89 Crawford Street
Leominster, Massachusetts 01453
Tel: 774.450.7177
Fax: 888.835.0617
www.lrt-llc.net

November 7, 2019

U.S. Environmental Protection Agency
Office of Ecosystem Protection
EPA/OEP RGP Applications Coordinator
5 Post Office Square, Suite 100 (OEP06-4)
Boston, Massachusetts 02109-3912

Reference: **Notice of Intent (NOI) - Remediation General Permit (RGP)**
Fenway Theater
2701 Ipswich Street
Boston, Massachusetts

Dear Sir/Madam:

On behalf of James W. Flett Co., Inc Company (Flett), Lockwood Remediation Technologies, LLC (LRT) has prepared this Notice of Intent (NOI) requesting a determination of coverage under the United States Environmental Protection Agency's (EPA's) Remediation General Permit (RGP), pursuant EPA's National Pollutant Discharge Elimination System (NPDES) program. This NOI was prepared in accordance with the general requirements of the NPDES RGP and related guidance documentation provided by EPA. The completed NOI Form is provided in **Appendix A**.

Site Information

This NOI has been prepared for the management groundwater that will be generated during dewatering activities associated with construction of the new Fenway Theater building located at 175 Ipswich Street in Boston, Massachusetts (the Site). This work will take place on the existing vacant "triangle lot" which is approximately 0.75 acres and is anticipated to be completed within twelve months. A Site Locus is provided as **Figure 1** and a Site Plan satisfying the requirements of RGP Appendix IV Part I.B and I.D is provided as **Figure 2**.

Work Summary

The work includes the construction of the new Fenway Theater. To complete portions of the foundation and other miscellaneous excavations in the dry, dewatering will be required to lower the groundwater table as work is being performed. To do this, filtered sumps will be placed in low spots within the excavation. The water generated during dewatering (Source water) will be pumped to a treatment system prior to discharge to a storm drain with a final outfall in the Charles River. Drawings of the storm water drainage system, which depicts the path of water from the catch basin to the outfall in the Charles River, are provided in **Appendix A**. To characterize groundwater from the proposed excavation area, LRT collected representative groundwater samples from an onsite monitoring well on October 29, 2019

(**Figure 2)**. A sample of the receiving water (The Charles river) was also collected on October 29, 2019. The samples were analyzed for various parameters in accordance with the NPDES RGP Activity Category III-G.

Discharge and Receiving Surface Water Information

A summary of the analytical results is provided in **Tables 1 and 2** included within **Appendix A**, and copies of the laboratory data reports are provided in **Appendix B**. Concentrations of Acetone, and Iron were detected in groundwater at concentrations above the respective NPDES RGP Effluent Limitations. To meet these standards, Source water will undergo treatment that includes bag filtration, carbon filtration prior to discharge. It is assumed that metal concentrations will be treated through settling and bag filtration. Details of the water treatment system are provided below.

Water Treatment System

A water treatment system schematic is provided as **Figure 3**. Cutsheets of the system components, product information and Safety Data Sheets (SDS) are included in **Appendix C**.

Source water will be pumped to a treatment system with a design flow of up to 100 gallons per minute (gpm); the average effluent flow of the system is estimated to be 75 gpm, and the maximum flow will not exceed 100 gpm. Source water will enter one 18,000-gallon weir tank at the head of the system from the weir tank, the water will be pumped to a triple-bag filter skid (with three single bag filters), followed by two carbon vessels plumbed in series. Each carbon vessel will contain 2,000 pounds of reactivated liquid-phase carbon. Discharge from the carbon vessel will pass through a flow/totalizer meter prior to discharge into a storm drain with an outfall in the Charles River. The discharge will be at one location (Discharge Location 2) as depicted on **Figure 2**. Effluent sampling will correspond with this discharge location.

Consultation with Federal Services

LRT reviewed online electronic data viewers and databases from the Massachusetts Geographical Information System (MassGIS), the Massachusetts Division of Fisheries and Wildlife (MassWildlife; Natural Heritage and Endangered Species Program), and the U.S. National Parks Service Natural Historic Places (NPS). Based on this review, the Site and the point where the proposed discharge reaches the receiving surface water body are not located within an Area of Critical Environmental Concern (ACEC). The Site and the proposed discharge point are not located within Habitats of Rare Wetland Wildlife, Habitats of Rare Species, Estimated Habitats of Rare Wildlife, or listed as a National Historic Place. Documentation is included in **Appendix D**.

Coverage under NPDES RGP

It is our opinion that the proposed discharge is eligible for coverage under the NPDES RGP. On behalf of James W. Flett Co., Inc., we are requesting coverage under the NPDES RGP for the discharge of treated wastewater to the Charles River in support of construction dewatering activities that are to take place at 175 Ipswich Street.

The enclosed NOI form provides required information on the general site conditions, discharge, treatment system, receiving water, and consultation with federal services. For this project, James W. Flett Inc., Co is considered the Operator.

Please feel free to contact us at 774-450-7177 if you have any questions or if you require additional information.

Sincerely,
Lockwood Remediation Technologies, LLC

Jacob Jennings

Jacob Jennings
Staff Scientist

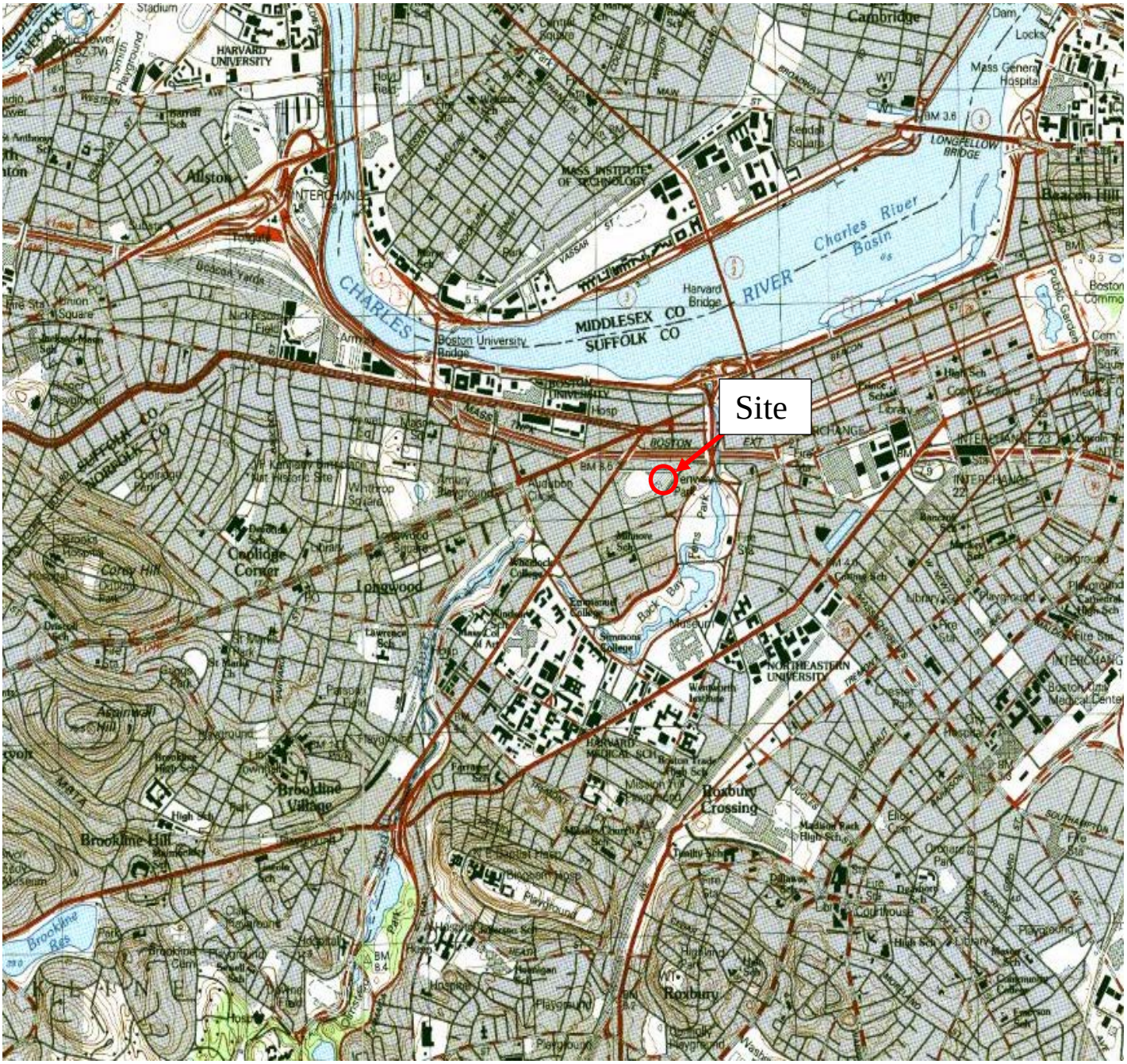
Kim Gravelle

Kim Gravelle, P.G.
Senior Project Manager

Encl: Figure 1 - Locus Plan
Figure 2 - Site Plan
Figure 3 - Water Treatment System Schematic
Appendix A - NOI Form
Appendix B - Laboratory Data
Appendix C - Water Treatment System
Appendix D - Supplemental Information

cc: Mark Jennings – James W. Flett Co., Inc.
Jonathan Lister – 175 Ipswich Street LLC
Cathy Vakalopoulos – Mass DEP

Figures



Source: MassGIS Oliver

Notes

1. Figure is not to scale.

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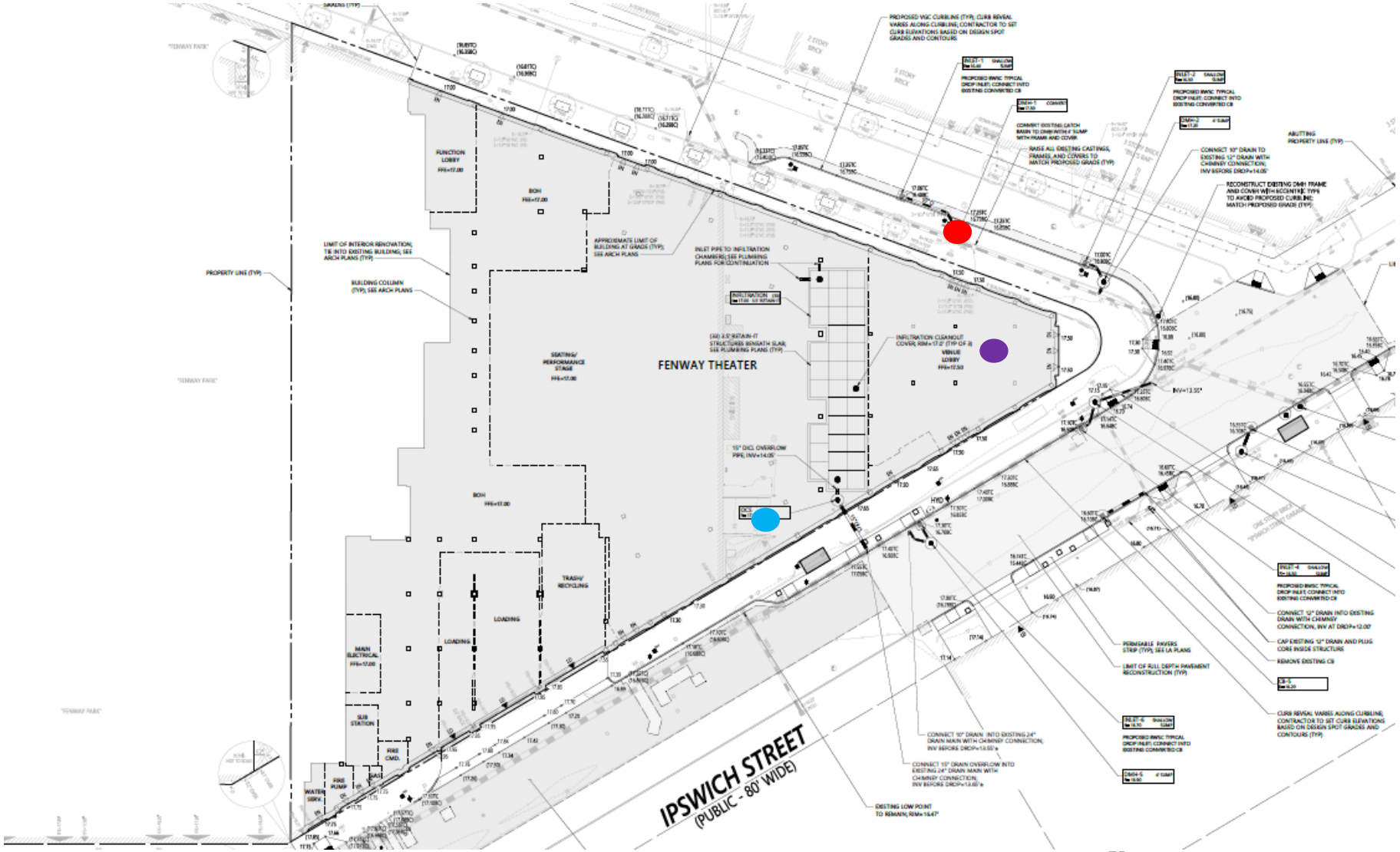
Figure 1 – Locus Plan
Fenway Theater
175 Ipswich St
Boston, MA



Notes

1. Figure is not to scale

Key

- Discharge location
- Water Treatment System location
- Water sample Location

Lockwood Remediation Technologies LLC

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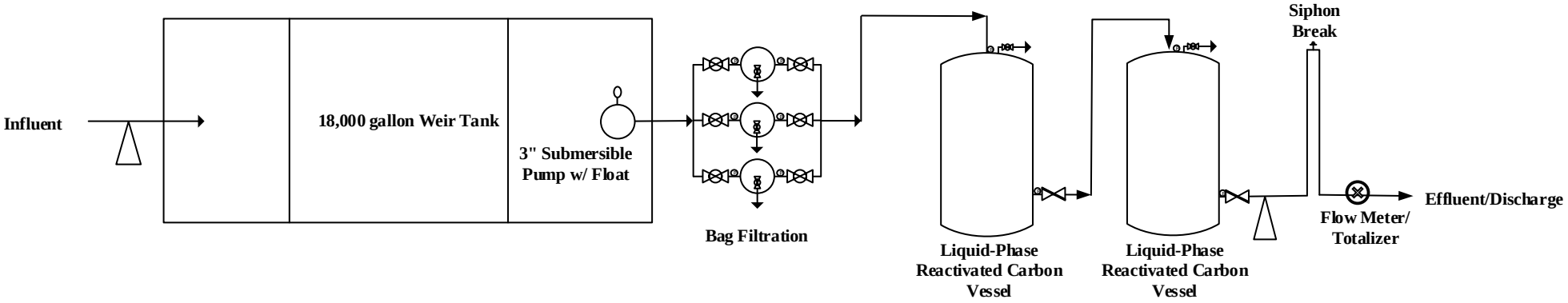
Figure 2: Site Plan
Fenway Theater
175 Ipswich Street
Boston, MA



Notes:

1.) Figure is not to scale
2.) System rated for 100 GPM

Key:
Piping/Hose
Sample Port
Ball Valve
Butterfly Valve
Pressure Gauge

Lockwood Remediation Technologies, LLC 89 Crawford Street Leominster, MA 01453 Office: 774-450-7177	**Figure 3 - Water Treatment System Schematic**	**Fenway Theater** **175 Ipswich Street** **Boston, MA**	**PROJECT No.** 2-1956
DESIGNED BY: LRT **DRAWN BY:** JHJ **CHECKED BY:** **DATE:**			**FIGURE No.** 3

Appendix A

NOI Form

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

A. General site information:

<table>
<tr><td rowspan="2">1. Name of site:
Fenway Theater</td><td colspan="3">Site address: 175 Ipswich Street
Street:</td></tr>
<tr><td>City: Boston</td><td>State: MA</td><td>Zip: 02215</td></tr>
<tr><td rowspan="4">2. Site owner
175 Ipswich Street LLC

Owner is (check one): ☐ Federal ☐ State/Tribal ■ Private
☐ Other; if so, specify:</td><td colspan="3">Contact Person: Jonathan Lister</td></tr>
<tr><td colspan="2">Telephone: 857-998-0989</td><td>Email: jlister@redsox.com</td></tr>
<tr><td colspan="3">Mailing address: 175 Ipswich Street
Street:</td></tr>
<tr><td>City: Boston</td><td>State: MA</td><td>Zip: 02215</td></tr>
<tr><td rowspan="4">3. Site operator, if different than owner
James W. Flett Co., Inc.</td><td colspan="3">Contact Person: Mark Jennings</td></tr>
<tr><td colspan="2">Telephone: 617-908-1416</td><td>Email: msjennings@jwflett.com</td></tr>
<tr><td colspan="3">Mailing address:
Street: 800 Pleasant Street</td></tr>
<tr><td>City: Belmont</td><td>State: MA</td><td>Zip: 02478</td></tr>
<tr><td>4. NPDES permit number assigned by EPA:

NPDES permit is (check all that apply: ■ RGP ☐ DGP ☐ CGP
☐ MSGP ☐ Individual NPDES permit ☐ Other; if so, specify:</td><td colspan="3">5. Other regulatory program(s) that apply to the site (check all that apply):
☐ MA Chapter 21e; list RTN(s):
☐ NH Groundwater Management Permit or Groundwater Release Detection Permit:
☐ CERCLA
☐ UIC Program
☐ POTW Pretreatment
☐ CWA Section 404</td></tr>
</table>

B. Receiving water information:

1. Name of receiving water(s):	Waterbody identification of receiving water(s):	Classification of receiving water(s):
Charles River	MA72-38	Class B

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

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

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

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

4. Indicate the seven day-ten-year low flow (7Q10) of the receiving water determined in accordance with the instructions in Appendix V for sites located in Massachusetts and Appendix VI for sites located in New Hampshire.	24.7
5. Indicate the requested dilution factor for the calculation of water quality-based effluent limitations (WQBELs) determined in accordance with the instructions in Appendix V for sites in Massachusetts and Appendix VI for sites in New Hampshire.	111.83

6. Has the operator received confirmation from the appropriate State for the 7Q10and dilution factor indicated? (check one): ■ Yes ☐ No
If yes, indicate date confirmation received: 11/7/19

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

C. Source water information:

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

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

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

D. Discharge information

1.The discharge(s) is a(n) (check any that apply): ☐ Existing discharge ■ New discharge ☐ New source	
Outfall(s): 001	Outfall location(s): (Latitude, Longitude) 42.347152, -71.094967
Discharges enter the receiving water(s) via (check any that apply): ☐ Direct discharge to the receiving water ■ Indirect discharge, if so, specify: A Storm water catch basin and stormwater system with an final outfall in the Charles River ☐ A private storm sewer system ■ A municipal storm sewer system If the discharge enters the receiving water via a private or municipal storm sewer system: Has notification been provided to the owner of this system? (check one): ■ Yes ☐ No Has the operator has received permission from the owner to use such system for discharges? (check one): ■ Yes ☐ No, if so, explain, with an estimated timeframe for obtaining permission: BWSC Discharge permit has also been attached as appendix E Has the operator attached a summary of any additional requirements the owner of this system has specified? (check one): ☐ Yes ☐ No	
Provide the expected start and end dates of discharge(s) (month/year): 12/1/19-12/1/20 Indicate if the discharge is expected to occur over a duration of: ■ less than 12 months ☐ 12 months or more ☐ is an emergency discharge	
Has the operator attached a site plan in accordance with the instructions in D, above? (check one): ■ Yes ☐ No	

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

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

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

4. Influent and Effluent Characteristics

Parameter	Known or believed absent	Known or believed present	# of samples	Test method (#)	Detection limit (µg/l)	Influent		Effluent Limitations	
						Daily maximum (µg/l)	Daily average (µg/l)	TBEL	WQBEL
A. Inorganics									
Ammonia		✔	1	SM19-22	75	855	855	Report mg/L	---
Chloride		✔	1	300.0	50	1000000	1000000	Report µg/l	---
Total Residual Chlorine	✔		1	SM21-22-	0.020	<0.020	<0.020	0.2 mg/L	
Total Suspended Solids		✔	1	2540D	0.71	12	12	30 mg/L	---
Antimony	✔		1	200.8	1.0	<1.0	<1.0	206 µg/L	
Arsenic		✔	1	200.8	0.80	2.2	2.2	104 µg/L	
Cadmium	✔		1	200.8	0.20	<0.20	<0.20	10.2 µg/L	
Chromium III		✔	1	200.8	1.0	3.7	3.7	323 µg/L	
Chromium VI	✔		1	SM21-22	4	<4	<4	323 µg/L	
Copper		✔	1	200.8	1.0	12	12	242 µg/L	
Iron		✔	1	200.7	50	7100	7100	5,000 µg/L	
Lead		✔	1	200.8	0.50	9.2	9.2	160 µg/L	
Mercury	✔		1	245.1	0.01	<0.01	<0.01	0.739 µg/L	
Nickel		✔	1	200.8	5.0	8.5	8.5	1,450 µg/L	
Selenium		✔	1	200.8	1.6	2.4	2.4	235.8 µg/L	
Silver	✔		1	200.8	0.20	<0.20	<0.20	35.1 µg/L	
Zinc		✔	1	200.8	10	23	23	420 µg/L	
Cyanide		✔	1	200.7	5	18	18	178 mg/L	
B. Non-Halogenated VOCs									
Total BTEX		✔	1	624.1	N/A	0.340	0.340	100 µg/L	---
Benzene	✔		1	624.1	1.0	<1.0	<1.0	5.0 µg/L	---
1,4 Dioxane	✔		1	624.1	50	<50	<50	200 µg/L	---
Acetone		✔	1	624.1	3.79	12.7	12.7	7.97 mg/L	---
Phenol	✔		1	625.1	10.1	<10.1	<10.1	1,080 µg/L	

