



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

**BOSTON COLLEGE – BRIGHTON FIELDS  
ATHLETIC COMPLEX**

**BOSTON, MASSACHUSETTS**

**MAY 20, 2019**

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:

Walsh Brothers

**PROJECT NO. 4761**

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



Boston College - Brighton Fields  
Athletic Complex  
May 20, 2019

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: Boston College - Brighton Fields Athletic Complex, Boston, 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 conditions and groundwater quality information in support of a Notice of Intent (NOI) for the discharge of construction dewatering into Charles River via the City of Boston storm drain system. The potential for temporary discharge of construction dewatering may occur during development of the Boston College – Brighton Fields Athletic Complex located in Boston, 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 with the authorization of Boston 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:

Walsh Brothers  
210 Commercial Street  
Boston, MA 02109

Attention: Mr. Ryan Desmarais

Tel: 617-878-4800  
Cell: 617-438-7328



Boston College Brighton  
Athletic Complex  
May 20, 2019; Page 2

### **Existing Conditions**

The project site is located on the Boston College Brighton Campus and is situated immediately west of the recently constructed baseball stadium and south of the Harrington athletic complex's single-story support building. An access roadway is located to the west of the site and a grassed slope bounds the site to the south.

Currently, the site consists of a paved parking lot with existing grades sloping slightly upward from east to west, varying from approximately Elevation +66 to about Elevation +70.

Elevations as presented herein are in feet and are referenced to the Boston City Base (BCB) Datum, which is 5.65 feet below the National Geodetic Vertical Datum of 1929.

### **Proposed Scope of Site Development**

The proposed project site development is understood to consist of a two-level building with a footprint of roughly 15,000 square feet. The building's upper and lower level floors are planned at Elevation +76 and Elevation +61, respectively. Due to the excavations and the relative elevation of ground surface at the site, a portion of the building will be below ground surface. Finished grades along the building perimeter are proposed to range from about Elevation +75 to Elevation +67.

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

Based on the current Massachusetts Geographic Information Systems (GIS) DEP Priority Resources Map, the subject site is not located within the boundaries of a Potentially Productive Aquifer or within a Zone II, Interim Wellhead Protection Area as defined by the Massachusetts Department of Environmental Protection (MA DEP). There are no known public or private drinking water supply wells, no Areas of Critical Environmental Concern, no fish habitats, and no habitats of Species of Special Concern or Threatened or Endangered Species within 500 feet of the subject site. There are no surface water bodies or wetland areas located at the subject site. The nearest surface water body is Chandler Pond, classified by the DEP as a Class B Surface Water Body, that is located approximately 900 feet to the north of the subject site. No areas designated as solid waste facilities (landfills) are located within 0.5 miles of the subject site. A copy of the DEP Priority Resources Map depicting the location of the subject site is included in **Appendix C**.

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

A review of the most recent federal listing of threatened and endangered species published by the U.S. Fish and Wildlife Service on the IPAC database did not identify threatened



Boston College Brighton  
Athletic Complex  
May 20, 2019; Page 3

and/or endangered species at or in the vicinity of the proposed discharge location and/or discharge outfall. In addition, a review of the Massachusetts Division of Fisheries and Wildlife on-line database did not identify threatened or endangered species at the point of discharge and/or the discharge outfall. Based upon the above, the site is considered Criterion A pursuant to Appendix IV of the DGP. A document of indicating threatened and endangered species from the U.S. Fish and Wildlife Services and Massachusetts Division of Fisheries on-line databases is included in **Appendix C**.

The proposed development parcel is currently a parking lot and is not individually listed on the State and National Register of Historical Places (BOS.7563). It is noted that proposed construction will likely not affect listed historical places and thus construction dewatering that is proposed at the subject site meets the Permit Eligibility Criterion A under the Dewatering General Permit. A copy of the database search for the subject site's addresses are included in **Appendix C**.

#### **Construction Site Dewatering**

Based on the proposed construction, it is anticipated construction dewatering by means of temporary localized sumping is anticipated to be sufficient to control groundwater, as required. Given that the small area of proposed construction and the recently built surrounding structures adjacent to the subject site, temporary on-site collection and recharge of groundwater is not feasible. During construction related activities that require dewater, groundwater is anticipated to be discharged off-site to the City of Boston's storm drain system after passing through a settling tank and bag filters to control total suspended solids.

It is anticipated that the rate of construction dewatering, if necessary, will be on the order of 15 to 25 gallons per minute (gpm). This estimate does not include surface run-off which will be removed from the excavation during periods of precipitation.

A review of available subgrade utility plans provided by the Boston Water and Sewer Commission (BWSC) indicates that stormwater collected within catch basins on Boston College's Brighton Campus located adjacent to the subject site flow north from the intersection of Glenmont Road and Willoughby Street to the Charles River. According the BWSC, discharge at the aforementioned intersection outfalls at SDO 032 near Soldiers Field Road along the Charles River. An email correspondence with the BWSC indicating the discharge outfall location is included in **Appendix C**. The locations of the relevant stormwater drains in relation to the subject site are indicated on **Figure 2**. The location of discharge to the Charles River is shown in plans provided by the Boston Water and Sewer Commission which are included in **Figures 3A – 3C**.



Boston College Brighton  
Athletic Complex  
May 20, 2019; Page 4

### **Summary of Groundwater Analysis**

On April 15, 2019, McPhail Associates, LLC obtained a sample of groundwater from monitoring well B-203 (OW) which is located within the proposed footprint of the common building foundation at the northern portion of the subject site. The groundwater samples were submitted to a certified laboratory for analysis for the presence of compounds required under the EPA's Dewatering General Permit (DGP) application, including total suspended solids (TSS), total residual chlorine, ammonia, cyanide, chloride and hardness.

In summary, the results of the groundwater testing did not indicate concentration so the tested constituents the EPA's Freshwater Aquatic Life Criteria for Chronic Discharge. The results of the laboratory analysis are summarized in **Table 1**, and laboratory data is included in **Appendix D**.

Pursuant to Section 4.2.2 of the EPA 2017 DGP, a surface water body sample of the Charles River was obtained for this application and the results of the laboratory analysis are summarized in **Table 2**, as well as the laboratory data is included in **Appendix E**.

### **Groundwater Treatment**

Based on the results of the above referenced groundwater analyses, it is recommended that that a 5,000-gallon capacity settling tank and bag filters in series 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**.



Boston College Brighton  
Athletic Complex  
May 20, 2019; Page 5

### **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 may be encountered during development of Boston College – Brighton Fields Athletic Complex located in Boston, 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 or if a sheen is observed during construction activities, additional mitigative measures will be implemented to meet the 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 blue ink signature of Kirk W. Seaman, consisting of a stylized, cursive script.

Kirk W. Seaman

A blue ink signature of William J. Burns, L.S.P., consisting of a stylized, cursive script.

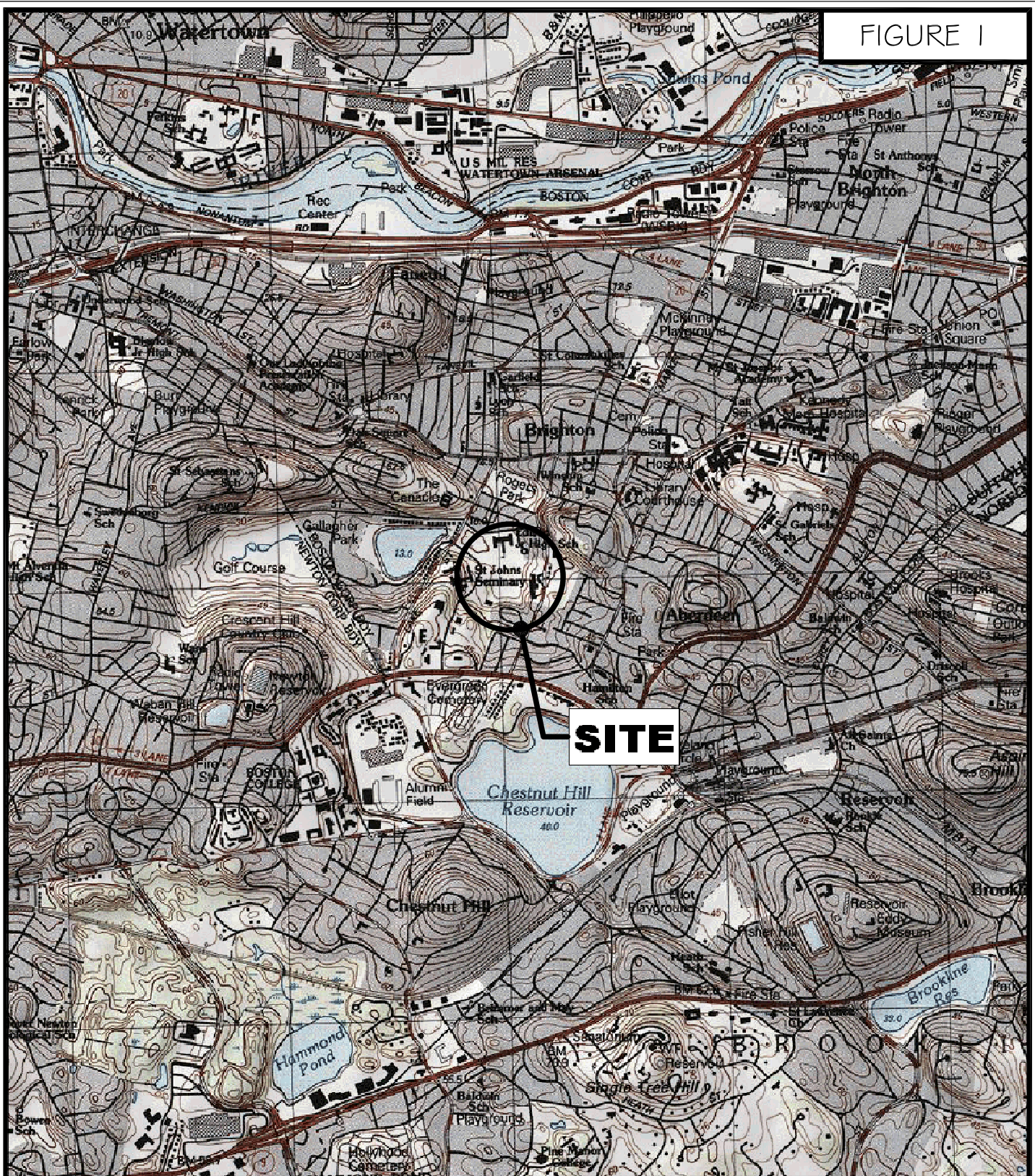
William J. Burns, L.S.P.

