treatment system is shown on **Figure 4**.

Pending the results of the initial discharge compliance testing, additives may also need to be utilized to reduce the pH of the dewatering effluent to within the limits established by the EPA.

Summary and Conclusions

The purpose of this report is to assess site environmental conditions and groundwater data to support an application for a Massachusetts Dewatering General Permit (DGP) for off-site discharge of dewatered groundwater which will be encountered during redevelopment of the project site located at 11 Babson College Drive in Babson Park, Massachusetts.

Based on the results of the above referenced groundwater analyses, it is recommended that treatment of construction dewatering consisting of one 5,000-gallon capacity settling tank be utilized to meet the applicable discharge limits of TSS. However, should the effluent monitoring results indicate levels of TSS in excess of the limits established in the Massachusetts DGP, additional mitigative measures will be implemented to meet the



US EPA
11 Babson College Drive
November 8, 2018; Page 5

allowable discharge limits. Additional mitigative measures will also be implemented if needed to meet the required discharge limits for pH.

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

Very truly yours,

McPHAIL ASSOCIATES, LLC

A handwritten signature in blue ink that reads "Benjamin Downing". The signature is written in a cursive, flowing style.

Benjamin E. Downing, P.E.

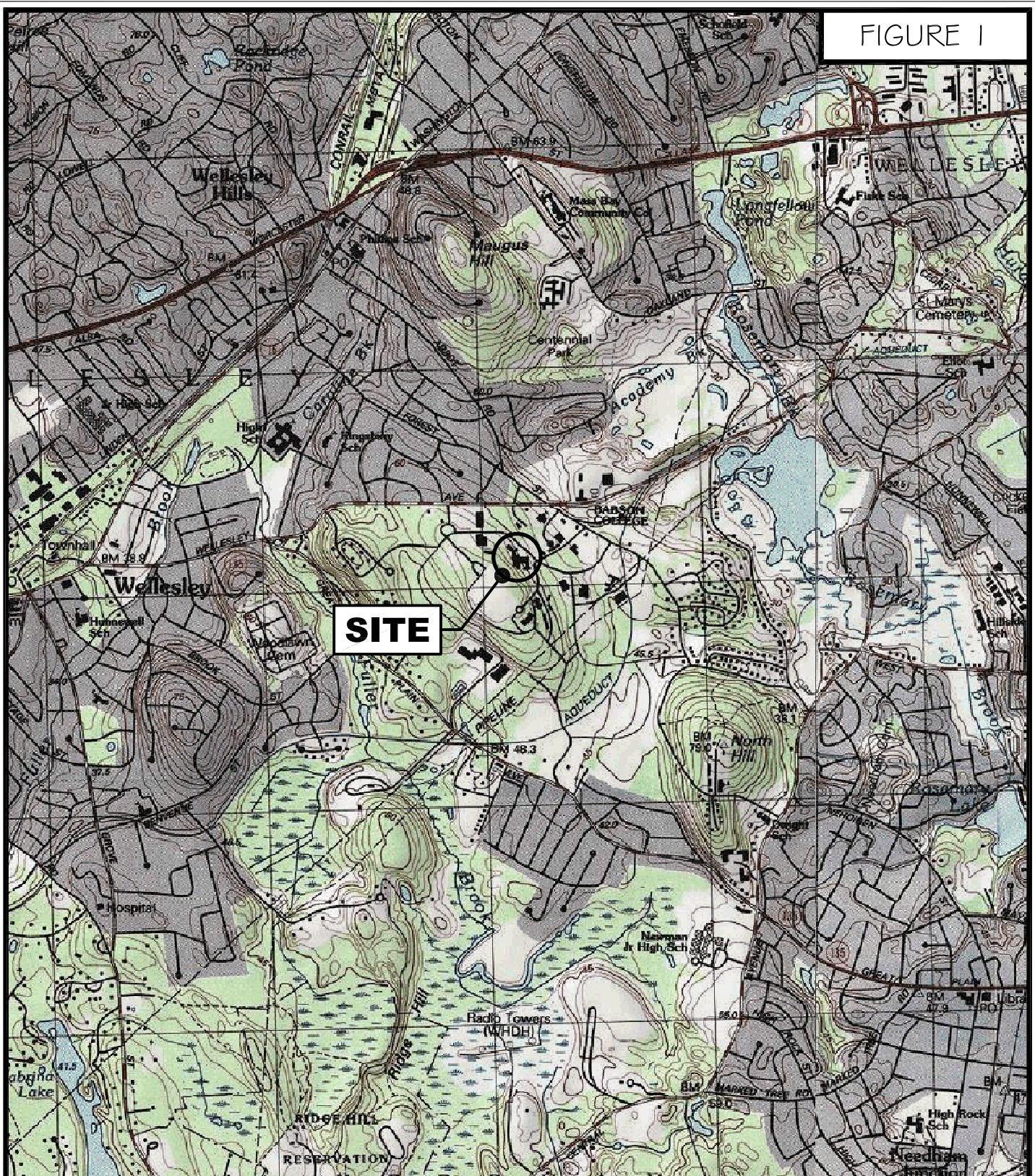
A handwritten signature in blue ink that reads "Peter J. DeChaves". The signature is written in a cursive, flowing style.

Peter J. DeChaves, L.S.P.

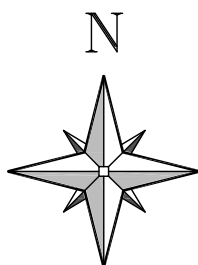
BED/pjd

N:\Working Documents\Reports\6434_DGP_110818.docx

FIGURE 1



Geotechnical and
Geoenvironmental Engineers
2269 Massachusetts Avenue
Cambridge, MA 02140
617/868-1420
617/868-1423 (Fax)
www.mcphailgeo.com



