NOTICE OF INTENT FOR DISCHARGE PURSUANT TO MASSACHUSETTS REMEDIATION GENERAL PERMIT MAG9100000

10 CLIFFORD STREET

BOSTON, MASSACHUSETTS

JUNE 11, 2019

Prepared For

United States Environmental Protection Agency
Office Of Ecosystem Protection
5 Post Office Square, Suite 100
Mail Code Oep06-01
Boston, Ma 02109-3912

On Behalf Of:

John B. Cruz Construction Company, Inc.
1 John Eliot Square
Roxbury, MA 02119

PROJECT NO. 6690

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

June 11, 2019

United States Environmental Protection Agency
Office Of Ecosystem Protection
5 Post Office Square, Suite 100
Mail Code Oep06-01
Boston, Ma 02109-3912

Attention: EPA RGP Applications Coordinator

Reference: 10 Clifford Street Roxbury, Massachusetts;
Notice of Intent for Temporary Construction Dewatering Discharge;
Massachusetts Remediation General Permit MAG910000

Ladies and Gentlemen:

In accordance with the provisions of the Remediation General Permit (RGP) MAG910000 that has been prepared for the Commonwealth of Massachusetts, the following is a summary of the site and groundwater quality information in support of a Notice of Intent for the temporary discharge of groundwater into the Charles River via the City of Boston storm drain system. The temporary discharge is located at 10 Clifford Street in Roxbury, Massachusetts (subject site). Refer to **Figure 1** entitled: "Project Location Plan" for the general site locus.

These services were performed and this permit application was prepared in accordance with our proposal dated May 9, 2019, and the subsequent authorization of the Cruz Development Corporation. These services are subject to the limitations contained in **Appendix A**.

The required Notice of Intent (NOI) Form contained in the RGP permit is included in **Appendix B**, and supporting information is included in **Appendix C**. The dewatering discharge permit for the Boston Water and Sewer Commission (BWSC) is also included in **Appendix B.**

Applicant/Operator

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

John B. Cruz Construction Company, Inc.
1 John Eliot Square
Roxbury, MA 02119

Attention: Mr. Edgar J. Carrere
Phone: 617-445-6901
Email: ecarrere@cruzcompanies.com

Existing Conditions

Fronting onto Warren Street to the west, the subject site is bounded by Clifford Street to the south, Waverly Street to the northeast, a church to the northwest and residential properties to the east and southeast. The boundaries of the subject site are shown on the enclosed **Figure 2**.

The approximate 32,000 square-foot is an irregularly shaped parcel that is comprised of six (6) contiguous parcels of land. Currently, the subject site is occupied by the 276-290 Warren Street buildings and the 10 Clifford Street building, occupying the western and eastern/southeastern portions of the subject site, respectively. The 276-290 Warren Street buildings consist of five (5) vacant, adjoining single-story brick buildings which front onto Warren Street and the 10 Clifford Street building consists of a single-story brick and concrete warehouse fronting onto Clifford Street. The remaining portions of the subject site are covered by asphalt paved driveways, concrete walkways, and landscaped margins.

Existing ground surface across the site generally varies from about Elevation +78 along the Warren Street to Elevation +87 along Waverly Street, generally sloping toward the southeast.

Proposed Scope of Site Development

It is understood that upon demolition of the existing 1-story buildings, the proposed development will include construction of a 4-story building which will include a full below-grade garage and occupy an approximate 20,000 square-foot plan area. Based on our review of the drawings provided to us, the proposed building footprint will almost occupy the entire site, and it will be about 10 feet away from the adjacent 16 Clifford Street and 29 Waverly Street private residential properties. It is understood that the proposed garage floor slab is planned to be constructed at Elevation +68.9.

Based upon existing site grades and the planned lowest-level slab elevation of the below-grade garage of the new building, excavation of soil for construction of the proposed building foundation is estimated to range from 10.5 to 21 feet below the existing ground surface. A temporary excavation support system will be necessary to construct the proposed building foundation which is likely to consist of a drilled-in cantilevered and/or internally braced steel soldier pile and timber lagging wall.

Site Environmental Setting and Surrounding Historical Places

Based on an on-line edition of the Massachusetts Geographic Information Systems DEP Priority Resources Map (GIS Map) viewed on June 3, 2019, the subject site is not located within the boundaries of a Sole Source Aquifer, Potentially Productive Aquifer or within a Zone II, Interim Wellhead Protection Area as defined by the Massachusetts Department of

Environmental Protection. Further, there are no public drinking water supply wells, no Areas of Critical Environmental Concern, no fish habitats, no habitats of Species of Special Concern or Threatened or Endangered Species within specified distances of the subject site.

A review of information provided by the U.S. Fish and Wildlife Service in an Information for Planning and Conservation (IPaC) Trust Resource Report for the subject site identified that there are no endangered species at or in the vicinity of the discharge location and/or discharge outfall. Based upon the above, the site is considered a Criterion A pursuant to Appendix IV of the RGP. A copy of the IPaC Trust Resource Report and correspondence are included in **Appendix C**.

The GIS Map indicates that there are no water bodies or wetland areas on the subject site. The nearest body of water is Dorchester Bay which is located approximately 9,000 feet from the subject site. The map indicates that there are no known Protected Open Space within 0.5 miles of the subject site. A copy of the Massachusetts GIS Priority Resources Map is included in **Appendix C**.

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

As further discussed below, treated construction dewatering effluent will be discharged into the City of Boston dedicated storm drain system that flows into the Charles River. The dewatering of groundwater at the site will be temporary and intermittent. Groundwater discharged as part of the proposed project will be controlled and monitored. Treatment systems will consist of temporary structures. Therefore, based on the anticipated duration of construction dewatering and the location of its discharge into the Charles River, construction dewatering activities are not considered to affect historical listings. Hence, the site meets Permit Eligibility Criterion A in accordance with Appendix III of the RGP.

Site & Release History

From its construction in 1927 through 1964, the 10 Clifford Street property was utilized as a public garage for the adjacent Warren Theater, located northwest of the subject site. Since the 1960s the 10 Clifford Street Building has been occupied by several commercial businesses and used as storage. The buildings located at 276-290 Warren Street have been utilized for commercial purposes since their construction in 1930. Specifically, the 280-290 Warren Street buildings have been occupied by a printing shop, "Chinese Laundry," and several upholstery companies between 1935 and 1950.

Based upon our review of the MA DEP online site database, Release Tracking Numbers (RTNs) are not associated with the subject site.

According to a report titled "Cleanup Evaluation, 2 and 10 Clifford Street, Roxbury District, Boston (Roxbury), Massachusetts" prepared by Storch Engineering, Inc and dated December 1987 documents the removal of five (5) underground storage tanks (USTs) from the 10 Clifford Street property. According to Storch, composite soil samples collected from the unspecified UST graves contained up to 513 parts per million (ppm) total petroleum hydrocarbons (TPH). The Massachusetts Department of Environmental Quality Engineering subsequently "closed" this release in 1988. Subsequently, in 2015, a limited Phase II Environmental Site Assessment was completed at the 10 Clifford Street site by GEI Consultants, Inc. (GEI) in the asphalt paved parking lot. The results of the assessment activities did not identify a release.

Temporary Construction Dewatering

Based upon subsurface assessment activities completed at the subject site, groundwater was observed at approximately 10-12 feet below ground surface corresponding to Elevation +69.5 and +67.5. Based upon the depth of the excavation, it is likely that only temporary and periodic sumping for dewatering will be required in connection with the construction of the proposed building. Given that the area of excavation will occupy a majority of the subject site, temporary on-site collection and recharge of groundwater may not be feasible during construction. As a result, construction dewatering will discharge collected groundwater into the storm drain system under the Remediation General Permit.

It is anticipated that the rate of construction dewatering to facilitate excavation of the fill material will be on the order of 50 gallons per minute (gpm). However, as the excavation extends into the underlying relatively impermeable glacial till deposit and bedrock, construction dewatering will decrease to approximately 25 gallons per minute. These estimates do not include surface run-off which will be removed from the excavation during periods of precipitation.

A review of available subgrade sanitary and storm sewer system plans accessed from the Boston Water and Sewer Commission (BWSC) indicate the presence of a dedicated stormwater drain system located on Warren street. Records provided by BWSC indicates that stormwater flows west from 10 Clifford Street, across Warren Street, along Dale Street. The storm drain then flows north on Regent Street, northwest on Crispus Attucks Place, and north on Washington Street where it then flows west on Ruggles street and discharges into the Stony Brook canal at approximately outfall 138. The Stony Brook flows north to the primary discharge location on the Charles River outfall CSO023 according to the BWSC shown on **Figure 3A, 3B, 3C, 3D, 3E.**

Summary of Groundwater Analysis

On April 30, 2019 McPhail Associates, LLC obtained a sample of groundwater at the subject site from monitoring well B-303. The groundwater sample was submitted to a certified laboratory for analysis for the presence of compounds required under the EPA's RGP

application, including total suspended solids (TSS), pH, total residual chlorine, volatile organic compounds (VOCs) including total benzene, toluene, ethylbenzene and xylenes (BTEX), and total recoverable metals. Analytical results of the testing of groundwater samples obtained in 2019 are summarized in **Table 1** and the laboratory data are enclosed in **Appendix D**. In addition, a surface water sample was obtained from an upstream location of the discharge into the Charles River receiving water in May 2019. The receiving water sample was analyzed for the presence of total metals, hardness and ammonia nitrogen are summarized in **Table 2**. Additionally, at the time of sample collection, the temperature and pH of the surface water sample were analyzed. The approximate location of sample collection is indicated on the enclosed **Figure 3**, and analytical test results are included in the enclosed **Appendix E**.

In summary, groundwater testing performed at the subject site has detected concentrations of suspended solids, ammonia, chloride, copper, chromium, iron, lead, and nickel. Water Quality-Based Effluent Limits (WQBELs) were calculated for each of the detected compounds. With the exception of lead, Type A, B, and C compounds do not exceed the applicable Technology Based Effluent Limits (TBELs). For detected compounds, based on calculations performed in accordance with Appendix V of the RGP, WQBEL only applies to lead.

Groundwater Treatment

Based upon the anticipated rates of construction dewatering in conjunction with the results of the above referenced groundwater analyses, it is our opinion that one 10,000-gallon capacity settling tank and bag filters, in series will be used to settle out and remove particulate matter as well as likely reduce lead concentrations in the effluent to meet limits established by the US EPA prior to discharge. A schematic of the treatment system is shown on **Figure 4**.

A Best Management Practices Plan (BMPP) has been prepared as **Appendix F** for the RGP and will be posted at the site during the time period that temporary construction dewatering is occurring.

Summary and Conclusions

The purpose of this report is to summarize site environmental conditions and groundwater data to support a Notice of Intent to discharge under the Remediation General Permit, for off-site discharge of dewatered groundwater which will be encountered during the redevelopment at 10 Clifford Street located in Roxbury, Massachusetts. The groundwater testing results reported in this application have been provided to the site owner.

Based on the results of the above referenced groundwater analyses, treatment of construction dewatering will be necessary to meet the effluent limits established by the US EPA prior to off-site discharge. The proposed construction dewatering effluent treatment

system will consist of a one 10,000-gallon capacity settling tank and bag filters in series. However, should the effluent monitoring results identify concentrations of contaminants that are in excess of the limits established by the RGP, additional mitigative measures will be implemented to meet the allowable discharge limits.

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.

Sincerely,

McPHAIL ASSOCIATES, LLC

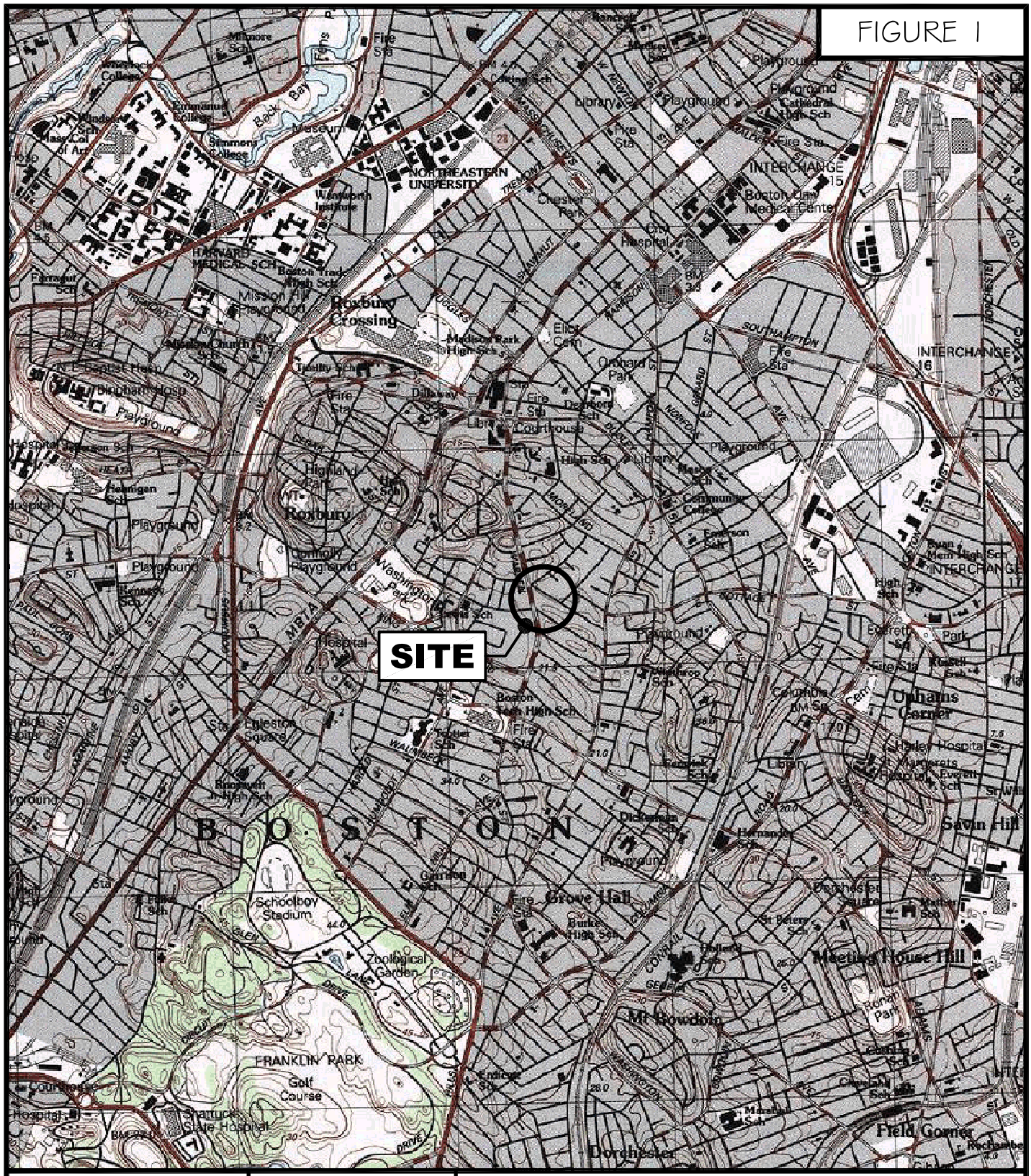
Joseph S. Wold

William J. Burns, L.S.P.

