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

OMNI BOSTON SEAPORT HOTEL
450 SUMMER STREET

SOUTH BOSTON, MASSACHUSETTS

MAY 7, 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:

OH NBH Owner, LLC
125 High Street, 12th Floor
Boston, MA 02110

PROJECT NO. 6311

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

May 7, 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: Omni Boston Seaport Hotel – 450 Summer Street; South Boston, Massachusetts
Notice of Intent for Construction Dewatering Discharge Under Massachusetts Remediation General Permit MAG910000

Ladies and Gentlemen:

On behalf of OH NBH Owner, LLC, 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 Boston Inner Harbor via the City of Boston storm drainage system. The temporary construction dewatering discharge will occur during construction of the proposed development of the Omni Boston Seaport Hotel located at 450 Summer Street on Massachusetts Port Authority (Massport) Parcel D-2 in South 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 our proposal dated December 23, 2016, and the subsequent authorization of The Davis Company. 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:

OH NBH Owner, LLC
Address: 125 High Street 12th Floor, Boston, MA 02119

Attention : Dante Angelucci
Title : Director
Phone: (617) 936-4808
Email: dangelucci@thedaviscompanies.com

Site Location and Existing Conditions

Parcel D-2 occupies an approximate 87,849 square-foot area generally bounded by Summer Street to the south, World Trade Center Avenue Bridge/Fargo Street to the west, the D Street bridge abutment to the east, and Massport Haul Road, a retaining wall and a railway right-of-way to the north. The site is presently vacant and the ground surface generally consists of gravel and grass. The limits of the subject site are depicted on **Figure 2**. Existing ground surface across the Massport Haul Road side of the site is generally level at about Elevation +9 to Elevation +11, sloping upward to the south to about Elevation +15 to Elevation +17 in the middle of the site, and again sloping upward to about Elevation +24 to +29 along Summer Street.

Proposed Scope of Site Development

It is understood that the proposed scope of development includes the construction of two, 21-story above-grade hotel towers, an 8-story above-grade mid-rise hotel, a 4 to 6-level podium, and one-below-grade level. The proposed below-grade footprint is indicated on **Figure 2.**

The proposed development will include the construction of two, 21-story above-grade hotel towers with mechanical penthouse levels and below grade space. The towers will occupy an approximate 20,000 square-foot plan and 7,000 square-foot plan area connected by an 8-story mid-rise building and a 4- to 6-level podium structure. The one level below grade space will occupy an approximate 52,800 square-foot and extend to elevation +6. The combined above-grade building footprints will occupy an approximate 73,000 square-foot plan area. The ground level slab will be at Elevation +24.5.

Site History

Prior to the early 1890's, the site was a tidal flat of Boston Harbor. In the 1890's the land was reclaimed utilizing dredged fill material obtained from the adjacent tidal flats, Fort Point Channel and Boston Harbor. The dredged fill material typically consisted of organic silt and marine clay. In addition, "city ashes, refuse, earth and waste" materials were also reportedly utilized as fill material. The top of the site was capped with approximately 5 to 10 feet of granular fill material.

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 April 13, 2018, the subject site is not located within the boundaries of a Sole Source Aquifer, Potentially Productive Aquifer or within a Zone II, Interim Wellhead Protection Area as defined by the Massachusetts Department of

Environmental Protection. 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 no endangered species at or in the vicinity of the marine discharge location and/or discharge outfall. Based upon the above, the site is considered NMFS criterion pursuant to Appendix IV of the RGP. A copy of the IPaC Trust Resource Report and supporting data are included in **Appendix C**.

The GIS Map indicates that there are no water bodies or wetland areas on the subject site. The map also indicates that the closest Protected Open Space to the subject site is located approximately 2,500 feet to the east. The closest water body is the Boston Inner Harbor is located approximately 1,000 feet to the northeast 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**.

Summary of Groundwater Analysis

In 2018, two (2) groundwater observation wells were sampled at the subject site. Samples were collected from wells B-111 (OW) and B-106 (OW) and submitted for laboratory analysis on April 3, 2018 and April 4, 2018, respectively. Laboratory results indicate detectable concentrations of ammonia, arsenic, chromium, chloride, copper, iron, lead, total suspended solids, and select semi-volatile organic compounds (SVOCs). A summary of the groundwater results is shown in the enclosed **Table 1**. The associated laboratory analytical data reports are included in **Appendix D**.

In accordance with Section 4.2.1 of the updated 2017 NPDES RGP, a sample of water from the Boston Inner Harbor was obtained and analyzed for recoverable metals, ammonia, pH, and salinity summarized in **Table 2**. The associated laboratory analytical data reports are included in **Appendix E**.

In summary, the groundwater testing completed indicates detectable concentrations of ammonia, arsenic, chromium, chloride, copper, iron, lead, total suspended solids, acenaphthene, fluoranthene and phenanthrene were detected. Concentrations were utilized in Appendix V of the 2017 RGP, to determine if Water Quality-Based Effluent Limitations (WQBELs) for specific inorganics apply. For discharging to saltwater with a dilution factor of 0, WQBELs apply for Total Residual Chlorine, however, because the groundwater at the site has not, nor will be chlorinated, prior to or during discharge, hence the WQBEL does not apply to this specific discharge. The Appendix V calculations also indicate Technology-Based Effluent Limitations (TBELs) apply for other Inorganics and SVOCS. A copy of the TBEL and WQBEL calculations is attached in **Appendix C**.

Construction Dewatering

It is anticipated that dewatering by means of strategically located sumps and trenches should suffice to manage groundwater during foundation and utility excavations and manage water which may become trapped within the excavation areas following periods of precipitation. If on-site recharge is not feasible, it will be necessary to discharge construction dewatering effluent into the city storm drainage system.

A review of available sanitary and storm sewer system plans accessed from the BWSC indicates the presence of a dedicated stormwater drain system located within Massport Haul Road. Records supplied by BWSC indicate one discharge flow path adjacent to the site flows to a primary discharge outfall location. The discharge flow path runs east-northeast towards the harbor under Massport Haul Road. The primary discharge location is an outfall pipe listed as #SS1 according to the BWSC. The site storm drains, discharge location, and discharge flow path are shown on the enclosed **Figure 3A & 3B.**

Groundwater Treatment

Based on the results of the above referenced groundwater analyses, it is our opinion that a minimum of one (1) 10,000-gallon capacity settling tanks and 10 micron bag filter in series will be required to settle and filter out suspended and dissolved inorganic metals in the discharge to meet applicable effluent limits established by the US EPA prior to off-site discharge. If necessary, an Ion Exchange Resin Filter will be utilized to further treat levels of metals in the effluent to meet the WQBELs 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 application for a Massachusetts Remediation General Permit for off-site discharge of dewatered groundwater which will be encountered during the proposed development of the Omni Boston Seaport Hotel located at 450 Summer Street on Massport Parcel D-2 in South Boston, Massachusetts (subject site).

Based on the results of the above referenced groundwater analyses, treatment of construction dewatering will be necessary to meet allowable TBELs for inorganics and SVOCS established by the US EPA prior to off-site discharge. The proposed construction dewatering effluent treatment system will consist of a minimum of one (1) 10,000-gallon gallon capacity and bag filter in series to filter out sediment containing elevated levels of metals. However, should the effluent monitoring results indicate levels of 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,

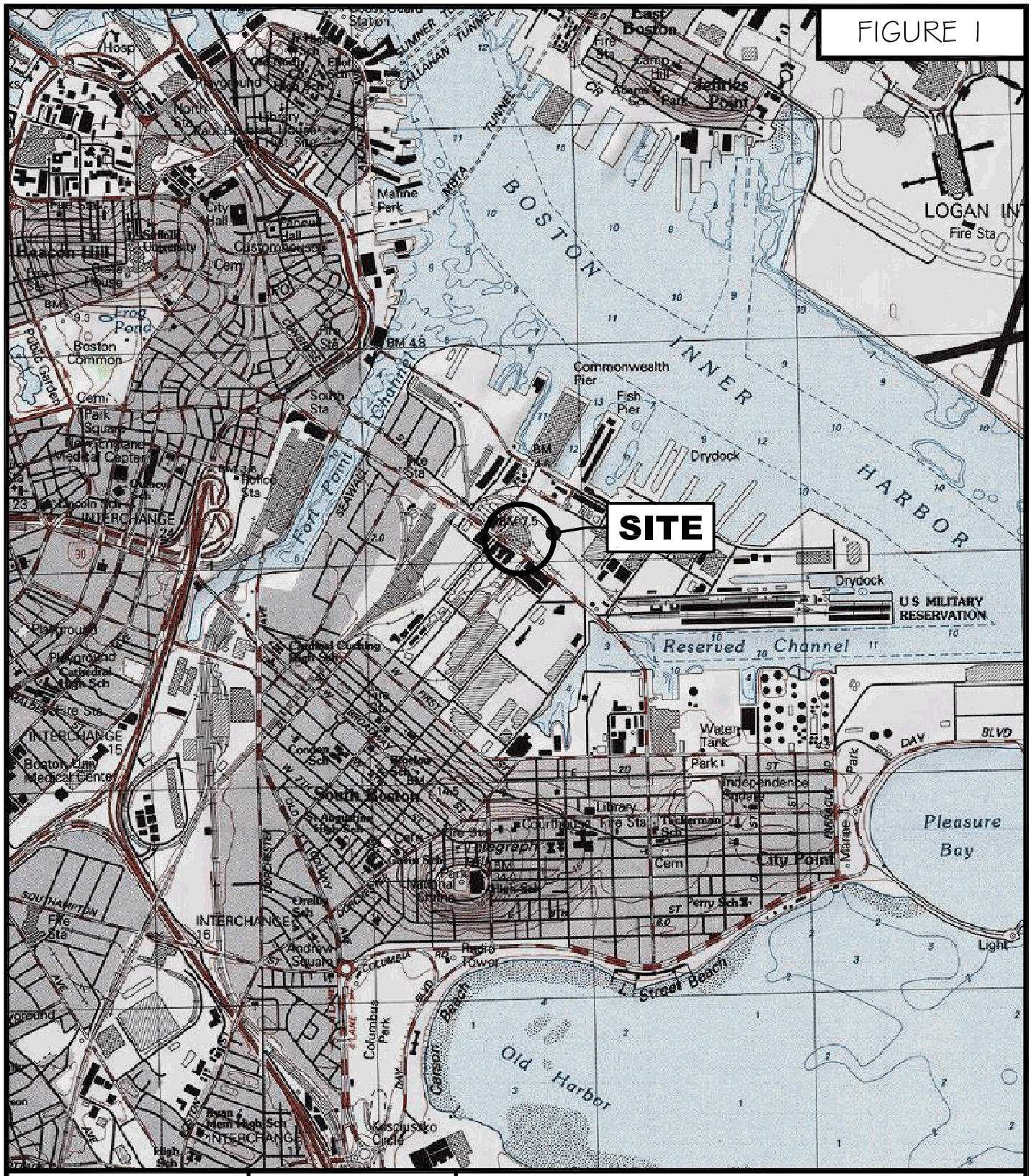
McPHAIL ASSOCIATES, LLC

Kirk W. Seaman

William J. Burns, L.S.P.

N:\Working Documents\Reports\6311_RGP_041018.docx
KWS/wjb/jwp

FIGURE 1



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

N

SCALE 1:25,000

PROJECT LOCATION PLAN

OMNI BOSTON SEAPORT HOTEL

BOSTON MASSACHUSETTS

NORTH

RAMP ST.
(MASSPORT SERVICE ROAD)

MASSPORT HAUL RD.
(MASSPORT SERVICE ROAD)

D STREET BRIDGE
(MASSPORT SERVICE ROAD)

WORLD TRADE CENTER AVENUE
(FORMERLY VIADUCT STREET)
(60.00' WIDE – MASSPORT SERVICE ROAD)

SUMMER STREET
(PUBLIC – 100' WIDE)
(PUBLIC – CITY OF BOSTON)

PARCEL 65-1E-59
BOOK 20226 PAGE 172

PARCEL 65-1E-12
BOOK 17568 PAGE 61
BOOK 21294 PAGE 259

APPROXIMATE LIMITS OF SUBJECT SITE

B-101
B-102
B-103
B-104
B-104A (OW)
B-105
B-106 (OW)
B-107
B-108
B-109
B-110
B-111 (OW)
B-112
B-113

LEGEND

● – APPROXIMATE LOCATION OF BORING PERFORMED BY CARR-DEE CORP. DURING JANUARY AND FEBRUARY 2017 FOR McPHAIL ASSOCIATES, LLC

(OW) – INDICATES OBSERVATION WELL INSTALLED WITHIN COMPLETED BOREHOLE

REFERENCE: THIS PLAN WAS PREPARED FROM A 30-SCALE DRAWING ENTITLED "TEST PIT, BORING & OBSERVATION WELL LOCATION PLAN" DATED FEBRUARY 1, 2017 BY VANASSE HANGEN BRUSTLIN INC. AND A 70-SCALE DRAWING ENTITLED "LEVEL B1" DATED FEBRUARY 23, 2016 BY ELKUS|MANFREDI ARCHITECTS.