SCALE 1:25,000

PROJECT LOCATION PLAN

BABSON COLLEGE
HORN COLLIDER PROJECT

BABSON PARK

MASSACHUSETTS

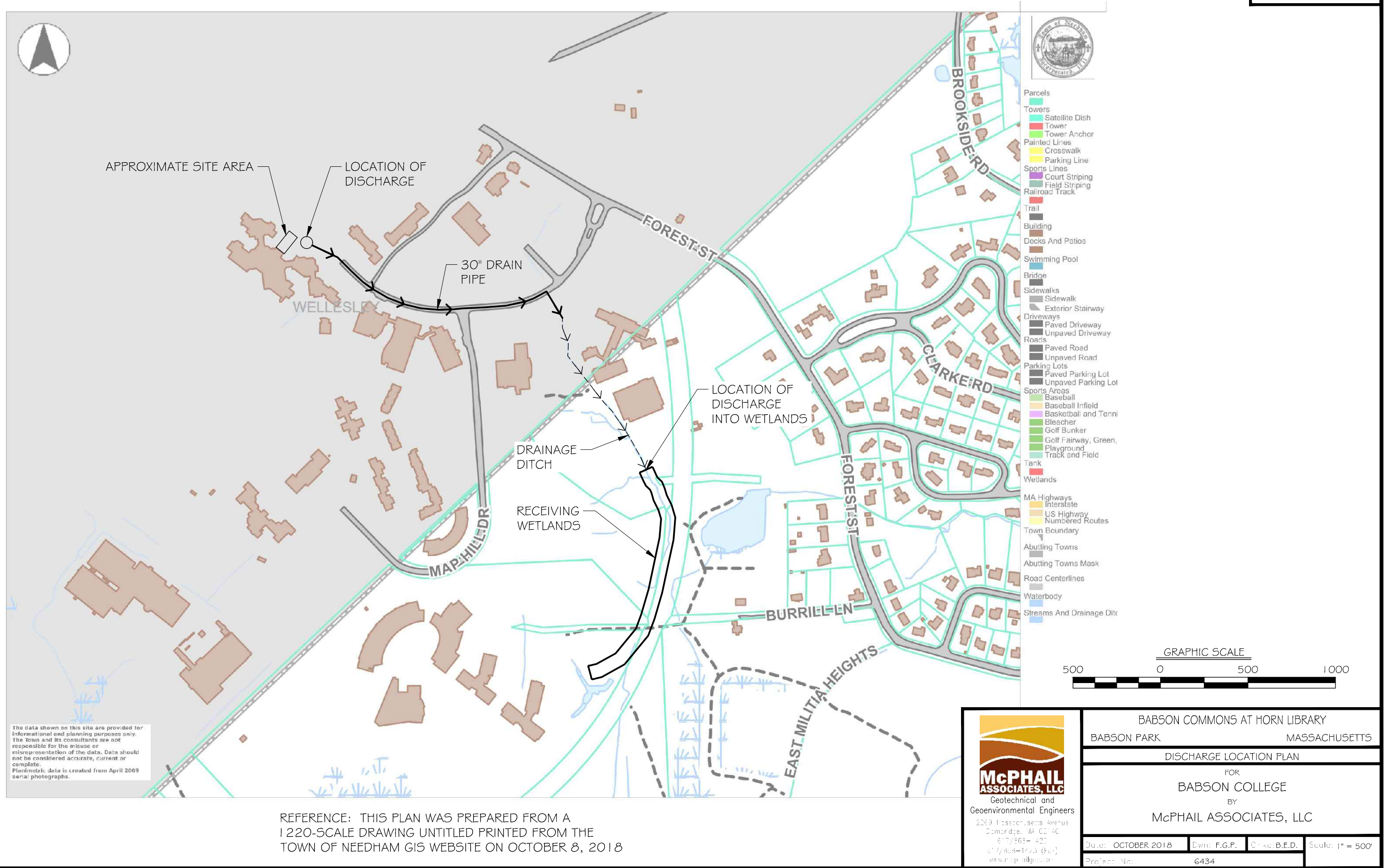
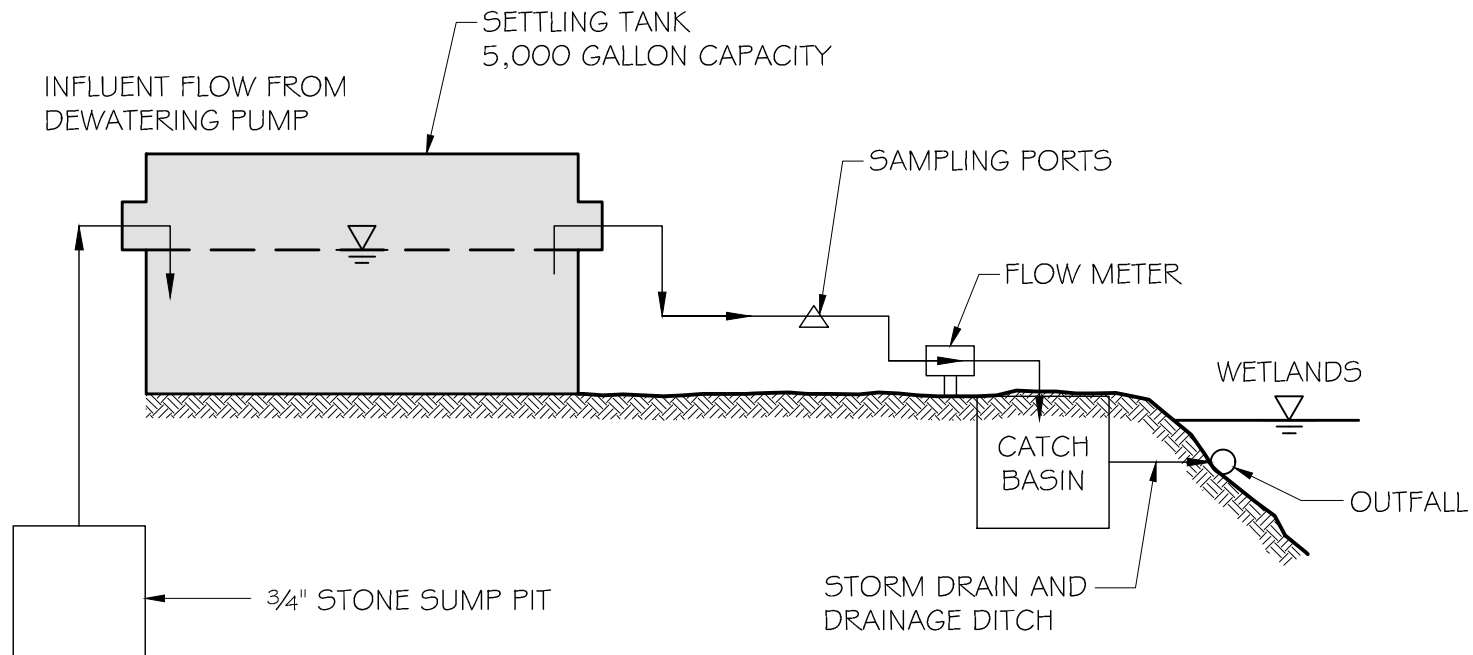


FIGURE 4



Geotechnical and
Geoenvironmental Engineers
2269 Massachusetts Avenue
Cambridge, MA 02140
617/868-1420
617/868-1423 (Fax)
www.mcphailgeo.com

BABSON COMMONS AT HORN LIBRARY

BABSON PARK

MASSACHUSETTS

SCHEMATIC OF TREATMENT SYSTEM

FOR

BABSON COLLEGE

BY

McPHAIL ASSOCIATES, LLC

CONSULTING GEOTECHNICAL ENGINEERS

Date: OCTOBER 2018

Dwn: F.G.P.

Chkd: B.E.D.

Scale: N.T.S.

Project No:

6434

TABLE 1
LABORATORY ANALYTICAL RESULTS - GROUNDWATER

11 Babson College Drive
Babson Park, Massachusetts
Project No. 6434

LOCATION	EPA DGP	Massachusetts	SUMP PIT
SAMPLING DATE	Discharge	RCGW-2	9/19/2018
LAB SAMPLE ID	Limiatations	Reporting Thresholds	L1837707-01
General Chemistry (ug/l)			
Chloride			317000
Solids, Total Suspended	50000		ND(5000)
Cyanide, Total		30	ND(5)
Chlorine, Total Residual			ND(20)
pH (H)	6.5-8.3		8.7
Nitrogen, Ammonia			ND(75)
Hardness			144000
Total Metals (ug/l)			
Antimony, Total		8000	ND(4)
Arsenic, Total		900	2.01
Cadmium, Total		4	ND(0.2)
Chromium, Total		300	37.18
Chromium, Trivalent		600	ND(10)
Chromium, Hexavalent		300	37
Copper, Total		100000	2.56
Iron, Total			376
Lead, Total		10	ND(1)
Mercury, Total		20	ND(0.2)
Nickel, Total		200	ND(2)
Selenium, Total		100	ND(5)
Silver, Total		7	ND(0.4)
Zinc, Total		900	ND(10)

ND - Not detected in excess of the reporting limit
(#) - Detection limit

McPhail Associates, LLC

N:\Working Documents\Jobs\6434\DGP Permit\
6434 Table 1 GW Data 092718.xls
Page 1 of 1
Printed: 10/15/2018



APPENDIX A:

LIMITATIONS



LIMITATIONS

The purpose of this report is to present a summary of environmental conditions, including the results of testing of a groundwater sample obtained from a construction sump pit on the property located at 11 Babson College Drive in Babson, Massachusetts in support of an application for approval of temporary construction dewatering discharge of groundwater into surface waters of the Commonwealth of Massachusetts under EPA's Massachusetts Dewatering General Permit MAG070000.