N:\Working Documents\Reports\6690 RGP 061019.docx

JSW/bed/wjb

FIGURE 1



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N

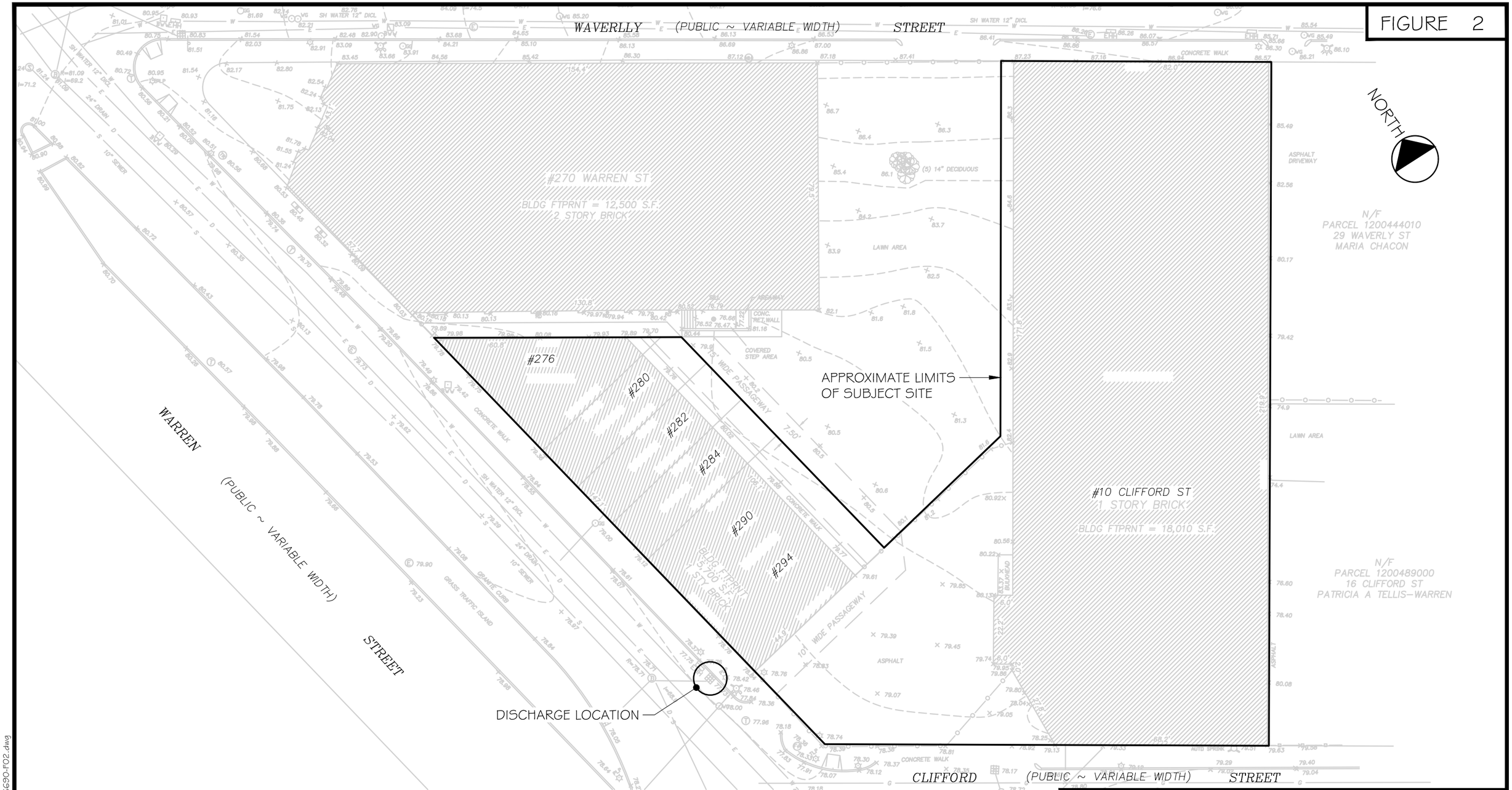
SCALE 1:25,000

PROJECT LOCATION PLAN

MICHAEL E. HAYNES ARMS

ROXBURY MASSACHUSETTS

FIGURE 2



REFERENCE: THIS PLAN WAS PREPARED FROM A 20-SCALE DRAWING ENTITLED "TOPOGRAPHIC PLAN" DATED OCTOBER 23, 2015 BY R.E. CAMERON & ASSOCIATES, INC.

GRAPHIC SCALE

30 0 30 60

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MICHAEL E. HAYNES ARMS

ROXBURY MASSACHUSETTS

DISCHARGE LOCATION PLAN

FOR

CRUZ CONSTRUCTION CORPORATION

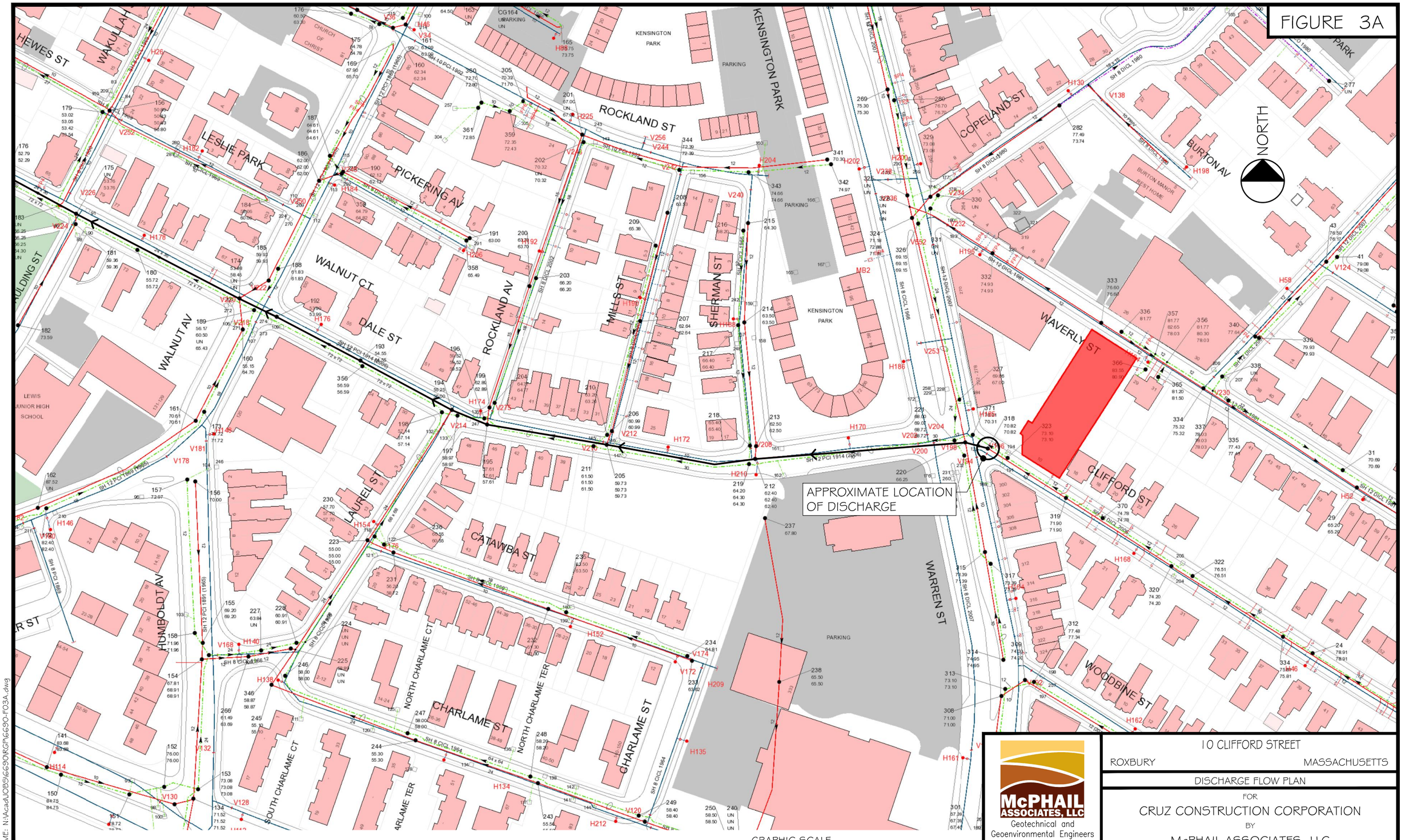
BY

McPHAIL ASSOCIATES, LLC

Date: MAY 2019	Dwn: I.J.M.	Chkd: J.S.W.	Scale: 1" = 30'
Project No: 6690			

FILE NAME: N:\Acad\JOBS\6690\RGF\6690-F02.dwg

FIGURE 3A



REFERENCE: THIS PLAN WAS PREPARED FROM A 90-SCALE DRAWING UNTITLED AND DATED MAY 23, 2019 PROVIDED BY THE BOSTON WATER AND SEWER COMMISSION

GRAPHIC SCALE

180 0 180 360

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10 CLIFFORD STREET

ROXBURY MASSACHUSETTS

DISCHARGE FLOW PLAN

FOR

CRUZ CONSTRUCTION CORPORATION

BY

McPHAIL ASSOCIATES, LLC

Date: MAY 2019	Dwn: I.J.M.	Chkd: J.S.W.	Scale: 1" = 180'
Project No: 6690			

FILE NAME: N:\Acad\JOBS\6690\RGP\6690-FO3A.dwg

FIGURE 3B

NORTH

REFERENCE: THIS PLAN WAS PREPARED FROM A 90-SCALE DRAWING UNTITLED AND DATED MAY 23, 2019 PROVIDED BY THE BOSTON WATER AND SEWER COMMISSION

GRAPHIC SCALE

180 0 180 360

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10 CLIFFORD STREET

ROXBURY MASSACHUSETTS

DISCHARGE FLOW PLAN

FOR

CRUZ CONSTRUCTION CORPORATION

BY

McPHAIL ASSOCIATES, LLC

Date: MAY 2019	Dwn: I.J.M.	Chkd: J.S.W.	Scale: 1" = 180'
Project No: 6690			

FIGURE 3C

NORTH

REFERENCE: THIS PLAN WAS PREPARED FROM A 90-SCALE DRAWING UNTITLED AND DATED MAY 23, 2019 PROVIDED BY THE BOSTON WATER AND SEWER COMMISSION

GRAPHIC SCALE

180 0 180 360

FILE NAME: N:\Acad\JOBS\6690\RGF\6690-F03C.dwg

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10 CLIFFORD STREET

ROXBURY MASSACHUSETTS

DISCHARGE FLOW PLAN

FOR

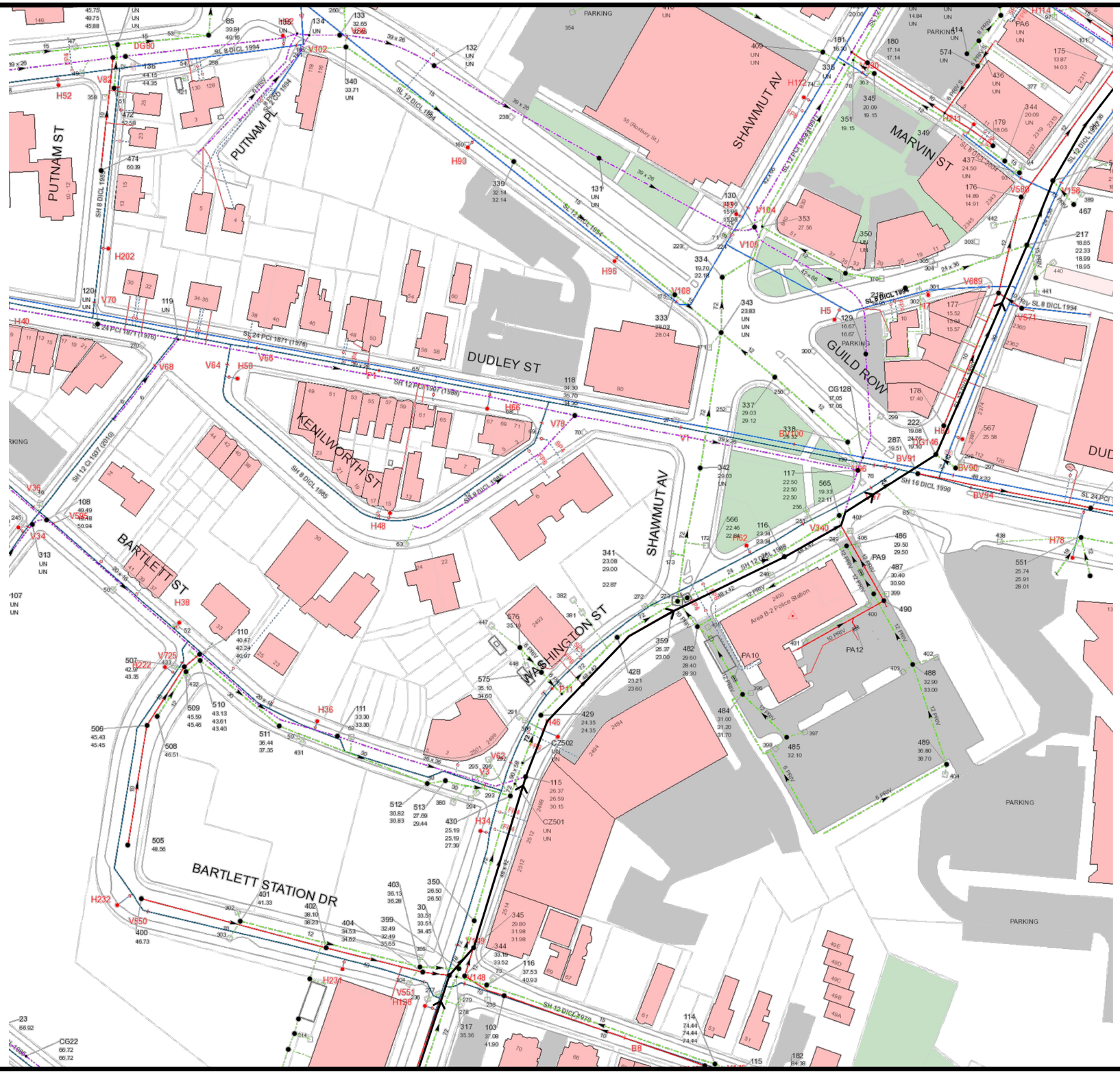
CRUZ CONSTRUCTION CORPORATION

BY

McPHAIL ASSOCIATES, LLC

Date: MAY 2019	Dwn: I.J.M.	Chkd: J.S.W.	Scale: 1" = 180'
Project No: 6690			

FIGURE 3D



NORTH

REFERENCE: THIS PLAN WAS PREPARED FROM A 60-SCALE DRAWING UNTITLED AND DATED MAY 23, 2019 PROVIDED BY THE BOSTON WATER AND SEWER COMMISSION

