August 23, 2018

VIA E-MAIL
NPDES.Generalpermits@epa.gov

U.S. Environmental Protection Agency
Office of Ecosystem Protection
EPA/OEP RGP Coordinator
5 Post Office Square – Suite 100 (OEP06-01)
Boston, Massachusetts 02109-3912

Re: Remediation General Permit – Notice of Intent
Speedway Store #2457
251 Everett Avenue
Chelsea, Massachusetts 02150

To Whom It May Concern:

At the request of Speedway LLC (Speedway), EnviroTrac Ltd. (EnviroTrac) is submitting the attached Remediation General Permit (RGP) – Notice of Intent (NOI) for the above-referenced location, referred to as the Site. The RGP-NOI form is included as **Appendix A**. A locus map (**Figure 1**) provides the regional location of the Site.

The Site is currently a Speedway-branded retail petroleum station. Temporary construction dewatering is required to facilitate the removal of the four existing single-walled fiberglass underground storage tanks (USTs) and installation of replacement USTs. Based on gauging of the groundwater monitoring well at the Site, depth to the water table is approximately six feet below ground surface (bgs). Excavation to approximately 16 to 17 feet bgs is required for the UST removal.

Petroleum impacts to soil and groundwater exist at the Site. The Massachusetts Department of Environmental Protection (MassDEP) assigned Release Tracking Number (RTN) 3-3288 to the Site subsequent to notification in August 1988. A Response Action Outcome Statement for RTN 3-3288 was submitted to MassDEP on November 17, 1997.

The City of Chelsea Department of Public Works informed EnviroTrac via email on July 5, 2017, that the discharge of construction site dewatering to the sanitary sewer system in Chelsea is prohibited by the Massachusetts Water Resources Authority. Therefore, this RGP-NOI is required to discharge to the stormwater system.

During construction dewatering, groundwater will be pumped from the excavation into one fractionation (frac) tank for settlement. Groundwater in the frac tank will be recirculated through parallel venturi aerators to aid in the oxidation and precipitation of metals. From the frac tank, groundwater will be pumped and treated through two parallel

bag filter units equipped with 10 to 25 micron bag filters to remove suspended solids. Groundwater will then flow through two granular activated carbon vessels arranged in series for treatment and then two parallel cartridge filters units with 1 to 5 micron filters to remove suspended sediments. A totalizer will be installed prior to the discharge point in order to monitor the system flow rate. The design flow of the treatment system is approximately 100 gallons per minute (gpm), and the average discharge rate of treated groundwater is anticipated to be approximately 50 to 75 gpm. A schematic of the proposed treatment system is included as **Figure 2**.

The treated effluent will be discharged via a storm drain located within the sidewalk of Everett Avenue, which immediately abuts the Site to the northwest. A Discharge Location Plan (**Figure 3**) depicts the proposed discharge point.

Water entering the storm drain discharges to the Island End River via City of Chelsea Outfall IE-5, located near the intersection of Beacham and Market Streets, approximately 4,600 feet southwest of the Site. Water from the Island End River eventually discharges to the Mystic River. The locations of the Site and discharge receiving waters are depicted on **Figure 4**. Per consultation with the City of Chelsea Conservation Commission, a Request for Determination of Applicability or a Notice of Intent is not required for the proposed activities. The City of Chelsea Conservation Director requested a letter describing the proposed activities prior to initiation.

On May 4, 2018, a groundwater sample was collected from monitoring well MW-101 located adjacent to the proposed excavation area, and a surface water sample was obtained from the approximate location of the outfall. Based on analytical data, volatile organic compounds, total suspended solids, ammonia, chloride, and metals were detected in groundwater. Concentrations of two metals (copper and nickel) in the groundwater sample exceeded applicable Effluent Limits listed in the RGP under the National Pollutant Discharge Elimination System for Discharges in Massachusetts. In the surface water sample, ammonia and metals were detected, and concentrations of two metals (copper and selenium) exceeded applicable Effluent Limits. Analytical data are summarized in **Table 1**. The laboratory analytical report supporting this NOI is included in **Appendix B**.

A dilution factor of 1 will be used for metals which exceeded applicable Effluent Limitations for Class SB receiving waters (refer to **Appendix C**). Based on a Dilution Factor Range of less than five, concentrations of copper and nickel in the groundwater sample exceeded applicable Total Recoverable Metal Limitations published the RGP.

Please note that the required ethanol analysis was conducted using method SW846-8015C and not one of the specified methods in the RGP. Based on email correspondence from Shauna Little, Physical Scientist, U.S. Environmental Protection Agency (U.S. EPA) New England, a request can be made to U.S. EPA to allow data obtained using another method under the existing data substitution section in Part 4.1.5.a of the RGP. The data obtained by method SW846-8015C are sufficient for U.S. EPA to make a determination of coverage because the analysis meets the minimum level (ML) requirement. For ethanol, the detection limit must be 400 micrograms per liter (µg/L) or less or ethanol is clearly detected. The analytical report states the detection limit for ethanol was less than 100 µg/L and the reporting limit was 200 µg/L.

According to the National Park Service's National Register Information System (NRIS) (http://www.nps.gov/history) there are no historical sites located in Chelsea, Massachusetts. NRIS listings in Massachusetts have not yet been digitized; however, the spreadsheet of National Register listed properties can be accessed at http://nps.gov/nr/research.

The Massachusetts Historical Commission's Massachusetts Cultural Resource Information System (MACRIS) (http://mhc-macris.net/index.htm) listed 815 historical sites in Chelsea. The nearest site, the Chelsea Clock Company, is located approximately 312 feet northwest of the Site and is located upgradient of the discharge location. Based on the distances to the Site, the discharge will not likely adversely affect federal or state-listed historical sites. A copy of the MACRIS listing is included in **Appendix D**.

Based on a review of Appendix I of the RGP and the New England Listed Species shown on the U.S. Fish and Wildlife Service (FWS) New England Field Office web site, the Site is located within a county (Suffolk) listed by the U.S. FWS as a habitat of species under The Migratory Birds Treaty Act and The Bald and Golden Eagle Protection Act. The general habitat of these species will not be affected by discharge related activities. In addition, as depicted in the Massachusetts Contingency Plan (MCP) Priority Resource Map provided as **Figure 5**, the Site is not located within a Natural Heritage Endangered Species Program Estimated or Priority Habitat or within an Area of Critical Concern. A copy of the FWS Information for Planning and Consultation (IPaC) Resource List is included in **Appendix E**.

The excavation and dewatering will be conducted as a UST Closure pursuant to the UST Regulations (310 CMR 80.00). The project will also be conducted as a Post-Permanent Solution Response Action pursuant to the MCP (310 CMR 40.1067); therefore, completion and submittal of Massachusetts Application Form BRPWM 12 or payment of a state fee is not required.

If you have any questions or require further information, please contact the undersigned at (781) 793-0074.