GRAPHIC SCALE
20 0 20 40 80

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OMNI BOSTON SEAPORT HOTEL

BOSTON MASSACHUSETTS

SUBSURFACE EXPLORATION PLAN - ABOVE-GRADE BUILDING FOOTPRINT

FOR
OH NBH OWNER, LLC
BY
McPHAIL ASSOCIATES, LLC

Date: APRIL 2018	Dwn: F.G.P.	Chkd: K.W.S.	Scale: 1" = 20'
Project No: 6311			FIGURE 2

FILE NAME: N:\Acad\JOBS\6311\Dewatering\6311-FG2.dwg

FIGURE 3A

PARKING

POSSIBLE LOCATION OF DISCHARGE
IN BOSTON STORM DRAIN SYSTEM

SUMMER ST

CONRAIL

AIR RELEASE

Westin Hotel

Ramp Up

OMNI BOSTON SEAPORT HOTEL

BOSTON MASSACHUSETTS

DISCHARGE LOCATION PLAN

FOR

OH NBH OWNER, LLC

BY

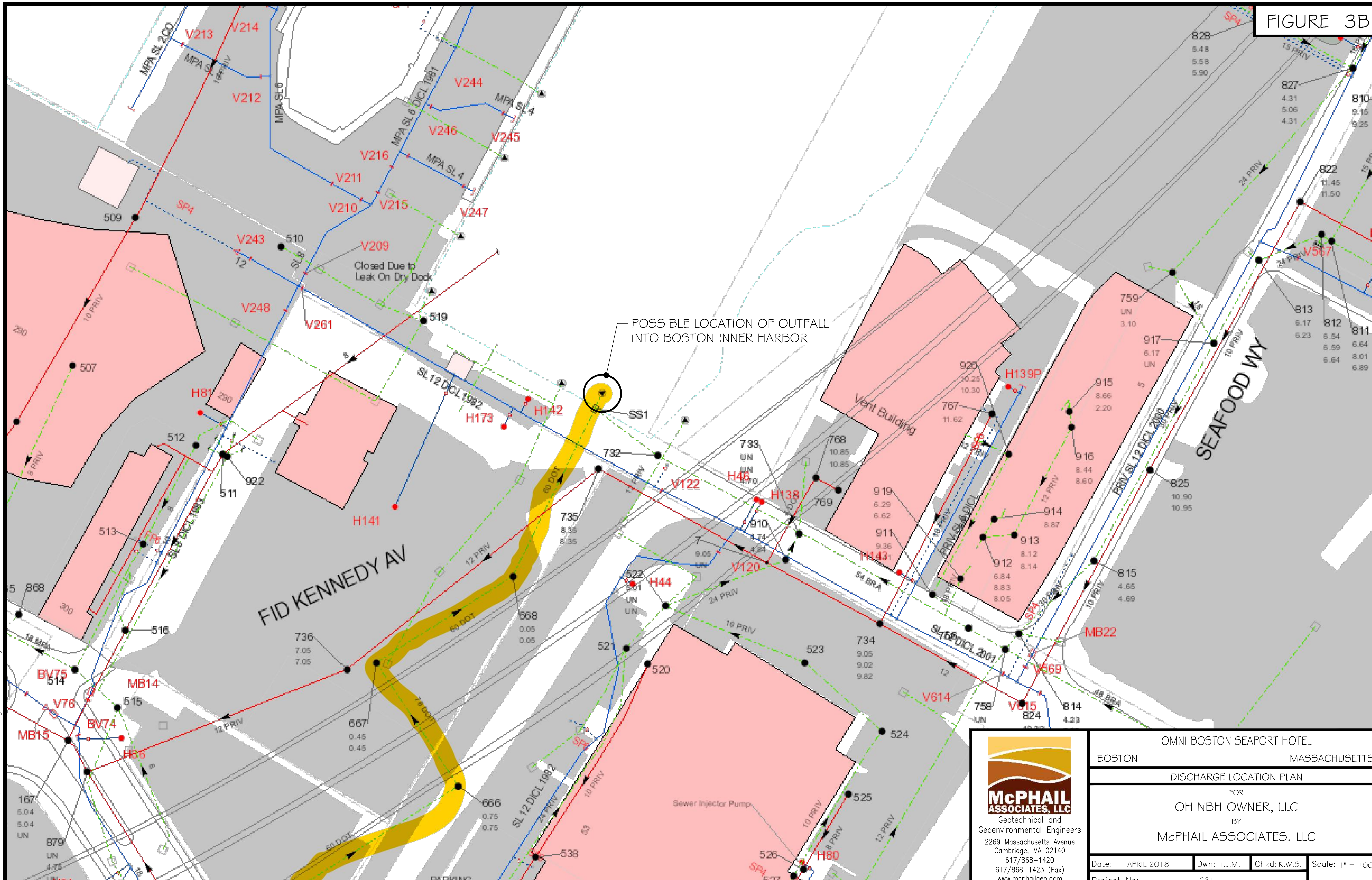
McPHAIL ASSOCIATES, LLC

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

Date: APRIL 2018	Dwn: I.J.M.	Chkd: K.W.S.	Scale: 1" = 100'
Project No: 6311			

FILE NAME: N:\Acad\JOBS\6311\Dewatering\6311-E03A.dwg

FIGURE 3B



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617/868-1423 (Fax)
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OMNI BOSTON SEAPORT HOTEL

BOSTON MASSACHUSETTS

DISCHARGE LOCATION PLAN

FOR

OH NBH OWNER, LLC

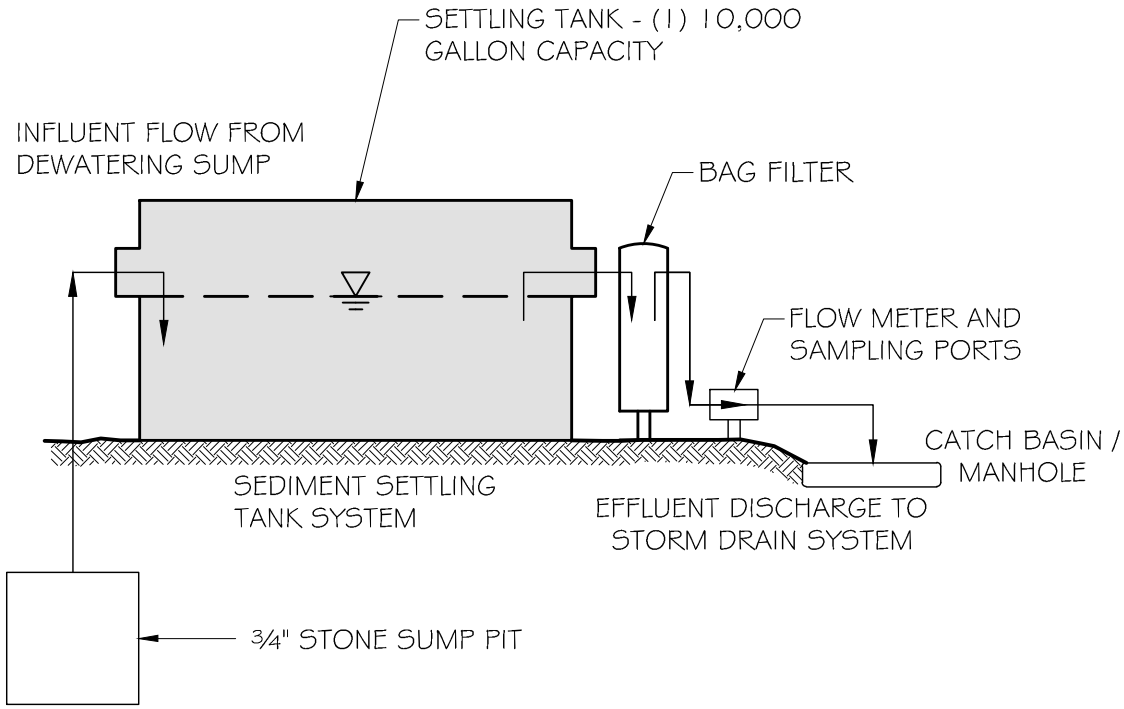
BY

McPHAIL ASSOCIATES, LLC

Date: APRIL 2018	Dwn: I.J.M.	Chkd: K.W.S.	Scale: 1" = 100'
Project No: 6311			

FILE NAME: N:\Acad\JOBS\6311\Dewatering\6311-E04.dwg

FIGURE 4



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617/868-1423 (Fax)
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OMNI BOSTON SEAPORT HOTEL

BOSTON MASSACHUSETTS

SCHEMATIC OF WATER FLOW

FOR

OH NBH OWNER, LLC

BY

McPHAIL ASSOCIATES, LLC

CONSULTING GEOTECHNICAL ENGINEERS

Date: APRIL 2018	Dwn: I.J.M.	Chkd: K.W.S.	Scale: N.T.S.
Project No: 6311			

Table 1 - Groundwater Analytical Results

Omni Boston Seaport Hotel; South Boston, MA
McPhail Job No. 6311

LOCATION	EPA-ALSCCC	B-111 (OW)	B-106 (OW)
SAMPLING DATE		4/3/2018	4/4/2018
LAB SAMPLE ID		L1811481-01	L1811674-01
SAMPLE TYPE		Groundwater	Groundwater
General Chemistry (ug/l)			
Chlorine, Total Residual		ND(20)	ND(20)
Chromium, Hexavalent	50	ND(10)	ND(10)
Chromium, Trivalent		ND(10)	ND(10)
Cyanide, Total	1*	ND(5)	ND(5)
Nitrogen, Ammonia		908	2260
pH (H)		8.1	7.2
SALINITY		ND(2)	ND(2)
Solids, Total Suspended		21000	28000
Total Metals (ug/l)			
Antimony, Total		ND(4)	ND(4)
Arsenic, Total	36	ND(1)	3.33
Cadmium, Total	8.8	ND(0.2)	ND(0.2)
Chromium, Total		ND(1)	1.07
Copper, Total	3.1	1.37	1.58
Iron, Total		207	7720
Lead, Total	8.1	ND(1)	4.12
Mercury, Total	0.94	ND(0.2)	ND(0.2)
Nickel, Total	8.2	ND(2)	ND(2)
Selenium, Total	71	ND(5)	ND(5)
Silver, Total		ND(0.4)	ND(0.4)
Zinc, Total	81	ND(10)	ND(10)
Anions (ug/l)			
Chloride		325000	272000
Semivolatile Organics (ug/l)			
ALL		ND	ND
Semivolatile Organics (ug/l)			
Acenaphthene		ND(0.1)	0.32
Fluoranthene		ND(0.1)	0.28
Pyrene		ND(0.1)	0.23
SUM		-	0.83

"*" = Value is associated with National Recommended Water Quality Criteria (Saltwater Aquatic Chronic) and not likely to reflect the EPA's approval discharge limitation value for this RGP.

EPA-ALSCCC = National Recommended Water Quality Critiera - Saltwater Aquatic Chronic
ND - Not detected above lab reporting limits
Blank - Not tested

Table 2 - Surface Water Analytical Results

Omni Boston Seaport Hotel; South Boston, MA
McPhail Job No. 6311

LOCATION		PAVILION OUTFALL
SAMPLING DATE		5/30/2017
LAB SAMPLE ID		L1717710-01
SAMPLE TYPE	Units	Surface Water
General		
SALINITY	SU	7.2
pH (H)	SU	7.5
Nitrogen, Ammonia	mg/l	0.18
MCP General Chemistry		
Chromium, Hexavalent	ug/l	ND(10)
Total Metals		
Antimony, Total	ug/l	ND(20)
Arsenic, Total	ug/l	1.38
Cadmium, Total	ug/l	ND(1)
Chromium, Total	ug/l	ND(1)
Copper, Total	ug/l	1.89
Iron, Total	ug/l	126
Lead, Total	ug/l	ND(5)
Mercury, Total	ug/l	ND(0.2)
Nickel, Total	ug/l	ND(2)
Selenium, Total	ug/l	ND(5)
Silver, Total	ug/l	ND(5)
Zinc, Total	ug/l	ND(10)

ND--not detected above laboratory detection limit

APPENDIX A:

LIMITATIONS

LIMITATIONS

The purpose of this report is to present a summary of environmental conditions, including the results of testing of groundwater samples obtained from groundwater monitoring wells on the property located at Massport Parcel D-2 on Summer Street in South 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 OH NBH Owner, LLC. 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:

1. Name of site: Omni Boston Seaport Hotel	Site address: 450 Summer Street Massport Parcel D-2 Street:		
	City: Boston	State: MA	Zip: 02210
2. Site owner OH NBH Owner, LLC	Contact Person: Dante Angelucci		
	Telephone: 617-936-4808	Email: dandelucci@thedaviscompanies.(	
	Mailing address: 125 High Street 12th Floor Street:		
Owner is (check one): ☐ Federal ■ State/Tribal ☐ Private ☐ Other; if so, specify:	City: Boston	State: MA	Zip: 02110
3. Site operator, if different than owner	Contact Person:		
	Telephone:	Email:	
	Mailing address: Street:		
	City:	State:	Zip:
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:	5. Other regulatory program(s) that apply to the site (check all that apply): ☐ MA Chapter 21e; list RTN(s): ☐ NH Groundwater Management Permit or Groundwater Release Detection Permit: ☐ CERCLA ☐ UIC Program ☐ POTW Pretreatment ☐ CWA Section 404		

B. Receiving water information:

1. Name of receiving water(s):	Waterbody identification of receiving water(s):	Classification of receiving water(s):
Boston Inner Harbor	MA70-02	SB

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. Boston Inner Harbor MA70-02 - 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.	0
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.	0