GRAPHIC SCALE

180 0 180 360

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10 CLIFFORD STREET

ROXBURY MASSACHUSETTS

DISCHARGE FLOW PLAN

FOR

CRUZ CONSTRUCTION CORPORATION

BY

McPHAIL ASSOCIATES, LLC

Date: MAY 2019	Dwn: I.J.M.	Chkd: J.S.W.	Scale: 1" = 180'
Project No: 6690			

FILE NAME: N:\Acad\JOBS\6690\DRGS\6690-FD3D.dwg

FIGURE 3E

APPROXIMATE LOCATION OF STONY BROOK INTERSECTION THAT LEADS TO CHARLES RIVER

NORTH

REFERENCE: THIS PLAN WAS PREPARED FROM A 60-SCALE DRAWING UNTITLED AND DATED MAY 23, 2019 PROVIDED BY THE BOSTON WATER AND SEWER COMMISSION

GRAPHIC SCALE

180 0 180 360

FILE NAME: N:\Acad\JOBS\6690RGP\6690-FIG3E.dwg

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10 CLIFFORD STREET

ROXBURY MASSACHUSETTS

DISCHARGE FLOW PLAN

FOR

CRUZ CONSTRUCTION CORPORATION

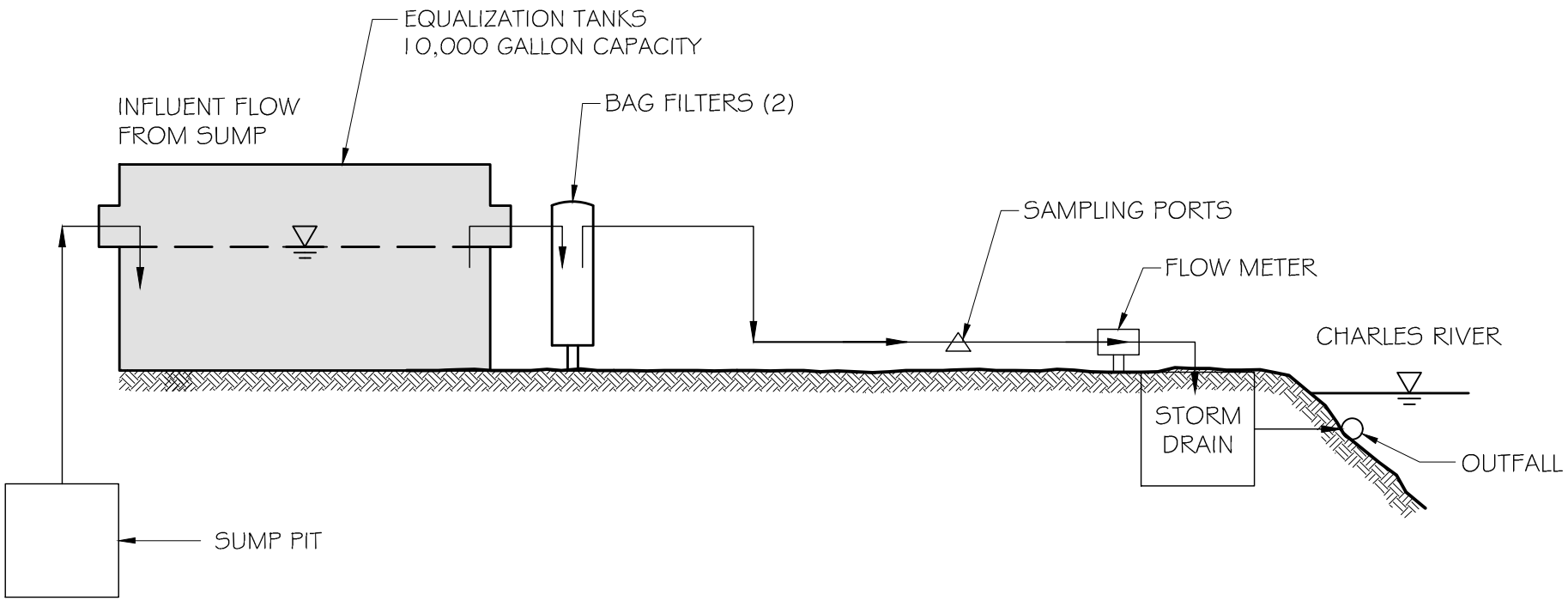
BY

McPHAIL ASSOCIATES, LLC

Date: MAY 2019	Dwn: I.J.M.	Chkd: J.S.W.	Scale: 1" = 180'
Project No: 6690			

FILE NAME: N:\Acad\JOBS\6690\RGP\6690-F04.dwg

FIGURE 4



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10 CLIFFORD STREET
ROXBURY MASSACHUSETTS

SCHEMATIC OF TREATMENT SYSTEM

FOR

CRUZ CONSTRUCTION CORPORATION

BY

McPHAIL ASSOCIATES, LLC
CONSULTING GEOTECHNICAL ENGINEERS

Date: MAY 2019	Dwn: I.J.M.	Chkd: J.S.W.	Scale: N.T.S.
Project No: 6690			

Table 1
Labratory Analytical Results - Groundwater
B-303 (OW)

10 Clifford Street
Roxbury, MA
Project No. 6690

LOCATION	EPA - Freshwater Aquatic Life Chronic Criteria	B-303 (OW)
SAMPLING DATE		**4/30/2019**
LAB SAMPLE ID		L1917808-01
SAMPLE TYPE		Groundwater
General Chemistry (ug/l)		
Chlorine, Total Residual		ND(20)
Chromium, Hexavalent	11	ND(10)
Chromium, Trivalent	74	ND(10)
Cyanide, Total	5.2	ND(5)
Nitrogen, Ammonia		83
pH (SU)		6.6
Phenolics, Total		ND(30)
Solids, Total Suspended		29000
TPH, SGT-HEM		ND(4000)
Chloride	230000	74400
Hardness		236000
Total Metals (ug/l)		
Antimony, Total		ND(4)
Arsenic, Total	150	ND(1)
Cadmium, Total	0.25	ND(0.2)
Chromium, Total		1.46
Copper, Total		3.13
Iron, Total	1000	912
Lead, Total	2.5	**5.17**
Mercury, Total	0.77	**0.92**
Nickel, Total	52	2.49
Selenium, Total	5	ND(5)
Silver, Total		ND(0.4)
Zinc, Total	120	ND(10)
Semivolatile Organics (ug/l)		
SUM		ND
Volatile Organics (ug/l)		
SUM		ND

ND - Not detected in excess of the detection limit
(#) - Detection limit
Bold - Exceeds EPA - Freshwater Aquatic Life Chronic Criteria

Table 2
Labratory Analytical Results - Surface Water
Charles River

10 Clifford Street
Roxbury, MA
Project No.6690

LOCATION	EPA - Freshwater Aquatic Life Chronic Criteria	Charles River RGP Sample
SAMPLING DATE		**5/9/2019**
LAB SAMPLE ID		L1919553-01
SAMPLE TYPE		Surface Water
General Chemistry (ug/l)		
Nitrogen, Ammonia		114
pH (SU)		7.5
Hardness		59700
Total Metals (ug/l)		
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
Bold - signifies exceedance levels
Tested compounds not shown do not exceed labratory method detection limits

McPhail Associates, LLC

APPENDIX A:

LIMITATIONS

LIMITATIONS

The purpose of this report is to present the results of testing of groundwater samples obtained from a monitoring well located at 10 Clifford Street in Roxbury, Massachusetts, in support of an application for approval of construction site dewatering discharge into surface waters of the Commonwealth of Massachusetts under EPA's Massachusetts Remediation General Permit MAG910000.

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 this assessment, as described in the text.

This report and application have been prepared on behalf of and for the exclusive use of Cruz Development and Cruz Construction Corporation. 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 FORM
BOSTON WATER & SEWER DEWATERING DISCHARGE PERMIT

II. Suggested Format for the Remediation General Permit Notice of Intent (NOI)

A. General site information:

<table>
<tr><td rowspan="2">1. Name of site:
10 Clifford Street</td><td colspan="3">Site address: 10 Clifford Street
Street:</td></tr>
<tr><td>City: Roxbury</td><td>State: MA</td><td>Zip: 02210</td></tr>
<tr><td rowspan="4">2. Site owner
Michael E. Haynes Arms, LLC

Owner is (check one): ☐ Federal ☐ State/Tribal ■ Private
☐ Other; if so, specify:</td><td colspan="3">Contact Person: Daniel Cruz, Jr.</td></tr>
<tr><td colspan="2">Telephone: 617-445-6901</td><td>Email: dcruz@cruzcompanies.com</td></tr>
<tr><td colspan="3">Mailing address:
Street: 1 John Eliot Square, Roxbury, MA</td></tr>
<tr><td>City: Roxbury</td><td>State: MA</td><td>Zip: 02119</td></tr>
<tr><td rowspan="4">3. Site operator, if different than owner

John B. Cruz Construction Company, Inc.</td><td colspan="3">Contact Person: Edgar J. Carrere Jr.</td></tr>
<tr><td colspan="2">Telephone: 617-445-6901</td><td>Email: ecarrere@cruzcompanies.com</td></tr>
<tr><td colspan="3">Mailing address:
Street: 1 John Eliot Square</td></tr>
<tr><td>City: Roxbury</td><td>State: MA</td><td>Zip: 02119</td></tr>
<tr><td>4. NPDES permit number assigned by EPA:

NPDES permit is (check all that apply: ☐ RGP ☐ DGP ☐ CGP
☐ MSGP ☐ Individual NPDES permit ☐ Other; if so, specify:</td><td colspan="3">5. Other regulatory program(s) that apply to the site (check all that apply):
☐ MA Chapter 21e; list RTN(s):

☐ NH Groundwater Management Permit or Groundwater Release Detection Permit:

☐ CERCLA
☐ UIC Program
☐ POTW Pretreatment
☐ CWA Section 404</td></tr>
</table>

B. Receiving water information:

1. Name of receiving water(s):	Waterbody identification of receiving water(s):	Classification of receiving water(s):
Charles River	MA72-038	B

Receiving water is (check any that apply): ☐ Outstanding Resource Water ☐ Ocean Sanctuary ☐ territorial sea ☐ Wild and Scenic River

2. Has the operator attached a location map in accordance with the instructions in B, above? (check one): ■ Yes ☐ No

Are sensitive receptors present near the site? (check one): ☐ Yes ■ No
If yes, specify:

3. Indicate if the receiving water(s) is listed in the State's Integrated List of Waters (i.e., CWA Section 303(d)). Include which designated uses are impaired, and any pollutants indicated. Also, indicate if a final TMDL is available for any of the indicated pollutants. For more information, contact the appropriate State as noted in Part 4.6 of the RGP.
(Charles River) TMDL 301.0 - See Appendix C for further information

4. Indicate the seven day-ten-year low flow (7Q10) of the receiving water determined in accordance with the instructions in Appendix V for sites located in Massachusetts and Appendix VI for sites located in New Hampshire.	29.2 cfs
5. Indicate the requested dilution factor for the calculation of water quality-based effluent limitations (WQBELs) determined in accordance with the instructions in Appendix V for sites in Massachusetts and Appendix VI for sites in New Hampshire.	263

6. Has the operator received confirmation from the appropriate State for the 7Q10and dilution factor indicated? (check one): ■ Yes ☐ No
If yes, indicate date confirmation received: 7/2/19

7. Has the operator attached a summary of receiving water sampling results as required in Part 4.2 of the RGP in accordance with the instruction in Appendix VIII? (check one): ■ Yes ☐ No

C. Source water information:

1. Source water(s) is (check any that apply):

■ Contaminated groundwater Has the operator attached a summary of influent sampling results as required in Part 4.2 of the RGP in accordance with the instruction in Appendix VIII? (check one): ■ Yes ☐ No	☐ Contaminated surface water Has the operator attached a summary of influent sampling results as required in Part 4.2 of the RGP in accordance with the instruction in Appendix VIII? (check one): ☐ Yes ☐ No	☐ The receiving water ☐ A surface water other than the receiving water; if so, indicate waterbody:	☐ Potable water; if so, indicate municipality or origin: ☐ Other; if so, specify:

2. Source water contaminants: ammonia, lead, and mercury	
a. For source waters that are contaminated groundwater or contaminated surface water, indicate are any contaminants present that are not included in the RGP? (check one): ☐ Yes ■ No If yes, indicate the contaminant(s) and the maximum concentration present in accordance with the instructions in Appendix VIII.	b. For a source water that is a surface water other than the receiving water, potable water or other, indicate any contaminants present at the maximum concentration in accordance with the instructions in Appendix VIII? (check one): ☐ Yes ☐ No
3. Has the source water been previously chlorinated or otherwise contains residual chlorine? (check one): ☐ Yes ■ No	

D. Discharge information

1.The discharge(s) is a(n) (check any that apply): ☐ Existing discharge ■ New discharge ☐ New source	
Outfall(s): (Charles River) CSO023	Outfall location(s): (Latitude, Longitude) (41 .351050, -71 .094433)
Discharges enter the receiving water(s) via (check any that apply): ☐ Direct discharge to the receiving water ■ Indirect discharge, if so, specify: Discharge indirectly into Charles River through BWSC system ☐ A private storm sewer system ■ A municipal storm sewer system If the discharge enters the receiving water via a private or municipal storm sewer system: Has notification been provided to the owner of this system? (check one): ■ Yes ☐ No See Appendix B for further information Has the operator has received permission from the owner to use such system for discharges? (check one): ☐ Yes ■ No, if so, explain, with an estimated timeframe for obtaining permission: Upon approval of this NOI Has the operator attached a summary of any additional requirements the owner of this system has specified? (check one): ■ Yes ☐ No See Appendix B for further information	
Provide the expected start and end dates of discharge(s) (month/year): Temporary Treatment System 07/2019 - 06/2020 Indicate if the discharge is expected to occur over a duration of: ■ less than 12 months ☐ 12 months or more ☐ is an emergency discharge	
Has the operator attached a site plan in accordance with the instructions in D, above? (check one): ■ Yes ☐ No	

<table>
<tr><td>2. Activity Category: (check all that apply)</td><td colspan="2">3. Contamination Type Category: (check all that apply)</td></tr>
<tr><td rowspan="5">☐ I – Petroleum-Related Site Remediation
☐ II – Non-Petroleum-Related Site Remediation
■ III – Contaminated Site Dewatering
☐ IV – Dewatering of Pipelines and Tanks
☐ V – Aquifer Pump Testing
☐ VI – Well Development/Rehabilitation
☐ VII – Collection Structure Dewatering/Remediation
☐ VIII – Dredge-Related Dewatering</td><td colspan="2">a. If Activity Category I or II: (check all that apply)

☐ A. Inorganics
☐ B. Non-Halogenated Volatile Organic Compounds
☐ C. Halogenated Volatile Organic Compounds
☐ D. Non-Halogenated Semi-Volatile Organic Compounds
☐ E. Halogenated Semi-Volatile Organic Compounds
☐ F. Fuels Parameters</td></tr>
<tr><td colspan="2">b. If Activity Category III, IV, V, VI, VII or VIII: (check either G or H)</td></tr>
<tr><td>■ G. Sites with Known Contamination</td><td>☐ H. Sites with Unknown Contamination</td></tr>
<tr><td>c. If Category III-G, IV-G, V-G, VI-G, VII-G or VIII-G: (check all that apply)