KWS/wjb

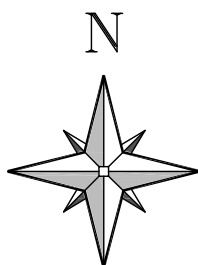
N:\Working Documents\Reports\4761\_DGP Brighton Fields\_042319.docx



FIGURE I



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

BOSTON COLLEGE  
BRIGHTON ATHLETIC COMPLEX

BRIGHTON

MASSACHUSETTS



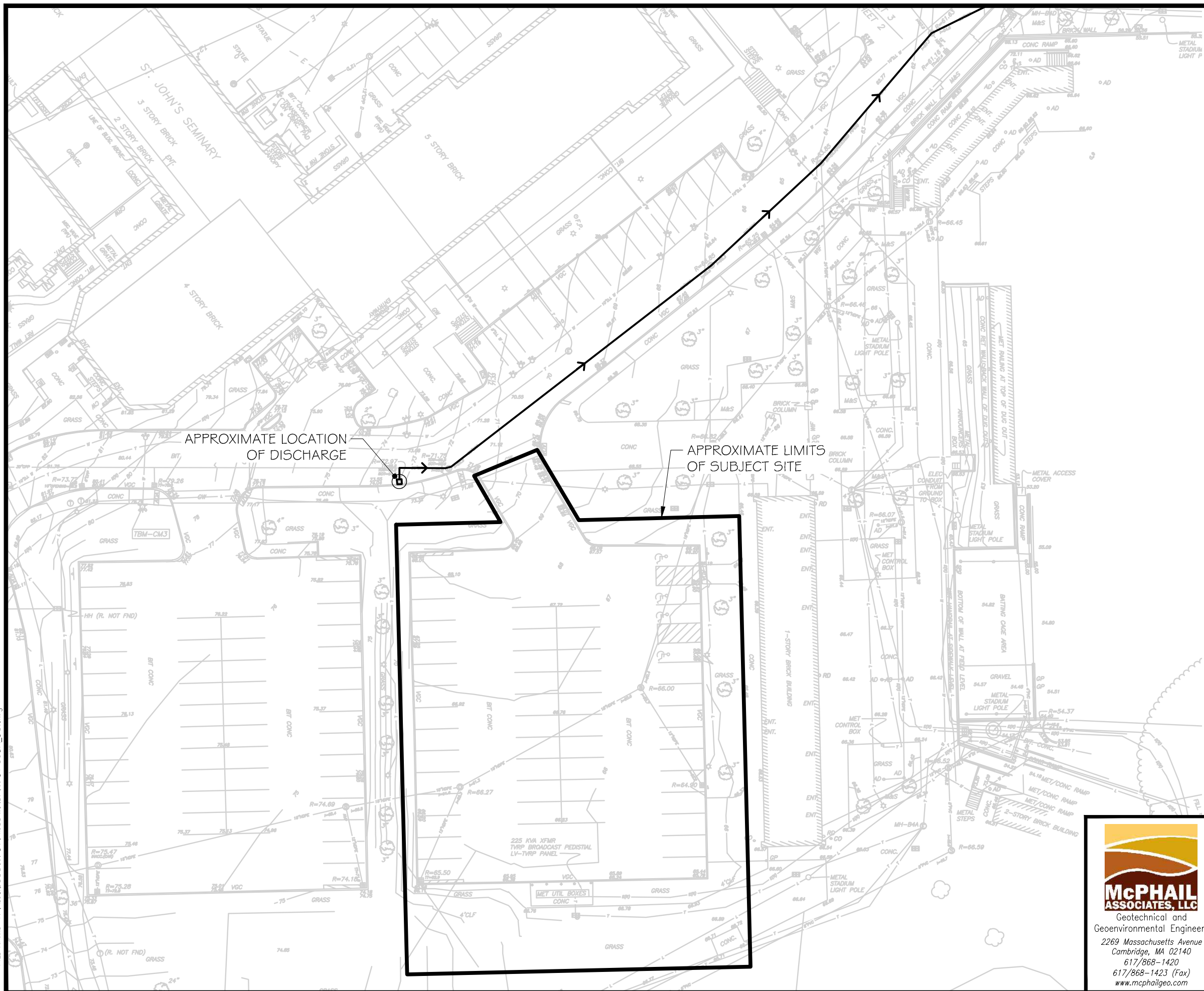
GRAPHIC SCALE



Date: APRIL 2019	Dwn: M.B.S.	Chkd: K.W.S.	Scale: 1" = 30'
Project No: 4761			



FIGURE 3A



REFERENCE: THIS PLAN WAS PREPARED FROM A 20-SCALE DRAWING ENTITLED, "PARTIAL EXISTING CONDITIONS PLAN" DATED OCTOBER 17, 2018 PREPARED BY FELDMAN LAND SURVEYORS

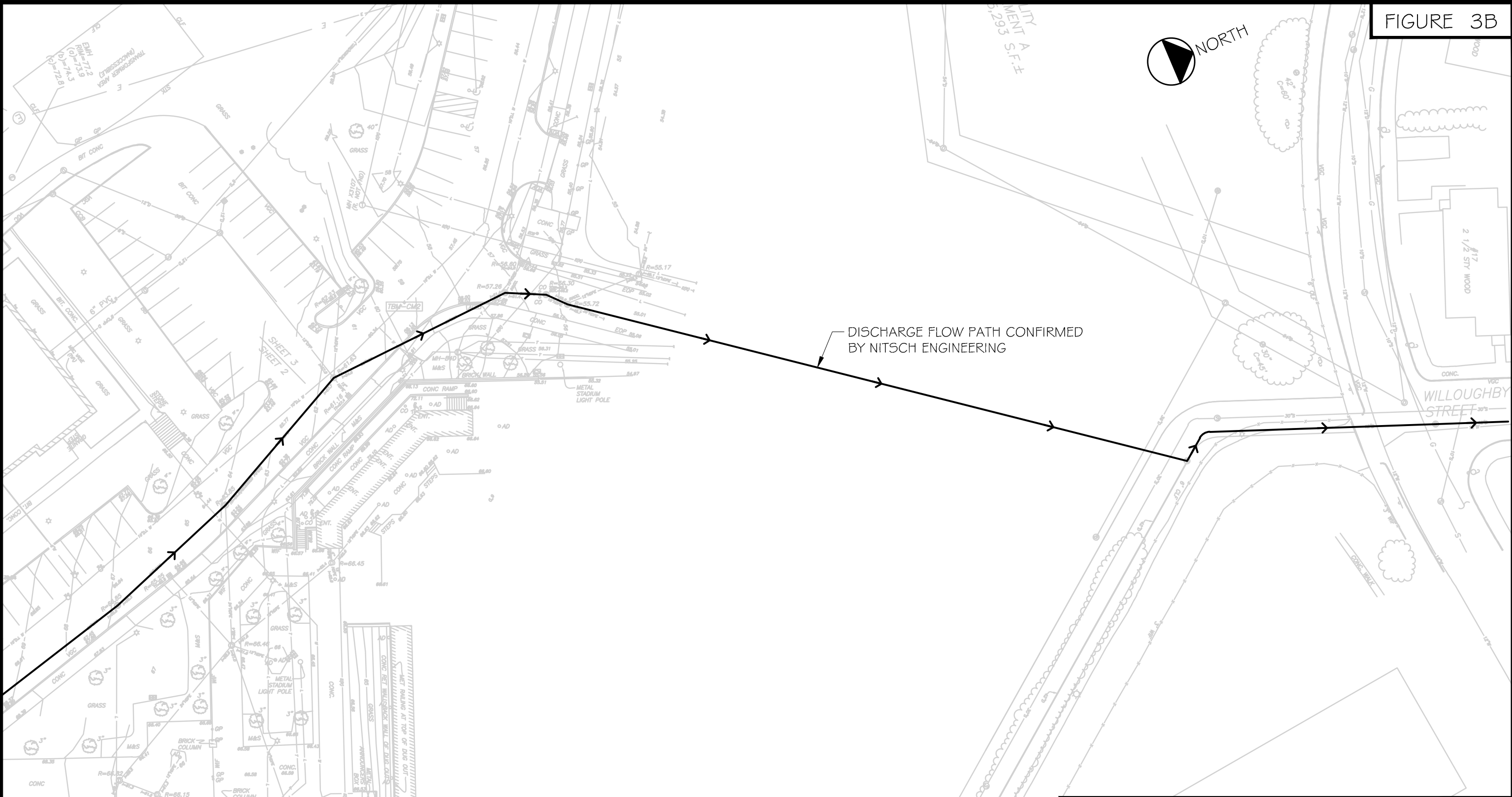


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BOSTON COLLEGE BRIGHTON ATHLETIC COMPLEX BRIGHTON MASSACHUSETTS			
DISCHARGE FLOW PLAN			
FOR BOSTON COLLEGE AND WALSH BROTHERS BY McPHAIL ASSOCIATES, LLC			
Date: APRIL 2019	Dwn: M.B.S.	Chkd: K.W.S.	Scale: 1" = 40'
Project No: 4761			

FILE NAME: N:\Acad\JOBS\4761\Phase I\IRGP\4761-E03A\_3C.dwg

FIGURE 3B



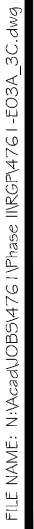
REFERENCE: THIS PLAN WAS PREPARED FROM A 20-SCALE DRAWING ENTITLED, "PARTIAL EXISTING CONDITIONS PLAN" DATED OCTOBER 17, 2018 PREPARED BY FELDMAN LAND SURVEYORS



