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

THE WASHINGTON

JAMAICA PLAIN - BOSTON, MASSACHUSETTS

JANUARY 31, 2018

Prepared For:

U.S. Environmental Protection Agency
Office of Ecosystem Protection
5 Post Office Square – Suite 100
Mail Code OEP06-01
Boston, MA 02109-3912

On Behalf Of:

Back Bay Development Group, LLC
20 Park Plaza, Suite #821
Boston, MA 02116

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

PROJECT NO. 6483

January 31, 2018

U.S. Environmental Protection Agency
Dewatering GP Processing
Industrial Permit Unit (OEP 06-4)
5 Post Office Square – Suite 100
Mail Code OEP06-01
Boston, MA 02109-3912

Attention: To Whom It May Concern

Reference: The Washington, Jamaica Plain - Boston, Massachusetts
Notice of Intent for Construction Dewatering Discharge Under
Massachusetts Remediation General Permit MAG910000

Ladies and Gentlemen:

On behalf of the Back Bay Development Group, LLC (BBDGL), McPhail Associates, LLC (McPhail) has prepared the attached Notice of Intent (NOI) for coverage under the Massachusetts Remediation General Permit (RGP) MAG910000 for the discharge of construction dewatering effluent into the Charles River via the City of Boston storm drainage system. The temporary construction dewatering discharge will occur during redevelopment of Lot 1 located at 3521 Washington Street in the Jamaica Plain neighborhood of Boston, 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 authorization from BBDGL. These services are subject to the limitations contained in **Appendix A**.

The required Notice of Intent Form contained in the RGP permit and Boston Water & Sewer Commission (BWSC) Dewatering Discharge Permit Application are included in **Appendix B** and supporting information is included in **Appendix C**.

A Best Management Practice Plan (BMPP) is contained in **Appendix F**.

Applicant/Operator

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

Back Bay Development Group, LLC
Address: 20 Park Plaza, Suite #821 - Boston, MA 02116

Attention: Michael Durand
Title: Principal
Phone: 857.233.2125
Email: mdurand@backbaydevelopment.com

Site Location and Existing Conditions

The subject site fronts onto Washington Street to the southeast, and is bounded by McBride Street to the north, Burnett Street to the south, and two parcels to the west which are currently active construction sites. The subject site for which construction dewatering is proposed, is part of a larger development site that consists of three contiguous parcels of land. The development site consists of three (3) contiguous parcels of land, identified as Lot 1, Lot 2 and Lot 3 which occupy an area of approximately 3.4 acres. The subject site, which is identified as Lot 1, occupies approximately 1.2 acres at the southeastern end of the development site. Previously, the development site was occupied by a complex of buildings and a paved surface parking lot, as well as grassed and landscape areas. Currently, the development site including the subject site are under construction the perimeter of which is surrounded by a chain-link fence. The existing ground surface across the site generally varies from about Elevation +37 to Elevation +33. The limits of the subject site are depicted on **Figure 2**.

Proposed Scope of Site Development

Based on the preconstruction plan and discussion with BBDGL, the proposed development will include the construction of a 4-story building that will occupy the majority of the subject site. The building will contain one below grade level that will utilized as a ventilated parking garage and mechanical space. The below grade level is understood to occupy a footprint of approximately 38,000 square feet. In addition, it is understood that the top of the lowest level floor slab will be at approximately Elevation +24.5. It is anticipated that excavation for the below grade level will extend below the surface of groundwater. As a result, dewatering will be necessary to facilitate construction on the proposed building foundation and below-grade floor slab.

Construction Dewatering

A temporary excavation support system is proposed to be installed along the site perimeter to retain adjacent soils, protect adjacent structures and for proper groundwater control. The temporary excavation support is recommended to consist of a continuously interlocking steel sheet pile wall which is advanced into permeable marine clay deposit to achieve an effective groundwater cut-off. Given an effective temporary groundwater cutoff being achieved by the sheet pile wall, it is anticipated that dewatering by means of strategically located sumps and trenches should suffice to perform the proposed basement excavation, and also to provide for management of water which may become trapped within the excavation areas following periods of precipitation. The average design flow rate for the proposed dewatering is 50 gallons per minute (GPM) and the maximum design flow rate is 75 GPM.

During excavation for the proposed basement, it is anticipated that on-site recharge of water collected during construction will not be feasible. As a result, it will be necessary to discharge construction dewatering effluent into the city storm drainage system.

A review of available subgrade sanitary and storm sewer system plans accessed from the BWSC indicates the presence of a dedicated storm water drain system located beneath Washington Street adjacent to the subject site. Records supplied by BWSC indicate one discharge flow path adjacent to the site with one primary and one secondary outfall locations. The discharge flow path continues north away from the site towards the Back Bay Fens. The secondary discharge location is an emergency outfall at a gate house that, per BWSC, is only used in high discharge flow emergency events. The flow path follows along the Back Bay Fens under I-90, Commonwealth Avenue, and Storrow Drive out the Charles River. The primary discharge location is an outfall pipe listed as CSO 023 according to the BWSC. Both discharge locations and the singular discharge flow path are shown on the enclosed **Figure 3A, 3B, and 3C.**

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 January 8, 2017, 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 did not identify the presence of endangered species at or in the vicinity of the discharge location and/or discharge outfall. Further, the Trust Resource Report did not identify the presence of a critical habitat in the vicinity of the discharge outfall and/or discharge location. 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 or within 500 feet of the subject site. The map indicates that the closest Protected Open Space to the subject site is located approximately 50 feet to the north. The closest water body is the Scarboro Pond, which is located approximately 4,000 feet to the sortheast 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**.

Site History

In summary, the subject site was previously occupied by vacant warehouse and vacant office buildings which have since been demolished. According to a report entitled, "Phase III - Remedial Action Plan and Phase IV - Remedial Implementation Plan 3521 Washington Street Jamaica Plain, MA RTN 3-30389" written by Haley and Aldrich in December 2017, the development site was historically utilized for industrial purposes. According to this Report, Flanagan and Seaton Motor Company operated an automobile warehouse since the early 1980's. The Kinney Manufacturing Company - Pump Works (Kinney), a manufacturer of vacuum pumps occupied the site from 1928 until at least 1964. Additional historic operations during the 1898 to 1928 time-period included thread and twine manufacturing (Boston Thread and Twine Co.), and a coal yard.

MCP Regulatory Status

A portion of the site is listed in the MassDEP on-line waste site database under RTN 3-33409 a release of total lead and total mercury in soil. According to the Mass DEP database, a 120-day Release Notification Form (RNF) was submitted to the DEP on February 9, 2016 by Boston Environmental Corporation. According to the MassDEP, subsequently a Permanent Solution Statement was submitted on October 6, 2017 in reference to RTN 3-33409 indicating that remedial actions completed on portions of the subject site had reduced lead and mercury concentrations in soil to applicable background standards.

Based upon a review of MCP reports made available in the MassDEP database, four (4) separate releases are present on Lots 2 and 3 of the larger development site. Of these four releases, one detailed Reportable Concentrations of TCE and its breakdown compounds detected in groundwater to which RTN 3-30389 was assigned. According to a report entitled "Phase II-Comprehensive Site Assessment, 3251 Washington Street Jamaica Plain, MA MassDEP RTN 3-30389" prepared by GZA for, Burnett Realty, Inc, in March 2015, groundwater testing performed at the subject site indicated non-detectable concentrations of VOCs. In addition, groundwater flow modeling and limit samples from several monitoring wells across Lots 2 and 3 indicate a west to east cross-gradient from the subject site.

Summary of Groundwater Analysis

In 2017, McPhail completed three (3) soil borings identified as B-101, B-102, and B-103 in the footprint of the proposed building and groundwater was observed in the completed boreholes at depths ranging from 5.6 to 10 feet below existing ground surface, corresponding to Elevation +28.4 and Elevation +26. A groundwater monitoring well was installed within boring B-101. Based on groundwater levels recorded in the observation wells, the groundwater level in the area of the proposed development is anticipated to range from about Elevation +27.1 to Elevation +27.9.

On January 3, 2017, a groundwater sample was collected by McPhail from B-101 (OW), and submitted to a laboratory for analysis for the following parameters: total residual chlorine,

hexavalent chromium, total cyanide, ammonia, pH, total phenolics, total suspended solids (TSS), total metals (antimony, arsenic, cadmium, chromium, copper, iron, lead, mercury, nickel, selenium, silver, and zinc), dissolved lead, TPH, micro-extractables, VOCs, and SVOCs. Due to the industrial and release history of the site and surrounding lots, chemical parameter contained in Sections A, B, C, D, and F of the RGP were analyzed. Results indicated the presence of elevated levels of total suspended solids (TSS), arsenic, chromium, copper, iron, nickel, selenium, and zinc. A summary of the groundwater results is shown in the enclosed **Table 1**.

In accordance with the updated 2017 NPDES RGP, a sample of water from the Charles River was obtained and analyzed for recoverable metals, ammonia, pH, and hardness summarized in **Table 2**.

The groundwater testing completed indicates that elevated levels of metals are present in groundwater at the site. In summary, results indicated the presence of elevated levels of arsenic, chromium, copper, iron, nickel, selenium, and zinc and concentrations were utilized in Appendix V of the 2017 RGP, to determine if Water Quality-Based Effluent Limitations (WQBELs) for specific inorganics could apply. The Appendix V calculations indicate Technology-Based Effluent Limitations (TBELs) apply for all Inorganics and all other parameters analyzed. A copy of the TBEL and WQBEL calculations is attached in **Appendix C**.

Full laboratory reports are included in **Appendix D & E.**

Groundwater Treatment

Based on the results of the above referenced groundwater analyses, it is our opinion that a 10,000-gallon capacity settling tank and bag filter in series will be required to settle and filter out suspended inorganic metals in the discharge during construction dewatering to meet applicable effluent limits established by the US EPA prior to off-site discharge. In order to raise the pH in the effluent, a pH adjustment will be included in the treatment to meet the RGP effluent requirements for dewatering to freshwater. Additionally, if necessary, an Ion Exchange Resin Filter and/or Granular Activated Carbon (GAC) Filters will be utilized to further treat levels of TPH, VOCs, or SVOCs in the effluent to meet the TBELs that are considered applicable. A schematic of the treatment system is shown on **Figure 4**.

Summary and Conclusions

The purpose of this report is to assess site environmental conditions and groundwater data to support an NOI for the Massachusetts Remediation General Permit for off-site discharge of dewatered groundwater which will be encountered during the proposed development of 3521 Washington Street in the Jamaica Plain neighborhood of Boston, Massachusetts.

Based on the results of the above referenced groundwater analyses, treatment of construction dewatering will be necessary to meet allowable TBELS for arsenic, chromium, copper, iron, nickel, selenium, and zinc established by the US EPA prior to off-site

discharge. The proposed construction dewatering effluent treatment system will consist of one settling tank 10,000-gallons in capacity, a pH adjustment system, and bag filter in series to filter out sediment containing elevated levels of metals. However, should the effluent monitoring results indicate levels in excess of the applicable TBELs and/or WQBEL established in the Massachusetts RGP, additional mitigative measures in the form of Ion Exchange Resin Filtration 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

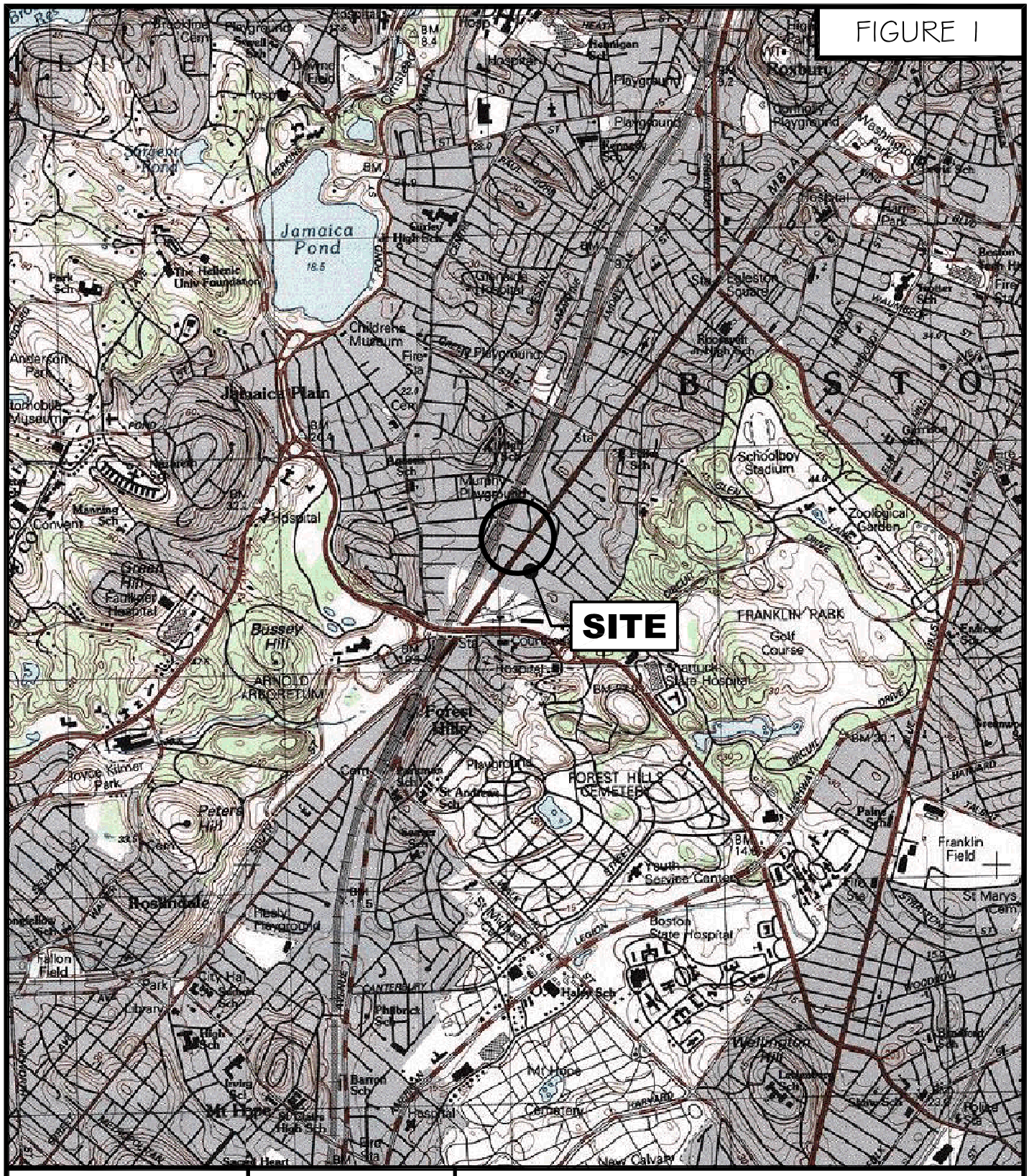
Kirk W. Seaman

William J. Burns, L.S.P.

N:\Working Documents\Reports\6483_RGP_010817 rev 1.docx

KWS/wjb/

FIGURE 1



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N

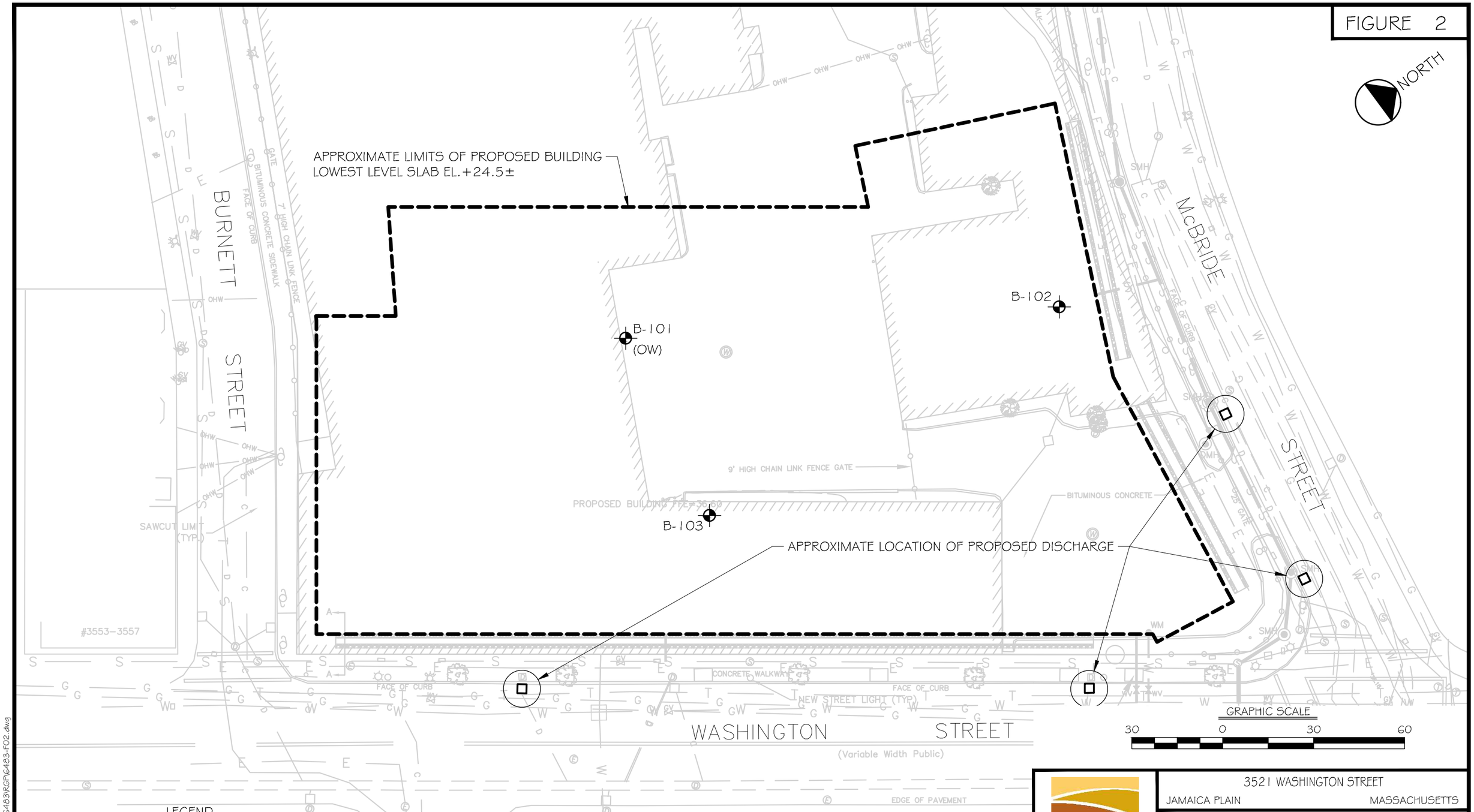
SCALE 1:25,000

PROJECT LOCATION PLAN

THE WASHINGTON

JAMAICA PLAIN MASSACHUSETTS

FIGURE 2



LEGEND

- □ — APPROXIMATE LOCATION OF PROPOSED DISCHARGE.
- ⊕ — APPROXIMATE LOCATION OF BOREHOLE PERFORMED BY CARR-DEE CORP. ON NOVEMBER 3 & 6, 2017 FOR McPHAIL ASSOCIATES, LLC

