NOTICE OF INTENT FOR DISCHARGE UNDER MASSACHUSETTS DEWATERING GENERAL PERMIT MAG070000

136 SHAWMUT AVENUE

BOSTON, MASSACHUSETTS

OCTOBER 5, 2015

Prepared For:

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

On Behalf Of:

Metric Corporation
55 Henshaw Street
Boston MA, 02135

PROJECT NO. 5796

2269 Massachusetts Avenue
Cambridge, MA 02140
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(617) 868 1420

October 5, 2015

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

Attention: To Whom It May Concern

Reference: 136 Shawmut Avenue; Boston, Massachusetts
Notice of Intent for Construction Dewatering Discharge Under
Massachusetts Dewatering General Permit MAG070000

Ladies and Gentlemen:

On behalf of the New Boston Ventures, McPhail Associates, LLC has prepared the attached Notice of Intent (NOI) for coverage under the Massachusetts Dewatering General Permit MAG070000 (DGP) for the discharge of construction dewatering effluent into the Fort Point Channel via a storm drainage system. The temporary construction dewatering discharge will occur during construction of the proposed residential development to be located at 136 Shawmut Avenue in Boston, Massachusetts (the "subject site"). Refer to **Figure 1** entitled Project Location Plan for the general site locus.

These services were performed and this permit application was prepared in accordance with our proposal dated May 20, 2015, and the subsequent authorization of New Boston Ventures. These services are subject to the limitations contained in **Appendix A**.

The required Notice of Intent contained in the DGP permit and Boston Water & Sewer Dewatering Discharge Permit Application are included in **Appendix B**.

Applicant/Operator

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

Metric Corporation
55 Henshaw Street
Boston, MA 02135

Attention: Bob Hunt

Tel: 508-406-1601
Email: BHunt@metriccorp.com

Site Location and Current Conditions

Fronting onto Shawmut Avenue to the west, the subject site is bounded by asphalt paved parking lots to the south and east, and by a nursing home to the north. The limits of the subject site are shown on **Figure 2,** which is based on a plan entitled Site Plan.

The subject site consists of an approximately 16,200-square-foot parcel of land occupied by the former Holy Trinity German Church which has been vacant for at least six (6) years. An attached rectory is located at the southeast corner of the church. A small courtyard is located within the southwest corner of the subject site. Existing ground surface slopes gently down towards the south from Elevation +20 to Elevation +18. The courtyard is generally level and depressed below the surrounding grades between Elevation +14 and +15. The lowest-level floor slab of the existing church and rectory are understood at about Elevation +12.3.

Proposed Scope of Site Development

The proposed construction will include the renovation of the existing building for use as housing. The proposed construction will preserve the exterior building walls and will include the construction of at least three (3) stories of new construction above the existing roof level for a total building height of about eight stories. The lowest-level of the proposed building will be about Elevation +12.3 and will be used for below-grade parking. A new access ramp will be constructed in the courtyard for vehicular access off of Shawmut Avenue. Stormwater recharge systems will also be located in the courtyard below the access ramp and at the location of a small stairwell at the northeast corner of the existing building.

Site Environmental Setting, Nearby DEP-listed Disposal Sites and Surrounding Historical Places

Based on the current Massachusetts Geographic Information Systems (GIS) Department of Environmental Protection (DEP) Phase I Site Assessment Map, the subject site is not located within the boundaries of a Potentially Productive Aquifer or within a Zone II, Interim Wellhead Protection Area as defined by the Massachusetts Department of Environmental Protection. According to the GIS Map, there are no public or private drinking water supply wells, no Areas of Critical Environmental Concern, no habitats of Species of Special Concern or Threatened or Endangered Species within 500 feet of the subject site. According to the GIS Map, there are no surface water bodies or wetland areas located at the subject site. The nearest surface water body is the Fort Point Channel, classified by the DEP as a Class SB Surface Water Body, that is located approximately 1,500 feet east of the subject site. No areas designated as solid waste sites (landfills) are noted as being located within 1,000 feet of the subject site. Based on the GIS Map, the subject site is not within a 100-year flood plain. The nearest Protected Open Pace is located approximately 750 feet to the south

of the subject site. A copy of the Massachusetts Phase I Site Assessment Map is included in **Appendix C**.

The DEP on-line waste site database indicates that there are three (3) DEP-listed disposal sites within 500 feet of the subject site. The disposal sites are identified as South Cove Manor located at 120 Shawmut Avenue (RTN 3-27624), 1125 Washington Street and New England Telephone located at 170 Shawmut Avenue (RTNs 3-18427 and 3-4313), and Former Graybar Electric Company located at 345 Harrison Avenue (RTN 3-31188). According to the DEP Online Searchable Site database, each of these disposal sites has achieved a Permanent Solution indicating that a condition of No Significant Risk exists with respect to the release conditions, with the exception of the 345 Harrison Avenue facility under RTN 3-31188 which is classified as a Tier II site. Given that the release under RTN 3-31188 is limited to soil, the distance to this release (approximately 300 feet to the east-southeast of the subject site), and regional groundwater flow is to the east, the RTN 3-31188 is not considered likely to pose a threat of impact to the construction dewatering activities at the subject site. The remaining release sites are also not considered to pose a threat of impact to the dewatering activities.

A review of information provided by the U.S. Fish and Wildlife Service in an Information for Planning and Conservation (IPaC) Trust Resource Report for the subject site did not identify the presence of endangered species at or in the vicinity of the discharge location and/or discharge outfall. Further, the Trust Resource Report indicated that there is not a critical habitat in the vicinity of the discharge outfall and/or discharge location. However, the report indicated that the Red Knot bird, which is classified as a "threatened" species, should be considered with regard to this project. Based on correspondence with Ms. Susi von Oettingen of the New England Field Office for the U.S. Fish and Wildlife Service, groundwater discharge from the subject site to the Fort Point Channel is not considered likely to adversely affect the Red Knot bird. Given that Red Knot birds are typically found foraging on sand and mud flats or roosting on beaches above the wrack line, Ms. Von Oettingen indicated that neither of their habitats will be affected by the discharge activities. Based upon the above, the site is considered a criterion B pursuant to Appendix IV of the DGP. A copy of the IPaC Trust Resource Report and correspondence with Ms. Tur are included in **Appendix C**.

Although the subject site is not listed in the National Register of Historic Places for Suffolk County, the subject site building is listed as a Historic Place in the Massachusetts Historical Commission database in which it is identified as Holy Trinity (German) Roman Catholic Church (BOS. 15228) with an address of 136 Shawmut Avenue. According to the database, the building considered a fine example of a Victorian Gothic church built of Roxbury puddingstone with contrasting ornamental details in granite and constructed *circa* 1871. The church building has historically been used as a church, classroom and rectory. The church and rectory are indicated to be in good condition overall. A copy of the Massachusetts Historic Commission Inventory Form of the subject site building is included in **Appendix C**.

As further discussed below, treated construction dewatering effluent will be discharged into dedicated storm drains that eventually flow into the Fort Point Channel. The dewatering of groundwater at the site will be temporary and intermittent. Given that the construction dewatering discharge is temporary and relatively small [less than 500,000 gallons per day (GPD)], the discharge is not considered to have the potential to affect the historical elements of the subject site's historical listing. Hence, the site is considered a criterion A pursuant to Appendix III of the DGP.

Temporary Construction Dewatering

Subsurface explorations performed at the subject site encountered the surface of groundwater at depths of about 3 to 8 feet below the existing ground surface corresponding to Elevation +8.2 and Elevation +9.6.

In order to perform the building excavations at the subject site, which are anticipated to extend below the groundwater level for construction of the foundations, and also to provide for management of water which may become trapped within the excavation areas following periods of precipitation, the construction dewatering discharge into the city's storm sewer is necessary.

It is estimated that continuous groundwater discharge during the construction will be on the order of 20 to 45 gallons per minute (gpm). The maximum daily flow is estimated to be 64,800 GPD and the average monthly flow is estimated to be 43,200 GPD.

Given that the footprint of the proposed construction occupies a majority of the subject site, temporary on-site collection and recharge of groundwater is not feasible. As a result, construction dewatering will require the discharge of collected groundwater and stormwater into the storm drain system under the requested DGP.

A review of available subgrade utility plans provided by the Boston Water and Sewer Commission indicates the presence of a dedicated storm drain located beneath Shawmut Avenue. The stormwater drain located beneath Shawmut Avenue flows south-southwest where it eventually discharges into the Fort Point Channel. Beneath Shawmut Avenue, the Boston Water and Sewer utility plans indicate the presence of a 12-inch diameter dedicated storm drain that flows south-southwest. At the intersection of East Berkeley Street, the storm drain beneath Shawmut Avenue connects into a storm drain that runs west-southwest beneath East Berkeley Street. The location of the relevant stormwater drain in relation to the subject site is indicated on **Figure 2**. The flow path of the discharge is shown in plans provided by the Boston Water and Sewer Commission which are included in **Figure 3A and 3B**.

Summary of Groundwater Analysis

On June 16, 2015, McPhail Associates, LLC obtained a sample of groundwater from the groundwater monitoring well B-1 (OW) at the subject site and submitted it for laboratory analysis for the following parameters: total suspended solids (TSS), total residual chlorine (TRC), total petroleum hydrocarbons (TPH), cyanide, volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), total and dissolved Priority Pollutants (PP-13) metals, total phenols, pH and polychlorinated biphenyls (PCBs). The purpose of this analytical testing serves as a requirement under the US EPA DGP.

With the exception of copper, lead and zinc, the results of the laboratory testing did not detect concentrations of the tested compounds in excess of the applicable EPA effluent limits. The laboratory reporting limit of 5 micrograms per liter (µg/L) for cyanide exceeds the EPA effluent limit of 1 µg/L for discharge into a salt water. The results of the laboratory analysis are summarized in **Table 1** and laboratory data is included in **Appendix D**. The results of laboratory analysis indicate the following:

1. **pH**: The tested sample exhibited a pH level of 6.5 Standard Units (S.U.) which is within the permissible range of 6.5 to 8.5 S.U. for discharge into marine waters.

2. **Total Metals**: The laboratory analytical results did not identify the presence of detectable levels of antimony, cadmium, hexavalent chromium, chromium, mercury, nickel, selenium and silver in the submitted sample of groundwater. Levels of arsenic, copper, lead, zinc and iron were reported at levels of 24.9 µg/L, 5.9 µg/L, 10.4 µg/L, 10.2 µg/L and 4,100 µg/L, respectively. The detected levels of arsenic and zinc are below the EPA effluent limits of 36 µg/L and 85.6 µg/L for discharge to a salt water body. However, the detected levels of copper (5.9 µg/L), lead (10.4 µg/L) and iron (4,100 µg/L) exceed the EPA effluent limits of 3.7 µg/l, 8.5 µg/L, and 1,000 µg/L, respectively, for discharge into a salt water body.

Pursuant to our conversation with Newton Tedder, McPhail Associates, LLC obtained an additional sample of groundwater from B-1 (OW) on September 28, 2015 to determine if the elevated concentrations of copper, lead and iron detected in the previous sampling activity were due to particulates present in the groundwater sample. The sample was submitted for laboratory analysis for TSS and dissolved metals (copper, iron and lead). The laboratory analytical results did not identify the presence of dissolved iron. Dissolved copper and iron were detected at levels of 7 µg/L and 300 µg/L. The reported concentration of iron is below the EPA effluent limit of 1,000 µg/L. However, the reported concentration of copper was detected slightly above the EPA effluent limit of 3.7 µg/L. Due to the elevated concentration of TSS in the effluent and the analytical results of the dissolved metals, the metal concentrations (copper, iron and lead) previously detected above effluent limits is attributed to TSS. As a result, the dewatererd groundwater will be passed through a treatment system that is discussed below, which includes sedimentation components that will reduce concentration of TSS in the effluent to below applicable discharge limits.

Groundwater Treatment

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

Summary and Conclusions

The purpose of this report is to assess site environmental conditions and groundwater data to support an application for a Massachusetts Dewatering General Permit for off-site discharge of dewatered groundwater which will be encountered during the residential redevelopment located at 136 Shawmut Avenue in Boston, Massachusetts.

Based on the results of the above referenced groundwater analyses, treatment of construction dewatering will be necessary to meet allowable effluent limits for copper, lead and iron established by the US EPA prior to off-site discharge. The proposed construction dewatering effluent treatment system will consist of one settling tank 5,000-gallons in capacity and bag filter in series to meet the applicable discharge limits of TSS. However, should the effluent monitoring results indicate levels of TSS in excess of the limits established in the Massachusetts DGP, additional mitigative measures will be implemented to meet the 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.

Very truly yours,

McPHAIL ASSOCIATES, LLC

Gina M. Garten

Ambrose J. Donovan, P.E., L.S.P.

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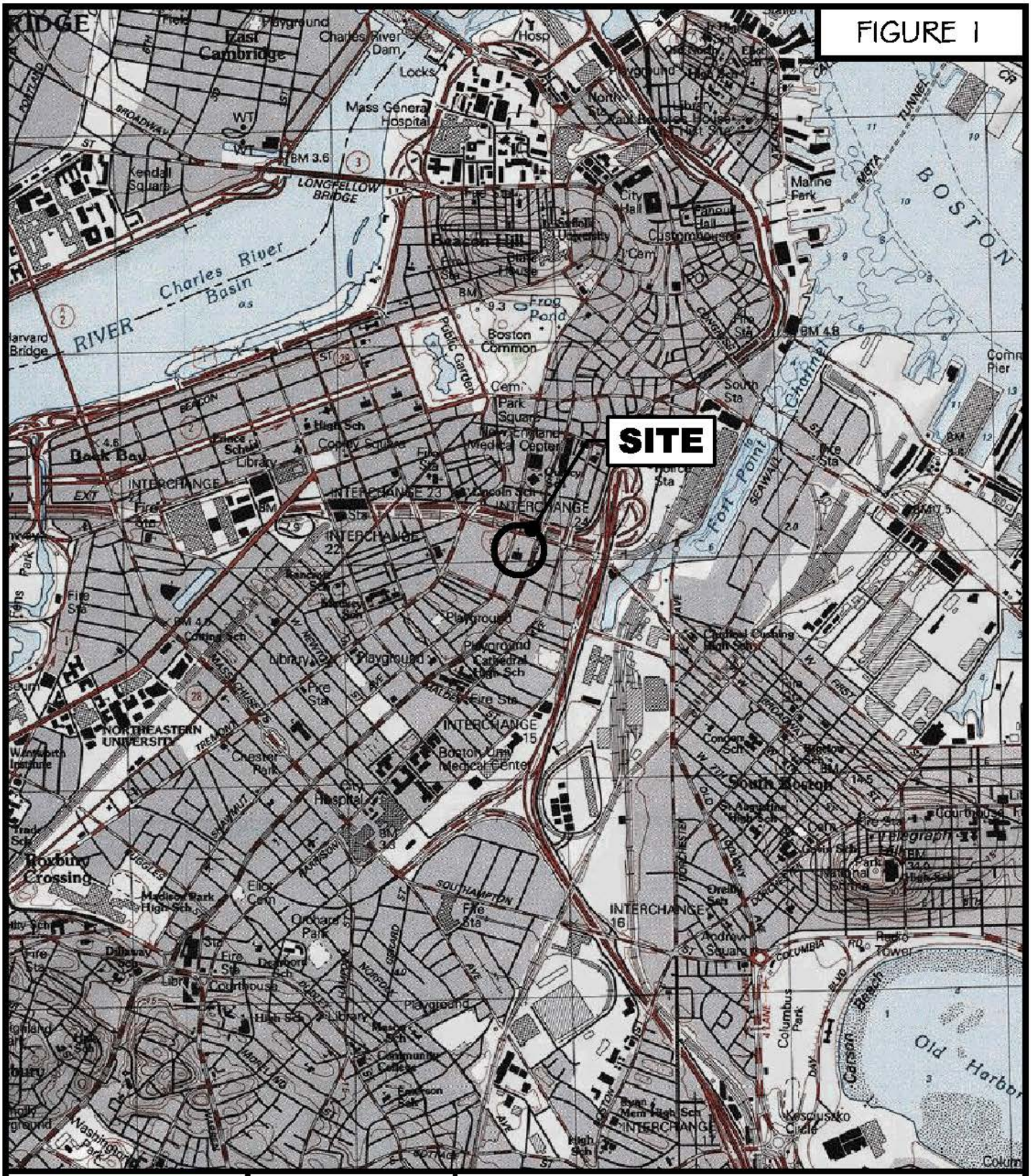
GMG/ajd

FIGURE 1



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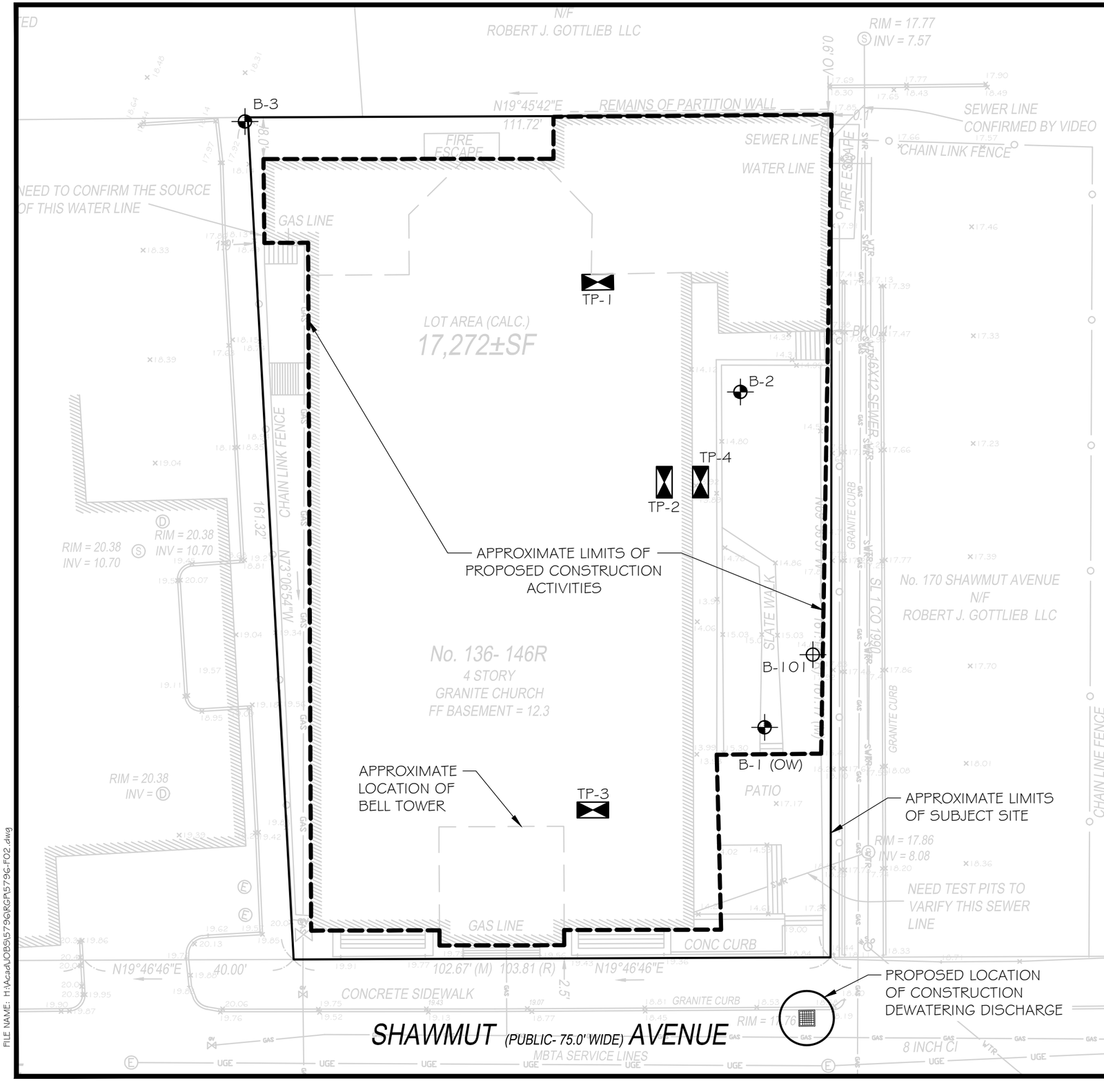
SCALE 1:25,000

PROJECT LOCATION PLAN

136 SHAWMUT AVENUE

BOSTON MASSACHUSETTS

FIGURE 2



NORTH

LEGEND

— APPROXIMATE LOCATION OF TEST PIT PERFORMED BY CHUTEHALL INTERNATIONAL LTD. DURING THE PERIOD OF FEBRUARY 16 THROUGH MARCH 6, 2015 FOR NEW BOSTON VENTURES

— APPROXIMATE LOCATION OF BORING PERFORMED BY CARR-DEE CORP. ON SEPTEMBER 8 AND 9, 2015 FOR McPHAIL ASSOCIATES, LLC.

— APPROXIMATE LOCATION OF BORING PERFORMED BY CARR-DEE CORP. ON JANUARY 12 AND 13, 2015 FOR McPHAIL ASSOCIATES, LLC.

(OW) — INDICATES OBSERVATION WELL INSTALLED WITHIN COMPLETED BOREHOLE.