BOSTON COLLEGE BRIGHTON ATHLETIC COMPLEX BRIGHTONMASSACHUSETTS			
DISCHARGE FLOW PLAN			
FOR BOSTON COLLEGE AND WALSH BROTHERS BY McPHAIL ASSOCIATES, LLC			
Date: APRIL 2019	Dwn: M.B.S.	Chkd: K.W.S.	Scale: 1" = 40'
Project No: 4761			

FILE NAME: N:\Acad\JOBS\4761\Phase I\RG\4761-E03A\_3C.dwg





GRAPHIC SCALE

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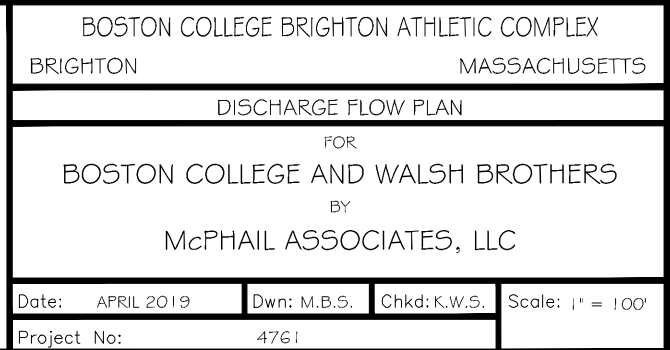
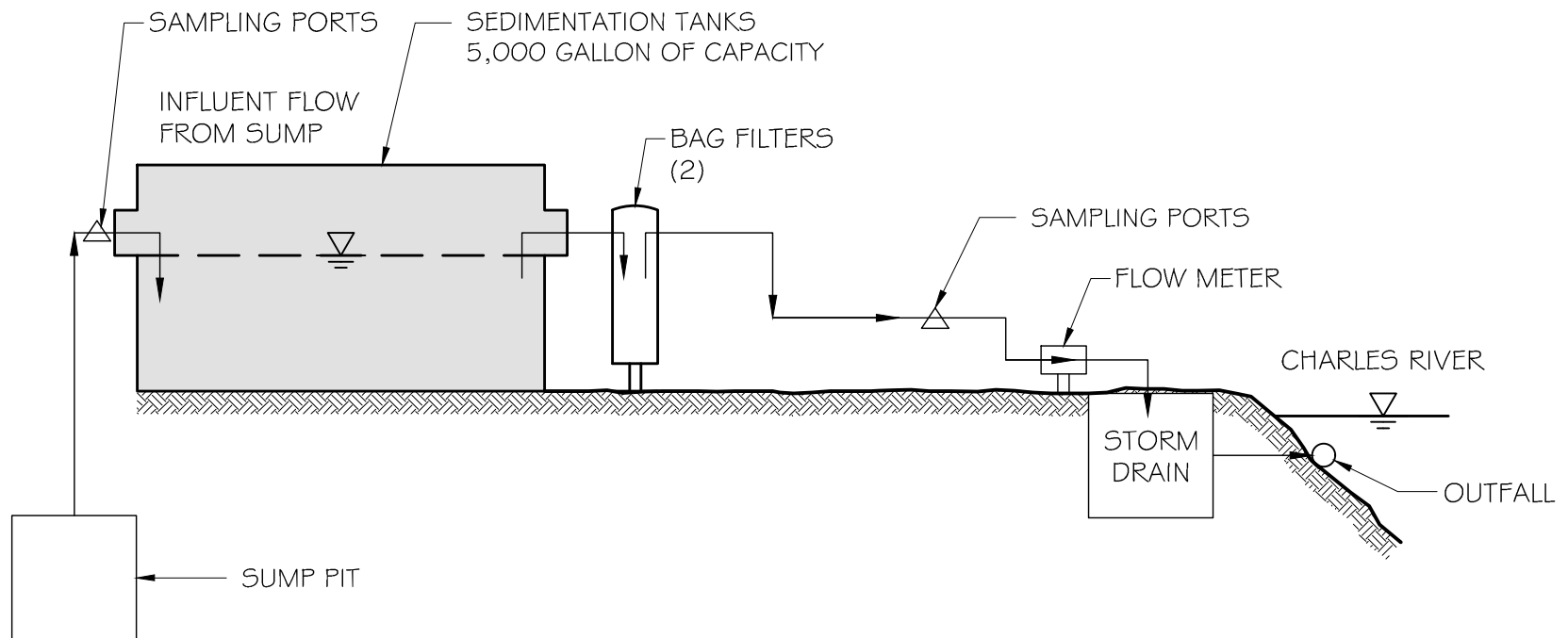


FIGURE 4



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BOSTON COLLEGE BRIGHTON ATHLETIC COMPLEX			
BRIGHTON		MASSACHUSETTS	
SCHEMATIC OF TREATMENT SYSTEM			
FOR			
BOSTON COLLEGE AND WALSH BROTHERS			
BY			
McPHAIL ASSOCIATES, LLC			
CONSULTING GEOTECHNICAL ENGINEERS			
Date:	APRIL 2019	Dwn: M.B.S.	Chkd: K.W.S.
Project No:		4761	Scale: N.T.S.

**Table 1**  
**Laboratory Analytical Results - Groundwater**  
**B-203 (OW)**

BC Brighton Fields  
Project No.4761

LOCATION	EPA - Freshwater Aquatic Life Chronic Criteria	B-203 (OW) DGP
SAMPLING DATE		4/15/2019
LAB SAMPLE ID		L1915338-01
SAMPLE TYPE		Groundwater
<b>General Chemistry (ug/l)</b>		
Chlorine, Total Residual		ND(20)
Chromium, Hexavalent	11	ND(10)
Chromium, Trivalent	74	ND(10)
Cyanide, Total	5.2	ND(5)
Nitrogen, Ammonia		266
pH (SU)		6.6
Phenolics, Total		ND(5000)
Solids, Total Suspended		ND(6000)
Chloride	230000	748000
Hardness		312000
<b>Total Metals (ug/l)</b>		
Antimony, Total		ND(4)
Arsenic, Total	150	ND(1)
Cadmium, Total		0.58
Chromium, Total		ND(1)
Copper, Total		2
Iron, Total	1000	51
Lead, Total	2.5	ND(1)
Mercury, Total	0.77	ND(0.2)
Nickel, Total	52	5.63
Selenium, Total	5	ND(5)
Silver, Total		ND(0.4)
Zinc, Total	120	ND(10)

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



**Table 2**  
**Laboratory Analytical Results - Surface Water**  
**Charles River**

BC - Brighton Fields Athletic Complex  
 Brighton, MA  
 Project No.4761

LOCATION	EPA - Freshwater Aquatic Life Chronic Criteria	Charles River RGP Sample
SAMPLING DATE		5/9/2019
LAB SAMPLE ID		L1919553-01
SAMPLE TYPE		WATER
<b>General Chemistry (ug/l)</b>		
Nitrogen, Ammonia		114
pH (SU)		7.5
Hardness		59700
<b>Total Metals (ug/l)</b>		
Antimony, Total		ND(4)
Arsenic, Total	150	ND(1)
Cadmium, Total	0.25	ND(0.2)
Chromium, Total		1.40
Copper, Total		4.06
Iron, Total	1000	1270
Lead, Total	2.5	6.32
Mercury, Total	0.77	ND(0.2)
Nickel, Total	52	ND(2)
Selenium, Total	5	ND(5)
Silver, Total		ND(0.4)
Zinc, Total	120	13.96

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



## **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 observation well on the Boston College Brighton Campus – proposed athletic complex property located in Boston, 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 Boston College and Walsh Brothers. 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  
BOSTON WATER AND SEWER COMMISSION DEWATERING PERMIT**

## **APPENDIX V**

### **NOTICE OF INTENT INSTRUCTIONS AND SUGGESTED FORMATS AND MAILING ADDRESSES**

#### **I. Notice of Intent (NOI) Instructions**

In order to be covered by the Dewatering General Permit (DGP) applicants must submit a written NOI to EPA and the appropriate state agency. The NOI consists of either the suggested NOI format included in Part II of this Appendix or another format of official correspondence that contains all of the required information listed in the General Permit and the NOI instructions.

**A. Instructions for the NOI** - At a minimum, the NOI must include the following information for each individual facility. Additional information may be attached as needed.

#### **1. General facility information.**

- a) Provide the name and mailing address of the facility.
- b) Provide the facility location address, including the latitude and longitude, if different from the mailing address. Provide the SIC code(s) and type of business.
- c) Provide the legal name, address, telephone and fax number of the owner and operator (if not the owner) if different from the facility information. Indicate whether the owner is a Federal, State, Tribal, private or other entity.
- d) Provide a topographic map indicating the location(s) of the facility and receiving water, and discharge point(s).
- e) Provide the answer to the following questions:
  - i. Has a prior NPDES permit been granted for this discharge? If yes, provide the permit number:
  - ii. Is the discharge a “new discharger” as defined by 40 CFR Section 122.2?
  - iii. Is the facility covered by an individual NPDES permit? If yes, provide the permit number.
  - iv. Is there a pending application on file for any other permit with EPA for this discharge?

#### **2. Discharge information.**

- a) Provide the name of the receiving water(s) into which each outfall will discharge and identify if it is freshwater or marine water and its state water quality classification.
- b) Describe the activity (construction dewatering, dewatering of foundation sumps etc.) that



generates the discharge(s) to be covered by the permit. If available, please provide a facility water flow diagram. Also, if known, identify and describe any and all treatment methods and provide a technology diagram depicting the treatment of discharge at the facility.