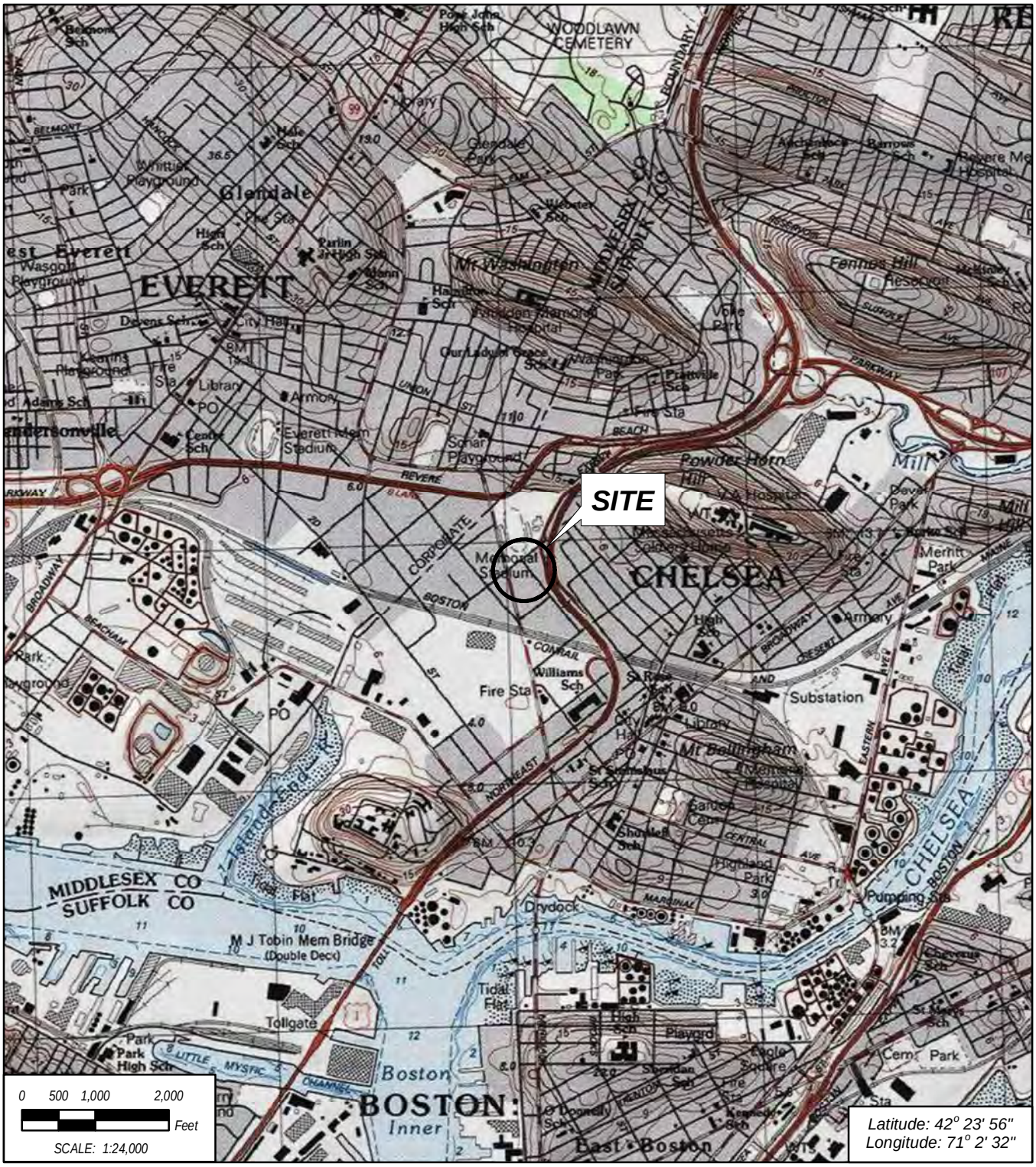
Sincerely,
EnviroTrac Ltd.

Sean P. Kennedy, PG
Regional Operations Manager

cc: MassDEP Northeast Regional Office
Chelsea City Manager
John Engdahl, Speedway LLC

Attachments

FIGURES



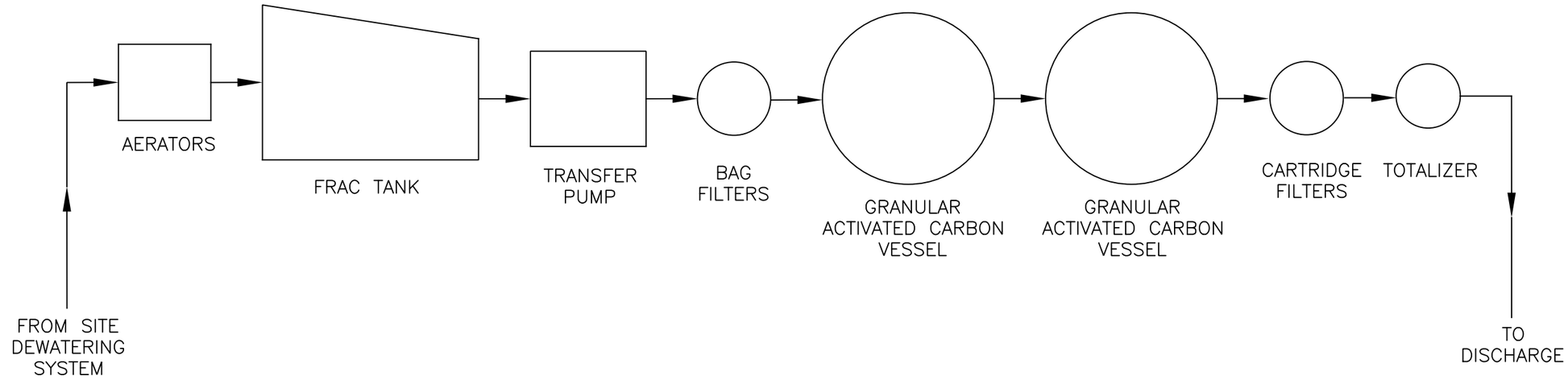
Source: Office of Geographic Information (MassGIS), Commonwealth of Massachusetts Information Technology Division
USGS Topograhic Map: Boston North, MA Quadrangle

EnviroTrac
Environmental Services
2 Merchant Street, Suite 2
Sharon, Massachusetts 02067
P: (781) 793-0074
F: (781) 793-7877
www.EnviroTrac.com