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: 0

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

C. Source water information:

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

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

2. Source water contaminants: Ammonia, TSS, Arsenic, Chromium, Copper, Iron, Lead, Zinc, Cyanide, and PAHs	
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): #356	Outfall location(s): (Latitude, Longitude) 42.348401, -71.034387

Discharges enter the receiving water(s) via (check any that apply): ☐ Direct discharge to the receiving water ■ Indirect discharge, if so, specify:

Discharge outfall indirectly into Boston Inner Harbor via

☐ 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): May 2018 - April 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		✓	2	44350.1	75	2600	1584	Report mg/L	---
Chloride		✓	2	443000	500	325000	298500	Report µg/l	---
Total Residual Chlorine	✓		2	121,4500C	20	<DL	<DL	0.2 mg/L	
Total Suspended Solids		✓	2	1212540D	5000	28000	24500	30 mg/L	
Antimony	✓		2	1,6020A	4	<DL	<DL	206 µg/L	
Arsenic		✓	2	1,6020A	0.5	3.3	2.15	104 µg/L	
Cadmium	✓		2	1,6020A	0.2	<DL	<DL	10.2 µg/L	
Chromium III	✓		2	1,6020A	10	<DL	<DL	323 µg/L	
Chromium VI	✓		2	1,6020A	1	<DL	<DL	323 µg/L	
Copper		✓	2	1,6020A	1	1.58	1.475	242 µg/L	
Iron		✓	2	19200.7	500	7720	3963.5	5,000 µg/L	
Lead		✓	2	1,6020A	0.5	4.12	2.56	160 µg/L	
Mercury	✓		2	3,245.1	0.2	<DL	<DL	0.739 µg/L	
Nickel	✓		2	1,6020A	0.5	<DL	<DL	1,450 µg/L	
Selenium	✓		2	1,6020A	5	<DL	<DL	235.8 µg/L	
Silver	✓		2	1,6020A	0.4	<DL	<DL	35.1 µg/L	
Zinc	✓		2	1,6020A	10	<DL	<DL	420 µg/L	
Cyanide	✓		2	121,4500C	5	<DL	<DL	178 mg/L	
B. Non-Halogenated VOCs									
Total BTEX	✓		0			<DL	<DL	100 µg/L	---
Benzene	✓		0			<DL	<DL	5.0 µg/L	---
1,4 Dioxane	✓		0			<DL	<DL	200 µg/L	---
Acetone	✓		0			<DL	<DL	7.97 mg/L	---
Phenol	✓		0			<DL	<DL	1,080 µg/L	

Parameter	Known or believed absent	Known or believed present	# of samples	Test method (#)	Detection limit (µg/l)	Influent		Effluent Limitations	
						Daily maximum (µg/l)	Daily average (µg/l)	TBEL	WQBEL
C. Halogenated VOCs									
Carbon Tetrachloride	✓		0			<DL	<DL	4.4 µg/L	
1,2 Dichlorobenzene	✓		0			<DL	<DL	600 µg/L	---
1,3 Dichlorobenzene	✓		0			<DL	<DL	320 µg/L	---
1,4 Dichlorobenzene	✓		0			<DL	<DL	5.0 µg/L	---
Total dichlorobenzene	✓		0			<DL	<DL	763 µg/L in NH	---
1,1 Dichloroethane	✓		0			<DL	<DL	70 µg/L	---
1,2 Dichloroethane	✓		0			<DL	<DL	5.0 µg/L	---
1,1 Dichloroethylene	✓		0			<DL	<DL	3.2 µg/L	---
Ethylene Dibromide	✓		0			<DL	<DL	0.05 µg/L	---
Methylene Chloride	✓		0			<DL	<DL	4.6 µg/L	---
1,1,1 Trichloroethane	✓		0			<DL	<DL	200 µg/L	---
1,1,2 Trichloroethane	✓		0			<DL	<DL	5.0 µg/L	---
Trichloroethylene	✓		0			<DL	<DL	5.0 µg/L	---
Tetrachloroethylene	✓		0			<DL	<DL	5.0 µg/L	
cis-1,2 Dichloroethylene	✓		0			<DL	<DL	70 µg/L	---
Vinyl Chloride	✓		0			<DL	<DL	2.0 µg/L	---
D. Non-Halogenated SVOCs									
Total Phthalates	✓		2	18270D-	5.0	<DL	<DL	190 µg/L	
Diethylhexyl phthalate	✓		2	18270D-	5.0	<DL	<DL	101 µg/L	
Total Group I PAHs	✓		2	18270D-	0.10	<DL	<DL	1.0 µg/L	---
Benzo(a)anthracene	✓		2	18270D-	0.10	<DL	<DL	As Total PAHs	
Benzo(a)pyrene	✓		2	18270D-	0.10	<DL	<DL		
Benzo(b)fluoranthene	✓		2	18270D-	0.10	<DL	<DL		
Benzo(k)fluoranthene	✓		2	18270D-	0.10	<DL	<DL		
Chrysene	✓		2	18270D-	0.10	<DL	<DL		
Dibenzo(a,h)anthracene	✓		2	18270D-	0.10	<DL	<DL		
Indeno(1,2,3-cd)pyrene	✓		2	18270D-	0.10	<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	✓		2	18270D-	0.1	0.83	0.83	100 µg/L	---
Naphthalene	✓		2	18270D-	2.5	<DL	<DL	20 µg/L	---
E. Halogenated SVOCs									
Total PCBs	✓		0			<DL	<DL	0.000064 µg/L	---
Pentachlorophenol	✓		0			<DL	<DL	1.0 µg/L	---
F. Fuels Parameters									
Total Petroleum Hydrocarbons	✓		0			<DL	<DL	5.0 mg/L	---
Ethanol	✓		0					Report mg/L	---
Methyl-tert-Butyl Ether	✓		0			<DL	<DL	70 µg/L	
tert-Butyl Alcohol	✓		0			<DL	<DL	120 µg/L in MA 40 µg/L in NH	---
tert-Amyl Methyl Ether	✓		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		✓	2	121,4500I	2	8.1	7.65		
Salinity - Influent		✓	2	121,2520	2	<DL	<DL		
Temp - Influent		✓	1	YSI		12.84 C			
pH - Receiving Water		✓	1	121,4500I	1	7.5			
Salinity - Receiving Water		✓	1	YSI	1	7.2			
Temp - Receiving Water		✓	1	121,2520		14.04 C			

E. Treatment system information

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

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

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

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

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

3. Provide the **design flow capacity** in gallons per minute (gpm) of the most limiting component. Indicate the most limiting component: Frac Tank Is use of a flow meter feasible? (check one): ■ Yes ☐ No, if so, provide justification:	100
Provide the proposed maximum effluent flow in gpm.	100
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.

NMFS Supporting Information

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

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

J. Certification requirement

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

BMPP certification statement: A BMPP Statement has been prepared with accordance with good engineering practices following Part 2.5 of the RGP and shall be implemented upon 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. 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 ☐ Submission of documentation to and approval from BWSC in tandem with this NOI 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: DD Sl 2	Date: 5/4/18
Print Name and Title: Dante Angelucci - Executive Vice President	

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

DEWATERING DISCHARGE PERMIT APPLICATION

OWNER / AUTHORIZED APPLICANT PROVIDE INFORMATION HERE:

Company Name: OH NBH Owner, Inc Address: 125 High Street 12th Floor Boston, MA 02110

Phone Number: 617 936 4808 Fax number: _____

Contact person name: Dante Angelucci Title: Executive Vice President

Cell number: 617-633-7731 Email address: dangelucci@thedaviscompanies.com

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

Owner's Information (if different from above):

Owner of property being dewatered: _____

Owner's mailing address: _____ Phone number: _____

Location of Discharge & Proposed Treatment System(s):

Street number and name: 450 Summer Street Neighborhood South Boston

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 (if necessary)

BWSC Outfall No. SS1 Receiving Waters Boston Inner Harbor

Temporary Discharges (Provide Anticipated Dates of Discharge): From 05/2018 To 04/2019

☐ 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: 5/4/18

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

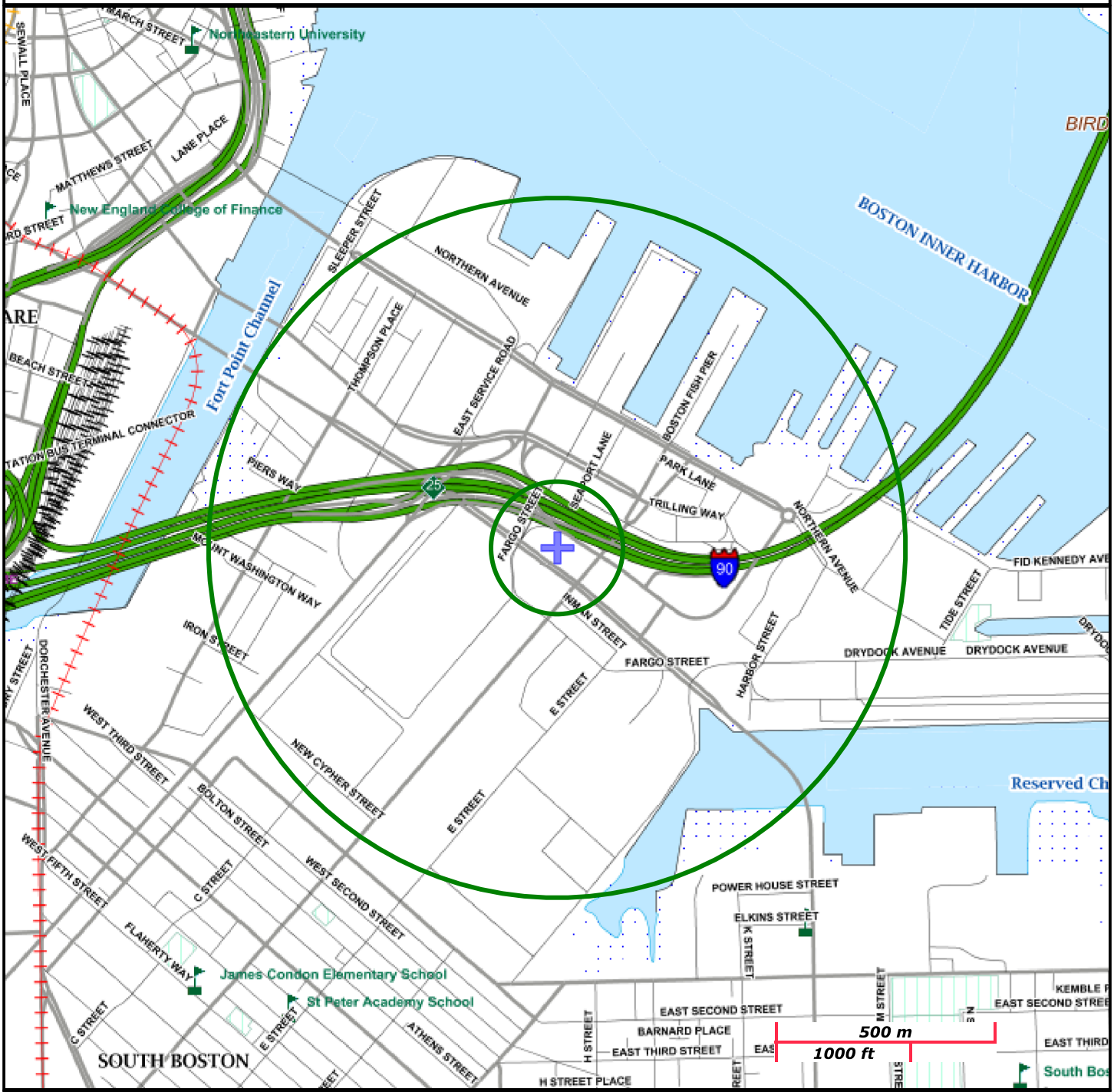
Phase 1 Site Assessment Map: 500 feet & 0.5 Mile Radii

Site Information:
PARCEL D-2
MASSPORT HAUL ROAD BOSTON, MA

NAD83 UTM Meters:
4690327mN , 331749mE (Zone: 19)
April 12, 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.

Massachusetts Cultural Resource Information System

MACRIS

MACRIS Search Results

Search Criteria: Town(s): Boston; Street Name: Massport Haul Rd; 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-1499
Event Code: 05E1NE00-2018-E-03386
Project Name: Omni Boston Seaport Hotel

April 05, 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-1499

Event Code: 05E1NE00-2018-E-03386

Project Name: Omni Boston Seaport Hotel

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/42.34695607582749N71.04256800859446W

Counties: Suffolk, MA

Endangered Species Act Species

There is a total of 0 threatened, endangered, or candidate species on this species list.

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

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

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

---

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

Critical habitats

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

Appendix I

NMFS Supplemental Information

- The discharge will be to the marine waters of Boston Harbor in Massachusetts and will not likely impact the following watersheds/rivers; Connecticut, Merrimack, Taunton or Piscataqua.
- Online and historical data indicates the possible presence of the following Marine Mammals and Reptiles at varying life stages in the Boston Harbor; Loggerhead Sea Turtle, Kemp's Ridley Sea Turtle, Leatherback Sea Turtle, Green Sea Turtle, Hawksbill Sea Turtle, North Atlantic Right Whale, and/or Fin Whale .
- No formal or informal consultation with NMFS has been made at this time, however it is not believed that permitted discharge into Boston Harbor would adversely affect the local marine fauna listed above.