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

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

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

This report and application have been prepared on behalf of and for the exclusive use of Babson College. This report and the findings contained herein shall not, in whole or in part, be disseminated or conveyed to any other party, other than submission to relevant governmental agencies, nor used in whole or in part by any other party without the prior written consent of McPhail Associates, LLC.



APPENDIX B:

NOTICE OF INTENT TRANSMITTAL FORMS

NPDES DEWATERING GENERAL PERMIT

II. Suggested Notice of Intent (NOI) Format

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

a) Name of facility: Babson Commons at Horn Library		Mailing Address for the Facility: Babson College 231 Forest Street Babson Park, MA 02457	
b) Location Address of the Facility (if different from mailing address): 11 Babson College Drive Babson Park, MA 02457		Facility Location longitude: <u>-71.265954</u> latitude: <u>42.298151</u>	Type of Business: Construction Site Facility SIC codes:
c) Name of facility owner: <u>Babson College</u> Owner's email: <u>vmathes@babon.edu</u> Owner's Tel #: <u>(781) 239-5846</u> Owner's Fax #: _____ Address of owner (if different from facility address) Same as mailing address Owner is (check one): 1. Federal _____ 2. State _____ 3. Private <input checked="" type="checkbox"/> 4. Other _____ (Describe) _____			
Legal name of Operator, if not owner: <u>Lee Kennedy Co., Inc.</u> Operator Contact Name: <u>Paul Leonard</u> Operator Tel Number: <u>(617) 825-6930</u> Fax Number: _____ Operator's email: <u>pleonard@leekennedy.com</u> Operator Address (if different from owner) 122 Quincy Shore Drive; Quincy, MA 02171			
d) Attach a topographic map indicating the location of the facility and the outfall(s) to the receiving water. Map attached? <input checked="" type="checkbox"/>			
e) Check Yes or No for the following: 1. Has a prior NPDES permit been granted for the discharge? Yes _____ No <input checked="" type="checkbox"/> If Yes, Permit Number: _____ 2. Is the discharge a "new discharger" as defined by 40 CFR Section 122.2? Yes _____ No <input checked="" type="checkbox"/> 3. Is the facility covered by an individual NPDES permit? Yes _____ No <input checked="" type="checkbox"/> If Yes, Permit Number _____ 4. Is there a pending application on file with EPA for this discharge? Yes _____ No <input checked="" type="checkbox"/> 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: unnamed wetland area

State Water Quality Classification: No official designation - Assume Class A Freshwater: Yes Marine Water: No

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 10,000 GPD
Average Monthly Flow 1,000 GPD

e.) What is the maximum and minimum monthly pH of the discharge (in s.u.)? Max pH 8.3 Min pH 6.5

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 and surface water (see attached report)

g.) What treatment does the wastewater receive prior to discharge? Settling tank to remove sediment

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) periodic

If (P), number of days or months per year of the discharge varies and the specific months of discharge typically following rainfall events ;

If (I), number of days/year there is a discharge _____

Is the discharge temporary? Yes ✓ No _____

If yes, approximate start date of dewatering November 2018 approximate end date of dewatering May 2019

i.) Latitude and longitude of each discharge within 100 feet (See http://www.epa.gov/tri/report/siting_tool): Outfall 1: long. -71.260074 lat. 42.295149 ; 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 _____ cfs

(See Appendix VIII for equations and additional information)

<p>MASSACHUSETTS FACILITIES: See Section 3.4 and Appendix 1 of the General Permit for more information on Areas of Critical Environmental Concern (ACEC):</p> <p>k.) Does the discharge occur in an ACEC? Yes _____ No <u>✓</u></p> <p>If yes, provide the name of the ACEC: _____</p>

3. Contaminant Information

<p>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 LC₅₀ in percent for aquatic organism(s)). Not planned at this time</p> <p>b) Please report any known remediation activities or water-quality issues in the vicinity of the discharge.</p>

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

<p>a) Which of the three eligibility criteria listed in Appendix IV, Criterion (A, B, or C) have you met? <u>c</u> _____</p> <p>b) Please attach documentation with your NOI supporting your response. Please see Appendix IV for acceptable documentation</p>
--

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

<p>a) See Screening Process in Appendix III and respond to questions regarding your site and any historic properties listed or eligible for listing on the National Register of Historic Places. Question 1: Yes _____ No <u>✓</u> ; Question 2: No <u>✓</u> Yes _____ See attached report.</p> <p>b) Have any State or Tribal historic preservation officers been consulted in this determination? Yes _____ or No <u>✓</u> If yes, attach the results of the consultation(s).</p> <p>c) Which of the three National Historic Preservation Act eligibility criterion listed in Appendix III, Criterion (A, B, or C) have you met? <u>B</u> _____</p> <p>d) Is the project located on property of religious or cultural significance to an Indian Tribe? Yes _____ or No <u>✓</u> If yes, provide that name of the Indian Tribe associated with the property. _____</p>

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: 11 Babson College Drive; Babson Park, MA

Operator signature:

Print Full Name and Title:

Paul M. Leonard - Project Executive

Date:

11/7/18

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 C:

**MASSACHUSETTS PHASE I SITE ASSESSMENT GIS MAP,
IPAC TRUST RESOURCE REPORT,
AND MACRIS REPORT**

MassDEP - Bureau of Waste Site Cleanup

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

Site Information:

BABSON COMMONS
11 BABSON COLLEGE DRIVE WELLESLEY, MA

NAD83 UTM Meters:

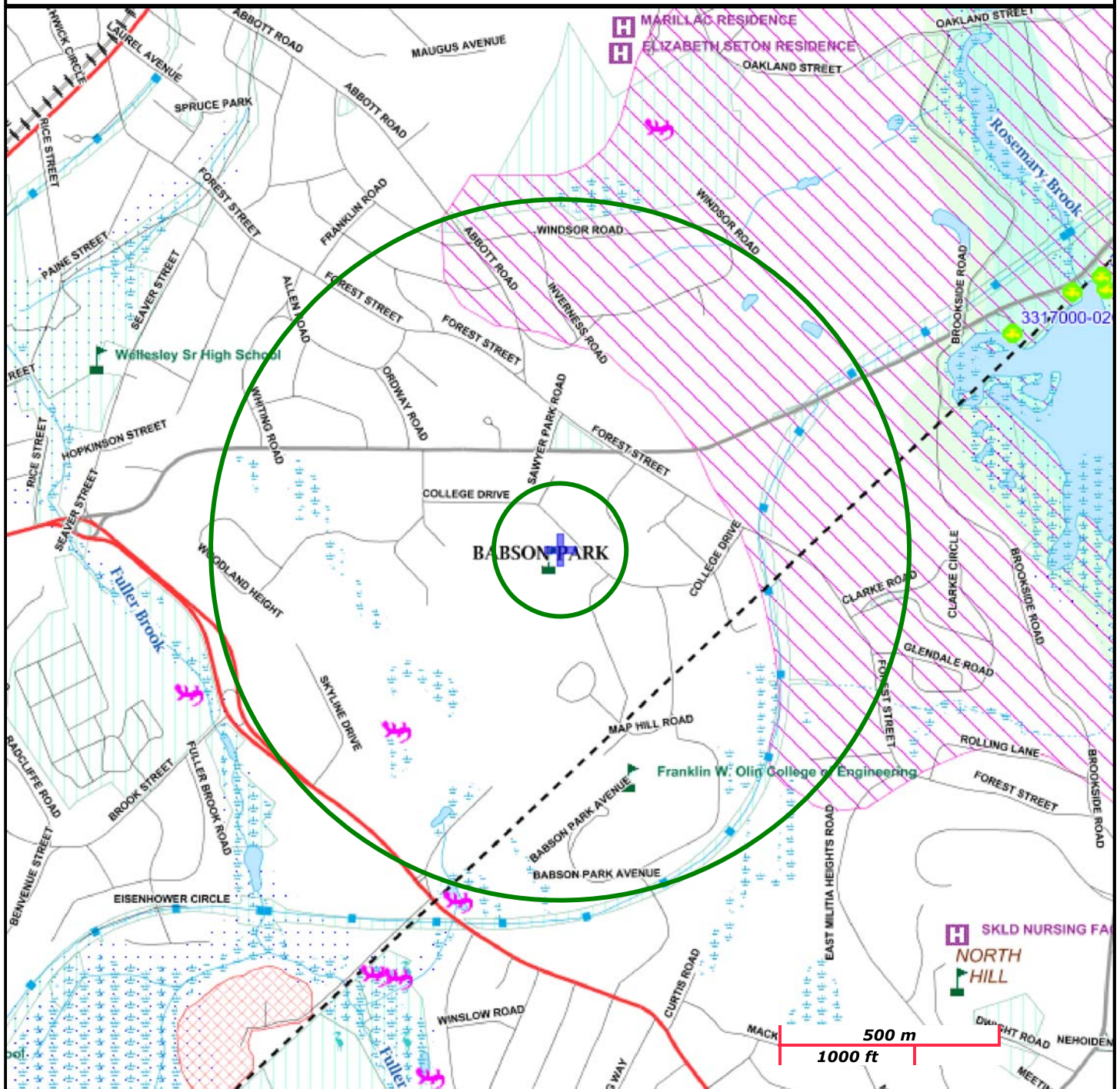
4685367mN, 313214mE (Zone: 19)
October 8, 2018

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.



United States Department of the Interior

FISH AND WILDLIFE SERVICE
New England Ecological Services Field Office
70 Commercial Street, Suite 300
Concord, NH 03301-5094
Phone: (603) 223-2541 Fax: (603) 223-0104
<http://www.fws.gov/newengland>



In Reply Refer To:
Consultation Code: 05E1NE00-2019-SLI-0051
Event Code: 05E1NE00-2019-E-00108
Project Name: Babson Commons at Horn Library

October 08, 2018

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

<http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF>

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (<http://www.fws.gov/windenergy/>) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm>; <http://www.towerkill.com>; and <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html>.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
-

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

New England Ecological Services Field Office
70 Commercial Street, Suite 300
Concord, NH 03301-5094
(603) 223-2541

Project Summary

Consultation Code: 05E1NE00-2019-SLI-0051

Event Code: 05E1NE00-2019-E-00108

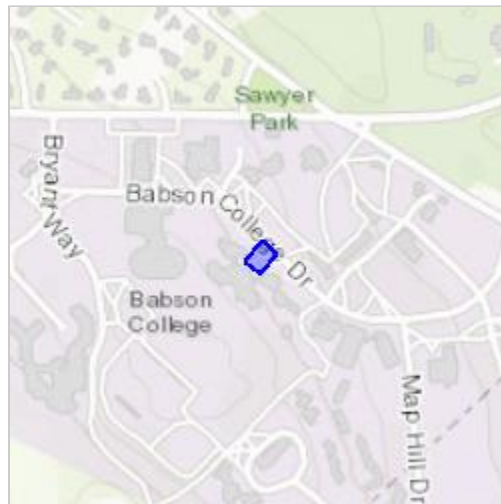
Project Name: Babson Commons at Horn Library

Project Type: DEVELOPMENT

Project Description: Addition to existing library

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/place/42.29822851570733N71.2657672592836W>



Counties: Norfolk, MA

Endangered Species Act Species

There is a total of 1 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

-
1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
Northern Long-eared Bat <i>Myotis septentrionalis</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Threatened

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

Massachusetts Cultural Resource Information System

MACRIS

[MHC Home](#) | [MACRIS Home](#)

Results

[Get Results in Report Format](#)

PDF



Spreadsheet

Below are the results of your search, using the following search criteria:

Town(s): Wellesley

Place: Babson Park

Street Name: Babson College Dr

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](#)



APPENDIX D:
LABORATORY ANALYTICAL DATA



ANALYTICAL REPORT

Lab Number:	L1837707
Client:	McPhail Associates 2269 Massachusetts Avenue Cambridge, MA 02140
ATTN:	Ambrose Donovan
Phone:	(617) 868-1420
Project Name:	BABSON HORN COMMONS
Project Number:	6434.9.01
Report Date:	09/26/18

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

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

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



Project Name: BABSON HORN COMMONS
Project Number: 6434.9.01

Lab Number: L1837707
Report Date: 09/26/18

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1837707-01	SUMP PIT	WATER	BABSON PARK, MA	09/19/18 15:20	09/20/18

Project Name: BABSON HORN COMMONS
Project Number: 6434.9.01

Lab Number: L1837707
Report Date: 09/26/18

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.

Project Name: BABSON HORN COMMONS
Project Number: 6434.9.01

Lab Number: L1837707
Report Date: 09/26/18

Case Narrative (continued)

Sample Receipt

The analyses of Hexavalent Chromium and Total Residual Chlorine were received with the method required holding times exceeded.

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:



Kelly Stenstrom

Title: Technical Director/Representative

Date: 09/26/18

METALS

Project Name: BABSON HORN COMMONS**Lab Number:** L1837707**Project Number:** 6434.9.01**Report Date:** 09/26/18**SAMPLE RESULTS**

Lab ID: L1837707-01

Date Collected: 09/19/18 15:20

Client ID: SUMP PIT

Date Received: 09/20/18

Sample Location: BABSON PARK, MA

Field Prep: Not Specified

Sample Depth:

Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Antimony, Total	ND		mg/l	0.00400	--	1	09/24/18 13:05	09/25/18 16:53	EPA 3005A	3,200.8	AM
Arsenic, Total	0.00201		mg/l	0.00100	--	1	09/24/18 13:05	09/25/18 16:53	EPA 3005A	3,200.8	AM
Cadmium, Total	ND		mg/l	0.00020	--	1	09/24/18 13:05	09/25/18 16:53	EPA 3005A	3,200.8	AM
Chromium, Total	0.03718		mg/l	0.00100	--	1	09/24/18 13:05	09/25/18 16:53	EPA 3005A	3,200.8	AM
Copper, Total	0.00256		mg/l	0.00100	--	1	09/24/18 13:05	09/25/18 16:53	EPA 3005A	3,200.8	AM
Iron, Total	0.376		mg/l	0.050	--	1	09/24/18 13:05	09/25/18 20:53	EPA 3005A	19,200.7	AB
Lead, Total	ND		mg/l	0.00100	--	1	09/24/18 13:05	09/25/18 16:53	EPA 3005A	3,200.8	AM
Mercury, Total	ND		mg/l	0.00020	--	1	09/24/18 16:17	09/25/18 18:41	EPA 245.1	3,245.1	MG
Nickel, Total	ND		mg/l	0.00200	--	1	09/24/18 13:05	09/25/18 16:53	EPA 3005A	3,200.8	AM
Selenium, Total	ND		mg/l	0.00500	--	1	09/24/18 13:05	09/25/18 16:53	EPA 3005A	3,200.8	AM
Silver, Total	ND		mg/l	0.00040	--	1	09/24/18 13:05	09/25/18 16:53	EPA 3005A	3,200.8	AM
Zinc, Total	ND		mg/l	0.01000	--	1	09/24/18 13:05	09/25/18 16:53	EPA 3005A	3,200.8	AM
Total Hardness by SM 2340B - Mansfield Lab											
Hardness	144		mg/l	0.660	NA	1	09/24/18 13:05	09/25/18 20:53	EPA 3005A	19,200.7	AB