(OW) — INDICATES OBSERVATION WELL INSTALLED WITHIN COMPLETED BOREHOLE

REFERENCE: THIS PLAN WAS PREPARED FROM A 20-SCALE DRAWING ENTITLED "CIVIL SITE UTILITY PLAN" DATED OCTOBER 28, 2017 BY NITSCH ENGINEERING AND FROM A 3/32-SCALE DRAWING ENTITLED "BASEMENT FOUNDATION PLAN" DATED OCTOBER 2, 2017 BY L.A.FUESS PARTNERS

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3521 WASHINGTON STREET

JAMAICA PLAIN MASSACHUSETTS

DISCHARGE LOCATION PLAN

FOR

BACK BAY DEVELOPMENT GROUP LLC

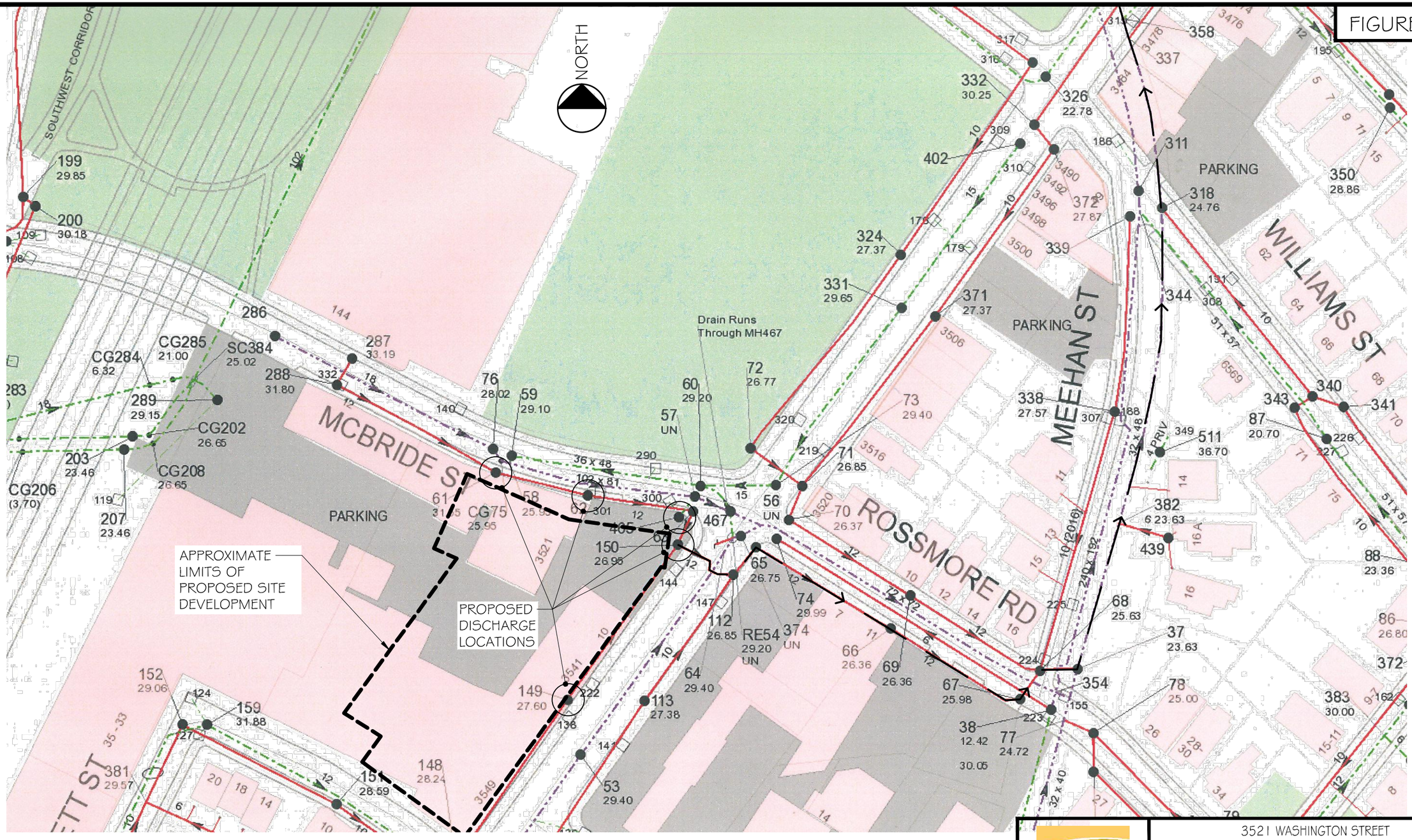
BY

McPHAIL ASSOCIATES, LLC

Date: JANUARY 2018	Dwn: F.G.P.	Chkd: K.W.S.	Scale: 1" = 30'
Project No: 6483			

FILE NAME: N:\Acad\JOBS\6483\RCP\6483-F02.dwg

FIGURE 3A



REFERENCE: THIS PLAN WAS PREPARED FROM AN 1:60-SCALE DRAWING GENERATED FROM THE BOSTON WATER AND SEWER DATABASE ON DECEMBER 28, 2017

GRAPHIC SCALE

80 0 80 160

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3521 WASHINGTON STREET

JAMAICA PLAIN MASSACHUSETTS

POSSIBLE BWSC SYSTEM ENTRY LOCATION

FOR

BACK BAY DEVELOPMENT GROUP, LLC

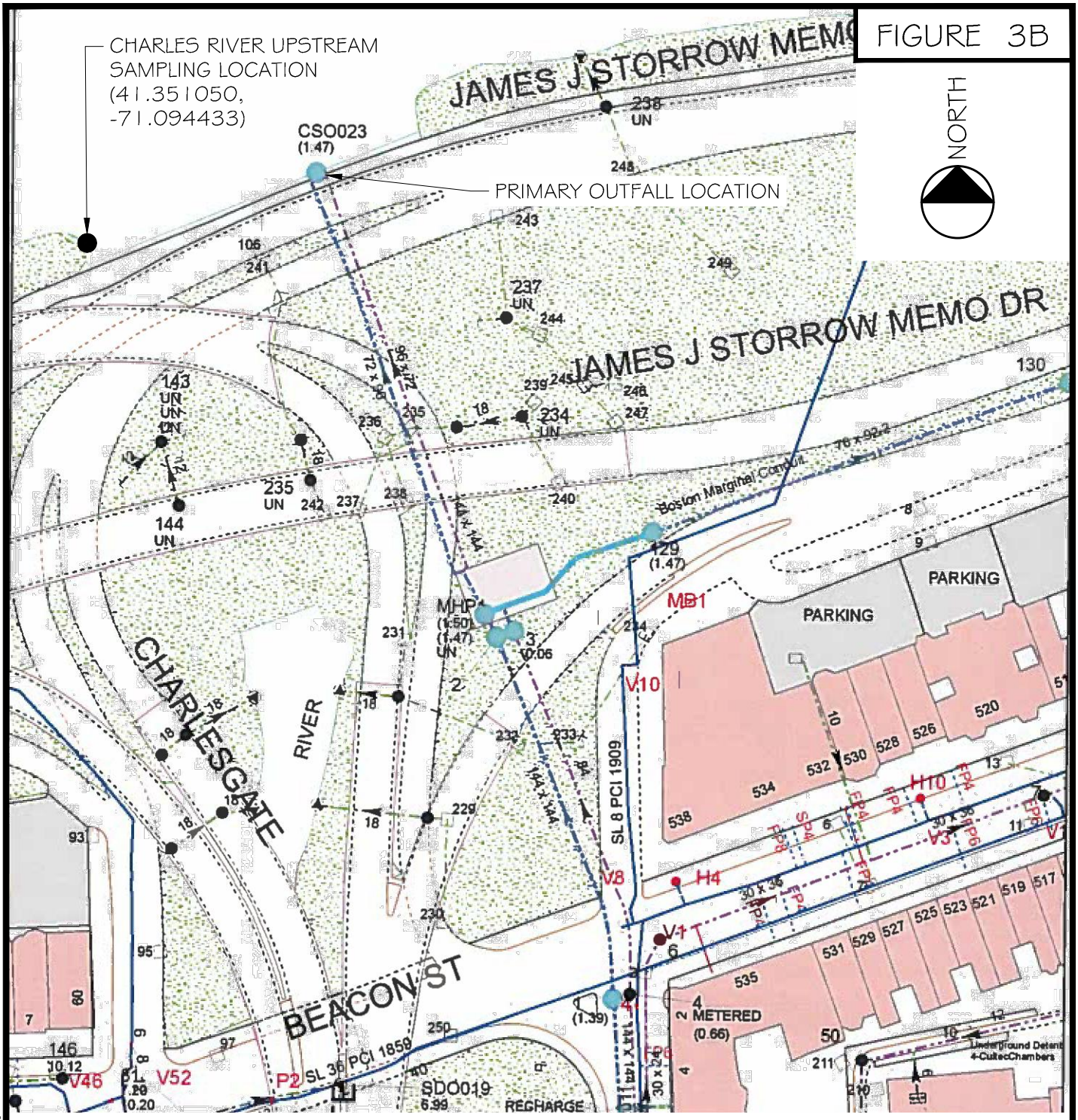
BY

McPHAIL ASSOCIATES, LLC

Date: JANUARY 2018	Dwn: F.G.P.	Chkd: K.W.S.	Scale: 1" = 80'
Project No: 6483			

FILE NAME: N:\Acad\JOBS\6483\RGP\6483-F03ABC.dwg

FIGURE 3B



GRAPHIC SCALE

100 0 100 200

REFERENCE: THIS PLAN WAS PREPARED FROM AN 100-SCALE DRAWING GENERATED FROM THE BOSTON WATER AND SEWER DATABASE ON MAY 11, 2017

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3521 WASHINGTON STREET
JAMAICA PLAIN MASSACHUSETTS

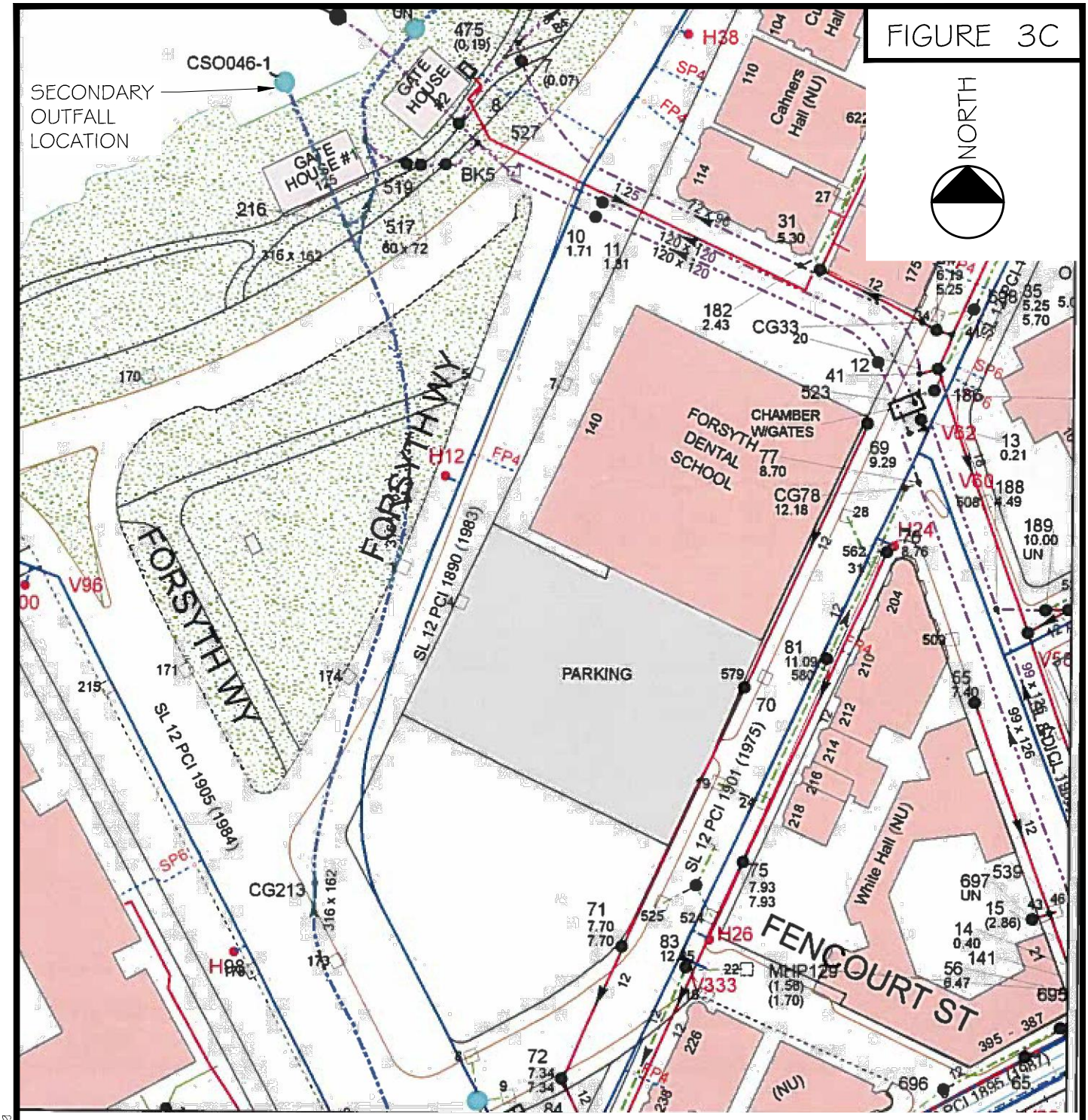
PRIMARY OUTFALL LOCATION & UPSTREAM SAMPLING LOCATION

FOR
BACK BAY DEVELOPMENT GROUP, LLC
BY
McPHAIL ASSOCIATES, LLC

Date: JANUARY 2018	Dwn: F.G.P.	Chkd: K.W.S.	Scale: 1" = 100'
Project No: 6483			

FILE NAME: N:\CadJOBS\6483\RGP\6483-F03ABC.dwg

FIGURE 3C



GRAPHIC SCALE

100 0 100 200

REFERENCE: THIS PLAN WAS PREPARED FROM AN 100-SCALE DRAWING GENERATED FROM THE BOSTON WATER AND SEWER DATABASE ON MAY 11, 2017