APPENDIX D:

LABORATORY ANALYTICAL DATA - GROUNDWATER

ANALYTICAL REPORT

Lab Number:	L1811481
Client:	McPhail Associates 2269 Massachusetts Avenue Cambridge, MA 02140
ATTN:	Ambrose Donovan
Phone:	(617) 868-1420
Project Name:	PARCEL D-2
Project Number:	6311.9.00
Report Date:	04/13/18

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: PARCEL D-2
Project Number: 6311.9.00

Lab Number: L1811481
Report Date: 04/13/18

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1811481-01	B-111 (OW)	GROUNDWATER	BOSTON	04/03/18 11:00	04/03/18

Project Name: PARCEL D-2
Project Number: 6311.9.00

Lab Number: L1811481
Report Date: 04/13/18

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:	PARCEL D-2	**Lab Number:**	L1811481
Project Number:	6311.9.00	**Report Date:**	04/13/18

Case Narrative (continued)

Report Revision

April 13, 2018: The report has been amended to include the results for the Chloride and pH analyses.

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

Authorized Signature: Kelly Stenstrom

Title: Technical Director/Representative Date: 04/13/18

ORGANICS

SEMIVOLATILES

Project Name: PARCEL D-2
Project Number: 6311.9.00

Lab Number: L1811481
Report Date: 04/13/18

SAMPLE RESULTS

Lab ID: L1811481-01
Client ID: B-111 (OW)
Sample Location: BOSTON

Date Collected: 04/03/18 11:00
Date Received: 04/03/18
Field Prep: Not Specified

Sample Depth:
Matrix: Groundwater
Analytical Method: 1,8270D
Analytical Date: 04/07/18 03:41
Analyst: RC

Extraction Method: EPA 3510C
Extraction Date: 04/04/18 10:57

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
Pentachlorophenol	ND		ug/l	10	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	37		21-120
Phenol-d6	29		10-120
Nitrobenzene-d5	67		23-120
2-Fluorobiphenyl	73		15-120
2,4,6-Tribromophenol	77		10-120
4-Terphenyl-d14	92		41-149

Project Name: PARCEL D-2
Project Number: 6311.9.00

Lab Number: L1811481
Report Date: 04/13/18

SAMPLE RESULTS

Lab ID: L1811481-01
Client ID: B-111 (OW)
Sample Location: BOSTON

Date Collected: 04/03/18 11:00
Date Received: 04/03/18
Field Prep: Not Specified

Sample Depth:
Matrix: Groundwater
Analytical Method: 1,8270D-SIM
Analytical Date: 04/05/18 20:22
Analyst: DV

Extraction Method: EPA 3510C
Extraction Date: 04/04/18 10:58

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
2-Fluorophenol	35		21-120
Phenol-d6	27		10-120
Nitrobenzene-d5	63		23-120
2-Fluorobiphenyl	62		15-120
2,4,6-Tribromophenol	84		10-120
4-Terphenyl-d14	78		41-149

Project Name: PARCEL D-2
Project Number: 6311.9.00

Lab Number: L1811481
Report Date: 04/13/18

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 04/04/18 01:46
Analyst: SZ

Extraction Method: EPA 3510C
Extraction Date: 04/03/18 13:51

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG1103093-1					
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	--
Pentachlorophenol	ND		ug/l	10	--
Tentatively Identified Compounds					
No Tentatively Identified Compounds	ND		ug/l		

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	48		21-120
Phenol-d6	34		10-120
Nitrobenzene-d5	82		23-120
2-Fluorobiphenyl	90		15-120
2,4,6-Tribromophenol	93		10-120
4-Terphenyl-d14	101		41-149

Project Name: PARCEL D-2
Project Number: 6311.9.00

Lab Number: L1811481
Report Date: 04/13/18

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D-SIM
Analytical Date: 04/04/18 09:50
Analyst: DV

Extraction Method: EPA 3510C
Extraction Date: 04/03/18 16:21

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 01 Batch: WG1103147-1					
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
2-Fluorophenol	45		21-120
Phenol-d6	33		10-120
Nitrobenzene-d5	87		23-120
2-Fluorobiphenyl	89		15-120
2,4,6-Tribromophenol	102		10-120
4-Terphenyl-d14	106		41-149

Lab Control Sample Analysis

Batch Quality Control

Project Name: PARCEL D-2

Project Number: 6311.9.00

Lab Number: L1811481

Report Date: 04/13/18

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: WG1103093-2 WG1103093-3								
Bis(2-ethylhexyl)phthalate	111		108		40-140	3		30
Butyl benzyl phthalate	104		96		40-140	8		30
Di-n-butylphthalate	100		94		40-140	6		30
Di-n-octylphthalate	105		101		40-140	4		30
Diethyl phthalate	96		99		40-140	3		30
Dimethyl phthalate	92		88		40-140	4		30
Pentachlorophenol	73		77		9-103	5		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	52		49		21-120
Phenol-d6	40		38		10-120
Nitrobenzene-d5	87		83		23-120
2-Fluorobiphenyl	94		88		15-120
2,4,6-Tribromophenol	89		100		10-120
4-Terphenyl-d14	99		90		41-149

Lab Control Sample Analysis
Batch Quality Control

Project Name: PARCEL D-2
Project Number: 6311.9.00

Lab Number: L1811481
Report Date: 04/13/18

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: WG1103147-2 WG1103147-3								
Acenaphthene	89		86		40-140	3		40
Fluoranthene	85		90		40-140	6		40
Naphthalene	85		81		40-140	5		40
Benzo(a)anthracene	95		98		40-140	3		40
Benzo(a)pyrene	104		104		40-140	0		40
Benzo(b)fluoranthene	97		104		40-140	7		40
Benzo(k)fluoranthene	95		106		40-140	11		40
Chrysene	92		98		40-140	6		40
Acenaphthylene	87		80		40-140	8		40
Anthracene	91		96		40-140	5		40
Benzo(ghi)perylene	100		127		40-140	24		40
Fluorene	93		89		40-140	4		40
Phenanthrene	91		93		40-140	2		40
Dibenzo(a,h)anthracene	116		132		40-140	13		40
Indeno(1,2,3-cd)pyrene	113		129		40-140	13		40
Pyrene	91		94		40-140	3		40

Lab Control Sample Analysis

Batch Quality Control

Project Name: PARCEL D-2

Project Number: 6311.9.00

Lab Number: L1811481

Report Date: 04/13/18

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: WG1103147-2 WG1103147-3								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	54		50		21-120
Phenol-d6	40		36		10-120
Nitrobenzene-d5	95		89		23-120
2-Fluorobiphenyl	96		89		15-120
2,4,6-Tribromophenol	102		98		10-120
4-Terphenyl-d14	107		110		41-149

METALS

Project Name: PARCEL D-2 **Lab Number:** L1811481

Project Number: 6311.9.00 **Report Date:** 04/13/18

SAMPLE RESULTS

Lab ID: L1811481-01 Date Collected: 04/03/18 11:00

Client ID: B-111 (OW) Date Received: 04/03/18

Sample Location: BOSTON Field Prep: Not Specified

Sample Depth:

Matrix: Groundwater

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Antimony, Total	ND		mg/l	0.00400	--	1	04/04/18 13:30	04/05/18 10:07	EPA 3005A	3,200.8	AM
Arsenic, Total	ND		mg/l	0.00100	--	1	04/04/18 13:30	04/05/18 10:07	EPA 3005A	3,200.8	AM
Cadmium, Total	ND		mg/l	0.00020	--	1	04/04/18 13:30	04/05/18 10:07	EPA 3005A	3,200.8	AM
Chromium, Total	ND		mg/l	0.00100	--	1	04/04/18 13:30	04/05/18 10:07	EPA 3005A	3,200.8	AM
Copper, Total	0.00137		mg/l	0.00100	--	1	04/04/18 13:30	04/05/18 10:07	EPA 3005A	3,200.8	AM
Iron, Total	0.207		mg/l	0.050	--	1	04/04/18 13:30	04/04/18 21:01	EPA 3005A	19,200.7	AB
Lead, Total	ND		mg/l	0.00100	--	1	04/04/18 13:30	04/05/18 10:07	EPA 3005A	3,200.8	AM
Mercury, Total	ND		mg/l	0.00020	--	1	04/05/18 10:53	04/05/18 16:54	EPA 245.1	3,245.1	MG
Nickel, Total	ND		mg/l	0.00200	--	1	04/04/18 13:30	04/05/18 10:07	EPA 3005A	3,200.8	AM
Selenium, Total	ND		mg/l	0.00500	--	1	04/04/18 13:30	04/05/18 10:07	EPA 3005A	3,200.8	AM
Silver, Total	ND		mg/l	0.00040	--	1	04/04/18 13:30	04/05/18 10:07	EPA 3005A	3,200.8	AM
Zinc, Total	ND		mg/l	0.01000	--	1	04/04/18 13:30	04/05/18 10:07	EPA 3005A	3,200.8	AM
General Chemistry - Mansfield Lab											
Chromium, Trivalent	ND		mg/l	0.010	--	1		04/05/18 10:07	NA	107,-	

Project Name: PARCEL D-2 **Lab Number:** L1811481

Project Number: 6311.9.00 **Report Date:** 04/13/18

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: WG1103430-1										
Antimony, Total	ND		mg/l	0.00400	--	1	04/04/18 13:30	04/05/18 09:35	3,200.8	AM
Arsenic, Total	ND		mg/l	0.00100	--	1	04/04/18 13:30	04/05/18 09:35	3,200.8	AM
Cadmium, Total	ND		mg/l	0.00020	--	1	04/04/18 13:30	04/05/18 09:35	3,200.8	AM
Chromium, Total	ND		mg/l	0.00100	--	1	04/04/18 13:30	04/05/18 09:35	3,200.8	AM
Copper, Total	ND		mg/l	0.00100	--	1	04/04/18 13:30	04/05/18 09:35	3,200.8	AM
Lead, Total	ND		mg/l	0.00050	--	1	04/04/18 13:30	04/05/18 09:35	3,200.8	AM
Nickel, Total	ND		mg/l	0.00200	--	1	04/04/18 13:30	04/05/18 09:35	3,200.8	AM
Selenium, Total	ND		mg/l	0.00500	--	1	04/04/18 13:30	04/05/18 09:35	3,200.8	AM
Silver, Total	ND		mg/l	0.00040	--	1	04/04/18 13:30	04/05/18 09:35	3,200.8	AM
Zinc, Total	ND		mg/l	0.01000	--	1	04/04/18 13:30	04/05/18 09:35	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: WG1103431-1										
Iron, Total	ND		mg/l	0.050	--	1	04/04/18 13:30	04/04/18 18:32	19,200.7	AB

Prep Information

Digestion Method: EPA 3005A

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01 Batch: WG1103783-1										
Mercury, Total	ND		mg/l	0.0002	--	1	04/05/18 10:53	04/05/18 16:08	3,245.1	MG

Prep Information

Digestion Method: EPA 245.1

Lab Control Sample Analysis

Batch Quality Control

Project Name: PARCEL D-2

Project Number: 6311.9.00

Lab Number: L1811481

Report Date: 04/13/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1103430-2								
Antimony, Total	105		-		85-115	-		
Arsenic, Total	108		-		85-115	-		
Cadmium, Total	107		-		85-115	-		
Chromium, Total	106		-		85-115	-		
Copper, Total	105		-		85-115	-		
Lead, Total	105		-		85-115	-		
Nickel, Total	105		-		85-115	-		
Selenium, Total	106		-		85-115	-		
Silver, Total	98		-		85-115	-		
Zinc, Total	110		-		85-115	-		
Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1103431-2								
Iron, Total	104		-		85-115	-		
Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1103783-2								
Mercury, Total	92		-		85-115	-		

Matrix Spike Analysis
Batch Quality Control

Project Name: PARCEL D-2
Project Number: 6311.9.00

Lab Number: L1811481
Report Date: 04/13/18

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: WG1103430-3 QC Sample: L1811479-01 Client ID: MS Sample												
Antimony, Total	ND	0.5	0.6157	123		-	-		70-130	-		20
Arsenic, Total	0.01550	0.12	0.1518	114		-	-		70-130	-		20
Cadmium, Total	ND	0.051	0.05692	112		-	-		70-130	-		20
Chromium, Total	0.00796	0.2	0.2292	111		-	-		70-130	-		20
Copper, Total	0.00268	0.25	0.2732	108		-	-		70-130	-		20
Lead, Total	0.00166	0.51	0.5600	109		-	-		70-130	-		20
Nickel, Total	0.00420	0.5	0.5456	108		-	-		70-130	-		20
Selenium, Total	ND	0.12	0.1322	110		-	-		70-130	-		20
Silver, Total	ND	0.05	0.05034	101		-	-		70-130	-		20
Zinc, Total	ND	0.5	0.5618	112		-	-		70-130	-		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1103431-3 QC Sample: L1811255-02 Client ID: MS Sample												
Iron, Total	0.150	1	1.18	103		-	-		75-125	-		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1103431-7 QC Sample: L1811479-01 Client ID: MS Sample												
Iron, Total	34.3	1	35.6	**130**	Q	-	-		75-125	-		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1103783-3 QC Sample: L1811081-02 Client ID: MS Sample												
Mercury, Total	ND	0.005	0.0043	86		-	-		70-130	-		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1103783-5 QC Sample: L1811082-02 Client ID: MS Sample												
Mercury, Total	ND	0.005	0.0044	88		-	-		70-130	-		20