General Chemistry - Mansfield Lab

Chromium, Trivalent	ND		mg/l	0.010	--	1		09/25/18 16:53	NA	107,-	
---------------------	----	--	------	-------	----	---	--	----------------	----	-------	--



Project Name: BABSON HORN COMMONS

Lab Number: L1837707

Project Number: 6434.9.01

Report Date: 09/26/18

Method Blank Analysis Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01 Batch: WG1159398-1										
Mercury, Total	ND		mg/l	0.00020	--	1	09/24/18 16:17	09/25/18 17:53	3,245.1	MG

Prep Information

Digestion Method: EPA 245.1

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01 Batch: WG1160190-1										
Iron, Total	ND		mg/l	0.050	--	1	09/24/18 13:05	09/25/18 19:27	19,200.7	AB

Prep Information

Digestion Method: EPA 3005A

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Hardness by SM 2340B - Mansfield Lab for sample(s): 01 Batch: WG1160190-1										
Hardness	ND		mg/l	0.660	NA	1	09/24/18 13:05	09/25/18 19:27	19,200.7	AB

Prep Information

Digestion Method: EPA 3005A

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01 Batch: WG1160191-1										
Antimony, Total	ND		mg/l	0.00400	--	1	09/24/18 13:05	09/25/18 13:30	3,200.8	AM
Arsenic, Total	ND		mg/l	0.00100	--	1	09/24/18 13:05	09/25/18 13:30	3,200.8	AM
Cadmium, Total	ND		mg/l	0.00020	--	1	09/24/18 13:05	09/25/18 13:30	3,200.8	AM
Chromium, Total	ND		mg/l	0.00100	--	1	09/24/18 13:05	09/25/18 13:30	3,200.8	AM
Copper, Total	ND		mg/l	0.00100	--	1	09/24/18 13:05	09/25/18 13:30	3,200.8	AM
Lead, Total	ND		mg/l	0.00100	--	1	09/24/18 13:05	09/25/18 13:30	3,200.8	AM



Project Name: BABSON HORN COMMONS**Lab Number:** L1837707**Project Number:** 6434.9.01**Report Date:** 09/26/18

Method Blank Analysis Batch Quality Control

Nickel, Total	ND	mg/l	0.00200	--	1	09/24/18 13:05	09/25/18 13:30	3,200.8	AM
Selenium, Total	ND	mg/l	0.00500	--	1	09/24/18 13:05	09/25/18 13:30	3,200.8	AM
Silver, Total	ND	mg/l	0.00040	--	1	09/24/18 13:05	09/25/18 13:30	3,200.8	AM
Zinc, Total	ND	mg/l	0.01000	--	1	09/24/18 13:05	09/25/18 13:30	3,200.8	AM

Prep Information

Digestion Method: EPA 3005A

Lab Control Sample Analysis

Batch Quality Control

Project Name: BABSON HORN COMMONS

Project Number: 6434.9.01

Lab Number: L1837707

Report Date: 09/26/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1159398-2								
Mercury, Total	96		-		85-115	-		
Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1160190-2								
Iron, Total	104		-		85-115	-		
Total Hardness by SM 2340B - Mansfield Lab Associated sample(s): 01 Batch: WG1160190-2								
Hardness	107		-		85-115	-		
Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1160191-2								
Antimony, Total	100		-		85-115	-		
Arsenic, Total	97		-		85-115	-		
Cadmium, Total	109		-		85-115	-		
Chromium, Total	99		-		85-115	-		
Copper, Total	98		-		85-115	-		
Lead, Total	98		-		85-115	-		
Nickel, Total	101		-		85-115	-		
Selenium, Total	111		-		85-115	-		
Silver, Total	106		-		85-115	-		
Zinc, Total	110		-		85-115	-		

Matrix Spike Analysis

Batch Quality Control

Project Name: BABSON HORN COMMONS
Project Number: 6434.9.01

Lab Number: L1837707
Report Date: 09/26/18

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1159398-3 QC Sample: L1837617-01 Client ID: MS Sample												
Mercury, Total	ND	0.005	0.00381	76		-	-		70-130	-		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1159398-5 QC Sample: L1837617-02 Client ID: MS Sample												
Mercury, Total	ND	0.005	0.00408	82		-	-		70-130	-		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1160190-3 QC Sample: L1837514-01 Client ID: MS Sample												
Iron, Total	1.05	1	2.04	99		-	-		75-125	-		20
Total Hardness by SM 2340B - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1160190-3 QC Sample: L1837514-01 Client ID: MS Sample												
Hardness	273	66.2	334	92		-	-		75-125	-		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1160191-3 QC Sample: L1837514-01 Client ID: MS Sample												
Antimony, Total	ND	0.5	0.5534	111		-	-		70-130	-		20
Arsenic, Total	0.00416	0.12	0.1299	105		-	-		70-130	-		20
Cadmium, Total	ND	0.051	0.05269	103		-	-		70-130	-		20
Chromium, Total	0.02860	0.2	0.2260	99		-	-		70-130	-		20
Copper, Total	0.02492	0.25	0.2651	96		-	-		70-130	-		20
Lead, Total	0.00311	0.51	0.5271	103		-	-		70-130	-		20
Nickel, Total	0.00760	0.5	0.5108	101		-	-		70-130	-		20
Selenium, Total	ND	0.12	0.1336	111		-	-		70-130	-		20
Silver, Total	ND	0.05	0.05588	112		-	-		70-130	-		20
Zinc, Total	0.01569	0.5	0.5487	107		-	-		70-130	-		20

Matrix Spike Analysis Batch Quality Control

Project Name: BABSON HORN COMMONS
Project Number: 6434.9.01

Lab Number: L1837707
Report Date: 09/26/18

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	MSD Found	MSD %Recovery	Recovery Limits	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1160191-5 QC Sample: L1837514-02 Client ID: MS Sample									
Antimony, Total	ND	0.5	0.5008	100	-	-	70-130	-	20
Arsenic, Total	0.00124	0.12	0.1293	107	-	-	70-130	-	20
Cadmium, Total	ND	0.051	0.05382	106	-	-	70-130	-	20
Chromium, Total	0.00159	0.2	0.2006	100	-	-	70-130	-	20
Copper, Total	0.00704	0.25	0.2538	99	-	-	70-130	-	20
Lead, Total	ND	0.51	0.5341	105	-	-	70-130	-	20
Nickel, Total	ND	0.5	0.5178	104	-	-	70-130	-	20
Selenium, Total	ND	0.12	0.1330	111	-	-	70-130	-	20
Silver, Total	ND	0.05	0.05519	110	-	-	70-130	-	20
Zinc, Total	ND	0.5	0.5343	107	-	-	70-130	-	20