REFERENCE: THIS PLAN WAS PREPARED FROM A 20-SCALE DRAWING ENTITLED "CERTIFIED PLOT PLAN" DATED SEPTEMBER 22, 2014 BY BOSTON SURVEY, INC.

GRAPHIC SCALE

20 0 20 40

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136 SHAWMUT AVENUE
BOSTON MASSACHUSETTS

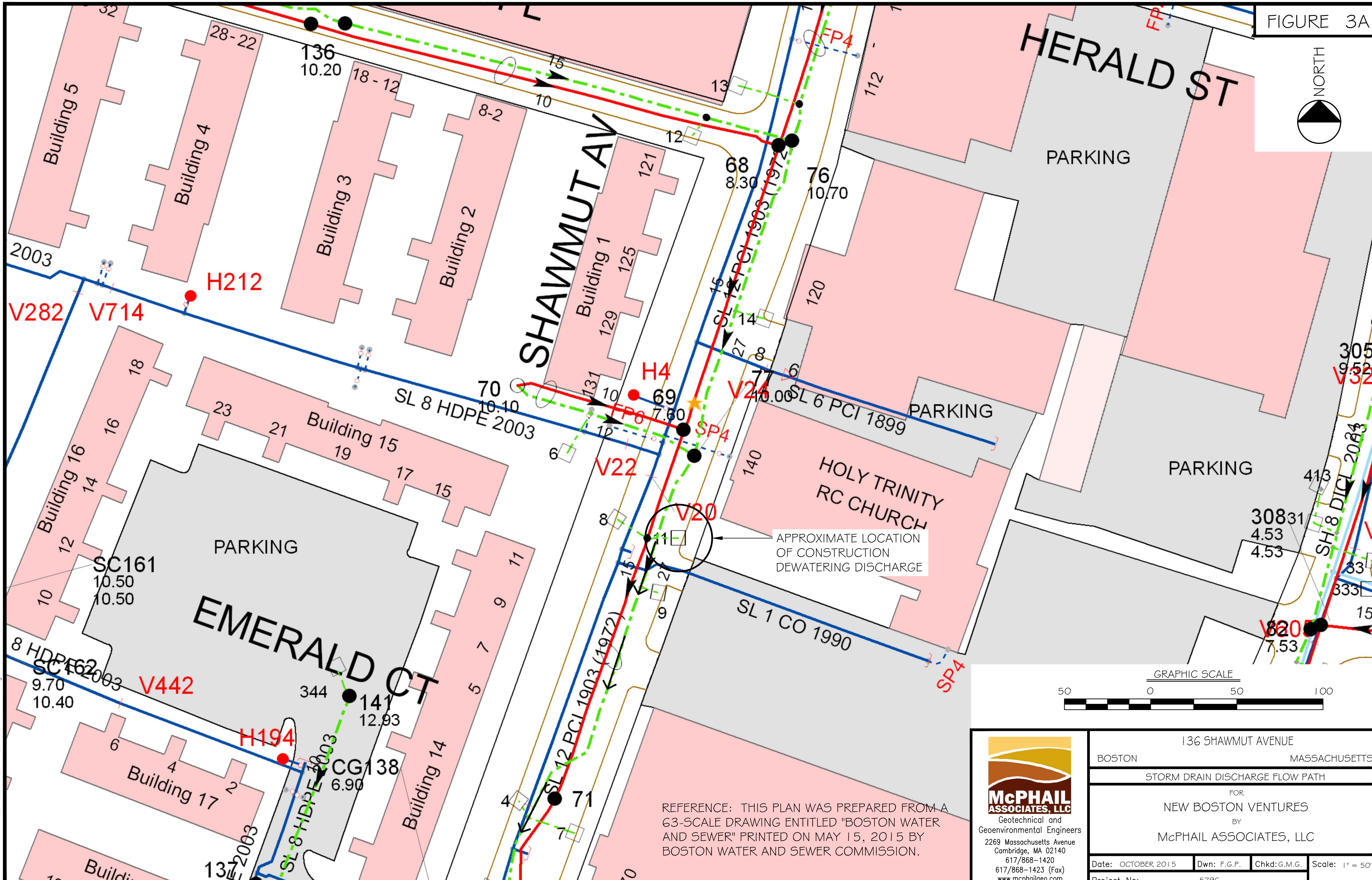
SUBSURFACE EXPLORATION PLAN

FOR
NEW BOSTON VENTURES
BY
McPHAIL ASSOCIATES, LLC

Date: OCTOBER 2015	Dwn: F.G.P.	Chkd: G.M.G.	Scale: 1" = 20'
Project No: 5796			

FILE NAME: H:\Acad\JOBS\5796\RGPS796-F02.dwg

FIGURE 3A



REFERENCE: THIS PLAN WAS PREPARED FROM A 63-SCALE DRAWING ENTITLED "BOSTON WATER AND SEWER" PRINTED ON MAY 15, 2015 BY BOSTON WATER AND SEWER COMMISSION.

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136 SHAWMUT AVENUE

BOSTON MASSACHUSETTS

STORM DRAIN DISCHARGE FLOW PATH

FOR

NEW BOSTON VENTURES

BY

McPHAIL ASSOCIATES, LLC

Date: OCTOBER 2015	Dwn: F.G.P.	Chkd: G.M.G.	Scale: 1" = 50'
Project No: 5796			

FILE NAME: H:\Acad\JOBS\5796\GRP5796-F03A.dwg

FIGURE 3B

NORTH

APPROXIMATE LOCATION OF CONSTRUCTION DEWATERING DISCHARGE

LOCATION OF DISCHARGE INTO FORT POINT CHANNEL

OUTFALL SDO 069

HERALD ST
PAUL PL
MASSACHUSETTS TNPK
CONRAIL
SHAWMUT AV
VILLAGE CT
MILLICENT WY
EMERALD CT
EAST BERKELEY ST
CASTLE CT
PUBLIC ALLEY NO. 705
DWIGHT ST
TAYLOR ST
GROTON ST
WASHINGTON ST
BRADFORD ST
PERRY ST
HARRISON AV
FAY ST
WILLIAM E MULLINS WY
TRAVELER ST
ALBANY ST
PAUL SULLIVAN WY
THAYER ST
SOUTH BAY
FORT POINT CHANNEL
BROADWAY BRIDGE
FOUNDRY ST
GREENBAUM ST

REFERENCE: THIS PLAN WAS PREPARED FROM A 211-SCALE DRAWING ENTITLED "BOSTON WATER AND SEWER" PRINTED ON MAY 15, 2015 BY BOSTON WATER AND SEWER COMMISSION.

GRAPHIC SCALE

200 0 200 400

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136 SHAWMUT AVENUE
BOSTON MASSACHUSETTS

STORM DRAIN DISCHARGE FLOW PATH

FOR
NEW BOSTON VENTURES
BY
McPHAIL ASSOCIATES, LLC

Date: OCTOBER 2015	Dwn: F.G.P.	Chkd: G.M.G.	Scale: 1" = 200'
Project No: 5796			

FILE NAME: H:\Acad\JOBS\5796\RGR5796-F03B.dwg

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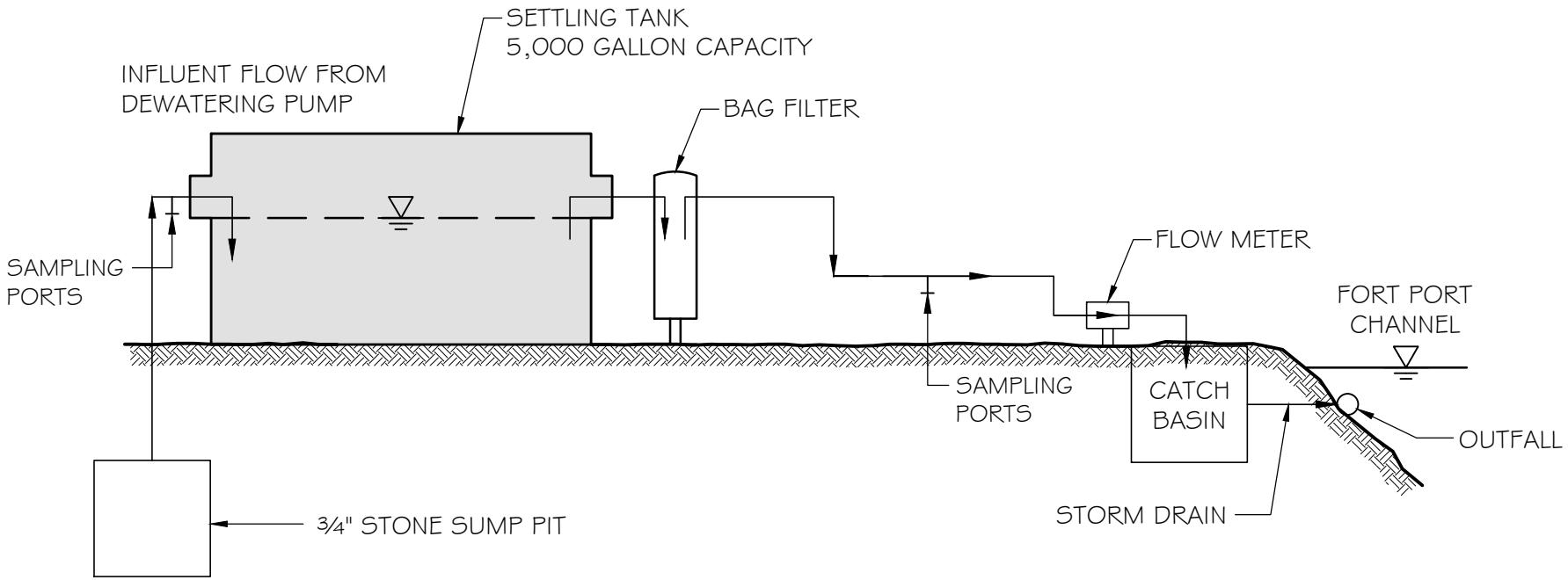
FIGURE 4



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136 SHAWMUT AVENUE
BOSTON MASSACHUSETTS

SCHEMATIC OF TREATMENT SYSTEM

FOR

NEW BOSTON VENTURES

BY

McPHAIL ASSOCIATES, LLC

Date: OCTOBER 2015	Dwn: F.G.P.	Chkd: G.M.G.	Scale: N.T.S.
Project No: 5796			

Table 1
Summary Table
Chemical Testing Groundwater
(DGP Application)

136 Shawmut Avenue Boston MA
McPhail Job No. 5796

LOCATION	RGP Limits W/O DF	Units	B-1 (OW)	B-1(OW)
SAMPLING DATE			6/16/2015	9/28/2015
LAB SAMPLE ID			L1513508-01	L1524236-01
SAMPLE TYPE			GRAB	Grab
Solids, Total Suspended	30,000	ug/l	15,000	120,000
pH	6.5-8.5	SU	6.5	
Chlorine, Total Residual (salt water	7.5	ug/l	ND(20)	
Total Petroleum Hydrocarbons	5000	ug/l	ND(4000)	
Cyanide, Total (salt water)	1	ug/l	ND(5)	
Benzene	5	ug/l	ND(0.5)	
Toluene	Total BTEX	ug/l	ND(0.75)	
Ethylbenzene	Total BTEX	ug/l	ND(0.5)	
p/m-Xylene	Total BTEX	ug/l	ND(1)	
o-Xylene	Total BTEX	ug/l	ND(1)	
Xylene (Total)	Total BTEX	ug/l	ND(1)	
Total BTEX	100	ug/l	ND	
1,2-Dibromoethane	0.05	ug/l	ND(2)	
Methyl tert butyl ether	70	ug/l	ND(1)	
Tert-Butyl Alcohol	Monitor Only	ug/l	ND(10)	
Tertiary-Amyl Methyl Ether	Monitor Only	ug/l	ND(2)	
Naphthalene	20	ug/l	ND(2.5)	
Carbon tetrachloride	4.4	ug/l	ND(0.5)	
1,2-Dichlorobenzene	600	ug/l	ND(2.5)	
1,3-Dichlorobenzene	320	ug/l	ND(2.5)	
1,4-Dichlorobenzene	5	ug/l	ND(2.5)	
1,1-Dichloroethane	70	ug/l	ND(0.75)	
1,2-Dichloroethane	5	ug/l	ND(0.5)	
1,1-Dichloroethene	3.2	ug/l	ND(0.5)	
cis-1,2-Dichloroethene	70	ug/l	ND(0.5)	
Methylene chloride	4.6	ug/l	ND(3)	
Tetrachloroethene	5	ug/l	ND(0.5)	
1,1,1-Trichloroethane	200	ug/l	ND(0.5)	
1,1,2-Trichloroethane	5	ug/l	ND(0.75)	
Trichloroethene	5	ug/l	ND(0.5)	
Vinyl chloride	2	ug/l	ND(1)	
Acetone	Monitor Only	ug/l	ND(5)	
1,4-Dioxane	Monitor Only	ug/l	ND(3)	
Total Phenolics	300	ug/l	ND	
Pentachlorophenol	1	ug/l	ND(0.8)	
Total Phthalates	3	ug/l	ND	
Butyl benzyl phthalate	Total Phthalates	ug/l	ND(5)	
Di-n-butylphthalate	Total Phthalates	ug/l	ND(5)	
Diethyl phthalate	Total Phthalates	ug/l	ND(5)	
Dimethyl phthalate	Total Phthalates	ug/l	ND(5)	
Di-n-octylphthalate	Total Phthalates	ug/l	ND(5)	
Bis(2-ethylhexyl)phthalate	6	ug/l	ND(3)	
Total Group I PAHs	10	ug/l	ND	
Benzo(a)anthracene	0.0038	ug/l	ND(0.2)	
Benzo(a)pyrene	0.0038	ug/l	ND(0.2)	
Benzo(b)fluoranthene	0.0038	ug/l	ND(0.2)	
Benzo(k)fluoranthene	0.0038	ug/l	ND(0.2)	
Chrysene	0.0038	ug/l	ND(0.2)	
Dibenzo(a,h)anthracene	0.0038	ug/l	ND(0.2)	
Indeno(1,2,3-cd)Pyrene	0.0038	ug/l	ND(0.2)	
Total Group II PAHs	100	ug/l	ND	
Acenaphthene	Total Group II PAH	ug/l	ND(0.2)	
Acenaphthylene	Total Group II PAH	ug/l	ND(0.2)	
Anthracene	Total Group II PAH	ug/l	ND(0.2)	
Benzo(ghi)perylene	Total Group II PAH	ug/l	ND(0.2)	
Fluoranthene	Total Group II PAH	ug/l	ND(0.2)	
Fluorene	Total Group II PAH	ug/l	ND(0.2)	
Naphthalene	20	ug/l	ND(0.2)	
Phenanthrene	Total Group II PAH	ug/l	ND(0.2)	
Pyrene	Total Group II PAH	ug/l	ND(0.2)	
Total PCBs	0.000046	ug/l	ND	
Chloride	Monitor Only	ug/l	10100	
Total Recoverable Metal Limits				
Antimony, Total	5.6	ug/l	ND(3)	
Arsenic, Total (salt water)	36	ug/l	24.9	
Beryllium, Total				
Cadmium, Total (salt water)	8.9	ug/l	ND(0.2)	
Chromium, Trivalent (salt water)	100	ug/l	ND(10)	
Chromium, Hexavanlent (salt water	50.3	ug/l	ND(10)	
Chromium, Total		ug/l	ND(1)	
Copper, Total (salt water)	3.7	ug/l	**5.9**	
Lead, Total (salt water)	8.5	ug/l	**10.4**	
Mercury, Total (salt water)	1.1	ug/l	ND(0.2)	
Nickel, Total (salt water)	8.2	ug/l	ND(0.5)	
Selenium, Total (salt water)	71	ug/l	ND(5)	
Silver, Total (salt water)	2.2	ug/l	ND(0.3)	
Zinc, Total (salt water)	85.6	ug/l	10.2	
Iron, Total	1,000	ug/l	**4,100**	
Dissolved Metals				
Copper, Dissolved	3.7	ug/l		**7**
Lead, Dissolved	8.5	ug/l		ND(5)
Iron, Dissolved	1,000	ug/l		300

W/O - With Out
DF - Dilution Factor
BLANK - Not tested
ND(2) - Not detected. Lab detection limit in ( )
BOLD - Detected above the applicable RGP Limit

McPhail Associates, LLC

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 a groundwater monitoring well on the property located at 136 Shawmut Avenue in Boston, Massachusetts in support of an application for approval of temporary construction dewatering discharge of groundwater into surface waters of the Commonwealth of Massachusetts under EPA's Massachusetts Dewatering General Permit MAG070000.

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

The conclusions submitted in this report are based in part upon 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 the New Boston Ventures and Metric Corporation. This report and the findings contained herein shall not, in whole or in part, be disseminated or conveyed to any other party, other than 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 DEWATERING GENERAL PERMIT
BOSTON WATER & SEWER DEWATERING DISCHARGE PERMIT APPLICATION

II. Suggested Notice of Intent (NOI) Format

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

a) Name of facility: 136 Shawmut Avenue	**Mailing Address for the Facility:** c/o New Boston Ventures, 540 Tremont Street, Boston, MA 02116	
b) Location Address of the Facility (if different from mailing address): 136 Shawmut Avenue	**Facility Location** **longitude:** 71.07 W **latitude:** 42.35 N	**Type of Business:** Construction site **Facility SIC codes:**

c) Name of facility owner: New Boston Ventures **Owner's email:** MSavatsky@newbostonventures.com

Owner's Tel #: (617) 542-4644 **Owner's Fax #:** _____

Address of owner (if different from facility address)

c/o New Boston Ventures, 540 Tremont Street, Boston, MA 02116

Owner is (check one): 1. Federal____ **2. State** _____ **3. Private** ✓ **4. Other** _____ **(Describe)**_____

Legal name of Operator, if not owner: Metric Corporation

Operator Contact Name: Mr. Bob Hunt, Superintendant

Operator Tel Number: (508) 406-1601 **Fax Number:** _____

Operator's email: BHunt@metricorp.com

Operator Address (if different from owner)

55 Henshaw Street, Boston, MA 02135

d) Attach a topographic map indicating the location of the facility and the outfall(s) to the receiving water. Map attached? ✓

e) Check Yes or No for the following:

1. **Has a prior NPDES permit been granted for the discharge? Yes** ____ **No** ✓ **If Yes, Permit Number:** _____
2. **Is the discharge a "new discharger" as defined by 40 CFR Section 122.2? Yes**_____ **No** ✓
3. **Is the facility covered by an individual NPDES permit? Yes**_____ **No** ✓ **If Yes, Permit Number** ____
4. **Is there a pending application on file with EPA for this discharge? Yes** _____ **No** ✓ **If Yes, date of submittal:**

2. Discharge information. Please provide information about the discharge, (attaching additional sheets as needed)

a) **Name of receiving water into which discharge will occur:** Fort Point Channel
State Water Quality Classification: Class SB **Freshwater:** No **Marine Water:** Yes

b) **Describe the discharge activities for which the owner/applicant is seeking coverage:**
- ✓ 1. **Construction dewatering of groundwater intrusion and/or storm water accumulation.**
- 2. **Short-term or long-term dewatering of foundation sumps.**
- 3. **Other.**

c) **Number of outfalls** 1

For each outfall:

d) **Estimate the maximum daily and average monthly flow of the discharge (in gallons per day – GPD). Max Daily Flow** 64,800 **GPD**
Average Monthly Flow 43,200 **GPD**

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

f.) **Identify the source of the discharge (i.e. potable water, surface water, or groundwater). If groundwater, the facility shall submit effluent test results, as required in Section 4.4.5 of the General Permit.**

g.) **What treatment does the wastewater receive prior to discharge?** 5,000-gallon settling tank and bag filter in series

h.) **Is the discharge continuous? Yes** _____ **No** ✓ **If no, is the discharge periodic (P) (occurs regularly, i.e., monthly or seasonally, but is not continuous all year) or intermittent (I) (occurs sometimes but not regularly) or both (B)** B
If (P), number of days or months per year of the discharge _____ **and the specific months of discharge** _____;
If (I), number of days/year there is a discharge Between 3 to 5 days/week Groundwater will be discharged as its encountered.
Is the discharge temporary? Yes ✓ **No** ✓
If yes, approximate start date of dewatering October 19, 2015 **approximate end date of dewatering** June 1, 2015

i.) **Latitude and longitude of each discharge within 100 feet (See http://www.epa.gov/tri/report/siting_tool): Outfall 1: long.** 71.061 **lat.** 42.343 **; Outfall 2: long.**_____ **lat.**_____**; Outfall 3: long.**_____ **lat.**_____.

j.) **If the source of the discharge is potable water, please provide the reported or calculated seven day-ten year low flow (7Q10) of the receiving water and attach any calculation sheets used to support stream flow and dilution calculations** N/A **cfs**
(See Appendix VIII for equations and additional information)

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

k.) Does the discharge occur in an ACEC? Yes _____ No ✓
If yes, provide the name of the ACEC: _____

3. Contaminant Information

a) Are any pH neutralization and/or dechlorination chemicals used in the discharge? If so, include the chemical name and manufacturer; maximum and average daily quantity used as well as the maximum and average daily expected concentrations (mg/l) in the discharge, and the vendor's reported aquatic toxicity (NOAEL and/or LC_{50} in percent for aquatic organism(s)).

b) Please report any known remediation activities or water-quality issues in the vicinity of the discharge.