■ A. Inorganics
☐ B. Non-Halogenated Volatile Organic Compounds
☐ C. Halogenated Volatile Organic Compounds
☐ D. Non-Halogenated Semi-Volatile Organic Compounds
☐ E. Halogenated Semi-Volatile Organic Compounds
■ F. Fuels Parameters</td><td>d. If Category III-H, IV-H, V-H, VI-H, VII-H or VIII-H Contamination Type Categories A through F apply</td></tr>
</table>

4. Influent and Effluent Characteristics

Parameter	Known or believed absent	Known or believed present	# of samples	Test method (#)	Detection limit (µg/l)	Influent		Effluent Limitations	
						Daily maximum (µg/l)	Daily average (µg/l)	TBEL	WQBEL
A. Inorganics									
Ammonia		✓	1	121,4500	75	.083	.083	Report mg/L	---
Chloride		✓	1	443000	500	74400	74400	Report µg/l	---
Total Residual Chlorine	✓		1	121,4500	20	<DL	<DL	0.2 mg/L	
Total Suspended Solids		✓	1	1212540I	5000	29	29	30 mg/L	
Antimony	✓		1	1,6020A	4	<DL	<DL	206 µg/L	
Arsenic	✓		1	1,6020A	0.5	<DL	<DL	104 µg/L	
Cadmium	✓		1	1,6020A	2	<DL	<DL	10.2 µg/L	
Chromium III		✓	1	1,6020A	1	1.46	1.46	323 µg/L	
Chromium VI		✓	1	1,6020A	1	1.46	1.46	323 µg/L	
Copper		✓	1	1,6020A	1	3.13	3.13	242 µg/L	
Iron		✓	1	19200.7	500	912	912	5,000 µg/L	
Lead		✓	1	1,6020A	0.5	5.17	5.17	160 µg/L	0.77
Mercury		✓	1	3,245.1	0.2	.92	.92	0.739 µg/L	
Nickel	✓		1	1,6020A	0.5	<DL	<DL	1,450 µg/L	
Selenium	✓		1	1,6020A	5	<DL	<DL	235.8 µg/L	
Silver	✓		1	1,6020A	0.4	<DL	<DL	35.1 µg/L	
Zinc	✓		1	1,6020A	10	<DL	<DL	420 µg/L	
Cyanide	✓		1	121,4500	5	<DL	<DL	178 mg/L	
B. Non-Halogenated VOCs									
Total BTEX	✓		1	128,624.1	1.0	<DL	<DL	100 µg/L	---
Benzene	✓		1	128,624.1	1.0	<DL	<DL	5.0 µg/L	---
1,4 Dioxane	✓		1	128,624.1	50	<DL	<DL	200 µg/L	---
Acetone	✓		1	128,624.1	10	<DL	<DL	7.97 mg/L	---
Phenol	✓		1	128,624.1	2.0	<DL	<DL	1,080 µg/L	

Parameter	Known or believed absent	Known or believed present	# of samples	Test method (#)	Detection limit (µg/l)	Influent		Effluent Limitations	
						Daily maximum (µg/l)	Daily average (µg/l)	TBEL	WQBEL
C. Halogenated VOCs									
Carbon Tetrachloride	✓		1	128.624.1	1	<DL	<DL	4.4 µg/L	
1,2 Dichlorobenzene	✓		1	128.624.1	5	<DL	<DL	600 µg/L	---
1,3 Dichlorobenzene	✓		1	128.624.1	5	<DL	<DL	320 µg/L	---
1,4 Dichlorobenzene	✓		1	128.624.1	5	<DL	<DL	5.0 µg/L	---
Total dichlorobenzene	✓		1	128.624.1	5	<DL	<DL	763 µg/L in NH	---
1,1 Dichloroethane	✓		1	128.624.1	1.5	<DL	<DL	70 µg/L	---
1,2 Dichloroethane	✓		1	128.624.1	1.5	<DL	<DL	5.0 µg/L	---
1,1 Dichloroethylene	✓		1	128.624.1	1	<DL	<DL	3.2 µg/L	---
Ethylene Dibromide	✓		1	128.624.1	1	<DL	<DL	0.05 µg/L	---
Methylene Chloride	✓		1	128.624.1	1	<DL	<DL	4.6 µg/L	---
1,1,1 Trichloroethane	✓		1	128.624.1	2	<DL	<DL	200 µg/L	---
1,1,2 Trichloroethane	✓		1	128.624.1	1.5	<DL	<DL	5.0 µg/L	---
Trichloroethylene	✓		1	128.624.1	1	<DL	<DL	5.0 µg/L	---
Tetrachloroethylene	✓		1	128.624.1	1	<DL	<DL	5.0 µg/L	
cis-1,2 Dichloroethylene	✓		1	128.624.1	1	<DL	<DL	70 µg/L	---
Vinyl Chloride	✓		1	128.624.1	1	<DL	<DL	2.0 µg/L	---
D. Non-Halogenated SVOCs									
Total Phthalates	✓		0					190 µg/L	
Diethylhexyl phthalate	✓		0					101 µg/L	
Total Group I PAHs	✓		0					1.0 µg/L	---
Benzo(a)anthracene	✓		0					As Total PAHs	
Benzo(a)pyrene	✓		0						
Benzo(b)fluoranthene	✓		0						
Benzo(k)fluoranthene	✓		0						
Chrysene	✓		0						
Dibenzo(a,h)anthracene	✓		0						
Indeno(1,2,3-cd)pyrene	✓		0						

Parameter	Known or believed absent	Known or believed present	# of samples	Test method (#)	Detection limit (µg/l)	Influent		Effluent Limitations	
						Daily maximum (µg/l)	Daily average (µg/l)	TBEL	WQBEL
Total Group II PAHs	✔		1	18270D-S	0.10	<DL	<DL	100 µg/L	---
Naphthalene	✔		1	129,625.1	2.5	<DL	<DL	20 µg/L	---
E. Halogenated SVOCs									
Total PCBs	✔		1	127,608.3	0.250	<DL	<DL	0.000064 µg/L	---
Pentachlorophenol	✔		1	18270D-S	0.80	<DL	<DL	1.0 µg/L	---
F. Fuels Parameters									
Total Petroleum Hydrocarbons		✔						5.0 mg/L	---
Ethanol	✔		0					Report mg/L	---
Methyl-tert-Butyl Ether	✔		0					70 µg/L	
tert-Butyl Alcohol	✔		0					120 µg/L in MA 40 µg/L in NH	---
tert-Amyl Methyl Ether	✔		0					90 µg/L in MA 140 µg/L in NH	---
Other (i.e., pH, temperature, hardness, salinity, LC_{50}, additional pollutants present); if so, specify:									
pH - Influent		✔	1	121,4500		6.6	6.6		
Salinity - Influent									
Temp - Influent		✔	1			12.84 C			
pH - Receiving Water		✔	1	121,4500		7.5	7.5		
Salinity - Receiving Water									
Temp - Receiving Water		✔	1			11.68 C			

E. Treatment system information

1. Indicate the type(s) of treatment that will be applied to effluent prior to discharge: (check all that apply)

☐ Adsorption/Absorption ☐ Advanced Oxidation Processes ☐ Air Stripping ☐ Granulated Activated Carbon ("GAC")/Liquid Phase Carbon Adsorption
☐ Ion Exchange ☐ Precipitation/Coagulation/Flocculation ■ Separation/Filtration ☐ Other; if so, specify:

2. Provide a written description of all treatment system(s) or processes that will be applied to the effluent prior to discharge.
Settling tank and bag filters

Identify each major treatment component (check any that apply):
■ Fractionation tanks☐ Equalization tank ☐ Oil/water separator ☐ Mechanical filter ☐ Media filter
☐ Chemical feed tank ☐ Air stripping unit ■ Bag filter ☐ Other; if so, specify:

Indicate if either of the following will occur (check any that apply):
☐ Chlorination ☐ De-chlorination

3. Provide the **design flow capacity** in gallons per minute (gpm) of the most limiting component. Indicate the most limiting component: Frac Tank Is use of a flow meter feasible? (check one): ■ Yes ☐ No, if so, provide justification:	50
Provide the proposed maximum effluent flow in gpm.	50
Provide the average effluent flow in gpm.	25
If Activity Category IV applies, indicate the estimated total volume of water that will be discharged:	

4. Has the operator attached a schematic of flow in accordance with the instructions in E, above? (check one): ■ Yes ☐ No

F. Chemical and additive information

1. Indicate the type(s) of chemical or additive that will be applied to effluent prior to discharge or that may otherwise be present in the discharge(s): (check all that apply)

☐ Algaecides/biocides ☐ Antifoams ☐ Coagulants ☐ Corrosion/scale inhibitors ☐ Disinfectants ☐ Flocculants ☐ Neutralizing agents ☐ Oxidants ☐ Oxygen ☐ scavengers ☐ pH conditioners ☐ Bioremedial agents, including microbes ☐ Chlorine or chemicals containing chlorine ☐ Other; if so, specify:

2. Provide the following information for each chemical/additive, using attachments, if necessary:

a. Product name, chemical formula, and manufacturer of the chemical/additive;
b. Purpose or use of the chemical/additive or remedial agent;
c. Material Safety Data Sheet (MSDS) and Chemical Abstracts Service (CAS) Registry number for each chemical/additive;
d. The frequency (hourly, daily, etc.), duration (hours, days), quantity (maximum and average), and method of application for the chemical/additive;
e. Any material compatibility risks for storage and/or use including the control measures used to minimize such risks; and
f. If available, the vendor's reported aquatic toxicity (NOAEL and/or LC50 in percent for aquatic organism(s)).

3. Has the operator attached an explanation which demonstrates that the addition of such chemicals/additives may be authorized under this general permit in accordance with the instructions in F, above? (check one): ☐ Yes ☐ No; if no, has the operator attached data that demonstrates each of the 126 priority pollutants in CWA Section 307(a) and 40 CFR Part 423.15(j)(1) are non-detect in discharges with the addition of the proposed chemical/additive? (check one): ☐ Yes ☐ No

G. Endangered Species Act eligibility determination

1. Indicate under which criterion the discharge(s) is eligible for coverage under this general permit:

■ **FWS Criterion A**: No endangered or threatened species or critical habitat are in proximity to the discharges or related activities or come in contact with the "action area".

☐ **FWS Criterion B**: Formal or informal consultation with the FWS under section 7 of the ESA resulted in either a no jeopardy opinion (formal consultation) or a written concurrence by FWS on a finding that the discharges and related activities are "not likely to adversely affect" listed species or critical habitat (informal consultation). Has the operator completed consultation with FWS? (check one): ☐ Yes ☐ No; if no, is consultation underway? (check one): ☐ Yes ☐ No

☐ **FWS Criterion C**: Using the best scientific and commercial data available, the effect of the discharges and related activities on listed species and critical habitat have been evaluated. Based on those evaluations, a determination is made by EPA, or by the operator and affirmed by EPA, that the discharges and related activities will have "no effect" on any federally threatened or endangered listed species or designated critical habitat under the jurisdiction of the FWS. This determination was made by: (check one) ☐ the operator ☐ EPA ☐ Other; if so, specify:

☐ **NMFS Criterion**: A determination made by EPA is affirmed by the operator that the discharges and related activities will have "no effect" or are "not likely to adversely affect" any federally threatened or endangered listed species or critical habitat under the jurisdiction of NMFS and will not result in any take of listed species. Has the operator previously completed consultation with NMFS? (check one): ☐ Yes ■ No

2. Has the operator attached supporting documentation of ESA eligibility in accordance with the instructions in Appendix I, and G, above? (check one): ■ Yes ☐ No

Does the supporting documentation include any written concurrence or finding provided by the Services? (check one): ■ Yes ☐ No; if yes, attach.

H. National Historic Preservation Act eligibility determination

1. Indicate under which criterion the discharge(s) is eligible for coverage under this general permit:

■ **Criterion A**: No historic properties are present. The discharges and discharge-related activities (e.g., BMPs) do not have the potential to cause effects on historic properties.

☐ **Criterion B**: Historic properties are present. Discharges and discharge related activities do not have the potential to cause effects on historic properties.

☐ **Criterion C**: Historic properties are present. The discharges and discharge-related activities have the potential to have an effect or will have an adverse effect on historic properties.

2. Has the operator attached supporting documentation of NHPA eligibility in accordance with the instructions in H, above? (check one): ■ Yes ☐ No

Does the supporting documentation include any written agreement with the State Historic Preservation Officer (SHPO), Tribal Historic Preservation Officer (TPHO), or other tribal representative that outlines measures the operator will carry out to mitigate or prevent any adverse effects on historic properties? (check one): ☐ Yes ■ No

I. Supplemental information

Describe any supplemental information being provided with the NOI. Include attachments if required or otherwise necessary.

Has the operator attached data, including any laboratory case narrative and chain of custody used to support the application? (check one): ■ Yes ☐ No

Has the operator attached the certification requirement for the Best Management Practices Plan (BMPP)? (check one): ■ Yes ☐ No

J. Certification requirement

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated 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, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I have no personal knowledge that the information submitted is other than true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

BMPP certification statement: A BMPP Statement has been implemented in accordance with good engineering practices following Part 2.5 of the RGP.	
Notification provided to the appropriate State, including a copy of this NOI, if required.	Check one: Yes ■ No ☐
Notification provided to the municipality in which the discharge is located, including a copy of this NOI, if requested.	Check one: Yes ■ No ☐
Notification provided to the owner of a private or municipal storm sewer system, if such system is used for site discharges, including a copy of this NOI, if requested.	Check one: Yes ■ No ☐ NA ☐
Permission obtained from the owner of a private or municipal storm sewer system, if such system is used for site discharges. If yes, attach additional conditions. If no, attach explanation and timeframe for obtaining permission.	Check one: Yes ☐ No ■ NA ☐
Notification provided to the owner/operator of the area associated with activities covered by an additional discharge permit(s). Additional discharge permit is (check one): ☐ RGP ☐ DGP ☐ CGP ☐ MSGP ☐ Individual NPDES permit ☐ Other; if so, specify:	Check one: Yes ☐ No ■ NA ☐
Signature:	Date: 6/4/2019
Print Name and Title: Edgar J. Carrere Jr. Senior Project Manager	

From: Vakalopoulos, Catherine (DEP) <catherine.vakalopoulos@state.ma.us>
Sent: Tuesday, July 2, 2019 4:49 PM
To: Joseph Wold
Subject: RE: Dilution Factor Confirmation - 10 Clifford Street Roxbury, MA,

Here you go Joseph…

From: Vakalopoulos, Catherine (DEP)
Sent: Thursday, May 30, 2019 1:56 PM
To: 'Kirk W. Seaman'
Cc: Joseph Wold
Subject: RE: Dilution Factor Confirmation - 10 Clifford Street Roxbury, MA,

Hi Kirk,
No problem at all. The 7Q10 is correct and assuming the 50 gpm is the design flow, i.e. max flow through the treatment system, I get:
29.2 cfs = 18.87 MGD
50 gpm = 0.072 MGD
and so
DF = (0.072 + 18.87)/0.072 = 263

I won't list the classification, etc. of this segment of the Charles since I know you've worked on several projects that discharge through the same CSO.