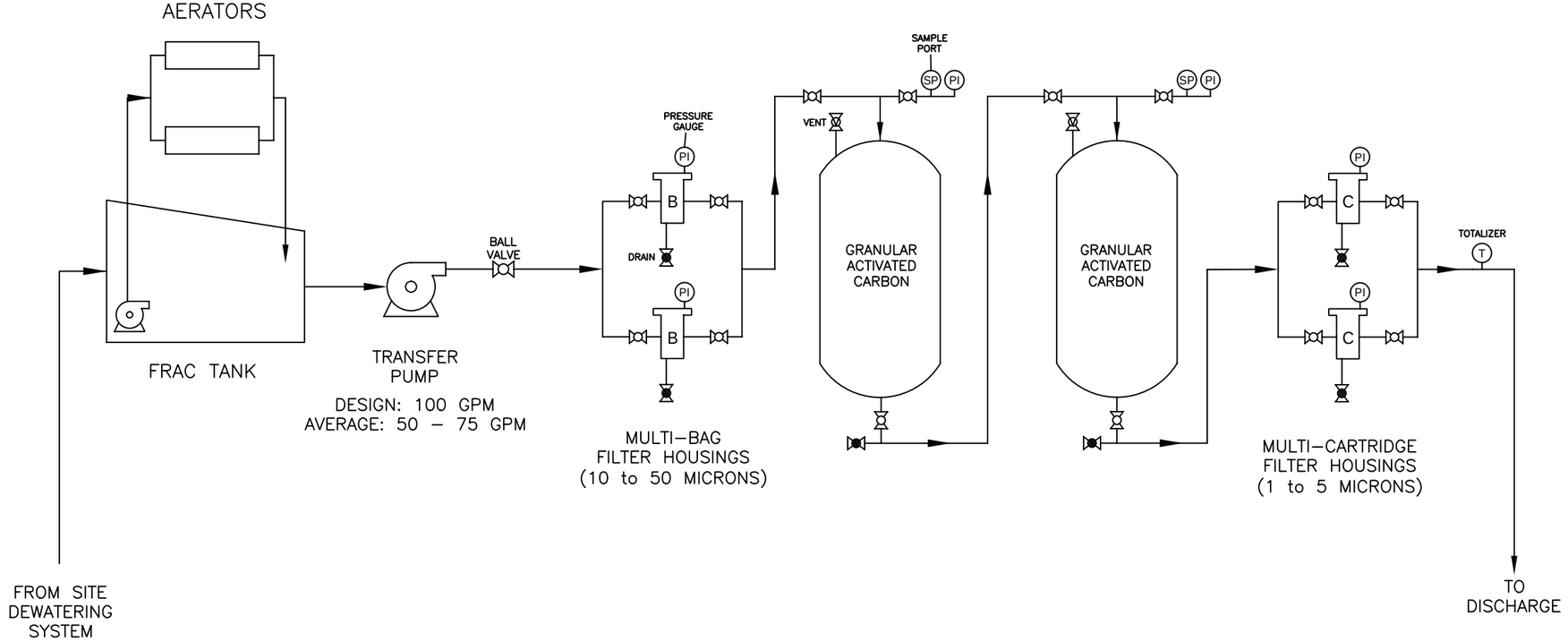
LOCUS MAP

SPEEDWAY STORE #2457
251 EVERETT AVENUE
CHELSEA, MASSACHUSETTS

DRAWN BY	PROJECT	DATE	FIGURE
DT	03.SW2457.01	5/21/2018	**1**



PROCESS FLOW DIAGRAM
DEWATERING TREATMENT
SYSTEM (TYP.)



DRAWN BY: PDC
REVISION DATE: 08/06/2018

FIGURE
2

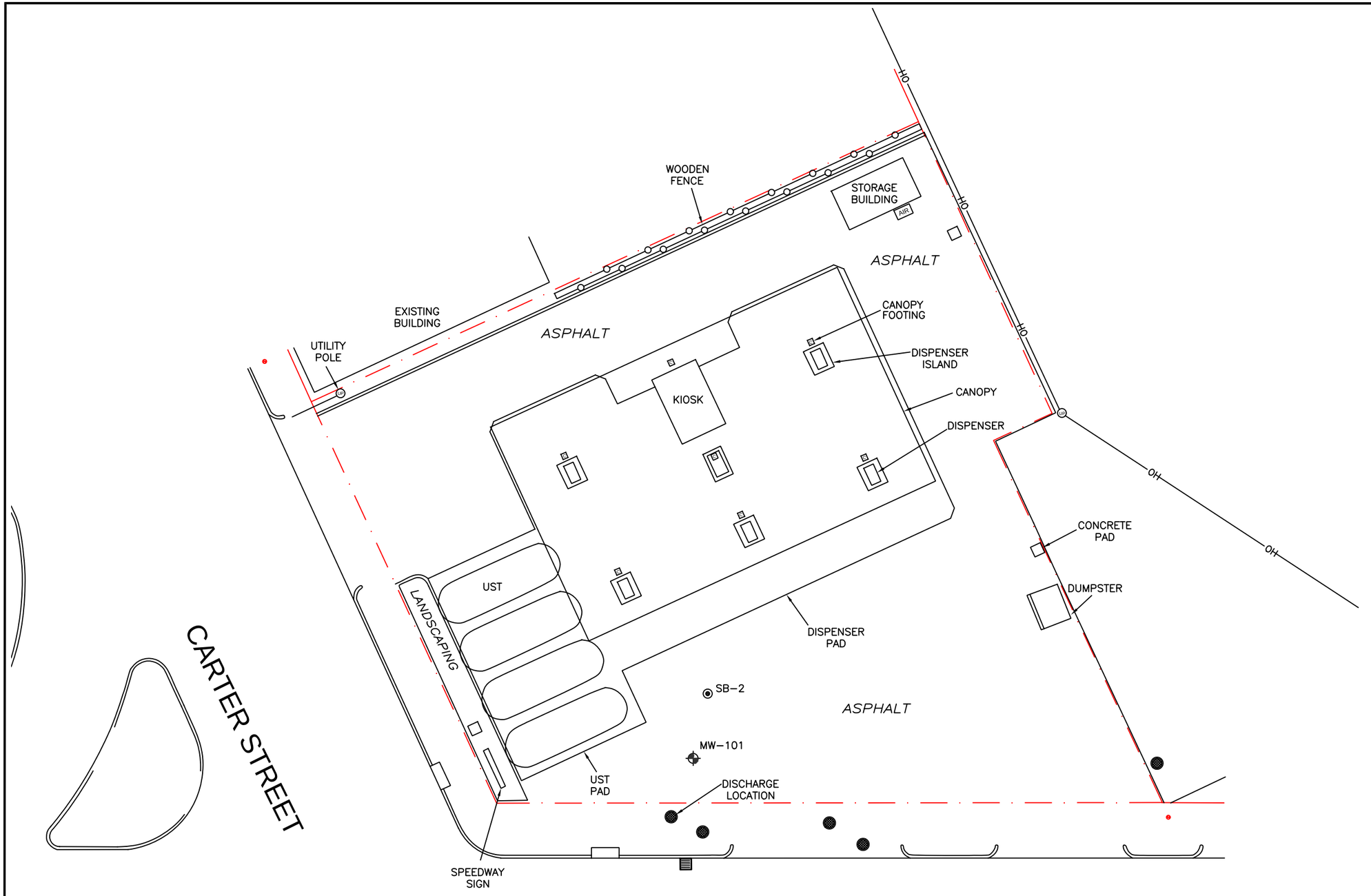
DRAWING TITLE

PROCESS FLOW DIAGRAM

PREPARED FOR

SPEEDWAY STORE #2457
251 EVERETT AVENUE
CHELSEA, MASSACHUSETTS

EnviroTrac
ENVIRONMENTAL SERVICES
2 MERCHANT STREET, SUITE 2, SHARON, MA
PHONE: (781) 793–0074 FAX: (781) 793–7877



LEGEND

- MONITORING WELL
- SOIL BORING
- FIRE HYDRANT
- CATCH BASIN
- MANHOLE
- AIR PUMP
- PROPERTY LINE
- OVERHEAD ELECTRIC AND COMMUNICATION