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

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

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

a) See Screening Process in Appendix III and respond to questions regarding your site and any historic properties listed or eligible for listing on the National Register of Historic Places. Question 1: Yes ✓ No ____ ; Question 2: No _____ Yes _____ See letter report

b) Have any State or Tribal historic preservation officers been consulted in this determination? Yes _____ or No ✓ If yes, attach the results of the consultation(s).

c) Which of the three National Historic Preservation Act eligibility criterion listed in Appendix III, Criterion (A, B, or C) have you met? A

d) Is the project located on property of religious or cultural significance to an Indian Tribe? Yes _____ or No ✓ If yes, provide that name of the Indian Tribe associated with the property. _____

6. Supplemental Information: Please provide any supplemental information. Attach any analytical data used to support the application. Attach any certification(s) required by the general permit

7. Signature Requirements: The Notice of Intent must be signed by the operator in accordance with the signatory requirements of 40 CFR Section 122.22 (see below) including the following certification:

I certify under penalty of law that (1) no biocides or other chemical additives except for those used for pH adjustment and/or dechlorination are used in the dewatering system; (2) the discharge consists solely of dewatering and authorized pH adjustment and/or dechlorination chemicals; (3) the discharge does not come in contact with any raw materials, intermediate product, water product or finished product; (4) if the discharge of dewatering subsequently mixes with other permitted wastewater (i.e. stormwater) prior to discharging to the receiving water, any monitoring provided under this permit will be only for dewatering discharge; (5) where applicable, the facility has complied with the requirements of this permit specific to the Endangered Species Act and National Historic Preservation Act; and (6) this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted.

Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, I certify that the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I certify that I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Facility Name: 136 Shawmut Avenue

Operator signature:

Print Full Name and Title: Bob Hunt Superintendant

Date: October 5 2015

Federal regulations require this application to be signed as follows:

1. For a corporation, by a principal executive officer of at least the level of vice president;
2. For partnership or sole proprietorship, by a general partner or the proprietor, respectively, or,
3. For a municipality, State, Federal or other public facility, by either a principal executive officer or ranking elected official.

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

DEWATERING DISCHARGE PERMIT APPLICATION

OWNER / AUTHORIZED APPLICANT PROVIDE INFORMATION HERE:

Company Name: Metric Corporation Address: 55 Henshaw Street, Boston, MA 01890

Phone Number: 617-787-1158 Fax number: _____

Contact person name: Bob Hunt Title: Superintendant

Cell number: 508-406-1601 Email address: BHunt@metriccorp.com

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

Owner's Information (if different from above):

Owner of property being dewatered: New Boston Ventures

Owner's mailing address: 540 Tremont Street, Boston, MA Phone number: 617-542-4644

Location of Discharge & Proposed Treatment System(s):

Street number and name: 136 Shawmut Ave Neighborhood South End

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

Describe Proposed Pre-Treatment System(s): 5,000-gallon capacity settling tank and bag filters in series

BWSC Outfall No. SDO 069 Receiving Waters Fort Point Channel

Temporary Discharges (Provide Anticipated Dates of Discharge): From October 19, 2015 To June 1, 2015

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

Permanent Discharges

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

---

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

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

Signature of Authorized Representative for Property Owner: _____ Date: 10/5/15

APPENDIX C:

MASSACHUSETTS PHASE I SITE ASSESSMENT MAP

MASSACHUSETTS AREAS OF ENVIRONMENTAL CONCERN

IPAC TRUST RESOURCE REPORT AND CORRESPONDANCE WITH U.S. FISH AND WILDFLIFE SERVICE

MASSACHUSETTS HISTORIC COMMISSION INVENTORY FORM OF 136 SHAWMUT AVENUE

MassDEP - Bureau of Waste Site Cleanup

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

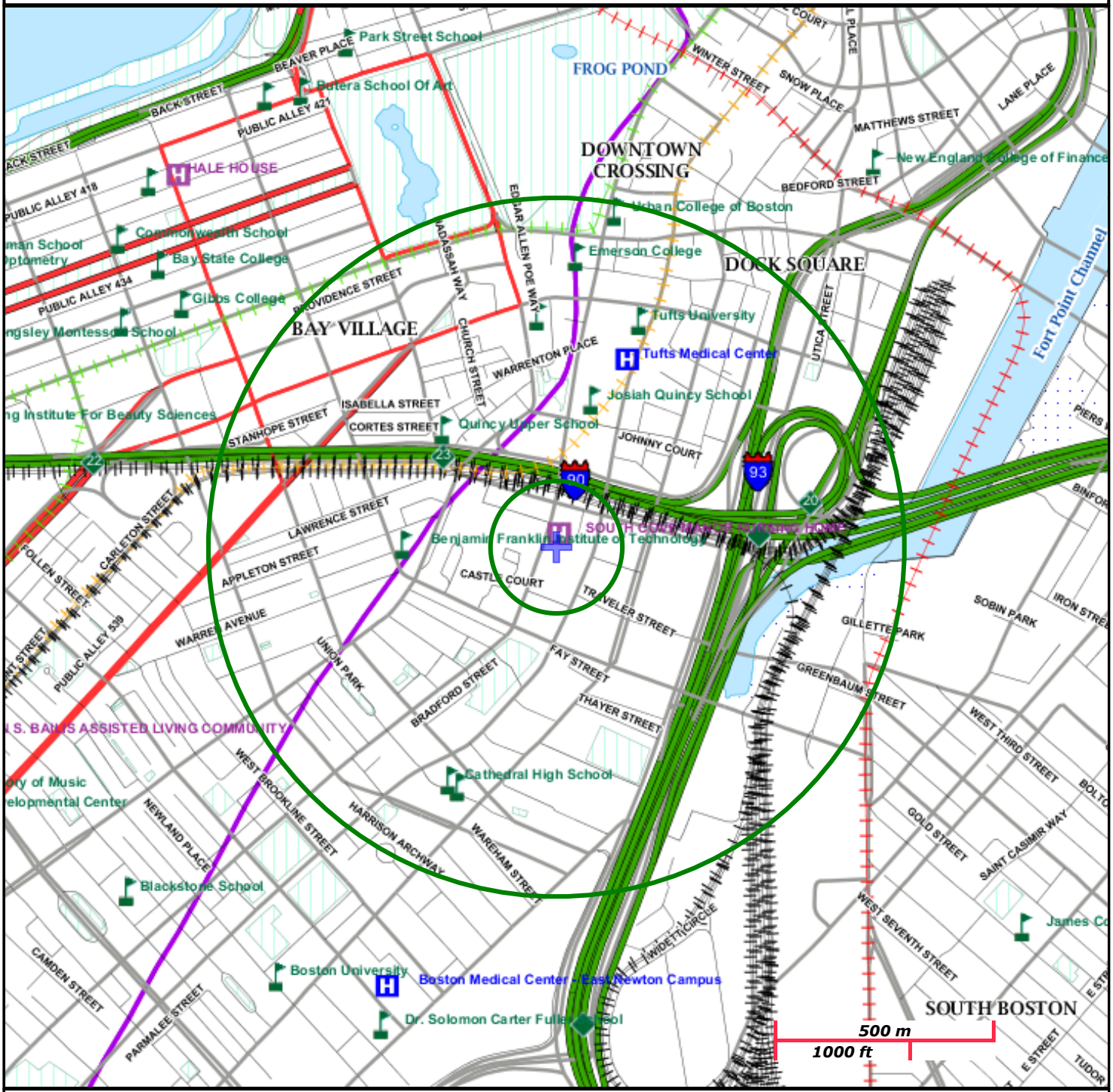
Site Information:

136 SHAWMUT AVENUE BOSTON, MA

NAD83 UTM Meters:
4690254mN , 329837mE (Zone: 19)
August 7, 2015

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

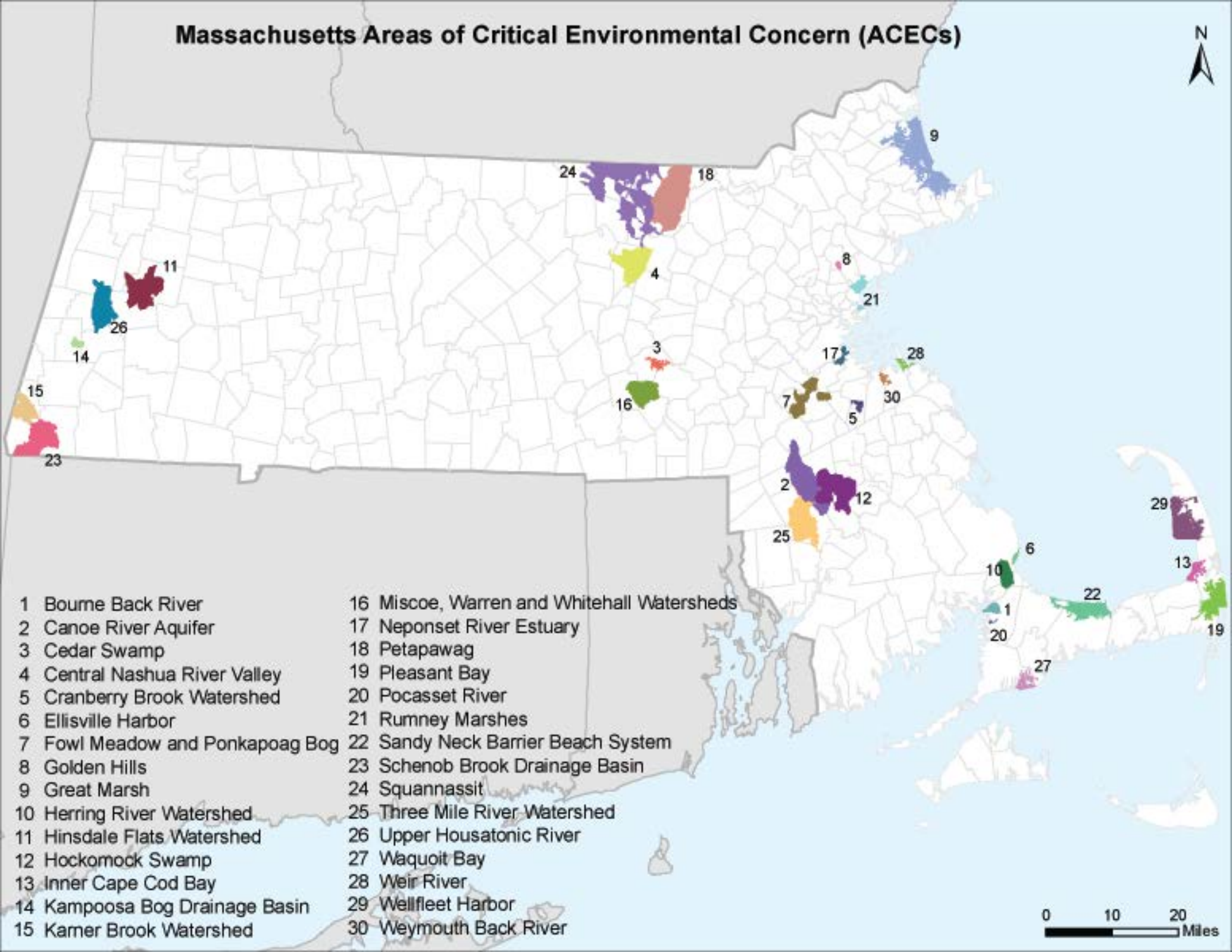
Wetlands: Freshwater, Saltwater, Cranberry Bog

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 Areas of Critical Environmental Concern (ACECs)



1 Bourne Back River
2 Canoe River Aquifer
3 Cedar Swamp
4 Central Nashua River Valley
5 Cranberry Brook Watershed
6 Ellisville Harbor
7 Fowl Meadow and Ponkapoag Bog
8 Golden Hills
9 Great Marsh
10 Herring River Watershed
11 Hinsdale Flats Watershed
12 Hockomock Swamp
13 Inner Cape Cod Bay
14 Kampoosa Bog Drainage Basin
15 Karner Brook Watershed
16 Miscoe, Warren and Whitehall Watersheds
17 Neponset River Estuary
18 Petapawag
19 Pleasant Bay
20 Pocasset River
21 Rumney Marshes
22 Sandy Neck Barrier Beach System
23 Schenob Brook Drainage Basin
24 Squannassit
25 Three Mile River Watershed
26 Upper Housatonic River
27 Waquoit Bay
28 Weir River
29 Wellfleet Harbor
30 Weymouth Back River

U.S. Fish & Wildlife Service

136 Shawmut Avenue

IPaC Trust Resource Report

Generated August 07, 2015 12:21 PM MDT

US Fish & Wildlife Service

IPaC Trust Resource Report

Project Description

NAME

136 Shawmut Avenue

PROJECT CODE

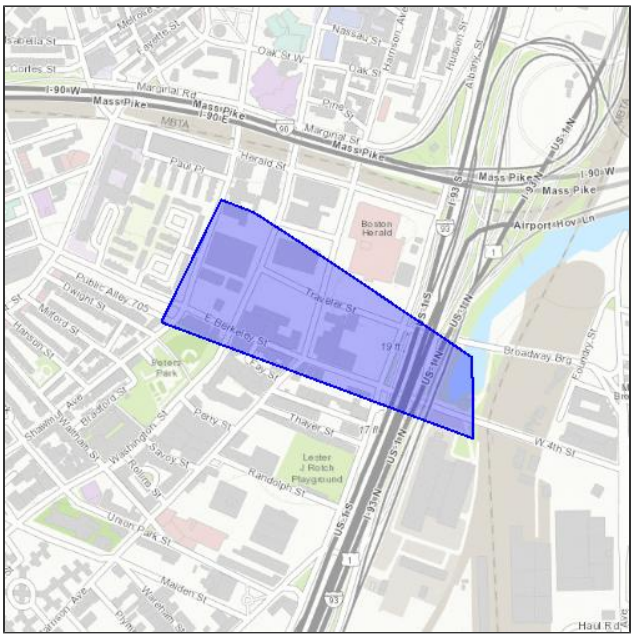
LCX6H-BRC5Z-G6BCD-YHZWC-AGRW64

LOCATION

Suffolk County, Massachusetts

DESCRIPTION

No description provided



U.S. Fish & Wildlife Contact Information

Species in this report are managed by:

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

Endangered Species

Proposed, candidate, threatened, and endangered species that are managed by the Endangered Species Program and should be considered as part of an effect analysis for this project.

This unofficial species list is for informational purposes only and does not fulfill the requirements under Section 7 of the Endangered Species Act, which states that Federal agencies are required to "request of the Secretary of Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action." This requirement applies to projects which are conducted, permitted or licensed by any Federal agency.

A letter from the local office and a species list which fulfills this requirement can be obtained by returning to this project on the IPaC website and requesting an Official Species List from the regulatory documents section.

Birds

Red Knot Calidris canutus rufa **Threatened**

CRITICAL HABITAT

No critical habitat has been designated for this species.

https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B0DM

Critical Habitats

Potential effects to critical habitat(s) within the project area must be analyzed along with the endangered species themselves.

There is no critical habitat within this project area

Migratory Birds

Birds are protected by the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act.

Any activity which results in the take of migratory birds or eagles is prohibited unless authorized by the U.S. Fish and Wildlife Service (1). There are no provisions for allowing the take of migratory birds that are unintentionally killed or injured.

You are responsible for complying with the appropriate regulations for the protection of birds as part of this project. This involves analyzing potential impacts and implementing appropriate conservation measures for all project activities.

American Oystercatcher Haematopus palliatus — **Bird of conservation concern**
Season: Breeding
https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B0G8

American Bittern Botaurus lentiginosus — **Bird of conservation concern**
Season: Breeding
https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B0F3

Bald Eagle Haliaeetus leucocephalus — **Bird of conservation concern**
Year-round
https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B008

Black-billed Cuckoo Coccyzus erythropthalmus — **Bird of conservation concern**
Season: Breeding
https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B0HI

Blue-winged Warbler Vermivora pinus — **Bird of conservation concern**
Season: Breeding

Canada Warbler Wilsonia canadensis — **Bird of conservation concern**
Season: Breeding

Hudsonian Godwit Limosa haemastica — **Bird of conservation concern**
Season: Migrating

Least Bittern Ixobrychus exilis — **Bird of conservation concern**
Season: Breeding

Peregrine Falcon Falco peregrinus — **Bird of conservation concern**
Season: Breeding
https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B0FU

Pied-billed Grebe Podilymbus podiceps — **Bird of conservation concern**
Season: Breeding

Prairie Warbler Dendroica discolor — **Bird of conservation concern**
Season: Breeding

Purple Sandpiper Calidris maritima — **Bird of conservation concern**
Season: Wintering

Saltmarsh Sparrow Ammodramus caudacutus — **Bird of conservation concern**
Season: Breeding

Seaside Sparrow Ammodramus maritimus — **Bird of conservation concern**
Season: Breeding

Short-eared Owl Asio flammeus **Bird of conservation concern**

Season: Wintering

https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B0HD

Snowy Egret Egretta thula **Bird of conservation concern**

Season: Breeding

Upland Sandpiper Bartramia longicauda **Bird of conservation concern**

Season: Breeding

https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B0HC

Wood Thrush Hylocichla mustelina **Bird of conservation concern**

Season: Breeding

Worm Eating Warbler Helmitheros vermivorum **Bird of conservation concern**

Season: Breeding

Refuges

Any activity proposed on National Wildlife Refuge lands must undergo a 'Compatibility Determination' conducted by the Refuge. If your project overlaps or otherwise impacts a Refuge, please contact that Refuge to discuss the authorization process.

There are no refuges within this project area

Wetlands

Impacts to NWI wetlands and other aquatic habitats from your project may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal Statutes.

Project proponents should discuss the relationship of these requirements to their project with the Regulatory Program of the appropriate U.S. Army Corps of Engineers District.

DATA LIMITATIONS

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

DATA EXCLUSIONS

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

DATA PRECAUTIONS

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

There are no wetlands identified in this project area

Gina Garten

From: vonOettingen, Susi <susi_vonoettingen@fws.gov>
Sent: Monday, August 10, 2015 1:18 PM
To: Gina Garten
Subject: Re: Potential effect of endangered species for my project

Hi Gina,

It does not appear that there is red knot habitat within the vicinity of your project. Red knots may be found foraging on sand and mud flats or roosting on beaches above the wrack line. I don't believe either of these types of habitat will be effected by the project. No further consultation necessary.

Susi

****
Susi von Oettingen
Endangered Species Biologist
New England Field Office
70 Commercial Street, Suite 300
Concord, NH 03301
(W) 603-223-2541 ext. 6418
Please note my new extension.

www.fws.gov/newengland

On Fri, Aug 7, 2015 at 2:41 PM, Gina Garten <ggarten@mcphailgeo.com> wrote:

Susi / Tony:

The IPaC Trust Resource Report informed me that the **Red Knot bird** is an endangered species that should be considered as part of the project I currently working on. I am completing a Notice of Intent for the groundwater discharge of construction dewatering effluent into Boston's storm drainage system. The project is located at 136 Shawmut Avenue in Boston and the point of discharge is the southern end of the Fort Point Channel. Please let me know if the project has the potential to affect the endangered species. Please find attached is the IPaC Report. Let me know if you have any questions.