Parameter	Known or believed absent	Known or believed present	# of samples	Test method (#)	Detection limit (µg/l)	Influent		Effluent Limitations	
						Daily maximum (µg/l)	Daily average (µg/l)	TBEL	WQBEL
C. Halogenated VOCs									
Carbon Tetrachloride	✔		1	624.1	2.0	<2.0	<2.0	4.4 µg/L	
1,2 Dichlorobenzene		✔	1	624.1	0.16	0.470	0.470	600 µg/L	---
1,3 Dichlorobenzene	✔		1	624.1	2.0	<2.0	<2.0	320 µg/L	---
1,4 Dichlorobenzene		✔	1	624.1	0.130	0.160	0.160	5.0 µg/L	---
Total dichlorobenzene	✔		1	624.1	N/A	0.630	0.630	763 µg/L in NH	---
1,1 Dichloroethane	✔		1	624.1	2.0	<2.0	<2.0	70 µg/L	---
1,2 Dichloroethane	✔		1	624.1	2.0	<2.0	<2.0	5.0 µg/L	---
1,1 Dichloroethylene	✔		1	624.1	2.0	<2.0	<2.0	3.2 µg/L	---
Ethylene Dibromide	✔		1	504.1	0.019	<0.019	<0.019	0.05 µg/L	---
Methylene Chloride	✔		1	624.1	5.0	<5.0	<5.0	4.6 µg/L	---
1,1,1 Trichloroethane	✔		1	624.1	2.0	<2.0	<2.0	200 µg/L	---
1,1,2 Trichloroethane	✔		1	624.1	2.0	<2.0	<2.0	5.0 µg/L	---
Trichloroethylene	✔		1	624.1	2.0	<2.0	<2.0	5.0 µg/L	---
Tetrachloroethylene	✔		1	624.1	2.0	<2.0	<2.0	5.0 µg/L	
cis-1,2 Dichloroethylene	✔		1	624.1	2.0	<2.0	<2.0	70 µg/L	---
Vinyl Chloride	✔		1	624.1	2.0	<2.0	<2.0	2.0 µg/L	---
D. Non-Halogenated SVOCs									
Total Phthalates	✔		1	625.1	N/A	<1.0	<1.0	190 µg/L	
Diethylhexyl phthalate	✔		1	625.1	1.0	<1.0	<1.0	101 µg/L	
Total Group I PAHs	✔		1	625.1	N/A	<0.051	<0.051	1.0 µg/L	---
Benzo(a)anthracene	✔		1	625.1	0.051	<0.051	0.051	As Total PAHs	
Benzo(a)pyrene	✔		1	625.1	0.10	<0.10	<0.10		
Benzo(b)fluoranthene	✔		1	625.1	0.051	<0.051	<0.051		
Benzo(k)fluoranthene	✔		1	625.1	0.20	<0.20	<0.20		
Chrysene	✔		1	625.1	0.20	<0.20	<0.20		
Dibenzo(a,h)anthracene	✔		1	625.1	0.10	<0.10	0.10		
Indeno(1,2,3-cd)pyrene	✔		1	625.1	0.10	<0.10	<0.10		

Parameter	Known or believed absent	Known or believed present	# of samples	Test method (#)	Detection limit (µg/l)	Influent		Effluent Limitations	
						Daily maximum (µg/l)	Daily average (µg/l)	TBEL	WQBEL
Total Group II PAHs	✔		1	625.1	N/A	<100	<100	100 µg/L	---
Naphthalene	✔		1	625.1	5.05	<5.05	<5.05	20 µg/L	---
E. Halogenated SVOCs									
Total PCBs	✔		1	608.3	N/A	<0.098	<0.098	0.000064 µg/L	---
Pentachlorophenol	✔		1	625.1	1.0	<1.0	<1.0	1.0 µg/L	---
F. Fuels Parameters									
Total Petroleum Hydrocarbons	✔		1	1664B	1.4	<1.4	<1.4	5.0 mg/L	---
Ethanol	✔		1	624.1	100	<100	<100	Report mg/L	---
Methyl-tert-Butyl Ether	✔		1	624.1	2	<2.0	<2.0	70 µg/L	
tert-Butyl Alcohol	✔		1	624.1	20	<20	<20	120 µg/L in MA 40 µg/L in NH	---
tert-Amyl Methyl Ether	✔		1	624.1	0.500	<0.500	<0.500	90 µg/L in MA 140 µg/L in NH	---
Other (i.e., pH, temperature, hardness, salinity, LC_{50}, additional pollutants present); if so, specify:									
Hardness		✔	1	200.7	N/A	660	660		
pH		✔	1	Field	N/A	6.9	6.9		
Receiving Water									
pH		✔	1	Field	N/A	6.7	6.7		
Chromium		✔	1	200.8	1.0	1.5	1.5		
Copper		✔	1	200.8	1.0	4.7	4.7		
Iron		✔	1	200.7	50	390	390		
Zinc		✔	1	200.8	10	11	11		
Hardness		✔	1	200.7	N/A	61	61		

E. Treatment system information

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

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

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

Source water will enter one 18,000-gallon weir tank at the head of the system. From the weir tank, the water will be pumped to a triple-bag filter skid (with three single bag filters), followed by two carbon vessels plumbed in series. Each carbon vessel will contain 2,000 pounds of reactivated liquid-phase carbon. Discharge from the carbon vessels will pass through a flow/totalizer meter prior to discharge to a catch basin that has a final outfall in the Charles River.

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

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

3. Provide the **design flow capacity** in gallons per minute (gpm) of the most limiting component. Indicate the most limiting component: Carbon Media Vessels Is use of a flow meter feasible? (check one): ■ Yes ☐ No, if so, provide justification:	100
Provide the proposed maximum effluent flow in gpm.	100
Provide the average effluent flow in gpm.	75
If Activity Category IV applies, indicate the estimated total volume of water that will be discharged:	

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

F. Chemical and additive information

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

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

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

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

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

G. Endangered Species Act eligibility determination

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

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

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

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

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

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

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

H. National Historic Preservation Act eligibility determination

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

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

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

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

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

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

I. Supplemental information

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

BWSC storm drain system map of discharge path
Dilution factor confirmation email dilution calculations and stream stats report.

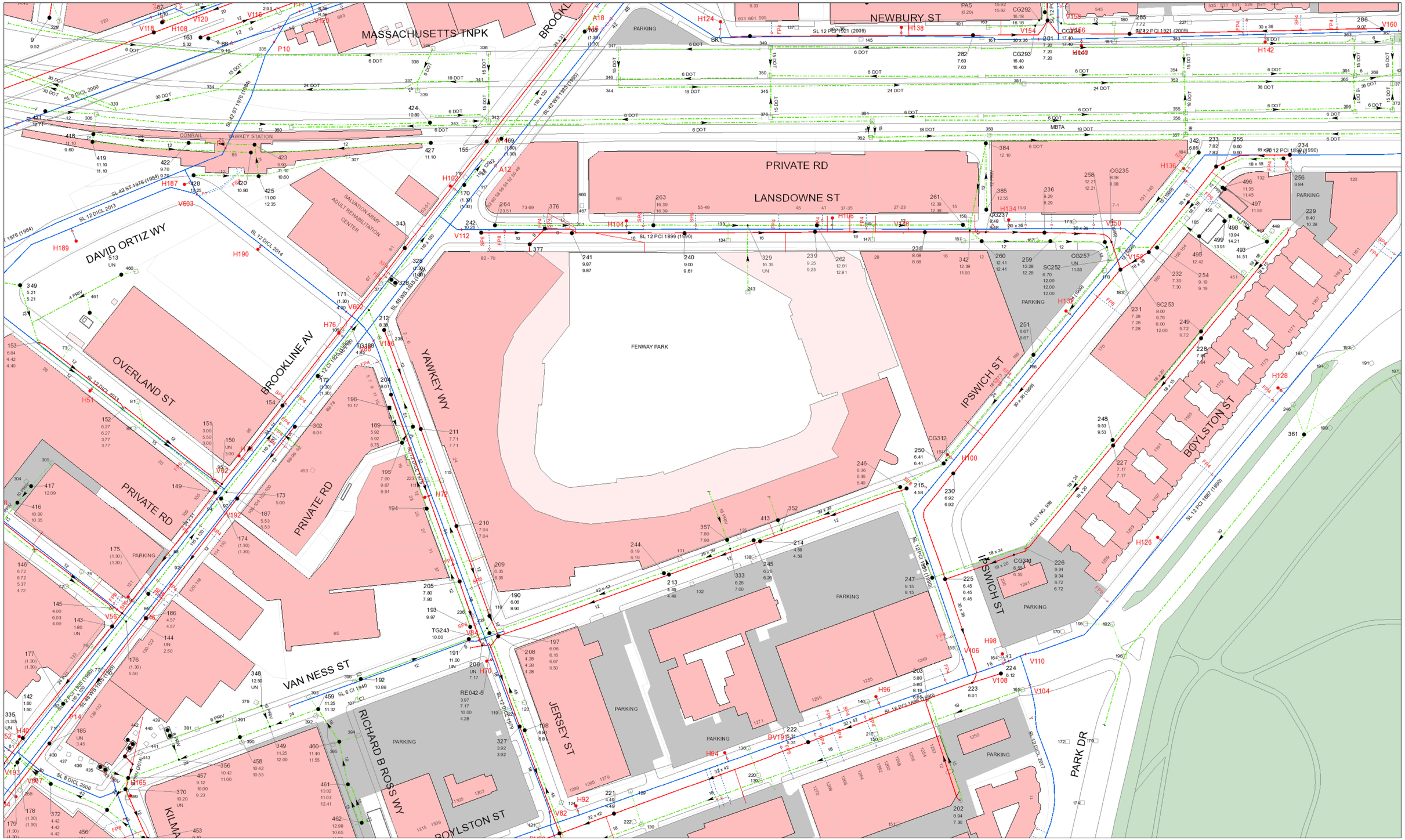
Has the operator attached data, including any laboratory case narrative and chain of custody used to support the application? (check one): ■ Yes ☐ No

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

J. Certification requirement

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

BMPP certification statement:	A BMPP will be developed and maintained to meet the requirements of this permit. The BMPP will be implemented on-site prior to the initiation of discharge
Notification provided to the appropriate State, including a copy of this NOI, if required.	Check one: Yes ■ No ☐
Notification provided to the municipality in which the discharge is located, including a copy of this NOI, if requested.	Check one: Yes ■ No ☐
Notification provided to the owner of a private or municipal storm sewer system, if such system is used for site discharges, including a copy of this NOI, if requested.	Check one: Yes ■ No ☐ NA ☐
Permission obtained from the owner of a private or municipal storm sewer system, if such system is used for site discharges. If yes, attach additional conditions. If no, attach explanation and timeframe for obtaining permission.	Check one: Yes ☐ No ☐ NA ■
Notification provided to the owner/operator of the area associated with activities covered by an additional discharge permit(s). Additional discharge permit is (check one): ☐ RGP ☐ DGP ☐ CGP ☐ MSGP ☐ Individual NPDES permit ☐ Other; if so, specify:	Check one: Yes ☐ No ☐ NA ■
Signature:	Date: 11/7/2019
Print Name and Title:	MARK JENNINGS - PROJECT MANAGER



BOSTON WATER AND SEWER

N W E S

0 45 90 180 270 360

Feet

175 ipswich

N W E S

0 30 60 120 180 240
Feet

175 ipswich 2

MA Limits

WQBEL

Enter number values in green boxes below

Enter values in the units specified

↓

15.96	Q_R = Enter upstream flow in **MGD**
0.144	Q_P = Enter discharge flow in **MGD**
0	Downstream 7Q10

Enter a dilution factor, if other than zero

↓

111.83

Enter values in the units specified

↓

660	C_d = Enter influent hardness in **mg/L** $CaCO_3$
61	C_s = Enter receiving water hardness in **mg/L** $CaCO_3$

Enter **receiving water** concentrations in the units specified

↓

6.7	pH in **Standard Units**
15	Temperature in **^oC**
0.206	Ammonia in **mg/L**
660	Hardness in **mg/L** $CaCO_3$
0	Salinity in **ppt**
0	Antimony in **µg/L**
0	Arsenic in **µg/L**
0	Cadmium in **µg/L**
1.5	Chromium III in **µg/L**
0	Chromium VI in **µg/L**
4.7	Copper in **µg/L**
390	Iron in **µg/L**
1.8	Lead in **µg/L**
0	Mercury in **µg/L**
0	Nickel in **µg/L**
0	Selenium in **µg/L**
0	Silver in **µg/L**
11	Zinc in **µg/L**

Enter **influent** concentrations in the units specified

↓

0	TRC in **µg/L**
0.855	Ammonia in **mg/L**
0	Antimony in **µg/L**
2.2	Arsenic in **µg/L**
0	Cadmium in **µg/L**
3.7	Chromium III in **µg/L**
0	Chromium VI in **µg/L**
12	Copper in **µg/L**
7100	Iron in **µg/L**
9.2	Lead in **µg/L**
0	Mercury in **µg/L**
8.5	Nickel in **µg/L**
2.4	Selenium in **µg/L**
0	Silver in **µg/L**
23	Zinc in **µg/L**
18	Cyanide in **µg/L**
0	Phenol in **µg/L**
0	Carbon Tetrachloride in **µg/L**
0	Tetrachloroethylene in **µg/L**
0	Total Phthalates in **µg/L**
0	Diethylhexylphthalate in **µg/L**
0	Benzo(a)anthracene in **µg/L**
0	Benzo(a)pyrene in **µg/L**
0	Benzo(b)fluoranthene in **µg/L**
0	Benzo(k)fluoranthene in **µg/L**
0	Chrysene in **µg/L**
0	Dibenzo(a,h)anthracene in **µg/L**
0	Indeno(1,2,3-cd)pyrene in **µg/L**
0	Methyl-tert butyl ether in **µg/L**

Dilution Factor	111.8			
	TBEL applies if bolded		WQBEL applies if bolded	
A. Inorganics				
Ammonia	**Report**	mg/L	---	
Chloride	**Report**	µg/L	---	
Total Residual Chlorine	**0.2**	mg/L	1230	µg/L
Total Suspended Solids	**30**	mg/L	---	
Antimony	**206**	µg/L	71573	µg/L
Arsenic	**104**	µg/L	1118	µg/L
Cadmium	**10.2**	µg/L	22.3341	µg/L
Chromium III	**323**	µg/L	6721.8	µg/L
Chromium VI	**323**	µg/L	1278.8	µg/L
Copper	**242**	µg/L	213.9	µg/L
Iron	**5000**	µg/L	68608	µg/L
Lead	**160**	µg/L	11.59	µg/L
Mercury	**0.739**	µg/L	101.31	µg/L
Nickel	**1450**	µg/L	4123.3	µg/L
Selenium	**235.8**	µg/L	559.2	µg/L
Silver	**35.1**	µg/L	209.0	µg/L
Zinc	**420**	µg/L	8246.9	µg/L
Cyanide	**178**	mg/L	581.5	µg/L
B. Non-Halogenated VOCs				
Total BTEX	**100**	µg/L	---	
Benzene	**5.0**	µg/L	---	
1,4 Dioxane	**200**	µg/L	---	
Acetone	**7970**	µg/L	---	
Phenol	**1,080**	µg/L	33550	µg/L
C. Halogenated VOCs				
Carbon Tetrachloride	**4.4**	µg/L	178.9	µg/L
1,2 Dichlorobenzene	**600**	µg/L	---	
1,3 Dichlorobenzene	**320**	µg/L	---	
1,4 Dichlorobenzene	**5.0**	µg/L	---	
Total dichlorobenzene	**---**	µg/L	---	
1,1 Dichloroethane	**70**	µg/L	---	
1,2 Dichloroethane	**5.0**	µg/L	---	
1,1 Dichloroethylene	**3.2**	µg/L	---	
Ethylene Dibromide	**0.05**	µg/L	---	
Methylene Chloride	**4.6**	µg/L	---	
1,1,1 Trichloroethane	**200**	µg/L	---	
1,1,2 Trichloroethane	**5.0**	µg/L	---	
Trichloroethylene	**5.0**	µg/L	---	
Tetrachloroethylene	**5.0**	µg/L	369.1	µg/L
cis-1,2 Dichloroethylene	**70**	µg/L	---	

Vinyl Chloride	**2.0**	µg/L	---	
D. Non-Halogenated SVOCs				
Total Phthalates	**190**	µg/L	---	µg/L
Diethylhexyl phthalate	**101**	µg/L	246.0	µg/L
Total Group I Polycyclic Aromatic Hydrocarbons	**1.0**	µg/L	---	
Benzo(a)anthracene	**1.0**	µg/L	0.4250	µg/L
Benzo(a)pyrene	**1.0**	µg/L	0.4250	µg/L
Benzo(b)fluoranthene	**1.0**	µg/L	0.4250	µg/L
Benzo(k)fluoranthene	**1.0**	µg/L	0.4250	µg/L
Chrysene	**1.0**	µg/L	0.4250	µg/L
Dibenzo(a,h)anthracene	**1.0**	µg/L	0.4250	µg/L
Indeno(1,2,3-cd)pyrene	**1.0**	µg/L	0.4250	µg/L
Total Group II Polycyclic Aromatic Hydrocarbons	**100**	µg/L	---	
Naphthalene	**20**	µg/L	---	
E. Halogenated SVOCs				
Total Polychlorinated Biphenyls	**0.000064**	µg/L	---	
Pentachlorophenol	**1.0**	µg/L	---	
F. Fuels Parameters				
Total Petroleum Hydrocarbons	**5.0**	mg/L	---	
Ethanol	**Report**	mg/L	---	
Methyl-tert-Butyl Ether	**70**	µg/L	2237	µg/L
tert-Butyl Alcohol	**120**	µg/L	---	
tert-Amyl Methyl Ether	**90**	µg/L	---	

Dilution Factor

Confirmation, Stream Stats

Report and Dilution

Calculations

From: Vakalopoulos, Catherine (DEP)
To: Jake Jennings; Ruan, Xiaodan (DEP)
Subject: RE: Dilution Calcs 175 Ipswich Street Boston MA
Date: Thursday, November 7, 2019 12:08:50 PM

Hi Jake,
I can confirm that your dilution factor calculation of 111.83 for this 100 gpm proposed discharge to the Charles River via BWSC outfall SDO042 is correct.

As you know from your work on the Boston Arts Academy project, this segment of the Charles River is identified as MA72-38 and is classified as Class B. There are two approved TMDLs for this segment (phosphorus and pathogens) and this is not an Outstanding Resource Water. To see the causes of impairments, go to: https://www.mass.gov/files/documents/2016/08/sa/14list2_0.pdf and search for "MA72-38".

Also as you know, in addition to submitting the EPA NOI for the RGP, if this is not a *current* MCP site, you will have to apply to MassDEP and submit a fee (unless fee exempt, e.g. a municipality). Instructions are located here: https://www.mass.gov/how-to/wm-15-npdes-general-permit-notice-of-intent.

Please let me know if you have any further questions.

Cathy

Cathy Vakalopoulos, Massachusetts Department of Environmental Protection
1 Winter St., Boston, MA 02108, 617-348-4026
Please consider the environment before printing this e-mail

From: Jake Jennings [mailto:JJennings@lrt-llc.net]
Sent: Wednesday, November 06, 2019 2:39 PM
To: Vakalopoulos, Catherine (DEP); Ruan, Xiaodan (DEP)
Subject: Dilution Calcs 175 Ipswich Street Boston MA

Hi Cathy,

As required in appendix V, please see attached StreamStats Report along with our dilution calcs for your review and conformation.

The project location:

Fenway Theater
175 Ipswich Street
Boston MA

The 7 Day 10 Year Low Flow value from the StreamStats report is 24.7 cfs and the calculated dilution factor is 111.83.

Can you please confirm that these values are appropriate.

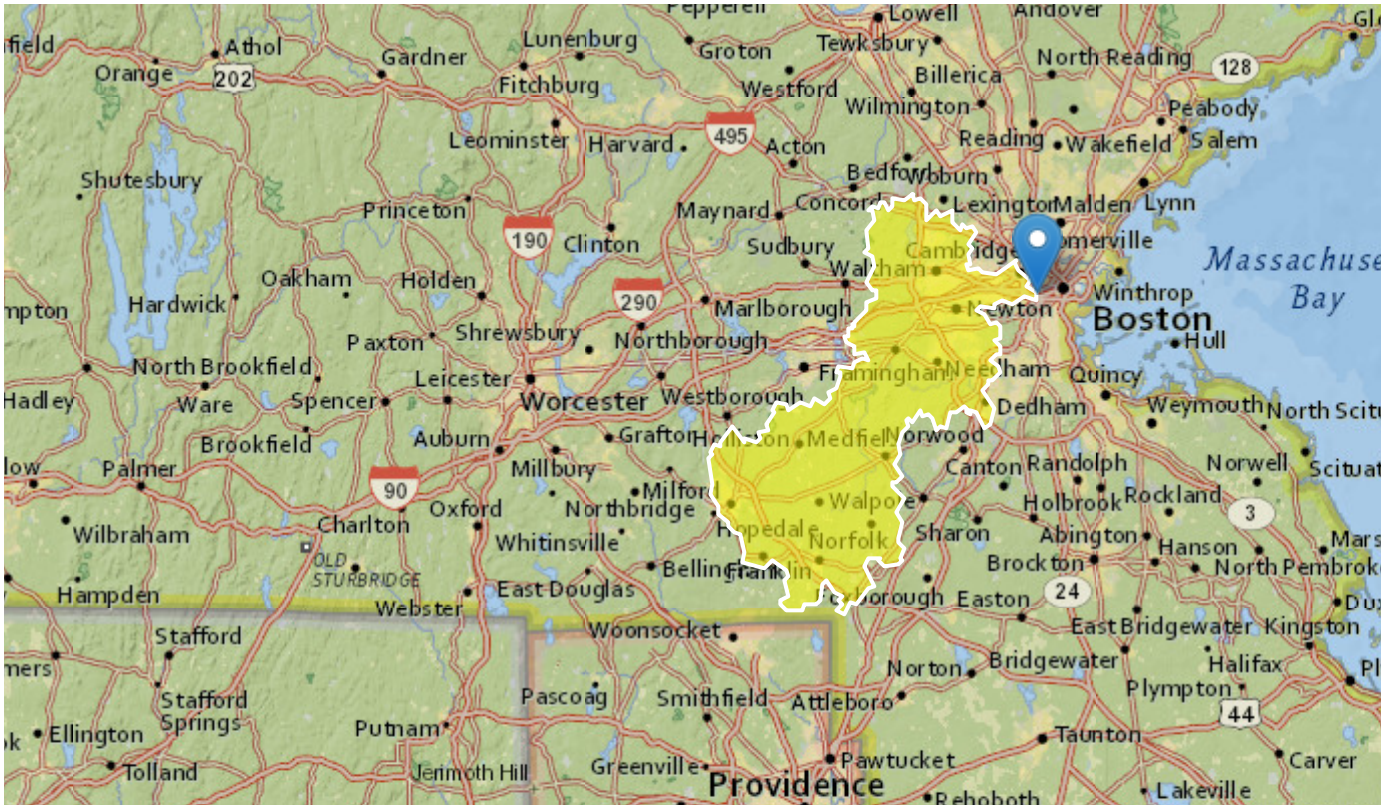
Thank you

Jake Jennings

Lockwood Remediation Technologies, LLC
89 Crawford Street
Leominster, MA 01453
M: 508.930.9812
jjennings@lrt-llc.net

StreamStats Report

Region ID: MA
Workspace ID: MA20191106191126114000
Clicked Point (Latitude, Longitude): 42.35301, -71.09845
Time: 2019-11-06 14:11:44 -0500



Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	283	square miles
BSLDEM250	Mean basin slope computed from 1:250K DEM	2.327	percent
DRFTPERSTR	Area of stratified drift per unit of stream length	0.23	square mile per mile
MAREGION	Region of Massachusetts 0 for Eastern 1 for Western	0	dimensionless

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

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	283	square miles	1.61	149
BSLDEM250	Mean Basin Slope from 250K DEM	2.327	percent	0.32	24.6
DRFTPERSTR	Stratified Drift per Stream Length	0.23	square mile per mile	0	1.29
MAREGION	Massachusetts Region	0	dimensionless	0	1

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

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

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

Statistic	Value	Unit
7 Day 2 Year Low Flow	49.6	ft^3/s
7 Day 10 Year Low Flow	24.7	ft^3/s

Low-Flow Statistics Citations

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

USGS Product Names Disclaimer: Any use of trade, firm, or product names is for descriptive purposes only and does not imply endorsement by the U.S. Government.