- c) Provide the number of outfalls; and for each outfall, provide the following information:
- i. Please estimate the flow in GPD – both the maximum daily and average flow rate of the discharge in gallons per day;
  - ii. Provide the maximum and minimum monthly pH of discharge (in s.u.);
  - iii. Identify the source of the water being discharged (i.e. potable water, surface water, groundwater). If the source is groundwater, the facility shall submit effluent test results, as required in Section 4.4.5 of the General Permit. If the source is potable water, EPA will calculate the Total Residual Chlorine effluent limits.
  - iv. If known, state whether the discharge(s) is continuous, periodic (occurs regularly, for example monthly or seasonally, but is not continuous all year) or intermittent (occurs sometimes but not regularly), or both. If the discharge is periodic, specify the frequency (number of days or months per year) of the discharge and the specific months of discharge. If the discharge is intermittent, specify the number of days per year there is intermittent discharge. If the dewatering is temporary and will occur within a finite period of time, state the approximate start and end dates of dewatering.
  - v. Provide the latitude and longitude of each discharge point (outfall) with an accuracy of 100 feet (see EPA's siting tool at: [http://www.epa.gov/tri/report/siting\\_tool/](http://www.epa.gov/tri/report/siting_tool/)) and,
  - vi. If the source of the discharge is potable water, provide the reported or calculated seven day-ten year low flow (7Q10) of the receiving water. Also, please attach any calculation sheets used to support stream flow and dilution calculations. See Appendix VIII for equations and additional information.
  - vii. For Massachusetts facilities only: Determine if the discharge is into an Area of Critical Environmental Concern (ACEC) and, if yes, provide the name of the ACEC. See Section 3.4 and Appendix 1 of the General Permit for more information on ACECs.

### **3. Contaminant Information.**

- a) If the facility uses any pH neutralization and/or dechlorination chemicals, provide the product name and manufacturer; maximum and average daily quantity used as well as the maximum and average daily expected concentrations (mg/l) in the discharge; and the vendor's reported aquatic toxicity (NOAEL and/or LC<sub>50</sub> in percent for aquatic

organism(s)).

- b) Please report any known remediation activities or water-quality issues in the vicinity of the discharge.
- c) In order to be eligible for this permit, applicants will need to take a minimum of one sample of the untreated water at the construction site and have it analyzed for the metal parameters listed in Appendix IX. If the levels of contamination for the proposed discharge are equal or less than the metal parameters listed in Appendix IX, the application will be eligible for a DGP. Otherwise, the applicant should apply for the Remediation General Permit (RGP) for contaminated discharges.

#### **4. Determination of Endangered Species Act Eligibility (ESA)**

Provide documentation of ESA eligibility and respond to all questions as required in Appendix IV

#### **5. Documentation of National Historic Preservation Act (NHPA) Requirements**

Provide documentation and respond to all questions as required in Appendix III:

#### **6. Supplemental Information**

Applicants should provide any supplemental information needed to meet the requirements of the permit, including, any analytical data used to support the application (see Section 3.c above), and any certification(s) required by the permit.

#### **7. Signature Requirements**

The Notice of Intent must be signed and dated 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, waste product or finished product; (4) if the discharge of dewatering subsequently mixes with other wastewater (i.e. stormwater) prior to discharging to the receiving water, any monitoring provided under this permit will be only for dewatering discharges; (5) where applicable, the facility has complied with the requirements of this permit specific to the Endangered Species Act and the 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.**

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.

### **B. Submission of NOI to EPA**

Filing with EPA - All operators located in Massachusetts and New Hampshire that apply for coverage under this General Permit must submit a written NOI to EPA-New England. The completed, signed NOI formats and attachments must be submitted to EPA-NE electronically at:

[GeneralPermit.Dewatering@epa.gov](mailto:GeneralPermit.Dewatering@epa.gov), or mailed to:

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

Filing with the states - A copy of the NOI format filed with EPA-NE must also be filed with state agencies. The state agency may elect to develop a state specific form or other additional information requirements.

#### **1. Discharges in Massachusetts**

- a. Facilities located in Massachusetts with discharges to Class B or SB waters must: Provide a completed copy of the Notice of Intent to:

Massachusetts Department of Environmental Protection  
Division of Watershed Management  
8 New Bond Street  
Worcester, MA 01606

The State of Massachusetts no longer will take an active participation in approving or certifying DGP discharges to Class B or SB waters. No transmittal form or fees are necessary to Class B & SB waters. The Notice of Intent to the State is for informational purposes only.

- b. Facility located in Massachusetts with discharges to Class A or SA waters must:  
Provide a completed copy of the Notice of Intent. The completed state transmittal form, and a copy of the check for the appropriate State fee to:

Massachusetts Department of Environmental Protection  
Division of Watershed Management  
8 New Bond Street  
Worcester, MA 01606

Submit the appropriate fee and copy of the transmittal form to:

MassDEP  
P.O. Box 4062  
Boston, MA 02211

The State Transmittal Form & Number for the Permit Application & Payment is found here:

<http://www.mass.gov/eea/agencies/massdep/service/approval/transmittal-form-for-payment.html>

Discharges into Class A or SA waters require approval by the Massachusetts Department of Environmental Protection

## 2. Discharges in New Hampshire

All applicants must provide a completed copy of their Notice of Intent to:

New Hampshire Department of Environmental Services  
Water Division, Wastewater Engineering Bureau  
29 Hazen Drive, P.O. Box 95  
Concord, New Hampshire 03302-0095

## II. Suggested Notice of Intent (NOI) Format

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

<b>a) Name of facility:</b> Boston College - Brighton Fields Athletic Complex		<b>Mailing Address for the Facility:</b> 2125 Commonwealth Ave., Boston, MA 02135 (Boston College)	
<b>b) Location Address of the Facility (if different from mailing address):</b> Site is across from 129 Lake Street, Boston, MA 02135		<b>Facility Location</b>  longitude: <u>-71.161150</u> latitude: <u>42.344031</u>	<b>Type of Business:</b> Construction Site  <b>Facility SIC codes:</b>
<b>c) Name of facility owner:</b> <u>Boston College - Brighton Campus</u> <b>Owner's email:</b> <u>Michael Leone &lt;michael.leone@bc.edu&gt;</u> <b>Owner's Tel #:</b> <u>(617) 686-0863</u> <b>Owner's Fax #:</b> _____ <b>Address of owner (if different from facility address)</b> St Clement's Hall South 105 140 Commonwealth Avenue Chestnut Hill, MA 02467 <b>Owner is (check one):</b> 1. Federal _____ 2. State _____ 3. Private <input checked="" type="checkbox"/> 4. Other _____ (Describe) _____			
<b>Legal name of Operator, if not owner:</b> <u>Walsh Brothers, Inc</u> <b>Operator Contact Name:</b> <u>Ryan Desmarais</u> <b>Operator Tel Number:</b> <u>(617) 438-4328</u> <b>Fax Number:</b> _____ <b>Operator's email:</b> <u>rdesmarais@walshbrothers.com</u> <b>Operator Address (if different from owner)</b> <b>210 Commercial Street Boston, MA 02109</b>			
<b>d) Attach a topographic map indicating the location of the facility and the outfall(s) to the receiving water. Map attached?</b> <input checked="" type="checkbox"/>			
<b>e) Check Yes or No for the following:</b> 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: Charles River  
 State Water Quality Classification: Class B 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 72000 GPD  
 Average Monthly Flow 14400 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 and bag filters 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 July 2019 approximate end date of dewatering June 2020

i.) Latitude and longitude of each discharge within 100 feet (See [http://www.epa.gov/tri/report/siting\\_tool](http://www.epa.gov/tri/report/siting_tool)): Outfall 1: long. -71.161553 lat. 42.342941; 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)

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

- k.) Does the discharge occur in an ACEC? Yes \_\_\_\_\_ No ☒   
If yes, provide the name of the ACEC: \_\_\_\_\_

**3. Contaminant Information**

- a) Are any pH neutralization and/or dechlorination chemicals used in the discharge? If so, include the chemical name and manufacturer; maximum and average daily quantity used as well as the maximum and average daily expected concentrations (mg/l) in the discharge, and the vendor's reported aquatic toxicity (NOAEL and/or LC<sub>50</sub> in percent for aquatic organism(s)). Not planned at this time   
b) Please report any known remediation activities or water-quality issues in the vicinity of the discharge.

**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.**

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

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

- 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 ☒ ; Question 2: No ☒ Yes \_\_\_\_\_ The site is an undeveloped parking lot. See attached report.   
b) Have any State or Tribal historic preservation officers been consulted in this determination? Yes \_\_\_\_\_ or No ☒ If yes, attach the results of the consultation(s).   
c) Which of the three National Historic Preservation Act eligibility criterion listed in Appendix III, Criterion (A, B, or C) have you met? A \_\_\_\_\_   
d) Is the project located on property of religious or cultural significance to an Indian Tribe? Yes \_\_\_\_\_ or No ☒ If yes, provide that name of the Indian Tribe associated with the property. \_\_\_\_\_

**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:** Boston College - Brighton Fields Athletic Complex

**Operator signature:** Ryan Desmarais

Digitally signed by Ryan Desmarais  
DN: C=US, E=rdesmarais@walshbrothers.com, O="Walsh Brothers, Inc.", CN=Ryan Desmarais  
Date: 2019.05.16 12:16:35-04'00'

**Print Full Name and Title:** Ryan Desmarais - Senior Project Manager

**Date:** 05/16/2019

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.