Thanks,

Gina M. Garten

McPHAIL ASSOCIATES, LLC

2269 Massachusetts Avenue

Cambridge, MA 02140

Tel: 617-868-1420 Ext. 331

Direct: 617-349-7331

www.mcphailgeo.com

Massachusetts Cultural Resource Information System

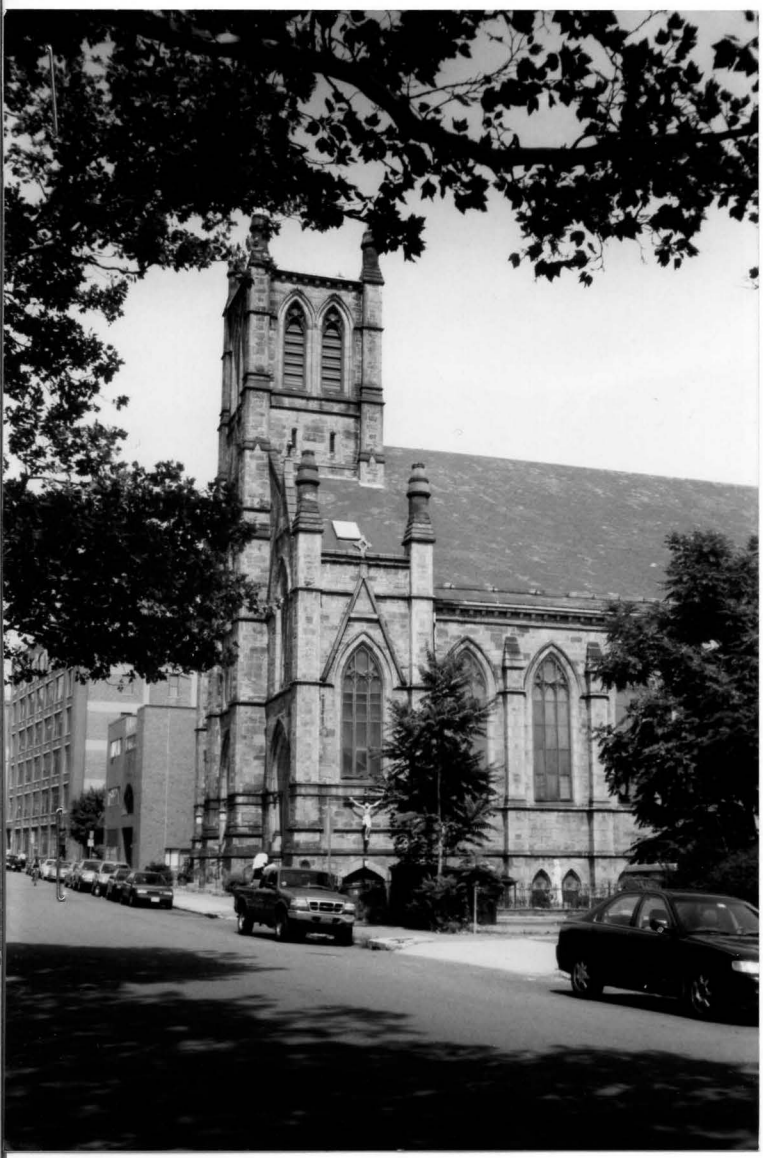
Scanned Record Cover Page

Inventory No:	BOS.15228
Historic Name:	Holy Trinity (German) Roman Catholic Church
Common Name:	Holy Trinity (German) Roman Catholic Rectory
Address:	136 Shawmut Ave 140R Shawmut Ave
City/Town:	Boston
Village/Neighborhood:	South End
Local No:	306171000; 306170000
Year Constructed:	c 1871
Architect(s):	Keeley, Patrick Charles; Keely, John H.; Kreckler, F. W.; Muller and Haberstroh; Shales; Turin, Charles
Architectural Style(s):	Victorian Gothic
Use(s):	Church; Classroom; Rectory
Significance:	Architecture; Art; Communications; Community Planning; Education; Ethnic Heritage; Religion; Social History
Area(s):	BOS.AD: South End Landmark District Protection Area
Designation(s):	
Building Materials(s):	Roof: Slate Wall: Granite; Roxbury Pudding Stone; Stone, Cut; Coursed Ashlar; Glass Foundation: Granite; Stone, Cut; Coursed Ashlar

FORM B – BUILDING

MASSACHUSETTS HISTORICAL COMMISSION
MASSACHUSETTS ARCHIVES BUILDING
220 MORRISSEY BOULEVARD
BOSTON, MASSACHUSETTS 02125

Assessor's #	USGS Quad	Area(s)	Form #
306171000	Boston So.	AD	15228



See attached map

Recorded by Kathleen Kelly Broomer
Organization Boston Preservation Alliance
Date (*month/year*) December 2003

Town Boston

Place (*neighborhood or village*)
South End

Address 136 Shawmut Avenue

Historic Name Holy Trinity (German) Church

Uses: Present religious

Original religious

Date of Construction 1871-1877

Source Nopper/Engler (see biblio)

Style/Form Victorian Gothic

Architect/Builder Keely (see historical narrative)

Exterior Material:

Foundation granite

Wall/Trim Roxbury puddingstone/granite

Roof slate

Outbuildings/Secondary Structures

attached rectory on separate lot (parcel id 306170000) at 140R Shawmut Avenue

Major Alterations (with dates)

steeple damaged during hurricane and removed (1938)

Condition good

Moved _X_ **no** __ **yes** **Date**

Acreage less than one-half acre

Setting mixed use urban corridor; church is across the street from Castle Square housing complex

AD 15228

BUILDING FORM **Holy Trinity (German) Church, South End, Boston**

ARCHITECTURAL DESCRIPTION ___ *See continuation sheet*
Describe architectural features. Evaluate the characteristics of this building in terms of other buildings within the community.

Holy Trinity (German) Church in the South End is a fine example of a Victorian Gothic church built of Roxbury puddingstone with contrasting ornamental details in granite. The main block of the church is one story on a raised basement, and the tower, which is centered on and projects slightly from the symmetrical, three-bay façade, rises four full stories. The original steeple was removed in 1938 following hurricane damage. The tower is being rehabilitated (2003) with financial assistance from the Steeples Project of Historic Boston, Inc. Stone buttresses separate the nine pointed-arch windows on each side elevation of the main block. Paired side elevation windows in the raised basement also have pointed-arch surrounds. On the three portals of the façade, pointed-arch surrounds spring from engaged columns, and small, engaged columns of stone form the tracery in the window above each entry. Each of the portals retains paneled bi-fold wood doors with Gothic-inspired moldings. The façade features multiple gables resolving in a gabled parapet wall, with pinnacles intact at the ends of the façade wall and on the tower.

The mansard-roofed rectory (ca. 1877), located on a separate lot at 140R Shawmut Avenue, is set back from the street but attached to the rear of the church by a 3½-story connector that appears to have been built at the same time as the church. Constructed of Roxbury puddingstone, like the church, with contrasting corner quoins, the rectory is 3½ stories on a raised basement, rectangular in massing, and three bays across by three bays deep. The roof is slate, and retains the same type of stone corbelled cornice seen on the church. Windows have granite surrounds and contain replacement 1/1 metal sash. Dormer windows have pedimented wood surrounds. The entry to the rectory is at grade level (in the raised basement) on the connector between rectory and church.

Condition Assessment: As viewed from the exterior, Holy Trinity (German) church and rectory are in good condition overall. There has been some replacement to the roof shingles on the church. Stained glass windows in the church are deteriorating, and some windows have been covered with plastic storm glazing. At the rectory, the pedimented wood surrounds in the dormers are in poor condition.

Holy Trinity (German) is a large church relative to other Catholic churches constructed in Boston in the 1870s. Accounts of the parish's history describe the architectural style as early German Gothic. The church in its materials, massing, and design is consistent with other Catholic churches in the Victorian Gothic mode built in Boston about the same time. The symmetry of the façade, featuring a centered tower rather than off-center tower seen on most of the other churches of that decade, imparts a formal, as opposed to picturesque, quality to the design.

HISTORICAL NARRATIVE ✓ *See continuation sheet*
Discuss the history of the building. Explain its associations with local (or state) history. Include uses of the building, and the role(s) the owners/occupants played within the community.

Holy Trinity (German) is the oldest national parish in the entire Archdiocese of Boston (*i.e.*, the territory covering much of Eastern Massachusetts). Unlike most parishes, which are territorial and encompass all believers in a given geographic area, a national (or ethnic) parish is designed to serve members of a particular group regardless of their place of residence. [O'Toole, *Guide to the Archives*, 305] Pastors of Holy Trinity served Germans in all parts of the Archdiocese. The only other German parish in the Archdiocese is the Assumption in Lawrence, which was established in 1887.

According to the *History of the Archdiocese of Boston*, in the spring of 1835, Bishop Benedict Joseph Fenwick discovered that there were over two hundred German Catholics in Boston and the then-town of Roxbury for whom special provision seemed required. [II, 144] At the time, the Boston diocese was served predominantly by Irish or Irish-American pastors, and the German Catholic community voiced a desire for priests who could say Mass and hear confessions in German. German priests would also be more familiar

with German religious traditions, including customs that revolved around important religious holy days such as Christmas and Easter. A parish history credits German immigrants in Boston with introducing the use of Christmas trees in New England. ["History of Holy Trinity," 1] Louis Prang, a parishioner, is credited with the printing and selling of the first Christmas cards in the United States. [*Splendor of Boston*, 3] To meet the needs of the German community in Boston, Bishop Fenwick requested secular clergy from Germany. Secular clergy served the parishes and were accountable to the bishop, as opposed to regular clergy who were members of religious orders. Between 1836 and 1846, several German priests served Holy Trinity parish, but all moved on to serve larger German Catholic populations in the Midwest.

The Rev. John Stephen Raffeiner from the Diocese of New York subsequently traveled to Boston several times a year to minister to the German Catholic community when a priest was not in residence. Under Father Raffeiner's direction, construction of the first Holy Trinity Church was completed and the first Mass celebrated in June 1844. The first church (demolished) was located on Suffolk Street (later Shawmut Avenue) and Lucas Street (no longer extant) in the South End, in the vicinity of the present Massachusetts Turnpike.

From 1848 to 1961, Jesuit priests (Society of Jesus) ran Holy Trinity (German). Bishop Fenwick invited the Jesuits to assume control during a contentious period in the late 1840s, when there were conflicts between High Germans and Low Germans in the parish due to different dialects and traditions. This discord caused several pastors to resign in frustration. ["History of Holy Trinity," 1] Parishioners were reconciled under the Rev. Gustave Eck, the first Jesuit pastor, who served until 1854. A failed attempt in 1853 to build a larger church on Tremont Street in the South End led to Father Eck's departure and the arrival of the Rev. Ernest Reiter, S. J., as pastor. In the aftermath of the failed church project, the congregation attempted to replace the Jesuits with Redemptorists (Congregation of the Most Holy Redeemer). The Provincial of the Redemptorists decided the order could not supply the necessary number of German-speaking priests and ultimately declined the invitation to serve Holy Trinity parish.

In 1871, the parish began construction of the present Holy Trinity Church with the laying of the foundation. The Rev. Ernest Reiter, pastor from 1854 to 1856 and 1859 to 1870, is credited with raising the money needed to buy land on Shawmut Avenue for construction of a new church. Father Reiter was unable to remain at Holy Trinity to witness the construction, having been transferred by his order to Buffalo to supervise a German Jesuit mission that encompassed all regions of the Great Lakes. The cornerstone at Holy Trinity was laid November 10, 1872, one day after Boston's Great Fire destroyed much of the central business district. Archbishop John Williams dedicated the new church on May 27, 1877, the Feast of the Holy Trinity. The new church could accommodate 1,200 persons in the upper church and 700 in the lower church.

Architect of the present church is known to be Keely of Brooklyn, though there is some discrepancy among secondary sources as to whether the building was designed by prolific church architect Patrick C. Keely (1816-1896), as noted in some Keely biographies, or John H. Keely. Sullivan's 1895 history of the archdiocese attributes the church to Patrick C. Keely. [Sullivan, 139] Two separate translator's footnotes in a parish history published in 1992 [Nopper/Engler] attribute the design to John H. Keely, referencing in turn a parish history completed in 1944. Patrick C. Keely had a son, John J.[*sic*] Keely, who operated his own architectural practice in Brooklyn for a number of years until his death in 1879. [Decker] Whether John H. Keely and John J. Keely are the same person is a topic for further research. If the architect of Holy Trinity (German) is Patrick C. Keely, then the church is believed to be his only non-Irish church in Boston. Son of a builder, Patrick C. Keely was born in Thurles, County Tipperary, Ireland, and settled in Brooklyn, New York about 1841. He completed a Catholic church there in 1846, the first of over 600 churches and other religious buildings he designed during his career. The territory of Keely's commissions extended north to Nova Scotia, south to Charleston, South Carolina, and west to Iowa. About twenty Keely-designed church projects were built in Boston between 1851 and 1892, at least seven of which were under

construction in the 1870s. Chief of these commissions is the Cathedral of the Holy Cross, 1400 Washington Street, South End (1861-1875, MHC #1498, see also form for Cathedral complex). Keely also designed cathedrals in Albany, Chicago, Cleveland, Buffalo, Hartford, Newark, and Providence.

The work of other designers is represented in the stained glass and ceiling paintings at Holy Trinity, but in most cases only partial names are known. Stained glass was designed by Charles Turin (1992 parish history says Turno) of New York and made by German artists of the Munchener Schule. Messrs. Muller (Miller?) and Haberstroh did the paintings in the upper church, while other paintings on the ceiling and in the chancel were done by F. W. Kreckler. Keely designed the altars, pulpit, pews, organ loft, and wainscoting, which were built by a Mr. Shales of South Boston. [Nopper/Engler, 50; Larson and Story, 22-23] Stained glass windows (designer not yet known) were installed in the lower church during the tenure of the Rev. Joseph Faber, S. J., who served as pastor from 1910 to 1918. [History of Holy Trinity, 3]

Holy Trinity (German) reportedly established the first Catholic parish school in New England (1846), and had three girls' schools by 1859, when Father Reiter invited the Sisters of Notre Dame of Cincinnati to run the schools. By 1878, the Sisters of Notre Dame also ran the parish's elementary and middle schools for boys, with only the boys' high school still under the jurisdiction of lay teachers. These schools operated in the basement of the original church and in nearby buildings (no longer extant) at the intersection of Suffolk Street (later Shawmut Avenue) and Lucas Street (no longer extant). The parish's school operations shifted to Roxbury in the first quarter of the 20th century with the construction of a grade school and upper schools. Holy Trinity Commercial School, a two-year and later a three-year program, operated from 1917 to 1933. After discontinuing the Commercial School, in 1933 the parish established Holy Trinity High School, a four-year school with college and business courses that was staffed by the Sisters of the Third Order of St. Francis from Glen Riddle, Pennsylvania. [History of Holy Trinity, 3; Nopper/Engler, 56-60; Sullivan, 56]

In addition to its schools, Holy Trinity (German) parish expanded its service to the larger community in the last quarter of the 19th century, with the establishment of parish societies and benevolent organizations, as well as Masses in Polish and Lithuanian for members of nascent ethnic parishes in Boston. In 1888, Holy Trinity parish established St. Francis German Catholic Home (no longer extant) in Roxbury. Operated by the Sisters of the Third Order of St. Francis, the institution was an orphanage as well as a home for the elderly of the parish. [Lord, III, 368] Masses in Polish were said in the basement of Holy Trinity in 1893-1894 before the construction of Our Lady of Czestochowa Church, 655 Dorchester Avenue, South Boston [1894, see form for parish complex]. Masses in Lithuanian were said at Holy Trinity in 1895-1896 before the construction of a Lithuanian Catholic church (St. Joseph Church, 1896, burned 1899) on Seventh Street in South Boston. The focus of the Lithuanian parish subsequently shifted to St. Peter Church, now 75 Flaherty Way, South Boston [1901-1904, see form for parish complex]. Holy Trinity (German) parish had grown to about 6,000 people under the leadership of the Rev. John Jutz, S. J. from 1896 to 1906. Father Jutz also founded the parish's monthly newspaper, the *Monatsbote* (monthly messenger), which is still published today.

The parish experienced a period of severe contraction after World War II. From 490 families totaling 1,900 individuals and over 400 students in the parish's schools in 1941, by 1945 only about 250 families in the parish were active, even though over 700 families belonged to the parish at that time. In 1945, six Jesuit priests served the parish, which by then consisted of two churches, four chapels, two parish halls, two rectories, two convents, two grade schools, one high school, five apartment buildings, one garage, two playgrounds, and one building with rooms for parish organizations. According to one parish history, these holdings required a tremendous commitment of financial resources and personnel at a time when the South End's demographics were changing and parish membership was declining. After initially proposing to the Archbishop in 1948 that the Archdiocese take over all parish buildings except the current church and rectory, the Jesuits ultimately departed Holy Trinity entirely in 1961, at which point the church and rectory were turned over to the Archdiocese. The Rev. Robert L. Ryer became the parish's first secular (see

definition above) administrator (1961-1966) and pastor (1966-1967) in a century. The parish schools, orphanage, and home for the elderly were phased out, leaving the church and rectory as the parish's only buildings since 1966. [History of Holy Trinity, 4] Holy Trinity remains a German national parish that serves the cultural as well as spiritual needs of German-Americans in the Archdiocese of Boston.

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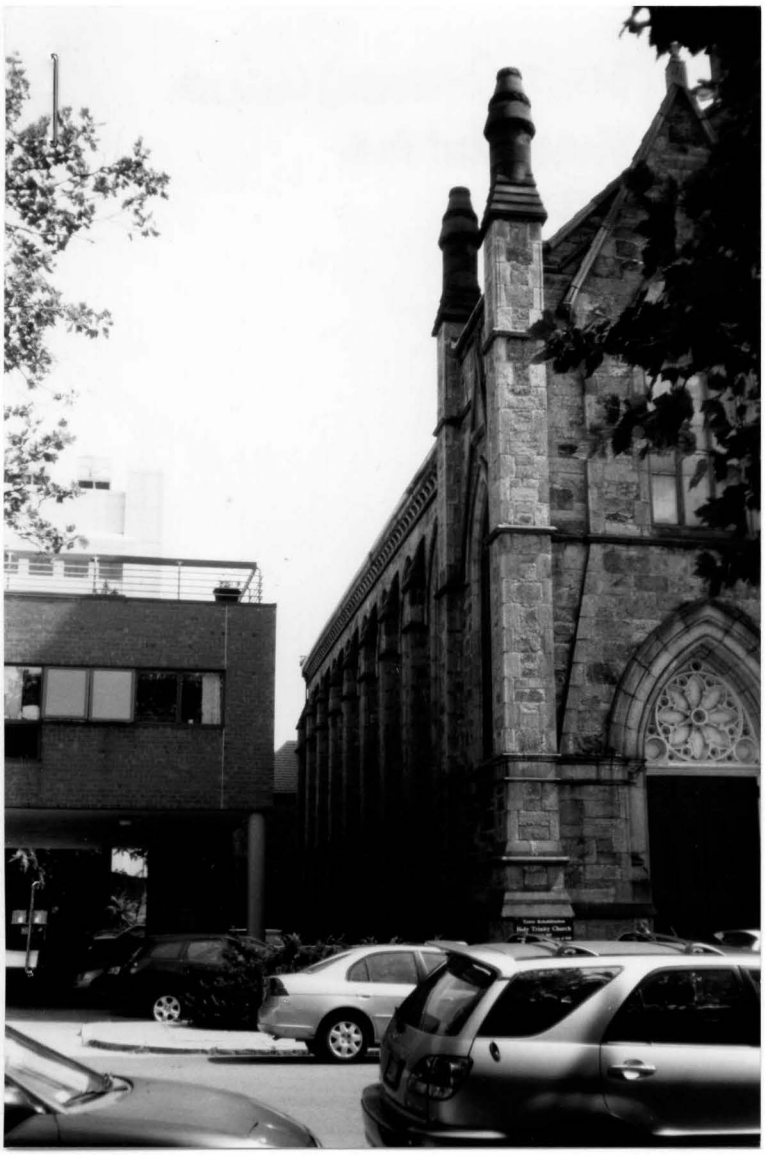
✓ Recommended for listing in the National Register of Historic Places. *If checked, you must attach a completed National Register Criteria Statement form.*

INVENTORY FORM CONTINUATION SHEET

MASSACHUSETTS HISTORICAL COMMISSION
MASSACHUSETTS ARCHIVES BUILDING
220 MORRISSEY BOULEVARD
BOSTON, MA 02125

Town	**Property Address**
Boston	136 Shawmut Avenue
Area	**Form Number**
AD	15228