Application Version: 4.3.8

DILUTION CALCULATIONS
Fenway Theater
Boston, MA

Calculate Dilution Factor (DF) for project based on 7 Day 10 Year (7Q10) Low Flow values

Calculate DF based on EPA formula $(Q_S + Q_D)/Q_D$, where Q_S is 7Q10 in million gallons per day (MGD) and Q_D is discharge flow in MGD

ASSUMPTIONS FOR 100 GPM SYSTEM

7Q10 is 24.7 cubic feet per second (cfs) - from StreamStats 4.0
A conversion of 7.48 is used to convert cubic feet to gallons
A design flow rate of 100 gallons per minute (gpm) is assumed

CALCULATIONS

7q10 Low Flow Value (Q_S)

$$Q_S = \frac{24.7 ft^3}{sec} \times \frac{7.48 \text{ gallons}}{ft^3} \times \frac{86{,}400 \text{ sec}}{day} \times \frac{1 \text{ MG}}{1{,}000{,}000 \text{ gallons}} = 15.96 \text{ MGD}$$

Discharge Flow Rate (Q_D)

$$Q_D = \frac{100 \text{ gallons}}{min} \times \frac{1{,}440 \text{ min}}{day} \times \frac{1MG}{1{,}000{,}000 \text{ gallons}} = 0.144 \text{ MGD}$$

Dilution Factor (DF)

$$DF = \frac{Q_S + Q_D}{Q_D} = \frac{15.96 \text{ MGD} + 0.144 \text{ MDG}}{0.144 \text{ MGD}} = 111.83$$

Appendix B

Laboratory Data

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

November 6, 2019

Jake Jennings
Lockwood Remediation Technologies, LLC
89 Crawford Street
Leominster, MA 01453

Project Location: Fenway Theater
Client Job Number:
Project Number: 2-1956
Laboratory Work Order Number: 19J1915

Enclosed are results of analyses for samples received by the laboratory on October 30, 2019. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Kerry K. McGee
Project Manager

Table of Contents

Table of Contents (continued)

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Lockwood Remediation Technologies, LLC
89 Crawford Street
Leominster, MA 01453
ATTN: Jake Jennings

REPORT DATE: 11/6/2019

PURCHASE ORDER NUMBER: 2-1956

PROJECT NUMBER: 2-1956

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 19J1915

The results of analyses performed on the following samples submitted to the CON-TEST Analytical Laboratory are found in this report.

PROJECT LOCATION: Fenway Theater

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
Influent	19J1915-01	Ground Water		608.3	
				624.1	
				625.1	
				EPA 1664B	
				EPA 200.7	
				EPA 200.8	
				EPA 245.1	
				EPA 300.0	
				EPA 504.1	
				SM19-22 4500 NH3 C	MA M-MA-086/CT PH-0574/NY11148
				SM21-22 2540D	
				SM21-22 3500 Cr B	
				SM21-22 4500 CL G	
				SM21-22 4500 CN E	MA M-MA-086/CT PH-0574/NY11148
				Tri Chrome Calc.	
Receiving Water (Charles)	19J1915-02	Ground Water		EPA 200.7	
				EPA 200.8	
				EPA 245.1	
				SM19-22 4500 NH3 C	MA M-MA-086/CT PH-0574/NY11148
				SM21-22 2540D	
				SM21-22 3500 Cr B	
				Tri Chrome Calc.	

con-test® ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

624.1

Qualifications:

B-05

Data is not affected by elevated level in laboratory blank since sample(s) result is "Not Detected".

Analyte & Samples(s) Qualified:

Bromomethane
B245118-BLK1

L-01

Laboratory fortified blank /laboratory control sample recovery outside of control limits. Data validation is not affected since all results are "not detected" for all samples in this batch for this compound and bias is on the high side.

Analyte & Samples(s) Qualified:

1,4-Dioxane
B245118-BS1, S042268-CCV1

625.1

Qualifications:

L-04

Laboratory fortified blank/laboratory control sample recovery and duplicate recovery are outside of control limits. Reported value for this compound is likely to be biased on the low side.

Analyte & Samples(s) Qualified:

Benzidine
19J1915-01[Influent], B244701-BLK1, B244701-BS1, B244701-BSD1

L-07

Either laboratory fortified blank/laboratory control sample or duplicate recovery is outside of control limits, but the other is within limits. RPD between the two LFB/LCS results is within method specified criteria.

Analyte & Samples(s) Qualified:

2-Chloronaphthalene
B244701-BSD1

V-04

Initial calibration did not meet method specifications. Compound was calibrated using a response factor where %RSD is outside of method specified criteria. Reported result is estimated.

Analyte & Samples(s) Qualified:

Benzidine
19J1915-01[Influent], B244701-BLK1, B244701-BS1, B244701-BSD1, S042106-CCV1

V-35

Initial calibration verification (ICV) did not meet method specifications and was biased on the high side for this compound. Reported result is estimated.

Analyte & Samples(s) Qualified:

Benzidine
19J1915-01[Influent], B244701-BLK1, B244701-BS1, B244701-BSD1, S042106-CCV1

EPA 200.7

Qualifications:

B

Analyte is found in the associated laboratory blank as well as in the sample.

Analyte & Samples(s) Qualified:

Hardness
19J1915-01[Influent], 19J1915-02[Receiving Water (Charles)], B244699-BS1, B244699-BSD1

SM21-22 3500 Cr B

Qualifications:

R-05

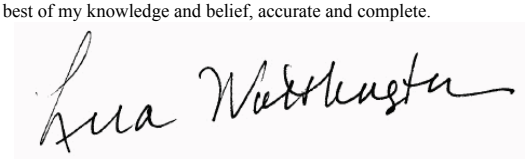
Laboratory fortified blank duplicate RPD is outside of control limits. Reduced precision is anticipated for any reported value for this compound.

Analyte & Samples(s) Qualified:

Hexavalent Chromium
B244676-BSD1

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

The results of analyses reported only relate to samples submitted to the Con-Test Analytical Laboratory for testing.
I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.



Lisa A. Worthington
Technical Representative

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Fenway Theater | Sample Description: | Work Order: 19J1915

Date Received: 10/30/2019

Field Sample #: Influent | Sampled: 10/30/2019 08:30

Sample ID: 19J1915-01

Sample Matrix: Ground Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	DL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	12.7	50.0	3.79	µg/L	1	J	624.1	11/5/19	11/5/19 15:10	LBD
tert-Amyl Methyl Ether (TAME)	<0.500	0.500	0.140	µg/L	1		624.1	11/5/19	11/5/19 15:10	LBD
Benzene	<1.00	1.00	0.180	µg/L	1		624.1	11/5/19	11/5/19 15:10	LBD
Bromodichloromethane	<2.00	2.00	0.160	µg/L	1		624.1	11/5/19	11/5/19 15:10	LBD
Bromoform	<2.00	2.00	0.460	µg/L	1		624.1	11/5/19	11/5/19 15:10	LBD
Bromomethane	<5.00	5.00	0.780	µg/L	1		624.1	11/5/19	11/5/19 15:10	LBD
tert-Butyl Alcohol (TBA)	<20.0	20.0	4.17	µg/L	1		624.1	11/5/19	11/5/19 15:10	LBD
Carbon Tetrachloride	<2.00	2.00	0.110	µg/L	1		624.1	11/5/19	11/5/19 15:10	LBD
Chlorobenzene	1.08	2.00	0.150	µg/L	1	J	624.1	11/5/19	11/5/19 15:10	LBD
Chlorodibromomethane	<2.00	2.00	0.210	µg/L	1		624.1	11/5/19	11/5/19 15:10	LBD
Chloroethane	<2.00	2.00	0.350	µg/L	1		624.1	11/5/19	11/5/19 15:10	LBD
Chloroform	<2.00	2.00	0.170	µg/L	1		624.1	11/5/19	11/5/19 15:10	LBD
Chloromethane	<2.00	2.00	0.450	µg/L	1		624.1	11/5/19	11/5/19 15:10	LBD
1,2-Dichlorobenzene	0.470	2.00	0.160	µg/L	1	J	624.1	11/5/19	11/5/19 15:10	LBD
1,3-Dichlorobenzene	<2.00	2.00	0.120	µg/L	1		624.1	11/5/19	11/5/19 15:10	LBD
1,4-Dichlorobenzene	0.160	2.00	0.130	µg/L	1	J	624.1	11/5/19	11/5/19 15:10	LBD
1,2-Dichloroethane	<2.00	2.00	0.410	µg/L	1		624.1	11/5/19	11/5/19 15:10	LBD
1,1-Dichloroethane	<2.00	2.00	0.160	µg/L	1		624.1	11/5/19	11/5/19 15:10	LBD
1,1-Dichloroethylene	<2.00	2.00	0.320	µg/L	1		624.1	11/5/19	11/5/19 15:10	LBD
trans-1,2-Dichloroethylene	0.660	2.00	0.310	µg/L	1	J	624.1	11/5/19	11/5/19 15:10	LBD
1,2-Dichloropropane	<2.00	2.00	0.200	µg/L	1		624.1	11/5/19	11/5/19 15:10	LBD
cis-1,3-Dichloropropene	<2.00	2.00	0.130	µg/L	1		624.1	11/5/19	11/5/19 15:10	LBD
1,4-Dioxane	<50.0	50.0	22.5	µg/L	1		624.1	11/5/19	11/5/19 15:10	LBD
trans-1,3-Dichloropropene	<2.00	2.00	0.230	µg/L	1		624.1	11/5/19	11/5/19 15:10	LBD
Ethanol	<100	100	10.5	µg/L	1		624.1	11/5/19	11/5/19 15:10	LBD
Ethylbenzene	<2.00	2.00	0.130	µg/L	1		624.1	11/5/19	11/5/19 15:10	LBD
Methyl tert-Butyl Ether (MTBE)	<2.00	2.00	0.250	µg/L	1		624.1	11/5/19	11/5/19 15:10	LBD
Methylene Chloride	<5.00	5.00	0.340	µg/L	1		624.1	11/5/19	11/5/19 15:10	LBD
1,1,2,2-Tetrachloroethane	<2.00	2.00	0.220	µg/L	1		624.1	11/5/19	11/5/19 15:10	LBD
Tetrachloroethylene	<2.00	2.00	0.180	µg/L	1		624.1	11/5/19	11/5/19 15:10	LBD
Toluene	0.340	1.00	0.140	µg/L	1	J	624.1	11/5/19	11/5/19 15:10	LBD
1,1,1-Trichloroethane	<2.00	2.00	0.200	µg/L	1		624.1	11/5/19	11/5/19 15:10	LBD
1,1,2-Trichloroethane	<2.00	2.00	0.160	µg/L	1		624.1	11/5/19	11/5/19 15:10	LBD
Trichloroethylene	<2.00	2.00	0.240	µg/L	1		624.1	11/5/19	11/5/19 15:10	LBD
Trichlorofluoromethane (Freon 11)	<2.00	2.00	0.330	µg/L	1		624.1	11/5/19	11/5/19 15:10	LBD
Vinyl Chloride	<2.00	2.00	0.450	µg/L	1		624.1	11/5/19	11/5/19 15:10	LBD
m+p Xylene	<2.00	2.00	0.300	µg/L	1		624.1	11/5/19	11/5/19 15:10	LBD
o-Xylene	<2.00	2.00	0.170	µg/L	1		624.1	11/5/19	11/5/19 15:10	LBD

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
1,2-Dichloroethane-d4	98.2	70-130		11/5/19 15:10
Toluene-d8	109	70-130		11/5/19 15:10
4-Bromofluorobenzene	98.8	70-130		11/5/19 15:10

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Fenway Theater | Sample Description: | Work Order: 19J1915

Date Received: 10/30/2019

Field Sample #: Influent | Sampled: 10/30/2019 08:30

Sample ID: 19J1915-01

Sample Matrix: Ground Water

Semivolatile Organic Compounds by GC/MS

Analyte	Results	RL	DL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Benzo(a)anthracene (SIM)	<0.051	0.051	0.016	µg/L	1		625.1	10/31/19	11/1/19 11:53	IMR
Benzo(a)pyrene (SIM)	<0.10	0.10	0.012	µg/L	1		625.1	10/31/19	11/1/19 11:53	IMR
Benzo(b)fluoranthene (SIM)	<0.051	0.051	0.015	µg/L	1		625.1	10/31/19	11/1/19 11:53	IMR
Benzo(k)fluoranthene (SIM)	<0.20	0.20	0.012	µg/L	1		625.1	10/31/19	11/1/19 11:53	IMR
Bis(2-ethylhexyl)phthalate (SIM)	<1.0	1.0	0.43	µg/L	1		625.1	10/31/19	11/1/19 11:53	IMR
Chrysene (SIM)	<0.20	0.20	0.015	µg/L	1		625.1	10/31/19	11/1/19 11:53	IMR
Dibenz(a,h)anthracene (SIM)	<0.10	0.10	0.017	µg/L	1		625.1	10/31/19	11/1/19 11:53	IMR
Indeno(1,2,3-cd)pyrene (SIM)	<0.10	0.10	0.018	µg/L	1		625.1	10/31/19	11/1/19 11:53	IMR
Pentachlorophenol (SIM)	<1.0	1.0	0.34	µg/L	1		625.1	10/31/19	11/1/19 11:53	IMR

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
2-Fluorophenol (SIM)	38.4	15-110		11/1/19 11:53
Phenol-d6 (SIM)	31.8	15-110		11/1/19 11:53
Nitrobenzene-d5	71.8	30-130		11/1/19 11:53
2-Fluorobiphenyl	49.5	30-130		11/1/19 11:53
2,4,6-Tribromophenol (SIM)	83.1	15-110		11/1/19 11:53
p-Terphenyl-d14	57.8	30-130		11/1/19 11:53

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Fenway Theater | Sample Description: | Work Order: 19J1915

Date Received: 10/30/2019

Field Sample #: Influent | Sampled: 10/30/2019 08:30

Sample ID: 19J1915-01

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acenaphthene	<5.05	5.05	µg/L	1		625.1	10/31/19	11/1/19 13:20	KLB
Acenaphthylene	<5.05	5.05	µg/L	1		625.1	10/31/19	11/1/19 13:20	KLB
Anthracene	<5.05	5.05	µg/L	1		625.1	10/31/19	11/1/19 13:20	KLB
Benzidine	<20.2	20.2	µg/L	1	V-04, L-04, V-35	625.1	10/31/19	11/1/19 13:20	KLB
Benzo(g,h,i)perylene	<5.05	5.05	µg/L	1		625.1	10/31/19	11/1/19 13:20	KLB
4-Bromophenylphenylether	<10.1	10.1	µg/L	1		625.1	10/31/19	11/1/19 13:20	KLB
Butylbenzylphthalate	<10.1	10.1	µg/L	1		625.1	10/31/19	11/1/19 13:20	KLB
4-Chloro-3-methylphenol	<10.1	10.1	µg/L	1		625.1	10/31/19	11/1/19 13:20	KLB
Bis(2-chloroethyl)ether	<10.1	10.1	µg/L	1		625.1	10/31/19	11/1/19 13:20	KLB
Bis(2-chloroisopropyl)ether	<10.1	10.1	µg/L	1		625.1	10/31/19	11/1/19 13:20	KLB
2-Chloronaphthalene	<10.1	10.1	µg/L	1		625.1	10/31/19	11/1/19 13:20	KLB
2-Chlorophenol	<10.1	10.1	µg/L	1		625.1	10/31/19	11/1/19 13:20	KLB
4-Chlorophenylphenylether	<10.1	10.1	µg/L	1		625.1	10/31/19	11/1/19 13:20	KLB
Di-n-butylphthalate	<10.1	10.1	µg/L	1		625.1	10/31/19	11/1/19 13:20	KLB
1,3-Dichlorobenzene	<5.05	5.05	µg/L	1		625.1	10/31/19	11/1/19 13:20	KLB
1,4-Dichlorobenzene	<5.05	5.05	µg/L	1		625.1	10/31/19	11/1/19 13:20	KLB
1,2-Dichlorobenzene	<5.05	5.05	µg/L	1		625.1	10/31/19	11/1/19 13:20	KLB
3,3-Dichlorobenzidine	<10.1	10.1	µg/L	1		625.1	10/31/19	11/1/19 13:20	KLB
2,4-Dichlorophenol	<10.1	10.1	µg/L	1		625.1	10/31/19	11/1/19 13:20	KLB
Diethylphthalate	<10.1	10.1	µg/L	1		625.1	10/31/19	11/1/19 13:20	KLB
2,4-Dimethylphenol	<10.1	10.1	µg/L	1		625.1	10/31/19	11/1/19 13:20	KLB
Dimethylphthalate	<10.1	10.1	µg/L	1		625.1	10/31/19	11/1/19 13:20	KLB
4,6-Dinitro-2-methylphenol	<10.1	10.1	µg/L	1		625.1	10/31/19	11/1/19 13:20	KLB
2,4-Dinitrophenol	<10.1	10.1	µg/L	1		625.1	10/31/19	11/1/19 13:20	KLB
2,4-Dinitrotoluene	<10.1	10.1	µg/L	1		625.1	10/31/19	11/1/19 13:20	KLB
2,6-Dinitrotoluene	<10.1	10.1	µg/L	1		625.1	10/31/19	11/1/19 13:20	KLB
Di-n-octylphthalate	<10.1	10.1	µg/L	1		625.1	10/31/19	11/1/19 13:20	KLB
1,2-Diphenylhydrazine/Azobenzene	<10.1	10.1	µg/L	1		625.1	10/31/19	11/1/19 13:20	KLB
Fluoranthene	<5.05	5.05	µg/L	1		625.1	10/31/19	11/1/19 13:20	KLB
Fluorene	<5.05	5.05	µg/L	1		625.1	10/31/19	11/1/19 13:20	KLB
Hexachlorobenzene	<10.1	10.1	µg/L	1		625.1	10/31/19	11/1/19 13:20	KLB
Hexachlorobutadiene	<10.1	10.1	µg/L	1		625.1	10/31/19	11/1/19 13:20	KLB
Hexachlorocyclopentadiene	<10.1	10.1	µg/L	1		625.1	10/31/19	11/1/19 13:20	KLB
Hexachloroethane	<10.1	10.1	µg/L	1		625.1	10/31/19	11/1/19 13:20	KLB
Isophorone	<10.1	10.1	µg/L	1		625.1	10/31/19	11/1/19 13:20	KLB
Naphthalene	<5.05	5.05	µg/L	1		625.1	10/31/19	11/1/19 13:20	KLB
Nitrobenzene	<10.1	10.1	µg/L	1		625.1	10/31/19	11/1/19 13:20	KLB
2-Nitrophenol	<10.1	10.1	µg/L	1		625.1	10/31/19	11/1/19 13:20	KLB
4-Nitrophenol	<10.1	10.1	µg/L	1		625.1	10/31/19	11/1/19 13:20	KLB
N-Nitrosodimethylamine	<10.1	10.1	µg/L	1		625.1	10/31/19	11/1/19 13:20	KLB
N-Nitrosodiphenylamine/Diphenylamine	<10.1	10.1	µg/L	1		625.1	10/31/19	11/1/19 13:20	KLB
N-Nitrosodi-n-propylamine	<10.1	10.1	µg/L	1		625.1	10/31/19	11/1/19 13:20	KLB
2-Methylnaphthalene	<5.05	5.05	µg/L	1		625.1	10/31/19	11/1/19 13:20	KLB
Phenanthrene	<5.05	5.05	µg/L	1		625.1	10/31/19	11/1/19 13:20	KLB

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Fenway Theater | Sample Description: | Work Order: 19J1915