Lab Duplicate Analysis

Batch Quality Control

Project Name: BABSON HORN COMMONS

Project Number: 6434.9.01

Lab Number: L1837707

Report Date: 09/26/18

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1159398-4 QC Sample: L1837617-01 Client ID: DUP Sample						
Mercury, Total	ND	ND	mg/l	NC		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1159398-6 QC Sample: L1837617-02 Client ID: DUP Sample						
Mercury, Total	ND	ND	mg/l	NC		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1160190-4 QC Sample: L1837514-01 Client ID: DUP Sample						
Iron, Total	1.05	1.06	mg/l	1		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1160191-4 QC Sample: L1837514-01 Client ID: DUP Sample						
Antimony, Total	ND	ND	mg/l	NC		20
Arsenic, Total	0.00416	0.00421	mg/l	1		20
Cadmium, Total	ND	ND	mg/l	NC		20
Chromium, Total	0.02860	0.02943	mg/l	3		20
Copper, Total	0.02492	0.02522	mg/l	1		20
Lead, Total	0.00311	0.00316	mg/l	2		20
Nickel, Total	0.00760	0.00776	mg/l	2		20
Selenium, Total	ND	ND	mg/l	NC		20
Silver, Total	ND	ND	mg/l	NC		20
Zinc, Total	0.01569	0.01673	mg/l	6		20

Lab Duplicate Analysis

Batch Quality Control

Project Name: BABSON HORN COMMONS

Project Number: 6434.9.01

Lab Number: L1837707

Report Date: 09/26/18

Parameter	Native Sample	Duplicate Sample	Units	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1160191-6 QC Sample: L1837514-02 Client ID: DUP Sample					
Antimony, Total	ND	ND	mg/l	NC	20
Arsenic, Total	0.00124	0.00135	mg/l	8	20
Cadmium, Total	ND	ND	mg/l	NC	20
Chromium, Total	0.00159	0.00155	mg/l	2	20
Copper, Total	0.00704	0.00699	mg/l	1	20
Lead, Total	ND	ND	mg/l	NC	20
Nickel, Total	ND	ND	mg/l	NC	20
Selenium, Total	ND	ND	mg/l	NC	20
Silver, Total	ND	ND	mg/l	NC	20
Zinc, Total	ND	ND	mg/l	NC	20

INORGANICS & MISCELLANEOUS

Project Name: BABSON HORN COMMONS

Project Number: 6434.9.01

Lab Number: L1837707

Report Date: 09/26/18

SAMPLE RESULTS

Lab ID: L1837707-01

Client ID: SUMP PIT

Sample Location: BABSON PARK, MA

Date Collected: 09/19/18 15:20

Date Received: 09/20/18

Field Prep: Not Specified

Sample Depth:

Matrix: Water

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	-	09/21/18 13:25	121,2540D	DR
Cyanide, Total	ND		mg/l	0.005	--	1	09/21/18 10:20	09/21/18 13:33	121,4500CN-CE	LH
Chlorine, Total Residual	ND		mg/l	0.02	--	1	-	09/21/18 07:05	121,4500CL-D	MA
pH (H)	8.7		SU	-	NA	1	-	09/21/18 08:40	121,4500H+-B	GD
Nitrogen, Ammonia	ND		mg/l	0.075	--	1	09/21/18 14:00	09/21/18 21:50	121,4500NH3-BH	AT
Chromium, Hexavalent	0.037		mg/l	0.010	--	1	09/21/18 05:00	09/21/18 07:28	1,7196A	GD
Anions by Ion Chromatography - Westborough Lab										
Chloride	317.		mg/l	25.0	--	50	-	09/21/18 18:46	44,300.0	JR



Project Name: BABSON HORN COMMONS**Lab Number:** L1837707**Project Number:** 6434.9.01**Report Date:** 09/26/18

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: WG1159236-1										
Chromium, Hexavalent	ND		mg/l	0.010	--	1	09/21/18 05:00	09/21/18 07:07	1,7196A	GD
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1159304-1										
Nitrogen, Ammonia	ND		mg/l	0.075	--	1	09/21/18 14:00	09/21/18 21:30	121,4500NH3-BH	AT
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1159327-1										
Cyanide, Total	ND		mg/l	0.005	--	1	09/21/18 10:20	09/21/18 13:11	121,4500CN-CE	LH
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1159330-1										
Solids, Total Suspended	ND		mg/l	5.0	NA	1	-	09/21/18 13:25	121,2540D	DR
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1159340-1										
Chlorine, Total Residual	ND		mg/l	0.02	--	1	-	09/21/18 07:05	121,4500CL-D	MA
Anions by Ion Chromatography - Westborough Lab for sample(s): 01 Batch: WG1159778-1										
Chloride	ND		mg/l	0.500	--	1	-	09/21/18 17:58	44,300.0	JR

Lab Control Sample Analysis

Batch Quality Control

Project Name: BABSON HORN COMMONS

Project Number: 6434.9.01

Lab Number: L1837707

Report Date: 09/26/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1159155-1								
pH	100		-		99-101	-		5
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1159236-2								
Chromium, Hexavalent	92		-		85-115	-		20
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1159304-2								
Nitrogen, Ammonia	102		-		80-120	-		20
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1159327-2								
Cyanide, Total	103		-		90-110	-		
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1159340-2								
Chlorine, Total Residual	93		-		90-110	-		
Anions by Ion Chromatography - Westborough Lab Associated sample(s): 01 Batch: WG1159778-2								
Chloride	105		-		90-110	-		

Matrix Spike Analysis

Batch Quality Control

Project Name: BABSON HORN COMMONS
Project Number: 6434.9.01

Lab Number: L1837707
Report Date: 09/26/18

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: WG1159236-4 QC Sample: L1837707-01 Client ID: SUMP PIT												
Chromium, Hexavalent	0.037	0.1	0.130	93		-	-		85-115	-		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1159304-4 QC Sample: L1837514-02 Client ID: MS Sample												
Nitrogen, Ammonia	0.322	4	4.07	94		-	-		80-120	-		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1159327-4 QC Sample: L1837514-02 Client ID: MS Sample												
Cyanide, Total	ND	0.2	0.201	100		-	-		90-110	-		30
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1159340-4 QC Sample: L1837491-02 Client ID: MS Sample												
Chlorine, Total Residual	2.7	2.48	4.3	65	Q	-	-		80-120	-		20
Anions by Ion Chromatography - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1159778-3 QC Sample: L1837423-02 Client ID: MS Sample												
Chloride	322	100	450	129	Q	-	-		90-110	-		18

Lab Duplicate Analysis

Batch Quality Control

Project Name: BABSON HORN COMMONS

Project Number: 6434.9.01

Lab Number: L1837707

Report Date: 09/26/18

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1159155-2 QC Sample: L1837515-01 Client ID: DUP Sample						
pH	6.9	6.9	SU	0		5
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1159236-3 QC Sample: L1837707-01 Client ID: SUMP PIT						
Chromium, Hexavalent	0.037	0.037	mg/l	0		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1159304-3 QC Sample: L1837514-02 Client ID: DUP Sample						
Nitrogen, Ammonia	0.322	0.350	mg/l	8		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1159327-3 QC Sample: L1837514-01 Client ID: DUP Sample						
Cyanide, Total	ND	ND	mg/l	NC		30
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1159330-2 QC Sample: L1837374-01 Client ID: DUP Sample						
Solids, Total Suspended	33	25	mg/l	28		29
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1159340-3 QC Sample: L1837491-01 Client ID: DUP Sample						
Chlorine, Total Residual	2.5	2.7	mg/l	8		20
Anions by Ion Chromatography - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1159778-4 QC Sample: L1837423-02 Client ID: DUP Sample						
Chloride	322	324	mg/l	1		18

Project Name: BABSON HORN COMMONS**Lab Number:** L1837707**Project Number:** 6434.9.01**Report Date:** 09/26/18**Sample Receipt and Container Information**

Were project specific reporting limits specified?