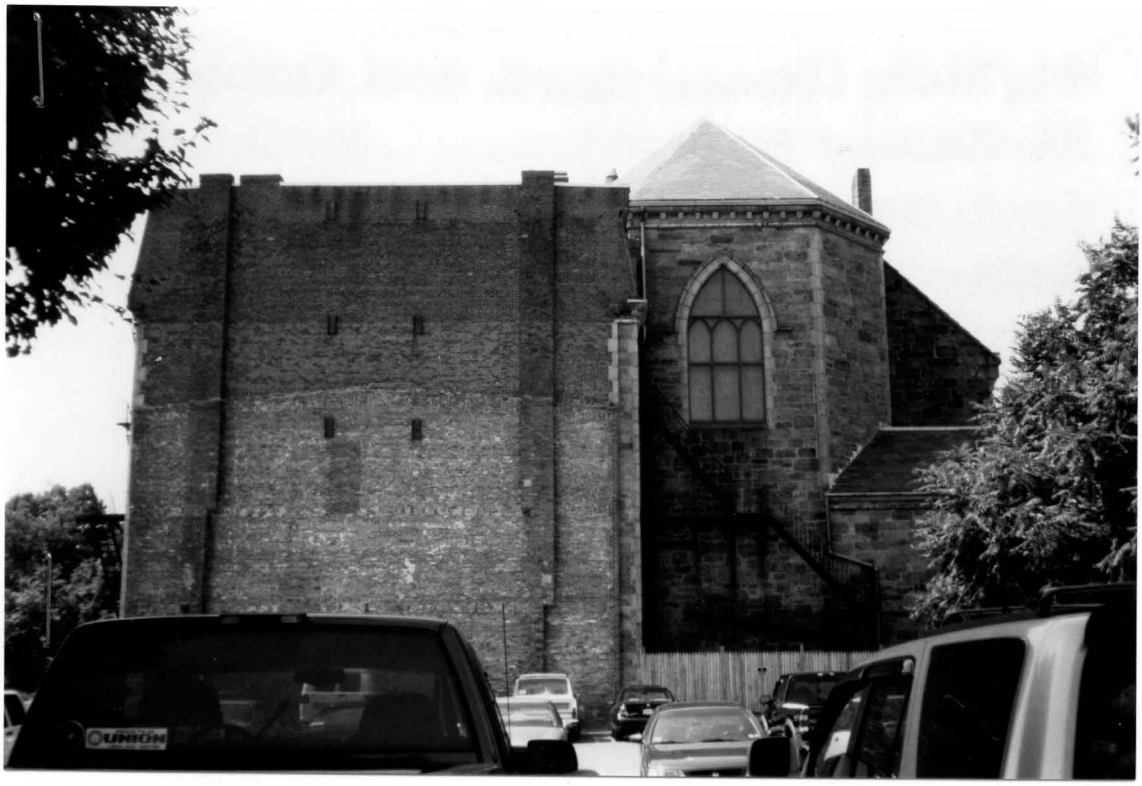


RECTORY
140R SHAWMUT AVE

INVENTORY FORM CONTINUATION SHEET

MASSACHUSETTS HISTORICAL COMMISSION
MASSACHUSETTS ARCHIVES BUILDING
220 MORRISSEY BOULEVARD
BOSTON, MA 02125

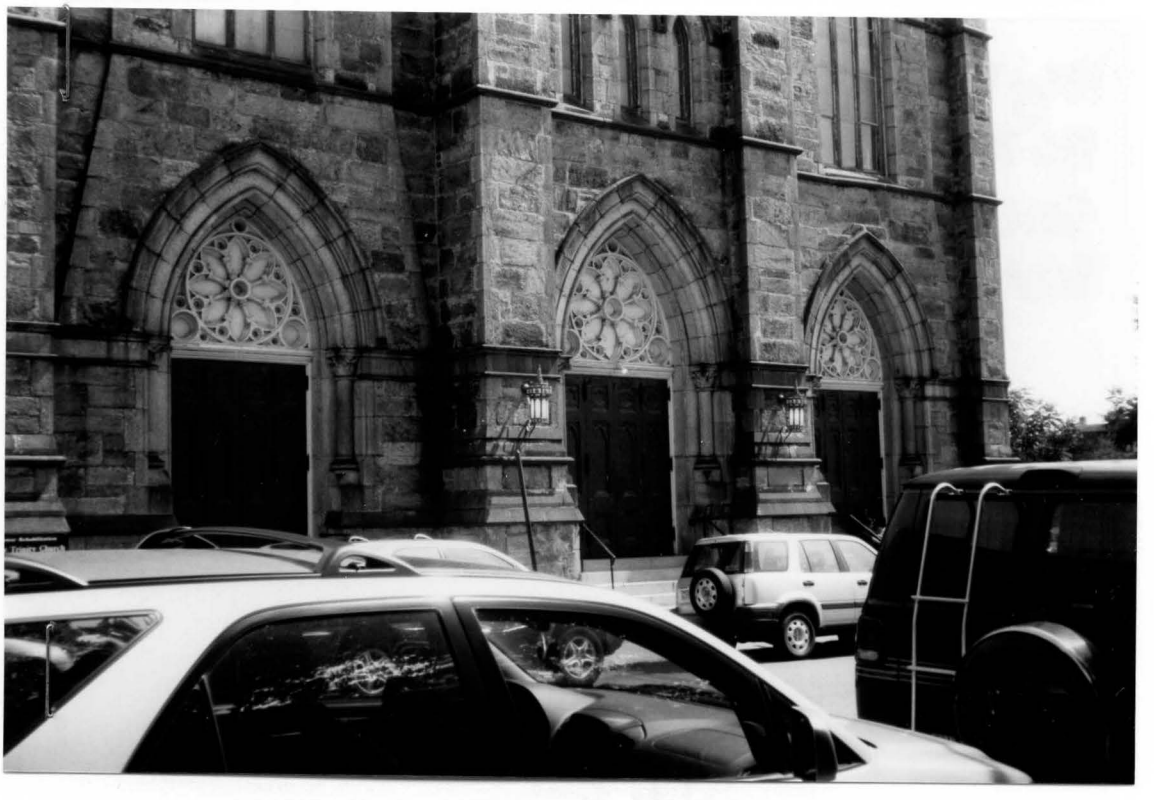
Town	**Property Address**
Boston	136 Shawmut Avenue
Area	**Form Number**
AD	15228



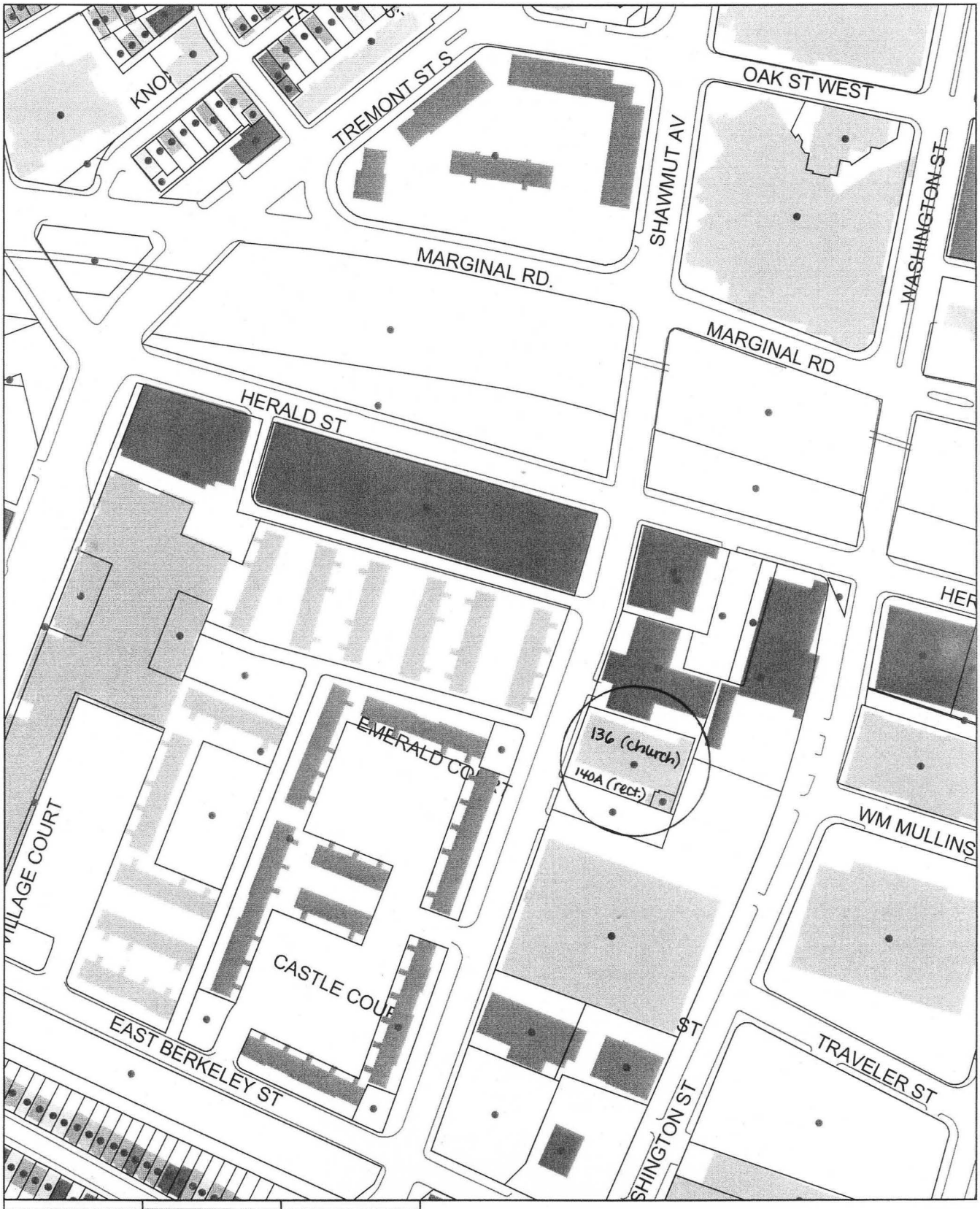
INVENTORY FORM CONTINUATION SHEET

MASSACHUSETTS HISTORICAL COMMISSION
MASSACHUSETTS ARCHIVES BUILDING
220 MORRISSEY BOULEVARD
BOSTON, MA 02125

Town	**Property Address**
Boston	136 Shawmut Avenue
Area	**Form Number**
AD	15228



AD 15228



Holy Trinity (German), South End

Boston Redevelopment Authority

INVENTORY FORM CONTINUATION SHEET	Town	Property Address
MASSACHUSETTS HISTORICAL COMMISSION MASSACHUSETTS ARCHIVES BUILDING 220 MORRISSEY BOULEVARD BOSTON, MA 02125	Boston (South End) **Area** AD	Holy Trinity (German) Church and Rectory **Form No.** 15228

National Register of Historic Places Criteria Statement Form

Check all that apply:

✓ Individually eligible
___ Contributing to a potential historic district
___ Eligible only in a historic district
___ Potential historic district

Criteria: ✓ A __ B ✓ C ___ D

Criteria Considerations: ✓ A ___ B ___ C ___ D ___ E ___ F ___ G

Statement of Significance by Kathleen Kelly Broomer
The criteria that are checked in the above sections must be justified here.

Holy Trinity (German) Church and the attached rectory are recommended for the National Register as an individual listing, with a period of significance of 1871 to 1954. For its association with the oldest Roman Catholic national parish serving a specific ethnic community in the Archdiocese of Boston, and serving as a place of worship for Boston's nascent Polish and Lithuanian national parishes before their own churches were constructed, Holy Trinity Church and Rectory meet Criterion A. As a fine example of a Victorian Gothic church built of Roxbury puddingstone, designed by a member of the Keely family, renowned Catholic Church architects from Brooklyn, New York, and as the only rectory in Boston constructed of Roxbury puddingstone, the church and attached rectory meet Criterion C. The building meets Criteria Consideration A as a religious building significant for its contribution to the history and architecture of the South End specifically and Boston generally.

Retaining integrity of location, design, materials, workmanship, feeling, and association, Holy Trinity (German) Church and Rectory meet the National Register criteria with significance at the local, and possibly state, level. Further research is needed to establish whether Holy Trinity is the oldest German national parish in the Commonwealth.

Holy Trinity (German) Church and Rectory are located in the City of Boston's designated protection area for the South End Landmark District, established in 1983.

APPENDIX D:

LABORATORY ANALYTIC DATA

ANALYTICAL REPORT

Lab Number:	L1513508
Client:	McPhail Associates 2269 Massachusetts Avenue Cambridge, MA 02140
ATTN:	Ambrose Donovan
Phone:	(617) 868-1420
Project Name:	136 SHAWMUT AVE.
Project Number:	5796
Report Date:	06/23/15

Certifications & Approvals: MA (M-MA086), NY (11148), CT (PH-0574), NH (2003), NJ NELAP (MA935), RI (LAO00065), ME (MA00086), PA (68-03671), VA (460195), MD (348), IL (200077), NC (666), TX (T104704476), DOD (L2217), USDA (Permit #P-330-11-00240).

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

Project Name: 136 SHAWMUT AVE.
Project Number: 5796

Lab Number: L1513508
Report Date: 06/23/15

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1513508-01	B-1 (OW)	WATER	BOSTON, MA	06/16/15 13:00	06/16/15
L1513508-02	TRIP BLANK	WATER	BOSTON, MA	06/16/15 00:00	06/16/15

Project Name: 136 SHAWMUT AVE. **Lab Number:** L1513508
Project Number: 5796 **Report Date:** 06/23/15

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 all of the requirements of NELAC, for all NELAC accredited parameters. 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: 136 SHAWMUT AVE. **Lab Number:** L1513508
Project Number: 5796 **Report Date:** 06/23/15

Case Narrative (continued)

Sample Receipt

A Trip Blank was received in the laboratory but not listed on the Chain of Custody. The Trip Blank was not analyzed.

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: 06/23/15

ORGANICS

VOLATILES

Project Name: 136 SHAWMUT AVE.
Lab Number: L1513508
Project Number: 5796
Report Date: 06/23/15

SAMPLE RESULTS

Lab ID: L1513508-01
Client ID: B-1 (OW)
Sample Location: BOSTON, MA
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 06/22/15 23:58
Analyst: PK

Date Collected: 06/16/15 13:00
Date Received: 06/16/15
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	3.0	--	1
1,1-Dichloroethane	ND		ug/l	0.75	--	1
Chloroform	ND		ug/l	0.75	--	1
Carbon tetrachloride	ND		ug/l	0.50	--	1
1,2-Dichloropropane	ND		ug/l	1.8	--	1
Dibromochloromethane	ND		ug/l	0.50	--	1
1,1,2-Trichloroethane	ND		ug/l	0.75	--	1
Tetrachloroethene	ND		ug/l	0.50	--	1
Chlorobenzene	ND		ug/l	0.50	--	1
Trichlorofluoromethane	ND		ug/l	2.5	--	1
1,2-Dichloroethane	ND		ug/l	0.50	--	1
1,1,1-Trichloroethane	ND		ug/l	0.50	--	1
Bromodichloromethane	ND		ug/l	0.50	--	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	--	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	--	1
1,1-Dichloropropene	ND		ug/l	2.5	--	1
Bromoform	ND		ug/l	2.0	--	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	--	1
Benzene	ND		ug/l	0.50	--	1
Toluene	ND		ug/l	0.75	--	1
Ethylbenzene	ND		ug/l	0.50	--	1
Chloromethane	ND		ug/l	2.5	--	1
Bromomethane	ND		ug/l	1.0	--	1
Vinyl chloride	ND		ug/l	1.0	--	1
Chloroethane	ND		ug/l	1.0	--	1
1,1-Dichloroethene	ND		ug/l	0.50	--	1
trans-1,2-Dichloroethene	ND		ug/l	0.75	--	1
Trichloroethene	ND		ug/l	0.50	--	1
1,2-Dichlorobenzene	ND		ug/l	2.5	--	1
1,3-Dichlorobenzene	ND		ug/l	2.5	--	1

Project Name: 136 SHAWMUT AVE. **Lab Number:** L1513508

Project Number: 5796 **Report Date:** 06/23/15

SAMPLE RESULTS

Lab ID: L1513508-01 Date Collected: 06/16/15 13:00

Client ID: B-1 (OW) Date Received: 06/16/15

Sample Location: BOSTON, MA Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,4-Dichlorobenzene	ND		ug/l	2.5	--	1
Methyl tert butyl ether	ND		ug/l	1.0	--	1
p/m-Xylene	ND		ug/l	1.0	--	1
o-Xylene	ND		ug/l	1.0	--	1
Xylenes, Total	ND		ug/l	1.0	--	1
cis-1,2-Dichloroethene	ND		ug/l	0.50	--	1
Dibromomethane	ND		ug/l	5.0	--	1
1,4-Dichlorobutane	ND		ug/l	5.0	--	1
1,2,3-Trichloropropane	ND		ug/l	5.0	--	1
Styrene	ND		ug/l	1.0	--	1
Dichlorodifluoromethane	ND		ug/l	5.0	--	1
Acetone	ND		ug/l	5.0	--	1
Carbon disulfide	ND		ug/l	5.0	--	1
2-Butanone	ND		ug/l	5.0	--	1
Vinyl acetate	ND		ug/l	5.0	--	1
4-Methyl-2-pentanone	ND		ug/l	5.0	--	1
2-Hexanone	ND		ug/l	5.0	--	1
Ethyl methacrylate	ND		ug/l	5.0	--	1
Acrylonitrile	ND		ug/l	5.0	--	1
Bromochloromethane	ND		ug/l	2.5	--	1
Tetrahydrofuran	ND		ug/l	5.0	--	1
2,2-Dichloropropane	ND		ug/l	2.5	--	1
1,2-Dibromoethane	ND		ug/l	2.0	--	1
1,3-Dichloropropane	ND		ug/l	2.5	--	1
1,1,1,2-Tetrachloroethane	ND		ug/l	0.50	--	1
Bromobenzene	ND		ug/l	2.5	--	1
n-Butylbenzene	ND		ug/l	0.50	--	1
sec-Butylbenzene	ND		ug/l	0.50	--	1
tert-Butylbenzene	ND		ug/l	2.5	--	1
o-Chlorotoluene	ND		ug/l	2.5	--	1
p-Chlorotoluene	ND		ug/l	2.5	--	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	--	1
Hexachlorobutadiene	ND		ug/l	0.50	--	1
Isopropylbenzene	ND		ug/l	0.50	--	1
p-Isopropyltoluene	ND		ug/l	0.50	--	1
Naphthalene	ND		ug/l	2.5	--	1
n-Propylbenzene	ND		ug/l	0.50	--	1
1,2,3-Trichlorobenzene	ND		ug/l	2.5	--	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5	--	1

Project Name: 136 SHAWMUT AVE. **Lab Number:** L1513508

Project Number: 5796 **Report Date:** 06/23/15

SAMPLE RESULTS

Lab ID: L1513508-01 Date Collected: 06/16/15 13:00

Client ID: B-1 (OW) Date Received: 06/16/15

Sample Location: BOSTON, MA Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,3,5-Trimethylbenzene	ND		ug/l	2.5	--	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	--	1
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	--	1
Ethyl ether	ND		ug/l	2.5	--	1
Tert-Butyl Alcohol	ND		ug/l	10	--	1
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	110		70-130
Toluene-d8	94		70-130
4-Bromofluorobenzene	115		70-130
Dibromofluoromethane	118		70-130

Project Name: 136 SHAWMUT AVE.
Lab Number: L1513508
Project Number: 5796
Report Date: 06/23/15

SAMPLE RESULTS

Lab ID: L1513508-01
Client ID: B-1 (OW)
Sample Location: BOSTON, MA
Matrix: Water
Analytical Method: 1,8260C-SIM(M)
Analytical Date: 06/22/15 23:58
Analyst: PK

Date Collected: 06/16/15 13:00
Date Received: 06/16/15
Field Prep: Not Specified

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

Project Name: 136 SHAWMUT AVE.
Lab Number: L1513508
Project Number: 5796
Report Date: 06/23/15

SAMPLE RESULTS

Lab ID:	L1513508-01	Date Collected:	06/16/15 13:00
Client ID:	B-1 (OW)	Date Received:	06/16/15
Sample Location:	BOSTON, MA	Field Prep:	Not Specified
Matrix:	Water		
Analytical Method:	14,504.1	Extraction Date:	06/18/15 13:00
Analytical Date:	06/18/15 15:53		
Analyst:	NS		

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

Project Name: 136 SHAWMUT AVE.
Project Number: 5796
Lab Number: L1513508
Report Date: 06/23/15

Method Blank Analysis
Batch Quality Control

Analytical Method: 14,504.1
Analytical Date: 06/18/15 14:27
Analyst: NS
Extraction Date: 06/18/15 13:00

Parameter	Result	Qualifier	Units	RL	MDL	
Microextractables by GC - Westborough Lab for sample(s): 01 Batch: WG794872-1						
1,2-Dibromoethane	ND		ug/l	0.010	--	A
1,2-Dibromo-3-chloropropane	ND		ug/l	0.010	--	A

Project Name: 136 SHAWMUT AVE.
Project Number: 5796
Lab Number: L1513508
Report Date: 06/23/15

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C-SIM(M)
Analytical Date: 06/22/15 22:20
Analyst: PK

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 01 Batch: WG796080-3					
1,4-Dioxane	ND		ug/l	3.0	--

Project Name: 136 SHAWMUT AVE.
Project Number: 5796
Lab Number: L1513508
Report Date: 06/23/15

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 06/22/15 22:20
Analyst: PK

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG796082-3					
Methylene chloride	ND		ug/l	3.0	--
1,1-Dichloroethane	ND		ug/l	0.75	--
Chloroform	ND		ug/l	0.75	--
Carbon tetrachloride	ND		ug/l	0.50	--
1,2-Dichloropropane	ND		ug/l	1.8	--
Dibromochloromethane	ND		ug/l	0.50	--
1,1,2-Trichloroethane	ND		ug/l	0.75	--
2-Chloroethylvinyl ether	ND		ug/l	10	--
Tetrachloroethene	ND		ug/l	0.50	--
Chlorobenzene	ND		ug/l	0.50	--
Trichlorofluoromethane	ND		ug/l	2.5	--
1,2-Dichloroethane	ND		ug/l	0.50	--
1,1,1-Trichloroethane	ND		ug/l	0.50	--
Bromodichloromethane	ND		ug/l	0.50	--
trans-1,3-Dichloropropene	ND		ug/l	0.50	--
cis-1,3-Dichloropropene	ND		ug/l	0.50	--
1,3-Dichloropropene, Total	ND		ug/l	0.50	--
1,1-Dichloropropene	ND		ug/l	2.5	--
Bromoform	ND		ug/l	2.0	--
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	--
Benzene	ND		ug/l	0.50	--
Toluene	ND		ug/l	0.75	--
Ethylbenzene	ND		ug/l	0.50	--
Chloromethane	ND		ug/l	2.5	--
Bromomethane	ND		ug/l	1.0	--
Vinyl chloride	ND		ug/l	1.0	--
Chloroethane	ND		ug/l	1.0	--
1,1-Dichloroethene	ND		ug/l	0.50	--
trans-1,2-Dichloroethene	ND		ug/l	0.75	--

Project Name: 136 SHAWMUT AVE.
Project Number: 5796
Lab Number: L1513508
Report Date: 06/23/15