Date Received: 10/30/2019

Field Sample #: Influent | Sampled: 10/30/2019 08:30

Sample ID: 19J1915-01

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
2-Methylphenol	<10.1	10.1	µg/L	1		625.1	10/31/19	11/1/19 13:20	KLB
Phenol	<10.1	10.1	µg/L	1		625.1	10/31/19	11/1/19 13:20	KLB
3/4-Methylphenol	<10.1	10.1	µg/L	1		625.1	10/31/19	11/1/19 13:20	KLB
Pyrene	<5.05	5.05	µg/L	1		625.1	10/31/19	11/1/19 13:20	KLB
1,2,4-Trichlorobenzene	<5.05	5.05	µg/L	1		625.1	10/31/19	11/1/19 13:20	KLB
2,4,6-Trichlorophenol	<10.1	10.1	µg/L	1		625.1	10/31/19	11/1/19 13:20	KLB

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
2-Fluorophenol	42.7	15-110		11/1/19 13:20
Phenol-d6	33.3	15-110		11/1/19 13:20
Nitrobenzene-d5	64.4	30-130		11/1/19 13:20
2-Fluorobiphenyl	64.7	30-130		11/1/19 13:20
2,4,6-Tribromophenol	73.6	15-110		11/1/19 13:20
p-Terphenyl-d14	72.9	30-130		11/1/19 13:20

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Fenway Theater | Sample Description: | Work Order: 19J1915

Date Received: 10/30/2019

Field Sample #: Influent | Sampled: 10/30/2019 08:30

Sample ID: 19J1915-01

Sample Matrix: Ground Water

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	DL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	<0.0980	0.0980	0.0902	µg/L	1		608.3	10/31/19	11/5/19 16:25	JMB
Aroclor-1221 [1]	<0.0980	0.0980	0.0789	µg/L	1		608.3	10/31/19	11/5/19 16:25	JMB
Aroclor-1232 [1]	<0.0980	0.0980	0.0975	µg/L	1		608.3	10/31/19	11/5/19 16:25	JMB
Aroclor-1242 [1]	<0.0980	0.0980	0.0848	µg/L	1		608.3	10/31/19	11/5/19 16:25	JMB
Aroclor-1248 [1]	<0.0980	0.0980	0.0931	µg/L	1		608.3	10/31/19	11/5/19 16:25	JMB
Aroclor-1254 [1]	<0.0980	0.0980	0.0515	µg/L	1		608.3	10/31/19	11/5/19 16:25	JMB
Aroclor-1260 [1]	<0.0980	0.0980	0.0961	µg/L	1		608.3	10/31/19	11/5/19 16:25	JMB

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	63.7	30-150		11/5/19 16:25
Decachlorobiphenyl [2]	62.8	30-150		11/5/19 16:25
Tetrachloro-m-xylene [1]	69.5	30-150		11/5/19 16:25
Tetrachloro-m-xylene [2]	70.0	30-150		11/5/19 16:25

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Fenway Theater | Sample Description: | Work Order: 19J1915

Date Received: 10/30/2019

Field Sample #: Influent | Sampled: 10/30/2019 08:30

Sample ID: 19J1915-01

Sample Matrix: Ground Water

Metals Analyses (Total)

Analyte	Results	RL	DL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Antimony	ND	1.0		µg/L	1		EPA 200.8	10/31/19	11/4/19 17:04	MJH
Arsenic	2.2	0.80		µg/L	1		EPA 200.8	10/31/19	11/4/19 17:04	MJH
Cadmium	ND	0.20		µg/L	1		EPA 200.8	10/31/19	11/4/19 17:04	MJH
Chromium	3.7	1.0		µg/L	1		EPA 200.8	10/31/19	11/4/19 17:04	MJH
Chromium, Trivalent	0.0037			mg/L	1		Tri Chrome Calc.	10/31/19	11/4/19 17:10	MJH
Copper	12	1.0		µg/L	1		EPA 200.8	10/31/19	11/4/19 17:04	MJH
Iron	7.1	0.050		mg/L	1		EPA 200.7	10/31/19	11/1/19 14:53	MJH
Lead	9.2	0.50		µg/L	1		EPA 200.8	10/31/19	11/4/19 17:04	MJH
Mercury	ND	0.00010		mg/L	1		EPA 245.1	11/1/19	11/2/19 9:50	AJL
Nickel	8.5	5.0		µg/L	1		EPA 200.8	10/31/19	11/4/19 17:04	MJH
Selenium	2.4	5.0	1.6	µg/L	1	J	EPA 200.8	10/31/19	11/4/19 17:04	MJH
Silver	ND	0.20		µg/L	1		EPA 200.8	11/5/19	11/5/19 18:15	MJH
Zinc	23	10		µg/L	1		EPA 200.8	10/31/19	11/4/19 17:04	MJH
Hardness	660			mg/L	1	B	EPA 200.7	10/31/19	11/1/19 14:53	MJH

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Fenway Theater | Sample Description: | Work Order: 19J1915

Date Received: 10/30/2019

Field Sample #: Influent | Sampled: 10/30/2019 08:30

Sample ID: 19J1915-01

Sample Matrix: Ground Water

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	DL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Chloride	1000	50		mg/L	50		EPA 300.0	11/2/19	11/2/19 17:53	IS
Chlorine, Residual	ND	0.020		mg/L	1		SM21-22 4500 CL G	10/30/19	10/30/19 20:30	MJG
Hexavalent Chromium	ND	0.0040		mg/L	1		SM21-22 3500 Cr B	10/30/19	10/30/19 22:15	MJG
Total Suspended Solids	12	0.71		mg/L	1		SM21-22 2540D	10/31/19	10/31/19 13:10	LL
Silica Gel Treated HEM (SGT-HEM)	ND	1.4		mg/L	1		EPA 1664B	11/5/19	11/5/19 11:30	LL

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Fenway Theater | Sample Description: | Work Order: 19J1915

Date Received: 10/30/2019

Field Sample #: Influent | Sampled: 10/30/2019 08:30

Sample ID: 19J1915-01

Sample Matrix: Ground Water

Drinking Water Organics EPA 504.1

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
1,2-Dibromoethane (EDB) (1)	ND	0.019	µg/L	1		EPA 504.1	11/1/19	11/1/19 16:08	JMB

Surrogates	% Recovery	Recovery Limits	Flag/Qual				
1,3-Dibromopropane (1)	98.3	70-130					11/1/19 16:08

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Fenway Theater | Sample Description: | Work Order: 19J1915

Date Received: 10/30/2019

Field Sample #: Influent | Sampled: 10/30/2019 08:30

Sample ID: 19J1915-01

Sample Matrix: Ground Water

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	DL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Ammonia as N	0.855	0.075	0.024	mg/L	1		SM19-22 4500 NH3 C		11/4/19 21:46	AAL
Cyanide	0.018	0.005	0.001	mg/L	1		SM21-22 4500 CN E		11/4/19 13:04	AAL

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Fenway Theater | Sample Description: | Work Order: 19J1915

Date Received: 10/30/2019

Field Sample #: Receiving Water (Charles) | Sampled: 10/30/2019 09:00

Sample ID: 19J1915-02

Sample Matrix: Ground Water

Metals Analyses (Total)

Analyte	Results	RL	DL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Antimony	ND	1.0		µg/L	1		EPA 200.8	10/31/19	11/4/19 17:07	MJH
Arsenic	ND	0.80		µg/L	1		EPA 200.8	10/31/19	11/4/19 17:07	MJH
Cadmium	ND	0.20		µg/L	1		EPA 200.8	10/31/19	11/4/19 17:07	MJH
Chromium	1.5	1.0		µg/L	1		EPA 200.8	10/31/19	11/4/19 17:07	MJH
Chromium, Trivalent	0.0015			mg/L	1		Tri Chrome Calc.	10/31/19	11/4/19 17:10	MJH
Copper	4.7	1.0		µg/L	1		EPA 200.8	10/31/19	11/4/19 17:07	MJH
Iron	0.39	0.050		mg/L	1		EPA 200.7	10/31/19	11/1/19 14:58	MJH
Lead	1.8	0.50		µg/L	1		EPA 200.8	10/31/19	11/4/19 17:07	MJH
Mercury	ND	0.00010		mg/L	1		EPA 245.1	11/1/19	11/2/19 9:52	AJL
Nickel	ND	5.0		µg/L	1		EPA 200.8	10/31/19	11/4/19 17:07	MJH
Selenium	ND	5.0	1.6	µg/L	1		EPA 200.8	10/31/19	11/4/19 17:07	MJH
Silver	ND	0.20		µg/L	1		EPA 200.8	11/5/19	11/5/19 18:17	MJH
Zinc	11	10		µg/L	1		EPA 200.8	10/31/19	11/4/19 17:07	MJH
Hardness	61			mg/L	1	B	EPA 200.7	10/31/19	11/1/19 14:58	tbc

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Fenway Theater | Sample Description: | Work Order: 19J1915

Date Received: 10/30/2019

Field Sample #: Receiving Water (Charles) | Sampled: 10/30/2019 09:00

Sample ID: 19J1915-02

Sample Matrix: Ground Water

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	DL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Hexavalent Chromium	ND	0.0040		mg/L	1		SM21-22 3500 Cr B	10/30/19	10/30/19 22:15	MJG
Total Suspended Solids	4.3	0.75		mg/L	1		SM21-22 2540D	10/31/19	10/31/19 13:10	LL

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Fenway Theater | Sample Description: | Work Order: 19J1915

Date Received: 10/30/2019

Field Sample #: Receiving Water (Charles) | Sampled: 10/30/2019 09:00

Sample ID: 19J1915-02

Sample Matrix: Ground Water

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	DL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Ammonia as N	0.206	0.075	0.024	mg/L	1		SM19-22 4500 NH3 C		11/4/19 21:47	AAL

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Sample Extraction Data

Prep Method: SW-846 3510C-608.3

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
19J1915-01 [Influent]	B244694	1020	5.00	10/31/19

Prep Method: SW-846 5030B-624.1

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
19J1915-01 [Influent]	B245118	5	5.00	11/05/19

Prep Method: SW-846 3510C-625.1

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
19J1915-01 [Influent]	B244701	990	1.00	10/31/19

Prep Method: SW-846 3510C-625.1

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
19J1915-01 [Influent]	B244808	990	1.00	10/31/19

EPA 1664B

Lab Number [Field ID]	Batch	Initial [mL]	Date
19J1915-01 [Influent]	B245016	1000	11/05/19

Prep Method: EPA 200.7-EPA 200.7

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
19J1915-01 [Influent]	B244699	50.0	50.0	10/31/19
19J1915-01 [Influent]	B244699	50.0		10/31/19
19J1915-02 [Receiving Water (Charles)]	B244699	50.0	50.0	10/31/19
19J1915-02 [Receiving Water (Charles)]	B244699	50.0		10/31/19

Prep Method: EPA 200.8-EPA 200.8

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
19J1915-01 [Influent]	B244698	50.0	50.0	10/31/19
19J1915-02 [Receiving Water (Charles)]	B244698	50.0	50.0	10/31/19

Prep Method: EPA 200.8-EPA 200.8

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
19J1915-01RE1 [Influent]	B245153	50.0	50.0	11/05/19
19J1915-02RE1 [Receiving Water (Charles)]	B245153	50.0	50.0	11/05/19

Prep Method: EPA 245.1-EPA 245.1

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date

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Sample Extraction Data

Prep Method: EPA 245.1-EPA 245.1

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
19J1915-01 [Influent]	B244863	6.00	6.00	11/01/19
19J1915-02 [Receiving Water (Charles)]	B244863	6.00	6.00	11/01/19

Prep Method: EPA 300.0-EPA 300.0

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
19J1915-01 [Influent]	B244872	10.0	10.0	11/02/19

Prep Method: EPA 504 water-EPA 504.1

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
19J1915-01 [Influent]	B244805	36.0	35.0	11/01/19

SM21-22 2540D

Lab Number [Field ID]	Batch	Initial [mL]	Date
19J1915-01 [Influent]	B244690	700	10/31/19
19J1915-02 [Receiving Water (Charles)]	B244690	670	10/31/19

SM21-22 3500 Cr B

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
19J1915-01 [Influent]	B244676	50.0	50.0	10/30/19
19J1915-02 [Receiving Water (Charles)]	B244676	50.0	50.0	10/30/19

SM21-22 4500 CL G

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
19J1915-01 [Influent]	B244675	100	100	10/30/19

Prep Method: EPA 200.8-Tri Chrome Calc.

Lab Number [Field ID]	Batch	Initial [mL]	Date
19J1915-01 [Influent]	B244698	50.0	10/31/19
19J1915-02 [Receiving Water (Charles)]	B244698	50.0	10/31/19

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QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B245118 - SW-846 5030B										
Blank (B245118-BLK1)				Prepared & Analyzed: 11/05/19						
Acetone	ND	50.0	µg/L							
tert-Amyl Methyl Ether (TAME)	ND	0.500	µg/L							
Benzene	ND	1.00	µg/L							
Bromodichloromethane	ND	2.00	µg/L							
Bromoform	ND	2.00	µg/L							
Bromomethane	1.08	2.00	µg/L							J, B-05
tert-Butyl Alcohol (TBA)	ND	20.0	µg/L							
Carbon Tetrachloride	ND	2.00	µg/L							
Chlorobenzene	ND	2.00	µg/L							
Chlorodibromomethane	ND	2.00	µg/L							
Chloroethane	ND	2.00	µg/L							
Chloroform	ND	2.00	µg/L							
Chloromethane	ND	2.00	µg/L							
1,2-Dichlorobenzene	ND	2.00	µg/L							
1,3-Dichlorobenzene	ND	2.00	µg/L							
1,4-Dichlorobenzene	ND	2.00	µg/L							
1,2-Dichloroethane	ND	2.00	µg/L							
1,1-Dichloroethane	ND	2.00	µg/L							
1,1-Dichloroethylene	ND	2.00	µg/L							
trans-1,2-Dichloroethylene	ND	2.00	µg/L							
1,2-Dichloropropane	ND	2.00	µg/L							
cis-1,3-Dichloropropene	ND	2.00	µg/L							
1,4-Dioxane	ND	50.0	µg/L							
trans-1,3-Dichloropropene	ND	2.00	µg/L							
Ethanol	ND	50.0	µg/L							
Ethylbenzene	ND	2.00	µg/L							
Methyl tert-Butyl Ether (MTBE)	ND	2.00	µg/L							
Methylene Chloride	ND	5.00	µg/L							
1,1,2,2-Tetrachloroethane	ND	2.00	µg/L							
Tetrachloroethylene	ND	2.00	µg/L							
Toluene	ND	1.00	µg/L							
1,1,1-Trichloroethane	ND	2.00	µg/L							
1,1,2-Trichloroethane	ND	2.00	µg/L							
Trichloroethylene	ND	2.00	µg/L							
Trichlorofluoromethane (Freon 11)	ND	2.00	µg/L							
Vinyl Chloride	ND	2.00	µg/L							
m+p Xylene	ND	2.00	µg/L							
o-Xylene	ND	2.00	µg/L							
Surrogate: 1,2-Dichloroethane-d4	*23.9*		µg/L	25.0		95.5	70-130			
Surrogate: Toluene-d8	*27.4*		µg/L	25.0		109	70-130			
Surrogate: 4-Bromofluorobenzene	*24.9*		µg/L	25.0		99.8	70-130			
LCS (B245118-BS1)				Prepared & Analyzed: 11/05/19						
Acetone	220	50.0	µg/L	200		108	70-160			†
tert-Amyl Methyl Ether (TAME)	21	0.500	µg/L	20.0		106	70-130			
Benzene	22	1.00	µg/L	20.0		110	65-135			
Bromodichloromethane	21	2.00	µg/L	20.0		103	65-135			
Bromoform	19	2.00	µg/L	20.0		94.3	70-130			
Bromomethane	8.4	2.00	µg/L	20.0		42.0	15-185			
tert-Butyl Alcohol (TBA)	250	20.0	µg/L	200		123	40-160			†
Carbon Tetrachloride	19	2.00	µg/L	20.0		97.3	70-130			
Chlorobenzene	20	2.00	µg/L	20.0		102	65-135			

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QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC		%REC Limits	RPD	RPD Limit	Notes	
Batch B245118 - SW-846 5030B												
LCS (B245118-BS1)				Prepared & Analyzed: 11/05/19								
Chlorodibromomethane	22	2.00	µg/L	20.0		108		70-135				
Chloroethane	24	2.00	µg/L	20.0		120		40-160				
Chloroform	20	2.00	µg/L	20.0		100		70-135				
Chloromethane	13	2.00	µg/L	20.0		64.4		20-205				
1,2-Dichlorobenzene	20	2.00	µg/L	20.0		99.2		65-135				
1,3-Dichlorobenzene	19	2.00	µg/L	20.0		97.3		70-130				
1,4-Dichlorobenzene	20	2.00	µg/L	20.0		98.0		65-135				
1,2-Dichloroethane	21	2.00	µg/L	20.0		105		70-130				
1,1-Dichloroethane	22	2.00	µg/L	20.0		112		70-130				
1,1-Dichloroethylene	23	2.00	µg/L	20.0		113		50-150				
trans-1,2-Dichloroethylene	23	2.00	µg/L	20.0		116		70-130				
1,2-Dichloropropane	24	2.00	µg/L	20.0		119		35-165				
cis-1,3-Dichloropropene	21	2.00	µg/L	20.0		105		25-175				
1,4-Dioxane	340	50.0	µg/L	200		**169**	*	40-130			L-01	†
trans-1,3-Dichloropropene	20	2.00	µg/L	20.0		101		50-150				
Ethanol	320	50.0	µg/L	200		158		40-160				
Ethylbenzene	20	2.00	µg/L	20.0		97.6		60-140				
Methyl tert-Butyl Ether (MTBE)	22	2.00	µg/L	20.0		109		70-130				
Methylene Chloride	21	5.00	µg/L	20.0		104		60-140				
1,1,2,2-Tetrachloroethane	23	2.00	µg/L	20.0		116		60-140				
Tetrachloroethylene	23	2.00	µg/L	20.0		114		70-130				
Toluene	22	1.00	µg/L	20.0		108		70-130				
1,1,1-Trichloroethane	20	2.00	µg/L	20.0		98.0		70-130				
1,1,2-Trichloroethane	23	2.00	µg/L	20.0		117		70-130				
Trichloroethylene	22	2.00	µg/L	20.0		109		65-135				
Trichlorofluoromethane (Freon 11)	17	2.00	µg/L	20.0		84.2		50-150				
Vinyl Chloride	21	2.00	µg/L	20.0		104		5-195				
m+p Xylene	39	2.00	µg/L	40.0		96.4		70-130				
o-Xylene	19	2.00	µg/L	20.0		96.2		70-130				
Surrogate: 1,2-Dichloroethane-d4	*23.1*		µg/L	25.0		92.6		70-130				
Surrogate: Toluene-d8	*27.7*		µg/L	25.0		111		70-130				
Surrogate: 4-Bromofluorobenzene	*25.0*		µg/L	25.0		99.9		70-130				

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QUALITY CONTROL

Semivolatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B244808 - SW-846 3510C										
Blank (B244808-BLK1)				Prepared: 10/31/19 Analyzed: 11/01/19						
Benzo(a)anthracene (SIM)	ND	0.050	µg/L							
Benzo(a)pyrene (SIM)	ND	0.10	µg/L							
Benzo(b)fluoranthene (SIM)	ND	0.050	µg/L							
Benzo(k)fluoranthene (SIM)	ND	0.20	µg/L							
Bis(2-ethylhexyl)phthalate (SIM)	ND	1.0	µg/L							
Chrysene (SIM)	ND	0.20	µg/L							
Dibenz(a,h)anthracene (SIM)	ND	0.10	µg/L							
Indeno(1,2,3-cd)pyrene (SIM)	ND	0.10	µg/L							
Pentachlorophenol (SIM)	ND	1.0	µg/L							
Surrogate: 2-Fluorophenol (SIM)	*84.2*		µg/L	200		42.1	15-110			
Surrogate: Phenol-d6 (SIM)	*65.8*		µg/L	200		32.9	15-110			
Surrogate: Nitrobenzene-d5	*75.0*		µg/L	100		75.0	30-130			
Surrogate: 2-Fluorobiphenyl	*49.2*		µg/L	100		49.2	30-130			
Surrogate: 2,4,6-Tribromophenol (SIM)	*166*		µg/L	200		83.0	15-110			
Surrogate: p-Terphenyl-d14	*71.6*		µg/L	100		71.6	30-130			
LCS (B244808-BS1)				Prepared: 10/31/19 Analyzed: 11/01/19						
Benzo(a)anthracene (SIM)	39.7	1.0	µg/L	50.0		79.4	33-143			
Benzo(a)pyrene (SIM)	37.2	2.0	µg/L	50.0		74.4	17-163			
Benzo(b)fluoranthene (SIM)	41.6	1.0	µg/L	50.0		83.2	24-159			
Benzo(k)fluoranthene (SIM)	44.3	4.0	µg/L	50.0		88.7	11-162			
Bis(2-ethylhexyl)phthalate (SIM)	49.9	20	µg/L	50.0		99.8	8-158			
Chrysene (SIM)	31.4	4.0	µg/L	50.0		62.8	17-168			
Dibenz(a,h)anthracene (SIM)	44.3	2.0	µg/L	50.0		88.5	10-227			
Indeno(1,2,3-cd)pyrene (SIM)	48.4	2.0	µg/L	50.0		96.7	10-171			
Pentachlorophenol (SIM)	31.6	20	µg/L	50.0		63.1	14-176			
Surrogate: 2-Fluorophenol (SIM)	*89.3*		µg/L	200		44.7	15-110			
Surrogate: Phenol-d6 (SIM)	*68.1*		µg/L	200		34.1	15-110			
Surrogate: Nitrobenzene-d5	*75.5*		µg/L	100		75.5	30-130			
Surrogate: 2-Fluorobiphenyl	*59.3*		µg/L	100		59.3	30-130			
Surrogate: 2,4,6-Tribromophenol (SIM)	*176*		µg/L	200		88.2	15-110			
Surrogate: p-Terphenyl-d14	*53.7*		µg/L	100		53.7	30-130			
LCS Dup (B244808-BSD1)				Prepared: 10/31/19 Analyzed: 11/01/19						
Benzo(a)anthracene (SIM)	38.1	1.0	µg/L	50.0		76.1	33-143	4.17	53	
Benzo(a)pyrene (SIM)	35.0	2.0	µg/L	50.0		70.1	17-163	6.03	72	
Benzo(b)fluoranthene (SIM)	39.2	1.0	µg/L	50.0		78.3	24-159	6.09	71	
Benzo(k)fluoranthene (SIM)	41.7	4.0	µg/L	50.0		83.4	11-162	6.14	63	
Bis(2-ethylhexyl)phthalate (SIM)	47.4	20	µg/L	50.0		94.8	8-158	5.18	82	
Chrysene (SIM)	30.1	4.0	µg/L	50.0		60.2	17-168	4.36	87	
Dibenz(a,h)anthracene (SIM)	42.0	2.0	µg/L	50.0		84.1	10-227	5.14	126	
Indeno(1,2,3-cd)pyrene (SIM)	45.9	2.0	µg/L	50.0		91.8	10-171	5.22	99	‡
Pentachlorophenol (SIM)	30.6	20	µg/L	50.0		61.3	14-176	2.96	86	
Surrogate: 2-Fluorophenol (SIM)	*79.0*		µg/L	200		39.5	15-110			
Surrogate: Phenol-d6 (SIM)	*62.1*		µg/L	200		31.1	15-110			
Surrogate: Nitrobenzene-d5	*71.8*		µg/L	100		71.8	30-130			
Surrogate: 2-Fluorobiphenyl	*52.6*		µg/L	100		52.6	30-130			
Surrogate: 2,4,6-Tribromophenol (SIM)	*164*		µg/L	200		81.9	15-110			
Surrogate: p-Terphenyl-d14	*50.3*		µg/L	100		50.3	30-130			