Thanks for working on the WM15 submittal.

Take care,

Cathy

Cathy Vakalopoulos, Massachusetts Department of Environmental Protection
1 Winter St., Boston, MA 02108, 617-348-4026

From: Kirk W. Seaman [mailto:KSeaman@mcphailgeo.com]
Sent: Wednesday, May 29, 2019 9:00 AM
To: Vakalopoulos, Catherine (DEP)
Cc: Joseph Wold
Subject: Dilution Factor Confirmation - 10 Clifford Street Roxbury, MA,

Hi Cathy,

Another Dilution Factor confirmation for you. I feel like I am busier this year as opposed to last, sorry haha.

The site is 10 Clifford Street in Roxbury and they are proposing to dewater to the Charles at CSO 023 by way of the Stoney Brook Canal. They are proposing a GPM of 50 and the 7Q10 I got from StreamStats was 29.2 cfs.

The DF I calculated was 219.2.

I will start working on the WM-15 for submittal later next week for this project as well.

Thanks for your help

Kirk W. Seaman

McPHAIL ASSOCIATES, LLC

2269 Massachusetts Avenue
Cambridge, MA 02140

Tel: 617-349-7352
Cell: 626-590-8418

www.mcphailgeo.com

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

DEWATERING DISCHARGE PERMIT APPLICATION

OWNER / AUTHORIZED APPLICANT PROVIDE INFORMATION HERE:

Company Name: John B. Cruz Construction, Inc Address: 1 John Eliot Square, Roxbury, MA

Phone Number: 617 445 6901 Fax number: _____

Contact person name: Edgar Carrere Jr. Title: Senior Project Manager

Cell number: 617 828 4812 Email address: ecarrere@cruzccompanies.com

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

Owner's Information (if different from above):

Owner of property being dewatered: Michael E. Haynes Arms, LLC

Owner's mailing address: 1 John Eliot Square, Roxbury, MA Phone number: 617 445 6901

Location of Discharge & Proposed Treatment System(s):

Street number and name: 10 Clifford Street Neighborhood Roxbury

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. CSO 023 Receiving Waters Charles River by way of the Stoney Brook Canal

---

Temporary Discharges (Provide Anticipated Dates of Discharge): From 07/2019 To 05/2020

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

Permanent Discharges

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

---

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

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

Signature of Authorized Representative for Property Owner: _____ Date: 6/4/2019

APPENDIX C:

DEP PRIORITY RESOURCES MAP

USGS STREAMFLOW STATISTICS REPORT

DILUTION FACTOR AND WQBEL CALCULATIONS

ADDITIONAL NOI SUPPORT INFORMATION

MassDEP - Bureau of Waste Site Cleanup

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

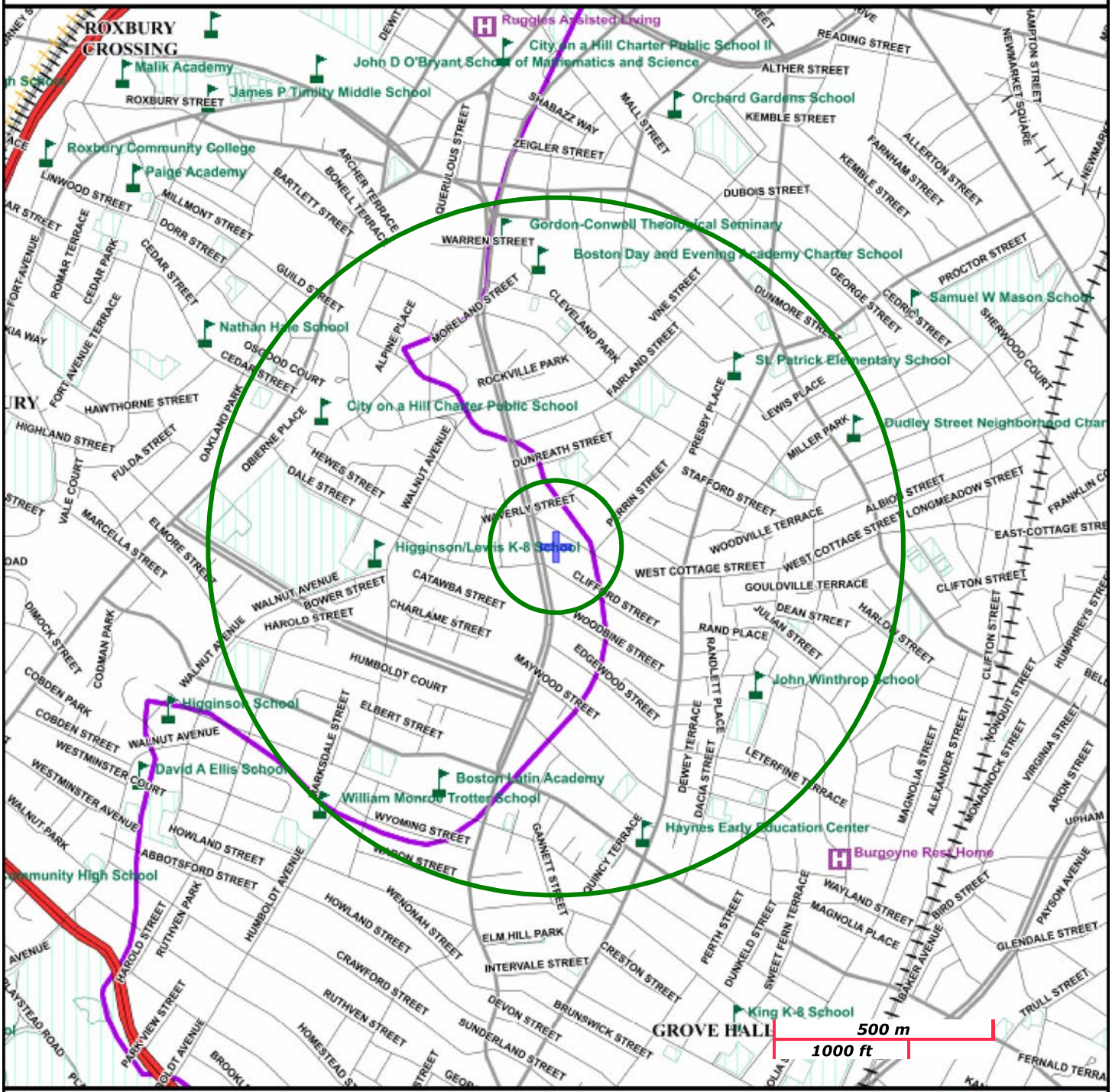
Site Information:

10 CLIFFORD STREET BOSTON, MA

NAD83 UTM Meters:
4687524mN , 328499mE (Zone: 19)
May 13, 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-1717
Event Code: 05E1NE00-2019-E-04183
Project Name: 10 Clifford Street

May 16, 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). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

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

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

Attachment(s):

- Official Species List

Official Species List

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

This species list is provided by:

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

Project Summary

Consultation Code: 05E1NE00-2019-SLI-1717

Event Code: 05E1NE00-2019-E-04183

Project Name: 10 Clifford Street

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/42.32092322723784N71.08102275381792W

Counties: Suffolk, MA

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[1], 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.

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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.

Massachusetts Cultural Resource Information System
MACRIS

Results

Get Results in Report Format
○PDF ◉Spreadsheet

Below are the results of your search, using the following search criteria:
Town(s): Boston
Place: Roxbury
Street No: 10
Street Name: Clifford
Resource Type(s): Area, Building, Burial Ground, Object, Structure

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

No Results Found.

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

MHC Home | MACRIS Home

Charles River

2014 Assessment Unit ID: MA72-38

Water Name: Charles River

Watershed: Charles **Water Type:** RIVER **Water Code:** 7239050

Size: 3.092 MILES **Class:** B **Qualifier:** WWF, CSO **Category:** 5 **TMDL Count:** 1

Description: Boston University Bridge, Boston/Cambridge to the New Charles River Dam, Boston (formerly part of segment MA72-08).

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Use	Attainment	Cause	Poltnt_Flg	Source	TMDL DWM Id
Aesthetic	Not Supporting	Secchi disk transparency	Y	Unspecified Urban Stormwater	CN 301.0
Aesthetic	Not Supporting	Secchi disk transparency	Y	Upstream Source	CN 301.0
Aesthetic	Not Supporting	Secchi disk transparency	Y	Urban Runoff/Storm Sewers	CN 301.0
Aesthetic	Not Supporting	Excess Algal Growth	Y	Urban Runoff/Storm Sewers	CN 301.0
Aesthetic	Not Supporting	Taste and Odor	Y	Source Unknown	CN 301.0
Aesthetic	Not Supporting	Oil and Grease	Y	Source Unknown	
Aesthetic	Not Supporting	Excess Algal Growth	Y	Unspecified Urban Stormwater	CN 301.0
Aesthetic	Not Supporting	Secchi disk transparency	Y	Discharges from Municipal Separate Storm Sewer Systems (MS4)	CN 301.0
Aesthetic	Not Supporting	Excess Algal Growth	Y	Discharges from Municipal Separate Storm Sewer Systems (MS4)	CN 301.0
Aesthetic	Not Supporting	Excess Algal Growth	Y	Upstream Source	CN 301.0
Fish Consumption	Not Supporting	PCB in Fish Tissue	Y	Source Unknown	
Fish Consumption	Not Supporting	PCB in Fish Tissue		Contaminated Sediments	
Fish Consumption	Not Supporting	DDT	Y	Contaminated Sediments	
Fish Consumption	Not Supporting	DDT	Y	Source Unknown	
Fish, other Aquatic Life and Wildlife	Not Supporting	Other flow regime alterations	N	Urban Runoff/Storm Sewers	
Fish, other Aquatic Life and Wildlife	Not Supporting	Nutrient/Eutrophication Biological Indicators	Y	Discharges from Municipal Separate Storm Sewer Systems (MS4)	CN 301.0
Fish, other Aquatic Life and Wildlife	Not Supporting	Excess Algal Growth	Y	Upstream Source	CN 301.0
Fish, other Aquatic Life and Wildlife	Not Supporting	Dissolved oxygen saturation	Y	Unspecified Urban Stormwater	

Fish, other Aquatic Life and Wildlife	Not Supporting	Chlorophyll-a	Y	Discharges from Municipal Separate Storm Sewer Systems (MS4)	CN 301.0
Fish, other Aquatic Life and Wildlife	Not Supporting	Oxygen, Dissolved	Y	Unspecified Urban Stormwater	
Fish, other Aquatic Life and Wildlife	Not Supporting	Excess Algal Growth	Y	Cooling Water Intake Structures (Impingement or Entrainment)	CN 301.0
Fish, other Aquatic Life and Wildlife	Not Supporting	Phosphorus (Total)	Y	Urban Runoff/Storm Sewers	CN 301.0
Fish, other Aquatic Life and Wildlife	Not Supporting	Phosphorus (Total)	Y	Unspecified Urban Stormwater	CN 301.0
Fish, other Aquatic Life and Wildlife	Not Supporting	Nutrient/Eutrophication Biological Indicators	Y	Unspecified Urban Stormwater	CN 301.0
Fish, other Aquatic Life and Wildlife	Not Supporting	Dissolved oxygen saturation	Y	Urban Runoff/Storm Sewers	
Fish, other Aquatic Life and Wildlife	Not Supporting	Nutrient/Eutrophication Biological Indicators	Y	Industrial Thermal Discharges	CN 301.0
Fish, other Aquatic Life and Wildlife	Not Supporting	Nutrient/Eutrophication Biological Indicators	Y	Upstream Source	CN 301.0
Fish, other Aquatic Life and Wildlife	Not Supporting	Nutrient/Eutrophication Biological Indicators	Y	Changes in Ordinary Stratification and Bottom Water Hypoxia/Anoxia	CN 301.0
Fish, other Aquatic Life and Wildlife	Not Supporting	Salinity	Y	Discharges from Municipal Separate Storm Sewer Systems (MS4)	
Fish, other Aquatic Life and Wildlife	Not Supporting	Combined Biota/Habitat Bioassessments	Y	Changes in Ordinary Stratification and Bottom Water Hypoxia/Anoxia	
Fish, other Aquatic Life and Wildlife	Not Supporting	Nutrient/Eutrophication Biological Indicators	Y	Urban Runoff/Storm Sewers	CN 301.0
Fish, other Aquatic Life and Wildlife	Not Supporting	Phosphorus (Total)	Y	Upstream Source	CN 301.0
Fish, other Aquatic Life and Wildlife	Not Supporting	Salinity	Y	Unspecified Urban Stormwater	
Fish, other Aquatic Life and Wildlife	Not Supporting	Combined Biota/Habitat Bioassessments	Y	Urban Runoff/Storm Sewers	
Fish, other Aquatic Life and Wildlife	Not Supporting	Salinity	Y	Urban Runoff/Storm Sewers	
Fish, other Aquatic Life and Wildlife	Not Supporting	Temperature, water	Y	Dam or Impoundment	
Fish, other Aquatic Life and Wildlife	Not Supporting	Temperature, water	Y	Habitat Modification - other than Hydromodification	
Fish, other Aquatic Life and Wildlife	Not Supporting	Phosphorus (Total)	Y	Discharges from Municipal Separate Storm Sewer Systems (MS4)	CN 301.0