APPROXIMATE SCALE

0 10 FT 20

1 IN. = 20 FT.

SOURCES: SPEEDWAY LLC "PROPOSED PLAN", DATED 08/08/2017; CITY OF CHELSEA DPW PLAN "PHASE IV GATEWAY CENTER INFRASTRUCTURE IMPROVEMENTS – CARTER STREET SEWER PLAN AND PROFILE", DATED 12/2017.

ALL LOCATIONS ARE APPROXIMATE. NOT FOR CONSTRUCTION PURPOSES.

DRAWN/REVISED BY: DT/PDC
REVISION DATE: 08/08/2018

FIGURE 3

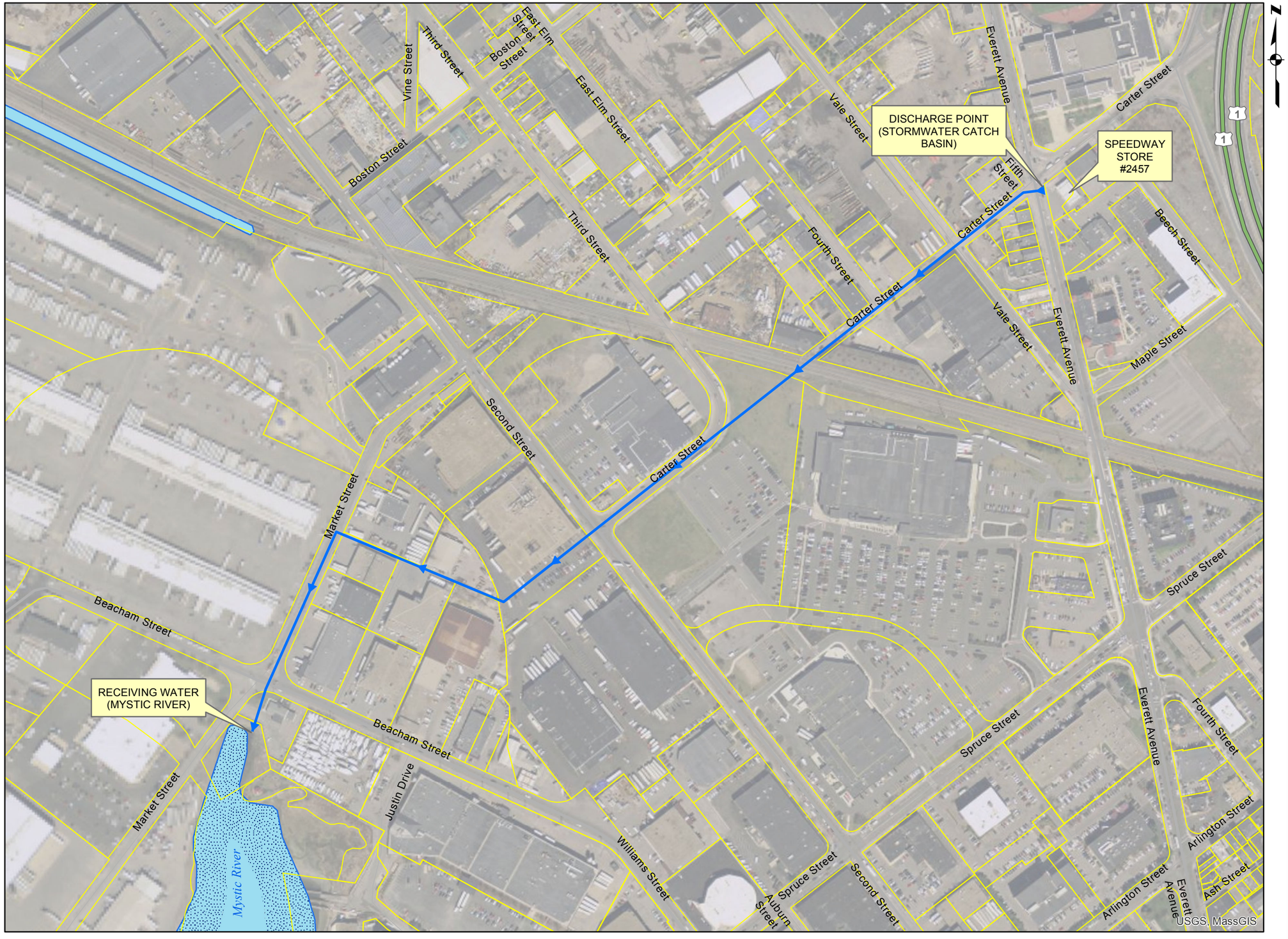
DRAWING TITLE

DISCHARGE LOCATION PLAN

PREPARED FOR

SPEEDWAY STORE #2457
251 EVERETT AVENUE
CHELSEA, MASSACHUSETTS

EnviroTrac
2 Merchant Street, Suite 2
Sharon, Massachusetts 02067
PHONE: (781)793-0074 FAX: (781)793-7877



LEGEND

- DISCHARGE PATH
- MassGIS Level 3 Parcels
- Perennial Stream
- Intermittent Stream
- Shoreline
- Intermittent Shoreline
- Manmade Shoreline
- Ditch/Canal
- Aqueduct
- Dam
- Channel in Water
- Pond, Lake, Ocean
- Reservoir
- Wetland
- Salt Wetland
- Submerged Wetland
- Cranberry Bog
- Tidal Flat
- Inundated Area

Data Source: Bureau of Geographic Information (MassGIS), Commonwealth of Massachusetts, Executive Office of Technology and Security Services.