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 06/22/15 22:20
Analyst: PK

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG796082-3					
1,2-Dichloroethene (total)	ND		ug/l	0.50	--
Trichloroethene	ND		ug/l	0.50	--
1,2-Dichlorobenzene	ND		ug/l	2.5	--
1,3-Dichlorobenzene	ND		ug/l	2.5	--
1,4-Dichlorobenzene	ND		ug/l	2.5	--
Methyl tert butyl ether	ND		ug/l	1.0	--
p/m-Xylene	ND		ug/l	1.0	--
o-Xylene	ND		ug/l	1.0	--
Xylene (Total)	ND		ug/l	1.0	--
cis-1,2-Dichloroethene	ND		ug/l	0.50	--
Dibromomethane	ND		ug/l	5.0	--
1,4-Dichlorobutane	ND		ug/l	5.0	--
1,2,3-Trichloropropane	ND		ug/l	5.0	--
Styrene	ND		ug/l	1.0	--
Dichlorodifluoromethane	ND		ug/l	5.0	--
Acetone	ND		ug/l	5.0	--
Carbon disulfide	ND		ug/l	5.0	--
2-Butanone	ND		ug/l	5.0	--
Vinyl acetate	ND		ug/l	5.0	--
4-Methyl-2-pentanone	ND		ug/l	5.0	--
2-Hexanone	ND		ug/l	5.0	--
Ethyl methacrylate	ND		ug/l	5.0	--
Acrylonitrile	ND		ug/l	5.0	--
Bromochloromethane	ND		ug/l	2.5	--
Tetrahydrofuran	ND		ug/l	5.0	--
2,2-Dichloropropane	ND		ug/l	2.5	--
1,2-Dibromoethane	ND		ug/l	2.0	--
1,3-Dichloropropane	ND		ug/l	2.5	--
1,1,1,2-Tetrachloroethane	ND		ug/l	0.50	--

Project Name: 136 SHAWMUT AVE. **Lab Number:** L1513508

Project Number: 5796 **Report Date:** 06/23/15

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 06/22/15 22:20
Analyst: PK

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG796082-3					
Bromobenzene	ND		ug/l	2.5	--
n-Butylbenzene	ND		ug/l	0.50	--
sec-Butylbenzene	ND		ug/l	0.50	--
tert-Butylbenzene	ND		ug/l	2.5	--
o-Chlorotoluene	ND		ug/l	2.5	--
p-Chlorotoluene	ND		ug/l	2.5	--
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	--
Hexachlorobutadiene	ND		ug/l	0.50	--
Isopropylbenzene	ND		ug/l	0.50	--
p-Isopropyltoluene	ND		ug/l	0.50	--
Naphthalene	ND		ug/l	2.5	--
n-Propylbenzene	ND		ug/l	0.50	--
1,2,3-Trichlorobenzene	ND		ug/l	2.5	--
1,2,4-Trichlorobenzene	ND		ug/l	2.5	--
1,3,5-Trimethylbenzene	ND		ug/l	2.5	--
1,3,5-Trichlorobenzene	ND		ug/l	2.0	--
1,2,4-Trimethylbenzene	ND		ug/l	2.5	--
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	--
Ethyl ether	ND		ug/l	2.5	--
Methyl Acetate	ND		ug/l	10	--
Ethyl Acetate	ND		ug/l	10	--
Isopropyl Ether	ND		ug/l	2.0	--
Cyclohexane	ND		ug/l	10	--
tert-Butyl Alcohol	ND		ug/l	10	--
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.0	--
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0	--
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND		ug/l	10	--
Methyl cyclohexane	ND		ug/l	10	--
1,4-Diethylbenzene	ND		ug/l	2.0	--

Project Name: 136 SHAWMUT AVE.
Project Number: 5796
Lab Number: L1513508
Report Date: 06/23/15

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 06/22/15 22:20
Analyst: PK

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG796082-3					
4-Ethyltoluene	ND		ug/l	2.0	--
1,2,4,5-Tetramethylbenzene	ND		ug/l	2.0	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	111		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	114		70-130
Dibromofluoromethane	115		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: 136 SHAWMUT AVE.

Project Number: 5796

Lab Number: L1513508

Report Date: 06/23/15

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Microextractables by GC - Westborough Lab Associated sample(s): 01 Batch: WG794872-2									
1,2-Dibromoethane	98		-		70-130	-		20	A
1,2-Dibromo-3-chloropropane	97		-		70-130	-		20	A

Lab Control Sample Analysis

Batch Quality Control

Project Name: 136 SHAWMUT AVE.

Project Number: 5796

Lab Number: L1513508

Report Date: 06/23/15

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 01 Batch: WG796080-1 WG796080-2								
1,4-Dioxane	118		124		70-130	5		25

Lab Control Sample Analysis

Batch Quality Control

Project Name: 136 SHAWMUT AVE.

Project Number: 5796

Lab Number: L1513508

Report Date: 06/23/15

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG796082-1 WG796082-2								
Methylene chloride	110		106		70-130	4		20
1,1-Dichloroethane	94		96		70-130	2		20
Chloroform	95		97		70-130	2		20
Carbon tetrachloride	90		94		63-132	4		20
1,2-Dichloropropane	100		101		70-130	1		20
Dibromochloromethane	86		85		63-130	1		20
1,1,2-Trichloroethane	93		93		70-130	0		20
2-Chloroethylvinyl ether	111		111		70-130	0		20
Tetrachloroethene	93		94		70-130	1		20
Chlorobenzene	90		91		75-130	1		25
Trichlorofluoromethane	114		122		62-150	7		20
1,2-Dichloroethane	99		99		70-130	0		20
1,1,1-Trichloroethane	91		94		67-130	3		20
Bromodichloromethane	93		96		67-130	3		20
trans-1,3-Dichloropropene	81		83		70-130	2		20
cis-1,3-Dichloropropene	87		88		70-130	1		20
1,1-Dichloropropene	96		101		70-130	5		20
Bromoform	79		97		54-136	20		20
1,1,2,2-Tetrachloroethane	94		102		67-130	8		20
Benzene	93		94		70-130	1		25
Toluene	86		92		70-130	7		25

Lab Control Sample Analysis

Batch Quality Control

Project Name: 136 SHAWMUT AVE.

Project Number: 5796

Lab Number: L1513508

Report Date: 06/23/15

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG796082-1 WG796082-2								
Ethylbenzene	91		94		70-130	3		20
Chloromethane	109		102		64-130	7		20
Bromomethane	123		114		39-139	8		20
Vinyl chloride	110		102		55-140	8		20
Chloroethane	111		115		55-138	4		20
1,1-Dichloroethene	103		107		61-145	4		25
trans-1,2-Dichloroethene	100		102		70-130	2		20
Trichloroethene	95		96		70-130	1		25
1,2-Dichlorobenzene	88		92		70-130	4		20
1,3-Dichlorobenzene	91		94		70-130	3		20
1,4-Dichlorobenzene	88		93		70-130	6		20
Methyl tert butyl ether	105		101		63-130	4		20
p/m-Xylene	94		94		70-130	0		20
o-Xylene	95		94		70-130	1		20
cis-1,2-Dichloroethene	91		93		70-130	2		20
Dibromomethane	72		72		70-130	0		20
1,4-Dichlorobutane	86		92		70-130	7		20
1,2,3-Trichloropropane	92		94		64-130	2		20
Styrene	96		94		70-130	2		20
Dichlorodifluoromethane	96		92		36-147	4		20
Acetone	143		135		58-148	6		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: 136 SHAWMUT AVE.

Project Number: 5796

Lab Number: L1513508

Report Date: 06/23/15

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG796082-1 WG796082-2								
Carbon disulfide	97		94		51-130	3		20
2-Butanone	126		119		63-138	6		20
Vinyl acetate	94		93		70-130	1		20
4-Methyl-2-pentanone	100		100		59-130	0		20
2-Hexanone	100		95		57-130	5		20
Ethyl methacrylate	89		90		70-130	1		20
Acrylonitrile	109		97		70-130	12		20
Bromochloromethane	97		99		70-130	2		20
Tetrahydrofuran	115		114		58-130	1		20
2,2-Dichloropropane	82		86		63-133	5		20
1,2-Dibromoethane	92		91		70-130	1		20
1,3-Dichloropropane	98		98		70-130	0		20
1,1,1,2-Tetrachloroethane	81		83		64-130	2		20
Bromobenzene	83		91		70-130	9		20
n-Butylbenzene	97		98		53-136	1		20
sec-Butylbenzene	92		95		70-130	3		20
tert-Butylbenzene	86		94		70-130	9		20
o-Chlorotoluene	85		94		70-130	10		20
p-Chlorotoluene	86		94		70-130	9		20
1,2-Dibromo-3-chloropropane	78		76		41-144	3		20
Hexachlorobutadiene	83		91		63-130	9		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: 136 SHAWMUT AVE.

Project Number: 5796

Lab Number: L1513508

Report Date: 06/23/15

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG796082-1 WG796082-2								
Isopropylbenzene	81		93		70-130	14		20
p-Isopropyltoluene	89		92		70-130	3		20
Naphthalene	78		81		70-130	4		20
n-Propylbenzene	87		95		69-130	9		20
1,2,3-Trichlorobenzene	81		84		70-130	4		20
1,2,4-Trichlorobenzene	77		83		70-130	8		20
1,3,5-Trimethylbenzene	88		94		64-130	7		20
1,3,5-Trichlorobenzene	86		93		70-130	8		20
1,2,4-Trimethylbenzene	89		94		70-130	5		20
trans-1,4-Dichloro-2-butene	77		86		70-130	11		20
Ethyl ether	113		110		59-134	3		20
Methyl Acetate	117		119		70-130	2		20
Ethyl Acetate	109		99		70-130	10		20
Isopropyl Ether	94		94		70-130	0		20
Cyclohexane	97		101		70-130	4		20
Tert-Butyl Alcohol	125		121		70-130	3		20
Ethyl-Tert-Butyl-Ether	90		91		70-130	1		20
Tertiary-Amyl Methyl Ether	88		86		66-130	2		20
1,1,2-Trichloro-1,2,2-Trifluoroethane	108		112		70-130	4		20
Methyl cyclohexane	99		102		70-130	3		20
p-Diethylbenzene	91		91		70-130	0		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: 136 SHAWMUT AVE.

Project Number: 5796

Lab Number: L1513508

Report Date: 06/23/15

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG796082-1 WG796082-2								
4-Ethyltoluene	86		94		70-130	9		20
1,2,4,5-Tetramethylbenzene	84		89		70-130	6		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	102		103		70-130
Toluene-d8	94		98		70-130
4-Bromofluorobenzene	87		96		70-130
Dibromofluoromethane	101		104		70-130

Matrix Spike Analysis

Batch Quality Control

Project Name: 136 SHAWMUT AVE.

Project Number: 5796

Lab Number: L1513508

Report Date: 06/23/15

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits	Column
Microextractables by GC - Westborough Lab Associated sample(s): 01 QC Batch ID: WG794872-3 QC Sample: L1513528-01 Client ID: MS Sample													
1,2-Dibromoethane	ND	0.247	0.256	104		-	-		70-130	-		20	A
1,2-Dibromo-3-chloropropane	ND	0.247	0.251	102		-	-		70-130	-		20	A

SEMIVOLATILES

Project Name: 136 SHAWMUT AVE.
Lab Number: L1513508
Project Number: 5796
Report Date: 06/23/15

SAMPLE RESULTS

Lab ID: L1513508-01
Client ID: B-1 (OW)
Sample Location: BOSTON, MA
Matrix: Water
Analytical Method: 1,8270D
Analytical Date: 06/20/15 04:03
Analyst: PS

Date Collected: 06/16/15 13:00
Date Received: 06/16/15
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 06/19/15 00:15

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Benzidine	ND		ug/l	20	--	1
1,2,4-Trichlorobenzene	ND		ug/l	5.0	--	1
Bis(2-chloroethyl)ether	ND		ug/l	2.0	--	1
1,2-Dichlorobenzene	ND		ug/l	2.0	--	1
1,3-Dichlorobenzene	ND		ug/l	2.0	--	1
1,4-Dichlorobenzene	ND		ug/l	2.0	--	1
3,3'-Dichlorobenzidine	ND		ug/l	5.0	--	1
2,4-Dinitrotoluene	ND		ug/l	5.0	--	1
2,6-Dinitrotoluene	ND		ug/l	5.0	--	1
Azobenzene	ND		ug/l	2.0	--	1
4-Chlorophenyl phenyl ether	ND		ug/l	2.0	--	1
4-Bromophenyl phenyl ether	ND		ug/l	2.0	--	1
Bis(2-chloroisopropyl)ether	ND		ug/l	2.0	--	1
Bis(2-chloroethoxy)methane	ND		ug/l	5.0	--	1
Hexachlorocyclopentadiene	ND		ug/l	20	--	1
Isophorone	ND		ug/l	5.0	--	1
Nitrobenzene	ND		ug/l	2.0	--	1
NDPA/DPA	ND		ug/l	2.0	--	1
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
Aniline	ND		ug/l	2.0	--	1
4-Chloroaniline	ND		ug/l	5.0	--	1
2-Nitroaniline	ND		ug/l	5.0	--	1
3-Nitroaniline	ND		ug/l	5.0	--	1
4-Nitroaniline	ND		ug/l	5.0	--	1
Dibenzofuran	ND		ug/l	2.0	--	1

Project Name: 136 SHAWMUT AVE. **Lab Number:** L1513508

Project Number: 5796 **Report Date:** 06/23/15

SAMPLE RESULTS

Lab ID: L1513508-01 Date Collected: 06/16/15 13:00

Client ID: B-1 (OW) Date Received: 06/16/15

Sample Location: BOSTON, MA Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
n-Nitrosodimethylamine	ND		ug/l	2.0	--	1
2,4,6-Trichlorophenol	ND		ug/l	5.0	--	1
p-Chloro-m-cresol	ND		ug/l	2.0	--	1
2-Chlorophenol	ND		ug/l	2.0	--	1
2,4-Dichlorophenol	ND		ug/l	5.0	--	1
2,4-Dimethylphenol	ND		ug/l	5.0	--	1
2-Nitrophenol	ND		ug/l	10	--	1
4-Nitrophenol	ND		ug/l	10	--	1
2,4-Dinitrophenol	ND		ug/l	20	--	1
4,6-Dinitro-o-cresol	ND		ug/l	10	--	1
Phenol	ND		ug/l	5.0	--	1
2-Methylphenol	ND		ug/l	5.0	--	1
3-Methylphenol/4-Methylphenol	ND		ug/l	5.0	--	1
2,4,5-Trichlorophenol	ND		ug/l	5.0	--	1
Benzoic Acid	ND		ug/l	50	--	1
Benzyl Alcohol	ND		ug/l	2.0	--	1
Carbazole	ND		ug/l	2.0	--	1
Pyridine	ND		ug/l	5.0	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	41		21-120
Phenol-d6	30		10-120
Nitrobenzene-d5	62		23-120
2-Fluorobiphenyl	79		15-120
2,4,6-Tribromophenol	88		10-120
4-Terphenyl-d14	97		41-149

Project Name: 136 SHAWMUT AVE.
Lab Number: L1513508
Project Number: 5796
Report Date: 06/23/15

SAMPLE RESULTS

Lab ID: L1513508-01
Client ID: B-1 (OW)
Sample Location: BOSTON, MA
Matrix: Water
Analytical Method: 1,8270D-SIM
Analytical Date: 06/19/15 17:34
Analyst: KV

Date Collected: 06/16/15 13:00
Date Received: 06/16/15
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 06/19/15 00:16

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Acenaphthene	ND		ug/l	0.20	--	1
2-Chloronaphthalene	ND		ug/l	0.20	--	1
Fluoranthene	ND		ug/l	0.20	--	1
Hexachlorobutadiene	ND		ug/l	0.50	--	1
Naphthalene	ND		ug/l	0.20	--	1
Benzo(a)anthracene	ND		ug/l	0.20	--	1
Benzo(a)pyrene	ND		ug/l	0.20	--	1
Benzo(b)fluoranthene	ND		ug/l	0.20	--	1
Benzo(k)fluoranthene	ND		ug/l	0.20	--	1
Chrysene	ND		ug/l	0.20	--	1
Acenaphthylene	ND		ug/l	0.20	--	1
Anthracene	ND		ug/l	0.20	--	1
Benzo(ghi)perylene	ND		ug/l	0.20	--	1
Fluorene	ND		ug/l	0.20	--	1
Phenanthrene	ND		ug/l	0.20	--	1
Dibenzo(a,h)anthracene	ND		ug/l	0.20	--	1
Indeno(1,2,3-cd)Pyrene	ND		ug/l	0.20	--	1
Pyrene	ND		ug/l	0.20	--	1
1-Methylnaphthalene	ND		ug/l	0.20	--	1
2-Methylnaphthalene	ND		ug/l	0.20	--	1
Pentachlorophenol	ND		ug/l	0.80	--	1
Hexachlorobenzene	ND		ug/l	0.80	--	1
Hexachloroethane	ND		ug/l	0.80	--	1

Project Name: 136 SHAWMUT AVE. **Lab Number:** L1513508

Project Number: 5796 **Report Date:** 06/23/15

SAMPLE RESULTS

Lab ID: L1513508-01 Date Collected: 06/16/15 13:00

Client ID: B-1 (OW) Date Received: 06/16/15

Sample Location: BOSTON, MA Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Semivolatile Organics by GC/MS-SIM - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	48		21-120
Phenol-d6	35		10-120
Nitrobenzene-d5	84		23-120
2-Fluorobiphenyl	85		15-120
2,4,6-Tribromophenol	87		10-120
4-Terphenyl-d14	84		41-149

Project Name: 136 SHAWMUT AVE.
Project Number: 5796

Lab Number: L1513508
Report Date: 06/23/15

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 06/19/15 17:38
Analyst: PS

Extraction Method: EPA 3510C
Extraction Date: 06/19/15 00:15

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG795112-1					
Benzidine	ND		ug/l	20	--
1,2,4-Trichlorobenzene	ND		ug/l	5.0	--
Bis(2-chloroethyl)ether	ND		ug/l	2.0	--
1,2-Dichlorobenzene	ND		ug/l	2.0	--
1,3-Dichlorobenzene	ND		ug/l	2.0	--
1,4-Dichlorobenzene	ND		ug/l	2.0	--
3,3'-Dichlorobenzidine	ND		ug/l	5.0	--
2,4-Dinitrotoluene	ND		ug/l	5.0	--
2,6-Dinitrotoluene	ND		ug/l	5.0	--
Azobenzene	ND		ug/l	2.0	--
4-Chlorophenyl phenyl ether	ND		ug/l	2.0	--
4-Bromophenyl phenyl ether	ND		ug/l	2.0	--
Bis(2-chloroisopropyl)ether	ND		ug/l	2.0	--
Bis(2-chloroethoxy)methane	ND		ug/l	5.0	--
Hexachlorocyclopentadiene	ND		ug/l	20	--
Isophorone	ND		ug/l	5.0	--
Nitrobenzene	ND		ug/l	2.0	--
NitrosoDiPhenylAmine(NDPA)/DPA	ND		ug/l	2.0	--
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	--
Aniline	ND		ug/l	2.0	--
4-Chloroaniline	ND		ug/l	5.0	--
2-Nitroaniline	ND		ug/l	5.0	--
3-Nitroaniline	ND		ug/l	5.0	--
4-Nitroaniline	ND		ug/l	5.0	--

Project Name: 136 SHAWMUT AVE.
Project Number: 5796

Lab Number: L1513508
Report Date: 06/23/15

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 06/19/15 17:38
Analyst: PS

Extraction Method: EPA 3510C
Extraction Date: 06/19/15 00:15

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG795112-1					
Dibenzofuran	ND		ug/l	2.0	--
n-Nitrosodimethylamine	ND		ug/l	2.0	--
2,4,6-Trichlorophenol	ND		ug/l	5.0	--
P-Chloro-M-Cresol	ND		ug/l	2.0	--
2-Chlorophenol	ND		ug/l	2.0	--
2,4-Dichlorophenol	ND		ug/l	5.0	--
2,4-Dimethylphenol	ND		ug/l	5.0	--
2-Nitrophenol	ND		ug/l	10	--
4-Nitrophenol	ND		ug/l	10	--
2,4-Dinitrophenol	ND		ug/l	20	--
4,6-Dinitro-o-cresol	ND		ug/l	10	--
Phenol	ND		ug/l	5.0	--
2-Methylphenol	ND		ug/l	5.0	--
3-Methylphenol/4-Methylphenol	ND		ug/l	5.0	--
2,4,5-Trichlorophenol	ND		ug/l	5.0	--
Benzoic Acid	ND		ug/l	50	--
Benzyl Alcohol	ND		ug/l	2.0	--
Carbazole	ND		ug/l	2.0	--
Pyridine	ND		ug/l	5.0	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	42		21-120
Phenol-d6	27		10-120
Nitrobenzene-d5	70		23-120
2-Fluorobiphenyl	74		15-120
2,4,6-Tribromophenol	80		10-120
4-Terphenyl-d14	91		41-149

Project Name: 136 SHAWMUT AVE.
Project Number: 5796

Lab Number: L1513508
Report Date: 06/23/15

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D-SIM
Analytical Date: 06/19/15 14:40
Analyst: KV

Extraction Method: EPA 3510C
Extraction Date: 06/19/15 00:16

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 01 Batch: WG795113-1					
Acenaphthene	ND		ug/l	0.20	--
2-Chloronaphthalene	ND		ug/l	0.20	--
Fluoranthene	ND		ug/l	0.20	--
Hexachlorobutadiene	ND		ug/l	0.50	--
Naphthalene	ND		ug/l	0.20	--
Benzo(a)anthracene	ND		ug/l	0.20	--
Benzo(a)pyrene	ND		ug/l	0.20	--
Benzo(b)fluoranthene	ND		ug/l	0.20	--
Benzo(k)fluoranthene	ND		ug/l	0.20	--
Chrysene	ND		ug/l	0.20	--
Acenaphthylene	ND		ug/l	0.20	--
Anthracene	ND		ug/l	0.20	--
Benzo(ghi)perylene	ND		ug/l	0.20	--
Fluorene	ND		ug/l	0.20	--
Phenanthrene	ND		ug/l	0.20	--
Dibenzo(a,h)anthracene	ND		ug/l	0.20	--
Indeno(1,2,3-cd)Pyrene	ND		ug/l	0.20	--
Pyrene	ND		ug/l	0.20	--
1-Methylnaphthalene	ND		ug/l	0.20	--
2-Methylnaphthalene	ND		ug/l	0.20	--
Pentachlorophenol	ND		ug/l	0.80	--
Hexachlorobenzene	ND		ug/l	0.80	--
Hexachloroethane	ND		ug/l	0.80	--

Project Name: 136 SHAWMUT AVE.
Project Number: 5796

Lab Number: L1513508
Report Date: 06/23/15

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D-SIM
Analytical Date: 06/19/15 14:40
Analyst: KV

Extraction Method: EPA 3510C
Extraction Date: 06/19/15 00:16

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 01 Batch: WG795113-1					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	47		21-120
Phenol-d6	33		10-120
Nitrobenzene-d5	82		23-120
2-Fluorobiphenyl	82		15-120
2,4,6-Tribromophenol	86		10-120
4-Terphenyl-d14	85		41-149

Lab Control Sample Analysis

Batch Quality Control

Project Name: 136 SHAWMUT AVE.