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QUALITY CONTROL

Semivolatile Organic Compounds by - GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B244701 - SW-846 3510C										
Blank (B244701-BLK1)				Prepared: 10/31/19 Analyzed: 11/01/19						
Acenaphthene	ND	5.00	µg/L							
Acenaphthylene	ND	5.00	µg/L							
Anthracene	ND	5.00	µg/L							
Benzidine	ND	20.0	µg/L							L-04, V-04, V-35
Benzo(g,h,i)perylene	ND	5.00	µg/L							
4-Bromophenylphenylether	ND	10.0	µg/L							
Butylbenzylphthalate	ND	10.0	µg/L							
4-Chloro-3-methylphenol	ND	10.0	µg/L							
Bis(2-chloroethyl)ether	ND	10.0	µg/L							
Bis(2-chloroisopropyl)ether	ND	10.0	µg/L							
2-Chloronaphthalene	ND	10.0	µg/L							
2-Chlorophenol	ND	10.0	µg/L							
4-Chlorophenylphenylether	ND	10.0	µg/L							
Di-n-butylphthalate	ND	10.0	µg/L							
1,3-Dichlorobenzene	ND	5.00	µg/L							
1,4-Dichlorobenzene	ND	5.00	µg/L							
1,2-Dichlorobenzene	ND	5.00	µg/L							
3,3-Dichlorobenzidine	ND	10.0	µg/L							
2,4-Dichlorophenol	ND	10.0	µg/L							
Diethylphthalate	ND	10.0	µg/L							
2,4-Dimethylphenol	ND	10.0	µg/L							
Dimethylphthalate	ND	10.0	µg/L							
4,6-Dinitro-2-methylphenol	ND	10.0	µg/L							
2,4-Dinitrophenol	ND	10.0	µg/L							
2,4-Dinitrotoluene	ND	10.0	µg/L							
2,6-Dinitrotoluene	ND	10.0	µg/L							
Di-n-octylphthalate	ND	10.0	µg/L							
1,2-Diphenylhydrazine/Azobenzene	ND	10.0	µg/L							
Bis(2-Ethylhexyl)phthalate	ND	10.0	µg/L							
Fluoranthene	ND	5.00	µg/L							
Fluorene	ND	5.00	µg/L							
Hexachlorobenzene	ND	10.0	µg/L							
Hexachlorobutadiene	ND	10.0	µg/L							
Hexachlorocyclopentadiene	ND	10.0	µg/L							
Hexachloroethane	ND	10.0	µg/L							
Isophorone	ND	10.0	µg/L							
Naphthalene	ND	5.00	µg/L							
Nitrobenzene	ND	10.0	µg/L							
2-Nitrophenol	ND	10.0	µg/L							
4-Nitrophenol	ND	10.0	µg/L							
N-Nitrosodimethylamine	ND	10.0	µg/L							
N-Nitrosodiphenylamine/Diphenylamine	ND	10.0	µg/L							
N-Nitrosodi-n-propylamine	ND	10.0	µg/L							
2-Methylnaphthalene	ND	5.00	µg/L							
Phenanthrene	ND	5.00	µg/L							
2-Methylphenol	ND	10.0	µg/L							
Phenol	ND	10.0	µg/L							
3/4-Methylphenol	ND	10.0	µg/L							
Pyrene	ND	5.00	µg/L							
1,2,4-Trichlorobenzene	ND	5.00	µg/L							
2,4,6-Trichlorophenol	ND	10.0	µg/L							
Surrogate: 2-Fluorophenol	*92.6*		µg/L	200		46.3	15-110			

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QUALITY CONTROL

Semivolatile Organic Compounds by - GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC		%REC Limits	RPD	RPD Limit	Notes
Batch B244701 - SW-846 3510C											
Blank (B244701-BLK1)				Prepared: 10/31/19 Analyzed: 11/01/19							
Surrogate: Phenol-d6	*69.4*		µg/L	200		34.7		15-110			
Surrogate: Nitrobenzene-d5	*67.2*		µg/L	100		67.2		30-130			
Surrogate: 2-Fluorobiphenyl	*65.1*		µg/L	100		65.1		30-130			
Surrogate: 2,4,6-Tribromophenol	*162*		µg/L	200		80.9		15-110			
Surrogate: p-Terphenyl-d14	*80.7*		µg/L	100		80.7		30-130			
LCS (B244701-BS1)				Prepared: 10/31/19 Analyzed: 11/01/19							
Acenaphthene	35.6	5.00	µg/L	50.0		71.3		47-145			
Acenaphthylene	35.6	5.00	µg/L	50.0		71.2		33-145			
Anthracene	37.2	5.00	µg/L	50.0		74.5		27-133			
Benzidine	13.4	20.0	µg/L	50.0		**26.9**	*	40-140			V-04, L-04, V-35
Benzo(g,h,i)perylene	35.7	5.00	µg/L	50.0		71.4		10-219			
4-Bromophenylphenylether	32.4	10.0	µg/L	50.0		64.9		53-127			
Butylbenzylphthalate	37.0	10.0	µg/L	50.0		74.0		10-152			
4-Chloro-3-methylphenol	36.9	10.0	µg/L	50.0		73.7		22-147			
Bis(2-chloroethyl)ether	34.6	10.0	µg/L	50.0		69.1		12-158			
Bis(2-chloroisopropyl)ether	38.3	10.0	µg/L	50.0		76.6		36-166			
2-Chloronaphthalene	30.4	10.0	µg/L	50.0		60.7		60-120			
2-Chlorophenol	33.3	10.0	µg/L	50.0		66.7		23-134			
4-Chlorophenylphenylether	33.6	10.0	µg/L	50.0		67.1		25-158			
Di-n-butylphthalate	37.0	10.0	µg/L	50.0		73.9		10-120			
1,3-Dichlorobenzene	28.1	5.00	µg/L	50.0		56.3		10-172			
1,4-Dichlorobenzene	28.6	5.00	µg/L	50.0		57.1		20-124			
1,2-Dichlorobenzene	29.4	5.00	µg/L	50.0		58.8		32-129			
3,3-Dichlorobenzidine	39.5	10.0	µg/L	50.0		79.1		10-262			
2,4-Dichlorophenol	33.8	10.0	µg/L	50.0		67.6		39-135			
Diethylphthalate	35.6	10.0	µg/L	50.0		71.3		10-120			
2,4-Dimethylphenol	34.0	10.0	µg/L	50.0		67.9		32-120			
Dimethylphthalate	35.9	10.0	µg/L	50.0		71.7		10-120			
4,6-Dinitro-2-methylphenol	41.5	10.0	µg/L	50.0		82.9		10-181			
2,4-Dinitrophenol	43.3	10.0	µg/L	50.0		86.6		10-191			
2,4-Dinitrotoluene	39.6	10.0	µg/L	50.0		79.3		39-139			
2,6-Dinitrotoluene	40.4	10.0	µg/L	50.0		80.8		50-158			
Di-n-octylphthalate	38.7	10.0	µg/L	50.0		77.4		4-146			
1,2-Diphenylhydrazine/Azobenzene	38.6	10.0	µg/L	50.0		77.2		40-140			
Bis(2-Ethylhexyl)phthalate	38.7	10.0	µg/L	50.0		77.5		8-158			
Fluoranthene	36.5	5.00	µg/L	50.0		73.0		26-137			
Fluorene	36.0	5.00	µg/L	50.0		72.0		59-121			
Hexachlorobenzene	34.6	10.0	µg/L	50.0		69.2		10-152			
Hexachlorobutadiene	27.4	10.0	µg/L	50.0		54.8		24-120			
Hexachlorocyclopentadiene	31.6	10.0	µg/L	50.0		63.3		40-140			
Hexachloroethane	29.5	10.0	µg/L	50.0		59.0		40-120			
Isophorone	38.4	10.0	µg/L	50.0		76.9		21-196			
Naphthalene	33.4	5.00	µg/L	50.0		66.7		21-133			
Nitrobenzene	36.2	10.0	µg/L	50.0		72.3		35-180			
2-Nitrophenol	38.3	10.0	µg/L	50.0		76.6		29-182			
4-Nitrophenol	22.7	10.0	µg/L	50.0		45.4		10-132			
N-Nitrosodimethylamine	24.8	10.0	µg/L	50.0		49.6		40-140			
N-Nitrosodiphenylamine/Diphenylamine	37.3	10.0	µg/L	50.0		74.7		40-140			
N-Nitrosodi-n-propylamine	37.3	10.0	µg/L	50.0		74.5		10-230			
2-Methylnaphthalene	36.5	5.00	µg/L	50.0		73.0		40-140			
Phenanthrene	36.5	5.00	µg/L	50.0		73.0		54-120			

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QUALITY CONTROL

Semivolatile Organic Compounds by - GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC		%REC Limits	RPD	RPD Limit	Notes
Batch B244701 - SW-846 3510C											
LCS (B244701-BS1)				Prepared: 10/31/19 Analyzed: 11/01/19							
2-Methylphenol	32.1	10.0	µg/L	50.0		64.2		40-140			
Phenol	18.4	10.0	µg/L	50.0		36.7		5-120			
3/4-Methylphenol	31.2	10.0	µg/L	50.0		62.4		40-140			
Pyrene	34.9	5.00	µg/L	50.0		69.8		52-120			
1,2,4-Trichlorobenzene	29.6	5.00	µg/L	50.0		59.3		44-142			
2,4,6-Trichlorophenol	35.7	10.0	µg/L	50.0		71.3		37-144			
Surrogate: 2-Fluorophenol	*107*		µg/L	200		53.6		15-110			
Surrogate: Phenol-d6	*75.2*		µg/L	200		37.6		15-110			
Surrogate: Nitrobenzene-d5	*78.4*		µg/L	100		78.4		30-130			
Surrogate: 2-Fluorobiphenyl	*75.0*		µg/L	100		75.0		30-130			
Surrogate: 2,4,6-Tribromophenol	*176*		µg/L	200		87.9		15-110			
Surrogate: p-Terphenyl-d14	*78.8*		µg/L	100		78.8		30-130			
LCS Dup (B244701-BSD1)				Prepared: 10/31/19 Analyzed: 11/01/19							
Acenaphthene	35.9	5.00	µg/L	50.0		71.7		47-145	0.643	48	
Acenaphthylene	34.9	5.00	µg/L	50.0		69.9		33-145	1.93	74	
Anthracene	37.1	5.00	µg/L	50.0		74.2		27-133	0.350	66	
Benzidine	14.4	20.0	µg/L	50.0		**28.9**	*	40-140	7.10	30	L-04, V-04, V-35
Benzo(g,h,i)perylene	35.6	5.00	µg/L	50.0		71.3		10-219	0.196	97	
4-Bromophenylphenylether	33.4	10.0	µg/L	50.0		66.9		53-127	3.10	43	
Butylbenzylphthalate	37.6	10.0	µg/L	50.0		75.2		10-152	1.55	60	
4-Chloro-3-methylphenol	36.6	10.0	µg/L	50.0		73.2		22-147	0.680	73	
Bis(2-chloroethyl)ether	34.6	10.0	µg/L	50.0		69.1		12-158	0.0289	108	
Bis(2-chloroisopropyl)ether	38.0	10.0	µg/L	50.0		76.0		36-166	0.734	76	
2-Chloronaphthalene	29.4	10.0	µg/L	50.0		**58.9**	*	60-120	3.11	24	L-07
2-Chlorophenol	33.0	10.0	µg/L	50.0		66.1		23-134	0.904	61	
4-Chlorophenylphenylether	33.4	10.0	µg/L	50.0		66.8		25-158	0.508	61	
Di-n-butylphthalate	36.5	10.0	µg/L	50.0		72.9		10-120	1.36	47	
1,3-Dichlorobenzene	27.7	5.00	µg/L	50.0		55.4		10-172	1.47	30	
1,4-Dichlorobenzene	28.4	5.00	µg/L	50.0		56.7		20-124	0.738	30	
1,2-Dichlorobenzene	29.3	5.00	µg/L	50.0		58.6		32-129	0.409	30	
3,3-Dichlorobenzidine	38.9	10.0	µg/L	50.0		77.8		10-262	1.58	108	
2,4-Dichlorophenol	34.7	10.0	µg/L	50.0		69.3		39-135	2.51	50	
Diethylphthalate	35.4	10.0	µg/L	50.0		70.8		10-120	0.675	100	
2,4-Dimethylphenol	34.6	10.0	µg/L	50.0		69.1		32-120	1.72	58	
Dimethylphthalate	35.1	10.0	µg/L	50.0		70.2		10-120	2.20	183	
4,6-Dinitro-2-methylphenol	41.8	10.0	µg/L	50.0		83.5		10-181	0.673	203	
2,4-Dinitrophenol	43.2	10.0	µg/L	50.0		86.3		10-191	0.324	132	
2,4-Dinitrotoluene	39.7	10.0	µg/L	50.0		79.4		39-139	0.176	42	
2,6-Dinitrotoluene	39.3	10.0	µg/L	50.0		78.5		50-158	2.84	48	
Di-n-octylphthalate	37.8	10.0	µg/L	50.0		75.6		4-146	2.27	69	
1,2-Diphenylhydrazine/Azobenzene	38.8	10.0	µg/L	50.0		77.7		40-140	0.568	30	
Bis(2-Ethylhexyl)phthalate	37.2	10.0	µg/L	50.0		74.5		8-158	3.92	82	
Fluoranthene	37.0	5.00	µg/L	50.0		74.1		26-137	1.55	66	
Fluorene	35.9	5.00	µg/L	50.0		71.7		59-121	0.334	38	
Hexachlorobenzene	34.9	10.0	µg/L	50.0		69.7		10-152	0.806	55	
Hexachlorobutadiene	27.8	10.0	µg/L	50.0		55.5		24-120	1.34	62	
Hexachlorocyclopentadiene	30.6	10.0	µg/L	50.0		61.2		40-140	3.31	30	
Hexachloroethane	28.8	10.0	µg/L	50.0		57.6		40-120	2.47	52	
Isophorone	38.8	10.0	µg/L	50.0		77.6		21-196	0.984	93	
Naphthalene	33.6	5.00	µg/L	50.0		67.2		21-133	0.717	65	
Nitrobenzene	36.0	10.0	µg/L	50.0		72.0		35-180	0.471	62	

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QUALITY CONTROL

Semivolatile Organic Compounds by - GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B244701 - SW-846 3510C										
LCS Dup (B244701-BSD1)				Prepared: 10/31/19 Analyzed: 11/01/19						
2-Nitrophenol	39.6	10.0	µg/L	50.0		79.1	29-182	3.24	55	
4-Nitrophenol	21.6	10.0	µg/L	50.0		43.2	10-132	4.83	131	
N-Nitrosodimethylamine	22.2	10.0	µg/L	50.0		44.5	40-140	10.9	30	
N-Nitrosodiphenylamine/Diphenylamine	37.4	10.0	µg/L	50.0		74.8	40-140	0.161	30	
N-Nitrosodi-n-propylamine	37.2	10.0	µg/L	50.0		74.4	10-230	0.215	87	
2-Methylnaphthalene	37.2	5.00	µg/L	50.0		74.3	40-140	1.74	30	
Phenanthrene	36.7	5.00	µg/L	50.0		73.3	54-120	0.383	39	
2-Methylphenol	31.6	10.0	µg/L	50.0		63.1	40-140	1.70	30	
Phenol	17.7	10.0	µg/L	50.0		35.5	5-120	3.38	64	
3/4-Methylphenol	30.1	10.0	µg/L	50.0		60.2	40-140	3.52	30	
Pyrene	36.2	5.00	µg/L	50.0		72.3	52-120	3.57	49	
1,2,4-Trichlorobenzene	30.1	5.00	µg/L	50.0		60.1	44-142	1.41	50	
2,4,6-Trichlorophenol	34.3	10.0	µg/L	50.0		68.5	37-144	4.03	58	
Surrogate: 2-Fluorophenol	*99.3*		µg/L	200		49.7	15-110			
Surrogate: Phenol-d6	*73.1*		µg/L	200		36.6	15-110			
Surrogate: Nitrobenzene-d5	*76.9*		µg/L	100		76.9	30-130			
Surrogate: 2-Fluorobiphenyl	*72.2*		µg/L	100		72.2	30-130			
Surrogate: 2,4,6-Tribromophenol	*177*		µg/L	200		88.3	15-110			
Surrogate: p-Terphenyl-d14	*80.7*		µg/L	100		80.7	30-130			

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QUALITY CONTROL

Polychlorinated Biphenyls By GC/ECD - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B244694 - SW-846 3510C										
Blank (B244694-BLK1)				Prepared: 10/31/19 Analyzed: 11/05/19						
Aroclor-1016	ND	0.100	µg/L							
Aroclor-1016 [2C]	ND	0.100	µg/L							
Aroclor-1221	ND	0.100	µg/L							
Aroclor-1221 [2C]	ND	0.100	µg/L							
Aroclor-1232	ND	0.100	µg/L							
Aroclor-1232 [2C]	ND	0.100	µg/L							
Aroclor-1242	ND	0.100	µg/L							
Aroclor-1242 [2C]	ND	0.100	µg/L							
Aroclor-1248	ND	0.100	µg/L							
Aroclor-1248 [2C]	ND	0.100	µg/L							
Aroclor-1254	ND	0.100	µg/L							
Aroclor-1254 [2C]	ND	0.100	µg/L							
Aroclor-1260	ND	0.100	µg/L							
Aroclor-1260 [2C]	ND	0.100	µg/L							
Surrogate: Decachlorobiphenyl	*1.00*		µg/L	1.00		100	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.933*		µg/L	1.00		93.3	30-150			
Surrogate: Tetrachloro-m-xylene	*0.779*		µg/L	1.00		77.9	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.763*		µg/L	1.00		76.3	30-150			
LCS (B244694-BS1)				Prepared: 10/31/19 Analyzed: 11/05/19						
Aroclor-1016	0.421	0.200	µg/L	0.500		84.1	50-140			
Aroclor-1016 [2C]	0.416	0.200	µg/L	0.500		83.3	50-140			
Aroclor-1260	0.413	0.200	µg/L	0.500		82.6	8-140			
Aroclor-1260 [2C]	0.423	0.200	µg/L	0.500		84.6	8-140			
Surrogate: Decachlorobiphenyl	*1.83*		µg/L	2.00		91.3	30-150			
Surrogate: Decachlorobiphenyl [2C]	*1.73*		µg/L	2.00		86.7	30-150			
Surrogate: Tetrachloro-m-xylene	*1.44*		µg/L	2.00		72.2	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*1.43*		µg/L	2.00		71.3	30-150			
LCS Dup (B244694-BSD1)				Prepared: 10/31/19 Analyzed: 11/05/19						
Aroclor-1016	0.405	0.200	µg/L	0.500		80.9	50-140	3.84		
Aroclor-1016 [2C]	0.409	0.200	µg/L	0.500		81.8	50-140	1.82		
Aroclor-1260	0.407	0.200	µg/L	0.500		81.5	8-140	1.34		
Aroclor-1260 [2C]	0.422	0.200	µg/L	0.500		84.3	8-140	0.294		
Surrogate: Decachlorobiphenyl	*1.84*		µg/L	2.00		92.0	30-150			
Surrogate: Decachlorobiphenyl [2C]	*1.76*		µg/L	2.00		88.0	30-150			
Surrogate: Tetrachloro-m-xylene	*1.40*		µg/L	2.00		70.2	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*1.40*		µg/L	2.00		70.0	30-150			