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3521 WASHINGTON STREET

JAMAICA PLAIN MASSACHUSETTS

SECONDARY OUTFALL LOCATION

FOR

BACK BAY DEVELOPMENT GROUP, LLC

BY

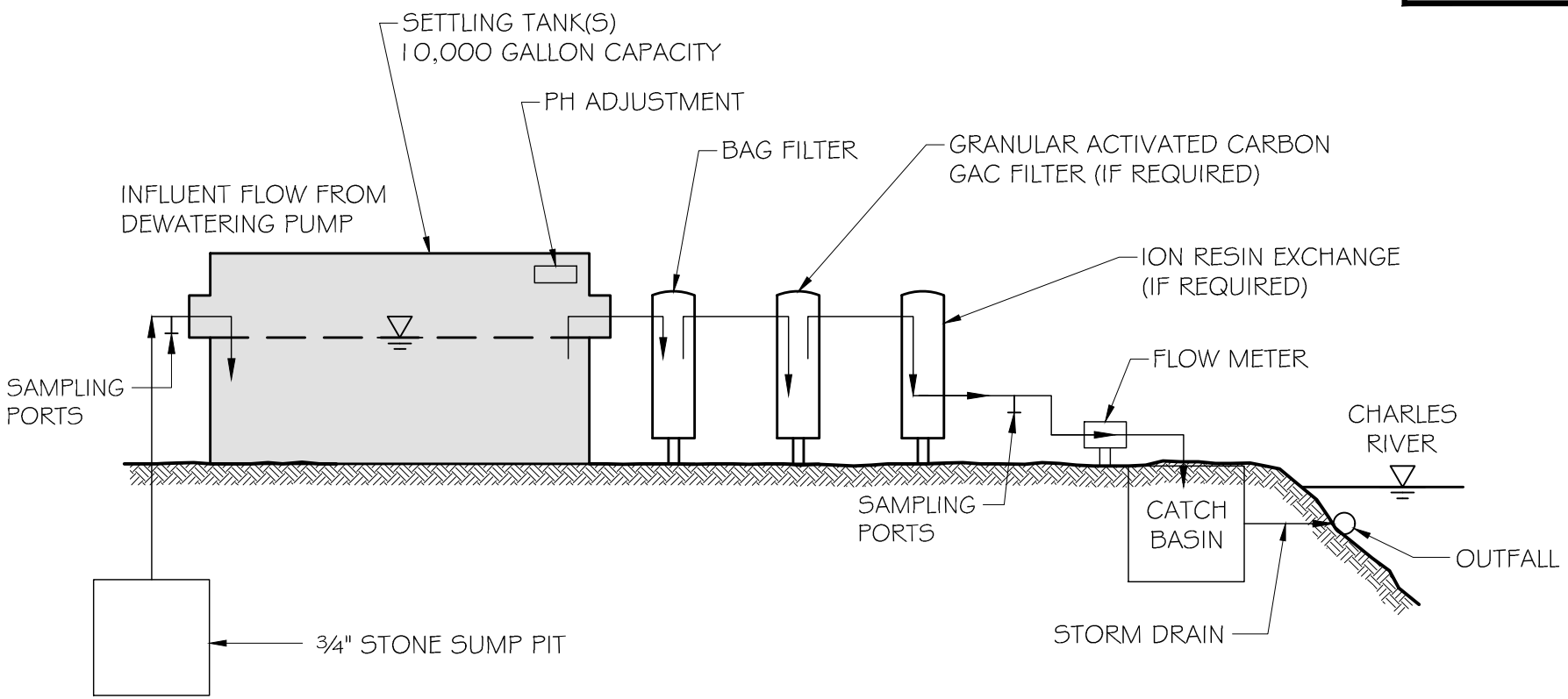
McPHAIL ASSOCIATES, LLC

Date: JANUARY 2018	Dwn: F.G.P.	Chkd: K.W.S.	Scale: 1" = 100'
Project No: 6483			

FILE NAME: N:\CadJOBS\6483\RGP\6483-F03ABC.dwg

FILE NAME: N:\Acad\JOBS\6483\RGP\6483-F04.dwg

FIGURE 4



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3521 WASHINGTON STREET
JAMAICA PLAIN MASSACHUSETTS

SCHEMATIC OF TREATMENT SYSTEM

FOR

BACK BAY DEVELOPMENT GROUP, LLC

BY

McPHAIL ASSOCIATES, LLC

Date: JANUARY 2018	Dwn: F.G.P.	Chkd: K.W.S.	Scale: N.T.S.
Project No: 6483			

Table 1
Labratory Analytical Results - Groundwater

3521 Washington Street
Jamaica Plain - Boston, MA
Project No.6483

LOCATION		**B-101 (OW)**
SAMPLING DATE		**1/3/2018**
LAB SAMPLE ID		**L1800184-01**
SAMPLE TYPE		**Groundwater**
SAMPLE DEPTH (ft.)		**12**
	EPA-ALFCMC	
General Chemistry		
Chromium, Trivalent (ug/l)	570	ND(10)
Solids, Total Suspended (ug/l)		20000
Cyanide, Total (ug/l)	22	ND(5)
Chlorine, Total Residual (ug/l)		ND(20)
Chloride (ug/l)	860000	44800
pH (S.U.)		5.8
Nitrogen, Ammonia (ug/l)		ND(75)
TPH, SGT-HEM (ug/l)		ND(4000)
Phenolics, Total (ug/l)		ND(30)
Chromium, Hexavalent (ug/l)	16	ND(10)
Total Hardness (ug/l)		
Hardness		163000
Total Metals (ug/l)		
Antimony, Total		ND(4)
Arsenic, Total	340	1.07
Cadmium, Total	2	ND(0.2)
Chromium, Total		1.37
Copper, Total		13.03
Iron, Total		407
Lead, Total	65	ND(1)
Mercury, Total	1.4	ND(0.2)
Nickel, Total	470	12.62
Selenium, Total		8.78
Silver, Total	3.2	ND(0.4)
Zinc, Total	120	19.06
Microextractables (ug/l)		
1,2-Dibromoethane		ND(0.01)
Semivolatile Organics (ug/l)		
SUM		ND
Volatile Organics (ug/l)		
SUM		ND

ND - Not detected in excess of the detection limit
(#) - Detection Limit
EPA-ALFCMC - National Recommended Water Quality Criteria - Freshwater Aquatic CMC (acute)

Table 2
Labratory Analytical Results - Surface Water

3521 Washinton Street
Jamaica Plain - Boston, MA
Project No. 6483

LOCATION	CHARLES RIVER
SAMPLING DATE	5/12/2017
LAB SAMPLE ID	L1715658-01
	Results
General Chemistry (ug/l)	
Chromium, Trivalent	ND(10)
Nitrogen, Ammonia	304
Chromium, Hexavalent	3
Total Hardness (ug/l)	
Hardness	96500
Total Metals (ug/l)	
Antimony, Total	2.02
Arsenic, Total	1.05
Cadmium, Total	ND(1)
Chromium, Total	1.24
Copper, Total	3.66
Iron, Total	1010
Lead, Total	4.13
Mercury, Total	ND(0.2)
Nickel, Total	3.2
Selenium, Total	ND(5)
Silver, Total	ND(1)
Zinc, Total	11.11

ND - Not detected in excess of the laboratory method detection limit
Blank - Not analyzed

APPENDIX A:

LIMITATIONS

LIMITATIONS

The purpose of this report is to present a summary of environmental conditions, including the results of testing of groundwater samples obtained from groundwater monitoring wells on the property located at 3521 Washington Street in the Jamaica Plain neighborhood of Boston, Massachusetts in support of an application for approval of temporary construction dewatering discharge of groundwater into surface waters of the Commonwealth of Massachusetts under EPA's Massachusetts 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 analytical data obtained from analysis of groundwater samples, and are contingent upon their validity. The data have been reviewed, and interpretations have been made in the text. It should also be noted that fluctuations in the types and levels of contaminants and variations in their flow paths may occur due to changes in seasonal water table, past practices used in disposal and other factors.

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

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

APPENDIX B:

NOTICE OF INTENT - NPDES REMEDIATION GENERAL PERMIT
BOSTON WATER & SEWER DEWATERING DISCHARGE PERMIT APPLICATION

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:
The Washington</td><td colspan="3">Site address:
Street: 3521 Washington Street</td></tr>
<tr><td>City: Jamaica Plain - Boston</td><td>State: MA</td><td>Zip: 02130</td></tr>
<tr><td rowspan="4">2. Site owner
Back Bay Development Group LLC

Owner is (check one): ☐ Federal ☐ State/Tribal ☐ Private
☐ Other; if so, specify:</td><td colspan="3">Contact Person: Michael Durand</td></tr>
<tr><td colspan="2">Telephone: 857.233.2125</td><td>Email: Mdurand@BackBayDevelopme</td></tr>
<tr><td colspan="3">Mailing address:
Street: 20 Park Plaza, Suite #821</td></tr>
<tr><td>City: Boston</td><td>State: MA</td><td>Zip: 02116</td></tr>
<tr><td rowspan="4">3. Site operator, if different than owner
Dellbrook/JKS</td><td colspan="3">Contact Person: Tony Hraibe</td></tr>
<tr><td colspan="2">Telephone: 781-606-2739</td><td>Email: thraibe@dellbrookjks.com]</td></tr>
<tr><td colspan="3">Mailing address:
Street: 859 Willard St</td></tr>
<tr><td>City: Quincy</td><td>State: MA</td><td>Zip: 02169</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): 3-33409

☐ 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	MA72-38	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 MA72-38 - 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 = 18.87 MGD
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: 1/16/2017

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: Inorganics	
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): CSO 023	Outfall location(s): (Latitude, Longitude) 42.351726, -71.092511
Discharges enter the receiving water(s) via (check any that apply): ☐ Direct discharge to the receiving water ■ Indirect discharge, if so, specify: Discharge outfall direct into Charles River ☐ 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 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: Submission of documentation to and approval from BWSC in tandem with this NOI Has the operator attached a summary of any additional requirements the owner of this system has specified? (check one): ■ Yes ☐ No	
Provide the expected start and end dates of discharge(s) (month/year): Mar 2018 - Feb 2019 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="4">☐ 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	121,4500N	75	<DL	<DL	Report mg/L	---
Chloride		✔	1	443000	500	44800	44800	Report µg/l	---
Total Residual Chlorine	✔		1	121,4500C	20	<DL	<DL	0.2 mg/L	
Total Suspended Solids		✔	1	1212540D	5000	20000	20000	30 mg/L	
Antimony	✔		1	3005A	4	<DL	<DL	206 µg/L	
Arsenic		✔	1	3005A	0.5	1.07	1.07	104 µg/L	
Cadmium	✔		1	3005A	2	<DL	<DL	10.2 µg/L	
Chromium III		✔	1	3005A	1	1.37	1.37	323 µg/L	
Chromium VI		✔	1	3005A	1	1.37	1.37	323 µg/L	
Copper		✔	1	3005A	1	13.03	13.03	242 µg/L	
Iron		✔	1	3005A	500	407	407	5,000 µg/L	
Lead	✔		1	3005A	0.5	<DL	<DL	160 µg/L	
Mercury	✔		1	EPA 245.1	0.2	<DL	<DL	0.739 µg/L	
Nickel	✔		1	3005A	0.5	<DL	<DL	1,450 µg/L	
Selenium	✔		1	3005A	5	<DL	<DL	235.8 µg/L	
Silver	✔		1	3005A	0.4	<DL	<DL	35.1 µg/L	
Zinc		✔	1	3005A	10	19.06	19.06	420 µg/L	
Cyanide	✔		1	121,4500C	5	<DL	<DL	178 mg/L	
B. Non-Halogenated VOCs									
Total BTEX	✔		1	18260C	0.5	<DL	<DL	100 µg/L	---
Benzene	✔		1	18260C	0.5	<DL	<DL	5.0 µg/L	---
1,4 Dioxane	✔		1	18260 C	3.0	<DL	<DL	200 µg/L	---
Acetone	✔		1	18260C	5.0	<DL	<DL	7.97 mg/L	---
Phenol	✔		1	17196A	10	<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	18260C	0.5	<DL	<DL	4.4 µg/L	
1,2 Dichlorobenzene	✔		1	18260C	2.5	<DL	<DL	600 µg/L	---
1,3 Dichlorobenzene	✔		1	18260C	2.5	<DL	<DL	320 µg/L	---
1,4 Dichlorobenzene	✔		1	18260C	2.5	<DL	<DL	5.0 µg/L	---
Total dichlorobenzene	✔		1	18260C	2.5	<DL	<DL	763 µg/L in NH	---
1,1 Dichloroethane	✔		1	18260C	0.5	<DL	<DL	70 µg/L	---
1,2 Dichloroethane	✔		1	18260C	0.5	<DL	<DL	5.0 µg/L	---
1,1 Dichloroethylene	✔		1	18260C	0.5	<DL	<DL	3.2 µg/L	---
Ethylene Dibromide						0	0	0.05 µg/L	---
Methylene Chloride	✔		1	18260C	3	<DL	<DL	4.6 µg/L	---
1,1,1 Trichloroethane	✔		1	18260C	0.5	<DL	<DL	200 µg/L	---
1,1,2 Trichloroethane	✔		1	18260C	0.5	<DL	<DL	5.0 µg/L	---
Trichloroethylene	✔		1	18260C	0.5	<DL	<DL	5.0 µg/L	---
Tetrachloroethylene	✔		1	18260C	0.5	<DL	<DL	5.0 µg/L	
cis-1,2 Dichloroethylene	✔		1	18260C	0.5	<DL	<DL	70 µg/L	---
Vinyl Chloride	✔		1	18260C	1.0	<DL	<DL	2.0 µg/L	---
D. Non-Halogenated SVOCs									
Total Phthalates	✔		1	18270D-SI	5.0	**<DL**	<DL	190 µg/L	
Diethylhexyl phthalate	✔		1	18270D-SI	5.0	<DL	<DL	101 µg/L	
Total Group I PAHs	✔		1	18270D-SI	01	<DL	<DL	1.0 µg/L	---
Benzo(a)anthracene	✔		1	18270D-SI	01	<DL	<DL	As Total PAHs	
Benzo(a)pyrene	✔		1	18270D-SI	0.1	<DL	<DL		
Benzo(b)fluoranthene	✔		1	18270D-SI	0.1	<DL	<DL		
Benzo(k)fluoranthene	✔		1	18270D-SI	0.1	<DL	<DL		
Chrysene	✔		1	18270D-SI	0.1	<DL	<DL		
Dibenzo(a,h)anthracene	✔		1	18270D-SI	0.1	<DL	<DL		
Indeno(1,2,3-cd)pyrene	✔		1	18270D-SI	0.1	<DL	<DL		

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-SI	0.1	<DL	<DL	100 µg/L	---
Naphthalene	✔		1	18270D-SI	0.1	<DL	<DL	20 µg/L	---
E. Halogenated SVOCs									
Total PCBs			0	5,608				0.000064 µg/L	---
Pentachlorophenol			0	18270D-SI				1.0 µg/L	---
F. Fuels Parameters									
Total Petroleum Hydrocarbons	✔		1	74,1664A	400	<DL	<DL	5.0 mg/L	---
Ethanol	✔		0					Report mg/L	---
Methyl-tert-Butyl Ether	✔		1	1,8260C	1.0	<DL	<DL	70 µg/L	
tert-Butyl Alcohol	✔		1	1,8260C	10	<DL	<DL	120 µg/L in MA 40 µg/L in NH	---
tert-Amyl Methyl Ether	✔		1	1,8260C	2.0	<DL	<DL	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	1214500H		5.8			
Hardness - Influent		✔	1	3005A	660	163000	163000		
Temp - Influent		✔	1	YSI		11.8 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:
pH treatment

2. Provide a written description of all treatment system(s) or processes that will be applied to the effluent prior to discharge.
Settling tank, pH treatment and bag filters, if necessary, Ion exchange resin filter or GAC filter

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: Ion exchange resin filter or GAC filter if necessary

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.	50
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:
n/a

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.

n/a

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 meeting the requirements of this general permit will be developed and implemented prior to the initiation of discharge.
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 ☐ Submission of documentation to and approval from BWSC in tandem with this NOI
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: AMH	Date: 1-16-18
Print Name and Title: ANTHONY HRAIBE	

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

DEWATERING DISCHARGE PERMIT APPLICATION

OWNER / AUTHORIZED APPLICANT PROVIDE INFORMATION HERE:

Company Name: Dellbrook/JKS Address: 859 Willard Street Quincy, MA 02169

Phone Number: _____ Fax number: _____

Contact person name: Tony Hraibe Title: Superintendent

Cell number: 781 606 2739 Email address: thraibe@dellbrookjks.com

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

Owner's Information (if different from above):

Owner of property being dewatered: Back Bay Development Group LLC

Owner's mailing address: 20 Park Plaza, Suite #821 - Boston MA Phone number: 857.233.2125

Location of Discharge & Proposed Treatment System(s):

Street number and name: 3521 Washington Street Neighborhood Jamaica Plain

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

Describe Proposed Pre-Treatment System(s): Frac Tank and Bag Filters [ION Resin and GAC Filters (if necessary)]

BWSC Outfall No. CSO 023 Receiving Waters Charles River

Temporary Discharges (Provide Anticipated Dates of Discharge): From 03/2018 To 02/2019

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

Permanent Discharges

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

---

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

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

Signature of Authorized Representative for Property Owner: _____ Date: 1-16-18

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

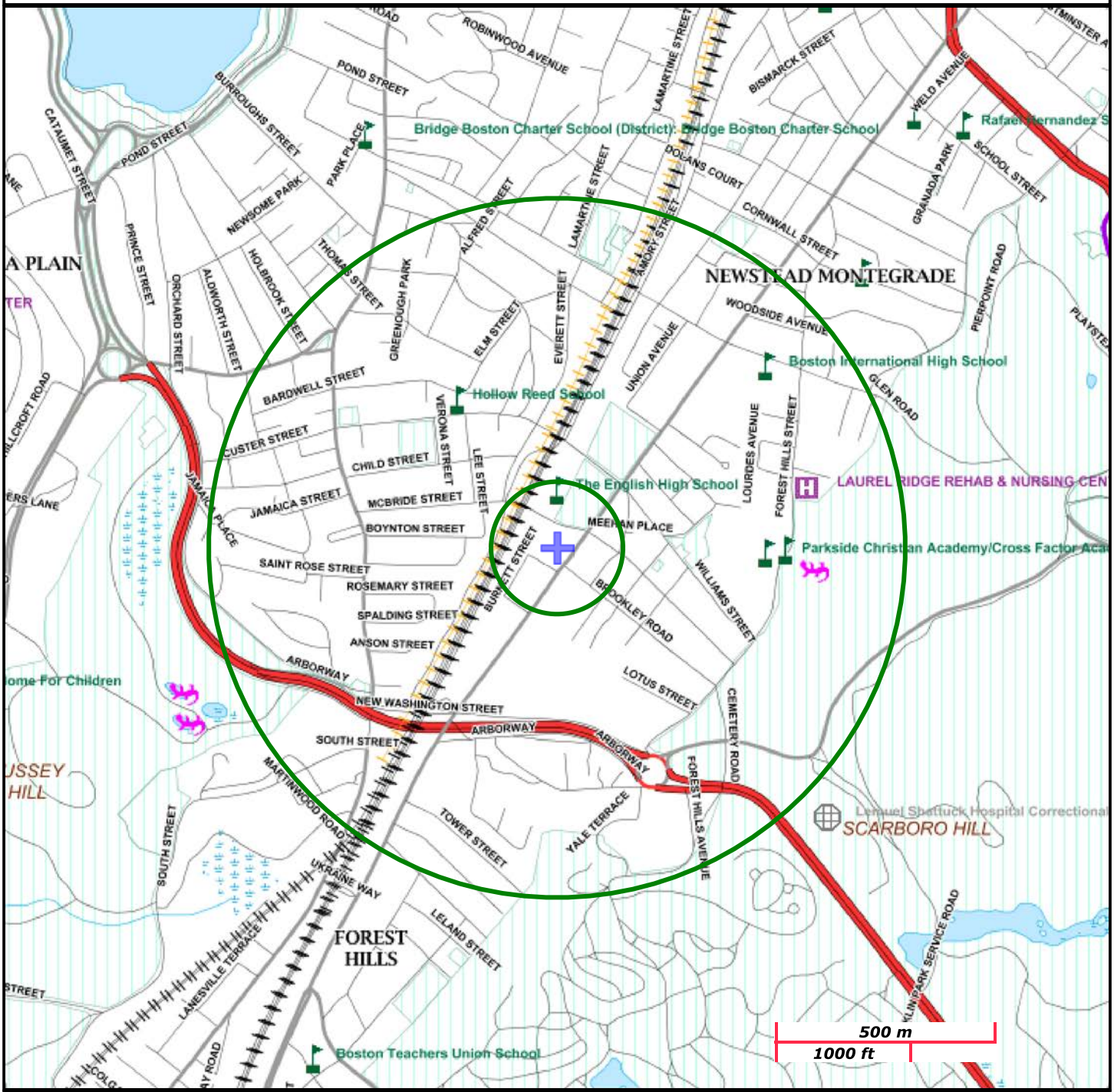
Site Information:

3521 WASHINGTON STREET BOSTON, MA

NAD83 UTM Meters:
4685814mN , 326148mE (Zone: 19)
January 8, 2018

The information shown is the best available at the date of printing. However, it may be incomplete. The responsible party and LSP are ultimately responsible for ascertaining the true conditions surrounding the site. Metadata for data layers shown on this map can be found at: http://www.mass.gov/mgis/.