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

## DEWATERING DISCHARGE PERMIT APPLICATION

### OWNER / AUTHORIZED APPLICANT PROVIDE INFORMATION HERE:

Company Name: Walsh Brothers Address: 210 Commercial Street, Boston, MA 02109  
Phone Number: 617 878 4800 Fax number: \_\_\_\_\_  
Contact person name: Ryan Desmarais Title: Senior Project Manager  
Cell number: 617-438-4328 Email address: rdesmarais@walshbrothers.com

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

### Owner's Information (if different from above):

Owner of property being dewatered: Boston College-Brighton Campus  
2125 Commonwealth Ave., Boston, MA 02135  
Owner's mailing address: (Boston College) Phone number: (617) 686-0863

### Location of Discharge & Proposed Treatment System(s):

Street number and name: 129 Lake Street Neighborhood Brighton

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

Describe Proposed Pre-Treatment System(s): Frac Tank and Bag Filters

BWSC Outfall No. SDO 032 Receiving Waters Charles River


**Temporary Discharges** (Provide Anticipated Dates of Discharge): From 6/2019 To 2/2020  
☐ Groundwater Remediation ☐ Tank Removal/Installation ☒ Foundation Excavation  
☐ Utility/Manhole Pumping ☐ Test Pipe ☐ Trench Excavation  
☒ Accumulated Surface Water ☐ Hydrogeologic Testing ☐ Other \_\_\_\_\_

### Permanent Discharges

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

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

**Submit Completed Application to:** Boston Water and Sewer Commission  
Engineering Customer Services  
980 Harrison Avenue, Boston, MA 02119  
Attn: Matthew Tuttle, Engineering Customer Service  
E-mail: [tuttlemp@bwsc.org](mailto:tuttlemp@bwsc.org)  
Phone: 617-989-7204 Fax: 617-989-7716

Signature of Authorized Representative for Property Owner: 

Date: 5/16/19



**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:

129 LAKE STREET BOSTON, MA

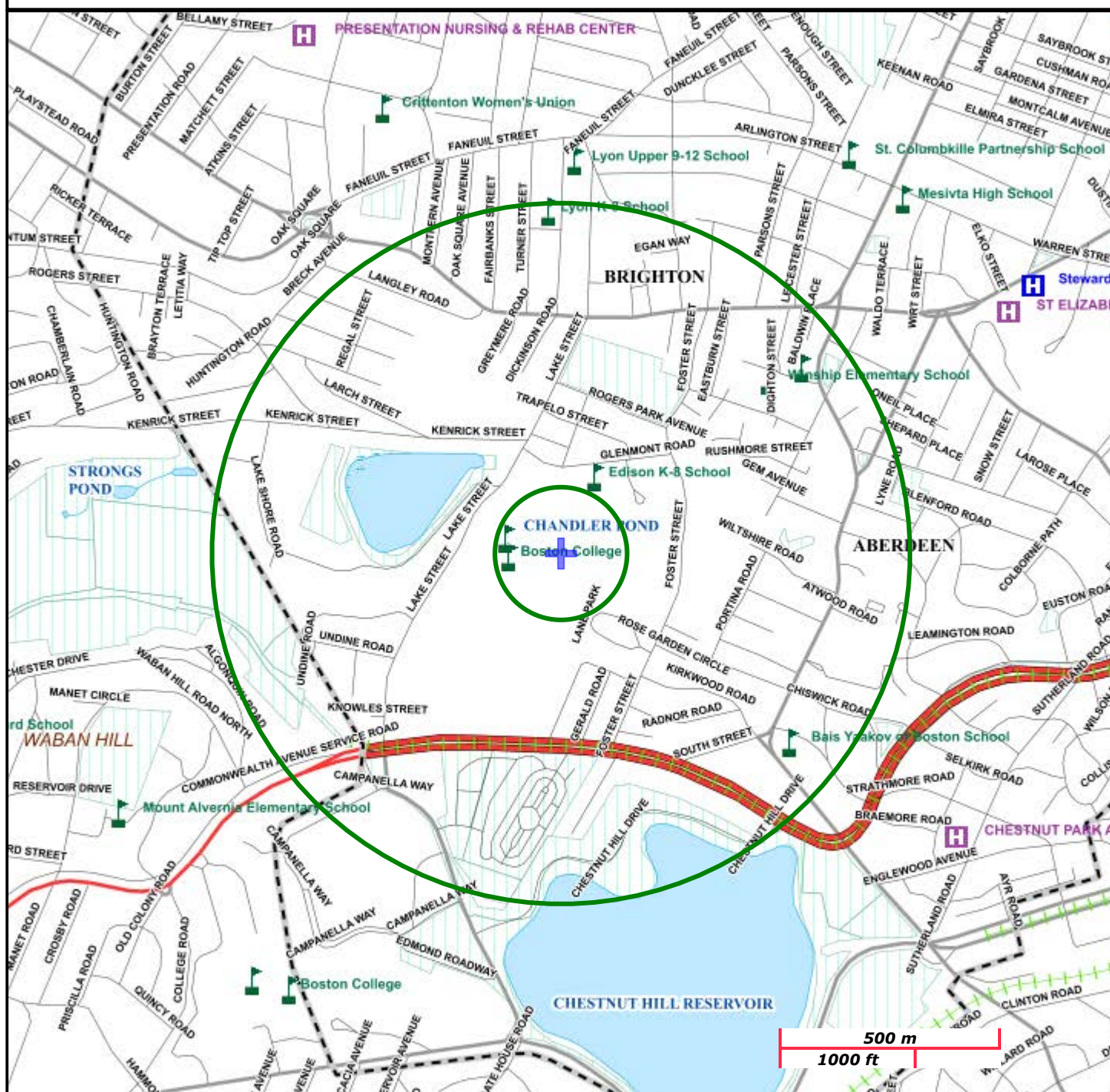
NAD83 UTM Meters:  
4690237mN , 321979mE (Zone: 19)  
April 24, 2019

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-1514  
Event Code: 05E1NE00-2019-E-03657  
Project Name: BC Brighton Fields - Athletic Complex

April 24, 2019

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](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

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## Project Summary

Consultation Code: 05E1NE00-2019-SLI-1514

Event Code: 05E1NE00-2019-E-03657

Project Name: BC Brighton Fields - Athletic Complex

Project Type: DEVELOPMENT

Project Description: <1 acre

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/place/42.3440042676598N71.16112646144644W>



Counties: Suffolk, MA

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## Endangered Species Act Species

There is a total of 0 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 Fisheries<sup>1</sup>, 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.

## Critical habitats

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

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# Massachusetts Cultural Resource Information System

## MACRIS

### MACRIS Search Results

Search Criteria: Town(s): Boston; Place: Brighton; Street No: 129; Street Name: Lake St; Resource Type(s): Area, Building, Burial Ground, Object, Structure;

Inv. No.	Property Name	Street	Town	Year
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## **APPENDIX D:**

### **LABORATORY ANALYTICAL DATA – GROUNDWATER**





## ANALYTICAL REPORT

Lab Number:	L1915338
Client:	McPhail Associates 2269 Massachusetts Avenue Cambridge, MA 02140
ATTN:	Ambrose Donovan
Phone:	(617) 868-1420
Project Name:	BC-BRIGHTON FIELDS PH 2
Project Number:	4761
Report Date:	04/19/19

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).

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



**Project Name:** BC-BRIGHTON FIELDS PH 2  
**Project Number:** 4761

**Lab Number:** L1915338  
**Report Date:** 04/19/19

<b>Alpha Sample ID</b>	<b>Client ID</b>	<b>Matrix</b>	<b>Sample Location</b>	<b>Collection Date/Time</b>	<b>Receive Date</b>
L1915338-01	B-203 (OW) RGP	GROUNDWATER	BRIGHTON, MA	04/15/19 13:00	04/15/19

**Project Name:** BC-BRIGHTON FIELDS PH 2  
**Project Number:** 4761

**Lab Number:** L1915338  
**Report Date:** 04/19/19

### 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. 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 Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data 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.

**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 Alpha Project Manager 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 Project Management at 800-624-9220 with any questions.

---

**Project Name:** BC-BRIGHTON FIELDS PH 2  
**Project Number:** 4761

**Lab Number:** L1915338  
**Report Date:** 04/19/19

**Case Narrative (continued)**

Nitrogen, Ammonia

The WG1226683-3 Laboratory Duplicate RPD (41%), performed on L1915338-01, is above the acceptance criteria; however, the sample and duplicate results are less than five times the reporting limit. Therefore, the RPD is valid.

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: 04/19/19

## METALS

**Project Name:** BC-BRIGHTON FIELDS PH 2**Lab Number:** L1915338**Project Number:** 4761**Report Date:** 04/19/19**SAMPLE RESULTS**

Lab ID: L1915338-01

Date Collected: 04/15/19 13:00

Client ID: B-203 (OW) RGP

Date Received: 04/15/19

Sample Location: BRIGHTON, MA

Field Prep: Not Specified

Sample Depth:

Matrix: Groundwater

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
<b>Total Metals - Mansfield Lab</b>											
Antimony, Total	ND		mg/l	0.00400	--	1	04/17/19 12:37	04/18/19 09:22	EPA 3005A	3,200.8	AM
Arsenic, Total	ND		mg/l	0.00100	--	1	04/17/19 12:37	04/18/19 09:22	EPA 3005A	3,200.8	AM
Cadmium, Total	0.00058		mg/l	0.00020	--	1	04/17/19 12:37	04/18/19 09:22	EPA 3005A	3,200.8	AM
Chromium, Total	ND		mg/l	0.00100	--	1	04/17/19 12:37	04/18/19 09:22	EPA 3005A	3,200.8	AM
Copper, Total	0.00200		mg/l	0.00100	--	1	04/17/19 12:37	04/18/19 09:22	EPA 3005A	3,200.8	AM
Iron, Total	0.051		mg/l	0.050	--	1	04/17/19 12:37	04/18/19 21:45	EPA 3005A	19,200.7	AB
Lead, Total	ND		mg/l	0.00100	--	1	04/17/19 12:37	04/18/19 09:22	EPA 3005A	3,200.8	AM
Mercury, Total	ND		mg/l	0.00020	--	1	04/17/19 12:15	04/17/19 20:48	EPA 245.1	3,245.1	EA
Nickel, Total	0.00563		mg/l	0.00200	--	1	04/17/19 12:37	04/18/19 09:22	EPA 3005A	3,200.8	AM
Selenium, Total	ND		mg/l	0.00500	--	1	04/17/19 12:37	04/18/19 09:22	EPA 3005A	3,200.8	AM
Silver, Total	ND		mg/l	0.00040	--	1	04/17/19 12:37	04/18/19 09:22	EPA 3005A	3,200.8	AM
Zinc, Total	ND		mg/l	0.01000	--	1	04/17/19 12:37	04/18/19 09:22	EPA 3005A	3,200.8	AM
<b>Total Hardness by SM 2340B - Mansfield Lab</b>											
Hardness	312		mg/l	0.660	NA	1	04/17/19 12:37	04/18/19 21:45	EPA 3005A	19,200.7	AB

**General Chemistry - Mansfield Lab**

Chromium, Trivalent	ND		mg/l	0.010	--	1		04/18/19 09:22	NA	107,-	
---------------------	----	--	------	-------	----	---	--	----------------	----	-------	--



**Project Name:** BC-BRIGHTON FIELDS PH 2  
**Project Number:** 4761

**Lab Number:** L1915338  
**Report Date:** 04/19/19

## 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: WG1227308-1										
Mercury, Total	ND		mg/l	0.0002	--	1	04/17/19 12:15	04/17/19 20:31	3,245.1	EA