Lab Duplicate Analysis
Batch Quality Control

Project Name: PARCEL D-2
Project Number: 6311.9.00

Lab Number: L1811481
Report Date: 04/13/18

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1103430-4 QC Sample: L1811479-01 Client ID: DUP Sample						
Antimony, Total	ND	ND	mg/l	NC		20
Arsenic, Total	0.01550	0.01603	mg/l	3		20
Cadmium, Total	ND	ND	mg/l	NC		20
Chromium, Total	0.00796	0.00840	mg/l	5		20
Copper, Total	0.00268	0.00277	mg/l	3		20
Lead, Total	0.00166	0.00177	mg/l	6		20
Nickel, Total	0.00420	0.00467	mg/l	11		20
Selenium, Total	ND	ND	mg/l	NC		20
Silver, Total	ND	ND	mg/l	NC		20
Zinc, Total	ND	ND	mg/l	NC		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1103431-4 QC Sample: L1811255-02 Client ID: DUP Sample						
Iron, Total	0.150	0.144	mg/l	4		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1103431-8 QC Sample: L1811479-01 Client ID: DUP Sample						
Iron, Total	34.3	34.1	mg/l	1		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1103783-4 QC Sample: L1811081-02 Client ID: DUP Sample						
Mercury, Total	ND	ND	mg/l	NC		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1103783-6 QC Sample: L1811082-02 Client ID: DUP Sample						
Mercury, Total	ND	ND	mg/l	NC		20

INORGANICS
&
MISCELLANEOUS

Project Name: PARCEL D-2
Project Number: 6311.9.00

Lab Number: L1811481
Report Date: 04/13/18

SAMPLE RESULTS

Lab ID: L1811481-01
Client ID: B-111 (OW)
Sample Location: BOSTON

Date Collected: 04/03/18 11:00
Date Received: 04/03/18
Field Prep: Not Specified

Sample Depth:
Matrix: Groundwater

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
SALINITY	ND		SU	2.0	--	1	-	04/04/18 02:45	121,2520B	MA
Solids, Total Suspended	21.		mg/l	5.0	NA	1	-	04/05/18 06:15	121,2540D	JT
Cyanide, Total	ND		mg/l	0.005	--	1	04/04/18 07:33	04/04/18 13:33	121,4500CN-CE	LH
Chlorine, Total Residual	ND		mg/l	0.02	--	1	-	04/03/18 23:49	121,4500CL-D	AS
pH (H)	8.1		SU	-	NA	1	-	04/11/18 11:45	121,4500H+-B	GD
Nitrogen, Ammonia	0.908		mg/l	0.075	--	1	04/04/18 15:40	04/04/18 20:36	121,4500NH3-BH	ML
Chromium, Hexavalent	ND		mg/l	0.010	--	1	04/04/18 01:20	04/04/18 01:47	1,7196A	MA
Anions by Ion Chromatography - Westborough Lab										
Chloride	325.		mg/l	12.5	--	25	-	04/11/18 22:12	44,300.0	AU

Project Name: PARCEL D-2 **Lab Number:** L1811481

Project Number: 6311.9.00 **Report Date:** 04/13/18

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: WG1103225-1										
Chlorine, Total Residual	ND		mg/l	0.02	--	1	-	04/03/18 23:49	121,4500CL-D	AS
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1103243-1										
Chromium, Hexavalent	ND		mg/l	0.010	--	1	04/04/18 01:20	04/04/18 01:45	1,7196A	MA
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1103269-1										
Cyanide, Total	ND		mg/l	0.005	--	1	04/04/18 07:33	04/04/18 13:28	121,4500CN-CE	LH
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1103405-1										
Nitrogen, Ammonia	ND		mg/l	0.075	--	1	04/04/18 15:40	04/04/18 20:15	121,4500NH3-BH	ML
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1103685-1										
Solids, Total Suspended	ND		mg/l	5.0	NA	1	-	04/05/18 06:15	121,2540D	JT
Anions by Ion Chromatography - Westborough Lab for sample(s): 01 Batch: WG1105735-1										
Chloride	ND		mg/l	0.500	--	1	-	04/11/18 21:24	44,300.0	AU

Lab Control Sample Analysis

Batch Quality Control

Project Name: PARCEL D-2

Project Number: 6311.9.00

Lab Number: L1811481

Report Date: 04/13/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1103225-2								
Chlorine, Total Residual	93		-		90-110	-		
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1103243-2								
Chromium, Hexavalent	98		-		85-115	-		20
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1103263-1								
SALINITY	99		-			-		
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1103269-2								
Cyanide, Total	92		-		90-110	-		
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1103405-2								
Nitrogen, Ammonia	94		-		80-120	-		20
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1105571-1								
pH	100		-		99-101	-		5
Anions by Ion Chromatography - Westborough Lab Associated sample(s): 01 Batch: WG1105735-2								
Chloride	97		-		90-110	-		

Matrix Spike Analysis
Batch Quality Control

Project Name: PARCEL D-2
Project Number: 6311.9.00

Lab Number: L1811481
Report Date: 04/13/18

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: WG1103225-4 QC Sample: L1811481-01 Client ID: B-111 (OW)												
Chlorine, Total Residual	ND	0.248	0.20	81		-	-		80-120	-		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1103243-4 QC Sample: L1811481-01 Client ID: B-111 (OW)												
Chromium, Hexavalent	ND	0.1	0.096	96		-	-		85-115	-		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1103269-4 QC Sample: L1811481-01 Client ID: B-111 (OW)												
Cyanide, Total	ND	0.2	0.196	98		-	-		90-110	-		30
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1103405-4 QC Sample: L1811481-01 Client ID: B-111 (OW)												
Nitrogen, Ammonia	0.908	4	4.73	96		-	-		80-120	-		20
Anions by Ion Chromatography - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1105735-3 QC Sample: L1812302-02 Client ID: MS Sample												
Chloride	9.78	4	13.5	94		-	-		90-110	-		18

Lab Duplicate Analysis
Batch Quality Control

Project Name: PARCEL D-2
Project Number: 6311.9.00

Lab Number: L1811481
Report Date: 04/13/18

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1103225-3 QC Sample: L1811479-01 Client ID: DUP Sample						
Chlorine, Total Residual	ND	ND	mg/l	NC		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1103243-3 QC Sample: L1811481-01 Client ID: B-111 (OW)						
Chromium, Hexavalent	ND	ND	mg/l	NC		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1103263-2 QC Sample: L1811481-01 Client ID: B-111 (OW)						
SALINITY	ND	ND	SU	NC		
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1103269-3 QC Sample: L1811481-01 Client ID: B-111 (OW)						
Cyanide, Total	ND	ND	mg/l	NC		30
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1103405-3 QC Sample: L1811481-01 Client ID: B-111 (OW)						
Nitrogen, Ammonia	0.908	0.886	mg/l	2		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1103685-2 QC Sample: L1811142-01 Client ID: DUP Sample						
Solids, Total Suspended	610	620	mg/l	2		29
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1105571-2 QC Sample: L1811481-01 Client ID: B-111 (OW)						
pH (H)	8.1	8.1	SU	0		5
Anions by Ion Chromatography - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1105735-4 QC Sample: L1812302-02 Client ID: DUP Sample						
Chloride	9.78	9.80	mg/l	0		18

Project Name: PARCEL D-2
Project Number: 6311.9.00

Lab Number: L1811481
Report Date: 04/13/18

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1811481-01A	Vial HCl preserved	A	NA		4.1	Y	Absent		ARCHIVE()
L1811481-01B	Vial HCl preserved	A	NA		4.1	Y	Absent		ARCHIVE()
L1811481-01C	Vial HCl preserved	A	NA		4.1	Y	Absent		ARCHIVE()
L1811481-01D	Plastic 250ml HNO3 preserved	A	<2	<2	4.1	Y	Absent		CD-2008T(180),NI-2008T(180),ZN-2008T(180),CU-2008T(180),FE-UI(180),AG-2008T(180),AS-2008T(180),HG-U(28),SE-2008T(180),CR-2008T(180),PB-2008T(180),SB-2008T(180)
L1811481-01E	Plastic 250ml NaOH preserved	A	>12	>12	4.1	Y	Absent		TCN-4500(14)
L1811481-01F	Plastic 500ml H2SO4 preserved	A	<2	<2	4.1	Y	Absent		NH3-4500(28)
L1811481-01G	Plastic 950ml unpreserved	A	7	7	4.1	Y	Absent		CL-300(28),HEXCR-7196(1),SALINITY(28),TRC-4500(1),PH-4500(.01)
L1811481-01H	Plastic 950ml unpreserved	A	7	7	4.1	Y	Absent		TSS-2540(7)
L1811481-01I	Amber 1000ml unpreserved	A	7	7	4.1	Y	Absent		8270TCL(7),8270TCL-SIM(7)
L1811481-01J	Amber 1000ml unpreserved	A	7	7	4.1	Y	Absent		8270TCL(7),8270TCL-SIM(7)

*Values in parentheses indicate holding time in days

Project Name:	PARCEL D-2	**Lab Number:**	L1811481
Project Number:	6311.9.00	**Report Date:**	04/13/18

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:	PARCEL D-2	**Lab Number:**	L1811481
Project Number:	6311.9.00	**Report Date:**	04/13/18

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:	PARCEL D-2	**Lab Number:**	L1811481
Project Number:	6311.9.00	**Report Date:**	04/13/18

REFERENCES

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

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

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

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

107 Alpha Analytical - In-house calculation method.

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

LIMITATION OF LIABILITIES

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

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

Certification Information

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

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

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

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

Westborough Facility:

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

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

Mansfield Facility:

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

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

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

CHAIN OF CUSTODY

PAGE 1 OF 1

ALPHA ANALYTICAL

Date Rec'd in Lab: 4/3/18

ALPHA Job #: L1811481

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

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

Project Information

Project Name: Parcel D-2

Project Location: Boston

Project #: 6311.9.06

Project Manager: KSeaman

ALPHA Quote #:

Client Information

Client: McPhail Associates, LLC

Address: 2269 Massachusetts Avenue

Cambridge, MA 02140

Phone: (617) 868-1420

Fax:

Email: kseaman@mcphailgeo.com

☐ These samples have been Previously analyzed by Alpha

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)

Due Date: Time:

Report Information Data Deliverables

☐ FAX ☐ EMAIL

☒ ADEx ☐ Add'l Deliverables

Billing Information

☐ Same as Client info PO #:

Regulatory Requirements/Report Limits

State/Fed Program	Criteria
NPDES RGP	

Other Project Specific Requirements/Comments/Detection Limits:

Circle the following if required:

SALINITY HARDNESS PH

Sect. A inorganics: Ammonia, Chloride, TRC,TSS,CrVI,CrIII, Tot-CN, RGP Metals

B- Non-Hal- VOC- 8260, 8260-SIM, Tot. Phenol Sect C- VOC- 8260 & 504

D: 8270/8270-SIM: E- PCB's, PCP(8270/8270-SIM): F-TPH, 8260, Sub-Ethanol

ANALYSIS

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	RGP Metals (200.8) (A)	TSS- (A)	Ammonia (4500 (A))	TCN (A)	HexCr (7196), TRC, Cl- (A)	8260 (B, C, F)/8260SIM (B)	Tphenol-420 (B)	504-EDB (C)	8270/8270SIM- (D, E)	PCB-608- (E)	TPH-1664-(F)	SUB-ETHANOL (F)	Sample Specific Comments	TOTAL # BOTTLES
11481-01	B-111 (OW)	4/3/18	11:00	GW	CES	☒	☒	☒	☒	☒	☐	☐	☐	☒	☐	☐	☐		10
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
					Container Type	P	P	P	P	P	V	A	V	A	A	A	V		
					Preservative	C	A	D	E	A	B	D	H	A	H	B	B		

SAMPLE HANDLING

Filtration

☐ Done

☐ Not Needed

☐ Lab to do

Preservation

☐ Lab to do

(Please specify below)

Relinquished By:	Date/Time	Received By:	Date/Time
Cerea Steficek	4/3/18 2:50pm	John Sil AAL	4/3/18 16:20
John Sil AAL 4/3/18	18:30	[illegible]	4-3-18 1830

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

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

ANALYTICAL REPORT

Lab Number:	L1811674
Client:	McPhail Associates 2269 Massachusetts Avenue Cambridge, MA 02140
ATTN:	Ambrose Donovan
Phone:	(617) 868-1420
Project Name:	PARCEL D-2
Project Number:	6311.9.T7
Report Date:	04/10/18

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: PARCEL D-2
Project Number: 6311.9.T7

Lab Number: L1811674
Report Date: 04/10/18

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1811674-01	B-106 (OW)	WATER	BOSTON, MA	04/04/18 14:00	04/04/18

Project Name: PARCEL D-2
Project Number: 6311.9.T7

Lab Number: L1811674
Report Date: 04/10/18

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:	PARCEL D-2	**Lab Number:**	L1811674
Project Number:	6311.9.T7	**Report Date:**	04/10/18

Case Narrative (continued)

Chlorine, Total Residual

The WG1103626-4 MS recovery (48%), performed on L1811674-01, is outside the acceptance criteria; however, the associated LCS recovery is within criteria. No further action was taken.