0 150 300 600

Feet Feet

SCALE: 1 inch=300 feet

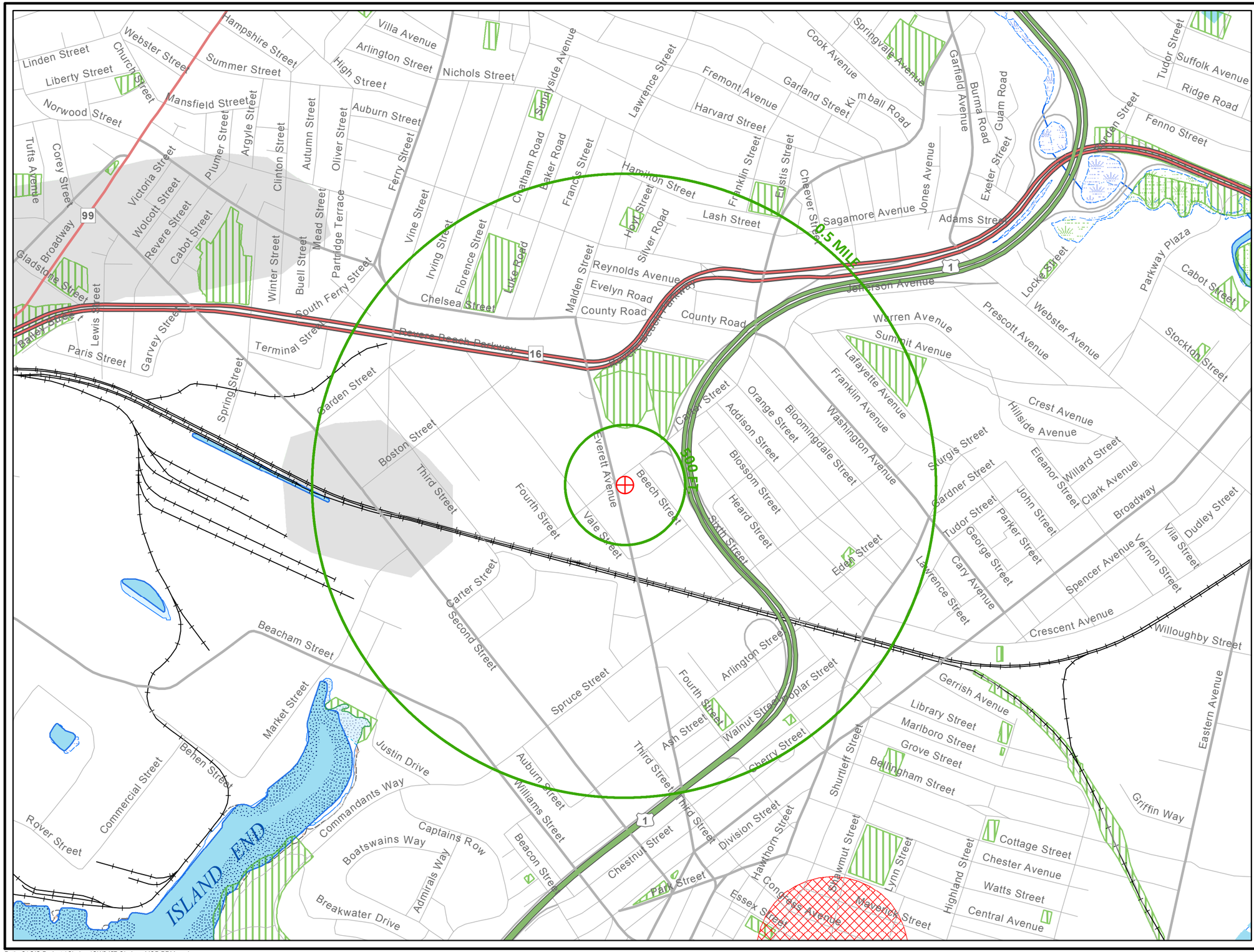
REVISED BY: RHB
REVISION DATE: 8/8/2018

FIGURE **4**

CONSTRUCTION DEWATERING DISCHARGE MAP

SPEEDWAY STORE #2457
251 EVERETT AVENUE
CHELSEA, MASSACHUSETTS

EnviroTrac
Environmental Services



LEGEND

- *Railroads*
- *Pipeline*
- *Pipeline Arbitrary Extension*
- *Solid Waste Landfills*
- *EPA Sole Source Aquifer*
- *NHESP Priority Habitats of Rare Species*
- *NHESP Certified Vernal Pools*
- *ACECs*
- *Protected Open Space*

Roads

- *Limited Access Highway*
- *Multi-lane Hwy, not limited access*
- *Other Numbered Highway*
- *Major Road, Collector*
- *Minor Road, Arterial*

USGS Hydrography

- *Perennial Stream*
- *Intermittent Stream*
- *Shoreline*
- *Ditch/Canal*
- *Aqueduct*
- *Dam*

DEP Wetlands

- *Marsh/Bog*
- *Wooded Marsh*
- *Cranberry Bog*
- *Salt Marsh*
- *Open Water*
- *Reservoir (with PWSID)*
- *Tidal Flats*
- *Beach/Dune*

Public Water Supplies

- *Community Groundwater Source*
- *Surface Water Intake*
- *Non-Community Groundwater Source*
- *Emergency Surface Water*
- *DEP Approved Zone IIs*
- *Interim Wellhead Protection Areas*
- *Surface Water Supply Zone A*

Non-Potential Drinking Water Source Areas

- *High-Yield*
- *Medium-Yield*

Potentially Productive Aquifers

- *High-Yield*
- *Medium-Yield*

Data Source: Bureau of Geographic Information (MassGIS), Commonwealth of Massachusetts, Executive Office of Technology and Security Services.