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QUALITY CONTROL

Metals Analyses (Total) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B244698 - EPA 200.8										
Blank (B244698-BLK1)				Prepared: 10/31/19 Analyzed: 11/04/19						
Antimony	ND	1.0	µg/L							
Arsenic	ND	0.80	µg/L							
Cadmium	ND	0.20	µg/L							
Chromium	ND	1.0	µg/L							
Copper	ND	1.0	µg/L							
Lead	ND	0.50	µg/L							
Nickel	ND	5.0	µg/L							
Selenium	ND	5.0	µg/L							
Zinc	ND	10	µg/L							
LCS (B244698-BS1)				Prepared: 10/31/19 Analyzed: 11/04/19						
Antimony	493	10	µg/L	500		98.6	85-115			
Arsenic	484	8.0	µg/L	500		96.8	85-115			
Cadmium	488	2.0	µg/L	500		97.6	85-115			
Chromium	491	10	µg/L	500		98.2	85-115			
Copper	983	10	µg/L	1000		98.3	85-115			
Lead	487	5.0	µg/L	500		97.4	85-115			
Nickel	499	50	µg/L	500		99.8	85-115			
Selenium	486	50	µg/L	500		97.2	85-115			
Zinc	982	100	µg/L	1000		98.2	85-115			
LCS Dup (B244698-BSD1)				Prepared: 10/31/19 Analyzed: 11/04/19						
Antimony	498	10	µg/L	500		99.6	85-115	0.935	20	
Arsenic	490	8.0	µg/L	500		98.0	85-115	1.22	20	
Cadmium	492	2.0	µg/L	500		98.4	85-115	0.785	20	
Chromium	496	10	µg/L	500		99.2	85-115	1.08	20	
Copper	980	10	µg/L	1000		98.0	85-115	0.330	20	
Lead	492	5.0	µg/L	500		98.4	85-115	0.959	20	
Nickel	502	50	µg/L	500		100	85-115	0.630	20	
Selenium	488	50	µg/L	500		97.6	85-115	0.494	20	
Zinc	989	100	µg/L	1000		98.9	85-115	0.631	20	
Batch B244699 - EPA 200.7										
Blank (B244699-BLK1)				Prepared: 10/31/19 Analyzed: 11/01/19						
Iron	ND	0.050	mg/L							
Hardness	0.22		mg/L							
LCS (B244699-BS1)				Prepared: 10/31/19 Analyzed: 11/01/19						
Iron	4.04	0.050	mg/L	4.00		101	85-115			
Hardness	26		mg/L	26.5		100	85-115			B

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QUALITY CONTROL

Metals Analyses (Total) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B244699 - EPA 200.7										
LCS Dup (B244699-BSD1)				Prepared: 10/31/19 Analyzed: 11/01/19						
Iron	4.05	0.050	mg/L	4.00		101	85-115	0.154	20	
Hardness	26		mg/L	26.5		99.9	85-115	0.249	20	B
Batch B244863 - EPA 245.1										
Blank (B244863-BLK1)				Prepared: 11/01/19 Analyzed: 11/02/19						
Mercury	ND	0.00010	mg/L							
LCS (B244863-BS1)				Prepared: 11/01/19 Analyzed: 11/02/19						
Mercury	0.00391	0.00010	mg/L	0.00400		97.6	85-115			
LCS Dup (B244863-BSD1)				Prepared: 11/01/19 Analyzed: 11/02/19						
Mercury	0.00391	0.00010	mg/L	0.00400		97.9	85-115	0.240	20	
Batch B245153 - EPA 200.8										
Blank (B245153-BLK1)				Prepared & Analyzed: 11/05/19						
Silver	ND	0.20	µg/L							
LCS (B245153-BS1)				Prepared & Analyzed: 11/05/19						
Silver	517	2.0	µg/L	500		103	85-115			
LCS Dup (B245153-BSD1)				Prepared & Analyzed: 11/05/19						
Silver	528	2.0	µg/L	500		106	85-115	1.93	20	

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QUALITY CONTROL

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD		RPD Limit	Notes
Batch B244675 - SM21-22 4500 CL G											
Blank (B244675-BLK1)				Prepared & Analyzed: 10/30/19							
Chlorine, Residual	ND	0.020	mg/L								
LCS (B244675-BS1)				Prepared & Analyzed: 10/30/19							
Chlorine, Residual	1.5	0.020	mg/L	1.34		109	66.3-134				
LCS Dup (B244675-BSD1)				Prepared & Analyzed: 10/30/19							
Chlorine, Residual	1.6	0.020	mg/L	1.34		117	66.3-134	7.20		9.96	
Duplicate (B244675-DUP1)		**Source: 19J1915-01**		Prepared & Analyzed: 10/30/19							
Chlorine, Residual	ND	0.020	mg/L		ND			NC		32.5	
Matrix Spike (B244675-MS1)		**Source: 19J1915-01**		Prepared & Analyzed: 10/30/19							
Chlorine, Residual	2.3	0.10	mg/L	10.0	ND	23.1	10-167				
Batch B244676 - SM21-22 3500 Cr B											
Blank (B244676-BLK1)				Prepared & Analyzed: 10/30/19							
Hexavalent Chromium	ND	0.0040	mg/L								
LCS (B244676-BS1)				Prepared & Analyzed: 10/30/19							
Hexavalent Chromium	0.096	0.0040	mg/L	0.100		96.0	83.9-121				
LCS Dup (B244676-BSD1)				Prepared & Analyzed: 10/30/19							
Hexavalent Chromium	0.11	0.0040	mg/L	0.100		108	83.9-121	**11.3**	*	10	R-05
Duplicate (B244676-DUP1)		**Source: 19J1915-02**		Prepared & Analyzed: 10/30/19							
Hexavalent Chromium	ND	0.0040	mg/L		ND			NC		45.7	
Matrix Spike (B244676-MS1)		**Source: 19J1915-02**		Prepared & Analyzed: 10/30/19							
Hexavalent Chromium	0.088	0.0040	mg/L	0.100	ND	88.3	25.5-193				
Batch B244690 - SM21-22 2540D											
Blank (B244690-BLK1)				Prepared & Analyzed: 10/31/19							
Total Suspended Solids	ND	2.5	mg/L								
LCS (B244690-BS1)				Prepared & Analyzed: 10/31/19							
Total Suspended Solids	164	10	mg/L	200		82.0	57.6-118				
Batch B244872 - EPA 300.0											
Blank (B244872-BLK1)				Prepared & Analyzed: 11/02/19							
Chloride	ND	1.0	mg/L								

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QUALITY CONTROL

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B244872 - EPA 300.0										
LCS (B244872-BS1)				Prepared & Analyzed: 11/02/19						
Chloride	5.2	1.0	mg/L	5.00		104	90-110			
LCS Dup (B244872-BSD1)				Prepared & Analyzed: 11/02/19						
Chloride	5.2	1.0	mg/L	5.00		104	90-110	0.109	20	
Batch B245016 - EPA 1664B										
Blank (B245016-BLK1)				Prepared & Analyzed: 11/05/19						
Silica Gel Treated HEM (SGT-HEM)	ND	1.4	mg/L							
LCS (B245016-BS1)				Prepared & Analyzed: 11/05/19						
Silica Gel Treated HEM (SGT-HEM)	12		mg/L	10.0		115	64-132			
MRL Check (B245016-MRL1)				Prepared & Analyzed: 11/05/19						
Silica Gel Treated HEM (SGT-HEM)	1.80	1.4	mg/L	1.40		128	0-200			

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QUALITY CONTROL

Drinking Water Organics EPA 504.1 - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B244805 - EPA 504 water										
Blank (B244805-BLK1)				Prepared & Analyzed: 11/01/19						
1,2-Dibromoethane (EDB)	ND	0.021	µg/L							
Surrogate: 1,3-Dibromopropane	*1.06*		µg/L	1.04		102	70-130			
LCS (B244805-BS1)				Prepared & Analyzed: 11/01/19						
1,2-Dibromoethane (EDB)	0.187	0.021	µg/L	0.180		103	70-130			
Surrogate: 1,3-Dibromopropane	*1.09*		µg/L	1.03		105	70-130			
LCS Dup (B244805-BSD1)				Prepared & Analyzed: 11/01/19						
1,2-Dibromoethane (EDB)	0.190	0.021	µg/L	0.179		106	70-130	1.69		
Surrogate: 1,3-Dibromopropane	*1.05*		µg/L	1.03		102	70-130			

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

608.3

LCS

Lab Sample ID: B244694-BS1 Date(s) Analyzed: 11/05/2019 11/05/2019

Instrument ID (1): Instrument ID (2):

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	0.000	0.000	0.421	
	2	0.000	0.000	0.000	0.416	1.0
Aroclor-1260	1	0.000	0.000	0.000	0.413	
	2	0.000	0.000	0.000	0.423	3.1

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

608.3

LCS Dup

Lab Sample ID: B244694-BSD1 Date(s) Analyzed: 11/05/2019 11/05/2019

Instrument ID (1): Instrument ID (2):

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	0.000	0.000	0.405	
	2	0.000	0.000	0.000	0.409	0.2
Aroclor-1260	1	0.000	0.000	0.000	0.407	
	2	0.000	0.000	0.000	0.422	2.9

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

EPA 504.1

LCS

Lab Sample ID: B244805-BS1 Date(s) Analyzed: 11/01/2019 11/01/2019

Instrument ID (1): Instrument ID (2):

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
1,2-Dibromoethane (EDB)	1	3.223	0.000	0.000	0.187	

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

EPA 504.1

LCS Dup

Lab Sample ID: B244805-BSD1 Date(s) Analyzed: 11/01/2019 11/01/2019

Instrument ID (1): Instrument ID (2):

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
1,2-Dibromoethane (EDB)	1	3.223	0.000	0.000	0.190	

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FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit is at the level of quantitation (LOQ)
DL	Detection Limit is the lower limit of detection determined by the MDL study
MCL	Maximum Contaminant Level
	Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
	No results have been blank subtracted unless specified in the case narrative section.
B	Analyte is found in the associated laboratory blank as well as in the sample.
B-05	Data is not affected by elevated level in laboratory blank since sample(s) result is "Not Detected".
J	Detected but below the Reporting Limit (lowest calibration standard); therefore, result is an estimated concentration (CLP J-Flag).
L-01	Laboratory fortified blank /laboratory control sample recovery outside of control limits. Data validation is not affected since all results are "not detected" for all samples in this batch for this compound and bias is on the high side.
L-04	Laboratory fortified blank/laboratory control sample recovery and duplicate recovery are outside of control limits. Reported value for this compound is likely to be biased on the low side.
L-07	Either laboratory fortified blank/laboratory control sample or duplicate recovery is outside of control limits, but the other is within limits. RPD between the two LFB/LCS results is within method specified criteria.
R-05	Laboratory fortified blank duplicate RPD is outside of control limits. Reduced precision is anticipated for any reported value for this compound.
V-04	Initial calibration did not meet method specifications. Compound was calibrated using a response factor where %RSD is outside of method specified criteria. Reported result is estimated.
V-35	Initial calibration verification (ICV) did not meet method specifications and was biased on the high side for this compound. Reported result is estimated.

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CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
608.3 in Water	
Aroclor-1016	CT,MA,NH,NY,RI,NC,ME,VA
Aroclor-1016 [2C]	CT,MA,NH,NY,RI,NC,ME,VA
Aroclor-1221	CT,MA,NH,NY,RI,NC,ME,VA
Aroclor-1221 [2C]	CT,MA,NH,NY,RI,NC,ME,VA
Aroclor-1232	CT,MA,NH,NY,RI,NC,ME,VA
Aroclor-1232 [2C]	CT,MA,NH,NY,RI,NC,ME,VA
Aroclor-1242	CT,MA,NH,NY,RI,NC,ME,VA
Aroclor-1242 [2C]	CT,MA,NH,NY,RI,NC,ME,VA
Aroclor-1248	CT,MA,NH,NY,RI,NC,ME,VA
Aroclor-1248 [2C]	CT,MA,NH,NY,RI,NC,ME,VA
Aroclor-1254	CT,MA,NH,NY,RI,NC,ME,VA
Aroclor-1254 [2C]	CT,MA,NH,NY,RI,NC,ME,VA
Aroclor-1260	CT,MA,NH,NY,RI,NC,ME,VA
Aroclor-1260 [2C]	CT,MA,NH,NY,RI,NC,ME,VA
624.1 in Water	
Acetone	CT,NY,MA,NH
tert-Amyl Methyl Ether (TAME)	MA
Benzene	CT,NY,MA,NH,RI,NC,ME,VA
Bromodichloromethane	CT,NY,MA,NH,RI,NC,ME,VA
Bromoform	CT,NY,MA,NH,RI,NC,ME,VA
Bromomethane	CT,NY,MA,NH,RI,NC,ME,VA
tert-Butyl Alcohol (TBA)	NY,MA
Carbon Tetrachloride	CT,NY,MA,NH,RI,NC,ME,VA
Chlorobenzene	CT,NY,MA,NH,RI,NC,ME,VA
Chlorodibromomethane	CT,NY,MA,NH,RI,NC,ME,VA
Chloroethane	CT,NY,MA,NH,RI,NC,ME,VA
Chloroform	CT,NY,MA,NH,RI,NC,ME,VA
Chloromethane	CT,NY,MA,NH,RI,NC,ME,VA
1,2-Dichlorobenzene	CT,NY,MA,NH,RI,NC,ME,VA
1,3-Dichlorobenzene	CT,NY,MA,NH,RI,NC,ME,VA
1,4-Dichlorobenzene	CT,NY,MA,NH,RI,NC,ME,VA
1,2-Dichloroethane	CT,NY,MA,NH,RI,NC,ME,VA
1,1-Dichloroethane	CT,NY,MA,NH,RI,NC,ME,VA
1,1-Dichloroethylene	CT,NY,MA,NH,RI,NC,ME,VA
trans-1,2-Dichloroethylene	CT,NY,MA,NH,RI,NC,ME,VA
1,2-Dichloropropane	CT,NY,MA,NH,RI,NC,ME,VA
cis-1,3-Dichloropropene	CT,NY,MA,NH,RI,NC,ME,VA
1,4-Dioxane	MA
trans-1,3-Dichloropropene	CT,NY,MA,NH,RI,NC,ME,VA
Ethanol	NY,MA,NH
Ethylbenzene	CT,NY,MA,NH,RI,NC,ME,VA
Methyl tert-Butyl Ether (MTBE)	NY,MA,NH,NC
Methylene Chloride	CT,NY,MA,NH,RI,NC,ME,VA
Naphthalene	NY,MA,NC
1,1,2,2-Tetrachloroethane	CT,NY,MA,NH,RI,NC,ME,VA
Tetrachloroethylene	CT,NY,MA,NH,RI,NC,ME,VA

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CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
624.1 in Water	
Toluene	CT,NY,MA,NH,RI,NC,ME,VA
1,2,4-Trichlorobenzene	MA,NC
1,1,1-Trichloroethane	CT,NY,MA,NH,RI,NC,ME,VA
1,1,2-Trichloroethane	CT,NY,MA,NH,RI,NC,ME,VA
Trichloroethylene	CT,NY,MA,NH,RI,NC,ME,VA
Trichlorofluoromethane (Freon 11)	CT,NY,MA,NH,RI,NC,ME,VA
Vinyl Chloride	CT,NY,MA,NH,RI,NC,ME,VA
m+p Xylene	CT,NY,MA,NH,RI,NC
o-Xylene	CT,NY,MA,NH,RI,NC
625.1 in Water	
Acenaphthene	CT,MA,NH,NY,NC,RI,ME,VA
Acenaphthylene	CT,MA,NH,NY,NC,RI,ME,VA
Anthracene	CT,MA,NH,NY,NC,RI,ME,VA
Benzidine	CT,MA,NH,NY,NC,RI,ME,VA
Benzo(g,h,i)perylene	CT,MA,NH,NY,NC,RI,ME,VA
4-Bromophenylphenylether	CT,MA,NH,NY,NC,RI,ME,VA
Butylbenzylphthalate	CT,MA,NH,NY,NC,RI,ME,VA
4-Chloro-3-methylphenol	CT,MA,NH,NY,NC,RI,VA
Bis(2-chloroethyl)ether	CT,MA,NH,NY,NC,RI,ME,VA
Bis(2-chloroisopropyl)ether	CT,MA,NH,NY,NC,RI,ME,VA
2-Chloronaphthalene	CT,MA,NH,NY,NC,RI,ME,VA
2-Chlorophenol	CT,MA,NH,NY,NC,RI,ME,VA
4-Chlorophenylphenylether	CT,MA,NH,NY,NC,RI,ME,VA
Di-n-butylphthalate	CT,MA,NH,NY,NC,RI,ME,VA
1,3-Dichlorobenzene	MA,NC
1,4-Dichlorobenzene	MA,NC
1,2-Dichlorobenzene	MA,NC
3,3-Dichlorobenzidine	CT,MA,NH,NY,NC,RI,ME,VA
2,4-Dichlorophenol	CT,MA,NH,NY,NC,RI,ME,VA
Diethylphthalate	CT,MA,NH,NY,NC,RI,ME,VA
2,4-Dimethylphenol	CT,MA,NH,NY,NC,RI,ME,VA
Dimethylphthalate	CT,MA,NH,NY,NC,RI,ME,VA
4,6-Dinitro-2-methylphenol	CT,MA,NH,NY,NC,RI,ME,VA
2,4-Dinitrophenol	CT,MA,NH,NY,NC,RI,ME,VA
2,4-Dinitrotoluene	CT,MA,NH,NY,NC,RI,ME,VA
2,6-Dinitrotoluene	CT,MA,NH,NY,NC,RI,ME,VA
Di-n-octylphthalate	CT,MA,NH,NY,NC,RI,ME,VA
1,2-Diphenylhydrazine/Azobenzene	NC
Fluoranthene	CT,MA,NH,NY,NC,RI,ME,VA
Fluorene	CT,MA,NH,NY,NC,RI,ME,VA
Hexachlorobenzene	CT,MA,NH,NY,NC,RI,ME,VA
Hexachlorobutadiene	CT,MA,NH,NY,NC,RI,ME,VA
Hexachlorocyclopentadiene	CT,MA,NH,NY,NC,RI,ME,VA
Hexachloroethane	CT,MA,NH,NY,NC,RI,ME,VA
Isophorone	CT,MA,NH,NY,NC,RI,ME,VA
Naphthalene	CT,MA,NH,NY,NC,RI,ME,VA

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CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
625.1 in Water	
Nitrobenzene	CT,MA,NH,NY,NC,RI,ME,VA
2-Nitrophenol	CT,MA,NH,NY,NC,RI,ME,VA
4-Nitrophenol	CT,MA,NH,NY,NC,RI,ME,VA
N-Nitrosodimethylamine	CT,MA,NH,NY,NC,RI,ME,VA
N-Nitrosodi-n-propylamine	CT,MA,NH,NY,NC,RI,ME,VA
2-Methylnaphthalene	NC
Phenanthrene	CT,MA,NH,NY,NC,RI,ME,VA
2-Methylphenol	NY,NC
Phenol	CT,MA,NH,NY,NC,RI,ME,VA
3/4-Methylphenol	NY,NC
Pyrene	CT,MA,NH,NY,NC,RI,ME,VA
1,2,4-Trichlorobenzene	CT,MA,NH,NY,NC,RI,ME,VA
2,4,6-Trichlorophenol	CT,MA,NH,NY,NC,RI,ME,VA
2-Fluorophenol	NC
2-Fluorophenol	NC,VA
Phenol-d6	VA
Nitrobenzene-d5	VA
EPA 200.7 in Water	
Iron	CT,MA,NH,NY,RI,NC,ME,VA
Hardness	CT,MA,NH,NY,RI,VA
EPA 200.8 in Water	
Antimony	CT,MA,NH,NY,RI,NC,ME,VA
Arsenic	CT,MA,NH,NY,RI,NC,ME,VA
Cadmium	CT,MA,NH,NY,RI,NC,ME,VA
Chromium	CT,MA,NH,NY,RI,NC,ME,VA
Copper	CT,MA,NH,NY,RI,NC,ME,VA
Lead	CT,MA,NH,NY,RI,NC,ME,VA
Nickel	CT,MA,NH,NY,RI,NC,ME,VA
Selenium	CT,MA,NH,NY,RI,NC,ME,VA
Silver	CT,MA,NH,NY,RI,NC,ME,VA
Zinc	CT,MA,NH,NY,RI,NC,ME,VA
EPA 245.1 in Water	
Mercury	CT,MA,NH,RI,NY,NC,ME,VA
EPA 300.0 in Water	
Chloride	NC,NY,MA,VA,ME,NH,CT,RI
SM19-22 4500 NH3 C in Water	
Ammonia as N	NY,MA,CT,RI,VA,NC,ME
SM21-22 2540D in Water	
Total Suspended Solids	CT,MA,NH,NY,RI,NC,ME,VA
SM21-22 3500 Cr B in Water	
Hexavalent Chromium	NY,CT,NH,RI,ME,VA,NC
SM21-22 4500 CL G in Water	
Chlorine, Residual	CT,MA,RI,ME
SM21-22 4500 CN E in Water	

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CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SM21-22 4500 CN E in Water	
Cyanide	CT,MA,NH,NY,RI,NC,ME,VA

The CON-TEST Environmental Laboratory operates under the following certifications and accreditations:

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC - ISO17025:2017	100033	03/1/2020
MA	Massachusetts DEP	M-MA100	06/30/2020
CT	Connecticut Department of Publilc Health	PH-0567	09/30/2021
NY	New York State Department of Health	10899 NELAP	04/1/2020
NH-S	New Hampshire Environmental Lab	2516 NELAP	02/5/2020
RI	Rhode Island Department of Health	LAO00112	12/30/2019
NC	North Carolina Div. of Water Quality	652	12/31/2019
NJ	New Jersey DEP	MA007 NELAP	06/30/2020
FL	Florida Department of Health	E871027 NELAP	06/30/2020
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2020
ME	State of Maine	2011028	06/9/2021
VA	Commonwealth of Virginia	460217	12/14/2019
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2020
VT-DW	Vermont Department of Health Drinking Water	VT-255716	06/12/2020
NC-DW	North Carolina Department of Health	25703	07/31/2020
PA	Commonwealth of Pennsylvania DEP	68-05812	06/30/2020

1951915

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http://www.contestlabs.com

Doc # 381 Rev 1_03242017

CHAIN OF CUSTODY RECORD

39 Spruce Street
East Longmeadow, MA 01028

Company Name: Lockwood Remediation Technologies

Address: 89 Crawford Street, Leominster, MA 01453

Phone: (774) 450-7177

Project Name: Fenway Theater

Project Location:

Project Number: 2-1956

Project Manager: Jacob Jennings

Con-Test Quote Name/Number:

Invoice Recipient:

Sampled By:

Requested Turnaround Time
7-Day ☐ 10-Day ☐
Due Date:

Rush Approval Required
1-Day ☐ 3-Day ☑
2-Day ☐ 4-Day ☐

Data Delivery
Format: PDF ☑ EXCEL ☑
Other:
CLP Like Data Pkg Required: ☐
Email To: jjennings@lrt-llc.net
Fax To #:

Con-Test Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	Composite	Grab	[1]Matrix Code	Conc Code	Ammonia	Chloride	TRC	Total Metals (Sb,As,Cd, Cr III, Cu, Fe, Pb, Hg, Ni, Se, Ag, Zn)	Cyanide	Voc's	Semi-Voc's	PCB's	TPH	TSS	[redacted]	EDB	Hardness	Cromium VI
1	Influent	10/30	8:30		x	GW	U	x	x	x	x	x	x	x	x	x	x	x	x	x	x
2	Receiving Water (Charles)	10/30	9:00		x	GW	U	x			x						X			x	x

# of Containers	1	1	2	1	3	2	2	2	1		3	2	2
[2] Preservation Code	I	I	N	X	H	I	I	S	I		T	N	I
[3] Container Code	P	P	P	P	V	A	A	A	P		V	P	P

ANALYSIS REQUESTED

Dissolved Metals Samples
○ Field Filtered
○ Lab to Filter

Orthophosphate Samples
○ Field Filtered
○ Lab to Filter

Comments:
Influent: 6.9
Receiving water 6.7
Samples are for NPDES RGP Parameters.