Project Number: 5796

Lab Number: L1513508

Report Date: 06/23/15

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: WG795112-2 WG795112-3								
Benzidine	41		40		10-75	2		30
1,2,4-Trichlorobenzene	73		66		39-98	10		30
Bis(2-chloroethyl)ether	68		60		40-140	13		30
1,2-Dichlorobenzene	67		58		40-140	14		30
1,3-Dichlorobenzene	63		54		40-140	15		30
1,4-Dichlorobenzene	65		56		36-97	15		30
3,3'-Dichlorobenzidine	100		97		40-140	3		30
2,4-Dinitrotoluene	**113**	Q	**105**	Q	24-96	7		30
2,6-Dinitrotoluene	104		97		40-140	7		30
Azobenzene	80		77		40-140	4		30
4-Chlorophenyl phenyl ether	89		85		40-140	5		30
4-Bromophenyl phenyl ether	90		87		40-140	3		30
Bis(2-chloroisopropyl)ether	55		50		40-140	10		30
Bis(2-chloroethoxy)methane	71		65		40-140	9		30
Hexachlorocyclopentadiene	75		70		40-140	7		30
Isophorone	74		68		40-140	8		30
Nitrobenzene	78		72		40-140	8		30
NDPA/DPA	92		87		40-140	6		30
Bis(2-ethylhexyl)phthalate	96		91		40-140	5		30
Butyl benzyl phthalate	97		91		40-140	6		30
Di-n-butylphthalate	98		92		40-140	6		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: 136 SHAWMUT AVE.
Project Number: 5796

Lab Number: L1513508
Report Date: 06/23/15

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: WG795112-2 WG795112-3								
Di-n-octylphthalate	103		96		40-140	7		30
Diethyl phthalate	94		90		40-140	4		30
Dimethyl phthalate	92		87		40-140	6		30
Aniline	46		40		40-140	14		30
4-Chloroaniline	65		61		40-140	6		30
2-Nitroaniline	102		97		52-143	5		30
3-Nitroaniline	87		84		25-145	4		30
4-Nitroaniline	97		90		51-143	7		30
Dibenzofuran	88		84		40-140	5		30
n-Nitrosodimethylamine	40		31		22-74	25		30
2,4,6-Trichlorophenol	92		84		30-130	9		30
p-Chloro-m-cresol	87		84		23-97	4		30
2-Chlorophenol	74		68		27-123	8		30
2,4-Dichlorophenol	88		82		30-130	7		30
2,4-Dimethylphenol	85		78		30-130	9		30
2-Nitrophenol	96		85		30-130	12		30
4-Nitrophenol	51		49		10-80	4		30
2,4-Dinitrophenol	95		89		20-130	7		30
4,6-Dinitro-o-cresol	107		100		20-164	7		30
Phenol	36		33		12-110	9		30
2-Methylphenol	68		62		30-130	9		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: 136 SHAWMUT AVE.

Project Number: 5796

Lab Number: L1513508

Report Date: 06/23/15

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: WG795112-2 WG795112-3								
3-Methylphenol/4-Methylphenol	66		60		30-130	10		30
2,4,5-Trichlorophenol	93		90		30-130	3		30
Benzoic Acid	16		12		10-164	29		30
Benzyl Alcohol	64		59		26-116	8		30
Carbazole	92		87		55-144	6		30
Pyridine	26		18		10-66	**36**	Q	30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	49		44		21-120
Phenol-d6	35		33		10-120
Nitrobenzene-d5	79		71		23-120
2-Fluorobiphenyl	87		82		15-120
2,4,6-Tribromophenol	92		86		10-120
4-Terphenyl-d14	97		91		41-149

Lab Control Sample Analysis

Batch Quality Control

Project Name: 136 SHAWMUT AVE.

Project Number: 5796

Lab Number: L1513508

Report Date: 06/23/15

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: WG795113-2 WG795113-3								
Acenaphthene	83		88		37-111	6		40
2-Chloronaphthalene	90		93		40-140	3		40
Fluoranthene	94		100		40-140	6		40
Hexachlorobutadiene	71		73		40-140	3		40
Naphthalene	82		82		40-140	0		40
Benzo(a)anthracene	88		94		40-140	7		40
Benzo(a)pyrene	89		95		40-140	7		40
Benzo(b)fluoranthene	91		92		40-140	1		40
Benzo(k)fluoranthene	82		92		40-140	11		40
Chrysene	81		86		40-140	6		40
Acenaphthylene	92		95		40-140	3		40
Anthracene	88		93		40-140	6		40
Benzo(ghi)perylene	92		98		40-140	6		40
Fluorene	86		92		40-140	7		40
Phenanthrene	85		89		40-140	5		40
Dibenzo(a,h)anthracene	95		101		40-140	6		40
Indeno(1,2,3-cd)Pyrene	95		101		40-140	6		40
Pyrene	92		98		26-127	6		40
1-Methylnaphthalene	86		89		40-140	3		40
2-Methylnaphthalene	89		92		40-140	3		40
Pentachlorophenol	74		69		9-103	7		40

Lab Control Sample Analysis

Batch Quality Control

Project Name: 136 SHAWMUT AVE.

Project Number: 5796

Lab Number: L1513508

Report Date: 06/23/15

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: WG795113-2 WG795113-3								
Hexachlorobenzene	78		82		40-140	5		40
Hexachloroethane	75		76		40-140	1		40

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	52		54		21-120
Phenol-d6	38		40		10-120
Nitrobenzene-d5	85		87		23-120
2-Fluorobiphenyl	83		87		15-120
2,4,6-Tribromophenol	85		91		10-120
4-Terphenyl-d14	78		83		41-149

PCBS

Project Name: 136 SHAWMUT AVE.
Lab Number: L1513508
Project Number: 5796
Report Date: 06/23/15

SAMPLE RESULTS

Lab ID:	L1513508-01	Date Collected:	06/16/15 13:00
Client ID:	B-1 (OW)	Date Received:	06/16/15
Sample Location:	BOSTON, MA	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 608
Analytical Method:	5,608	Extraction Date:	06/19/15 05:53
Analytical Date:	06/19/15 20:00	Cleanup Method:	EPA 3665A
Analyst:	KB	Cleanup Date:	06/19/15
		Cleanup Method:	EPA 3660B
		Cleanup Date:	06/19/15

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Polychlorinated Biphenyls by GC - Westborough Lab							
Aroclor 1016	ND		ug/l	0.250	--	1	A
Aroclor 1221	ND		ug/l	0.250	--	1	A
Aroclor 1232	ND		ug/l	0.250	--	1	A
Aroclor 1242	ND		ug/l	0.250	--	1	A
Aroclor 1248	ND		ug/l	0.250	--	1	A
Aroclor 1254	ND		ug/l	0.250	--	1	A
Aroclor 1260	ND		ug/l	0.200	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	63		30-150	A
Decachlorobiphenyl	58		30-150	A

Project Name: 136 SHAWMUT AVE.

Project Number: 5796

Lab Number: L1513508

Report Date: 06/23/15

Method Blank Analysis
Batch Quality Control

Analytical Method: 5,608
Analytical Date: 06/19/15 21:03
Analyst: KB

Extraction Method: EPA 608
Extraction Date: 06/19/15 05:53
Cleanup Method: EPA 3665A
Cleanup Date: 06/19/15
Cleanup Method: EPA 3660B
Cleanup Date: 06/19/15

Parameter	Result	Qualifier	Units	RL	MDL	Column
Polychlorinated Biphenyls by GC - Westborough Lab for sample(s): 01 Batch: WG795173-1						
Aroclor 1016	ND		ug/l	0.250	--	A
Aroclor 1221	ND		ug/l	0.250	--	A
Aroclor 1232	ND		ug/l	0.250	--	A
Aroclor 1242	ND		ug/l	0.250	--	A
Aroclor 1248	ND		ug/l	0.250	--	A
Aroclor 1254	ND		ug/l	0.250	--	A
Aroclor 1260	ND		ug/l	0.200	--	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	55		30-150	A
Decachlorobiphenyl	68		30-150	A

Matrix Spike Analysis
Batch Quality Control

Project Name: 136 SHAWMUT AVE.
Project Number: 5796

Lab Number: L1513508
Report Date: 06/23/15

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits	Column
Polychlorinated Biphenyls by GC - Westborough Lab Associated sample(s): 01 QC Batch ID: WG795173-3 QC Sample: L1513394-01 Client ID: MS Sample													
Aroclor 1016	ND	1	0.645	64		-	-		40-140	-		50	A
Aroclor 1260	ND	1	0.239	**24**	Q	-	-		40-140	-		50	A

Surrogate	MS % Recovery	MS Qualifier	MSD % Recovery	MSD Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	49				30-150	A
Decachlorobiphenyl	**17**	Q			30-150	A

Lab Control Sample Analysis

Batch Quality Control

Project Name: 136 SHAWMUT AVE.

Project Number: 5796

Lab Number: L1513508

Report Date: 06/23/15

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Polychlorinated Biphenyls by GC - Westborough Lab Associated sample(s): 01 Batch: WG795173-2									
Aroclor 1016	77		-		40-140	-		50	A
Aroclor 1260	73		-		40-140	-		50	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	53				30-150	A
Decachlorobiphenyl	69				30-150	A

Lab Duplicate Analysis
Batch Quality Control

Project Name: 136 SHAWMUT AVE.
Project Number: 5796

Lab Number: L1513508
Report Date: 06/23/15

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits	
Polychlorinated Biphenyls by GC - Westborough Lab Associated sample(s): 01 QC Batch ID: WG795173-4 QC Sample: L1513394-02 Client ID: DUP Sample							
Aroclor 1016	ND	ND	ug/l	NC		50	A
Aroclor 1221	ND	ND	ug/l	NC		50	A
Aroclor 1232	ND	ND	ug/l	NC		50	A
Aroclor 1242	ND	ND	ug/l	NC		50	A
Aroclor 1248	ND	ND	ug/l	NC		50	A
Aroclor 1254	ND	ND	ug/l	NC		50	A
Aroclor 1260	ND	ND	ug/l	NC		50	A

Surrogate	%Recovery	Qualifier	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	63		65		30-150	A
Decachlorobiphenyl	38		42		30-150	A

METALS

Project Name: 136 SHAWMUT AVE.
Lab Number: L1513508
Project Number: 5796
Report Date: 06/23/15

SAMPLE RESULTS

Lab ID: L1513508-01
Client ID: B-1 (OW)
Sample Location: BOSTON, MA
Matrix: Water
Date Collected: 06/16/15 13:00
Date Received: 06/16/15
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Westborough Lab											
Antimony, Total	ND		mg/l	0.0030	--	1	06/19/15 19:43	06/20/15 11:59	EPA 3005A	1,6020A	KL
Arsenic, Total	0.0249		mg/l	0.0005	--	1	06/19/15 19:43	06/20/15 11:59	EPA 3005A	1,6020A	KL
Cadmium, Total	ND		mg/l	0.0002	--	1	06/19/15 19:43	06/20/15 11:59	EPA 3005A	1,6020A	KL
Chromium, Total	ND		mg/l	0.0010	--	1	06/19/15 19:43	06/20/15 11:59	EPA 3005A	1,6020A	KL
Copper, Total	0.0059		mg/l	0.0010	--	1	06/19/15 19:43	06/20/15 11:59	EPA 3005A	1,6020A	KL
Iron, Total	4.1		mg/l	0.05	--	1	06/19/15 19:35	06/20/15 13:54	EPA 3005A	19,200.7	JH
Lead, Total	0.0104		mg/l	0.0005	--	1	06/19/15 19:43	06/20/15 11:59	EPA 3005A	1,6020A	KL
Mercury, Total	ND		mg/l	0.00020	--	1	06/17/15 14:31	06/17/15 22:38	EPA 245.1	3,245.1	EA
Nickel, Total	ND		mg/l	0.0005	--	1	06/19/15 19:43	06/20/15 11:59	EPA 3005A	1,6020A	KL
Selenium, Total	ND		mg/l	0.005	--	1	06/19/15 19:43	06/20/15 11:59	EPA 3005A	1,6020A	KL
Silver, Total	ND		mg/l	0.0003	--	1	06/19/15 19:43	06/20/15 11:59	EPA 3005A	1,6020A	KL
Zinc, Total	0.0102		mg/l	0.0100	--	1	06/19/15 19:43	06/20/15 11:59	EPA 3005A	1,6020A	KL

Project Name: 136 SHAWMUT AVE. **Lab Number:** L1513508

Project Number: 5796 **Report Date:** 06/23/15

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Westborough Lab for sample(s): 01 Batch: WG794496-1										
Mercury, Total	ND		mg/l	0.00020	--	1	06/17/15 14:31	06/17/15 22:18	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 - Westborough Lab for sample(s): 01 Batch: WG795335-1										
Antimony, Total	ND		mg/l	0.0030	--	1	06/19/15 19:43	06/20/15 11:50	1,6020A	KL
Arsenic, Total	ND		mg/l	0.0005	--	1	06/19/15 19:43	06/20/15 11:50	1,6020A	KL
Cadmium, Total	ND		mg/l	0.0002	--	1	06/19/15 19:43	06/20/15 11:50	1,6020A	KL
Chromium, Total	ND		mg/l	0.0010	--	1	06/19/15 19:43	06/20/15 11:50	1,6020A	KL
Copper, Total	ND		mg/l	0.0010	--	1	06/19/15 19:43	06/20/15 11:50	1,6020A	KL
Lead, Total	ND		mg/l	0.0005	--	1	06/19/15 19:43	06/20/15 11:50	1,6020A	KL
Nickel, Total	ND		mg/l	0.0005	--	1	06/19/15 19:43	06/20/15 11:50	1,6020A	KL
Selenium, Total	ND		mg/l	0.005	--	1	06/19/15 19:43	06/20/15 11:50	1,6020A	KL
Silver, Total	ND		mg/l	0.0004	--	1	06/19/15 19:43	06/20/15 11:50	1,6020A	KL
Zinc, Total	ND		mg/l	0.0100	--	1	06/19/15 19:43	06/20/15 11:50	1,6020A	KL

Prep Information

Digestion Method: EPA 3005A

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Westborough Lab for sample(s): 01 Batch: WG795339-1										
Iron, Total	ND		mg/l	0.05	--	1	06/19/15 19:35	06/20/15 13:03	19,200.7	JH

Prep Information

Digestion Method: EPA 3005A

Lab Control Sample Analysis

Batch Quality Control

Project Name: 136 SHAWMUT AVE.

Project Number: 5796

Lab Number: L1513508

Report Date: 06/23/15

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Westborough Lab Associated sample(s): 01 Batch: WG794496-2								
Mercury, Total	106		-		85-115	-		
Total Metals - Westborough Lab Associated sample(s): 01 Batch: WG795335-2								
Antimony, Total	100		-		80-120	-		
Arsenic, Total	108		-		80-120	-		
Cadmium, Total	111		-		80-120	-		
Chromium, Total	97		-		80-120	-		
Copper, Total	106		-		80-120	-		
Lead, Total	102		-		80-120	-		
Nickel, Total	102		-		80-120	-		
Selenium, Total	108		-		80-120	-		
Silver, Total	104		-		80-120	-		
Zinc, Total	104		-		80-120	-		
Total Metals - Westborough Lab Associated sample(s): 01 Batch: WG795339-2								
Iron, Total	96		-		85-115	-		

Matrix Spike Analysis
Batch Quality Control

Project Name: 136 SHAWMUT AVE.
Project Number: 5796

Lab Number: L1513508
Report Date: 06/23/15

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Westborough Lab Associated sample(s): 01 QC Batch ID: WG794496-4 QC Sample: L1513440-01 Client ID: MS Sample												
Mercury, Total	ND	0.005	0.00521	104		-	-		70-130	-		20
Total Metals - Westborough Lab Associated sample(s): 01 QC Batch ID: WG795335-4 QC Sample: L1513508-01 Client ID: B-1 (OW)												
Antimony, Total	ND	0.5	0.5157	103		-	-		75-125	-		20
Arsenic, Total	0.0249	0.12	0.1494	104		-	-		75-125	-		20
Cadmium, Total	ND	0.051	0.0558	109		-	-		75-125	-		20
Chromium, Total	ND	0.2	0.1946	97		-	-		75-125	-		20
Copper, Total	0.0059	0.25	0.2607	102		-	-		75-125	-		20
Lead, Total	0.0104	0.51	0.5273	101		-	-		75-125	-		20
Nickel, Total	ND	0.5	0.4961	99		-	-		75-125	-		20
Selenium, Total	ND	0.12	0.136	113		-	-		75-125	-		20
Silver, Total	ND	0.05	0.0492	98		-	-		75-125	-		20
Zinc, Total	0.0102	0.5	0.5416	106		-	-		75-125	-		20
Total Metals - Westborough Lab Associated sample(s): 01 QC Batch ID: WG795339-4 QC Sample: L1513725-01 Client ID: MS Sample												
Iron, Total	15	1	16	100		-	-		75-125	-		20

Lab Duplicate Analysis
Batch Quality Control

Project Name: 136 SHAWMUT AVE.
Project Number: 5796

Lab Number: L1513508
Report Date: 06/23/15

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Westborough Lab Associated sample(s): 01 QC Batch ID: WG794496-3 QC Sample: L1513440-01 Client ID: DUP Sample						
Mercury, Total	ND	ND	mg/l	NC		20
Total Metals - Westborough Lab Associated sample(s): 01 QC Batch ID: WG795335-3 QC Sample: L1513508-01 Client ID: B-1 (OW)						
Antimony, Total	ND	ND	mg/l	NC		20
Arsenic, Total	0.0249	0.0247	mg/l	1		20
Cadmium, Total	ND	ND	mg/l	NC		20
Chromium, Total	ND	ND	mg/l	NC		20
Copper, Total	0.0059	0.0068	mg/l	14		20
Lead, Total	0.0104	0.0105	mg/l	1		20
Nickel, Total	ND	ND	mg/l	NC		20
Selenium, Total	ND	ND	mg/l	NC		20
Silver, Total	ND	ND	mg/l	NC		20
Zinc, Total	0.0102	0.0110	mg/l	8		20

INORGANICS
&
MISCELLANEOUS

Project Name: 136 SHAWMUT AVE.
Project Number: 5796
Lab Number: L1513508
Report Date: 06/23/15

SAMPLE RESULTS

Lab ID: L1513508-01
Client ID: B-1 (OW)
Sample Location: BOSTON, MA
Matrix: Water

Date Collected: 06/16/15 13:00
Date Received: 06/16/15
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Chromium, Trivalent	ND		mg/l	0.010	--	1	-	06/20/15 11:59	107,-	
Solids, Total Suspended	15.		mg/l	5.0	NA	1	-	06/18/15 11:30	30,2540D	DW
Cyanide, Total	ND		mg/l	0.005	--	1	06/17/15 09:15	06/17/15 15:35	30,4500CN-CE	JO
Chlorine, Total Residual	ND		mg/l	0.02	--	1	-	06/16/15 23:26	30,4500CL-D	AS
pH (H)	6.5		SU	-	NA	1	-	06/16/15 22:00	30,4500H+-B	AS
TPH	ND		mg/l	4.00	--	1	06/17/15 08:30	06/18/15 08:45	74,1664A	ML
Phenolics, Total	ND		mg/l	0.030	--	1	06/17/15 09:45	06/17/15 12:27	4,420.1	MP
Chromium, Hexavalent	ND		mg/l	0.010	--	1	06/16/15 22:30	06/16/15 23:02	119,3500CR-B	DE
Anions by Ion Chromatography - Westborough Lab										
Chloride	10.1		mg/l	0.500	--	1	-	06/17/15 22:03	44,300.0	AU

Project Name: 136 SHAWMUT AVE.
Project Number: 5796
Lab Number: L1513508
Report Date: 06/23/15

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: WG794234-1										
Chromium, Hexavalent	ND		mg/l	0.010	--	1	06/16/15 22:30	06/16/15 23:01	119,3500CR-B	DE
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG794243-1										
Chlorine, Total Residual	ND		mg/l	0.02	--	1	-	06/16/15 23:26	30,4500CL-D	AS
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG794353-1										
TPH	ND		mg/l	4.00	--	1	06/17/15 08:30	06/18/15 08:45	74,1664A	ML
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG794385-1										
Phenolics, Total	ND		mg/l	0.030	--	1	06/17/15 09:45	06/17/15 12:20	4,420.1	MP
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG794394-1										
Cyanide, Total	ND		mg/l	0.005	--	1	06/17/15 09:15	06/17/15 15:16	30,4500CN-CE	JO
Anions by Ion Chromatography - Westborough Lab for sample(s): 01 Batch: WG794692-1										
Chloride	ND		mg/l	0.500	--	1	-	06/17/15 18:14	44,300.0	AU
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG794743-1										
Solids, Total Suspended	ND		mg/l	5.0	NA	1	-	06/18/15 11:30	30,2540D	DW

Lab Control Sample Analysis

Batch Quality Control

Project Name: 136 SHAWMUT AVE.