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: Amita Naik

Title: Technical Director/Representative Date: 04/10/18

ORGANICS

SEMIVOLATILES

Project Name: PARCEL D-2
Project Number: 6311.9.T7

Lab Number: L1811674
Report Date: 04/10/18

SAMPLE RESULTS

Lab ID: L1811674-01
Client ID: B-106 (OW)
Sample Location: BOSTON, MA

Date Collected: 04/04/18 14:00
Date Received: 04/04/18
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8270D
Analytical Date: 04/08/18 04:17
Analyst: RC

Extraction Method: EPA 3510C
Extraction Date: 04/05/18 14:07

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
Pentachlorophenol	ND		ug/l	10	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	62		21-120
Phenol-d6	45		10-120
Nitrobenzene-d5	85		23-120
2-Fluorobiphenyl	95		15-120
2,4,6-Tribromophenol	104		10-120
4-Terphenyl-d14	113		41-149

Project Name: PARCEL D-2
Project Number: 6311.9.T7

Lab Number: L1811674
Report Date: 04/10/18

SAMPLE RESULTS

Lab ID: L1811674-01
Client ID: B-106 (OW)
Sample Location: BOSTON, MA

Date Collected: 04/04/18 14:00
Date Received: 04/04/18
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8270D-SIM
Analytical Date: 04/07/18 21:11
Analyst: KL

Extraction Method: EPA 3510C
Extraction Date: 04/05/18 14:11

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Acenaphthene	0.32		ug/l	0.10	--	1
Fluoranthene	0.28		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	0.23		ug/l	0.10	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	36		21-120
Phenol-d6	27		10-120
Nitrobenzene-d5	48		23-120
2-Fluorobiphenyl	47		15-120
2,4,6-Tribromophenol	64		10-120
4-Terphenyl-d14	64		41-149

Project Name: PARCEL D-2
Project Number: 6311.9.T7

Lab Number: L1811674
Report Date: 04/10/18

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 04/04/18 21:26
Analyst: PS

Extraction Method: EPA 3510C
Extraction Date: 04/04/18 15:43

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG1103527-1					
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	--
Pentachlorophenol	ND		ug/l	10	--
Tentatively Identified Compounds					
No Tentatively Identified Compounds	ND		ug/l		

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	41		21-120
Phenol-d6	30		10-120
Nitrobenzene-d5	63		23-120
2-Fluorobiphenyl	67		15-120
2,4,6-Tribromophenol	58		10-120
4-Terphenyl-d14	69		41-149

Project Name: PARCEL D-2
Project Number: 6311.9.T7

Lab Number: L1811674
Report Date: 04/10/18

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D-SIM
Analytical Date: 04/05/18 09:06
Analyst: DV

Extraction Method: EPA 3510C
Extraction Date: 04/04/18 15:47

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 01 Batch: WG1103528-1					
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
2-Fluorophenol	40		21-120
Phenol-d6	29		10-120
Nitrobenzene-d5	67		23-120
2-Fluorobiphenyl	65		15-120
2,4,6-Tribromophenol	70		10-120
4-Terphenyl-d14	70		41-149

Lab Control Sample Analysis

Batch Quality Control

Project Name: PARCEL D-2

Project Number: 6311.9.T7

Lab Number: L1811674

Report Date: 04/10/18

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: WG1103527-2 WG1103527-3								
Bis(2-ethylhexyl)phthalate	73		83		40-140	13		30
Butyl benzyl phthalate	70		81		40-140	15		30
Di-n-butylphthalate	69		79		40-140	14		30
Di-n-octylphthalate	71		80		40-140	12		30
Diethyl phthalate	66		73		40-140	10		30
Dimethyl phthalate	62		73		40-140	16		30
Pentachlorophenol	41		44		9-103	7		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	43		47		21-120
Phenol-d6	33		34		10-120
Nitrobenzene-d5	65		70		23-120
2-Fluorobiphenyl	65		71		15-120
2,4,6-Tribromophenol	65		70		10-120
4-Terphenyl-d14	65		75		41-149

Lab Control Sample Analysis
Batch Quality Control

Project Name: PARCEL D-2
Project Number: 6311.9.T7

Lab Number: L1811674
Report Date: 04/10/18

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: WG1103528-2 WG1103528-3								
Acenaphthene	79		72		40-140	9		40
Fluoranthene	75		68		40-140	10		40
Naphthalene	76		70		40-140	8		40
Benzo(a)anthracene	86		78		40-140	10		40
Benzo(a)pyrene	92		84		40-140	9		40
Benzo(b)fluoranthene	94		88		40-140	7		40
Benzo(k)fluoranthene	89		77		40-140	14		40
Chrysene	85		77		40-140	10		40
Acenaphthylene	80		73		40-140	9		40
Anthracene	84		77		40-140	9		40
Benzo(ghi)perylene	93		86		40-140	8		40
Fluorene	90		76		40-140	17		40
Phenanthrene	84		75		40-140	11		40
Dibenzo(a,h)anthracene	96		88		40-140	9		40
Indeno(1,2,3-cd)pyrene	94		86		40-140	9		40
Pyrene	83		76		40-140	9		40

Lab Control Sample Analysis
Batch Quality Control

Project Name: PARCEL D-2
Project Number: 6311.9.T7

Lab Number: L1811674
Report Date: 04/10/18

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: WG1103528-2 WG1103528-3								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	46		43		21-120
Phenol-d6	34		32		10-120
Nitrobenzene-d5	78		72		23-120
2-Fluorobiphenyl	79		72		15-120
2,4,6-Tribromophenol	93		79		10-120
4-Terphenyl-d14	83		76		41-149

METALS

Project Name: PARCEL D-2 **Lab Number:** L1811674

Project Number: 6311.9.T7 **Report Date:** 04/10/18

SAMPLE RESULTS

Lab ID: L1811674-01 Date Collected: 04/04/18 14:00

Client ID: B-106 (OW) Date Received: 04/04/18

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Antimony, Total	ND		mg/l	0.00400	--	1	04/05/18 08:10	04/06/18 12:14	EPA 3005A	3,200.8	AM
Arsenic, Total	0.00333		mg/l	0.00100	--	1	04/05/18 08:10	04/06/18 12:14	EPA 3005A	3,200.8	AM
Cadmium, Total	ND		mg/l	0.00020	--	1	04/05/18 08:10	04/06/18 12:14	EPA 3005A	3,200.8	AM
Chromium, Total	0.00107		mg/l	0.00100	--	1	04/05/18 08:10	04/06/18 12:14	EPA 3005A	3,200.8	AM
Copper, Total	0.00158		mg/l	0.00100	--	1	04/05/18 08:10	04/06/18 12:14	EPA 3005A	3,200.8	AM
Iron, Total	7.72		mg/l	0.050	--	1	04/05/18 08:10	04/05/18 18:55	EPA 3005A	19,200.7	LC
Lead, Total	0.00412		mg/l	0.00050	--	1	04/05/18 08:10	04/06/18 12:14	EPA 3005A	3,200.8	AM
Mercury, Total	ND		mg/l	0.00020	--	1	04/06/18 11:13	04/06/18 19:19	EPA 245.1	3,245.1	EA
Nickel, Total	ND		mg/l	0.00200	--	1	04/05/18 08:10	04/06/18 12:14	EPA 3005A	3,200.8	AM
Selenium, Total	ND		mg/l	0.00500	--	1	04/05/18 08:10	04/06/18 12:14	EPA 3005A	3,200.8	AM
Silver, Total	ND		mg/l	0.00040	--	1	04/05/18 08:10	04/06/18 12:14	EPA 3005A	3,200.8	AM
Zinc, Total	ND		mg/l	0.01000	--	1	04/05/18 08:10	04/06/18 12:14	EPA 3005A	3,200.8	AM
General Chemistry - Mansfield Lab											
Chromium, Trivalent	ND		mg/l	0.010	--	1		04/06/18 12:14	NA	107,-	

Project Name: PARCEL D-2 **Lab Number:** L1811674

Project Number: 6311.9.T7 **Report Date:** 04/10/18

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: WG1103723-1										
Iron, Total	ND		mg/l	0.050	--	1	04/05/18 08:10	04/05/18 21:13	19,200.7	LC

Prep Information

Digestion Method: EPA 3005A

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01 Batch: WG1103727-1										
Antimony, Total	ND		mg/l	0.00400	--	1	04/05/18 08:10	04/06/18 11:40	3,200.8	AM
Arsenic, Total	ND		mg/l	0.00100	--	1	04/05/18 08:10	04/06/18 11:40	3,200.8	AM
Cadmium, Total	ND		mg/l	0.00020	--	1	04/05/18 08:10	04/06/18 11:40	3,200.8	AM
Chromium, Total	ND		mg/l	0.00100	--	1	04/05/18 08:10	04/06/18 11:40	3,200.8	AM
Copper, Total	ND		mg/l	0.00100	--	1	04/05/18 08:10	04/06/18 11:40	3,200.8	AM
Lead, Total	ND		mg/l	0.00050	--	1	04/05/18 08:10	04/06/18 11:40	3,200.8	AM
Nickel, Total	ND		mg/l	0.00200	--	1	04/05/18 08:10	04/06/18 11:40	3,200.8	AM
Selenium, Total	ND		mg/l	0.00500	--	1	04/05/18 08:10	04/06/18 11:40	3,200.8	AM
Silver, Total	ND		mg/l	0.00040	--	1	04/05/18 08:10	04/06/18 11:40	3,200.8	AM
Zinc, Total	ND		mg/l	0.01000	--	1	04/05/18 08:10	04/06/18 11:40	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: WG1104199-1										
Mercury, Total	ND		mg/l	0.00020	--	1	04/06/18 11:13	04/06/18 19:05	3,245.1	EA

Prep Information

Digestion Method: EPA 245.1

Lab Control Sample Analysis

Batch Quality Control

Project Name: PARCEL D-2

Project Number: 6311.9.T7

Lab Number: L1811674

Report Date: 04/10/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1103723-2								
Iron, Total	104		-		85-115	-		
Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1103727-2								
Antimony, Total	101		-		85-115	-		
Arsenic, Total	108		-		85-115	-		
Cadmium, Total	109		-		85-115	-		
Chromium, Total	107		-		85-115	-		
Copper, Total	107		-		85-115	-		
Lead, Total	102		-		85-115	-		
Nickel, Total	108		-		85-115	-		
Selenium, Total	113		-		85-115	-		
Silver, Total	100		-		85-115	-		
Zinc, Total	111		-		85-115	-		
Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1104199-2								
Mercury, Total	105		-		85-115	-		

Matrix Spike Analysis
Batch Quality Control

Project Name: PARCEL D-2
Project Number: 6311.9.T7

Lab Number: L1811674
Report Date: 04/10/18

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: WG1103723-3 QC Sample: L1810728-01 Client ID: MS Sample												
Iron, Total	ND	1	1.03	103		-	-		75-125	-		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1103723-7 QC Sample: L1811650-01 Client ID: MS Sample												
Iron, Total	23.2	1	19.7	**0**	Q	-	-		75-125	-		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1103727-3 QC Sample: L1811650-01 Client ID: MS Sample												
Antimony, Total	ND	0.5	0.5108	102		-	-		70-130	-		20
Arsenic, Total	0.01889	0.12	0.1474	107		-	-		70-130	-		20
Cadmium, Total	0.00038	0.051	0.05433	106		-	-		70-130	-		20
Chromium, Total	0.06237	0.2	0.2565	97		-	-		70-130	-		20
Copper, Total	0.07996	0.25	0.3289	100		-	-		70-130	-		20
Lead, Total	0.02178	0.51	0.5678	107		-	-		70-130	-		20
Nickel, Total	0.03773	0.5	0.5552	103		-	-		70-130	-		20
Selenium, Total	ND	0.12	0.1384	115		-	-		70-130	-		20
Silver, Total	ND	0.05	0.04847	97		-	-		70-130	-		20
Zinc, Total	0.08629	0.5	0.6254	108		-	-		70-130	-		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1104199-3 QC Sample: L1811650-01 Client ID: MS Sample												
Mercury, Total	ND	0.005	0.00467	93		-	-		70-130	-		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1104199-5 QC Sample: L1811650-02 Client ID: MS Sample												
Mercury, Total	ND	0.005	0.00477	95		-	-		70-130	-		20

Lab Duplicate Analysis
Batch Quality Control

Project Name: PARCEL D-2
Project Number: 6311.9.T7

Lab Number: L1811674
Report Date: 04/10/18

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1103723-4 QC Sample: L1810728-01 Client ID: DUP Sample						
Iron, Total	ND	ND	mg/l	NC		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1103723-8 QC Sample: L1811650-01 Client ID: DUP Sample						
Iron, Total	23.2	19.6	mg/l	17		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1103727-4 QC Sample: L1811650-01 Client ID: DUP Sample						
Antimony, Total	ND	ND	mg/l	NC		20
Arsenic, Total	0.01889	0.01831	mg/l	3		20
Cadmium, Total	0.00038	0.00035	mg/l	7		20
Chromium, Total	0.06237	0.05246	mg/l	17		20
Copper, Total	0.07996	0.07271	mg/l	9		20
Lead, Total	0.02178	0.02055	mg/l	6		20
Nickel, Total	0.03773	0.03210	mg/l	16		20
Selenium, Total	ND	ND	mg/l	NC		20
Silver, Total	ND	ND	mg/l	NC		20
Zinc, Total	0.08629	0.08102	mg/l	6		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1104199-4 QC Sample: L1811650-01 Client ID: DUP Sample						
Mercury, Total	ND	ND	mg/l	NC		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1104199-6 QC Sample: L1811650-02 Client ID: DUP Sample						
Mercury, Total	ND	ND	mg/l	NC		20