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

[1] **Matrix Codes:**
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)

[2] **Preservation Codes:**
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

[3] **Container Codes:**
A = Amber Glass
G = Glass
P = Plastic
ST = Sterile
V = Vial
S = Summa Canister
T = Tedlar Bag
O = Other (please define)

Relinquished by: (signature)	Date/Time: 10/30/19 1:30
Received by: (signature)	Date/Time: 10/30/19 2:00
Relinquished by: (signature)	Date/Time: 10/30/19 5:00
Received by: (signature) 4.7	Date/Time: 10/30/19 1760
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:

Detection Limit Requirements
MA:
CT:
Other:

Special Requirements
☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

con-test ANALYTICAL LABORATORY
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NELAC and AIHA-LAP, LLC Accredited

Project Entity
☐ Government ☐ Municipality ☐ MWRA ☐ WRTA
☐ Federal ☐ 21 J ☐ School
☐ City ☐ Brownfield ☐ MBTA

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

PCB ONLY
☐ Soxhlet
☐ Non Soxhlet

Table of Contents

I Have Not Confirmed Sample Container Numbers With Lab Staff Before Relinquishing Over Samples_____

con-test® ANALYTICAL LABORATORY

Doc# 277 Rev 5 2017

Login Sample Receipt Checklist - (Rejection Criteria Listing - Using Acceptance Policy) Any False Statement will be brought to the attention of the Client - State True or False

Client Lockwood

Received By SL Date 10/30/19 Time 1700

How were the samples received? In Cooler T No Cooler _____ On Ice T No Ice _____
Direct from Sampling _____ Ambient _____ Melted Ice _____

Were samples within Temperature? 2-6°C T By Gun # 5 Actual Temp - 4.7
By Blank # _____ Actual Temp - _____

Was Custody Seal Intact? N/A Were Samples Tampered with? N/A
Was COC Relinquished ? T Does Chain Agree With Samples? T
Are there broken/leaking/loose caps on any samples? F
Is COC in ink/ Legible? T Were samples received within holding time? T
Did COC include all Client T Analysis T Sampler Name F
pertinent Information? Project T ID's T Collection Dates/Times T
Are Sample labels filled out and legible? T
Are there Lab to Filters? F Who was notified? _____
Are there Rushes? T Who was notified? Mary, Miranda, ~~Mike~~ Ron (SL)
Are there Short Holds? T Who was notified? MML
Is there enough Volume? T
Is there Headspace where applicable? N/A F (SC) MS/MSD? F
Proper Media/Containers Used? T Is splitting samples required? F
Were trip blanks received? T On COC? F
Do all samples have the proper pH? Acid T&A Base T&A

Vials	#	Containers:	#		#		#
Unp-		1 Liter Amb.		1 Liter Plastic	2	16 oz Amb.	
HCL-	6	500 mL Amb.		500 mL Plastic		8oz Amb/Clear	
Meoh-		250 mL Amb.		250 mL Plastic	12	4oz Amb/Clear	
Bisulfate-		Flashpoint		Col./Bacteria		2oz Amb/Clear	
DI-		Other Glass		Other Plastic		Encore	
Thiosulfate-		SOC Kit		Plastic Bag		Frozen:	
Sulfuric-		Perchlorate		Ziplock			

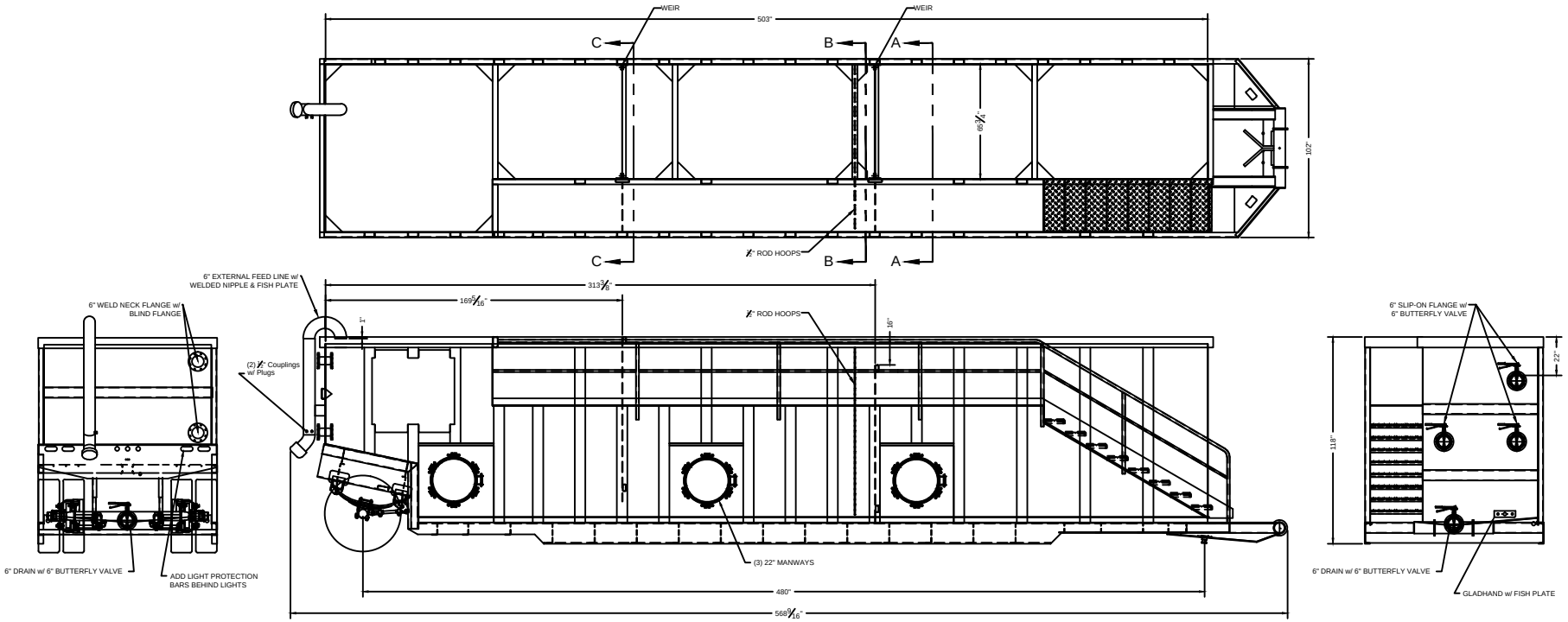
Unused Media

Vials	#	Containers:	#		#		#
Unp-		1 Liter Amb.		1 Liter Plastic		16 oz Amb.	
HCL-		500 mL Amb.		500 mL Plastic		8oz Amb/Clear	
Meoh-		250 mL Amb.		250 mL Plastic		4oz Amb/Clear	
Bisulfate-		Col./Bacteria		Flashpoint		2oz Amb/Clear	
DI-		Other Plastic		Other Glass		Encore	
Thiosulfate-		SOC Kit		Plastic Bag		Frozen:	
Sulfuric-		Perchlorate		Ziplock			

Comments:

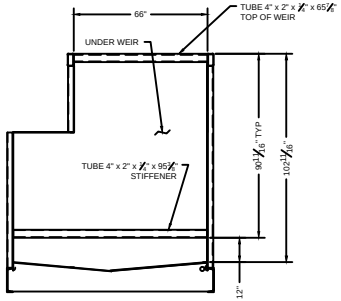
Appendix C

Water Treatment System Cutsheets

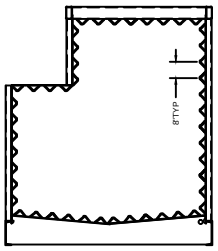


STANDARD SPECIFICATION

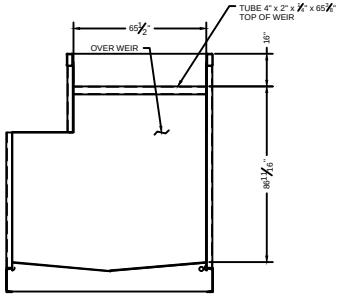
CAPACITY: .... 18,480 GALLONS (440 BBL)
SIDE SHEETS: .... 1/4" A36 PLATE
FRONT SHEET: .... 1/4" A36 PLATE
REAR SHEET: .... 1/4" A36 PLATE
FLOOR: .... 1/4" A36 PLATE
MAIN FLOOR RAILS: .... 12" x 20.7# STRUCTURAL CHANNEL
FLOOR CROSSMEMBERS: .... 1/4" A36 PLATE
SIDE STAKES: .... ONE PIECE 3/16" A36 PLATE
SUSPENSION: .... 3 LEAF SPRING, 22,500 LBS. CACPACITY
AXLE: .... 77.5" TRACK, 22,500 LBS. CAPACITY
TIRES: .... 11R22.5 RADIAL
WHEELS: .... 8.25 x 22.5 STEEL
MANWAYS: .... 3 - 22" DIA. CURB SIDE
VALVES: .... 3 - 6" BUTTERFLY VALVE (FRONT)
1 - 6" DRAIN BUTTERFLY VALVE (FRONT)
1 - 6" DRAIN BUTTERFLY VALVE (REAR)
2 - 6" BLIND FLANGE CONNECTION (REAR)
INLET PIPING: .... 1 - 6" PIPE SYSTEM (REAR)
BLAST: .... (INTERIOR) SSPC-SP-10 (NEAR WHITE)
(EXTERIOR) SSPC-SP-6 (COMMERCIAL BLAST)
PAINT: .... (INTERIOR) EPOXYPHENOLIC 100% SOLID 20.0 MILS D.F.T.
(EXTERIOR) FINISH COAT POLURETHANE 4.0 TO 5.0 D.F.T.



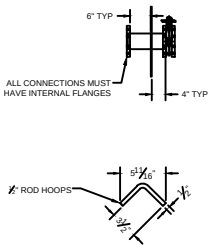
SECTION VIEW "C-C"



SECTION VIEW "B-B"



SECTION VIEW "A-A"



18,000 Gal. Weir Tank

Lockwood Remediation Technologies, LLC

89 Crawford Street
Leominster, Massachusetts 01453
O: 774-450-7177
F: 888-835-0617

Polyester Liquid Filter Bag

Features

* Polyester liquid bag filter are available with a carbon steel ring, stainless steel ring or plastic flanges.
* Heavy-duty handle eases installation and removal
* Metal ring sewn into bag top for increased durability and positive sealing
* Wide array of media fibers to meet needed temperature and micron specifications

Applications

Polyester liquid filter bags can be used in the filtering of a wide array of industrial and commercial process fluids

Sizes

Our liquid filter bags are available for all common liquid bag housings. Dimensions range from 4.12" diameter X 8" length thru 9" diameter X 32" length.

Micron Ratings

Available fibers range from 1 to 1500 microns

Options

* Bag finish or covers for strict migration requirements.
* Plastic top O.E.M. replacements
* Multi-layered filtering capabilities for higher dirt holding capacities

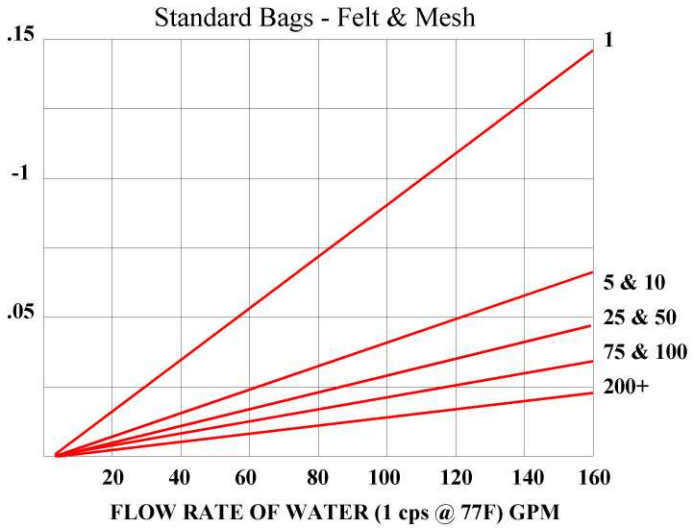
Optional Filter Media

Felt: Nomex, Polyester, Polypropylene

Monofilament: Nylon, Polyester, Polypropylene

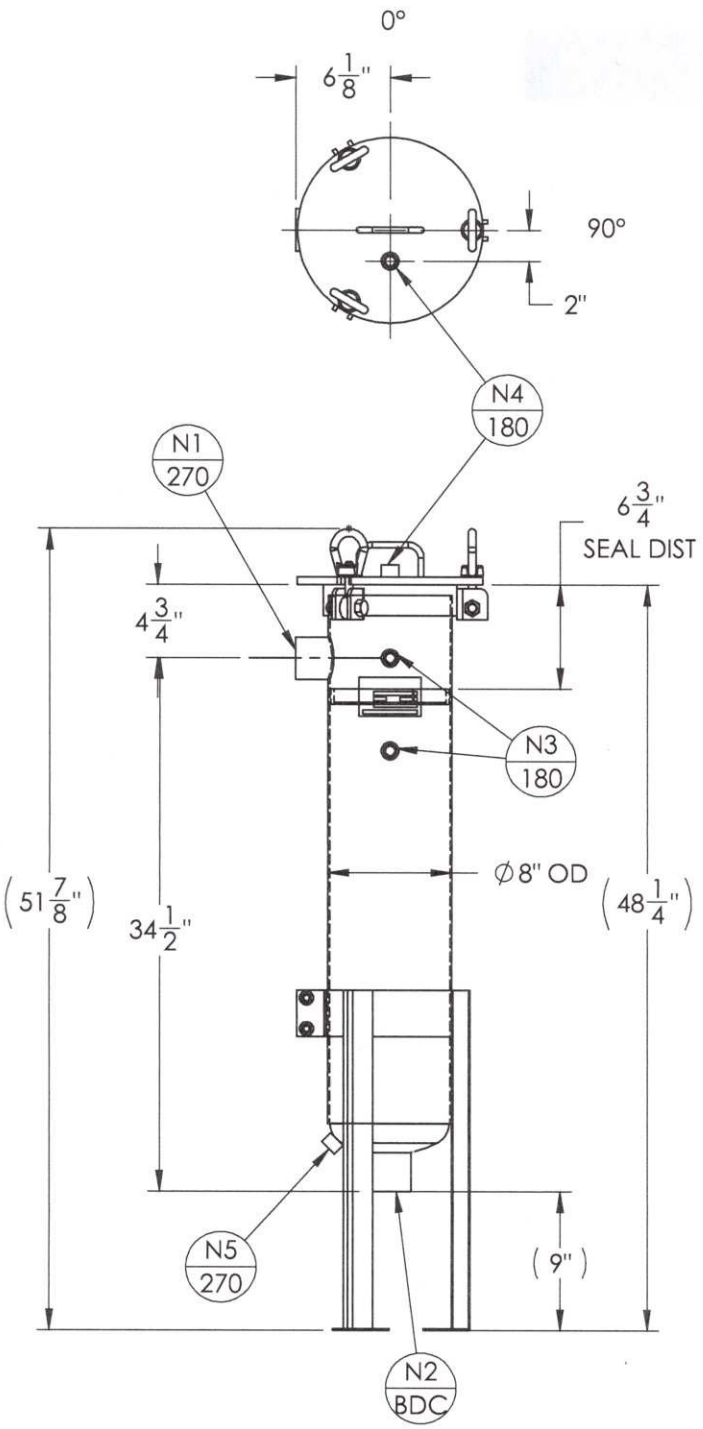
Multifilament: Nylon, Polyester

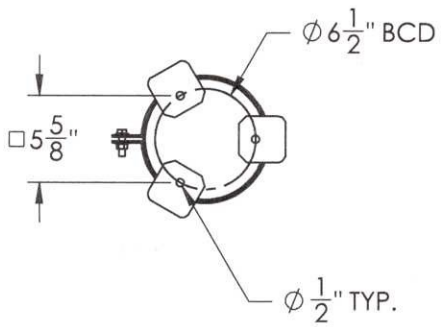
Polypropylene: Oil Removal



NOZZLE SCHEDULE			
MARK	QTY	SIZE / RATING	DESCRIPTION
N1	1	2" 150# NPT	INLET
N2	1	2" 150# NPT	OUTLET
N3	2	1/2" 3000# NPT	PRESS GA
N4	1	1/2" 3000# NPT	VENT
N5	1	1/2" 3000# NPT	CLEAN DRAIN
N6	-	-	DIRTY DRAIN

VESSEL DESIGN CONDITIONS			
CODE:	BEST COMMERCIAL PRACTICE		
M.A.W.P.:	150 PSI @ 250°F	M.D.M.T.:	-20° F @ 150 PSI
M.A.E.P.:	15 PSI @ 250°F		
CORROSION ALLOWANCE:	NONE	HYDROTEST PRESS:	195 PSI
STAMP:	'NC'	SERVICE:	NON LETHAL
PWHT:	N/A	RADIOGRAPHY:	N/A
MATERIAL:	SS 304/L	GASKET:	BUNA-N





DRY WEIGHT: 77.62 #'s
FLOODED WEIGHT: 140 #'s
SHIPPING WEIGHT: 100 #'s
VESSEL VOLUME: 1.0 C.F.

NOTES:
- VESSEL WILL HOUSE (QTY=1) DOUBLE LENGTH BASKET.

1:1

THIRD ANGLE PROJECTION

TOLERANCES-UNLESS OTHERWISE NOTED
DECIMAL .X =±.1" .XX =±.02" .XXX =±.005"
FRACTIONAL ≤24" =±1/16" >24" =±1/8"
ANGULAR =± 1°
MAX. MACHINED SURFACE FINISH 125

REV.	DATE	REVISION	DRAWN	APP'D

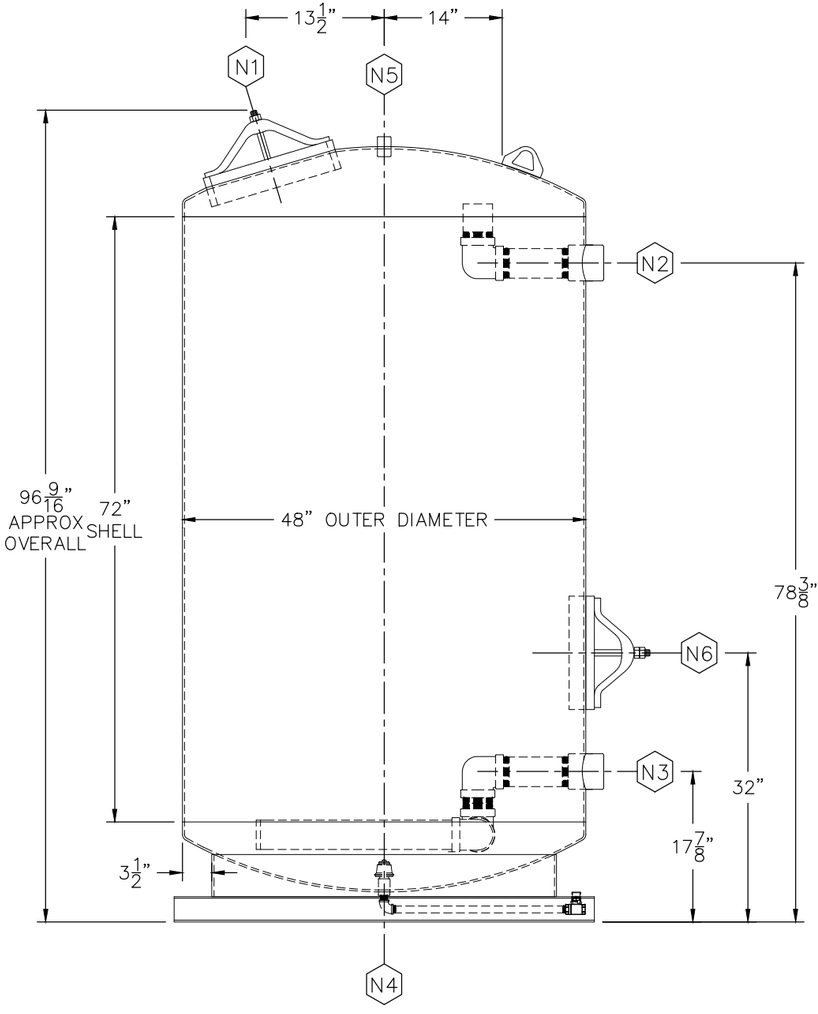
89 Crawford Street
Leominster, MA 01453
Tel: 774.450.7177
Fax: 888.835.0617