MassDEP
Commonwealth of Massachusetts
Department of Environmental Protection



Roads: Limited Access, Divided, Other Hwy, Major Road, Minor Road, Track, Trail

Boundaries: Town, County, DEP Region; Train; Powerline; Pipeline; Aqueduct

Basins: Major, PWS; Streams: Perennial, Intermittent, Man Made Shore, Dam

Aquifers: Medium Yield, High Yield, EPA Sole Source

Non Potential Drinking Water Source Area: Medium, High (Yield)

PWS Protection Areas: Zone II, IWPA, Zone A

Hydrography: Open Water, PWS Reservoir, Tidal Flat

Wetlands: Freshwater, Saltwater, Cranberry Bog

FEMA 100yr Floodplain; Protected Open Space; ACEC

Est. Rare Wetland Wildlife Hab; Vernal Pool: Cert., Potential

Solid Waste Landfill; PWS: Com.GW,SW, Emerg., Non-Com.

StreamStats Report

Region ID: MA
Workspace ID: MA20180116212504146000
Clicked Point (Latitude, Longitude): 42.35414, -71.09380
Time: 2018-01-16 16:25:18 -0500

Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	307	square miles
BSLDEM250	Mean basin slope computed from 1:250K DEM	2.341	percent
DRFTPERSTR	Area of stratified drift per unit of stream length	0.25	square mile per mile
MAREGION	Region of Massachusetts 0 for Eastern 1 for Western	0	dimensionless

Low-Flow Statistics Parameters [Statewide Low Flow WRIR00 4135]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	307	square miles	1.61	149
BSLDEM250	Mean Basin Slope from 250K DEM	2.341	percent	0.32	24.6
DRFTPERSTR	Stratified Drift per Stream Length	0.25	square mile per mile	0	1.29

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
MAREGION	Massachusetts Region	0	dimensionless	0	1

Low-Flow Statistics Disclaimers [Statewide Low Flow WRIR00 4135]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors

Low-Flow Statistics Flow Report [Statewide Low Flow WRIR00 4135]

Statistic	Value	Unit
7 Day 2 Year Low Flow	57.3	ft^3/s
7 Day 10 Year Low Flow	29.2	ft^3/s

Low-Flow Statistics Citations

Ries, K.G., III,2000, Methods for estimating low-flow statistics for Massachusetts streams: U.S. Geological Survey Water Resources Investigations Report 00-4135, 81 p. (http://pubs.usgs.gov/wri/wri004135/)

Massachusetts Cultural Resource Information System
MACRIS

MACRIS Search Results

Search Criteria: Town(s): Boston; Street No: 3521; Street Name: Washington St; Resource Type(s): Area, Building, Burial Ground, Object, Structure;

Inv. No.	Property Name	Street	Town	Year

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: 05E1NE00-2018-SLI-0602
Event Code: 05E1NE00-2018-E-01398
Project Name: The Washington

January 03, 2018

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

To Whom It May Concern:

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

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

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

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the

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

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

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

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

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

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

Attachment(s):

- Official Species List

Official Species List

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

This species list is provided by:

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

Project Summary

Consultation Code: 05E1NE00-2018-SLI-0602

Event Code: 05E1NE00-2018-E-01398

Project Name: The Washington

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/42.30518170330568N71.10915383757285W

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. 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.

Critical habitats

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

APPENDIX D:

LABORATORY ANALYTIC DATA - GROUNDWATER

ANALYTICAL REPORT

Lab Number:	L1800184
Client:	McPhail Associates 2269 Massachusetts Avenue Cambridge, MA 02140
ATTN:	Ambrose Donovan
Phone:	(617) 868-1420
Project Name:	THE WASHINGTON
Project Number:	6483.2.DP
Report Date:	01/09/18

Certifications & Approvals: MA (M-MA030), NH NELAP (2062), NJ NELAP (MA015), CT (PH-0141), FL (E87814), IL (200081), LA (85084), ME (MA00030), MD (350), NY (11627), NC (685), OH (CL106), PA (68-02089), RI (LAO00299), TX (T104704419), VT (VT-0015), VA (460194), WA (C954), US Army Corps of Engineers, USDA (Permit #P330-13-00067), USFWS (Permit #LE2069641).

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

Project Name: THE WASHINGTON
Project Number: 6483.2.DP

Lab Number: L1800184
Report Date: 01/09/18

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1800184-01	B-101 (OW)	GROUNDWATER	3521 WASHINGTON ST., BOSTON (JP)	01/03/18 10:00	01/03/18

Project Name: THE WASHINGTON
Project Number: 6483.2.DP

Lab Number: L1800184
Report Date: 01/09/18

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

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

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

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

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

Project Name:	THE WASHINGTON	**Lab Number:**	L1800184
Project Number:	6483.2.DP	**Report Date:**	01/09/18

Case Narrative (continued)

Report Submission

January 09, 2018: This is a preliminary report.

TPH, SGT-HEM

L1800184-01: The sample was received above the appropriate pH for the TPH analysis. The laboratory added HCl to a pH <2 just prior to analysis.

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: 01/09/18

ORGANICS

VOLATILES

Project Name: THE WASHINGTON **Lab Number:** L1800184

Project Number: 6483.2.DP **Report Date:** 01/09/18

SAMPLE RESULTS

Lab ID: L1800184-01 Date Collected: 01/03/18 10:00
Client ID: B-101 (OW) Date Received: 01/03/18
Sample Location: 3521 WASHINGTON ST., BOSTON (JP) Field Prep: Not Specified

Matrix: Groundwater
Analytical Method: 1,8260C
Analytical Date: 01/08/18 08:08
Analyst: MM

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	3.0	--	1
1,1-Dichloroethane	ND		ug/l	0.75	--	1
Carbon tetrachloride	ND		ug/l	0.50	--	1
1,1,2-Trichloroethane	ND		ug/l	0.75	--	1
Tetrachloroethene	ND		ug/l	0.50	--	1
1,2-Dichloroethane	ND		ug/l	0.50	--	1
1,1,1-Trichloroethane	ND		ug/l	0.50	--	1
Benzene	ND		ug/l	0.50	--	1
Toluene	ND		ug/l	0.75	--	1
Ethylbenzene	ND		ug/l	0.50	--	1
Vinyl chloride	ND		ug/l	1.0	--	1
1,1-Dichloroethene	ND		ug/l	0.50	--	1
Trichloroethene	ND		ug/l	0.50	--	1
1,2-Dichlorobenzene	ND		ug/l	2.5	--	1
1,3-Dichlorobenzene	ND		ug/l	2.5	--	1
1,4-Dichlorobenzene	ND		ug/l	2.5	--	1
Methyl tert butyl ether	ND		ug/l	1.0	--	1
p/m-Xylene	ND		ug/l	1.0	--	1
o-Xylene	ND		ug/l	1.0	--	1
Xylenes, Total	ND		ug/l	1.0	--	1
cis-1,2-Dichloroethene	ND		ug/l	0.50	--	1
Acetone	ND		ug/l	5.0	--	1
Tert-Butyl Alcohol	ND		ug/l	10	--	1
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0	--	1

Project Name: THE WASHINGTON **Lab Number:** L1800184

Project Number: 6483.2.DP **Report Date:** 01/09/18

SAMPLE RESULTS

Lab ID: L1800184-01 Date Collected: 01/03/18 10:00

Client ID: B-101 (OW) Date Received: 01/03/18

Sample Location: 3521 WASHINGTON ST., BOSTON (JP) Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Volatile Organics by GC/MS - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	96		70-130
Toluene-d8	103		70-130
4-Bromofluorobenzene	99		70-130
Dibromofluoromethane	100		70-130

Project Name: THE WASHINGTON **Lab Number:** L1800184

Project Number: 6483.2.DP **Report Date:** 01/09/18

SAMPLE RESULTS

Lab ID: L1800184-01
Client ID: B-101 (OW)
Sample Location: 3521 WASHINGTON ST., BOSTON (JP)

Date Collected: 01/03/18 10:00
Date Received: 01/03/18
Field Prep: Not Specified

Matrix: Groundwater
Analytical Method: 1,8260C-SIM(M)
Analytical Date: 01/08/18 08:08
Analyst: MM

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS-SIM - Westborough Lab						
1,4-Dioxane	ND		ug/l	3.0	--	1

Project Name: THE WASHINGTON
Lab Number: L1800184
Project Number: 6483.2.DP
Report Date: 01/09/18

SAMPLE RESULTS

Lab ID: L1800184-01
Client ID: B-101 (OW)
Sample Location: 3521 WASHINGTON ST., BOSTON (JP)

Matrix: Groundwater
Analytical Method: 14,504.1
Analytical Date: 01/08/18 17:21
Analyst: NS

Date Collected: 01/03/18 10:00
Date Received: 01/03/18
Field Prep: Not Specified
Extraction Method: EPA 8011
Extraction Date: 01/08/18 11:01

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: THE WASHINGTON
Project Number: 6483.2.DP

Lab Number: L1800184
Report Date: 01/09/18

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C-SIM(M)
Analytical Date: 01/08/18 07:35
Analyst: MM

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 01 Batch: WG1079297-5					
1,4-Dioxane	ND		ug/l	3.0	--

Project Name: THE WASHINGTON
Project Number: 6483.2.DP

Lab Number: L1800184
Report Date: 01/09/18

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 01/08/18 07:35
Analyst: MM

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG1079298-5					
Methylene chloride	ND		ug/l	3.0	--
1,1-Dichloroethane	ND		ug/l	0.75	--
Carbon tetrachloride	ND		ug/l	0.50	--
1,1,2-Trichloroethane	ND		ug/l	0.75	--
Tetrachloroethene	ND		ug/l	0.50	--
1,2-Dichloroethane	ND		ug/l	0.50	--
1,1,1-Trichloroethane	ND		ug/l	0.50	--
Benzene	ND		ug/l	0.50	--
Toluene	ND		ug/l	0.75	--
Ethylbenzene	ND		ug/l	0.50	--
Vinyl chloride	ND		ug/l	1.0	--
1,1-Dichloroethene	ND		ug/l	0.50	--
Trichloroethene	ND		ug/l	0.50	--
1,2-Dichlorobenzene	ND		ug/l	2.5	--
1,3-Dichlorobenzene	ND		ug/l	2.5	--
1,4-Dichlorobenzene	ND		ug/l	2.5	--
Methyl tert butyl ether	ND		ug/l	1.0	--
p/m-Xylene	ND		ug/l	1.0	--
o-Xylene	ND		ug/l	1.0	--
Xylenes, Total	ND		ug/l	1.0	--
cis-1,2-Dichloroethene	ND		ug/l	0.50	--
Acetone	ND		ug/l	5.0	--
Tert-Butyl Alcohol	ND		ug/l	10	--
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0	--

Project Name: THE WASHINGTON
Project Number: 6483.2.DP

Lab Number: L1800184
Report Date: 01/09/18

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 01/08/18 07:35
Analyst: MM

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG1079298-5					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	94		70-130
Toluene-d8	105		70-130
4-Bromofluorobenzene	100		70-130
Dibromofluoromethane	96		70-130

Project Name: THE WASHINGTON
Project Number: 6483.2.DP

Lab Number: L1800184
Report Date: 01/09/18

Method Blank Analysis
Batch Quality Control

Analytical Method: 14,504.1
Analytical Date: 01/08/18 16:33
Analyst: NS

Extraction Method: EPA 8011
Extraction Date: 01/08/18 11:01

Parameter	Result	Qualifier	Units	RL	MDL	
Microextractables by GC - Westborough Lab for sample(s): 01 Batch: WG1079571-1						
1,2-Dibromoethane	ND		ug/l	0.010	--	A

Lab Control Sample Analysis

Batch Quality Control

Project Name: THE WASHINGTON

Project Number: 6483.2.DP

Lab Number: L1800184

Report Date: 01/09/18

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: WG1079297-3 WG1079297-4								
1,4-Dioxane	130		120		70-130	8		25

Lab Control Sample Analysis
Batch Quality Control

Project Name: THE WASHINGTON
Project Number: 6483.2.DP

Lab Number: L1800184
Report Date: 01/09/18

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: WG1079298-3 WG1079298-4								
Methylene chloride	93		97		70-130	4		20
1,1-Dichloroethane	110		110		70-130	0		20
Carbon tetrachloride	95		97		63-132	2		20
1,1,2-Trichloroethane	110		110		70-130	0		20
Tetrachloroethene	120		110		70-130	9		20
1,2-Dichloroethane	100		110		70-130	10		20
1,1,1-Trichloroethane	110		110		67-130	0		20
Benzene	100		110		70-130	10		25
Toluene	110		110		70-130	0		25
Ethylbenzene	100		100		70-130	0		20
Vinyl chloride	96		95		55-140	1		20
1,1-Dichloroethene	100		100		61-145	0		25
Trichloroethene	100		100		70-130	0		25
1,2-Dichlorobenzene	100		100		70-130	0		20
1,3-Dichlorobenzene	100		100		70-130	0		20
1,4-Dichlorobenzene	100		100		70-130	0		20
Methyl tert butyl ether	83		86		63-130	4		20
p/m-Xylene	110		105		70-130	5		20
o-Xylene	105		100		70-130	5		20
cis-1,2-Dichloroethene	110		110		70-130	0		20
Acetone	90		88		58-148	2		20
Tert-Butyl Alcohol	90		94		70-130	4		20
Tertiary-Amyl Methyl Ether	100		100		66-130	0		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: THE WASHINGTON

Project Number: 6483.2.DP

Lab Number: L1800184

Report Date: 01/09/18

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: WG1079298-3 WG1079298-4								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	97		97		70-130
Toluene-d8	106		105		70-130
4-Bromofluorobenzene	91		93		70-130
Dibromofluoromethane	103		104		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: THE WASHINGTON

Project Number: 6483.2.DP

Lab Number: L1800184

Report Date: 01/09/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Microextractables by GC - Westborough Lab	Associated sample(s): 01		Batch: WG1079571-2						
1,2-Dibromoethane	109		-		80-120	-			A

Matrix Spike Analysis

Batch Quality Control

Project Name: THE WASHINGTON

Project Number: 6483.2.DP

Lab Number: L1800184

Report Date: 01/09/18

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: WG1079571-3 QC Sample: L1800184-01 Client ID: B-101 (OW)													
1,2-Dibromoethane	ND	0.255	0.311	**122**	Q	-	-		80-120	-		20	A

SEMIVOLATILES

Project Name: THE WASHINGTON
Lab Number: L1800184
Project Number: 6483.2.DP
Report Date: 01/09/18

SAMPLE RESULTS

Lab ID: L1800184-01
Client ID: B-101 (OW)
Sample Location: 3521 WASHINGTON ST., BOSTON (JP)

Matrix: Groundwater
Analytical Method: 1,8270D
Analytical Date: 01/06/18 01:23
Analyst: TT

Date Collected: 01/03/18 10:00
Date Received: 01/03/18
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 01/05/18 07:57

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Bis(2-ethylhexyl)phthalate	ND		ug/l	3.0	--	1
Butyl benzyl phthalate	ND		ug/l	5.0	--	1
Di-n-butylphthalate	ND		ug/l	5.0	--	1
Di-n-octylphthalate	ND		ug/l	5.0	--	1
Diethyl phthalate	ND		ug/l	5.0	--	1
Dimethyl phthalate	ND		ug/l	5.0	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	31		21-120
Phenol-d6	21		10-120
Nitrobenzene-d5	72		23-120
2-Fluorobiphenyl	74		15-120
2,4,6-Tribromophenol	77		10-120
4-Terphenyl-d14	90		41-149

Project Name: THE WASHINGTON
Lab Number: L1800184
Project Number: 6483.2.DP
Report Date: 01/09/18

SAMPLE RESULTS

Lab ID: L1800184-01
Client ID: B-101 (OW)
Sample Location: 3521 WASHINGTON ST., BOSTON (JP)

Matrix: Groundwater
Analytical Method: 1,8270D-SIM
Analytical Date: 01/06/18 16:38
Analyst: KL

Date Collected: 01/03/18 10:00
Date Received: 01/03/18
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 01/05/18 10:07

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Acenaphthene	ND		ug/l	0.10	--	1
Fluoranthene	ND		ug/l	0.10	--	1
Naphthalene	ND		ug/l	0.10	--	1
Benzo(a)anthracene	ND		ug/l	0.10	--	1
Benzo(a)pyrene	ND		ug/l	0.10	--	1
Benzo(b)fluoranthene	ND		ug/l	0.10	--	1
Benzo(k)fluoranthene	ND		ug/l	0.10	--	1
Chrysene	ND		ug/l	0.10	--	1
Acenaphthylene	ND		ug/l	0.10	--	1
Anthracene	ND		ug/l	0.10	--	1
Benzo(ghi)perylene	ND		ug/l	0.10	--	1
Fluorene	ND		ug/l	0.10	--	1
Phenanthrene	ND		ug/l	0.10	--	1
Dibenzo(a,h)anthracene	ND		ug/l	0.10	--	1
Indeno(1,2,3-cd)pyrene	ND		ug/l	0.10	--	1
Pyrene	ND		ug/l	0.10	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	66		23-120
2-Fluorobiphenyl	65		15-120
4-Terphenyl-d14	77		41-149

Project Name: THE WASHINGTON
Project Number: 6483.2.DP

Lab Number: L1800184
Report Date: 01/09/18

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 01/05/18 21:41
Analyst: TT

Extraction Method: EPA 3510C
Extraction Date: 01/05/18 07:57

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG1078799-1					
Bis(2-ethylhexyl)phthalate	ND		ug/l	3.0	--
Butyl benzyl phthalate	ND		ug/l	5.0	--
Di-n-butylphthalate	ND		ug/l	5.0	--
Di-n-octylphthalate	ND		ug/l	5.0	--
Diethyl phthalate	ND		ug/l	5.0	--
Dimethyl phthalate	ND		ug/l	5.0	--
Tentatively Identified Compounds					
Total TIC Compounds	4.90	J	ug/l		
Aldol Condensate	4.90	J	ug/l		