INORGANICS
&
MISCELLANEOUS

Project Name: PARCEL D-2
Project Number: 6311.9.T7

Lab Number: L1811674
Report Date: 04/10/18

SAMPLE RESULTS

Lab ID: L1811674-01
Client ID: B-106 (OW)
Sample Location: BOSTON, MA

Date Collected: 04/04/18 14:00
Date Received: 04/04/18
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
SALINITY	ND		SU	2.0	--	1	-	04/06/18 17:17	121,2520B	AS
Solids, Total Suspended	28.		mg/l	5.0	NA	1	-	04/05/18 11:00	121,2540D	JT
Cyanide, Total	ND		mg/l	0.005	--	1	04/05/18 09:50	04/05/18 13:12	121,4500CN-CE	LH
Chlorine, Total Residual	ND		mg/l	0.02	--	1	-	04/05/18 00:30	121,4500CL-D	AS
pH (H)	7.2		SU	-	NA	1	-	04/06/18 17:45	121,4500H+-B	AS
Nitrogen, Ammonia	2.26		mg/l	0.075	--	1	04/05/18 16:30	04/06/18 21:22	121,4500NH3-BH	ML
Chromium, Hexavalent	ND		mg/l	0.010	--	1	04/05/18 04:45	04/05/18 05:41	1,7196A	GD
Anions by Ion Chromatography - Westborough Lab										
Chloride	272.		mg/l	12.5	--	25	-	04/07/18 23:46	44,300.0	JR

Project Name: PARCEL D-2 **Lab Number:** L1811674

Project Number: 6311.9.T7 **Report Date:** 04/10/18

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: WG1103626-1										
Chlorine, Total Residual	ND		mg/l	0.02	--	1	-	04/05/18 00:30	121,4500CL-D	AS
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1103682-1										
Chromium, Hexavalent	ND		mg/l	0.010	--	1	04/05/18 04:45	04/05/18 05:30	1,7196A	GD
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1103689-1										
Solids, Total Suspended	ND		mg/l	5.0	NA	1	-	04/05/18 11:00	121,2540D	JT
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1103742-1										
Cyanide, Total	ND		mg/l	0.005	--	1	04/05/18 09:50	04/05/18 12:52	121,4500CN-CE	LH
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1103869-1										
Nitrogen, Ammonia	ND		mg/l	0.075	--	1	04/05/18 16:30	04/06/18 21:01	121,4500NH3-BH	ML
Anions by Ion Chromatography - Westborough Lab for sample(s): 01 Batch: WG1104615-1										
Chloride	ND		mg/l	0.500	--	1	-	04/07/18 15:46	44,300.0	JR

Lab Control Sample Analysis

Batch Quality Control

Project Name: PARCEL D-2
Project Number: 6311.9.T7

Lab Number: L1811674
Report Date: 04/10/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1103626-2								
Chlorine, Total Residual	97		-		90-110	-		
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1103682-2								
Chromium, Hexavalent	96		-		85-115	-		20
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1103742-2								
Cyanide, Total	97		-		90-110	-		
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1103869-2								
Nitrogen, Ammonia	90		-		80-120	-		20
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1104321-1								
pH	100		-		99-101	-		5
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1104324-1								
SALINITY	99		-			-		
Anions by Ion Chromatography - Westborough Lab Associated sample(s): 01 Batch: WG1104615-2								
Chloride	101		-		90-110	-		

Matrix Spike Analysis
Batch Quality Control

Project Name: PARCEL D-2
Project Number: 6311.9.T7

Lab Number: L1811674
Report Date: 04/10/18

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: WG1103626-4 QC Sample: L1811674-01 Client ID: B-106 (OW)												
Chlorine, Total Residual	ND	0.248	0.12	**48**	Q	-	-		80-120	-		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1103682-4 QC Sample: L1811672-01 Client ID: MS Sample												
Chromium, Hexavalent	ND	0.1	0.099	99		-	-		85-115	-		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1103742-4 QC Sample: L1811650-02 Client ID: MS Sample												
Cyanide, Total	ND	0.2	0.194	97		-	-		90-110	-		30
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1103869-4 QC Sample: L1811262-06 Client ID: MS Sample												
Nitrogen, Ammonia	3.34	4	7.28	98		-	-		80-120	-		20
Anions by Ion Chromatography - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1104615-3 QC Sample: L1811256-01 Client ID: MS Sample												
Chloride	63.6	20	86.2	**113**	Q	-	-		90-110	-		18

Lab Duplicate Analysis
Batch Quality Control

Project Name: PARCEL D-2
Project Number: 6311.9.T7

Lab Number: L1811674
Report Date: 04/10/18

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1103626-3 QC Sample: L1811672-01 Client ID: DUP Sample						
Chlorine, Total Residual	ND	ND	mg/l	NC		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1103682-3 QC Sample: L1811672-01 Client ID: DUP Sample						
Chromium, Hexavalent	ND	ND	mg/l	NC		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1103689-2 QC Sample: L1811453-03 Client ID: DUP Sample						
Solids, Total Suspended	370	370	mg/l	0		29
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1103742-3 QC Sample: L1811650-01 Client ID: DUP Sample						
Cyanide, Total	ND	ND	mg/l	NC		30
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1103869-3 QC Sample: L1811262-06 Client ID: DUP Sample						
Nitrogen, Ammonia	3.34	3.43	mg/l	3		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1104321-2 QC Sample: L1811674-01 Client ID: B-106 (OW)						
pH (H)	7.2	7.1	SU	1		5
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1104324-2 QC Sample: L1811674-01 Client ID: B-106 (OW)						
SALINITY	ND	ND	SU	NC		
Anions by Ion Chromatography - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1104615-4 QC Sample: L1811256-01 Client ID: DUP Sample						
Chloride	63.6	63.6	mg/l	0		18

Project Name: PARCEL D-2
Project Number: 6311.9.T7

Lab Number: L1811674
Report Date: 04/10/18

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(*)
L1811674-01A	Plastic 250ml HNO3 preserved	B	<2	<2	4.4	Y	Absent		CD-2008T(180),NI-2008T(180),ZN-2008T(180),CU-2008T(180),FE-UI(180),AG-2008T(180),AS-2008T(180),HG-U(28),SE-2008T(180),CR-2008T(180),PB-2008T(180),SB-2008T(180)
L1811674-01B	Plastic 250ml NaOH preserved	B	>12	>12	4.4	Y	Absent		TCN-4500(14)
L1811674-01C	Plastic 500ml H2SO4 preserved	B	<2	<2	4.4	Y	Absent		NH3-4500(28)
L1811674-01D	Plastic 950ml unpreserved	B	7	7	4.4	Y	Absent		CL-300(28),HEXCR-7196(1),SALINITY(28),TRC-4500(1),PH-4500(.01),TRICR-CALC(1)
L1811674-01E	Plastic 950ml unpreserved	B	7	7	4.4	Y	Absent		TSS-2540(7)
L1811674-01F	Amber 1000ml unpreserved	B	7	7	4.4	Y	Absent		8270TCL(7),8270TCL-SIM(7)
L1811674-01G	Amber 1000ml unpreserved	B	7	7	4.4	Y	Absent		8270TCL(7),8270TCL-SIM(7)

*Values in parentheses indicate holding time in days

Project Name:	PARCEL D-2	**Lab Number:**	L1811674
Project Number:	6311.9.T7	**Report Date:**	04/10/18

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:	PARCEL D-2	**Lab Number:**	L1811674
Project Number:	6311.9.T7	**Report Date:**	04/10/18

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:	PARCEL D-2	**Lab Number:**	L1811674
Project Number:	6311.9.T7	**Report Date:**	04/10/18

REFERENCES

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

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

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

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

107 Alpha Analytical - In-house calculation method.

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

LIMITATION OF LIABILITIES

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

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

Certification Information

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

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

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

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

Westborough Facility:

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

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

Mansfield Facility:

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

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

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

CHAIN OF CUSTODY

PAGE OF

ALPHA ANALYTICAL

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

Date Rec'd in Lab: 4/4/18

ALPHA Job #: L1811674

Project Information

Project Name: Parcel D-2

Project Location: Boston MA

Project #: [struck out] 6311.9.T7

Project Manager: KWS

ALPHA Quote #:

Client Information

Client: McPhail Associates, LLC

Address: 2269 Massachusetts Avenue

Cambridge, MA 02140

Phone: (617) 868-1420

Fax:

Email: KSEAMAN@mcphailgeo.com

☐ These samples have been Previously analyzed by Alpha

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)

Due Date: Time:

Report Information Data Deliverables

☐ FAX ☐ EMAIL

☒ ADEx ☐ Add'l Deliverables

Billing Information

☐ Same as Client info PO #:

Regulatory Requirements/Report Limits

State/Fed Program: NPDES RGP

Criteria:

Other Project Specific Requirements/Comments/Detection Limits:

Circle the following if required:

SALINITY (circled) HARDNESS PH (circled)

Sect. A inorganics: Ammonia, Chloride, TRC,TSS,CrVI,CrIII, Tot-CN, RGP Metals (circled)

B- Non-Hal- VOC- 8260, 8260-SIM, Tot. Phenol Sect C- VOC- 8260 & 504

D: 8270/8270-SIM (circled); E- PCB's, PCP(8270/8270-SIM): F-TPH, 8260, Sub-Ethanol

ANALYSIS

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	RGP Metals (200.8) (A)	TSS- (A)	Ammonia (4500 (A))	TCN (A)	HexCr (7196), TRC, Cl- (A)	8260 (B, C, F)/8260SIM (B)	Tphenol-420 (B)	504-EDB (C)	8270/8270SIM- (D, E)	PCB-608- (E)	TPH-1664-(F)	SUB-ETHANOL (F)	Sample Specific Comments	TOTAL # BOTTLES
11674-01	B-106 (GW)	4/4/18	14:00	GW	CES	☒	☒	☒	☒	☒	☐	☐	☐	☒	☐	☐	☐		7
Container Type						P	P	P	P	P	V	A	V	A	A	A	V		
Preservative						C	A	D	E	A	B	D	H	A	H	B	B		

SAMPLE HANDLING

Filtration
☐ Done
☐ Not Needed
☐ Lab to do

Preservation
☐ Lab to do

(Please specify below)

Relinquished By:	Date/Time	Received By:	Date/Time
Cerea Stefficek	4/4/18 4:15pm	AAL	4/4/18 1647
AAL	4/4/18 1834	Danielle Matt	4/4/18 1834

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

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

APPENDIX E:

LABORATORY ANALYTICAL DATA – SURFACE WATER

ANALYTICAL REPORT

Lab Number:	L1717710
Client:	McPhail Associates 2269 Massachusetts Avenue Cambridge, MA 02140
ATTN:	Ambrose Donovan
Phone:	(617) 868-1420
Project Name:	PARCEL K
Project Number:	5876.9.07
Report Date:	06/05/17

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: PARCEL K
Project Number: 5876.9.07

Lab Number: L1717710
Report Date: 06/05/17

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1717710-01	PAVILION OUTFALL	WATER	BOSTON, MA	05/30/17 11:30	05/30/17

Project Name: PARCEL K
Project Number: 5876.9.07

Lab Number: L1717710
Report Date: 06/05/17

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:	PARCEL K	**Lab Number:**	L1717710
Project Number:	5876.9.07	**Report Date:**	06/05/17

Case Narrative (continued)

Metals

L1717710-01: The sample has elevated detection limits for antimony, cadmium, lead and silver due to the dilution required by the high concentrations of target and non-target elements.

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: Michelle M. Morris

Title: Technical Director/Representative Date: 06/05/17

METALS

Project Name: PARCEL K
Project Number: 5876.9.07
Lab Number: L1717710
Report Date: 06/05/17

SAMPLE RESULTS

Lab ID: L1717710-01
Client ID: PAVILION OUTFALL
Sample Location: BOSTON, MA
Matrix: Water
Date Collected: 05/30/17 11:30
Date Received: 05/30/17
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	ND		mg/l	0.02000	--	5	06/01/17 12:15	06/02/17 09:38	EPA 3005A	3,200.8	AM
Arsenic, Total	0.00138		mg/l	0.00100	--	1	06/01/17 12:15	06/02/17 09:10	EPA 3005A	3,200.8	AM
Cadmium, Total	ND		mg/l	0.00100	--	5	06/01/17 12:15	06/02/17 09:38	EPA 3005A	3,200.8	AM
Chromium, Total	ND		mg/l	0.00100	--	1	06/01/17 12:15	06/02/17 09:10	EPA 3005A	3,200.8	AM
Copper, Total	0.00189		mg/l	0.00100	--	1	06/01/17 12:15	06/02/17 09:10	EPA 3005A	3,200.8	AM
Iron, Total	0.126		mg/l	0.050	--	1	06/01/17 12:15	06/05/17 14:54	EPA 3005A	19,200.7	PS
Lead, Total	ND		mg/l	0.00500	--	5	06/01/17 12:15	06/02/17 09:38	EPA 3005A	3,200.8	AM
Mercury, Total	ND		mg/l	0.00020	--	1	05/31/17 14:31	06/02/17 18:05	EPA 245.1	3,245.1	EA
Nickel, Total	ND		mg/l	0.00200	--	1	06/01/17 12:15	06/02/17 09:10	EPA 3005A	3,200.8	AM
Selenium, Total	ND		mg/l	0.00500	--	1	06/01/17 12:15	06/02/17 09:10	EPA 3005A	3,200.8	AM
Silver, Total	ND		mg/l	0.00500	--	5	06/01/17 12:15	06/02/17 09:38	EPA 3005A	3,200.8	AM
Zinc, Total	ND		mg/l	0.01000	--	1	06/01/17 12:15	06/02/17 09:10	EPA 3005A	3,200.8	AM