### Prep Information

Digestion Method: EPA 245.1

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01 Batch: WG1227309-1										
Antimony, Total	ND		mg/l	0.00400	--	1	04/17/19 12:37	04/18/19 08:54	3,200.8	AM
Arsenic, Total	ND		mg/l	0.00100	--	1	04/17/19 12:37	04/18/19 08:54	3,200.8	AM
Cadmium, Total	ND		mg/l	0.00020	--	1	04/17/19 12:37	04/18/19 08:54	3,200.8	AM
Chromium, Total	ND		mg/l	0.00100	--	1	04/17/19 12:37	04/18/19 08:54	3,200.8	AM
Copper, Total	ND		mg/l	0.00100	--	1	04/17/19 12:37	04/18/19 08:54	3,200.8	AM
Lead, Total	ND		mg/l	0.00100	--	1	04/17/19 12:37	04/18/19 08:54	3,200.8	AM
Nickel, Total	ND		mg/l	0.00200	--	1	04/17/19 12:37	04/18/19 08:54	3,200.8	AM
Selenium, Total	ND		mg/l	0.00500	--	1	04/17/19 12:37	04/18/19 08:54	3,200.8	AM
Silver, Total	ND		mg/l	0.00040	--	1	04/17/19 12:37	04/18/19 08:54	3,200.8	AM
Zinc, Total	ND		mg/l	0.01000	--	1	04/17/19 12:37	04/18/19 08:54	3,200.8	AM

### 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: WG1227313-1										
Iron, Total	ND		mg/l	0.050	--	1	04/17/19 12:37	04/18/19 20:16	19,200.7	AB

### Prep Information

Digestion Method: EPA 3005A



Project Name: BC-BRIGHTON FIELDS PH 2

Lab Number: L1915338

Project Number: 4761

Report Date: 04/19/19

## Method Blank Analysis Batch Quality Control

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: WG1227313-1										
Hardness	ND		mg/l	0.660	NA	1	04/17/19 12:37	04/18/19 20:16	19,200.7	AB

### Prep Information

Digestion Method: EPA 3005A



## Lab Control Sample Analysis

### Batch Quality Control

**Project Name:** BC-BRIGHTON FIELDS PH 2

**Project Number:** 4761

**Lab Number:** L1915338

**Report Date:** 04/19/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1227308-2								
Mercury, Total	103		-		85-115	-		
Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1227309-2								
Antimony, Total	97		-		85-115	-		
Arsenic, Total	104		-		85-115	-		
Cadmium, Total	113		-		85-115	-		
Chromium, Total	102		-		85-115	-		
Copper, Total	100		-		85-115	-		
Lead, Total	110		-		85-115	-		
Nickel, Total	105		-		85-115	-		
Selenium, Total	111		-		85-115	-		
Silver, Total	104		-		85-115	-		
Zinc, Total	112		-		85-115	-		
Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1227313-2								
Iron, Total	104		-		85-115	-		
Total Hardness by SM 2340B - Mansfield Lab Associated sample(s): 01 Batch: WG1227313-2								
Hardness	106		-		85-115	-		

# Matrix Spike Analysis

## Batch Quality Control

**Project Name:** BC-BRIGHTON FIELDS PH 2  
**Project Number:** 4761

**Lab Number:** L1915338  
**Report Date:** 04/19/19

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: WG1227308-3 QC Sample: L1914669-01 Client ID: MS Sample												
Mercury, Total	ND	0.005	0.0052	103		-	-		70-130	-		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1227308-5 QC Sample: L1914672-01 Client ID: MS Sample												
Mercury, Total	ND	0.005	0.0051	102		-	-		70-130	-		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1227309-3 QC Sample: L1915062-01 Client ID: MS Sample												
Antimony, Total	ND	0.5	0.6555	131	Q	-	-		70-130	-		20
Arsenic, Total	0.0048	0.12	0.1329	107		-	-		70-130	-		20
Cadmium, Total	ND	0.051	0.05803	114		-	-		70-130	-		20
Chromium, Total	0.00105	0.2	0.1974	98		-	-		70-130	-		20
Copper, Total	0.0115	0.25	0.2640	101		-	-		70-130	-		20
Lead, Total	ND	0.51	0.5916	116		-	-		70-130	-		20
Nickel, Total	0.0020	0.5	0.5053	101		-	-		70-130	-		20
Selenium, Total	0.0143	0.12	0.1462	110		-	-		70-130	-		20
Silver, Total	ND	0.05	0.05286	106		-	-		70-130	-		20
Zinc, Total	ND	0.5	0.5442	109		-	-		70-130	-		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1227313-3 QC Sample: L1915062-01 Client ID: MS Sample												
Iron, Total	ND	1	1.06	106		-	-		75-125	-		20
Total Hardness by SM 2340B - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1227313-3 QC Sample: L1915062-01 Client ID: MS Sample												
Hardness	55.1	66.2	118	95		-	-		75-125	-		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1227313-7 QC Sample: L1915009-01 Client ID: MS Sample												
Iron, Total	6.76	1	7.75	99		-	-		75-125	-		20

# Matrix Spike Analysis

## Batch Quality Control

**Project Name:** BC-BRIGHTON FIELDS PH 2  
**Project Number:** 4761

**Lab Number:** L1915338  
**Report Date:** 04/19/19

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	MSD Found	MSD %Recovery	Recovery Limits	RPD	RPD Limits
Total Hardness by SM 2340B - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1227313-7 QC Sample: L1915009-01 Client ID: MS Sample									
Hardness	51.5	66.2	121	105	-	-	75-125	-	20

**Project Name:** BC-BRIGHTON FIELDS PH 2  
**Project Number:** 4761

## Lab Duplicate Analysis

*Batch Quality Control*

**Lab Number:** L1915338  
**Report Date:** 04/19/19

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1227308-4 QC Sample: L1914669-01 Client ID: DUP Sample						
Mercury, Total	ND	ND	mg/l	NC		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1227308-6 QC Sample: L1914672-01 Client ID: DUP Sample						
Mercury, Total	ND	ND	mg/l	NC		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1227309-4 QC Sample: L1915062-01 Client ID: DUP Sample						
Chromium, Total	0.00105	0.00105	mg/l	0		20
Lead, Total	ND	ND	mg/l	NC		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1227313-8 QC Sample: L1915009-01 Client ID: DUP Sample						
Iron, Total	6.76	6.74	mg/l	0		20

# **INORGANICS & MISCELLANEOUS**

**Project Name:** BC-BRIGHTON FIELDS PH 2  
**Project Number:** 4761

**Lab Number:** L1915338  
**Report Date:** 04/19/19

### SAMPLE RESULTS

**Lab ID:** L1915338-01  
**Client ID:** B-203 (OW) RGP  
**Sample Location:** BRIGHTON, MA

**Date Collected:** 04/15/19 13:00  
**Date Received:** 04/15/19  
**Field Prep:** Not Specified

**Sample Depth:**  
**Matrix:** Groundwater

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
<b>General Chemistry - Westborough Lab</b>										
Solids, Total Suspended	ND		mg/l	5.0	NA	1	-	04/16/19 15:45	121,2540D	DR
Cyanide, Total	ND		mg/l	0.005	--	1	04/16/19 10:55	04/16/19 14:34	121,4500CN-CE	LH
Chlorine, Total Residual	ND		mg/l	0.02	--	1	-	04/15/19 21:16	121,4500CL-D	AS
pH (H)	6.6		SU	-	NA	1	-	04/15/19 22:57	121,4500H+-B	AS
Nitrogen, Ammonia	0.266		mg/l	0.075	--	1	04/16/19 03:00	04/16/19 20:40	121,4500NH3-BH	AT
Chromium, Hexavalent	ND		mg/l	0.010	--	1	04/15/19 22:00	04/15/19 22:29	1,7196A	AS
<b>Anions by Ion Chromatography - Westborough Lab</b>										
Chloride	748.		mg/l	12.5	--	25	-	04/16/19 20:40	44,300.0	AU



**Project Name:** BC-BRIGHTON FIELDS PH 2**Lab Number:** L1915338**Project Number:** 4761**Report Date:** 04/19/19

### 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: WG1226641-1										
Chlorine, Total Residual	ND		mg/l	0.02	--	1	-	04/15/19 21:16	121,4500CL-D	AS
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1226653-1										
Chromium, Hexavalent	ND		mg/l	0.010	--	1	04/15/19 22:00	04/15/19 22:27	1,7196A	AS
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1226683-1										
Nitrogen, Ammonia	ND		mg/l	0.075	--	1	04/16/19 03:00	04/16/19 20:36	121,4500NH3-BH	AT
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1226804-1										
Cyanide, Total	ND		mg/l	0.005	--	1	04/16/19 10:55	04/16/19 13:27	121,4500CN-CE	LH
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1226887-1										
Solids, Total Suspended	ND		mg/l	5.0	NA	1	-	04/16/19 15:45	121,2540D	DR
Anions by Ion Chromatography - Westborough Lab for sample(s): 01 Batch: WG1227444-1										
Chloride	ND		mg/l	0.500	--	1	-	04/16/19 17:16	44,300.0	AU

## Lab Control Sample Analysis

### Batch Quality Control

**Project Name:** BC-BRIGHTON FIELDS PH 2  
**Project Number:** 4761

**Lab Number:** L1915338  
**Report Date:** 04/19/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1226641-2								
Chlorine, Total Residual	92		-		90-110	-		
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1226653-2								
Chromium, Hexavalent	94		-		85-115	-		20
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1226660-1								
pH	99		-		99-101	-		5
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1226683-2								
Nitrogen, Ammonia	101		-		80-120	-		20
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1226804-2								
Cyanide, Total	91		-		90-110	-		
Anions by Ion Chromatography - Westborough Lab Associated sample(s): 01 Batch: WG1227444-2								
Chloride	104		-		90-110	-		