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	48		21-120
Phenol-d6	32		10-120
Nitrobenzene-d5	75		23-120
2-Fluorobiphenyl	73		15-120
2,4,6-Tribromophenol	76		10-120
4-Terphenyl-d14	94		41-149

Project Name: THE WASHINGTON
Project Number: 6483.2.DP

Lab Number: L1800184
Report Date: 01/09/18

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D-SIM
Analytical Date: 01/06/18 16:08
Analyst: KL

Extraction Method: EPA 3510C
Extraction Date: 01/05/18 10:07

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 01 Batch: WG1078803-1					
Acenaphthene	ND		ug/l	0.10	--
Fluoranthene	ND		ug/l	0.10	--
Naphthalene	ND		ug/l	0.10	--
Benzo(a)anthracene	ND		ug/l	0.10	--
Benzo(a)pyrene	ND		ug/l	0.10	--
Benzo(b)fluoranthene	ND		ug/l	0.10	--
Benzo(k)fluoranthene	ND		ug/l	0.10	--
Chrysene	ND		ug/l	0.10	--
Acenaphthylene	ND		ug/l	0.10	--
Anthracene	ND		ug/l	0.10	--
Benzo(ghi)perylene	ND		ug/l	0.10	--
Fluorene	ND		ug/l	0.10	--
Phenanthrene	ND		ug/l	0.10	--
Dibenzo(a,h)anthracene	ND		ug/l	0.10	--
Indeno(1,2,3-cd)pyrene	ND		ug/l	0.10	--
Pyrene	ND		ug/l	0.10	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	71		23-120
2-Fluorobiphenyl	68		15-120
4-Terphenyl-d14	76		41-149

Lab Control Sample Analysis
Batch Quality Control

Project Name: THE WASHINGTON
Project Number: 6483.2.DP

Lab Number: L1800184
Report Date: 01/09/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG1078799-2 WG1078799-3								
Bis(2-ethylhexyl)phthalate	112		96		40-140	15		30
Butyl benzyl phthalate	132		115		40-140	14		30
Di-n-butylphthalate	132		102		40-140	26		30
Di-n-octylphthalate	138		106		40-140	26		30
Diethyl phthalate	102		87		40-140	16		30
Dimethyl phthalate	112		95		40-140	16		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	61		53		21-120
Phenol-d6	43		37		10-120
Nitrobenzene-d5	96		75		23-120
2-Fluorobiphenyl	97		86		15-120
2,4,6-Tribromophenol	100		90		10-120
4-Terphenyl-d14	114		94		41-149

Lab Control Sample Analysis
Batch Quality Control

Project Name: THE WASHINGTON
Project Number: 6483.2.DP

Lab Number: L1800184
Report Date: 01/09/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 01 Batch: WG1078803-2 WG1078803-3								
Acenaphthene	64		70		40-140	9		40
Fluoranthene	64		72		40-140	12		40
Naphthalene	59		64		40-140	8		40
Benzo(a)anthracene	66		74		40-140	11		40
Benzo(a)pyrene	64		74		40-140	14		40
Benzo(b)fluoranthene	65		70		40-140	7		40
Benzo(k)fluoranthene	66		72		40-140	9		40
Chrysene	67		76		40-140	13		40
Acenaphthylene	70		76		40-140	8		40
Anthracene	72		79		40-140	9		40
Benzo(ghi)perylene	69		75		40-140	8		40
Fluorene	69		75		40-140	8		40
Phenanthrene	65		72		40-140	10		40
Dibenzo(a,h)anthracene	72		79		40-140	9		40
Indeno(1,2,3-cd)pyrene	71		78		40-140	9		40
Pyrene	63		71		40-140	12		40

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Nitrobenzene-d5	70		72		23-120
2-Fluorobiphenyl	69		68		15-120
4-Terphenyl-d14	78		77		41-149

METALS

Project Name: THE WASHINGTON
Lab Number: L1800184
Project Number: 6483.2.DP
Report Date: 01/09/18

SAMPLE RESULTS

Lab ID: L1800184-01
Client ID: B-101 (OW)
Sample Location: 3521 WASHINGTON ST., BOSTON (J
Matrix: Groundwater
Date Collected: 01/03/18 10:00
Date Received: 01/03/18
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	01/05/18 15:55	01/08/18 09:43	EPA 3005A	3,200.8	AM
Arsenic, Total	0.00107		mg/l	0.00100	--	1	01/05/18 15:55	01/08/18 09:43	EPA 3005A	3,200.8	AM
Cadmium, Total	ND		mg/l	0.00020	--	1	01/05/18 15:55	01/08/18 09:43	EPA 3005A	3,200.8	AM
Chromium, Total	0.00137		mg/l	0.00100	--	1	01/05/18 15:55	01/08/18 09:43	EPA 3005A	3,200.8	AM
Copper, Total	0.01303		mg/l	0.00100	--	1	01/05/18 15:55	01/08/18 09:43	EPA 3005A	3,200.8	AM
Iron, Total	0.407		mg/l	0.050	--	1	01/05/18 15:55	01/08/18 21:02	EPA 3005A	19,200.7	AB
Lead, Total	ND		mg/l	0.00100	--	1	01/05/18 15:55	01/08/18 09:43	EPA 3005A	3,200.8	AM
Mercury, Total	ND		mg/l	0.00020	--	1	01/05/18 12:17	01/05/18 18:44	EPA 245.1	3,245.1	EA
Nickel, Total	0.01262		mg/l	0.00200	--	1	01/05/18 15:55	01/08/18 09:43	EPA 3005A	3,200.8	AM
Selenium, Total	0.00878		mg/l	0.00500	--	1	01/05/18 15:55	01/08/18 09:43	EPA 3005A	3,200.8	AM
Silver, Total	ND		mg/l	0.00040	--	1	01/05/18 15:55	01/08/18 09:43	EPA 3005A	3,200.8	AM
Zinc, Total	0.01906		mg/l	0.01000	--	1	01/05/18 15:55	01/08/18 09:43	EPA 3005A	3,200.8	AM
Total Hardness by SM 2340B - Mansfield Lab											
Hardness	163		mg/l	0.660	NA	1	01/05/18 15:55	01/08/18 21:02	EPA 3005A	19,200.7	AB
General Chemistry - Mansfield Lab											
Chromium, Trivalent	ND		mg/l	0.010	--	1		01/08/18 09:43	NA	107,-	

Project Name: THE WASHINGTON **Lab Number:** L1800184

Project Number: 6483.2.DP **Report Date:** 01/09/18

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01 Batch: WG1078905-1										
Mercury, Total	ND		mg/l	0.00020	--	1	01/05/18 12:17	01/05/18 18:20	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: WG1078946-1										
Antimony, Total	ND		mg/l	0.0040	--	1	01/05/18 15:55	01/08/18 09:23	3,200.8	AM
Arsenic, Total	ND		mg/l	0.00100	--	1	01/05/18 15:55	01/08/18 09:23	3,200.8	AM
Cadmium, Total	ND		mg/l	0.0002	--	1	01/05/18 15:55	01/08/18 09:23	3,200.8	AM
Chromium, Total	ND		mg/l	0.0010	--	1	01/05/18 15:55	01/08/18 09:23	3,200.8	AM
Copper, Total	ND		mg/l	0.00100	--	1	01/05/18 15:55	01/08/18 09:23	3,200.8	AM
Lead, Total	ND		mg/l	0.00100	--	1	01/05/18 15:55	01/08/18 09:23	3,200.8	AM
Nickel, Total	ND		mg/l	0.0020	--	1	01/05/18 15:55	01/08/18 09:23	3,200.8	AM
Selenium, Total	ND		mg/l	0.0050	--	1	01/05/18 15:55	01/08/18 09:23	3,200.8	AM
Silver, Total	ND		mg/l	0.00040	--	1	01/05/18 15:55	01/08/18 09:23	3,200.8	AM
Zinc, Total	ND		mg/l	0.01000	--	1	01/05/18 15:55	01/08/18 09:23	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: WG1078949-1										
Iron, Total	ND		mg/l	0.050	--	1	01/05/18 15:55	01/08/18 20:12	19,200.7	AB

Prep Information

Digestion Method: EPA 3005A

Project Name: THE WASHINGTON
Project Number: 6483.2.DP
Lab Number: L1800184
Report Date: 01/09/18

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: WG1078949-1										
Hardness	ND		mg/l	0.660	NA	1	01/05/18 15:55	01/08/18 20:12	19,200.7	AB

Prep Information

Digestion Method: EPA 3005A

Lab Control Sample Analysis

Batch Quality Control

Project Name: THE WASHINGTON

Project Number: 6483.2.DP

Lab Number: L1800184

Report Date: 01/09/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1078905-2								
Mercury, Total	113		-		85-115	-		
Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1078946-2								
Antimony, Total	95		-		85-115	-		
Arsenic, Total	102		-		85-115	-		
Cadmium, Total	102		-		85-115	-		
Chromium, Total	95		-		85-115	-		
Copper, Total	99		-		85-115	-		
Lead, Total	103		-		85-115	-		
Nickel, Total	98		-		85-115	-		
Selenium, Total	102		-		85-115	-		
Silver, Total	96		-		85-115	-		
Zinc, Total	100		-		85-115	-		
Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1078949-2								
Iron, Total	88		-		85-115	-		
Total Hardness by SM 2340B - Mansfield Lab Associated sample(s): 01 Batch: WG1078949-2								
Hardness	97		-		85-115	-		

Matrix Spike Analysis
Batch Quality Control

Project Name: THE WASHINGTON
Project Number: 6483.2.DP

Lab Number: L1800184
Report Date: 01/09/18

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1078905-3 QC Sample: L1747775-01 Client ID: MS Sample												
Mercury, Total	ND	0.005	0.00510	102		-	-		70-130	-		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1078905-5 QC Sample: L1800057-01 Client ID: MS Sample												
Mercury, Total	ND	0.005	0.00499	100		-	-		70-130	-		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1078946-3 QC Sample: L1800056-01 Client ID: MS Sample												
Antimony, Total	ND	0.5	0.5384	108		-	-		70-130	-		20
Arsenic, Total	ND	0.12	0.1221	102		-	-		70-130	-		20
Cadmium, Total	ND	0.051	0.0521	102		-	-		70-130	-		20
Chromium, Total	ND	0.2	0.1932	97		-	-		70-130	-		20
Copper, Total	0.00402	0.25	0.2569	101		-	-		70-130	-		20
Lead, Total	ND	0.51	0.5217	102		-	-		70-130	-		20
Nickel, Total	ND	0.5	0.4856	97		-	-		70-130	-		20
Selenium, Total	ND	0.12	0.1307	109		-	-		70-130	-		20
Silver, Total	ND	0.05	0.04845	97		-	-		70-130	-		20
Zinc, Total	0.03918	0.5	0.5652	105		-	-		70-130	-		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1078949-3 QC Sample: L1800056-01 Client ID: MS Sample												
Iron, Total	ND	1	0.908	91		-	-		75-125	-		20
Total Hardness by SM 2340B - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1078949-3 QC Sample: L1800056-01 Client ID: MS Sample												
Hardness	119	66.2	178	89		-	-		75-125	-		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1078949-7 QC Sample: L1800184-01 Client ID: B-101 (OW)												
Iron, Total	0.407	1	1.33	92		-	-		75-125	-		20

Matrix Spike Analysis
Batch Quality Control

Project Name: THE WASHINGTON
Project Number: 6483.2.DP

Lab Number: L1800184
Report Date: 01/09/18

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	MSD Found	MSD %Recovery	Recovery Limits	RPD	RPD Limits
Total Hardness by SM 2340B - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1078949-7 QC Sample: L1800184-01 Client ID: B-101 (OW)									
Hardness	163	66.2	218	83	-	-	75-125	-	20

Lab Duplicate Analysis
Batch Quality Control

Project Name: THE WASHINGTON
Project Number: 6483.2.DP

Lab Number: L1800184
Report Date: 01/09/18

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1078905-4 QC Sample: L1747775-01 Client ID: DUP Sample						
Mercury, Total	ND	ND	mg/l	NC		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1078905-6 QC Sample: L1800057-01 Client ID: DUP Sample						
Mercury, Total	ND	ND	mg/l	NC		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1078946-4 QC Sample: L1800056-01 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	0.00402	0.00392	mg/l	2		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	0.03918	0.04347	mg/l	10		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1078949-4 QC Sample: L1800056-01 Client ID: DUP Sample						
Iron, Total	ND	ND	mg/l	NC		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1078949-8 QC Sample: L1800184-01 Client ID: B-101 (OW)						
Iron, Total	0.407	0.423	mg/l	4		20

Lab Duplicate Analysis
Batch Quality Control

Project Name: THE WASHINGTON
Project Number: 6483.2.DP

Lab Number: L1800184
Report Date: 01/09/18

Parameter	Native Sample	Duplicate Sample	Units	RPD	RPD Limits
Total Hardness by SM 2340B - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1078949-8 QC Sample: L1800184-01 Client ID: B-101 (OW)					
Hardness	163	160	mg/l	2	20

INORGANICS
&
MISCELLANEOUS

Project Name: THE WASHINGTON
Project Number: 6483.2.DP

Lab Number: L1800184
Report Date: 01/09/18

SAMPLE RESULTS

Lab ID: L1800184-01
Client ID: B-101 (OW)
Sample Location: 3521 WASHINGTON ST., BOSTON (J
Matrix: Groundwater

Date Collected: 01/03/18 10:00
Date Received: 01/03/18
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total Suspended	20.		mg/l	5.0	NA	1	-	01/04/18 03:05	121,2540D	VB
Cyanide, Total	ND		mg/l	0.005	--	1	01/05/18 11:15	01/05/18 14:05	121,4500CN-CE	LH
Chlorine, Total Residual	ND		mg/l	0.02	--	1	-	01/03/18 21:40	121,4500CL-D	MR
pH (H)	5.8		SU	-	NA	1	-	01/03/18 23:49	121,4500H+-B	AS
Nitrogen, Ammonia	ND		mg/l	0.075	--	1	01/05/18 14:00	01/08/18 20:54	121,4500NH3-BH	AT
TPH, SGT-HEM	ND		mg/l	4.00	--	1	01/05/18 16:00	01/05/18 21:00	74,1664A	ML
Phenolics, Total	ND		mg/l	0.030	--	1	01/08/18 12:25	01/08/18 16:49	4,420.1	AW
Chromium, Hexavalent	ND		mg/l	0.010	--	1	01/04/18 00:41	01/04/18 01:28	1,7196A	UN
Anions by Ion Chromatography - Westborough Lab										
Chloride	44.8		mg/l	0.500	--	1	-	01/05/18 18:34	44,300.0	AU

Project Name: THE WASHINGTON
Project Number: 6483.2.DP
Lab Number: L1800184
Report Date: 01/09/18

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1078657-1										
Chlorine, Total Residual	ND		mg/l	0.02	--	1	-	01/03/18 21:40	121,4500CL-D	MR
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1078688-1										
Chromium, Hexavalent	ND		mg/l	0.010	--	1	01/04/18 00:41	01/04/18 01:24	1,7196A	UN
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1078689-1										
Solids, Total Suspended	ND		mg/l	5.0	NA	1	-	01/04/18 03:05	121,2540D	VB
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1078839-1										
Cyanide, Total	ND		mg/l	0.005	--	1	01/05/18 11:15	01/05/18 13:48	121,4500CN-CE	LH
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1078871-1										
Nitrogen, Ammonia	ND		mg/l	0.075	--	1	01/05/18 14:00	01/08/18 20:51	121,4500NH3-BH	AT
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1078970-1										
TPH, SGT-HEM	ND		mg/l	4.00	--	1	01/05/18 16:00	01/05/18 21:00	74,1664A	ML
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1079291-1										
Phenolics, Total	ND		mg/l	0.030	--	1	01/08/18 12:25	01/08/18 16:47	4,420.1	AW
Anions by Ion Chromatography - Westborough Lab for sample(s): 01 Batch: WG1079395-1										
Chloride	ND		mg/l	0.500	--	1	-	01/05/18 16:58	44,300.0	AU

Lab Control Sample Analysis

Batch Quality Control

Project Name: THE WASHINGTON
Project Number: 6483.2.DP

Lab Number: L1800184
Report Date: 01/09/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1078657-2								
Chlorine, Total Residual	105		-		90-110	-		
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1078676-1								
pH	100		-		99-101	-		5
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1078688-2								
Chromium, Hexavalent	90		-		85-115	-		20
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1078839-2								
Cyanide, Total	96		-		90-110	-		
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1078871-2								
Nitrogen, Ammonia	96		-		80-120	-		20
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1078970-2								
TPH	84		-		64-132	-		34
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1079291-2								
Phenolics, Total	90		-		70-130	-		

Lab Control Sample Analysis

Batch Quality Control

Project Name: THE WASHINGTON

Project Number: 6483.2.DP

Lab Number: L1800184

Report Date: 01/09/18

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
Anions by Ion Chromatography - Westborough Lab Associated sample(s): 01 Batch: WG1079395-2					
Chloride	101	-	90-110	-	

Matrix Spike Analysis
Batch Quality Control

Project Name: THE WASHINGTON
Project Number: 6483.2.DP

Lab Number: L1800184
Report Date: 01/09/18

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1078657-4 QC Sample: L1800184-01 Client ID: B-101 (OW)												
Chlorine, Total Residual	ND	0.248	0.26	105		-	-		80-120	-		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1078688-4 QC Sample: L1800184-01 Client ID: B-101 (OW)												
Chromium, Hexavalent	ND	0.1	0.097	97		-	-		85-115	-		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1078839-4 QC Sample: L1800214-02 Client ID: MS Sample												
Cyanide, Total	ND	0.2	0.142	**71**	Q	-	-		90-110	-		30
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1078871-4 QC Sample: L1800184-01 Client ID: B-101 (OW)												
Nitrogen, Ammonia	ND	4	3.86	96		-	-		80-120	-		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1078970-4 QC Sample: L1800184-01 Client ID: B-101 (OW)												
TPH	ND	20.4	17.0	84		-	-		64-132	-		34
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1079291-4 QC Sample: L1800184-01 Client ID: B-101 (OW)												
Phenolics, Total	ND	0.4	0.43	108		-	-		70-130	-		20
Anions by Ion Chromatography - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1079395-3 QC Sample: L1800177-01 Client ID: MS Sample												
Chloride	2.73	4	6.56	96		-	-		90-110	-		18