Project Name: PARCEL K
Project Number: 5876.9.07
Lab Number: L1717710
Report Date: 06/05/17

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: WG1008498-1										
Mercury, Total	ND		mg/l	0.00020	--	1	05/31/17 14:31	06/02/17 18:01	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: WG1008855-1										
Antimony, Total	ND		mg/l	0.00400	--	1	06/01/17 12:15	06/02/17 08:57	3,200.8	AM
Arsenic, Total	ND		mg/l	0.00100	--	1	06/01/17 12:15	06/02/17 08:57	3,200.8	AM
Cadmium, Total	ND		mg/l	0.00020	--	1	06/01/17 12:15	06/02/17 08:57	3,200.8	AM
Chromium, Total	ND		mg/l	0.00100	--	1	06/01/17 12:15	06/02/17 08:57	3,200.8	AM
Copper, Total	ND		mg/l	0.00100	--	1	06/01/17 12:15	06/02/17 08:57	3,200.8	AM
Lead, Total	ND		mg/l	0.00100	--	1	06/01/17 12:15	06/02/17 08:57	3,200.8	AM
Nickel, Total	ND		mg/l	0.00200	--	1	06/01/17 12:15	06/02/17 08:57	3,200.8	AM
Selenium, Total	ND		mg/l	0.00500	--	1	06/01/17 12:15	06/02/17 08:57	3,200.8	AM
Silver, Total	ND		mg/l	0.00100	--	1	06/01/17 12:15	06/02/17 08:57	3,200.8	AM
Zinc, Total	ND		mg/l	0.01000	--	1	06/01/17 12:15	06/02/17 08:57	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: WG1008856-1										
Iron, Total	ND		mg/l	0.050	--	1	06/01/17 12:15	06/05/17 14:44	19,200.7	PS

Prep Information

Digestion Method: EPA 3005A

Lab Control Sample Analysis

Batch Quality Control

Project Name: PARCEL K

Project Number: 5876.9.07

Lab Number: L1717710

Report Date: 06/05/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1008498-2								
Mercury, Total	103		-		85-115	-		
Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1008855-2								
Antimony, Total	88		-		85-115	-		
Arsenic, Total	98		-		85-115	-		
Cadmium, Total	87		-		85-115	-		
Chromium, Total	85		-		85-115	-		
Copper, Total	86		-		85-115	-		
Lead, Total	105		-		85-115	-		
Nickel, Total	87		-		85-115	-		
Selenium, Total	95		-		85-115	-		
Silver, Total	88		-		85-115	-		
Zinc, Total	86		-		85-115	-		
Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1008856-2								
Iron, Total	100		-		85-115	-		

Matrix Spike Analysis
Batch Quality Control

Project Name: PARCEL K
Project Number: 5876.9.07

Lab Number: L1717710
Report Date: 06/05/17

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: WG1008498-3 QC Sample: L1717710-01 Client ID: PAVILION OUTFALL												
Mercury, Total	ND	0.005	0.00399	80		-	-		70-130	-		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1008855-3 QC Sample: L1717710-01 Client ID: PAVILION OUTFALL												
Antimony, Total	ND	0.5	0.4961	99		-	-		70-130	-		20
Arsenic, Total	0.00138	0.12	0.1370	113		-	-		70-130	-		20
Cadmium, Total	ND	0.051	0.05066	99		-	-		70-130	-		20
Chromium, Total	ND	0.2	0.1659	83		-	-		70-130	-		20
Copper, Total	0.00189	0.25	0.2012	80		-	-		70-130	-		20
Lead, Total	ND	0.51	0.5429	106		-	-		70-130	-		20
Nickel, Total	ND	0.5	0.3864	77		-	-		70-130	-		20
Selenium, Total	ND	0.12	0.1352	113		-	-		70-130	-		20
Silver, Total	ND	0.05	0.04103	82		-	-		70-130	-		20
Zinc, Total	ND	0.5	0.4478	90		-	-		70-130	-		20

Matrix Spike Analysis
Batch Quality Control

Project Name: PARCEL K
Project Number: 5876.9.07

Lab Number: L1717710
Report Date: 06/05/17

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: WG1008855-5 QC Sample: L1717848-02 Client ID: MS Sample									
Antimony, Total	ND	0.5	0.4320	86	-	-	70-130	-	20
Arsenic, Total	ND	0.12	0.1079	90	-	-	70-130	-	20
Cadmium, Total	ND	0.051	0.04579	90	-	-	70-130	-	20
Chromium, Total	ND	0.2	0.1674	84	-	-	70-130	-	20
Copper, Total	0.0565	0.25	0.2718	86	-	-	70-130	-	20
Lead, Total	ND	0.51	0.5268	103	-	-	70-130	-	20
Nickel, Total	0.0040	0.5	0.4325	86	-	-	70-130	-	20
Selenium, Total	ND	0.12	0.1063	88	-	-	70-130	-	20
Silver, Total	0.0011	0.05	0.04253	83	-	-	70-130	-	20
Zinc, Total	0.0314	0.5	0.4644	87	-	-	70-130	-	20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1008856-3 QC Sample: L1717848-02 Client ID: MS Sample									
Iron, Total	0.111	1	0.922	81	-	-	75-125	-	20

Lab Duplicate Analysis
Batch Quality Control

Project Name: PARCEL K
Project Number: 5876.9.07

Lab Number: L1717710
Report Date: 06/05/17

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1008498-4 QC Sample: L1717710-01 Client ID: PAVILION OUTFALL						
Mercury, Total	ND	ND	mg/l	NC		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1008855-4 QC Sample: L1717710-01 Client ID: PAVILION OUTFALL						
Arsenic, Total	0.00138	0.00119	mg/l	15		20
Chromium, Total	ND	ND	mg/l	NC		20
Copper, Total	0.00189	0.00168	mg/l	12		20
Nickel, Total	ND	ND	mg/l	NC		20
Selenium, 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: WG1008855-4 QC Sample: L1717710-01 Client ID: PAVILION OUTFALL						
Antimony, Total	ND	ND	mg/l	NC		20
Cadmium, Total	ND	ND	mg/l	NC		20
Lead, Total	ND	ND	mg/l	NC		20
Silver, Total	ND	ND	mg/l	NC		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1008855-6 QC Sample: L1717848-02 Client ID: DUP Sample						
Cadmium, Total	ND	ND	mg/l	NC		20
Lead, Total	ND	ND	mg/l	NC		20

INORGANICS
&
MISCELLANEOUS

Project Name: PARCEL K
Project Number: 5876.9.07

Lab Number: L1717710
Report Date: 06/05/17

SAMPLE RESULTS

Lab ID: L1717710-01
Client ID: PAVILION OUTFALL
Sample Location: BOSTON, MA
Matrix: Water

Date Collected: 05/30/17 11:30
Date Received: 05/30/17
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP General Chemistry - Westborough Lab										
Chromium, Hexavalent	ND		mg/l	0.010	--	1	05/31/17 01:40	05/31/17 02:04	97,7196A	KA
General Chemistry - Westborough Lab										
SALINITY	7.2		SU	2.0	--	1	-	06/01/17 20:50	121,2520B	AS
pH (H)	7.5		SU	-	NA	1	-	05/31/17 07:22	121,4500H+-B	KA
Nitrogen, Ammonia	0.180		mg/l	0.075	--	1	06/01/17 23:30	06/02/17 23:40	121,4500NH3-BH	AT

Project Name: PARCEL K
Project Number: 5876.9.07

Lab Number: L1717710
Report Date: 06/05/17

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1008249-1										
Chromium, Hexavalent	ND		mg/l	0.010	--	1	05/31/17 01:40	05/31/17 02:02	97,7196A	KA
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1009075-1										
Nitrogen, Ammonia	ND		mg/l	0.075	--	1	06/01/17 23:30	06/02/17 23:35	121,4500NH3-BH	AT

Lab Control Sample Analysis

Batch Quality Control

Project Name: PARCEL K

Project Number: 5876.9.07

Lab Number: L1717710

Report Date: 06/05/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1008249-2 WG1008249-3								
Chromium, Hexavalent	95		95		49-151	0		20
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1008304-1								
pH	100		-		99-101	-		5
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1009022-1								
SALINITY	100		-			-		
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1009075-2								
Nitrogen, Ammonia	99		-		80-120	-		20

Matrix Spike Analysis
Batch Quality Control

Project Name: PARCEL K
Project Number: 5876.9.07

Lab Number: L1717710
Report Date: 06/05/17

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: WG1009075-4 QC Sample: L1718080-01 Client ID: MS Sample												
Nitrogen, Ammonia	0.413	4	3.91	87		-	-		80-120	-		20

Lab Duplicate Analysis
Batch Quality Control

Project Name: PARCEL K
Project Number: 5876.9.07

Lab Number: L1717710
Report Date: 06/05/17

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1008304-2 QC Sample: L1717710-01 Client ID: PAVILION OUTFALL						
pH (H)	7.5	7.6	SU	1		5
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1009022-2 QC Sample: L1717150-01 Client ID: DUP Sample						
SALINITY	ND	ND	SU	NC		
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1009075-3 QC Sample: L1718080-01 Client ID: DUP Sample						
Nitrogen, Ammonia	0.413	0.213	mg/l	**64**	Q	20

Project Name: PARCEL K
Project Number: 5876.9.07

Lab Number: L1717710
Report Date: 06/05/17

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(*)
L1717710-01A	Plastic 250ml HNO3 preserved	A	<2	5.2	Y	Absent	CD-2008T(180),NI-2008T(180),ZN-2008T(180),CU-2008T(180),FE-UI(180),AG-2008T(180),AS-2008T(180),HG-U(28),SE-2008T(180),CR-2008T(180),PB-2008T(180),SB-2008T(180)
L1717710-01B	Plastic 500ml H2SO4 preserved	A	<2	5.2	Y	Absent	NH3-4500(28)
L1717710-01C	Plastic 950ml unpreserved	A	7	5.2	Y	Absent	SALINITY(28),PH-4500(.01),MCP-HEXCR7196-10(1)

*Values in parentheses indicate holding time in days

Project Name:	PARCEL K	**Lab Number:**	L1717710
Project Number:	5876.9.07	**Report Date:**	06/05/17

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

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.

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

Data Qualifiers

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

Report Format: Data Usability Report

Project Name:	PARCEL K	**Lab Number:**	L1717710
Project Number:	5876.9.07	**Report Date:**	06/05/17

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. 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:	PARCEL K	**Lab Number:**	L1717710
Project Number:	5876.9.07	**Report Date:**	06/05/17

REFERENCES

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.

97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.

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

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ALPHA ANALYTICAL — World Class Chemistry

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

Date Rec'd in Lab: 5/30/17

ALPHA Job #: L1717710

Project Information

Project Name: Parcel K

Project Location: Boston, MA

Project #: 5876.9.07

Project Manager: BED

ALPHA Quote #:

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)

Due Date: Time:

Client Information

Client: McPhial Associates, LLC

Address: 2269 Massachusetts Avenue

Cambridge, MA 02140

Phone: 617-868-1420

Fax: 617-868-1423

Email: bdowning@mcphailgeo.com

☐ These samples have been Previously analyzed by Alpha

Report Information Data Deliverables

☐ FAX ☐ EMAIL

☒ ADEx ☐ Add'l Deliverables

Billing Information

☒ Same as Client info PO #:

Regulatory Requirements/Report Limits

State/Fed Program	Criteria
EPA NPDES RGP	

MCP PRESUMPTIVE CERTAINTY-CT REASONABLE CONFIDENCE PROTOCOLS

☒ Yes ☐ No Are MCP Analytical Methods Required?

☐ Yes ☒ No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:

ANALYSIS

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

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	pH, Salinity, HexCr	8260 w/ 1,4 Dioxane	504 (EDB Only)	TSS	naphthalene (8270D)	Total HgFeAgAsCdCrCuNiPbSbSeZn	PCB_608	TPH_1664	TPhenol	TCN	NH3	Ethanol	Sample Specific Comments	TOTAL # BOTTLES
17710.01	Pavilion Outfall	5/30/17	1130	GW	TMC	☒	☐	☐	☐	☐	☒	☐	☐	☐	☐	☒	☐		3
Container Type						P	V	V	P	A	P	A	A	A	P	P	V		
Preservative						A	B	H	A	A	C	H	B	D	E	D	A		

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT MA MCP or CT RCP?

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

Relinquished By:	Date/Time	Received By:	Date/Time
Bjorn Dmitz	5/30/17 13:00	MCM AAL	5/30/17 1600
MCM	5/31/17 1745	[illegible]	5/30/17 1745

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

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 development of the Omni Boston Seaport Hotel located at 450 Summer Street on Massport Parcel D-2 in South 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 A review of available subgrade sanitary and storm sewer system plans accessed from the BWSC indicates the presence of a dedicated stormwater drain system located within Massport Haul Road. Records supplied by BWSC indicate one discharge flow path adjacent to the site flow to a primary discharge outfall location. The discharge flow path runs east-northeast towards the harbor under Massport Haul Road. The primary discharge location is an outfall pipe listed as #SS1 according to the BWSC. The site storm drains, discharge location, and discharge flow path are shown on the enclosed **Figure 3A & 3B.**

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 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 Boston Inner Harbor, which is located approximately 1,000

feet to the northeast 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.