0 800 1,600
Feet Feet
APPROXIMATE SCALE

REVISED BY: RHB
REVISION DATE: 8/7/2018

FIGURE
5

MCP PRIORITY RESOURCE MAP

500 foot and 0.5 mile Radii

SPEEDWAY STORE #2457
251 EVERETT AVENUE
CHELSEA, MASSACHUSETTS

EnviroTrac
Environmental Services

Path: C:\GIS Projects\Chelsea\SW2457 Chelsea MCP PRM.mxd

TABLE

TABLE 1
SUMMARY OF GROUNDWATER DATA - RGP

Speedway Store #2457
251 Everett Avenue
Chelsea, Massachusetts

Sample ID	MW-101	SW-1	RGP Part 2	RGP ML
Sample Date	05/04/2018	05/04/2018	Effluent Limits	
VOLATILE ORGANIC COMPOUNDS (µg/L)				
Benzene	<1.0	--	5	--
Toluene	<1.0	--	NE	--
Ethylbenzene	<2.0	--	NE	--
m+p Xylene	0.73	--	NE	--
o-Xylene	<2.0	--	NE	--
Total Xylenes	<3.0	--	NE	--
Total BTEX	0.73	--	100	--
Acetone	<50	--	7,970	--
SEMIVOLATILE ORGANIC COMPOUNDS (µg/L)				
Total Group I PAHs	ND	--	1	--
Benzo(a)anthracene	<0.056	--	0.0038	0.5
Benzo(a)pyrene	<0.11	--	0.0038	0.5
Benzo(b)fluoranthene	<0.056	--	0.0038	0.5
Benzo(k)fluoranthene	<0.22	--	0.0038	0.5
Chrysene	<0.22	--	0.0038	0.5
Dibenzo(a,h)anthracene	<0.22	--	0.0038	0.5
Indeno(1,2,3-cd)pyrene	<0.22	--	0.0038	0.5
Total Group II PAHs	ND	--	100	--
Acenaphthene	<5.6	--	NE	--
Acenaphthylene	<5.6	--	NE	--
Anthracene	<5.6	--	NE	--
Benzo(g,h,i)perylene	<5.6	--	NE	--
Fluoranthene	<5.6	--	NE	--
Fluorene	<5.6	--	NE	--
Naphthalene	<5.6	--	20	--
Phenanthrene	<5.6	--	NE	--
Pyrene	<5.6	--	NE	--
Other SVOCs				
Pentachlorophenol	<1.1	--	1,000	--
2-Methylnaphthalene	<5.6	--	NE	--
Phenol	<11	--	300	--
All other SVOCs	ND	--	NE	--
FUELS PARAMETERS (µg/L)				
Total Petroleum Hydrocarbons	<1,600	--	5,000	--
Ethanol	<100	--	Report mg/L	--
Methyl Tert Butyl Ether	0.72	--	20	--
Tertiary Butyl Alcohol	3.0	--	120	--
tert-Amyl Methyl Ether	<0.50	--	90	--
INORGANICS (µg/L)	Total	Total		
Ammonia	1,810	56	Report mg/L	--
Chloride	3,700,000	--	Report	--
Total Residual Chlorine	*<20*	--	7.5	50
Total Suspended Solids	24,000	--	30,000	--
Antimony	<5.0	<5.0	206	--
Arsenic	<5.0	28	36	--
Cadmium	<1.0	<1.0	8.8	--
Chromium III	ND	ND	100	--
Chromium VI	<4.0	<4.0	50	--
Copper	32	63	3.1	--
Iron	2,500	770	5,000	--
Lead	<2.5	4.5	8.1	--
Mercury	<0.1	<0.1	0.94	--
Nickel	16	7.3	8.2	--
Selenium	<25	95	71	--
Silver	<1.0	<1.0	1.9	--
Zinc	<24	<24	81	--
Cyanide	*<5*	--	1.0	5
GENERAL CHEMISTRY (mg/L)				
Hardness, Total as $CaCO_3$ (mg/L)	1,160	2,500	NE	--
pH (su)	6.5	8.0	6.5-8.5	--
Temperature (^oF)	50.5	59.8	85	--

NOTES:

-- is not sampled.
NE is not established.
mg/L is milligrams per liter.
µg/L is micrograms per liter.
su is standard units.
°F is degrees Fahrenheit.
ND is not detected.
NA is not applicable.
NA is not applicable.

RGP is Remediation General Permit.
VOC is volatile organic compound.
SVOC is semivolatile organic compound.
PAH is polycyclic aromatic hydrocarbon.
BTEX is total of benzene, toluene, ethylbenzene, and xylenes.
< Indicates that the compound was not detected at the laboratory detection limit listed.
ML is the lowest method minimum level (ML) of the U.S. EPA-approved analytical methods.
(shown only where the ML is greater than the RGP Effluent Limit)
ITALICS indicates laboratory reporting limit is greater than applicable RGP Effluent limit.
BOLD indicates concentrations greater than the laboratory detection limit.
RED indicates concentrations greater than applicable RGP Effluent limits.

EnviroTrac Environmental Services

APPENDIX A

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:
Speedway Store #2457</td><td colspan="3">Site address: 251 Everett Avenue
Street:</td></tr>
<tr><td>City: Chelsea</td><td>State: MA</td><td>Zip: 02150</td></tr>
<tr><td rowspan="4">2. Site owner
Speedway LLC

Owner is (check one): ☐ Federal ☐ State/Tribal ■ Private
☐ Other; if so, specify:</td><td colspan="3">Contact Person: John Engdahl</td></tr>
<tr><td colspan="2">Telephone: 732-738-2923</td><td>Email: jjengdahl@speedway.com</td></tr>
<tr><td colspan="3">Mailing address: 500 Speedway Drive
Street:</td></tr>
<tr><td>City: Enon</td><td>State: OH</td><td>Zip: 45323</td></tr>
<tr><td rowspan="4">3. Site operator, if different than owner
EnviroTrac Ltd.</td><td colspan="3">Contact Person: Patrick D. Corcoran, LSP</td></tr>
<tr><td colspan="2">Telephone: 781-793-0074</td><td>Email: patrickc@envirotrac.com</td></tr>
<tr><td colspan="3">Mailing address:
Street: 2 Merchant Street, Suite 2</td></tr>
<tr><td>City: Sharon</td><td>State: MA</td><td>Zip: 02067</td></tr>
<tr><td>4. NPDES permit number assigned by EPA:

NPDES permit is (check all that apply: ■ RGP ☐ DGP ☐ CGP
☐ MSGP ☐ Individual NPDES permit ☐ Other; if so, specify:</td><td colspan="3">5. Other regulatory program(s) that apply to the site (check all that apply):
■ MA Chapter 21e; list RTN(s):
3-3228
☐ 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):
Island End River, Tributary to the Mystic River	Mystic River Segment MA71-03	Class SB, Shellfishing (restricted), CSO

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: Wetland area around receiving water

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. Segment on 303(d) list for ammonia (un-ionized), fecal coliform, foam/flocs/scum/oil slicks, contaminants in shellfish, dissolved oxygen, PCB in fish

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.	N/A for receiving water
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.	1

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: June 19, 2018, Catherine Vakalopoulos, MassDEP