Lab Duplicate Analysis
Batch Quality Control

Project Name: THE WASHINGTON
Project Number: 6483.2.DP

Lab Number: L1800184
Report Date: 01/09/18

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1078657-3 QC Sample: L1800184-01 Client ID: B-101 (OW)						
Chlorine, Total Residual	ND	ND	mg/l	NC		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1078676-2 QC Sample: L1800184-01 Client ID: B-101 (OW)						
pH (H)	5.8	5.8	SU	0		5
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1078688-3 QC Sample: L1800184-01 Client ID: B-101 (OW)						
Chromium, Hexavalent	ND	ND	mg/l	NC		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1078689-2 QC Sample: L1800104-01 Client ID: DUP Sample						
Solids, Total Suspended	140	130	mg/l	7		29
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1078839-3 QC Sample: L1800184-01 Client ID: B-101 (OW)						
Cyanide, Total	ND	ND	mg/l	NC		30
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1078871-3 QC Sample: L1800184-01 Client ID: B-101 (OW)						
Nitrogen, Ammonia	ND	ND	mg/l	NC		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1078970-3 QC Sample: L1800118-01 Client ID: DUP Sample						
TPH	6.30	7.14	mg/l	13		34
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1079291-3 QC Sample: L1800184-01 Client ID: B-101 (OW)						
Phenolics, Total	ND	ND	mg/l	NC		20
Anions by Ion Chromatography - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1079395-4 QC Sample: L1800177-01 Client ID: DUP Sample						
Chloride	2.73	2.68	mg/l	2		18

Project Name: THE WASHINGTON
Project Number: 6483.2.DP

Lab Number: L1800184
Report Date: 01/09/18

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
B	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1800184-01A	Vial HCl preserved	B	NA		2.4	Y	Absent		8260-SIM(14),8260(14)
L1800184-01B	Vial HCl preserved	B	NA		2.4	Y	Absent		8260-SIM(14),8260(14)
L1800184-01C	Vial HCl preserved	B	NA		2.4	Y	Absent		8260-SIM(14),8260(14)
L1800184-01D	Vial HCl preserved	B	NA		2.4	Y	Absent		SUB-ETHANOL(14)
L1800184-01E	Vial HCl preserved	B	NA		2.4	Y	Absent		SUB-ETHANOL(14)
L1800184-01F	Vial HCl preserved	B	NA		2.4	Y	Absent		SUB-ETHANOL(14)
L1800184-01G	Vial Na2S2O3 preserved	B	NA		2.4	Y	Absent		504(14)
L1800184-01H	Vial Na2S2O3 preserved	B	NA		2.4	Y	Absent		504(14)
L1800184-01J	Plastic 250ml HNO3 preserved	B	<2	<2	2.4	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)
L1800184-01K	Amber 1000ml unpreserved	B	7	7	2.4	Y	Absent		8270TCL(7),8270TCL-SIM(7)
L1800184-01L	Amber 1000ml unpreserved	B	7	7	2.4	Y	Absent		8270TCL(7),8270TCL-SIM(7)
L1800184-01M	Plastic 950ml unpreserved	B	7	7	2.4	Y	Absent		CL-300(28),HEXCR-7196(1),TRC-4500(1),PH-4500(.01)
L1800184-01N	Plastic 500ml H2SO4 preserved	B	<2	<2	2.4	Y	Absent		NH3-4500(28)
L1800184-01P	Plastic 250ml NaOH preserved	B	>12	>12	2.4	Y	Absent		TCN-4500(14)
L1800184-01Q	Amber 1000ml HCl preserved	B	NA		2.4	Y	Absent		TPH-1664(28)
L1800184-01R	Amber 1000ml HCl preserved	B	NA		2.4	Y	Absent		TPH-1664(28)
L1800184-01S	Amber 950ml H2SO4 preserved	B	<2	<2	2.4	Y	Absent		TPHENOL-420(28)
L1800184-01T	Plastic 950ml unpreserved	B	7	7	2.4	Y	Absent		TSS-2540(7)

*Values in parentheses indicate holding time in days

Project Name:	THE WASHINGTON	**Lab Number:**	L1800184
Project Number:	6483.2.DP	**Report Date:**	01/09/18

GLOSSARY

Acronyms

EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Footnotes

1	- The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

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

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

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

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

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

Report Format: Data Usability Report

Project Name:	THE WASHINGTON	**Lab Number:**	L1800184
Project Number:	6483.2.DP	**Report Date:**	01/09/18

Data Qualifiers

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

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

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

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

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

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

I - The lower value for the two columns has been reported due to obvious interference.

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

ND - Not detected at the reporting limit (RL) for the sample.

Report Format: Data Usability Report

Project Name: THE WASHINGTON **Lab Number:** L1800184

Project Number: 6483.2.DP **Report Date:** 01/09/18

REFERENCES

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

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

4 Methods for Chemical Analysis of Water and Wastes. EPA 600/4-79-020. Revised March 1983.

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.

74 Method 1664,Revision A: N-Hexane Extractable Material (HEM; Oil & Grease) and Silica Gel Treated N-Hexane Extractable Material (SGT-HEM; Non-polar Material) by Extraction and Gravimetry, EPA-821-R-98-002, February 1999.

107 Alpha Analytical - In-house calculation method.

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

LIMITATION OF LIABILITIES

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

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

Certification Information

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

Westborough Facility
EPA 624: m/p-xylene, o-xylene
EPA 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
EPA 300: DW: Bromide
EPA 6860: SCM: Perchlorate
EPA 9010: NPW and SCM: Amenable Cyanide Distillation
SM4500: NPW: Amenable Cyanide, Dissolved Oxygen; SCM: Total Phosphorus, TKN, NO2, NO3.

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

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

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, EPA 351.1, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D.**
EPA 624: Volatile Halocarbons & Aromatics,
EPA 608: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Be, Cd, Cr, Cu, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn.
EPA 245.1 Hg.
SM2340B

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

CHAIN OF CUSTODY

PAGE 1 OF 1

ALPHA ANALYTICAL
8 Walkup Drive, Westboro, MA 01581, Tel: 508-898-9220
320 Forbes Blvd, Mansfield, MA 02048, Tel: 508-822-9300

Date Rec'd in Lab: 01/03/18

ALPHA Job #: L1800184

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

Project Information
Project Name: The Washington
Project Location: 3521 Washington St Boston (JP)
Project #: E483.2.DP
Project Manager: FBK / KWS
ALPHA Quote #:

Report Information - Data Deliverables
☒ ADEx ☐ EMAIL

Billing Information
☐ Same as Client info PO #:

Regulatory Requirements & Project Information Requirements
☐ Yes ☒ No MA MCP Analytical Methods ☐ Yes ☒ No CT RCP Analytical Methods
☐ Yes ☒ No Matrix Spike Required on this SDG? (Required for MCP Inorganics)
☐ Yes ☒ No GW1 Standards (Info Required for Metals & EPH with Targets)
☒ Yes ☐ No NPDES RGP
☐ Other State /Fed Program _____ Criteria _____

Turn-Around Time
☒ Standard ☐ RUSH (only confirmed if pre-approved!)
Date Due:

Additional Project Information:
☐ Run TCLP (if triggered)
Section B (Btex, Benzene, 1,4 Dioxane, Acetone, Phenol)
C - Halogenated VOCs
D - SVOCs Phthalates + PAHs
F - TPH, Ethanol, MBTE, TBA, TAME

Sample "Sample ID" Nomenclature: B-100, S-1

ALPHA Lab ID (Lab Use Only)	Sample ID	Sample Depth	Sample Material	Collection Date	Collection Time	Sampler Initials	Soil Assessment Package IV (less VOC)	VOC: ☐ 8260	Total Solids	SVOC: ☐ PAH	EPH: ☐ Ranges & Targets ☐ Ranges Only	VPH: ☐ Ranges & Targets ☐ Ranges Only	TOTAL METALS: ☐ RCRA8 ☐ PP13 ☐ MCP 14	DISSOLVED METALS: ☐ RCRA8 ☐ PP13 ☐ MCP 14	METALS: Total Sb,Be,Ni,Tl,V,Zn	☐ PCBs ☐ Pesticides	RGP Section A Inorganics	RGP Section B, C, D, F	ph/temp/hardness		SAMPLE INFO Filtration ☐ Field ☒ Lab to do Preservation ☐ Lab to do Sample Comments	TOTAL # BOTTLES
001184-01	B-101 (ow)	12'	GW	1/3/18	1000	TMC											X	X	X			18

Container Type
A=Amber glass, B=Bacteria cup, C=Cube, D=BOD bottle, E=Encore, G=Glass, O=Other, P=Plastic, V=Vial

Preservative
A=None, B=HCl, C=HNO_3, D=H_2SO_4, E=NaOH, F=MeOH, G=$NaHSO_4$, H=$Na_2S_2O_3$, I=Ascorbix Acid, J=NH_4Cl, K=Zn Acetate, O=Other

Sample Material
F=Fil, S=Sand, O=Organics, C=Clay, N=Natural, T=Till, GM=Glaciomarine, GW=Groundwater

RGP Section A Inorganics: Ammonia, Chloride, TRC, TSS, CrVI, CrIII, Total Cyanide, Total RGP Metals

	Container Type	Preservative

Relinquished By:	Date/Time	Received By:	Date/Time
	1/2/18 1105	MCM	1/3/18 1105
McPhail Associates secure sample storage for laboratory pick-up		McPhail Associates secure sample storage for laboratory pick-up	
MCM	1/3/18 1800		1/3/18 1800

All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

DOC ID: 25188 Rev 0 (11/2il/2017)

ALPHA ANALYTICAL
Mobile Class Chemistry

Subcontract Chain of Custody

Test America (Nashville)
2960 Foster Creighton Drive
Nashville, TN 37204

Alpha Job Number
L1800184

Client Information

Client: Alpha Analytical Labs
Address: Eight Walkup Drive
Westborough, MA 01581-1019

Phone: 603.319.5010
Email: mgulli@alphalab.com

Project Information

Project Location: MA
Project Manager: Melissa Gulli

Turnaround & Deliverables Information

Due Date: 01/22/18
Deliverables:

Regulatory Requirements/Report Limits

State/Federal Program: RGP
Regulatory Criteria:

Project Specific Requirements and/or Report Requirements

Reference following Alpha Job Number on final report/deliverables: L1800184

Report to include Method Blank, LCS/LCSD:

Additional Comments: Send all results/reports to subreports@alphalab.com Ethanol by EPA 1671A

Lab ID	Client ID	Collection Date/Time	Sample Matrix	Analysis	Batch QC
	B-101 (OW)	01-03-18 10:00	WATER	Ethanol by EPA 1671 Revision A	

	Relinquished By:	Date/Time:	Received By:	Date/Time:
Form No: AL_subcoc				

ANALYTICAL REPORT

Lab Number:	L1715658
Client:	McPhail Associates 2269 Massachusetts Avenue Cambridge, MA 02140
ATTN:	Ambrose Donovan
Phone:	(617) 868-1420
Project Name:	WIT
Project Number:	U222.9.T4
Report Date:	05/18/17

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), NJ NELAP (MA935), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-14-00197).

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

Project Name: WIT
Project Number: U222.9.T4

Lab Number: L1715658
Report Date: 05/18/17

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1715658-01	CHARLES RIVER	WATER	CHARLES RIVER	05/12/17 11:00	05/12/17

Project Name: WIT
Project Number: U222.9.T4

Lab Number: L1715658
Report Date: 05/18/17

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

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

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

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

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

Project Name:	WIT	**Lab Number:**	L1715658
Project Number:	U222.9.T4	**Report Date:**	05/18/17

Case Narrative (continued)

Report Submission

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

Chromium, Hexavalent

L1715658-01 was analyzed with the method required holding time exceeded.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Cristin Walker

Title: Technical Director/Representative Date: 05/18/17

METALS

Project Name: WIT
Project Number: U222.9.T4

Lab Number: L1715658
Report Date: 05/18/17

SAMPLE RESULTS

Lab ID: L1715658-01
Client ID: CHARLES RIVER
Sample Location: CHARLES RIVER
Matrix: Water

Date Collected: 05/12/17 11:00
Date Received: 05/12/17
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	0.00202	J	mg/l	0.00400	0.00042	1	05/15/17 12:04	05/17/17 12:04	EPA 3005A	3,200.8	BV
Arsenic, Total	0.00105		mg/l	0.00100	0.00016	1	05/15/17 12:04	05/17/17 12:04	EPA 3005A	3,200.8	BV
Cadmium, Total	ND		mg/l	0.00100	0.00005	1	05/15/17 12:04	05/17/17 12:04	EPA 3005A	3,200.8	BV
Chromium, Total	0.00124		mg/l	0.00100	0.00017	1	05/15/17 12:04	05/17/17 12:04	EPA 3005A	3,200.8	BV
Copper, Total	0.00366		mg/l	0.00100	0.00038	1	05/15/17 12:04	05/17/17 12:04	EPA 3005A	3,200.8	BV
Iron, Total	1.01		mg/l	0.050	0.009	1	05/15/17 12:04	05/16/17 21:15	EPA 3005A	19,200.7	PS
Lead, Total	0.00413		mg/l	0.00100	0.00034	1	05/15/17 12:04	05/17/17 12:04	EPA 3005A	3,200.8	BV
Mercury, Total	ND		mg/l	0.00020	0.00006	1	05/17/17 11:50	05/17/17 21:28	EPA 245.1	3,245.1	EA
Nickel, Total	0.00320		mg/l	0.00200	0.00055	1	05/15/17 12:04	05/17/17 12:04	EPA 3005A	3,200.8	BV
Selenium, Total	ND		mg/l	0.00500	0.00173	1	05/15/17 12:04	05/17/17 12:04	EPA 3005A	3,200.8	BV
Silver, Total	ND		mg/l	0.00100	0.00026	1	05/15/17 12:04	05/17/17 12:04	EPA 3005A	3,200.8	BV
Zinc, Total	0.01111		mg/l	0.01000	0.00341	1	05/15/17 12:04	05/17/17 12:04	EPA 3005A	3,200.8	BV
Total Hardness by SM 2340B - Mansfield Lab											
Hardness	96.5		mg/l	0.660	NA	1	05/15/17 12:04	05/16/17 21:15	EPA 3005A	19,200.7	PS
General Chemistry - Mansfield Lab											
Chromium, Trivalent	ND		mg/l	0.010	0.010	1		05/17/17 12:04	NA	107,-	

Project Name: WIT
Project Number: U222.9.T4

Lab Number: L1715658
Report Date: 05/18/17

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: WG1003491-1										
Iron, Total	0.045	J	mg/l	0.050	0.009	1	05/15/17 12:04	05/16/17 17:21	19,200.7	PS

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: WG1003491-1										
Hardness	ND		mg/l	0.660	NA	1	05/15/17 12:04	05/16/17 17:21	19,200.7	PS

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: WG1003796-1										
Antimony, Total	ND		mg/l	0.00400	0.00042	1	05/15/17 12:04	05/17/17 11:02	3,200.8	BV
Arsenic, Total	0.00041	J	mg/l	0.00100	0.00016	1	05/15/17 12:04	05/17/17 11:02	3,200.8	BV
Cadmium, Total	ND		mg/l	0.00100	0.00005	1	05/15/17 12:04	05/17/17 11:02	3,200.8	BV
Chromium, Total	ND		mg/l	0.00100	0.00017	1	05/15/17 12:04	05/17/17 11:02	3,200.8	BV
Copper, Total	ND		mg/l	0.00100	0.00038	1	05/15/17 12:04	05/17/17 11:02	3,200.8	BV
Lead, Total	ND		mg/l	0.00100	0.00034	1	05/15/17 12:04	05/17/17 11:02	3,200.8	BV
Nickel, Total	ND		mg/l	0.00200	0.00055	1	05/15/17 12:04	05/17/17 11:02	3,200.8	BV
Selenium, Total	ND		mg/l	0.00500	0.00173	1	05/15/17 12:04	05/17/17 11:02	3,200.8	BV
Silver, Total	ND		mg/l	0.00100	0.00026	1	05/15/17 12:04	05/17/17 11:02	3,200.8	BV
Zinc, Total	ND		mg/l	0.01000	0.00341	1	05/15/17 12:04	05/17/17 11:02	3,200.8	BV

Prep Information

Digestion Method: EPA 3005A

Project Name: WIT
Project Number: U222.9.T4

Lab Number: L1715658
Report Date: 05/18/17

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: WG1004335-1										
Mercury, Total	ND		mg/l	0.00020	0.00006	1	05/17/17 11:50	05/17/17 21:25	3,245.1	EA

Prep Information

Digestion Method: EPA 245.1

Lab Control Sample Analysis

Batch Quality Control

Project Name: WIT
Project Number: U222.9.T4

Lab Number: L1715658
Report Date: 05/18/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1003491-2								
Iron, Total	105		-		85-115	-		
Total Hardness by SM 2340B - Mansfield Lab Associated sample(s): 01 Batch: WG1003491-2								
Hardness	106		-		85-115	-		
Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1003796-2								
Antimony, Total	92		-		85-115	-		
Arsenic, Total	96		-		85-115	-		
Cadmium, Total	102		-		85-115	-		
Chromium, Total	99		-		85-115	-		
Copper, Total	95		-		85-115	-		
Lead, Total	99		-		85-115	-		
Nickel, Total	97		-		85-115	-		
Selenium, Total	99		-		85-115	-		
Silver, Total	96		-		85-115	-		
Zinc, Total	96		-		85-115	-		
Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1004335-2								
Mercury, Total	111		-		85-115	-		