LRT Provided Bag Filter Housing

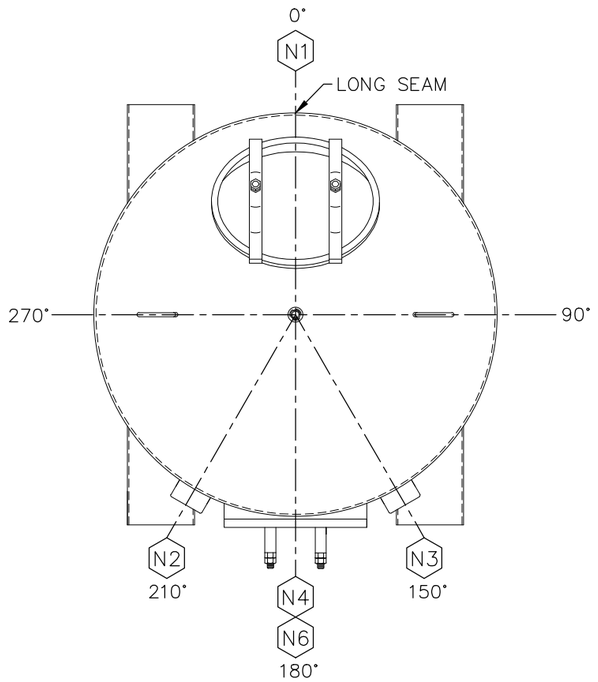
EQUIPMENT:	BAG FILTER HOUSING (EB SERIES)
MODEL NO:	S4EB112-2P-SW
CUSTOMER:	-

PARENT: NONE	DRAWN: CR	DATE: JAN 13 2011	JOB No. V-	DWG. No. 001-0123	REV. No. 0
PAGE: 1 OF 4	CHK'D: JM	SCALE: NTS			

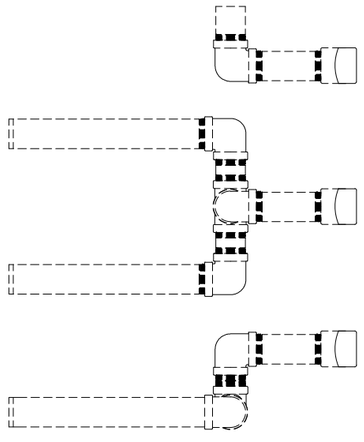
SCHEDULE OF OPENINGS		
ID	*DESCRIPTION*	*SERVICE*
N1	14" x 18" ELLIPTICAL MANWAY	UPPER BED ACCESS
N2	3" 3000# FNPT FULL COUPLING	PROCESS INFLUENT
N3	3" 3000# FNPT FULL COUPLING	PROCESS EFFLUENT
N4	1/2" 3000# FNPT FULL COUPLING	DRAIN w/ BALL VALVE
N5	1/4" 150# FNPT TANK FLANGE	VENT w/ VALVE
N6	14" x 18" ELLIPTICAL MANWAY	LOWER BED ACCESS



ELEVATION VIEW
NOT TRUE ORIENTATION



PLAN VIEW
TRUE ORIENTATION



INTERNALS

VESSEL DESIGN DATA			
VESSEL REGISTRATION	N/A	YEAR BUILT	NOT YET BUILT
VESSEL CONSTRUCTION	NON-CODE	VESSEL SERIAL NUMBER	TBD
INTERNAL DESIGN PRESSURE	75 PSIG	CAPACITY (VOLUME)	703.44 gal
INTERNAL DESIGN TEMP.	140 DEG. F	WEIGHT (EMPTY)	1432 lbs
EXTERNAL DESIGN PRESSURE	ATMOSPHERIC	WEIGHT (FULL)	8385 lbs
OPERATING PRESSURE	N/A	SHELL 1 MATERIAL	SA-36 ROLLED PLATE NOM. TH. = 0.25"
OPERATING TEMP.	N/A	SHELL 2 MATERIAL	N/A
MIN. DESIGN METAL TEMP.	-20 DEG. F @ 75 PSIG	TOP HEAD MATERIAL	SA-36 HOT FORMED NOM. TH. = 0.25"
MAWP (NEW & COLD)	TBD	BOTTOM HEAD MATERIAL	SA-36 HOT FORMED NOM. TH. = 0.25"
MAWP (HOT & CORRODED)	TBD	NOZZLES NECKS/FLANGES	SA-106-B, SA-105, SA-312-304
HYDROSTATIC TEST PRESSURE	N/A	GASKETS	BUNA-N
HYDROSTATIC TEST MEDIUM	N/A	INTERNALS	STAINLESS STEEL
CORROSION ALLOWANCE	NONE	SURFACE PREP INTERNAL	SSPC-SP10
RADIOGRAPHY	NONE	SURFACE PREP EXTERNAL	SSPC-SP6
POST WELD HEAT TREAT.	N/A	INTERNAL COATING	CARBOLINE CARBOGUARD 635 5-10 MILS DFT
MATERIAL IMPACT TESTS	N/A	EXTERNAL PRIMER	CARBOLINE CARBOGUARD 635 5-10 MILS DFT
MATERIAL HARDNESS	N/A	EXTERNAL PAINT/COATING	CARBOLINE CARBOTHANE 8845(GREEN)3-5 MILS DFT

REV NO	REVISION NOTE	DATE	SIGNATURE
1			
2			
3			
4			
5			

LRT
Lockwood Remediation Technologies LLC

JOB #	DATE	SCALE
		NTS

HPAF-2000

APPROVED BY	QUANTITY	UNITS	DRAWING #
—			

89 Crawford Street
Leominster, Massachusetts 01453
Tel: 774.450.7177
Fax: 888.835.0617
www.lrt-llc.net

FILTRATION MEDIA :
8x30 RE-ACTIVATED CARBON
4x10 RE-ACTIVATED CARBON

GENERAL DESCRIPTION

Select Re-Activated carbon from domestic sources is quality screened during our purchasing process for activity, density and fines. The use of re-activated carbon is recommended as a lower cost alternative for most sites where drinking water quality is not necessary. In many cases our re-activated carbon meets and exceeds imported virgin carbon. In addition all carbon either sold by itself or installed in our filtration units traced by lot number to the installation or sale.

8x30 (Liquid Phase) Standard Specifications:	Standard	Value
Iodine Number	ASTM D-4607	800 Minimum
Moisture Content	ASTM D-2867	5% Maximum (as packed)
Particle Size	ASTM D-2862	8x30 US Mesh
Ash		10% Maximum
Total Surface Area (N2BET)		1050 Minimum
Pore Volume (cc/g)		0.75

4*10 (Vapor Phase) Standard Specifications:	Standard	Value
Carbon Tetrachloride Activity Level	ASTM D-3467	40 Minimum
Moisture Content	ASTM D-2867	5% Maximum (as packed)
Particle Size	ASTM D-2862	4x10 US Mesh
Ash		10% Maximum
Total Surface Area (N2BET)		1050 Minimum
Pore Volume (cc/g)		0.75

GROOVED & SMOOTH-END FLOWMETER MODEL MG/MS100

SPECIFICATIONS

PERFORMANCE

ACCURACY/REPEATABILITY: ±2% of reading guaranteed throughout full range. ±1% over reduced range. Repeatability 0.25% or better.
RANGE: (see dimensions chart below)
HEAD LOSS: (see dimensions chart below)
MAXIMUM TEMPERATURE: (Standard Construction) 160°F constant
PRESSURE RATING: 150 psi

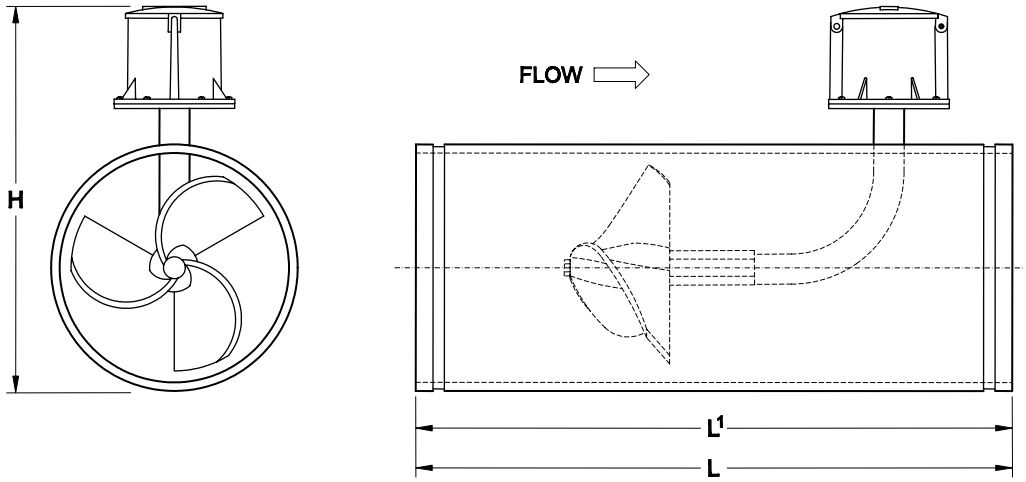
MATERIALS

TUBE: Epoxy-coated carbon steel.
BEARING ASSEMBLY: Impeller shaft is 316 stainless steel. Ball bearings are 440C stainless steel.
MAGNETS: (Permanent type) Cast or sintered alnico
BEARING HOUSING: Brass; Stainless Steel optional
IMPELLER: Impellers are manufactured of high-impact plastic, retaining their shape and accuracy over the life of the meter. High temperature impeller is optional.

REGISTER: An instantaneous flowrate indicator and six-digit straight-reading totalizer are standard. The register is hermetically sealed within a die cast aluminum case. This protective housing includes a domed acrylic lens and hinged lens cover with locking hasp.
COATING: Fusion-bonded epoxy

OPTIONS

- Forward/reverse flow measurement
- High temperature construction
- "Over Run" bearing assembly for higher-than-normal flowrates
- Electronic Propeller Meter available in all sizes of this model
- A complete line of flow recording/control instrumentation
- Straightening vanes and register extensions available
- Certified calibration test results



McCrometer reserves the right to change design or specifications without notice.

MG100 / MS100	DIMENSIONS												
Meter Size (inches)	**2**	**2 ½**	**3**	**4**	**6**	**8**	**10**	**12**	**14**	**16**	**18**	**20**	**24**
Maximum Flow U.S. GPM	250	250	250	600	1200	1500	1800	2500	3000	4000	5000	6000	8500
Minimum Flow U.S. GPM	40	40	40	50	90	100	125	150	250	275	400	475	700
Head Loss in Inches at Max. Flow	29.50	29.50	29.50	23.00	17.00	6.75	3.75	2.75	2.00	1.75	1.50	1.25	1.00
Shipping Weight, lbs.	* See Special Note		17	40	54	68	87	106	140	144	172	181	223
H (inches)			10.9	12.78	13.84	14.84	16.91	18.90	20.53	22.53	25.53	26.53	30.53
L (inches) MG100			13	20	20	20	20	20	20	22	22	22	22
L^1 (inches) MS100			13	20	22	22	22	22	22	24	24	24	24
O.D. of Meter Tube			3.50	4.500	6.625	8.625	10.750	12.750	14.00	16.00	18.00	20.00	24.00

Special Note—
Reducing fittings incorporating grooves are supplied to adapt the 3-inch model to smaller line sizes.

Larger flowmeters on special order.

Appendix D

Supplemental Information

MassDEP - Bureau of Waste Site Cleanup

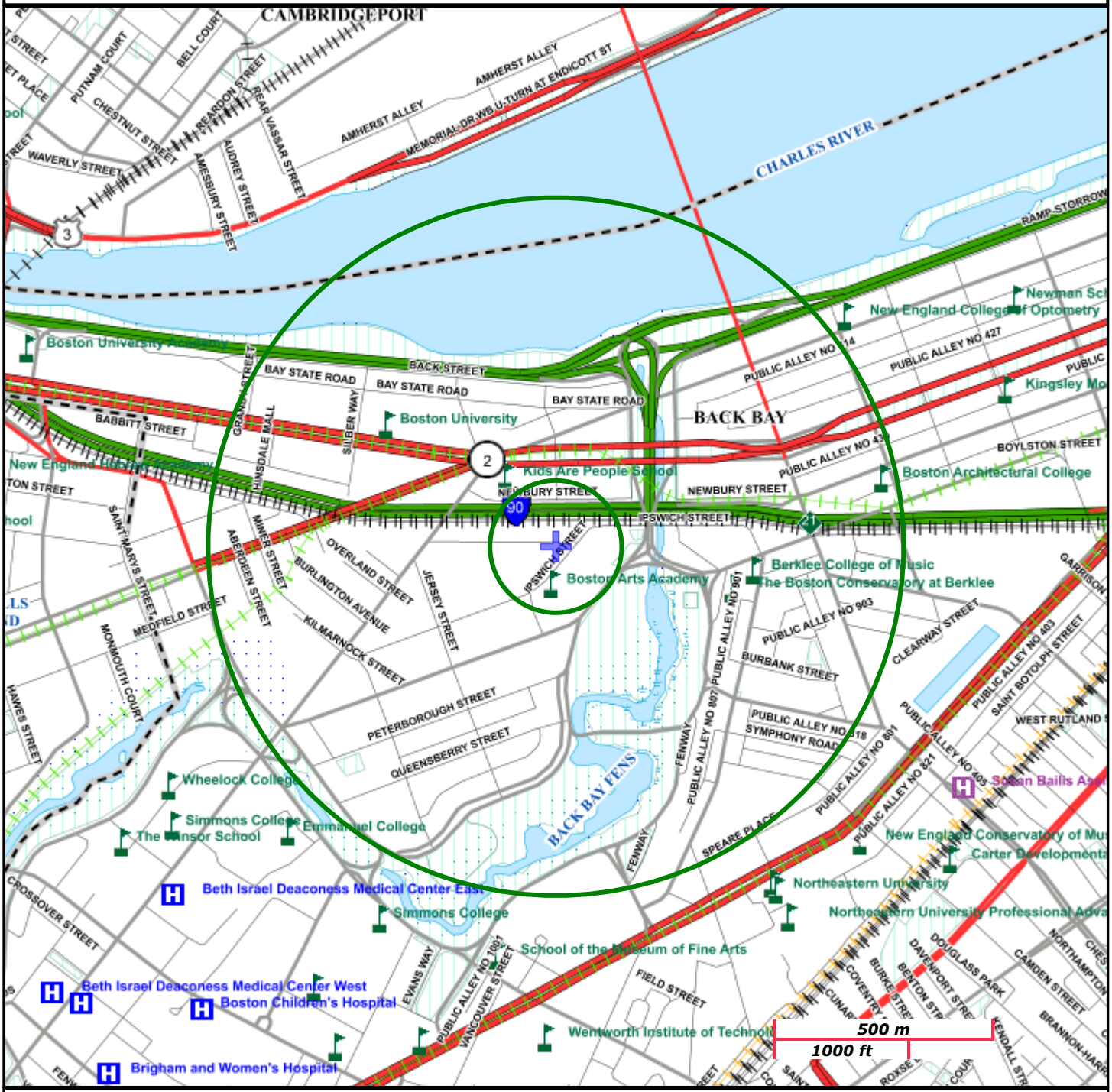
Phase 1 Site Assessment Map: 500 feet & 0.5 Mile Radii

Site Information:
FENWAY THEATER
4 JERSEY STREET BOSTON, MA

NAD83 UTM Meters:
4690437mN , 327442mE (Zone: 19)
October 29, 2019

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

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.

Documentation of the Results of the ESA Eligibility Determination:

Using information in Appendix II of the NPDES RGP, the project located at 175 Ipswich Street, Boston, MA is eligible for coverage under this general permit under FWS Criterion A. This project is located in Suffolk County. No designated critical habitats were listed in the project area. An Endangered Species Consultation was conducted on the U.S. Fish & Wildlife Service New England Field Office ECOS IPaC webpage for the Site:

No Endangered species found at this location.

United States Department of the Interior

FISH AND WILDLIFE SERVICE
New England Ecological Services Field Office
70 Commercial Street, Suite 300
Concord, NH 03301-5094
Phone: (603) 223-2541 Fax: (603) 223-0104
http://www.fws.gov/newengland

In Reply Refer To: October 29, 2019
Consultation Code: 05E1NE00-2020-SLI-0297
Event Code: 05E1NE00-2020-E-00844
Project Name: Fenway Theater

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

To Whom It May Concern:

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

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

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

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

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

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

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

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

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

Attachment(s):

- Official Species List

Official Species List

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

This species list is provided by:

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

Project Summary

Consultation Code: 05E1NE00-2020-SLI-0297

Event Code: 05E1NE00-2020-E-00844

Project Name: Fenway Theater

Project Type: Water Withdrawal / Depletion

Project Description: Construction dewatering

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/42.34685596898674N71.09498016536237W

Counties: Suffolk, MA

Endangered Species Act Species

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

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

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

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

---

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

Critical habitats

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

Documentation of the National Historic Preservation Act Eligibility Determination:

As part of this permit, a determination was made as to whether there were any historic properties or places listed on the national register in the path of the discharge or in the vicinity of the construction of treatment systems or BMPs related to the discharge. A search on the Massachusetts Cultural Resource Information System Database and the National Register of Historic Places did not list any potential historic properties on or near the project site in the databases. Therefore, the proposed discharge will not have the potential to cause effects on historical properties.

Massachusetts Cultural Resource Information System

MACRIS

MACRIS Search Results

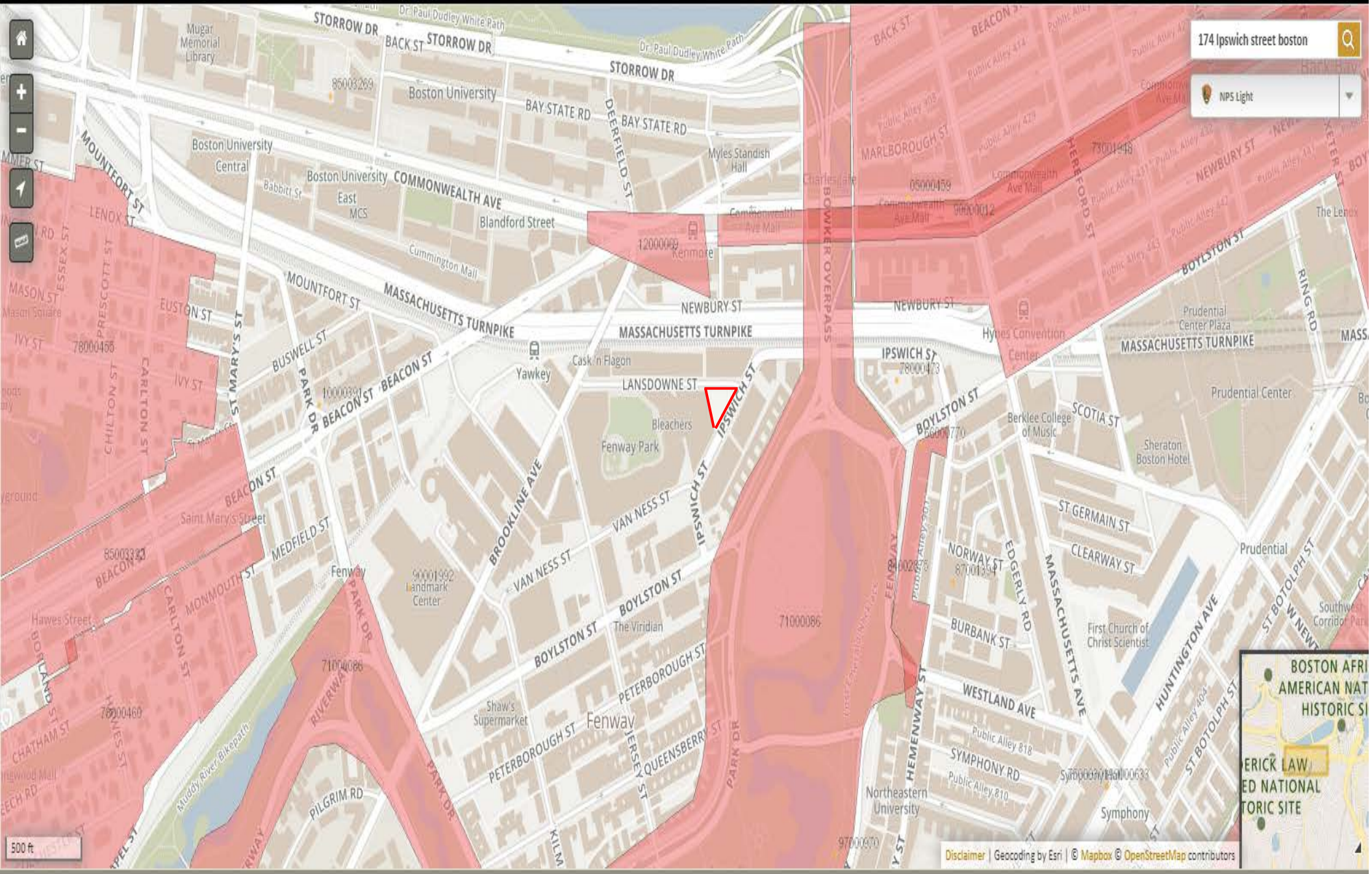
Search Criteria: Town(s): Boston; Street No: 175; Street Name: Ipswich St; Resource Type(s): Area, Building, Burial Ground, Object, Structure;

Inv. No.	Property Name	Street	Town	Year

National Register of Historic Places

Public, non-restricted data depicting National Register spatial data processed by the Cultural Resources GIS facility. Data last updated in April, 2014.

National Park Service
U.S. Department of the Interior



Appendix E

BWSC Discharge Pemit

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

DEWATERING DISCHARGE PERMIT APPLICATION

OWNER / AUTHORIZED APPLICANT PROVIDE INFORMATION HERE:

Company Name: LRT Address: 89 Crawford Street Leominster MA

Phone Number: (774) 450-7177 Fax number: _____

Contact person name: Jacob Jennings Title: Staff Scientist

Cell number: (508) 930-9812 Email address: jjennings@lrt-llc.net

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

Owner's Information (if different from above):

Owner of property being dewatered: _____

Owner's mailing address: _____ Phone number: _____

Location of Discharge & Proposed Treatment System(s):

Street number and name: 2701 Ipswich St Neighborhood _____

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

Describe Proposed Pre-Treatment System(s): Wier Tank, Bag Filtration,

BWSC Outfall No. 042 Receiving Waters Charles River

Temporary Discharges (Provide Anticipated Dates of Discharge): From 12/01/2019 To 12/01/2020

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

Permanent Discharges

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

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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: _____