Project Number: 5796

Lab Number: L1513508

Report Date: 06/23/15

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG794234-2								
Chromium, Hexavalent	101		-		85-115	-		20
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG794243-2								
Chlorine, Total Residual	105		-		90-110	-		
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG794244-1								
pH	101		-		99-101	-		5
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG794353-2								
TPH	85		-		64-132	-		34
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG794385-2								
Phenolics, Total	100		-		70-130	-		
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG794394-2								
Cyanide, Total	107		-		90-110	-		
Anions by Ion Chromatography - Westborough Lab Associated sample(s): 01 Batch: WG794692-2								
Chloride	100		-		90-110	-		

Matrix Spike Analysis
Batch Quality Control

Project Name: 136 SHAWMUT AVE.
Project Number: 5796

Lab Number: L1513508
Report Date: 06/23/15

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: WG794234-4 QC Sample: L1513508-01 Client ID: B-1 (OW)												
Chromium, Hexavalent	ND	0.1	0.096	96		-	-		85-115	-		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG794353-4 QC Sample: L1513528-01 Client ID: MS Sample												
TPH	ND	20.4	16.4	80		-	-		64-132	-		34
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG794385-4 QC Sample: L1513528-01 Client ID: MS Sample												
Phenolics, Total	ND	0.4	0.39	97		-	-		70-130	-		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG794394-4 QC Sample: L1513437-03 Client ID: MS Sample												
Cyanide, Total	0.007	0.2	0.205	99		-	-		90-110	-		30
Anions by Ion Chromatography - Westborough Lab Associated sample(s): 01 QC Batch ID: WG794692-3 WG794692-4 QC Sample: L1513288-03 Client ID: MS Sample												
Chloride	4.48	20	24.9	102		25.0	102		40-151	0		18

Lab Duplicate Analysis
Batch Quality Control

Project Name: 136 SHAWMUT AVE.
Project Number: 5796

Lab Number: L1513508
Report Date: 06/23/15

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG794234-3 QC Sample: L1513508-01 Client ID: B-1 (OW)						
Chromium, Hexavalent	ND	ND	mg/l	NC		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG794243-3 QC Sample: L1513528-01 Client ID: DUP Sample						
Chlorine, Total Residual	ND	ND	mg/l	NC		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG794244-2 QC Sample: L1513508-01 Client ID: B-1 (OW)						
pH	6.5	6.6	SU	2		5
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG794353-3 QC Sample: L1513508-01 Client ID: B-1 (OW)						
TPH	ND	ND	mg/l	NC		34
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG794385-3 QC Sample: L1513528-01 Client ID: DUP Sample						
Phenolics, Total	ND	ND	mg/l	NC		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG794394-3 QC Sample: L1513437-04 Client ID: DUP Sample						
Cyanide, Total	0.006	0.005	mg/l	28		30
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG794743-2 QC Sample: L1513168-01 Client ID: DUP Sample						
Solids, Total Suspended	74	81	mg/l	9		29

Project Name: 136 SHAWMUT AVE.
Project Number: 5796

Lab Number: L1513508
Report Date: 06/23/15

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Reagent H2O Preserved Vials Frozen on: NA

Cooler Information Custody Seal

Cooler	
B	Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1513508-01A	Vial HCl preserved	B	N/A	4.4	Y	Absent	8260-SIM(14),8260(14)
L1513508-01B	Vial HCl preserved	B	N/A	4.4	Y	Absent	8260-SIM(14),8260(14)
L1513508-01C	Vial HCl preserved	B	N/A	4.4	Y	Absent	8260-SIM(14),8260(14)
L1513508-01D	Vial Na2S2O3 preserved	B	N/A	4.4	Y	Absent	504(14)
L1513508-01E	Vial Na2S2O3 preserved	B	N/A	4.4	Y	Absent	504(14)
L1513508-01F	Plastic 250ml NaOH preserved	B	>12	4.4	Y	Absent	TCN-4500(14)
L1513508-01G	Plastic 250ml HNO3 preserved	B	<2	4.4	Y	Absent	SE-6020T(180),CR-6020T(180),NI-6020T(180),CU-6020T(180),ZN-6020T(180),FE-UI(180),PB-6020T(180),HG-U(28),AS-6020T(180),SB-6020T(180),AG-6020T(180),CD-6020T(180)
L1513508-01H	Plastic 950ml unpreserved	B	7	4.4	Y	Absent	CL-300(28),HEXCR-3500(1),TRC-4500(1),PH-4500(.01)
L1513508-01I	Plastic 950ml unpreserved	B	7	4.4	Y	Absent	TSS-2540(7)
L1513508-01J	Amber 950ml H2SO4 preserved	B	<2	4.4	Y	Absent	TPHENOL-420(28)
L1513508-01K	Amber 1000ml Na2S2O3	B	7	4.4	Y	Absent	PCB-608(7)
L1513508-01L	Amber 1000ml Na2S2O3	B	7	4.4	Y	Absent	PCB-608(7)
L1513508-01M	Amber 1000ml unpreserved	B	7	4.4	Y	Absent	8270TCL(7),8270TCL-SIM(7)
L1513508-01N	Amber 1000ml unpreserved	B	7	4.4	Y	Absent	8270TCL(7),8270TCL-SIM(7)
L1513508-01O	Amber 1000ml HCl preserved	B	N/A	4.4	Y	Absent	TPH-1664(28)
L1513508-01P	Amber 1000ml HCl preserved	B	N/A	4.4	Y	Absent	TPH-1664(28)
L1513508-02A	Vial HCl preserved	B	N/A	4.4	Y	Absent	HOLD-8260(14)
L1513508-02B	Vial HCl preserved	B	N/A	4.4	Y	Absent	HOLD-8260(14)
L1513508-02D	Vial Na2S2O3 preserved	B	N/A	4.4	Y	Absent	HOLD(14)
L1513508-02E	Vial Na2S2O3 preserved	B	N/A	4.4	Y	Absent	HOLD(14)

*Values in parentheses indicate holding time in days

Project Name:	136 SHAWMUT AVE.	**Lab Number:**	L1513508
Project Number:	5796	**Report Date:**	06/23/15

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.

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.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Footnotes

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

Terms

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

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

Data Qualifiers

A - Spectra identified as "Aldol Condensation Product".

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

Report Format: Data Usability Report

Project Name:	136 SHAWMUT AVE.	**Lab Number:**	L1513508
Project Number:	5796	**Report Date:**	06/23/15

Data Qualifiers

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:	136 SHAWMUT AVE.	**Lab Number:**	L1513508
Project Number:	5796	**Report Date:**	06/23/15

REFERENCES

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

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

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

5 Methods for the Organic Chemical Analysis of Municipal and Industrial Wastewater. Appendix A, Part 136, 40 CFR (Code of Federal Regulations).

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

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

30 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WPCF. 18th Edition. 1992.

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

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

107 Alpha Analytical - In-house calculation method.

119 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WPCF. 21st Edition.

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

Last revised December 16, 2014

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

Westborough Facility
EPA 524.2: Acetone, 2-Butanone (Methyl ethyl ketone (MEK)), Tert-butyl alcohol, 2-Hexanone, Tetrahydrofuran, 1,3,5-Trichlorobenzene, 4-Methyl-2-pentanone (MIBK), Carbon disulfide, Diethyl ether.
EPA 8260C: 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene, Iodomethane (methyl iodide), Methyl methacrylate, Azobenzene.
EPA 8270D: 1-Methylnaphthalene, Dimethylnaphthalene,1,4-Diphenylhydrazine.
EPA 625: 4-Chloroaniline, 4-Methylphenol.
SM4500: Soil: Total Phosphorus, TKN, NO2, NO3.
EPA 9071: Total Petroleum Hydrocarbons, Oil & Grease.

Mansfield Facility
EPA 8270D: Biphenyl.
EPA 2540D: TSS
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.

The following analytes are included in our Massachusetts DEP Scope of Accreditation, Westborough Facility:

Drinking Water
EPA 200.8: Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Tl; **EPA 200.7**: Ba,Be,Ca,Cd,Cr,Cu,Na; **EPA 245.1:** Mercury;
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.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, Enterolert-QT.**

Non-Potable Water
EPA 200.8: Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn;
EPA 200.7: Al,Sb,As,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Mo,Ni,K,Se,Ag,Na,Sr,Ti,Tl,V,Zn;
EPA 245.1, SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2340B, SM2320B, SM4500CL-E, SM4500F-BC, SM426C, SM4500NH3-BH, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, SM4500P-B, E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, SM14 510AC, 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, SM9222D-MF**.

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

Serial_No:06231511:51

CHAIN OF CUSTODY

PAGE 1 OF 1

Date Rec'd in Lab: 6/16/15

ALPHA Job #: L1513508

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

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

Client Information

Client: McPhail Associates, LLC
Address: 2269 Massachusetts Ave
Cambridge, MA 02140
Phone: 617-868-1420
Email: fbk@mcphailgeo.com
jsh@mcphailgeo.com

Additional Project Information:

Project Information

Project Name: 136 Shawmut Ave
Project Location: Boston, MA
Project #: 5796
Project Manager: FBK / JSH
ALPHA Quote #:

Turn-Around Time

☒ Standard ☐ RUSH (only confirmed if pre-approved!)
Date Due: 6/23/15

Report Information - Data Deliverables

☒ ADEx ☐ EMAIL

Billing Information

☒ Same as Client info PO #:

Regulatory Requirements & Project Information Requirements

☒ Yes ☐ No MA MCP Analytical Methods ☐ Yes ☐ No CT RCP Analytical Methods
☐ Yes ☒ No Matrix Spike Required on this SDG? (Required for MCP Inorganics)
☐ Yes ☒ No GW1 Standards (Info Required for Metals & EPH with Targets)
☒ Yes ☐ No NPDES RGP
☐ Other State /Fed Program MCP Criteria RCS-1

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler Initials	VOC: ☐ 8260 ☐ 624 ☐ 524.2	SVOC: ☐ ABN ☐ PAH	METALS: ☐ MCP 13 ☐ MCP 14 ☐ RCP 15	METALS: ☐ RCRA5 ☐ RCRA8 ☐ PP13	EPH: ☐ Ranges & Targets ☐ Ranges Only	VPH: ☐ Ranges & Targets ☐ Ranges Only	☐ PCB ☐ PEST	TPH: ☐ Quant Only ☐ Fingerprint	NPDES-RGP Parameters	pH	Tri-Chrom	Sample Comments	TOTAL # BOTTLES
13508-01	B-1 (OW)	6/16/15	1300	GW	TM									X	X	X		16

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

Container Type																		
Preservative																		

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

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

Relinquished By:	Date/Time	Received By:	Date/Time
	6/16/15 1445	MAL	6/16/15 1600
	6/16/15 1755		6/16/15 1755

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

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

ANALYTICAL REPORT

Lab Number:	L1524236
Client:	McPhail Associates 2269 Massachusetts Avenue Cambridge, MA 02140
ATTN:	Ambrose Donovan
Phone:	(617) 868-1420
Project Name:	136 SHAWMUT AVE
Project Number:	5796
Report Date:	10/01/15

Certifications & Approvals: MA (M-MA086), NY (11148), CT (PH-0574), NH (2003), NJ NELAP (MA935), RI (LAO00065), ME (MA00086), PA (68-03671), VA (460195), MD (348), IL (200077), NC (666), TX (T104704476), DOD (L2217), USDA (Permit #P-330-11-00240).

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

Project Name: 136 SHAWMUT AVE
Project Number: 5796

Lab Number: L1524236
Report Date: 10/01/15

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1524236-01	B-1@11'	WATER	136 SHAWMUT AVE	09/28/15 09:00	09/28/15

Project Name: 136 SHAWMUT AVE
Project Number: 5796
Lab Number: L1524236
Report Date: 10/01/15

MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

An affirmative response to questions A through F is required for "Presumptive Certainty" status		
A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	N/A
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	N/A
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES

A response to questions G, H and I is required for "Presumptive Certainty" status		
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	YES
H	Were all QC performance standards specified in the CAM protocol(s) achieved?	YES
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	NO

For any questions answered "No", please refer to the case narrative section on the following page(s).

Please note that sample matrix information is located in the Sample Results section of this report.

Project Name: 136 SHAWMUT AVE
Project Number: 5796

Lab Number: L1524236
Report Date: 10/01/15

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 all of the requirements of NELAC, for all NELAC accredited parameters. 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:	136 SHAWMUT AVE	**Lab Number:**	L1524236
Project Number:	5796	**Report Date:**	10/01/15

Case Narrative (continued)

Report Submission

This report replaces the report issued September 30, 2015. The Metals RL's for Copper and Lead have been lowered to achieve the client requested reporting limits.

MCP Related Narratives

Metals

In reference to question I:

All samples were analyzed for a subset of MCP analytes per the Chain of Custody.

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: Lisa Westerlind

Title: Technical Director/Representative Date: 10/01/15

METALS

Project Name: 136 SHAWMUT AVE
Lab Number: L1524236
Project Number: 5796
Report Date: 10/01/15

SAMPLE RESULTS

Lab ID: L1524236-01
Client ID: B-1@11'
Sample Location: 136 SHAWMUT AVE
Matrix: Water

Date Collected: 09/28/15 09:00
Date Received: 09/28/15
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Dissolved Metals - Westborough Lab											
Copper, Dissolved	0.007		mg/l	0.005	--	1	09/29/15 02:15	09/30/15 06:29	EPA 3005A	97,6010C	JH
Iron, Dissolved	0.30		mg/l	0.05	--	1	09/29/15 02:15	09/30/15 06:29	EPA 3005A	97,6010C	JH
Lead, Dissolved	ND		mg/l	0.005	--	1	09/29/15 02:15	09/30/15 06:29	EPA 3005A	97,6010C	JH

Project Name: 136 SHAWMUT AVE
Project Number: 5796
Lab Number: L1524236
Report Date: 10/01/15

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Dissolved Metals - Westborough Lab for sample(s): 01 Batch: WG825829-1										
Copper, Dissolved	ND		mg/l	0.005	--	1	09/29/15 02:15	09/30/15 06:02	97,6010C	JH
Iron, Dissolved	ND		mg/l	0.05	--	1	09/29/15 02:15	09/30/15 06:02	97,6010C	JH
Lead, Dissolved	ND		mg/l	0.005	--	1	09/29/15 02:15	09/30/15 06:02	97,6010C	JH

Prep Information

Digestion Method: EPA 3005A

Lab Control Sample Analysis

Batch Quality Control

Project Name: 136 SHAWMUT AVE

Project Number: 5796

Lab Number: L1524236

Report Date: 10/01/15

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Dissolved Metals - Westborough Lab Associated sample(s): 01 Batch: WG825829-2 WG825829-3								
Copper, Dissolved	99		99		80-120	0		20
Iron, Dissolved	92		93		80-120	1		20
Lead, Dissolved	104		105		80-120	1		20

INORGANICS
&
MISCELLANEOUS

Project Name: 136 SHAWMUT AVE
Project Number: 5796
Lab Number: L1524236
Report Date: 10/01/15

SAMPLE RESULTS

Lab ID: L1524236-01
Client ID: B-1@11'
Sample Location: 136 SHAWMUT AVE
Matrix: Water
Date Collected: 09/28/15 09:00
Date Received: 09/28/15
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total Suspended	120		mg/l	10	NA	2	-	09/29/15 13:50	30,2540D	DW

Project Name: 136 SHAWMUT AVE
Project Number: 5796
Lab Number: L1524236
Report Date: 10/01/15

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: WG825883-1										
Solids, Total Suspended	ND		mg/l	5.0	NA	1	-	09/29/15 13:50	30,2540D	DW

Project Name: 136 SHAWMUT AVE
Project Number: 5796

Lab Number: L1524236
Report Date: 10/01/15

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Reagent H2O Preserved Vials Frozen on: NA

Cooler Information **Custody Seal**

Cooler	
A	Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1524236-01A	Plastic 500ml unpreserved	A	7	4.1	Y	Absent	-
L1524236-01B	Plastic 950ml unpreserved	A	7	4.1	Y	Absent	TSS-2540(7)
L1524236-01X	Plastic 120ml HNO3 preserved spl	A	<2	4.1	Y	Absent	MCP-FE-6010S-10(180),MCP-PB-6010S-10(180),MCP-CU-6010S-10(180)

*Values in parentheses indicate holding time in days

Project Name:	136 SHAWMUT AVE	**Lab Number:**	L1524236
Project Number:	5796	**Report Date:**	10/01/15

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.

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.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Footnotes

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

Terms

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

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

Data Qualifiers

A - Spectra identified as "Aldol Condensation Product".

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

Report Format: Data Usability Report

Project Name:	136 SHAWMUT AVE	**Lab Number:**	L1524236
Project Number:	5796	**Report Date:**	10/01/15

Data Qualifiers

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:	136 SHAWMUT AVE	**Lab Number:**	L1524236
Project Number:	5796	**Report Date:**	10/01/15

REFERENCES

30 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WPCF. 18th Edition. 1992.

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.

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 8260C: 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene, Iodomethane (methyl iodide) (soil), Methyl methacrylate (soil), Azobenzene.
EPA 8270D: Dimethylnaphthalene,1,4-Diphenylhydrazine.
EPA 625: 4-Chloroaniline, 4-Methylphenol.
SM4500: Soil: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
EPA 8270D: Biphenyl.
EPA 2540D: TSS
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.

The following analytes are included in our Massachusetts DEP Scope of Accreditation, Westborough Facility:

Drinking Water
EPA 200.8: Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Tl; **EPA 200.7**: Ba,Be,Ca,Cd,Cr,Cu,Na; **EPA 245.1:** Mercury;
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.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, Enterolert-QT.**

Non-Potable Water
EPA 200.8: Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn;
EPA 200.7: Al,Sb,As,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Mo,Ni,K,Se,Ag,Na,Sr,Ti,Tl,V,Zn;
EPA 245.1, SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2340B, SM2320B, SM4500CL-E, SM4500F-BC, SM426C, SM4500NH3-BH, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, SM4500P-B, E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, SM14 510AC, 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, SM9222D-MF**.

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

CHAIN OF CUSTODY

PAGE 1 OF 1

Date Rec'd in Lab: 9/28/15

ALPHA Job #: L1524236

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

Client Information

Client: McPhail Associates
Address: 2269 Massachusetts Ave
Cambridge, MA
Phone: (617) 868-1420
Email: JSH@McPhailgeo.com
ggarten@mcphailgeo.com
Additional Project Information:

Project Information

Project Name: 136 Shawmut Ave.
Project Location: 136 Shawmut Ave
Project #: 5796
Project Manager: Jason Hudstis
ALPHA Quote #:

Turn-Around Time

☐ Standard ☒ RUSH (only confirmed if pre-approved!)
Date Due: Wednesday 9/30/15

Report Information - Data Deliverables

☐ ADEx ☐ EMAIL

Billing Information

☒ Same as Client info PO #:

Regulatory Requirements & Project Information Requirements

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

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler Initials	ANALYSIS: TSS	Dissolved Iron	Dissolved Lead	Dissolved Copper	SAMPLE INFO: Filtration ☐ Field ☐ Lab to do; Preservation ☐ Lab to do	Sample Comments	TOTAL # BOTTLES
24236-01	B-1 @ 11'	9/28/15	9:00	MW	NDH	X	X	X	X		2 Bottles	2

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

Container Type																			
Preservative																			

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

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

Relinquished By:	Date/Time	Received By:	Date/Time
MPM	9/28/15 1745	MPM AAL	9/28/15 1630
	9/27/15		9/28/15 1727

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

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