Matrix Spike Analysis
Batch Quality Control

Project Name: WIT
Project Number: U222.9.T4

Lab Number: L1715658
Report Date: 05/18/17

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: WG1003491-3 QC Sample: L1715432-09 Client ID: MS Sample												
Iron, Total	ND	1	1.04	104		-	-		75-125	-		20
Total Hardness by SM 2340B - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1003491-3 QC Sample: L1715432-09 Client ID: MS Sample												
Hardness	104.	66.2	164	91		-	-		75-125	-		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1003491-7 QC Sample: L1715699-01 Client ID: MS Sample												
Iron, Total	0.146	1	1.13	98		-	-		75-125	-		20
Total Hardness by SM 2340B - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1003491-7 QC Sample: L1715699-01 Client ID: MS Sample												
Hardness	1600	66.2	1610	**15**	Q	-	-		75-125	-		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1003796-3 QC Sample: L1700005-89 Client ID: MS Sample												
Antimony, Total	ND	0.5	0.474	95		-	-		70-130	-		20
Arsenic, Total	ND	0.12	0.122	102		-	-		70-130	-		20
Cadmium, Total	ND	0.051	0.0492	96		-	-		70-130	-		20
Chromium, Total	0.0268	0.2	0.221	97		-	-		70-130	-		20
Copper, Total	0.00397J	0.25	0.240	96		-	-		70-130	-		20
Lead, Total	ND	0.51	0.500	98		-	-		70-130	-		20
Nickel, Total	0.00777J	0.5	0.492	98		-	-		70-130	-		20
Selenium, Total	ND	0.12	0.119	99		-	-		70-130	-		20
Silver, Total	ND	0.05	0.0471	94		-	-		70-130	-		20
Zinc, Total	ND	0.5	0.490	98		-	-		70-130	-		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1004335-3 QC Sample: L1715658-01 Client ID: CHARLES RIVER												
Mercury, Total	ND	0.005	0.00539	108		-	-		70-130	-		20

Matrix Spike Analysis
Batch Quality Control

Project Name: WIT
Project Number: U222.9.T4

Lab Number: L1715658
Report Date: 05/18/17

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: WG1004335-5 QC Sample: L1715733-01 Client ID: MS Sample									
Mercury, Total	0.00008J	0.005	0.00532	106	-	-	70-130	-	20

Lab Duplicate Analysis
Batch Quality Control

Project Name: WIT
Project Number: U222.9.T4

Lab Number: L1715658
Report Date: 05/18/17

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1003491-4 QC Sample: L1715432-09 Client ID: DUP Sample						
Iron, Total	ND	0.030J	mg/l	NC		20
Total Hardness by SM 2340B - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1003491-8 QC Sample: L1715699-01 Client ID: DUP Sample						
Hardness	1600	1650	mg/l	3		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1003796-4 QC Sample: L1700005-89 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	0.0268	0.0282	mg/l	5		20
Copper, Total	0.00397J	0.00429J	mg/l	NC		20
Lead, Total	ND	ND	mg/l	NC		20
Nickel, Total	0.00777J	0.00790J	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
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1004335-4 QC Sample: L1715658-01 Client ID: CHARLES RIVER						
Mercury, Total	ND	ND	mg/l	NC		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1004335-6 QC Sample: L1715733-01 Client ID: DUP Sample						
Mercury, Total	0.00008J	0.00008J	mg/l	NC		20

INORGANICS
&
MISCELLANEOUS

Project Name: WIT
Project Number: U222.9.T4

Lab Number: L1715658
Report Date: 05/18/17

SAMPLE RESULTS

Lab ID: L1715658-01
Client ID: CHARLES RIVER
Sample Location: CHARLES RIVER
Matrix: Water

Date Collected: 05/12/17 11:00
Date Received: 05/12/17
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Nitrogen, Ammonia	0.304		mg/l	0.075	0.022	1	05/15/17 23:00	05/16/17 21:39	121,4500NH3-BH	AT
Chromium, Hexavalent	0.003	J	mg/l	0.010	0.003	1	05/16/17 06:10	05/16/17 06:32	1,7196A	KA

Project Name: WIT
Project Number: U222.9.T4

Lab Number: L1715658
Report Date: 05/18/17

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: WG1003684-1										
Nitrogen, Ammonia	ND		mg/l	0.075	0.022	1	05/15/17 23:00	05/16/17 21:28	121,4500NH3-BH	AT
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1003753-1										
Chromium, Hexavalent	ND		mg/l	0.010	0.003	1	05/16/17 06:10	05/16/17 06:31	1,7196A	KA

Lab Control Sample Analysis

Batch Quality Control

Project Name: WIT
Project Number: U222.9.T4

Lab Number: L1715658
Report Date: 05/18/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1003684-2								
Nitrogen, Ammonia	98		-		80-120	-		20
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1003753-2								
Chromium, Hexavalent	92		-		85-115	-		20

Matrix Spike Analysis
Batch Quality Control

Project Name: WIT
Project Number: U222.9.T4

Lab Number: L1715658
Report Date: 05/18/17

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: WG1003684-4 QC Sample: L1715808-02 Client ID: MS Sample												
Nitrogen, Ammonia	1.20	4	4.95	94		-	-		80-120	-		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1003753-4 QC Sample: L1715658-01 Client ID: CHARLES RIVER												
Chromium, Hexavalent	0.003J	0.1	0.100	100		-	-		85-115	-		20

Lab Duplicate Analysis
Batch Quality Control

Project Name: WIT
Project Number: U222.9.T4

Lab Number: L1715658
Report Date: 05/18/17

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1003684-3 QC Sample: L1715808-02 Client ID: DUP Sample						
Nitrogen, Ammonia	1.20	1.21	mg/l	1		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1003753-3 QC Sample: L1715658-01 Client ID: CHARLES RIVER						
Chromium, Hexavalent	0.003J	0.003J	mg/l	NC		20

Project Name: WIT
Project Number: U222.9.T4

Lab Number: L1715658
Report Date: 05/18/17

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information Custody Seal

Cooler	
A	Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1715658-01A	Plastic 250ml HNO3 preserved	A	<2	5.1	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)
L1715658-01B	Amber 500ml unpreserved	A	7	5.1	Y	Absent	HEXCR-7196(1),TRICR-CALC(1)
L1715658-01C	Plastic 250ml H2SO4 preserved	A	<2	5.1	Y	Absent	NH3-4500(28)

*Values in parentheses indicate holding time in days

Project Name:	WIT	**Lab Number:**	L1715658
Project Number:	U222.9.T4	**Report Date:**	05/18/17

GLOSSARY

Acronyms

EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
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.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Footnotes

1	- The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

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

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Data Qualifiers

A	- Spectra identified as "Aldol Condensation Product".
B	- The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the

Report Format: DU Report with 'J' Qualifiers

Project Name:	WIT	**Lab Number:**	L1715658
Project Number:	U222.9.T4	**Report Date:**	05/18/17

Data Qualifiers

reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

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

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

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

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

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

I - The lower value for the two columns has been reported due to obvious interference.

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

J - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

ND - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

Report Format: DU Report with 'J' Qualifiers

Project Name:	WIT	**Lab Number:**	L1715658
Project Number:	U222.9.T4	**Report Date:**	05/18/17

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: m/p-xylene, o-xylene
EPA 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
EPA 300: DW: Bromide
EPA 6860: NPW and SCM: Perchlorate
EPA 9010: NPW and SCM: Amenable Cyanide Distillation
EPA 9012B: NPW: Total Cyanide
EPA 9050A: NPW: Specific Conductance
SM3500: NPW: Ferrous Iron
SM4500: NPW: Amenable Cyanide, Dissolved Oxygen; SCM: Total Phosphorus, TKN, NO2, NO3.
SM5310C: DW: Dissolved Organic Carbon

Mansfield Facility
SM 2540D: TSS
EPA 3005A NPW
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: 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, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **SM4500NO3-F, EPA 353.2**: Nitrate-N**, EPA 351.1, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D.**
EPA 624: Volatile Halocarbons & Aromatics,
EPA 608: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E.**

Mansfield Facility:

Drinking Water
EPA 200.7: Ba, Be, Cd, Cr, Cu, Ni, Na, Ca. **EPA 200.8:** Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Ni, Se, TL. **EPA 245.1** Hg.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn.
EPA 245.1 Hg.
SM2340B

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

CHAIN OF CUSTODY

PAGE 1 OF 1

ALPHA ANALYTICAL
8 Walkup Drive
Westboro, MA 01581
Tel: 508-898-9220

320 Forbes Blvd
Mansfield, MA 02048
Tel: 508-822-9300

Date Rec'd in Lab: 5/12/17

ALPHA Job #: L1715658

Client Information

Client: McPhail Associates

Address: 2269 Mass Ave
Cambridge MA

Phone: 617 868 1420

Email:

Project Information

Project Name: WIT

Project Location: Charles River

Project #: 0222.0219.T4

Project Manager: KWS

ALPHA Quote #:

Report Information - Data Deliverables

☒ ADEx ☐ EMAIL

Billing Information

☒ Same as Client info PO #:

Regulatory Requirements & Project Information Requirements

☐ Yes ☒ No MA MCP Analytical Methods ☐ Yes ☒ No CT RCP Analytical Methods
☐ Yes ☒ No Matrix Spike Required on this SDG? (Required for MCP Inorganics)
☐ Yes ☒ No GW1 Standards (Info Required for Metals & EPH with Targets)
☒ Yes ☐ No NPDES RGP
☐ Other State /Fed Program _____ Criteria _____

Turn-Around Time

☒ Standard ☐ RUSH (only confirmed if pre-approved!)

Date Due:

Additional Project Information:

Metals: RGP13: Sb,As,Cd,Cr,Cu,Fe,Pb,Hg,Ni,Se,Ag,Zn, CRIII, CRVI

ANALYSIS

VOC: ☐ 8260 ☐ 624 ☐ 524.2
SVOC: ☐ ABN ☐ PAH
METALS: ☐ MCP 13 ☐ MCP 14 ☐ RCP 15
METALS: ☐ RCRA5 ☐ RCRA8 ☐ PP13
EPH: ☐ Ranges & Targets ☐ Ranges Only
VPH: ☐ Ranges & Targets ☐ Ranges Only
☐ PCB ☐ PEST
TPH: ☐ Quant Only ☐ Fingerprint
Hardness
Ammonia
Recoverable Metals

SAMPLE INFO
Filtration
☐ Field
☐ Lab to do
Preservation
☐ Lab to do

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler Initials	Hardness	Ammonia	Recoverable Metals	Sample Comments	TOTAL # BOTTLES
15658-01	Charles River	5/12/17	1100	SW	LDP		X			1
01	Charles River	5/12/17	1100	SW	LDP	X				1
01	Charles River	5/12/17	1100	SW	LDP			X		1

Container Type						A	P	P		
Preservative						A	D	O		

Container Type
P= Plastic
A= Amber glass
V= Vial
G= Glass
B= Bacteria cup
C= Cube
O= Other
E= Encore
D= BOD Bottle

Preservative
A= None
B= HCl
C= HNO_3
D= H_2SO_4
E= NaOH
F= MeOH
G= $NaHSO_4$
H = $Na_2S_2O_3$
I= Ascorbic Acid
J = NH_4Cl
K= Zn Acetate
O= Other

Relinquished By:	Date/Time	Received By:	Date/Time
	5/12/17 1200		
	5/12/17 1720		5/12/17 1600 5/12/17 1720

All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO. 01-01 (rev. 12-Mar-2012)

CHAIN OF CUSTODY

PAGE 1 OF 1

Date Rec'd in Lab: 5/12/17

ALPHA Job #: L1715688

ALPHA ANALYTICAL
8 Walkup Drive
Westboro, MA 01581
Tel: 508-898-9220

320 Forbes Blvd
Mansfield, MA 02048
Tel: 508-822-9300

Client Information

Client: McPhail Associates

Address: 2269 Mass Ave
Cambridge MA

Phone: 617 868 1420

Email:

Additional Project Information:

Project Information

Project Name: WIT

Project Location: Mill Charles River

Project #: 0222.0219.T4

Project Manager: KWS

ALPHA Quote #:

Turn-Around Time

☒ Standard ☐ RUSH (only confirmed if pre-approved!)

Date Due:

Report Information - Data Deliverables

☒ ADEx ☐ EMAIL

Billing Information

☒ Same as Client info PO #:

Regulatory Requirements & Project Information Requirements

☐ Yes ☒ No MA MCP Analytical Methods ☐ Yes ☒ No CT RCP Analytical Methods
☐ Yes ☒ No Matrix Spike Required on this SDG? (Required for MCP Inorganics)
☐ Yes ☒ No GW1 Standards (Info Required for Metals & EPH with Targets)
☒ Yes ☐ No NPDES RGP
☐ Other State /Fed Program _____ Criteria _____

ANALYSIS

VOC: ☐ 8260 ☐ 624 ☐ 524.2
SVOC: ☐ ABN ☐ PAH
METALS: ☐ MCP 13 ☐ MCP 14 ☐ RCP 15
METALS: ☐ RCRA5 ☐ RCRA8 ☐ PP13
EPH: ☐ Ranges & Targets ☐ Ranges Only
VPH: ☐ Ranges & Targets ☐ Ranges Only
☐ PCB ☐ PEST
TPH: ☐ Quant Only ☐ Fingerprint
Hardness
Ammonia
Recoverable Metals

SAMPLE INFO
Filtration
☐ Field
☐ Lab to do
Preservation
☐ Lab to do

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler Initials	Sample Comments	TOTAL # BOTTLES
15688-01	Charles River	5/12/17	1100	SW	LDP		1
01	Charles River	5/12/17	1100	SW	LDP		1
01	Charles River	5/12/17	1100	SW	LDP		1

Container Type		A	P	P
Preservative		A	D	O

Container Type
P= Plastic
A= Amber glass
V= Vial
G= Glass
B= Bacteria cup
C= Cube
O= Other
E= Encore
D= BOD Bottle

Preservative
A= None
B= HCl
C= HNO_3
D= H_2SO_4
E= NaOH
F= MeOH
G= $NaHSO_4$
H = $Na_2S_2O_3$
I= Ascorbic Acid
J = NH_4Cl
K= Zn Acetate
O= Other

Relinquished By:	Date/Time	Received By:	Date/Time
	5/12/17 1200		5/12/17 1600
	5/12/17 1720		5/12/17 1720

All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO. 01-01 (rev. 12-Mar-2012)

APPENDIX E:

LABORATORY ANALYTICAL DATA – SURFACE WATER

ANALYTICAL REPORT

Lab Number:	L1715658
Client:	McPhail Associates 2269 Massachusetts Avenue Cambridge, MA 02140
ATTN:	Ambrose Donovan
Phone:	(617) 868-1420
Project Name:	WIT
Project Number:	U222.9.T4
Report Date:	05/18/17

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), NJ NELAP (MA935), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-14-00197).

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

Project Name: WIT
Project Number: U222.9.T4

Lab Number: L1715658
Report Date: 05/18/17

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1715658-01	CHARLES RIVER	WATER	CHARLES RIVER	05/12/17 11:00	05/12/17

Project Name: WIT
Project Number: U222.9.T4

Lab Number: L1715658
Report Date: 05/18/17

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

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

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

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

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

Project Name:	WIT	**Lab Number:**	L1715658
Project Number:	U222.9.T4	**Report Date:**	05/18/17

Case Narrative (continued)

Report Submission

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

Chromium, Hexavalent

L1715658-01 was analyzed with the method required holding time exceeded.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Cristin Walker

Title: Technical Director/Representative Date: 05/18/17

METALS

Project Name: WIT
Project Number: U222.9.T4

Lab Number: L1715658
Report Date: 05/18/17

SAMPLE RESULTS

Lab ID: L1715658-01
Client ID: CHARLES RIVER
Sample Location: CHARLES RIVER
Matrix: Water

Date Collected: 05/12/17 11:00
Date Received: 05/12/17
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	0.00202	J	mg/l	0.00400	0.00042	1	05/15/17 12:04	05/17/17 12:04	EPA 3005A	3,200.8	BV
Arsenic, Total	0.00105		mg/l	0.00100	0.00016	1	05/15/17 12:04	05/17/17 12:04	EPA 3005A	3,200.8	BV
Cadmium, Total	ND		mg/l	0.00100	0.00005	1	05/15/17 12:04	05/17/17 12:04	EPA 3005A	3,200.8	BV
Chromium, Total	0.00124		mg/l	0.00100	0.00017	1	05/15/17 12:04	05/17/17 12:04	EPA 3005A	3,200.8	BV
Copper, Total	0.00366		mg/l	0.00100	0.00038	1	05/15/17 12:04	05/17/17 12:04	EPA 3005A	3,200.8	BV
Iron, Total	1.01		mg/l	0.050	0.009	1	05/15/17 12:04	05/16/17 21:15	EPA 3005A	19,200.7	PS
Lead, Total	0.00413		mg/l	0.00100	0.00034	1	05/15/17 12:04	05/17/17 12:04	EPA 3005A	3,200.8	BV
Mercury, Total	ND		mg/l	0.00020	0.00006	1	05/17/17 11:50	05/17/17 21:28	EPA 245.1	3,245.1	EA
Nickel, Total	0.00320		mg/l	0.00200	0.00055	1	05/15/17 12:04	05/17/17 12:04	EPA 3005A	3,200.8	BV
Selenium, Total	ND		mg/l	0.00500	0.00173	1	05/15/17 12:04	05/17/17 12:04	EPA 3005A	3,200.8	BV
Silver, Total	ND		mg/l	0.00100	0.00026	1	05/15/17 12:04	05/17/17 12:04	EPA 3005A	3,200.8	BV
Zinc, Total	0.01111		mg/l	0.01000	0.00341	1	05/15/17 12:04	05/17/17 12:04	EPA 3005A	3,200.8	BV
Total Hardness by SM 2340B - Mansfield Lab											
Hardness	96.5		mg/l	0.660	NA	1	05/15/17 12:04	05/16/17 21:15	EPA 3005A	19,200.7	PS
General Chemistry - Mansfield Lab											
Chromium, Trivalent	ND		mg/l	0.010	0.010	1		05/17/17 12:04	NA	107,-	

Project Name: WIT
Project Number: U222.9.T4

Lab Number: L1715658
Report Date: 05/18/17

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: WG1003491-1										
Iron, Total	0.045	J	mg/l	0.050	0.009	1	05/15/17 12:04	05/16/17 17:21	19,200.7	PS

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: WG1003491-1										
Hardness	ND		mg/l	0.660	NA	1	05/15/17 12:04	05/16/17 17:21	19,200.7	PS