Fish, other Aquatic Life and Wildlife	Not Supporting	Temperature, water	Y	Industrial Thermal Discharges	
Fish, other Aquatic Life and Wildlife	Not Supporting	Oxygen, Dissolved	Y	Upstream Source	
Fish, other Aquatic Life and Wildlife	Not Supporting	Oxygen, Dissolved	Y	Urban Runoff/Storm Sewers	
Fish, other Aquatic Life and Wildlife	Not Supporting	Oxygen, Dissolved	Y	Industrial Thermal Discharges	
Fish, other Aquatic Life and Wildlife	Not Supporting	Sediment Screening Value (Exceedence)	Y	Contaminated Sediments	
Fish, other Aquatic Life and Wildlife	Not Supporting	Sediment Screening Value (Exceedence)	Y	Discharges from Municipal Separate Storm Sewer Systems (MS4)	
Fish, other Aquatic Life and Wildlife	Not Supporting	Sediment Screening Value (Exceedence)	Y	Upstream Source	
Fish, other Aquatic Life and Wildlife	Not Supporting	Oxygen, Dissolved	Y	Dam or Impoundment	
Fish, other Aquatic Life and Wildlife	Not Supporting	Oxygen, Dissolved	Y	Discharges from Municipal Separate Storm Sewer Systems (MS4)	
Fish, other Aquatic Life and Wildlife	Not Supporting	Oxygen, Dissolved	Y	Changes in Ordinary Stratification and Bottom Water Hypoxia/Anoxia	
Fish, other Aquatic Life and Wildlife	Not Supporting	Salinity	Y	Changes in Ordinary Stratification and Bottom Water Hypoxia/Anoxia	
Fish, other Aquatic Life and Wildlife	Not Supporting	Combined Biota/Habitat Bioassessments	Y	Upstream Source	
Fish, other Aquatic Life and Wildlife	Not Supporting	Other flow regime alterations	N	Dam or Impoundment	
Fish, other Aquatic Life and Wildlife	Not Supporting	Chlorophyll-a	Y	Unspecified Urban Stormwater	CN 301.0
Fish, other Aquatic Life and Wildlife	Not Supporting	Chlorophyll-a	Y	Urban Runoff/Storm Sewers	CN 301.0
Fish, other Aquatic Life and Wildlife	Not Supporting	Other flow regime alterations	N	Unspecified Urban Stormwater	
Fish, other Aquatic Life and Wildlife	Not Supporting	Excess Algal Growth	Y	Unspecified Urban Stormwater	CN 301.0
Fish, other Aquatic Life and Wildlife	Not Supporting	Excess Algal Growth	Y	Urban Runoff/Storm Sewers	CN 301.0
Fish, other Aquatic Life and Wildlife	Not Supporting	Chlorophyll-a	Y	Upstream Source	CN 301.0
Fish, other Aquatic Life and Wildlife	Not Supporting	Other flow regime alterations	N	Discharges from Municipal Separate Storm Sewer Systems (MS4)	
Fish, other Aquatic Life and Wildlife	Not Supporting	Other flow regime alterations	N	Habitat Modification - other than Hydromodification	
Fish, other Aquatic Life and Wildlife	Not Supporting	Phosphorus (Total)	Y	Contaminated Sediments	CN 301.0
Fish, other Aquatic Life and Wildlife	Not Supporting	Other flow regime alterations	N	Cooling Water Intake Structures (Impingement	

Fish, other Aquatic Life and Wildlife	Not Supporting	Secchi disk transparency	Y	Unspecified Urban Stormwater	CN 301.0
Fish, other Aquatic Life and Wildlife	Not Supporting	Secchi disk transparency	Y	Discharges from Municipal Separate Storm Sewer Systems (MS4)	CN 301.0
Fish, other Aquatic Life and Wildlife	Not Supporting	Temperature, water	Y	Changes in Ordinary Stratification and Bottom Water Hypoxia/Anoxia	
Fish, other Aquatic Life and Wildlife	Not Supporting	Secchi disk transparency	Y	Upstream Source	CN 301.0
Fish, other Aquatic Life and Wildlife	Not Supporting	Excess Algal Growth	Y	Discharges from Municipal Separate Storm Sewer Systems (MS4)	CN 301.0
Fish, other Aquatic Life and Wildlife	Not Supporting	Dissolved oxygen saturation	Y	Cooling Water Intake Structures (Impingement or Entrainment)	
Fish, other Aquatic Life and Wildlife	Not Supporting	Combined Biota/Habitat Bioassessments	Y	Industrial Thermal Discharges	
Fish, other Aquatic Life and Wildlife	Not Supporting	Excess Algal Growth	Y	Industrial Thermal Discharges	CN 301.0
Fish, other Aquatic Life and Wildlife	Not Supporting	Combined Biota/Habitat Bioassessments	Y	Contaminated Sediments	
Fish, other Aquatic Life and Wildlife	Not Supporting	Combined Biota/Habitat Bioassessments	Y	Dam or Impoundment	
Fish, other Aquatic Life and Wildlife	Not Supporting	Combined Biota/Habitat Bioassessments	Y	Cooling Water Intake Structures (Impingement or Entrainment)	
Fish, other Aquatic Life and Wildlife	Not Supporting	Secchi disk transparency	Y	Urban Runoff/Storm Sewers	CN 301.0
Fish, other Aquatic Life and Wildlife	Not Supporting	Dissolved oxygen saturation	Y	Contaminated Sediments	
Fish, other Aquatic Life and Wildlife	Not Supporting	Dissolved oxygen saturation	Y	Discharges from Municipal Separate Storm Sewer Systems (MS4)	
Fish, other Aquatic Life and Wildlife	Not Supporting	Dissolved oxygen saturation	Y	Industrial Thermal Discharges	
Fish, other Aquatic Life and Wildlife	Not Supporting	Combined Biota/Habitat Bioassessments	Y	Unspecified Urban Stormwater	
Fish, other Aquatic Life and Wildlife	Not Supporting	Dissolved oxygen saturation	Y	Upstream Source	
Fish, other Aquatic Life and Wildlife	Not Supporting	Nutrient/Eutrophication Biological Indicators	Y	Contaminated Sediments	CN 301.0
Fish, other Aquatic Life and Wildlife	Not Supporting	Combined Biota/Habitat Bioassessments	Y	Habitat Modification - other than Hydromodification	

Fish, other Aquatic Life and Wildlife	Not Supporting	Combined Biota/Habitat Bioassessments	Y	Discharges from Municipal Separate Storm Sewer Systems (MS4)	
Primary Contact Recreation	Not Supporting	Secchi disk transparency	Y	Upstream Source	CN 301.0
Primary Contact Recreation	Not Supporting	Excess Algal Growth	Y	Unspecified Urban Stormwater	CN 301.0
Primary Contact Recreation	Not Supporting	Excess Algal Growth	Y	Urban Runoff/Storm Sewers	CN 301.0
Primary Contact Recreation	Not Supporting	Excess Algal Growth	Y	Discharges from Municipal Separate Storm Sewer Systems (MS4)	CN 301.0
Primary Contact Recreation	Not Supporting	Secchi disk transparency	Y	Urban Runoff/Storm Sewers	CN 301.0
Primary Contact Recreation	Not Supporting	Escherichia coli	Y	Source Unknown	
Primary Contact Recreation	Not Supporting	Secchi disk transparency	Y	Discharges from Municipal Separate Storm Sewer Systems (MS4)	CN 301.0
Primary Contact Recreation	Not Supporting	Excess Algal Growth	Y	Upstream Source	CN 301.0
Primary Contact Recreation	Not Supporting	Secchi disk transparency	Y	Unspecified Urban Stormwater	CN 301.0
Secondary Contact Recreation	Not Supporting	Excess Algal Growth	Y	Unspecified Urban Stormwater	CN 301.0
Secondary Contact Recreation	Not Supporting	Excess Algal Growth	Y	Urban Runoff/Storm Sewers	CN 301.0
Secondary Contact Recreation	Not Supporting	Excess Algal Growth	Y	Discharges from Municipal Separate Storm Sewer Systems (MS4)	CN 301.0
Secondary Contact Recreation	Not Supporting	Secchi disk transparency	Y	Discharges from Municipal Separate Storm Sewer Systems (MS4)	CN 301.0
Secondary Contact Recreation	Not Supporting	Excess Algal Growth	Y	Upstream Source	CN 301.0
Secondary Contact Recreation	Not Supporting	Secchi disk transparency	Y	Upstream Source	CN 301.0
Secondary Contact Recreation	Not Supporting	Secchi disk transparency	Y	Urban Runoff/Storm Sewers	CN 301.0
Secondary Contact Recreation	Not Supporting	Secchi disk transparency	Y	Unspecified Urban Stormwater	CN 301.0


Dr Paul Dudley White Bike Path


Massachusetts Ave.
Public Alley 429
Commonweal
ealth Ave.
Public Alley 430
Massachusetts A
al Dr


Deerfield St
Beacon St
MBTA-Kenmore
2
90
Ipswich St
Muddy River
Charlesgate E
Boylston St

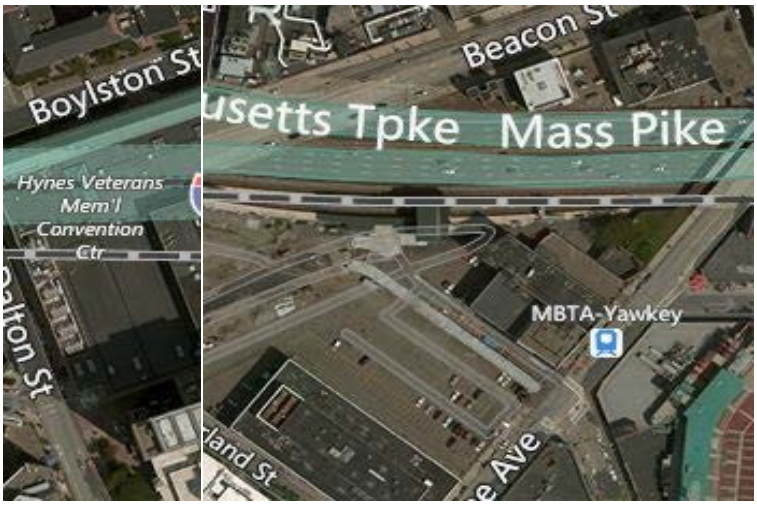

Mass Pike
Trans
National
Group
Ipswich St
C h a r l e
Dudley White Bike Path


Memori
Back St
Gloucester St
Public Alley 415
Marlbor
414
orough St
Public Alley 428
Dudley White Bike Path
Storrow Dr


Newbury St
MBTA-Hynes
Convention
Center
Massachusetts Tpke
Boylston St
Public Alley 909
Haviland St
90
Lansdowne St
Fenway Park


C h a r l e
th Ave
20
2
Hereford St
Public Alley 431
Public Alley 44
Silber Way
30
MBTA-Blandford St


20
R i v e r
Amherst Alley
Fowler St
Memo
Dr Paul Dudley White Bike Path
Public Alley 444
Mass Pike
Cambria St
College of
Scotia St
Hilton-Boston
Back
Bay


Boylston St
Hynes Veterans Mem'l Convention Ctr
Beacon St
usetts Tpke
Mass Pike
MBTA-Yawkey

APPENDIX D:

LABORATORY ANALYTICAL DATA – GROUNDWATER

ANALYTICAL REPORT

Lab Number:	L1917808
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:	05/07/19

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

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

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

Lab Number: L1917808
Report Date: 05/07/19

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1917808-01	B-303 (OW)	WATER	ROXBURY, MA	04/30/19 10:45	04/30/19

Project Name:	10 CLIFFORD STREET	**Lab Number:**	L1917808
Project Number:	6690.9.DP	**Report Date:**	05/07/19

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:	10 CLIFFORD STREET	**Lab Number:**	L1917808
Project Number:	6690.9.DP	**Report Date:**	05/07/19

Case Narrative (continued)

Volatile Organics by SIM

The WG1234019-3 LCS recovery, associated with L1917808-01, is above the acceptance criteria for 1,4-dioxane (160%); however, the associated sample is non-detect to the RL for this target analyte. The results of the original analysis are reported.

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: 05/07/19

ORGANICS

VOLATILES

Project Name: 10 CLIFFORD STREET
Project Number: 6690.9.DP
Lab Number: L1917808
Report Date: 05/07/19

SAMPLE RESULTS

Lab ID: L1917808-01
Client ID: B-303 (OW)
Sample Location: ROXBURY, MA

Date Collected: 04/30/19 10:45
Date Received: 04/30/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 128,624.1
Analytical Date: 05/06/19 12:01
Analyst: GT

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	1.0	--	1
1,1-Dichloroethane	ND		ug/l	1.5	--	1
Carbon tetrachloride	ND		ug/l	1.0	--	1
1,1,2-Trichloroethane	ND		ug/l	1.5	--	1
Tetrachloroethene	ND		ug/l	1.0	--	1
1,2-Dichloroethane	ND		ug/l	1.5	--	1
1,1,1-Trichloroethane	ND		ug/l	2.0	--	1
Benzene	ND		ug/l	1.0	--	1
Toluene	ND		ug/l	1.0	--	1
Ethylbenzene	ND		ug/l	1.0	--	1
Vinyl chloride	ND		ug/l	1.0	--	1
1,1-Dichloroethene	ND		ug/l	1.0	--	1
cis-1,2-Dichloroethene	ND		ug/l	1.0	--	1
Trichloroethene	ND		ug/l	1.0	--	1
1,2-Dichlorobenzene	ND		ug/l	5.0	--	1
1,3-Dichlorobenzene	ND		ug/l	5.0	--	1
1,4-Dichlorobenzene	ND		ug/l	5.0	--	1
p/m-Xylene	ND		ug/l	2.0	--	1
o-xylene	ND		ug/l	1.0	--	1
Xylenes, Total	ND		ug/l	1.0	--	1
Acetone	ND		ug/l	10	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Pentafluorobenzene	90		60-140
Fluorobenzene	82		60-140
4-Bromofluorobenzene	95		60-140

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

Lab Number: L1917808
Report Date: 05/07/19

SAMPLE RESULTS

Lab ID: L1917808-01
Client ID: B-303 (OW)
Sample Location: ROXBURY, MA

Date Collected: 04/30/19 10:45
Date Received: 04/30/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 128,624.1-SIM
Analytical Date: 05/06/19 12:01
Analyst: GT

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS-SIM - Westborough Lab						
1,4-Dioxane	ND		ug/l	50	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Fluorobenzene	95		60-140
4-Bromofluorobenzene	101		60-140

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

Lab Number: L1917808
Report Date: 05/07/19

SAMPLE RESULTS

Lab ID: L1917808-01
Client ID: B-303 (OW)
Sample Location: ROXBURY, MA

Date Collected: 04/30/19 10:45
Date Received: 04/30/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 14,504.1
Analytical Date: 05/07/19 15:24
Analyst: AWS

Extraction Method: EPA 504.1
Extraction Date: 05/07/19 10:13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Microextractables by GC - Westborough Lab							
1,2-Dibromoethane	ND		ug/l	0.010	--	1	A

Project Name: 10 CLIFFORD STREET
Project Number: 6690.9.DP
Lab Number: L1917808
Report Date: 05/07/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 128,624.1
Analytical Date: 05/06/19 10:53
Analyst: GT

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG1233969-12					
Methylene chloride	ND		ug/l	1.0	--
1,1-Dichloroethane	ND		ug/l	1.5	--
Carbon tetrachloride	ND		ug/l	1.0	--
1,1,2-Trichloroethane	ND		ug/l	1.5	--
Tetrachloroethene	ND		ug/l	1.0	--
1,2-Dichloroethane	ND		ug/l	1.5	--
1,1,1-Trichloroethane	ND		ug/l	2.0	--
Benzene	ND		ug/l	1.0	--
Toluene	ND		ug/l	1.0	--
Ethylbenzene	ND		ug/l	1.0	--
Vinyl chloride	ND		ug/l	1.0	--
1,1-Dichloroethene	ND		ug/l	1.0	--
cis-1,2-Dichloroethene	ND		ug/l	1.0	--
Trichloroethene	ND		ug/l	1.0	--
1,2-Dichlorobenzene	ND		ug/l	5.0	--
1,3-Dichlorobenzene	ND		ug/l	5.0	--
1,4-Dichlorobenzene	ND		ug/l	5.0	--
p/m-Xylene	ND		ug/l	2.0	--
o-xylene	ND		ug/l	1.0	--
Xylenes, Total	ND		ug/l	1.0	--
Acetone	ND		ug/l	10	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Pentafluorobenzene	91		60-140
Fluorobenzene	82		60-140
4-Bromofluorobenzene	90		60-140