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: fuels parameters, non-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): City of Chelsea stormwater outfall IE-5 to the Island End River, near the intersection of Beacham and Market Streets, approximately 4,600 feet southwest of the property.	Outfall location(s): (Latitude, Longitude) 42.39444, -71.04974
Discharges enter the receiving water(s) via (check any that apply): ■ Direct discharge to the receiving water ☐ Indirect discharge, if so, specify: The discharge pathway is via a storm water main with an outfall to the Island End River near the intersection of Beacham and Market Streets. ☐ 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: 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): September 2018 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	4500NH3	200	1,810	1,810	Report mg/L	---
Chloride		✓	1	300/9056A	10,000	3,700,000	3,700,000	Report µg/l	---
Total Residual Chlorine	✓		1	4500CL F	20	<20	<20	0.2 mg/L	7.5 µg/L
Total Suspended Solids		✓	1	2540D-11	4,000	24,000	24,000	30 mg/L	---
Antimony	✓		1	200.8	5	<5	<5	206 µg/L	640 µg/L
Arsenic	✓		1	200.8	5	<5	<5	104 µg/L	36 µg/L
Cadmium	✓		1	200.8	1.0	<1.0	<1.0	10.2 µg/L	8.8 µg/L
Chromium III	✓		1	200.8	N/A	0	0	323 µg/L	100 µg/L
Chromium VI	✓		1	7196A	4	<4	<4	323 µg/L	50 µg/L
Copper		✓	1	200.8	24	32	32	242 µg/L	3.1 µg/L
Iron		✓	1	200.8	50	2,500	2,500	5,000 µg/L	---
Lead	✓		1	200.8	2.5	<2.5	<2.5	160 µg/L	8.1 µg/L
Mercury	✓		1	245.1	0.1	<0.1	<0.1	0.739 µg/L	0.94 µg/L
Nickel		✓	1	200.8	1.9	16	16	1,450 µg/L	8.2 µg/L
Selenium	✓		1	200.8	25	<25	<25	235.8 µg/L	71 µg/L
Silver	✓		1	200.8	1	<1	<1	35.1 µg/L	1.9 µg/L
Zinc	✓		1	200.8	24	<24	<24	420 µg/L	81 µg/L
Cyanide	✓		1	335.4	5	<5	<5	178 mg/L	1.0 µg/L
B. Non-Halogenated VOCs									
Total BTEX		✓	1	624	2	0.73	0.73	100 µg/L	---
Benzene		✓	1	624	1.0	<1	<1	5.0 µg/L	---
1,4 Dioxane	✓		0	N/A	N/A	N/A	N/A	200 µg/L	---
Acetone	✓		1	624	50	<50	<50	7.97 mg/L	---
Phenol	✓		0	N/A	N/A	N/A	N/A	1,080 µg/L	300 µg/L

Parameter	Known or believed absent	Known or believed present	# of samples	Test method (#)	Detection limit (µg/l)	Influent		Effluent Limitations	
						Daily maximum (µg/l)	Daily average (µg/l)	TBEL	WQBEL
C. Halogenated VOCs									
Carbon Tetrachloride	✓		0	N/A	N/A	N/A	N/A	4.4 µg/L	1.6 µg/L
1,2 Dichlorobenzene	✓		0	N/A	N/A	N/A	N/A	600 µg/L	---
1,3 Dichlorobenzene	✓		0	N/A	N/A	N/A	N/A	320 µg/L	---
1,4 Dichlorobenzene	✓		0	N/A	N/A	N/A	N/A	5.0 µg/L	---
Total dichlorobenzene	✓		0	N/A	N/A	N/A	N/A	763 µg/L in NH	---
1,1 Dichloroethane	✓		0	N/A	N/A	N/A	N/A	70 µg/L	---
1,2 Dichloroethane	✓		0	N/A	N/A	N/A	N/A	5.0 µg/L	---
1,1 Dichloroethylene	✓		0	N/A	N/A	N/A	N/A	3.2 µg/L	---
Ethylene Dibromide	✓		0	N/A	N/A	N/A	N/A	0.05 µg/L	---
Methylene Chloride	✓		0	N/A	N/A	N/A	N/A	4.6 µg/L	---
1,1,1 Trichloroethane	✓		0	N/A	N/A	N/A	N/A	200 µg/L	---
1,1,2 Trichloroethane	✓		0	N/A	N/A	N/A	N/A	5.0 µg/L	---
Trichloroethylene	✓		0	N/A	N/A	N/A	N/A	5.0 µg/L	---
Tetrachloroethylene	✓		0	N/A	N/A	N/A	N/A	5.0 µg/L	3.3 µg/L
cis-1,2 Dichloroethylene	✓		0	N/A	N/A	N/A	N/A	70 µg/L	---
Vinyl Chloride	✓		0	N/A	N/A	N/A	N/A	2.0 µg/L	---
D. Non-Halogenated SVOCs									
Total Phthalates	✓		0	N/A	N/A	N/A	N/A	190 µg/L	---
Diethylhexyl phthalate	✓		0	N/A	N/A	N/A	N/A	101 µg/L	2.2 µg/L
Total Group I PAHs	✓		1	625	N/A	0	0	1.0 µg/L	---
Benzo(a)anthracene	✓		1	625	0.056	<0.056	<0.056	As Total PAHs	0.0038 µg/L
Benzo(a)pyrene	✓		1	625	0.11	<0.11	<0.11		0.0038 µg/L
Benzo(b)fluoranthene	✓		1	625	0.056	<0.056	<0.056		0.0038 µg/L
Benzo(k)fluoranthene	✓		1	625	0.22	<0.22	<0.22		0.0038 µg/L
Chrysene	✓		1	625	0.22	<0.22	<0.22		0.0038 µg/L
Dibenzo(a,h)anthracene	✓		1	625	0.22	<0.22	<0.22		0.0038 µg/L
Indeno(1,2,3-cd)pyrene	✓		1	625	0.22	<0.22	<0.22		0.0038 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
Total Group II PAHs		✓	1	625	N/A	0	0	100 µg/L	---
Naphthalene		✓	1	625	5.6	<5.6	<5.6	20 µg/L	---
E. Halogenated SVOCs									
Total PCBs	✓		0	N/A	N/A	N/A	N/A	0.000064 µg/L	---
Pentachlorophenol	✓		0	N/A	N/A	N/A	N/A	1.0 µg/L	---
F. Fuels Parameters									
Total Petroleum Hydrocarbons		✓	1	1664A	1,600	<1,600	<1,600	5.0 mg/L	---
Ethanol	✓		1	8015C	100	<100	<100	Report mg/L	---
Methyl-tert-Butyl Ether	✓		1	624	2.0	0.72	0.72	70 µg/L	20 µg/L
tert-Butyl Alcohol	✓		1	624	20	3.0	3.0	120 µg/L in MA 40 µg/L in NH	---
tert-Amyl Methyl Ether	✓		1	624	0.5	<0.5	<0.5	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	2340C-11	10	1,160	1,160		
pH		✓	1	4500HB		6.5	6.5		

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:
Venturi aerator

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

Groundwater will be pumped into a frac tank for settlement. Groundwater in the frac tank will be recirculated through parallel venturi aerators to aid in metal oxidation & precipitation. From the frac tank, groundwater will be pumped through two parallel 10-25 micron bag filter units to remove suspended solids. Groundwater will then flow through two granular activated carbon vessels arranged in series for treatment and then two parallel cartridge filters units with 1-5 micron filters to remove suspended sediments. (Refer to Figure 2).

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: Granular activated carbon vessels

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: Cartridge filters (to be installed in parallel to minimize flow limitations) Is use of a flow meter feasible? (check one): ■ Yes ☐ No, if so, provide justification:	100
Provide the proposed maximum effluent flow in gpm.	100
Provide the average effluent flow in gpm.	50-75
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:
No chemical additives will be used.

2. Provide the following information for each chemical/additive, using attachments, if necessary:
No chemical additives will be used.
a. Product name, chemical formula, and manufacturer of the chemical/additive;
b. Purpose or use of the chemical/additive or remedial agent;
c. Material Safety Data Sheet (MSDS) and Chemical Abstracts Service (CAS) Registry number for each chemical/additive;
d. The frequency (hourly, daily, etc.), duration (hours, days), quantity (maximum and average), and method of application for the chemical/additive;
e. Any material compatibility risks for storage and/or use including the control measures used to minimize such risks; and
f. If available, the vendor's reported aquatic toxicity (NOAEL and/or LC50 in percent for aquatic organism(s)).