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: WG1003796-1										
Antimony, Total	ND		mg/l	0.00400	0.00042	1	05/15/17 12:04	05/17/17 11:02	3,200.8	BV
Arsenic, Total	0.00041	J	mg/l	0.00100	0.00016	1	05/15/17 12:04	05/17/17 11:02	3,200.8	BV
Cadmium, Total	ND		mg/l	0.00100	0.00005	1	05/15/17 12:04	05/17/17 11:02	3,200.8	BV
Chromium, Total	ND		mg/l	0.00100	0.00017	1	05/15/17 12:04	05/17/17 11:02	3,200.8	BV
Copper, Total	ND		mg/l	0.00100	0.00038	1	05/15/17 12:04	05/17/17 11:02	3,200.8	BV
Lead, Total	ND		mg/l	0.00100	0.00034	1	05/15/17 12:04	05/17/17 11:02	3,200.8	BV
Nickel, Total	ND		mg/l	0.00200	0.00055	1	05/15/17 12:04	05/17/17 11:02	3,200.8	BV
Selenium, Total	ND		mg/l	0.00500	0.00173	1	05/15/17 12:04	05/17/17 11:02	3,200.8	BV
Silver, Total	ND		mg/l	0.00100	0.00026	1	05/15/17 12:04	05/17/17 11:02	3,200.8	BV
Zinc, Total	ND		mg/l	0.01000	0.00341	1	05/15/17 12:04	05/17/17 11:02	3,200.8	BV

Prep Information

Digestion Method: EPA 3005A

Project Name: WIT
Project Number: U222.9.T4

Lab Number: L1715658
Report Date: 05/18/17

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: WG1004335-1										
Mercury, Total	ND		mg/l	0.00020	0.00006	1	05/17/17 11:50	05/17/17 21:25	3,245.1	EA

Prep Information

Digestion Method: EPA 245.1

Lab Control Sample Analysis

Batch Quality Control

Project Name: WIT

Project Number: U222.9.T4

Lab Number: L1715658

Report Date: 05/18/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1003491-2								
Iron, Total	105		-		85-115	-		
Total Hardness by SM 2340B - Mansfield Lab Associated sample(s): 01 Batch: WG1003491-2								
Hardness	106		-		85-115	-		
Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1003796-2								
Antimony, Total	92		-		85-115	-		
Arsenic, Total	96		-		85-115	-		
Cadmium, Total	102		-		85-115	-		
Chromium, Total	99		-		85-115	-		
Copper, Total	95		-		85-115	-		
Lead, Total	99		-		85-115	-		
Nickel, Total	97		-		85-115	-		
Selenium, Total	99		-		85-115	-		
Silver, Total	96		-		85-115	-		
Zinc, Total	96		-		85-115	-		
Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1004335-2								
Mercury, Total	111		-		85-115	-		

Matrix Spike Analysis
Batch Quality Control

Project Name: WIT
Project Number: U222.9.T4

Lab Number: L1715658
Report Date: 05/18/17

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: WG1003491-3 QC Sample: L1715432-09 Client ID: MS Sample												
Iron, Total	ND	1	1.04	104		-	-		75-125	-		20
Total Hardness by SM 2340B - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1003491-3 QC Sample: L1715432-09 Client ID: MS Sample												
Hardness	104.	66.2	164	91		-	-		75-125	-		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1003491-7 QC Sample: L1715699-01 Client ID: MS Sample												
Iron, Total	0.146	1	1.13	98		-	-		75-125	-		20
Total Hardness by SM 2340B - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1003491-7 QC Sample: L1715699-01 Client ID: MS Sample												
Hardness	1600	66.2	1610	**15**	Q	-	-		75-125	-		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1003796-3 QC Sample: L1700005-89 Client ID: MS Sample												
Antimony, Total	ND	0.5	0.474	95		-	-		70-130	-		20
Arsenic, Total	ND	0.12	0.122	102		-	-		70-130	-		20
Cadmium, Total	ND	0.051	0.0492	96		-	-		70-130	-		20
Chromium, Total	0.0268	0.2	0.221	97		-	-		70-130	-		20
Copper, Total	0.00397J	0.25	0.240	96		-	-		70-130	-		20
Lead, Total	ND	0.51	0.500	98		-	-		70-130	-		20
Nickel, Total	0.00777J	0.5	0.492	98		-	-		70-130	-		20
Selenium, Total	ND	0.12	0.119	99		-	-		70-130	-		20
Silver, Total	ND	0.05	0.0471	94		-	-		70-130	-		20
Zinc, Total	ND	0.5	0.490	98		-	-		70-130	-		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1004335-3 QC Sample: L1715658-01 Client ID: CHARLES RIVER												
Mercury, Total	ND	0.005	0.00539	108		-	-		70-130	-		20

Matrix Spike Analysis
Batch Quality Control

Project Name: WIT
Project Number: U222.9.T4

Lab Number: L1715658
Report Date: 05/18/17

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: WG1004335-5 QC Sample: L1715733-01 Client ID: MS Sample									
Mercury, Total	0.00008J	0.005	0.00532	106	-	-	70-130	-	20

Lab Duplicate Analysis
Batch Quality Control

Project Name: WIT
Project Number: U222.9.T4

Lab Number: L1715658
Report Date: 05/18/17

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1003491-4 QC Sample: L1715432-09 Client ID: DUP Sample						
Iron, Total	ND	0.030J	mg/l	NC		20
Total Hardness by SM 2340B - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1003491-8 QC Sample: L1715699-01 Client ID: DUP Sample						
Hardness	1600	1650	mg/l	3		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1003796-4 QC Sample: L1700005-89 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	0.0268	0.0282	mg/l	5		20
Copper, Total	0.00397J	0.00429J	mg/l	NC		20
Lead, Total	ND	ND	mg/l	NC		20
Nickel, Total	0.00777J	0.00790J	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
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1004335-4 QC Sample: L1715658-01 Client ID: CHARLES RIVER						
Mercury, Total	ND	ND	mg/l	NC		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1004335-6 QC Sample: L1715733-01 Client ID: DUP Sample						
Mercury, Total	0.00008J	0.00008J	mg/l	NC		20

INORGANICS
&
MISCELLANEOUS

Project Name: WIT
Project Number: U222.9.T4

Lab Number: L1715658
Report Date: 05/18/17

SAMPLE RESULTS

Lab ID: L1715658-01
Client ID: CHARLES RIVER
Sample Location: CHARLES RIVER
Matrix: Water

Date Collected: 05/12/17 11:00
Date Received: 05/12/17
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Nitrogen, Ammonia	0.304		mg/l	0.075	0.022	1	05/15/17 23:00	05/16/17 21:39	121,4500NH3-BH	AT
Chromium, Hexavalent	0.003	J	mg/l	0.010	0.003	1	05/16/17 06:10	05/16/17 06:32	1,7196A	KA

Project Name: WIT
Project Number: U222.9.T4

Lab Number: L1715658
Report Date: 05/18/17

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: WG1003684-1										
Nitrogen, Ammonia	ND		mg/l	0.075	0.022	1	05/15/17 23:00	05/16/17 21:28	121,4500NH3-BH	AT
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1003753-1										
Chromium, Hexavalent	ND		mg/l	0.010	0.003	1	05/16/17 06:10	05/16/17 06:31	1,7196A	KA

Lab Control Sample Analysis

Batch Quality Control

Project Name: WIT

Project Number: U222.9.T4

Lab Number: L1715658

Report Date: 05/18/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1003684-2								
Nitrogen, Ammonia	98		-		80-120	-		20
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1003753-2								
Chromium, Hexavalent	92		-		85-115	-		20

Matrix Spike Analysis
Batch Quality Control

Project Name: WIT
Project Number: U222.9.T4

Lab Number: L1715658
Report Date: 05/18/17

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: WG1003684-4 QC Sample: L1715808-02 Client ID: MS Sample												
Nitrogen, Ammonia	1.20	4	4.95	94		-	-		80-120	-		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1003753-4 QC Sample: L1715658-01 Client ID: CHARLES RIVER												
Chromium, Hexavalent	0.003J	0.1	0.100	100		-	-		85-115	-		20

Lab Duplicate Analysis
Batch Quality Control

Project Name: WIT
Project Number: U222.9.T4

Lab Number: L1715658
Report Date: 05/18/17

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1003684-3 QC Sample: L1715808-02 Client ID: DUP Sample						
Nitrogen, Ammonia	1.20	1.21	mg/l	1		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1003753-3 QC Sample: L1715658-01 Client ID: CHARLES RIVER						
Chromium, Hexavalent	0.003J	0.003J	mg/l	NC		20

Project Name: WIT
Project Number: U222.9.T4

Lab Number: L1715658
Report Date: 05/18/17

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information Custody Seal

Cooler	
A	Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1715658-01A	Plastic 250ml HNO3 preserved	A	<2	5.1	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)
L1715658-01B	Amber 500ml unpreserved	A	7	5.1	Y	Absent	HEXCR-7196(1),TRICR-CALC(1)
L1715658-01C	Plastic 250ml H2SO4 preserved	A	<2	5.1	Y	Absent	NH3-4500(28)

*Values in parentheses indicate holding time in days

Project Name:	WIT	**Lab Number:**	L1715658
Project Number:	U222.9.T4	**Report Date:**	05/18/17

GLOSSARY

Acronyms

EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
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.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Footnotes

1	- The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

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

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Data Qualifiers

A	- Spectra identified as "Aldol Condensation Product".
B	- The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the

Report Format: DU Report with 'J' Qualifiers

Project Name:	WIT	**Lab Number:**	L1715658
Project Number:	U222.9.T4	**Report Date:**	05/18/17

Data Qualifiers

reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

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

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

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

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

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

I - The lower value for the two columns has been reported due to obvious interference.

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

J - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

ND - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

Report Format: DU Report with 'J' Qualifiers

Project Name:	WIT	**Lab Number:**	L1715658
Project Number:	U222.9.T4	**Report Date:**	05/18/17

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: m/p-xylene, o-xylene
EPA 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
EPA 300: DW: Bromide
EPA 6860: NPW and SCM: Perchlorate
EPA 9010: NPW and SCM: Amenable Cyanide Distillation
EPA 9012B: NPW: Total Cyanide
EPA 9050A: NPW: Specific Conductance
SM3500: NPW: Ferrous Iron
SM4500: NPW: Amenable Cyanide, Dissolved Oxygen; SCM: Total Phosphorus, TKN, NO2, NO3.
SM5310C: DW: Dissolved Organic Carbon

Mansfield Facility
SM 2540D: TSS
EPA 3005A NPW
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: 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, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **SM4500NO3-F, EPA 353.2**: Nitrate-N**, EPA 351.1, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D.**
EPA 624: Volatile Halocarbons & Aromatics,
EPA 608: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E.**

Mansfield Facility:

Drinking Water
EPA 200.7: Ba, Be, Cd, Cr, Cu, Ni, Na, Ca. **EPA 200.8:** Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Ni, Se, TL. **EPA 245.1** Hg.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn.
EPA 245.1 Hg.
SM2340B

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

CHAIN OF CUSTODY

PAGE 1 OF 1

ALPHA ANALYTICAL
8 Walkup Drive
Westboro, MA 01581
Tel: 508-898-9220

320 Forbes Blvd
Mansfield, MA 02048
Tel: 508-822-9300

Date Rec'd in Lab: 5/12/17

ALPHA Job #: L1715658

Client Information

Client: McPhail Associates

Address: 2269 Mass Ave
Cambridge MA

Phone: 617 868 1420

Email:

Project Information

Project Name: WIT

Project Location: Charles River

Project #: 0222.0219.T4

Project Manager: KWS

ALPHA Quote #:

Report Information - Data Deliverables

☒ ADEx ☐ EMAIL

Billing Information

☒ Same as Client info PO #:

Regulatory Requirements & Project Information Requirements

☐ Yes ☒ No MA MCP Analytical Methods ☐ Yes ☒ No CT RCP Analytical Methods
☐ Yes ☒ No Matrix Spike Required on this SDG? (Required for MCP Inorganics)
☐ Yes ☒ No GW1 Standards (Info Required for Metals & EPH with Targets)
☒ Yes ☐ No NPDES RGP
☐ Other State /Fed Program _____ Criteria _____

Turn-Around Time

☒ Standard ☐ RUSH (only confirmed if pre-approved!)

Date Due:

Additional Project Information:

Metals: RGP13: Sb,As,Cd,Cr,Cu,Fe,Pb,Hg,Ni,Se,Ag,Zn, CRIII, CRVI

ANALYSIS

VOC: ☐ 8260 ☐ 624 ☐ 524.2
SVOC: ☐ ABN ☐ PAH
METALS: ☐ MCP 13 ☐ MCP 14 ☐ RCP 15
METALS: ☐ RCRA5 ☐ RCRA8 ☐ PP13
EPH: ☐ Ranges & Targets ☐ Ranges Only
VPH: ☐ Ranges & Targets ☐ Ranges Only
☐ PCB ☐ PEST
TPH: ☐ Quant Only ☐ Fingerprint
Hardness
Ammonia
Recoverable Metals

SAMPLE INFO
Filtration
☐ Field
☐ Lab to do
Preservation
☐ Lab to do

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler Initials	Hardness	Ammonia	Recoverable Metals	Sample Comments	TOTAL # BOTTLES
15658-01	Charles River	5/12/17	1100	SW	LDP		X			1
01	Charles River	5/12/17	1100	SW	LDP	X				1
01	Charles River	5/12/17	1100	SW	LDP			X		1

Container Type						A	P	P		
Preservative						A	D	O		

Container Type
P= Plastic
A= Amber glass
V= Vial
G= Glass
B= Bacteria cup
C= Cube
O= Other
E= Encore
D= BOD Bottle

Preservative
A= None
B= HCl
C= HNO_3
D= H_2SO_4
E= NaOH
F= MeOH
G= $NaHSO_4$
H = $Na_2S_2O_3$
I= Ascorbic Acid
J = NH_4Cl
K= Zn Acetate
O= Other

Relinquished By:	Date/Time	Received By:	Date/Time
	5/12/17 1200		
	5/12/17 1720		5/12/17 1600 5/12/17 1720

All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO. 01-01 (rev. 12-Mar-2012)

CHAIN OF CUSTODY

PAGE 1 OF 1

Date Rec'd in Lab: 5/12/17

ALPHA Job #: L1715688

ALPHA ANALYTICAL
8 Walkup Drive
Westboro, MA 01581
Tel: 508-898-9220

320 Forbes Blvd
Mansfield, MA 02048
Tel: 508-822-9300

Client Information

Client: McPhail Associates

Address: 2269 Mass Ave
Cambridge MA

Phone: 617 868 1420

Email:

Additional Project Information:

Project Information

Project Name: WIT

Project Location: Mill Charles River

Project #: 0222.0219.T4

Project Manager: KWS

ALPHA Quote #:

Turn-Around Time

☒ Standard ☐ RUSH (only confirmed if pre-approved!)

Date Due:

Report Information - Data Deliverables

☒ ADEx ☐ EMAIL

Billing Information

☒ Same as Client info PO #:

Regulatory Requirements & Project Information Requirements

☐ Yes ☒ No MA MCP Analytical Methods ☐ Yes ☒ No CT RCP Analytical Methods
☐ Yes ☒ No Matrix Spike Required on this SDG? (Required for MCP Inorganics)
☐ Yes ☒ No GW1 Standards (Info Required for Metals & EPH with Targets)
☒ Yes ☐ No NPDES RGP
☐ Other State /Fed Program _____ Criteria _____

ANALYSIS

VOC: ☐ 8260 ☐ 624 ☐ 524.2
SVOC: ☐ ABN ☐ PAH
METALS: ☐ MCP 13 ☐ MCP 14 ☐ RCP 15
METALS: ☐ RCRA5 ☐ RCRA8 ☐ PP13
EPH: ☐ Ranges & Targets ☐ Ranges Only
VPH: ☐ Ranges & Targets ☐ Ranges Only
☐ PCB ☐ PEST
TPH: ☐ Quant Only ☐ Fingerprint
Hardness
Ammonia
Recoverable Metals

SAMPLE INFO
Filtration
☐ Field
☐ Lab to do
Preservation
☐ Lab to do

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler Initials	Sample Comments	TOTAL # BOTTLES
15688-01	Charles River	5/12/17	1100	SW	LDP		1
01	Charles River	5/12/17	1100	SW	LDP		1
01	Charles River	5/12/17	1100	SW	LDP		1

Container Type		A	P	P
Preservative		A	D	O

Container Type
P= Plastic
A= Amber glass
V= Vial
G= Glass
B= Bacteria cup
C= Cube
O= Other
E= Encore
D= BOD Bottle

Preservative
A= None
B= HCl
C= HNO_3
D= H_2SO_4
E= NaOH
F= MeOH
G= $NaHSO_4$
H = $Na_2S_2O_3$
I= Ascorbic Acid
J = NH_4Cl
K= Zn Acetate
O= Other

Relinquished By:	Date/Time	Received By:	Date/Time
	5/12/17 1200		5/12/17 1600
	5/12/17 1720		5/12/17 1720

All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO. 01-01 (rev. 12-Mar-2012)

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 3521 Washington Street in the Jamaica Plain neighborhood of Boston, 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. The effluent will then flow through the necessary treatment systems and discharge through hoses or piping connected into the storm water drains and enter the outfall following one of two pathways. There is one discharge flow path adjacent to the site with one primary and one secondary outfall location. The discharge flow path continues north away from the site under Whittier Street then flows towards the Back Bay Fens. The secondary discharge location is an emergency outfall at a gate house that, per BWSC, is only used in high discharge flow emergency events. The flow path follows along the Back Bay Fens under I-90, Commonwealth Avenue, and Storrow Drive out to the Charles River. The primary discharge location is an outfall pipe listed as CSO 023 according to the BWSC.

Dewatering effluent treatment will consist of a settling tank, bag filters to remove suspended soil particulates. If further treatment is necessary, effluent discharge will be passed through ion resin media vessels or granular activated carbon (GAC) filters prior to off-site discharge to lower concentrations of metals below applicable WQBELs and/or TBELs.

Discharge Monitoring and Compliance

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 will sample the untreated influent and treated effluent two times: one (1) sample of untreated influent and one (1) sample of the treated effluent will 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 will be analyzed in accordance with 40 CFR §136 unless otherwise specified by the RGP, with a maximum 5-day turnaround time and results will be reviewed no more than 48 hours from receipt of the results of each sampling event. After the first week, samples will 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 will 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 for contaminates specified 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

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 water body is the Scarboro Pond, which is located approximately 4,000 feet to

the southeast of the subject site. Dewatering effluent will be pumped into a settling tank. Water within the settling tank will pumped through bag filters and, if necessary, ion exchange chambers 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. Bags will be replaced/disposed of as necessary.