Project Name: 10 CLIFFORD STREET
Project Number: 6690.9.DP
Lab Number: L1917808
Report Date: 05/07/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 128,624.1-SIM
Analytical Date: 05/06/19 10:53
Analyst: GT

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 01 Batch: WG1234019-4					
1,4-Dioxane	ND		ug/l	50	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Fluorobenzene	95		60-140
4-Bromofluorobenzene	101		60-140

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

Lab Number: L1917808
Report Date: 05/07/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 14,504.1
Analytical Date: 05/07/19 14:22
Analyst: AWS

Extraction Method: EPA 504.1
Extraction Date: 05/07/19 10:13

Parameter	Result	Qualifier	Units	RL	MDL	
Microextractables by GC - Westborough Lab for sample(s): 01 Batch: WG1234353-1						
1,2-Dibromoethane	ND		ug/l	0.010	--	A

Lab Control Sample Analysis
Batch Quality Control

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

Lab Number: L1917808
Report Date: 05/07/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG1233969-11								
Methylene chloride	75		-		60-140	-		28
1,1-Dichloroethane	80		-		50-150	-		49
Carbon tetrachloride	95		-		70-130	-		41
1,1,2-Trichloroethane	110		-		70-130	-		45
Tetrachloroethene	115		-		70-130	-		39
1,2-Dichloroethane	90		-		70-130	-		49
1,1,1-Trichloroethane	90		-		70-130	-		36
Benzene	80		-		65-135	-		61
Toluene	105		-		70-130	-		41
Ethylbenzene	85		-		60-140	-		63
Vinyl chloride	80		-		5-195	-		66
1,1-Dichloroethene	80		-		50-150	-		32
cis-1,2-Dichloroethene	75		-		60-140	-		30
Trichloroethene	95		-		65-135	-		48
1,2-Dichlorobenzene	95		-		65-135	-		57
1,3-Dichlorobenzene	90		-		70-130	-		43
1,4-Dichlorobenzene	90		-		65-135	-		57
p/m-Xylene	92		-		60-140	-		30
o-xylene	85		-		60-140	-		30
Acetone	90		-		40-160	-		30

Lab Control Sample Analysis
Batch Quality Control

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

Lab Number: L1917808
Report Date: 05/07/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG1233969-11								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Pentafluorobenzene	98				60-140
Fluorobenzene	87				60-140
4-Bromofluorobenzene	92				60-140

Lab Control Sample Analysis
Batch Quality Control

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

Lab Number: L1917808
Report Date: 05/07/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 01 Batch: WG1234019-3								
1,4-Dioxane	**160**	Q	-		60-140	-		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Fluorobenzene	97				60-140
4-Bromofluorobenzene	100				60-140

Lab Control Sample Analysis
Batch Quality Control

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

Lab Number: L1917808
Report Date: 05/07/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Microextractables by GC - Westborough Lab	Associated sample(s): 01		Batch: WG1234353-2						
1,2-Dibromoethane	97		-		80-120	-			A

Matrix Spike Analysis

Batch Quality Control

Project Name: 10 CLIFFORD STREET

Project Number: 6690.9.DP

Lab Number: L1917808

Report Date: 05/07/19

Parameter	*Native Sample*	*MS Added*	*MS Found*	*MS %Recovery*	*Qual*	*MSD Found*	*MSD %Recovery*	*Qual*	*Recovery Limits*	*RPD*	*Qual*	*RPD Limits*	*Column*
Microextractables by GC - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1234353-3 QC Sample: L1917791-04 Client ID: MS Sample													
1,2-Dibromoethane	ND	0.251	0.253	101		-	-		80-120	-		20	A
1,2-Dibromo-3-chloropropane	ND	0.251	0.262	104		-	-		80-120	-		20	A

METALS

Project Name: 10 CLIFFORD STREET
Project Number: 6690.9.DP
Lab Number: L1917808
Report Date: 05/07/19

SAMPLE RESULTS

Lab ID: L1917808-01
Client ID: B-303 (OW)
Sample Location: ROXBURY, MA
Sample Depth:
Matrix: Water

Date Collected: 04/30/19 10:45
Date Received: 04/30/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Antimony, Total	ND		mg/l	0.00400	--	1	05/02/19 17:38	05/03/19 11:26	EPA 3005A	3,200.8	AM
Arsenic, Total	ND		mg/l	0.00100	--	1	05/02/19 17:38	05/03/19 11:26	EPA 3005A	3,200.8	AM
Cadmium, Total	ND		mg/l	0.00020	--	1	05/02/19 17:38	05/03/19 11:26	EPA 3005A	3,200.8	AM
Chromium, Total	0.00146		mg/l	0.00100	--	1	05/02/19 17:38	05/03/19 11:26	EPA 3005A	3,200.8	AM
Copper, Total	0.00313		mg/l	0.00100	--	1	05/02/19 17:38	05/03/19 11:26	EPA 3005A	3,200.8	AM
Iron, Total	0.912		mg/l	0.050	--	1	05/02/19 17:38	05/03/19 14:30	EPA 3005A	19,200.7	AB
Lead, Total	0.00517		mg/l	0.00100	--	1	05/02/19 17:38	05/03/19 11:26	EPA 3005A	3,200.8	AM
Mercury, Total	0.00092		mg/l	0.00020	--	1	05/01/19 14:43	05/03/19 14:10	EPA 245.1	3,245.1	GD
Nickel, Total	0.00249		mg/l	0.00200	--	1	05/02/19 17:38	05/03/19 11:26	EPA 3005A	3,200.8	AM
Selenium, Total	ND		mg/l	0.00500	--	1	05/02/19 17:38	05/03/19 11:26	EPA 3005A	3,200.8	AM
Silver, Total	ND		mg/l	0.00040	--	1	05/02/19 17:38	05/03/19 11:26	EPA 3005A	3,200.8	AM
Zinc, Total	ND		mg/l	0.01000	--	1	05/02/19 17:38	05/03/19 11:26	EPA 3005A	3,200.8	AM
Total Hardness by SM 2340B - Mansfield Lab											
Hardness	236		mg/l	0.660	NA	1	05/02/19 17:38	05/03/19 14:30	EPA 3005A	19,200.7	AB
General Chemistry - Mansfield Lab											
Chromium, Trivalent	ND		mg/l	0.010	--	1		05/03/19 11:26	NA	107,-	

Project Name: 10 CLIFFORD STREET **Lab Number:** L1917808

Project Number: 6690.9.DP **Report Date:** 05/07/19

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: WG1232430-1										
Mercury, Total	ND		mg/l	0.00020	--	1	05/01/19 14:43	05/03/19 13:54	3,245.1	GD

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: WG1232826-1										
Antimony, Total	ND		mg/l	0.00400	--	1	05/02/19 17:38	05/03/19 09:13	3,200.8	AM
Arsenic, Total	ND		mg/l	0.00100	--	1	05/02/19 17:38	05/03/19 09:13	3,200.8	AM
Cadmium, Total	ND		mg/l	0.00020	--	1	05/02/19 17:38	05/03/19 09:13	3,200.8	AM
Chromium, Total	ND		mg/l	0.00100	--	1	05/02/19 17:38	05/03/19 09:13	3,200.8	AM
Copper, Total	ND		mg/l	0.00100	--	1	05/02/19 17:38	05/03/19 09:13	3,200.8	AM
Lead, Total	ND		mg/l	0.00100	--	1	05/02/19 17:38	05/03/19 09:13	3,200.8	AM
Nickel, Total	ND		mg/l	0.00200	--	1	05/02/19 17:38	05/03/19 09:13	3,200.8	AM
Selenium, Total	ND		mg/l	0.00500	--	1	05/02/19 17:38	05/03/19 09:13	3,200.8	AM
Silver, Total	ND		mg/l	0.00040	--	1	05/02/19 17:38	05/03/19 09:13	3,200.8	AM
Zinc, Total	ND		mg/l	0.01000	--	1	05/02/19 17:38	05/03/19 09:13	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: WG1232842-1										
Iron, Total	ND		mg/l	0.050	--	1	05/02/19 17:38	05/03/19 10:07	19,200.7	LC

Prep Information

Digestion Method: EPA 3005A

Project Name: 10 CLIFFORD STREET
Project Number: 6690.9.DP
Lab Number: L1917808
Report Date: 05/07/19

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: WG1232842-1										
Hardness	ND		mg/l	0.660	NA	1	05/02/19 17:38	05/03/19 10:07	19,200.7	LC

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: L1917808
Report Date: 05/07/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1232430-2								
Mercury, Total	104		-		85-115	-		
Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1232826-2								
Antimony, Total	115		-		85-115	-		
Arsenic, Total	101		-		85-115	-		
Cadmium, Total	100		-		85-115	-		
Chromium, Total	100		-		85-115	-		
Copper, Total	95		-		85-115	-		
Lead, Total	102		-		85-115	-		
Nickel, Total	99		-		85-115	-		
Selenium, Total	103		-		85-115	-		
Silver, Total	97		-		85-115	-		
Zinc, Total	103		-		85-115	-		
Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1232842-2								
Iron, Total	94		-		85-115	-		
Total Hardness by SM 2340B - Mansfield Lab Associated sample(s): 01 Batch: WG1232842-2								
Hardness	96		-		85-115	-		

Matrix Spike Analysis
Batch Quality Control

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

Lab Number: L1917808
Report Date: 05/07/19

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: WG1232430-3 QC Sample: L1917708-01 Client ID: MS Sample												
Mercury, Total	ND	0.005	0.00501	100		-	-		70-130	-		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1232826-3 QC Sample: L1917791-04 Client ID: MS Sample												
Antimony, Total	ND	0.5	0.4994	100		-	-		70-130	-		20
Arsenic, Total	ND	0.12	0.1260	105		-	-		70-130	-		20
Cadmium, Total	ND	0.051	0.05185	102		-	-		70-130	-		20
Chromium, Total	ND	0.2	0.2018	101		-	-		70-130	-		20
Copper, Total	ND	0.25	0.2445	98		-	-		70-130	-		20
Lead, Total	ND	0.51	0.5335	105		-	-		70-130	-		20
Nickel, Total	0.00532	0.5	0.5150	102		-	-		70-130	-		20
Selenium, Total	ND	0.12	0.1193	99		-	-		70-130	-		20
Silver, Total	ND	0.05	0.04739	95		-	-		70-130	-		20
Zinc, Total	ND	0.5	0.5293	106		-	-		70-130	-		20

Matrix Spike Analysis
Batch Quality Control

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

Lab Number: L1917808
Report Date: 05/07/19

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	MSD Found	MSD %Recovery	Recovery Limits	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1232826-5 QC Sample: L1917731-01 Client ID: MS Sample									
Antimony, Total	ND	0.5	0.5547	111	-	-	70-130	-	20
Arsenic, Total	0.0024	0.12	0.1322	108	-	-	70-130	-	20
Cadmium, Total	ND	0.051	0.05565	109	-	-	70-130	-	20
Chromium, Total	ND	0.2	0.2054	103	-	-	70-130	-	20
Copper, Total	0.0163	0.25	0.2734	103	-	-	70-130	-	20
Lead, Total	ND	0.51	0.5453	107	-	-	70-130	-	20
Nickel, Total	ND	0.5	0.5219	104	-	-	70-130	-	20
Selenium, Total	ND	0.12	0.1191	99	-	-	70-130	-	20
Silver, Total	ND	0.05	0.05106	102	-	-	70-130	-	20
Zinc, Total	0.0262	0.5	0.5761	110	-	-	70-130	-	20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1232842-3 QC Sample: L1917791-04 Client ID: MS Sample									
Iron, Total	ND	1	0.929	93	-	-	75-125	-	20
Total Hardness by SM 2340B - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1232842-3 QC Sample: L1917791-04 Client ID: MS Sample									
Hardness	125	66.2	182	86	-	-	75-125	-	20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1232842-7 QC Sample: L1917731-01 Client ID: MS Sample									
Iron, Total	0.056	1	1.10	104	-	-	75-125	-	20
Total Hardness by SM 2340B - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1232842-7 QC Sample: L1917731-01 Client ID: MS Sample									
Hardness	184	66.2	256	109	-	-	75-125	-	20

Lab Duplicate Analysis
Batch Quality Control

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

Lab Number: L1917808
Report Date: 05/07/19

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1232430-4 QC Sample: L1917708-01 Client ID: DUP Sample						
Mercury, Total	ND	ND	mg/l	NC		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1232826-4 QC Sample: L1917791-04 Client ID: DUP Sample						
Antimony, Total	ND	ND	mg/l	NC		20
Arsenic, Total	ND	ND	mg/l	NC		20
Cadmium, Total	ND	ND	mg/l	NC		20
Chromium, Total	ND	ND	mg/l	NC		20
Copper, Total	ND	ND	mg/l	NC		20
Lead, Total	ND	ND	mg/l	NC		20
Nickel, Total	0.00532	0.00475	mg/l	11		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
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1232826-6 QC Sample: L1917731-01 Client ID: DUP Sample						
Lead, Total	ND	ND	mg/l	NC		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1232842-4 QC Sample: L1917791-04 Client ID: DUP Sample						
Iron, Total	ND	ND	mg/l	NC		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1232842-8 QC Sample: L1917731-01 Client ID: DUP Sample						
Iron, Total	0.056	0.064	mg/l	14		20

INORGANICS
&
MISCELLANEOUS

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

Lab Number: L1917808
Report Date: 05/07/19

SAMPLE RESULTS

Lab ID: L1917808-01
Client ID: B-303 (OW)
Sample Location: ROXBURY, MA

Date Collected: 04/30/19 10:45
Date Received: 04/30/19
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	29.		mg/l	5.0	NA	1	-	05/01/19 16:30	121,2540D	DR
Cyanide, Total	ND		mg/l	0.005	--	1	05/01/19 10:25	05/01/19 13:46	121,4500CN-CE	LH
Chlorine, Total Residual	ND		mg/l	0.02	--	1	-	05/01/19 05:15	121,4500CL-D	MA
pH (H)	6.6		SU	-	NA	1	-	05/01/19 06:14	121,4500H+-B	JW
Nitrogen, Ammonia	0.083		mg/l	0.075	--	1	05/01/19 17:06	05/01/19 22:05	121,4500NH3-BH	AT
Chromium, Hexavalent	ND		mg/l	0.010	--	1	04/30/19 22:10	04/30/19 22:59	1,7196A	AS
Anions by Ion Chromatography - Westborough Lab										
Chloride	74.4		mg/l	5.00	--	10	-	05/01/19 22:18	44,300.0	AU

Project Name: 10 CLIFFORD STREET
Project Number: 6690.9.DP
Lab Number: L1917808
Report Date: 05/07/19