# Matrix Spike Analysis

## Batch Quality Control

**Project Name:** BC-BRIGHTON FIELDS PH 2  
**Project Number:** 4761

**Lab Number:** L1915338  
**Report Date:** 04/19/19

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: WG1226641-4 QC Sample: L1915338-01 Client ID: B-203 (OW) RGP												
Chlorine, Total Residual	ND	0.25	0.29	116		-	-		80-120	-		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1226653-4 QC Sample: L1915338-01 Client ID: B-203 (OW) RGP												
Chromium, Hexavalent	ND	0.1	0.096	96		-	-		85-115	-		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1226683-4 QC Sample: L1915338-01 Client ID: B-203 (OW) RGP												
Nitrogen, Ammonia	0.266	4	4.01	94		-	-		80-120	-		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1226804-4 QC Sample: L1915257-02 Client ID: MS Sample												
Cyanide, Total	ND	0.2	0.202	101		-	-		90-110	-		30
Anions by Ion Chromatography - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1227444-3 QC Sample: L1914736-02 Client ID: MS Sample												
Chloride	1.03	4	5.14	103		-	-		90-110	-		18

# Lab Duplicate Analysis

Batch Quality Control

**Project Name:** BC-BRIGHTON FIELDS PH 2  
**Project Number:** 4761

**Lab Number:** L1915338  
**Report Date:** 04/19/19

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1226641-3 QC Sample: L1915338-01 Client ID: B-203 (OW) RGP						
Chlorine, Total Residual	ND	ND	mg/l	NC		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1226653-3 QC Sample: L1915338-01 Client ID: B-203 (OW) RGP						
Chromium, Hexavalent	ND	ND	mg/l	NC		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1226660-2 QC Sample: L1915338-01 Client ID: B-203 (OW) RGP						
pH (H)	6.6	6.6	SU	0		5
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1226683-3 QC Sample: L1915338-01 Client ID: B-203 (OW) RGP						
Nitrogen, Ammonia	0.266	0.176	mg/l	41	Q	20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1226804-3 QC Sample: L1915257-01 Client ID: DUP Sample						
Cyanide, Total	ND	ND	mg/l	NC		30
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1226887-2 QC Sample: L1915121-01 Client ID: DUP Sample						
Solids, Total Suspended	320	320	mg/l	0		29
Anions by Ion Chromatography - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1227444-4 QC Sample: L1914736-02 Client ID: DUP Sample						
Chloride	1.03	1.04	mg/l	1		18

**Project Name:** BC-BRIGHTON FIELDS PH 2  
**Project Number:** 4761

Serial\_No:04191915:41  
**Lab Number:** L1915338  
**Report Date:** 04/19/19

**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(*)
L1915338-01A	Plastic 250ml HNO3 preserved	A	<2	<2	3.6	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)
L1915338-01B	Plastic 250ml NaOH preserved	A	>12	>12	3.6	Y	Absent		TCN-4500(14)
L1915338-01C	Plastic 500ml H2SO4 preserved	A	<2	<2	3.6	Y	Absent		NH3-4500(28)
L1915338-01D	Plastic 950ml unpreserved	A	7	7	3.6	Y	Absent		CL-300(28),HEXCR-7196(1),TRC-4500(1),PH-4500(.01)
L1915338-01E	Plastic 950ml unpreserved	A	7	7	3.6	Y	Absent		TSS-2540(7)

**Project Name:** BC-BRIGHTON FIELDS PH 2  
**Project Number:** 4761

**Lab Number:** L1915338  
**Report Date:** 04/19/19

## GLOSSARY

### Acronyms

DL	- 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 limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
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.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)  Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
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. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
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

Report Format: Data Usability Report



**Project Name:** BC-BRIGHTON FIELDS PH 2  
**Project Number:** 4761

**Lab Number:** L1915338  
**Report Date:** 04/19/19

- 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.

**PFAS Total:** With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. If a 'Total' result is requested, the results of its individual components will also be reported.

**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.

### 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.
- J** - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- ND** - Not detected at the reporting limit (RL) for the sample.
- 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.

Report Format: Data Usability Report



**Project Name:** BC-BRIGHTON FIELDS PH 2  
**Project Number:** 4761

**Lab Number:** L1915338  
**Report Date:** 04/19/19

## 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.



**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, NO<sub>2</sub>, NO<sub>3</sub>.**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.



## PAGE OF

Page 24 of 24





## **APPENDIX E:**

### **LABORATORY ANALYTICAL DATA – SURFACE WATER**



## ANALYTICAL REPORT

Lab Number:	L1919553
Client:	McPhail Associates 2269 Massachusetts Avenue Cambridge, MA 02140
ATTN:	Ambrose Donovan
Phone:	(617) 868-1420
Project Name:	10 CLIFFORD STREET
Project Number:	6690.9.DP
Report Date:	05/15/19

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).

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



**Project Name:** 10 CLIFFORD STREET  
**Project Number:** 6690.9.DP

**Lab Number:** L1919553  
**Report Date:** 05/15/19

<b>Alpha Sample ID</b>	<b>Client ID</b>	<b>Matrix</b>	<b>Sample Location</b>	<b>Collection Date/Time</b>	<b>Receive Date</b>
L1919553-01	SURFACE WATER	WATER	ROXBURY, MA	05/09/19 11:00	05/09/19

**Project Name:** 10 CLIFFORD STREET  
**Project Number:** 6690.9.DP

**Lab Number:** L1919553  
**Report Date:** 05/15/19

### 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. 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 Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

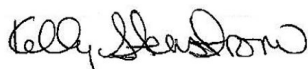
Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

**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 Alpha Project Manager 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 Project Management 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:

 Kelly Stenstrom

Title: Technical Director/Representative

Date: 05/15/19

## METALS

**Project Name:** 10 CLIFFORD STREET**Lab Number:** L1919553**Project Number:** 6690.9.DP**Report Date:** 05/15/19**SAMPLE RESULTS**

Lab ID: L1919553-01

Date Collected: 05/09/19 11:00

Client ID: SURFACE WATER

Date Received: 05/09/19

Sample Location: ROXBURY, 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
<b>Total Metals - Mansfield Lab</b>											
Antimony, Total	ND		mg/l	0.00400	--	1	05/13/19 19:11	05/14/19 03:48	EPA 3005A	3,200.8	AM
Arsenic, Total	ND		mg/l	0.00100	--	1	05/13/19 19:11	05/14/19 03:48	EPA 3005A	3,200.8	AM
Cadmium, Total	ND		mg/l	0.00020	--	1	05/13/19 19:11	05/14/19 03:48	EPA 3005A	3,200.8	AM
Chromium, Total	0.00140		mg/l	0.00100	--	1	05/13/19 19:11	05/14/19 03:48	EPA 3005A	3,200.8	AM
Copper, Total	0.00406		mg/l	0.00100	--	1	05/13/19 19:11	05/14/19 03:48	EPA 3005A	3,200.8	AM
Iron, Total	1.27		mg/l	0.050	--	1	05/13/19 19:11	05/14/19 02:11	EPA 3005A	19,200.7	LC
Lead, Total	0.00632		mg/l	0.00100	--	1	05/13/19 19:11	05/14/19 03:48	EPA 3005A	3,200.8	AM
Mercury, Total	ND		mg/l	0.00020	--	1	05/10/19 12:36	05/10/19 19:18	EPA 245.1	3,245.1	EA
Nickel, Total	ND		mg/l	0.00200	--	1	05/13/19 19:11	05/14/19 03:48	EPA 3005A	3,200.8	AM
Selenium, Total	ND		mg/l	0.00500	--	1	05/13/19 19:11	05/14/19 03:48	EPA 3005A	3,200.8	AM
Silver, Total	ND		mg/l	0.00040	--	1	05/13/19 19:11	05/14/19 03:48	EPA 3005A	3,200.8	AM
Zinc, Total	0.01396		mg/l	0.01000	--	1	05/13/19 19:11	05/14/19 03:48	EPA 3005A	3,200.8	AM
<b>Total Hardness by SM 2340B - Mansfield Lab</b>											
Hardness	59.7		mg/l	0.660	NA	1	05/13/19 19:11	05/14/19 02:11	EPA 3005A	19,200.7	LC

**General Chemistry - Mansfield Lab**

Chromium, Trivalent	ND		mg/l	0.010	--	1		05/14/19 03:48	NA	107,-	
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Project Name: 10 CLIFFORD STREET

Lab Number: L1919553

Project Number: 6690.9.DP

Report Date: 05/15/19

## 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: WG1235839-1										
Mercury, Total	ND		mg/l	0.00020	--	1	05/10/19 12:36	05/10/19 19:02	3,245.1	EA

### Prep Information

Digestion Method: EPA 245.1

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01 Batch: WG1236657-1										
Iron, Total	ND		mg/l	0.050	--	1	05/13/19 19:11	05/14/19 01:12	19,200.7	LC

### 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: WG1236657-1										
Hardness	ND		mg/l	0.660	NA	1	05/13/19 19:11	05/14/19 01:12	19,200.7	LC

### 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: WG1236658-1										
Antimony, Total	ND		mg/l	0.00400	--	1	05/13/19 19:11	05/14/19 02:35	3,200.8	AM
Arsenic, Total	ND		mg/l	0.00100	--	1	05/13/19 19:11	05/14/19 02:35	3,200.8	AM
Cadmium, Total	ND		mg/l	0.00020	--	1	05/13/19 19:11	05/14/19 02:35	3,200.8	AM
Chromium, Total	ND		mg/l	0.00100	--	1	05/13/19 19:11	05/14/19 02:35	3,200.8	AM
Copper, Total	ND		mg/l	0.00100	--	1	05/13/19 19:11	05/14/19 02:35	3,200.8	AM



Project Name: 10 CLIFFORD STREET

Lab Number: L1919553

Project Number: 6690.9.DP

Report Date: 05/15/19

## Method Blank Analysis Batch Quality Control

Lead, Total	ND	mg/l	0.00100	--	1	05/13/19 19:11	05/14/19 02:35	3,200.8	AM
Nickel, Total	ND	mg/l	0.00200	--	1	05/13/19 19:11	05/14/19 02:35	3,200.8	AM
Selenium, Total	ND	mg/l	0.00500	--	1	05/13/19 19:11	05/14/19 02:35	3,200.8	AM
Silver, Total	ND	mg/l	0.00040	--	1	05/13/19 19:11	05/14/19 02:35	3,200.8	AM
Zinc, Total	ND	mg/l	0.01000	--	1	05/13/19 19:11	05/14/19 02:35	3,200.8	AM