YES

Cooler Information**Cooler** **Custody Seal**

A Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1837707-01A	Plastic 250ml NaOH preserved	A	>12	>12	2.3	Y	Absent		TCN-4500(14)
L1837707-01B	Plastic 250ml HNO3 preserved	A	<2	<2	2.3	Y	Absent		CD-2008T(180),NI-2008T(180),ZN-2008T(180),CU-2008T(180),FE-UI(180),HARDU(180),AG-2008T(180),AS-2008T(180),HG-U(28),SE-2008T(180),CR-2008T(180),PB-2008T(180),SB-2008T(180)
L1837707-01C	Plastic 500ml H2SO4 preserved	A	<2	<2	2.3	Y	Absent		NH3-4500(28)
L1837707-01D	Plastic 950ml unpreserved	A	7	7	2.3	Y	Absent		CL-300(28),HEXCR-7196(1),TRC-4500(1),PH-4500(.01)
L1837707-01E	Plastic 950ml unpreserved	A	7	7	2.3	Y	Absent		TSS-2540(7)

Project Name: BABSON HORN COMMONS
Project Number: 6434.9.01

Lab Number: L1837707
Report Date: 09/26/18

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).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
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.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
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.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
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

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.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

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.

Report Format: Data Usability Report



Project Name: BABSON HORN COMMONS
Project Number: 6434.9.01

Lab Number: L1837707
Report Date: 09/26/18

Data Qualifiers

- A** - Spectra identified as "Aldol Condensation Product".
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- S** - Analytical results are from modified screening analysis.
- J** - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- ND** - Not detected at the reporting limit (RL) for the sample.

Project Name: BABSON HORN COMMONS
Project Number: 6434.9.01

Lab Number: L1837707
Report Date: 09/26/18

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.
- 107 Alpha Analytical - In-house calculation method.
- 121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

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 624: m/p-xylene, o-xylene

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

EPA 8270D: NPW: Dimethylnaphthalene, 1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene, 1,4-Diphenylhydrazine.

EPA 300: DW: Bromide

EPA 6860: SCM: Perchlorate

EPA 9010: NPW and SCM: Amenable Cyanide Distillation

SM4500: NPW: Amenable Cyanide, Dissolved Oxygen; SCM: Total Phosphorus, TKN, NO₂, NO₃.

Mansfield Facility

SM 2540D: TSS

EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.

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.

Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water

EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE,**

EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B

EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.

Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, SM9222D.**

Non-Potable Water

SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1:**

Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2:** Nitrate-N, **EPA 351.1, SM4500P-E, SM4500P-B, E,**

SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, 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, SM9221E, SM9222D.**

Mansfield Facility:

Drinking Water

EPA 200.7: Al, Ba, Be, Cd, Cr, Cu, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1 Hg.**

EPA 522.

Non-Potable Water

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

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

EPA 245.1 Hg.

SM2340B

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

PAGE 1 OF 1

Westborough, MA	Mansfield, MA
TEL: 508-898-9220	TEL: 508-822-9300
FAX: 508-898-9193	FAX: 508-822-3288

Client: McPhail Associates, LLC
Address: 2269 Massachusetts Avenue
Cambridge, MA 02140
Phone: (617) 868-1420

Fax: _____ ☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)
Email: bdowning@msghailgoe.com
☐ These samples have been Previously analyzed by Alpha Due Date: _____ Time: _____

Circle the following if required:

SALINITY HARDNESS PH

Sect. A inorganics: Ammonia, Chloride, TRC, TSS, CrVI, CrIII, Tot-CN, RGP Metals
B- Non-Hal- VOC- 8260, 8260-SIM, Tot. Phenol Sect C- VOC- 8260 & 504
D: 8270/8270-SIM: E- PCB's, PCP(8270/8270-SIM): F-TPH, 8260, Sub-Ethanol

[illegible]

Container Type	P	P	P	P	P	V	A	V	A	A	A	V
Preservative	C	A	D	E	A	B	D	H	A	H	B	B

Relinquished By:

Date/Time

Received By:

Date/Time

Benji Jim	9/20/18 10:00	Benji Jim	9/20/18 10:00
Benji Jim	9/20/18 18:15	Benji Jim	9/20/18 18:15

Date Rec'd in Lab: 9/20/18

ALPHA Job #: L1837707

☐ FAX ☐ EMAIL
☒ ADEx ☐ Add'l Deliverables

☐ Same as Client info PO #:

State/Fed Program
NPDES RGP

Criteria

	<input checked="" type="checkbox"/>	RGP Metals (200.8) (A)
	<input checked="" type="checkbox"/>	TSS- (A)
	<input checked="" type="checkbox"/>	Ammonia (4500 (A))
	<input checked="" type="checkbox"/>	TCN (A)
	<input checked="" type="checkbox"/>	HexCr (7196), TRC, Cl- (A)
	<input type="checkbox"/>	8260 (B, C, F)/8260SIM (B)
	<input type="checkbox"/>	Tphenol-420 (B)
	<input type="checkbox"/>	504-EDB (C)
	<input type="checkbox"/>	8270/8270SIM- (D, E)
	<input type="checkbox"/>	PCB-608- (E)
	<input type="checkbox"/>	TPH-1664-(F)
	<input type="checkbox"/>	SUB-ETHANOL (F)

SAMPLE HANDLING

Filtration

- ☐ Done
☐ Not Needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

Sample Specific Comments

TOTAL # BOTTLES

FORM NO: 01-01(1)-NJ
(Rev. 5-JAN-12)

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

TABLE 1
LABORATORY ANALYTICAL RESULTS - GROUNDWATER

11 Babson College Drive
Babson Park, Massachusetts
Project No. 6434

LOCATION	EPA DGP	Massachusetts RCGW-2	SUMP PIT
SAMPLING DATE	Discharge	Reporting	11/27/2018
LAB SAMPLE ID	Limiatations	Thresholds	L1848306-01
General Chemistry (ug/l)			
Chloride			47900
pH (H)	6.5-8.3		8.8
Total Metals (ug/l)			
Chromium, Hexavalent		300	ND(10)

ND - Not detected in excess of the laboratory reporting limit
(#) - Reporting limit

McPhail Associates, LLC

N:\Working Documents\Jobs\6434\DGP Permit\
6434 GW Retest Data 112918.xls
Page 1 of 1
Printed: 11/29/2018



ANALYTICAL REPORT

Lab Number:	L1848306
Client:	McPhail Associates 2269 Massachusetts Avenue Cambridge, MA 02140
ATTN:	Ambrose Donovan
Phone:	(617) 868-1420
Project Name:	BABSON HORN COMMONS
Project Number:	6434.9.01
Report Date:	11/29/18

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

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

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



Project Name: BABSON HORN COMMONS
Project Number: 6434.9.01

Lab Number: L1848306
Report Date: 11/29/18

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1848306-01	SUMP PIT	GROUNDWATER	BABSON PARK, MA	11/27/18 12:45	11/27/18

Project Name: BABSON HORN COMMONS
Project Number: 6434.9.01

Lab Number: L1848306
Report Date: 11/29/18

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:



Cristin Walker

Title: Technical Director/Representative

Date: 11/29/18

INORGANICS & MISCELLANEOUS

Project Name: BABSON HORN COMMONS**Project Number:** 6434.9.01**Lab Number:** L1848306**Report Date:** 11/29/18**SAMPLE RESULTS****Lab ID:** L1848306-01**Client ID:** SUMP PIT**Sample Location:** BABSON PARK, MA**Date Collected:** 11/27/18 12:45**Date Received:** 11/27/18**Field Prep:** Not Specified**Sample Depth:****Matrix:** Groundwater

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
pH (H)	8.8		SU	-	NA	1	-	11/28/18 05:15	121,4500H+-B	JW
Chromium, Hexavalent	ND		mg/l	0.010	--	1	11/28/18 00:30	11/28/18 01:04	1,7196A	MA
Anions by Ion Chromatography - Westborough Lab										
Chloride	47.9		mg/l	12.5	--	25	-	11/28/18 00:21	44,300.0	JR



Project Name: BABSON HORN COMMONS

Lab Number: L1848306

Project Number: 6434.9.01

Report Date: 11/29/18

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: WG1183154-1										
Chromium, Hexavalent	ND		mg/l	0.010	--	1	11/28/18 00:30	11/28/18 01:00	1,7196A	MA
Anions by Ion Chromatography - Westborough Lab for sample(s): 01 Batch: WG1183614-1										
Chloride	ND		mg/l	0.500	--	1	-	11/27/18 16:45	44,300.0	JR

Lab Control Sample Analysis**Batch Quality Control****Project Name:** BABSON HORN COMMONS**Project Number:** 6434.9.01**Lab Number:** L1848306**Report Date:** 11/29/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1183154-2								
Chromium, Hexavalent	96		-		85-115	-		20
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1183233-1								
pH	99		-		99-101	-		5
Anions by Ion Chromatography - Westborough Lab Associated sample(s): 01 Batch: WG1183614-2								
Chloride	95		-		90-110	-		

Matrix Spike Analysis

Batch Quality Control

Project Name: BABSON HORN COMMONS

Project Number: 6434.9.01

Lab Number: L1848306

Report Date: 11/29/18

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: WG1183154-4 QC Sample: L1848306-01 Client ID: SUMP PIT												
Chromium, Hexavalent	ND	0.1	0.106	106		-	-		85-115	-		20
Anions by Ion Chromatography - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1183614-3 QC Sample: L1848306-01 Client ID: SUMP PIT												
Chloride	47.9	100	146	98		-	-		90-110	-		18

Lab Duplicate Analysis

Batch Quality Control

Project Name: BABSON HORN COMMONS

Project Number: 6434.9.01

Lab Number: L1848306

Report Date: 11/29/18

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1183154-3 QC Sample: L1848306-01 Client ID: SUMP PIT						
Chromium, Hexavalent	ND	ND	mg/l	NC		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1183233-2 QC Sample: L1848222-01 Client ID: DUP Sample						
pH	6.8	6.8	SU	0		5
Anions by Ion Chromatography - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1183614-4 QC Sample: L1848306-01 Client ID: SUMP PIT						
Chloride	47.9	47.5	mg/l	1		18

Project Name: BABSON HORN COMMONS
Project Number: 6434.9.01

Serial_No:11291811:12
Lab Number: L1848306
Report Date: 11/29/18

Sample Receipt and Container Information

Were project specific reporting limits specified?

YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type
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L1848306-01A	Plastic 950ml unpreserved
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Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
A	7	7	2.4	Y	Absent		CL-300(28),HEXCR-7196(1),PH-4500(.01)

Project Name: BABSON HORN COMMONS
Project Number: 6434.9.01

Lab Number: L1848306
Report Date: 11/29/18

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).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
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.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
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.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
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

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.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

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.

Report Format: Data Usability Report



Project Name: BABSON HORN COMMONS**Lab Number:** L1848306**Project Number:** 6434.9.01**Report Date:** 11/29/18**Data Qualifiers**

- A** - Spectra identified as "Aldol Condensation Product".
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- S** - Analytical results are from modified screening analysis.
- J** - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- ND** - Not detected at the reporting limit (RL) for the sample.

Project Name: BABSON HORN COMMONS
Project Number: 6434.9.01

Lab Number: L1848306
Report Date: 11/29/18

REFERENCES

- 1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IV, 2007.
- 44 Methods for the Determination of Inorganic Substances in Environmental Samples, EPA/600/R-93/100, August 1993.
- 121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

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.



Alpha Analytical, Inc.Facility: **Company-wide**Department: **Quality Assurance**Title: **Certificate/Approval Program Summary**ID No.: **17873**

Revision 12

Published Date: 10/9/2018 4:58:19 PM

Page 1 of 1

Certification Information

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

Westborough Facility**EPA 624/624.1:** m/p-xylene, o-xylene**EPA 8260C:** NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.**EPA 8270D:** NPW: Dimethylnaphthalene, 1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene, 1,4-Diphenylhydrazine.**EPA 6860:** SCM: Perchlorate**SM4500:** NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO₂, NO₃.**Mansfield Facility****SM 2540D:** TSS**EPA 8082A:** NPW: PCB: 1, 5, 31, 87, 101, 110, 141, 151, 153, 180, 183, 187.**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.**Biological Tissue Matrix:** EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:**Drinking Water****EPA 300.0:** Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE,****EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B****EPA 332:** Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.**Microbiology:** **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, SM9222D.****Non-Potable Water****SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH:** Ammonia-N and Kjeldahl-N, **EPA 350.1:** Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2:** Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300:** Chloride, Sulfate, Nitrate.**EPA 624.1:** Volatile Halocarbons & Aromatics,**EPA 608.3:** 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 625.1:** SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045:** PCB-Oil.**Microbiology:** **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603.****Mansfield Facility:****Drinking Water****EPA 200.7:** Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1 Hg. EPA 522.****Non-Potable Water****EPA 200.7:** Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.**EPA 200.8:** Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.**EPA 245.1 Hg.****SM2340B**

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

[illegible]

From: [Benjamin Downing](#)
To: [GeneralPermit, DeWatering](#)
Subject: RE: DGP Application for Babson Horn Commons
Date: Friday, December 07, 2018 8:38:50 AM
Attachments: [PH Adjustment System.pdf](#)

Michelle,

The contractor is proposing to include a pH adjustment system using a sulfuric acid mixture to lower the pH as necessary to meet the discharge requirements.

Ben

Benjamin E. Downing, P.E.

McPhail Associates, LLC

Tel: 617-868-1420 Ext. 323

From: Vuto, Michelle <Vuto.Michelle@epa.gov> **On Behalf Of** GeneralPermit, DeWatering
Sent: Friday, November 30, 2018 3:33 PM
To: Benjamin Downing <BDowning@mcphailgeo.com>
Subject: RE: DGP Application for Babson Horn Commons [Filed 30 Nov 2018 15:39]

Hi Ben,

Great! What treatment will take place to ensure that the pH of the discharge is within the 6.5-8.3 range?

Thanks,
Michelle

From: Benjamin Downing <BDowning@mcphailgeo.com>
Sent: Thursday, November 29, 2018 1:26 PM
To: GeneralPermit, DeWatering <GeneralPermit.Dewatering@epa.gov>
Subject: RE: DGP Application for Babson Horn Commons

Michelle,

We collected another sample of groundwater from the Horn Commons site and tested it for pH, chloride, and chromium VI. The results for chloride and chromium VI were significantly lower than the initial test results. Please let me know if you need any additional information.

Ben

Benjamin E. Downing, P.E.

McPhail Associates, LLC