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: WG1232121-1										
Chromium, Hexavalent	ND		mg/l	0.010	--	1	04/30/19 22:10	04/30/19 22:58	1,7196A	AS
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1232240-1										
Chlorine, Total Residual	ND		mg/l	0.02	--	1	-	05/01/19 05:15	121,4500CL-D	MA
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1232300-1										
Cyanide, Total	ND		mg/l	0.005	--	1	05/01/19 10:25	05/01/19 13:29	121,4500CN-CE	LH
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1232350-1										
Nitrogen, Ammonia	ND		mg/l	0.075	--	1	05/01/19 17:06	05/01/19 21:51	121,4500NH3-BH	AT
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1232360-1										
Solids, Total Suspended	ND		mg/l	5.0	NA	1	-	05/01/19 16:30	121,2540D	DR
Anions by Ion Chromatography - Westborough Lab for sample(s): 01 Batch: WG1232604-1										
Chloride	ND		mg/l	0.500	--	1	-	05/01/19 16:54	44,300.0	AU

Lab Control Sample Analysis
Batch Quality Control

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

Lab Number: L1917808
Report Date: 05/07/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1232121-2								
Chromium, Hexavalent	98		-		85-115	-		20
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1232214-1								
pH	100		-		99-101	-		5
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1232240-2								
Chlorine, Total Residual	92		-		90-110	-		
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1232300-2								
Cyanide, Total	98		-		90-110	-		
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1232350-2								
Nitrogen, Ammonia	102		-		80-120	-		20
Anions by Ion Chromatography - Westborough Lab Associated sample(s): 01 Batch: WG1232604-2								
Chloride	98		-		90-110	-		

Matrix Spike Analysis
Batch Quality Control

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

Lab Number: L1917808
Report Date: 05/07/19

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: WG1232121-4 QC Sample: L1917808-01 Client ID: B-303 (OW)												
Chromium, Hexavalent	ND	0.1	0.098	98		-	-		85-115	-		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1232240-4 QC Sample: L1917688-04 Client ID: MS Sample												
Chlorine, Total Residual	ND	0.25	0.30	120		-	-		80-120	-		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1232300-4 QC Sample: L1917660-02 Client ID: MS Sample												
Cyanide, Total	ND	0.2	0.178	**89**	Q	-	-		90-110	-		30
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1232350-4 QC Sample: L1917500-02 Client ID: MS Sample												
Nitrogen, Ammonia	0.234	4	3.50	82		-	-		80-120	-		20
Anions by Ion Chromatography - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1232604-3 QC Sample: L1917791-04 Client ID: MS Sample												
Chloride	45.4	4	47.8	**59**	Q	-	-		90-110	-		18

Lab Duplicate Analysis
Batch Quality Control

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

Lab Number: L1917808
Report Date: 05/07/19

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1232121-3 QC Sample: L1917808-01 Client ID: B-303 (OW)						
Chromium, Hexavalent	ND	ND	mg/l	NC		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1232214-2 QC Sample: L1917807-01 Client ID: DUP Sample						
pH	6.2	6.1	SU	2		5
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1232240-3 QC Sample: L1917688-05 Client ID: DUP Sample						
Chlorine, Total Residual	0.55	0.58	mg/l	5		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1232300-3 QC Sample: L1917660-01 Client ID: DUP Sample						
Cyanide, Total	ND	ND	mg/l	NC		30
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1232350-3 QC Sample: L1917500-02 Client ID: DUP Sample						
Nitrogen, Ammonia	0.234	0.212	mg/l	10		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1232360-2 QC Sample: L1917717-02 Client ID: DUP Sample						
Solids, Total Suspended	72	72	mg/l	0		29
Anions by Ion Chromatography - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1232604-4 QC Sample: L1917791-04 Client ID: DUP Sample						
Chloride	45.4	45.6	mg/l	0		18

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

Lab Number: L1917808
Report Date: 05/07/19

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(*)
L1917808-01A	Vial Na2S2O3 preserved	A	NA		3.6	Y	Absent		624.1-RGP(7),624.1-SIM-RGP(7)
L1917808-01B	Vial Na2S2O3 preserved	A	NA		3.6	Y	Absent		624.1-RGP(7),624.1-SIM-RGP(7)
L1917808-01C	Vial Na2S2O3 preserved	A	NA		3.6	Y	Absent		624.1-RGP(7),624.1-SIM-RGP(7)
L1917808-01D	Vial Na2S2O3 preserved	A	NA		3.6	Y	Absent		624.1-RGP(7),624.1-SIM-RGP(7)
L1917808-01E	Vial Na2S2O3 preserved	A	NA		3.6	Y	Absent		624.1-RGP(7),624.1-SIM-RGP(7)
L1917808-01F	Vial Na2S2O3 preserved	A	NA		3.6	Y	Absent		624.1-RGP(7),624.1-SIM-RGP(7)
L1917808-01G	Vial Na2S2O3 preserved	A	NA		3.6	Y	Absent		504(14)
L1917808-01H	Vial Na2S2O3 preserved	A	NA		3.6	Y	Absent		504(14)
L1917808-01I	Plastic 250ml NaOH preserved	A	>12	>12	3.6	Y	Absent		TCN-4500(14)
L1917808-01J	Plastic 500ml H2SO4 preserved	A	<2	<2	3.6	Y	Absent		NH3-4500(28)
L1917808-01K	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)
L1917808-01L	Plastic 950ml unpreserved	A	7	7	3.6	Y	Absent		CL-300(28),HEXCR-7196(1),TRC-4500(1),PH-4500(.01)
L1917808-01M	Plastic 950ml unpreserved	A	7	7	3.6	Y	Absent		TSS-2540(7)

*Values in parentheses indicate holding time in days

Project Name:	10 CLIFFORD STREET	**Lab Number:**	L1917808
Project Number:	6690.9.DP	**Report Date:**	05/07/19

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	**Lab Number:**	L1917808
Project Number:	6690.9.DP	**Report Date:**	05/07/19

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 **Lab Number:** L1917808

Project Number: 6690.9.DP **Report Date:** 05/07/19

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.

14 Methods for the Determination of Organic Compounds in Finished Drinking Water and Raw Source Water. EPA/600/4-88/039, Revised July 1991.

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

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.

128 Method 624.1: Purgeables by GC/MS, EPA 821-R-16-008, December 2016.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

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

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene
EPA 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.

EPA 6860: SCM: Perchlorate

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

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

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

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-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.

CHAIN OF CUSTODY

PAGE 1 OF 1

ALPHA ANALYTICAL

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

Date Rec'd in Lab: 4/30/19

ALPHA Job #: L1917808

Client Information

Client: McPhail Associates, LLC
Address: 2269 Massachusetts Avenue
Cambridge, MA 02140
Phone: (617) 868-1420
Fax:
Email: Kseaman@mcphailgeo.com

☐ These samples have been Previously analyzed by Alpha

Project Information

Project Name: 10 Clifford Street
Project Location: Roxbury, MA
Project #: 6690.9.DP
Project Manager: KWS
ALPHA Quote #:

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)

Due Date: Time:

Report Information Data Deliverables

☐ FAX ☐ EMAIL
☒ ADEx ☐ Add'l Deliverables

Billing Information

☐ Same as Client info PO #:

Regulatory Requirements/Report Limits

State/Fed Program	Criteria
NPDES RGP	

Other Project Specific Requirements/Comments/Detection Limits:

Circle the following if required; -

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

ANALYSIS

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	RGP Metals (200.8) (A)	TSS- (A)	Ammonia (4500 (A))	TCN (A)	CrVI,CrIII,	624.1 RGP+ 624.1-SIM-RGP (1,4-Dioxane)	ph/ Hardness	504 EDB					Sample Specific Comments	TOTAL # BOTTLES
17808-01	B-303 (OW)	4/30	10:45	GW	EKC	☒	☒	☒	☒	☒	☒	☒	☒	☐	☐	☐	☐		13
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
					Container Type	P	P	P	P	P	V	P	-	-	-	-	-		
					Preservative	C	A	D	E	A	B	A	-	-	-	-	-		

SAMPLE HANDLING
Filtration
☐ Done
☐ Not Needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

Relinquished By:	Date/Time	Received By:	Date/Time
EKC	4/30 12:00	[signature] AAL	4/30/19 1630
[signature]	4/30/19 1750	[signature]	4/30/19 17:50

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

FORM NO: 01-01(I-NJ) (rev. 5-JAN-12)

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

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

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

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

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

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

Project Name:	10 CLIFFORD STREET	**Lab Number:**	L1919553
Project Number:	6690.9.DP	**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.

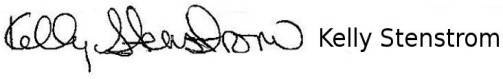
When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded 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
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	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
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
Total Hardness by SM 2340B - Mansfield Lab											
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,-	

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
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
Project Number: 6690.9.DP

Lab Number: L1919553
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

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
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)

*Values in parentheses indicate holding time in days

Project Name:	10 CLIFFORD STREET	**Lab Number:**	L1919553
Project Number:	6690.9.DP	**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	**Lab Number:**	L1919553
Project Number:	6690.9.DP	**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	**Lab Number:**	L1919553
Project Number:	6690.9.DP	**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.

Certification Information

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

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene
EPA 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.

EPA 6860: SCM: Perchlorate

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

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

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

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-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.

CHAIN OF CUSTODY

PAGE 1 OF 1

ALPHA ANALYTICAL — World Class Chemistry

Westborough, MA
TEL: 508-898-9220
FAX: 508-898-9193

Mansfield, MA
TEL: 508-822-9300
FAX: 508-822-3288

Date Rec'd in Lab: 5/9/19

ALPHA Job #: L1919553

Project Information

Project Name: 10 Clifford Street

Project Location: Roxbury, MA

Project #: 6690.9.DP

Project Manager: JSW

ALPHA Quote #:

Client Information

Client: McPhail Associates, LLC

Address: 2269 Massachusetts Avenue

Cambridge, MA 02140

Phone: (617) 868-1420

Fax:

Email: jwold@mcphailgeo.com

☐ These samples have been Previously analyzed by Alpha

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)

Due Date: Time:

Report Information Data Deliverables

☐ FAX ☐ EMAIL

☒ ADEx ☐ Add'l Deliverables

Billing Information

☐ Same as Client info

PO #:

Regulatory Requirements/Report Limits

State/Fed Program	Criteria
NPDES RGP	

Other Project Specific Requirements/Comments/Detection Limits:

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

ANALYSIS

SAMPLE HANDLING
Filtration
☐ Done
☐ Not Needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	RGP Metals (200.8) (A)	TSS,hardness, pH	Ammonia (4500 (A))	TCN (A)	CrVI,CrIII,								Sample Specific Comments	TOTAL # BOTTLES
19553-01	Surface Water	5/9/19	11:00	SW	TMc	☒	☒	☒	☒	☒	☐	☐	☐	☐	☐	☐	☐		5
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
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						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
					Container Type	P	P	P	P	P	-	-	-	-	-	-	-		
					Preservative	C	A	D	E	A	-	-	-	-	-	-	-		

Relinquished By:	Date/Time	Received By:	Date/Time
[signature]	5/9/19 12:00	[signature] AAL	5/9 16:20
[signature] AAL	5/9 18:25	[signature]	5/9/19 18:28

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

FORM NO: 01-01(I-NJ) (rev. 5-JAN-12)

APPENDIX F:

BEST MANAGEMENT PRACTICE PLAN

A Notice of Intent for a Remediation General Permit (RGP) under the National Pollutant Discharge Elimination System (NPDES) has been submitted to the US Environmental Protection Agency (EPA) in anticipation of temporary construction dewatering that will occur during redevelopment of 10 Clifford Street in Roxbury, Massachusetts. This Best Management Practices Plan (BMPP) has been prepared as an Appendix to the RGP and will be posted at the site during the time period that temporary construction dewatering is occurring at the site.

Water Treatment and Management

During construction of the proposed building foundation, dewatering effluent is anticipated to be pumped from localized sumps and trenches within the excavation directly into a settling tank. A review of available subgrade sanitary and storm sewer system plans accessed from the BWSC, a single discharge flow path adjacent to the site flow to a primary discharge outfall location. The primary discharge location is an outfall pipe listed CSO023 according to the BWSC. Dewatering effluent treatment will consist of a settling tank, bag filters to remove suspended soil particulates and, flocculant logs for off-site discharge. pH adjustment will be conducted, if necessary, through the addition of hydrochloric acid, caustic soda and carbon dioxide.

Discharge Monitoring and Compliance

Regular sampling and testing will be conducted at the influent to the system and the treated effluent as required by the RGP. During the first week of discharge, the operator must sample the untreated influent and treated effluent two times: one (1) sample of untreated influent and one (1) sample of treated effluent be collected on the first day of discharge, and one (1) sample of untreated influent and one (1) sample of treated effluent must be collected on one additional non-consecutive day within the first week of discharge. Samples must be analyzed in accordance with 40 CFR §136 unless otherwise specified by the RGP, with a maximum 5-day turnaround time and results must be reviewed no more than 48 hours from receipt of the results of each sampling event. After the first week, samples may be analyzed with up to a ten (10)-day turnaround time and results must be reviewed no more than 72 hours from receipt of the results. If the treatment system is operating as

designed and achieving the effluent limitations outlined in the RGP, on-going sampling shall be conducted weekly for three (3) additional weeks beginning no earlier than 24 hours following initial sampling, and monthly as described below. Any adjustments/reductions in monitoring frequency must be approved by EPA in writing.

In accordance with Part 4.1 of the RGP, the operator must perform routine monthly monitoring for both influent and effluent beginning no more than 30 days following the completion of the sampling requirements for new discharges or discharges that have been interrupted. The routine monthly monitoring is to be conducted through the end of the scheduled discharge. The routine monthly monitoring must continue for five (5) consecutive months prior to submission of any request for modification of monitoring frequency.

Dewatering activity for the Site is classified as Category III-G: Sites with Known Contamination. Monitoring shall include analysis of influent and effluent samples dictated by the EPA.

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

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

System Maintenance

A number of methods will be used to minimize the potential for violations during the term of this permit discharge. Scheduled regular maintenance and periodic cleaning of the treatment system will be conducted to verify proper operation and shall be conducted in accordance with Section 1.11 of the project earthwork specifications. Regular maintenance will include checking the condition of the treatment system equipment such as the settling tanks, bag filters, hoses, pumps, and flow meters. Equipment will be monitored daily for potential issues and unscheduled maintenance requirements.

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

Miscellaneous Items

It is anticipated that the erosion control measures and the nature of the site will minimize potential runoff to or from the site. The project specifications also include requirements for erosion control. Site security for the treatment system will be addressed within the overall site security plan.

No adverse effects on designated uses of surrounding surface water bodies is anticipated. The closest body of water is the Dorchester Old Harbor located approximately 9,000 feet to the east of the subject site. Dewatering effluent will be pumped into a settling tank. Water within the settling tank will be pumped through bag filters and, flocculant logs prior to discharge into the storm drains.

Management of Treatment System Materials

Dewatering effluent will be pumped directly into the treatment system from the excavation with use of hoses and localized sumps to minimize handling. The Contractor will establish staging areas for equipment or materials storage that may be possible sources of pollution away from any dewatering activities, to the extent practicable.

Sediment from the tank used in the treatment system will be characterized and removed from the site to an appropriate receiving facility, in accordance with applicable laws and regulations. Bag filters will be replaced/disposed of as necessary.