### Prep Information

Digestion Method: EPA 3005A



## Lab Control Sample Analysis

### Batch Quality Control

**Project Name:** 10 CLIFFORD STREET

**Project Number:** 6690.9.DP

**Lab Number:** L1919553

**Report Date:** 05/15/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1235839-2								
Mercury, Total	106		-		85-115	-		
Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1236657-2								
Iron, Total	110		-		85-115	-		
Total Hardness by SM 2340B - Mansfield Lab Associated sample(s): 01 Batch: WG1236657-2								
Hardness	106		-		85-115	-		
Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1236658-2								
Antimony, Total	85		-		85-115	-		
Arsenic, Total	99		-		85-115	-		
Cadmium, Total	102		-		85-115	-		
Chromium, Total	97		-		85-115	-		
Copper, Total	94		-		85-115	-		
Lead, Total	105		-		85-115	-		
Nickel, Total	97		-		85-115	-		
Selenium, Total	95		-		85-115	-		
Silver, Total	102		-		85-115	-		
Zinc, Total	99		-		85-115	-		

# Matrix Spike Analysis

## Batch Quality Control

Project Name: 10 CLIFFORD STREET

Project Number: 6690.9.DP

Lab Number: L1919553

Report Date: 05/15/19

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: WG1235839-3    QC Sample: L1919055-01    Client ID: MS Sample												
Mercury, Total	ND	0.005	0.00517	104		-	-		70-130	-		20
Total Metals - Mansfield Lab Associated sample(s): 01    QC Batch ID: WG1236657-3    QC Sample: L1919532-01    Client ID: MS Sample												
Iron, Total	11.4	1	12.3	90		-	-		75-125	-		20
Total Hardness by SM 2340B - Mansfield Lab Associated sample(s): 01    QC Batch ID: WG1236657-3    QC Sample: L1919532-01    Client ID: MS Sample												
Hardness	396	66.2	455	89		-	-		75-125	-		20
Total Metals - Mansfield Lab Associated sample(s): 01    QC Batch ID: WG1236658-3    QC Sample: L1919532-01    Client ID: MS Sample												
Antimony, Total	ND	0.5	0.6041	121		-	-		70-130	-		20
Arsenic, Total	0.00175	0.12	0.1243	102		-	-		70-130	-		20
Cadmium, Total	ND	0.051	0.05303	104		-	-		70-130	-		20
Chromium, Total	ND	0.2	0.1924	96		-	-		70-130	-		20
Copper, Total	0.00143	0.25	0.2360	94		-	-		70-130	-		20
Lead, Total	ND	0.51	0.5044	99		-	-		70-130	-		20
Nickel, Total	ND	0.5	0.4832	97		-	-		70-130	-		20
Selenium, Total	ND	0.12	0.1193	99		-	-		70-130	-		20
Silver, Total	ND	0.05	0.04988	100		-	-		70-130	-		20
Zinc, Total	ND	0.5	0.5051	101		-	-		70-130	-		20

# Lab Duplicate Analysis

*Batch Quality Control*

**Project Name:** 10 CLIFFORD STREET  
**Project Number:** 6690.9.DP

**Lab Number:** L1919553  
**Report Date:** 05/15/19

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1235839-4 QC Sample: L1919055-01 Client ID: DUP Sample						
Mercury, Total	ND	ND	mg/l	NC		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1236657-4 QC Sample: L1919532-01 Client ID: DUP Sample						
Iron, Total	11.4	11.3	mg/l	1		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1236658-4 QC Sample: L1919532-01 Client ID: DUP Sample						
Antimony, Total	ND	ND	mg/l	NC		20
Arsenic, Total	0.00175	0.00193	mg/l	10		20
Cadmium, Total	ND	ND	mg/l	NC		20
Chromium, Total	ND	ND	mg/l	NC		20
Copper, Total	0.00143	0.00123	mg/l	15		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:** 10 CLIFFORD STREET  
**Project Number:** 6690.9.DP

**Lab Number:** L1919553  
**Report Date:** 05/15/19

### SAMPLE RESULTS

**Lab ID:** L1919553-01  
**Client ID:** SURFACE WATER  
**Sample Location:** ROXBURY, MA

**Date Collected:** 05/09/19 11:00  
**Date Received:** 05/09/19  
**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	13.		mg/l	5.0	NA	1	-	05/10/19 06:40	121,2540D	JT
Cyanide, Total	0.005		mg/l	0.005	--	1	05/11/19 14:45	05/13/19 10:52	121,4500CN-CE	LH
pH (H)	7.5		SU	-	NA	1	-	05/09/19 22:34	121,4500H+-B	AS
Nitrogen, Ammonia	0.114		mg/l	0.075	--	1	05/10/19 02:00	05/10/19 23:04	121,4500NH3-BH	AT
Chromium, Hexavalent	ND		mg/l	0.010	--	1	05/10/19 00:01	05/10/19 00:53	1,7196A	JW



**Project Name:** 10 CLIFFORD STREET  
**Project Number:** 6690.9.DP

**Lab Number:** L1919553  
**Report Date:** 05/15/19

**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: WG1235603-1										
Chromium, Hexavalent	ND		mg/l	0.010	--	1	05/10/19 00:01	05/10/19 00:50	1,7196A	JW
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1235616-1										
Nitrogen, Ammonia	ND		mg/l	0.075	--	1	05/10/19 02:00	05/10/19 22:46	121,4500NH3-BH	AT
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1235644-1										
Solids, Total Suspended	ND		mg/l	5.0	NA	1	-	05/10/19 06:40	121,2540D	JT
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1236156-1										
Cyanide, Total	ND		mg/l	0.005	--	1	05/11/19 14:45	05/13/19 10:37	121,4500CN-CE	LH

## Lab Control Sample Analysis

### Batch Quality Control

**Project Name:** 10 CLIFFORD STREET  
**Project Number:** 6690.9.DP

**Lab Number:** L1919553  
**Report Date:** 05/15/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1235581-1								
pH	100		-		99-101	-		5
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1235603-2								
Chromium, Hexavalent	97		-		85-115	-		20
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1235616-2								
Nitrogen, Ammonia	102		-		80-120	-		20
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1236156-2								
Cyanide, Total	98		-		90-110	-		

# Matrix Spike Analysis

## Batch Quality Control

**Project Name:** 10 CLIFFORD STREET  
**Project Number:** 6690.9.DP

**Lab Number:** L1919553  
**Report Date:** 05/15/19

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: WG1235603-4 QC Sample: L1919553-01 Client ID: SURFACE WATER												
Chromium, Hexavalent	ND	0.1	0.089	89		-	-		85-115	-		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1235616-4 QC Sample: L1919378-01 Client ID: MS Sample												
Nitrogen, Ammonia	0.134	4	3.81	92		-	-		80-120	-		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1236156-4 QC Sample: L1919532-02 Client ID: MS Sample												
Cyanide, Total	ND	0.2	0.181	90		-	-		90-110	-		30



# **Lab Duplicate Analysis** *Batch Quality Control*

**Project Name:** 10 CLIFFORD STREET

**Project Number:** 6690.9.DP

**Lab Number:** L1919553

**Report Date:** 05/15/19

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1235581-2 QC Sample: L1919373-01 Client ID: DUP Sample						
pH	8.0	7.8	SU	3		5
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1235603-3 QC Sample: L1919553-01 Client ID: SURFACE WATER						
Chromium, Hexavalent	ND	ND	mg/l	NC		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1235616-3 QC Sample: L1919378-01 Client ID: DUP Sample						
Nitrogen, Ammonia	0.134	0.098	mg/l	31	Q	20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1235644-2 QC Sample: L1919442-01 Client ID: DUP Sample						
Solids, Total Suspended	130	130	mg/l	0		29
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1236156-3 QC Sample: L1919532-01 Client ID: DUP Sample						
Cyanide, Total	ND	ND	mg/l	NC		30

**Project Name:** 10 CLIFFORD STREET**Lab Number:** L1919553**Project Number:** 6690.9.DP**Report Date:** 05/15/19**Sample Receipt and Container Information**

Were project specific reporting limits specified?

YES

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

A                                  Absent

**Container Information**

<b>Container ID</b>	<b>Container Type</b>	<b>Cooler</b>	<b>Initial pH</b>	<b>Final pH</b>	<b>Temp deg C</b>	<b>Pres</b>	<b>Seal</b>	<b>Frozen Date/Time</b>	<b>Analysis(*)</b>
L1919553-01A	Plastic 250ml NaOH preserved	A	>12	>12	3.0	Y	Absent		TCN-4500(14)
L1919553-01B	Plastic 250ml HNO3 preserved	A	<2	<2	3.0	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)
L1919553-01C	Plastic 500ml H2SO4 preserved	A	<2	<2	3.0	Y	Absent		NH3-4500(28)
L1919553-01D	Plastic 950ml unpreserved	A	7	7	3.0	Y	Absent		HEXCR-7196(1),PH-4500(.01)
L1919553-01E	Plastic 950ml unpreserved	A	7	7	3.0	Y	Absent		TSS-2540(7)

**Project Name:** 10 CLIFFORD STREET  
**Project Number:** 6690.9.DP

**Lab Number:** L1919553  
**Report Date:** 05/15/19

## GLOSSARY

### Acronyms

DL	- 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 limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
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.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
	Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
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. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
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

Report Format: Data Usability Report



**Project Name:** 10 CLIFFORD STREET  
**Project Number:** 6690.9.DP

**Lab Number:** L1919553  
**Report Date:** 05/15/19

- 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.

**PFAS Total:** With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. If a 'Total' result is requested, the results of its individual components will also be reported.

**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.

### 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.
- J** - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- ND** - Not detected at the reporting limit (RL) for the sample.
- 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.

Report Format: Data Usability Report



**Project Name:** 10 CLIFFORD STREET  
**Project Number:** 6690.9.DP

**Lab Number:** L1919553  
**Report Date:** 05/15/19

## 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.
- 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.



**Alpha Analytical, Inc.**Facility: **Company-wide**Department: **Quality Assurance**Title: **Certificate/Approval Program Summary**ID No.: **17873**Revision **12**

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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, NO<sub>2</sub>, NO<sub>3</sub>.**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.