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

G. Endangered Species Act eligibility determination

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

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

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

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

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

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

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

H. National Historic Preservation Act eligibility determination

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

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

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

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

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

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

I. Supplemental information

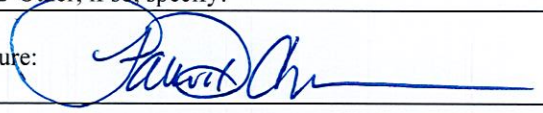
Describe any supplemental information being provided with the NOI. Include attachments if required or otherwise necessary.

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

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

J. Certification requirement

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

BMPP certification statement:	I certify that a BMPP meeting the requirements of this general permit will be developed and implemented upon initiation of discharge.
Notification provided to the appropriate State, including a copy of this NOI, if required.	Check one: Yes ☐ No ☐
Notification provided to the municipality in which the discharge is located, including a copy of this NOI, if requested.	Check one: Yes ■ No ☐
Notification provided to the owner of a private or municipal storm sewer system, if such system is used for site discharges, including a copy of this NOI, if requested.	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: 08/09/2018
Print Name and Title: Patrick D. Corcoran, LSP, Senior Project Manager	

APPENDIX B

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

May 15, 2018

Dena Tomassi
EnviroTrac Ltd.
2 Merchant Street, Suite 2
Sharon, MA 02067

Project Location: 251 Everett Ave., Chelsea, MA
Client Job Number:
Project Number: 03.SW2457.01
Laboratory Work Order Number: 18E0250

Enclosed are results of analyses for samples received by the laboratory on May 4, 2018. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Aaron L. Benoit
Project Manager

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con-test® ANALYTICAL LABORATORY

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

EnviroTrac Ltd.
2 Merchant Street, Suite 2
Sharon, MA 02067
ATTN: Dena Tomassi

REPORT DATE: 5/15/2018

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 03.SW2457.01

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 18E0250

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

PROJECT LOCATION: 251 Everett Ave., Chelsea, MA

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
MW-101	18E0250-01	Ground Water		EPA 1664B	
				EPA 200.7	
				EPA 200.8	
				EPA 245.1	
				EPA 300.0	NY11393/MA-MAI138/MA1110
				EPA 335.4	NY11393/MA-MAI138/MA1110
				EPA 624	
				EPA 625	
				EPA 625.1	
				SM19-22 4500 NH3 C	MA M-MA-086/CT PH-0574/NY11148
				SM21-22 2340C	
				SM21-22 2540D	
				SM21-22 3500 Cr B	
				SM21-22 4500 CL G	
				SM21-22 4500 H B	
				SW-846 7196A	
				SW-846 8260C	
				Tri Chrome Calc.	
SW-1	18E0250-02	Surface 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 2340C	
				SM21-22 3500 Cr B	
				SM21-22 4500 H B	
				SW-846 7196A	
				Tri Chrome Calc.	
MW-101	18E0250-03	Ground Water		EPA 200.7	
				EPA 200.8	
				EPA 245.1	

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.

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

EPA 200.8

Qualifications:

DL-15

Sample required a dilution due to low internal standard recovery of the lesser diluted digestion, reporting limit is elevated.

Analyte & Samples(s) Qualified:

Antimony
18E0250-01[MW-101], 18E0250-01RE1[MW-101], 18E0250-02[SW-1]

Arsenic
18E0250-01[MW-101], 18E0250-01RE1[MW-101], 18E0250-02[SW-1]

Cadmium
18E0250-01[MW-101], 18E0250-01RE1[MW-101], 18E0250-02[SW-1]

Chromium
18E0250-01[MW-101], 18E0250-01RE1[MW-101], 18E0250-02[SW-1]

Copper
18E0250-01[MW-101], 18E0250-01RE1[MW-101], 18E0250-02[SW-1]

Lead
18E0250-01[MW-101], 18E0250-01RE1[MW-101], 18E0250-02[SW-1], 18E0250-03[MW-101]

Nickel
18E0250-01[MW-101], 18E0250-01RE1[MW-101], 18E0250-02[SW-1]

Selenium
18E0250-01[MW-101], 18E0250-01RE1[MW-101], 18E0250-02[SW-1]

Silver
18E0250-01[MW-101], 18E0250-01RE1[MW-101], 18E0250-02[SW-1]

Zinc
18E0250-01[MW-101], 18E0250-01RE1[MW-101], 18E0250-02[SW-1]

EPA 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
18E0250-01[MW-101], B202662-BLK1, B202662-BS1, B202662-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
18E0250-01[MW-101], B202662-BLK1, B202662-BS1, B202662-BSD1

V-05

Continuing calibration did not meet method specifications and was biased on the low side for this compound. Reported result is estimated.

Analyte & Samples(s) Qualified:

Benzidine
18E0250-01[MW-101], B202662-BLK1, B202662-BS1, B202662-BSD1

Di-n-octylphthalate
18E0250-01[MW-101]

Hexachlorocyclopentadiene
B202662-BLK1, B202662-BS1, B202662-BSD1

SM21-22 4500 H B

Qualifications:

H-05

Holding time was exceeded. pH analysis should be performed immediately at time of sampling. Nominal 15 minute holding time was exceeded.

Analyte & Samples(s) Qualified:

pH
18E0250-01[MW-101], 18E0250-02[SW-1]

SW-846 8260C

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

Qualifications:

V-16

Response factor is less than method specified minimum acceptable value. Reduced precision and accuracy may be associated with reported result.

Analyte & Samples(s) Qualified:

Ethanol

18E0250-01[MW-101], B202831-BLK1, B202831-BS1, B202831-BSD1, S022981-CCV1

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
Project Manager

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

Project Location: 251 Everett Ave., Chelsea, MA Sample Description: Work Order: 18E0250

Date Received: 5/4/2018

Field Sample #: MW-101 Sampled: 5/4/2018 09:16

Sample ID: 18E0250-01

Sample Matrix: Ground Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Ethanol	ND	100	µg/L	1	V-16	SW-846 8260C	5/8/18	5/9/18 10:24	LBD

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
1,2-Dichloroethane-d4	98.4	70-130		5/9/18 10:24
Toluene-d8	99.0	70-130		5/9/18 10:24
4-Bromofluorobenzene	100	70-130		5/9/18 10:24

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

Project Location: 251 Everett Ave., Chelsea, MA Sample Description: Work Order: 18E0250

Date Received: 5/4/2018

Field Sample #: MW-101 Sampled: 5/4/2018 09:16

Sample ID: 18E0250-01

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	ND	50	1.7	µg/L	1		EPA 624	5/8/18	5/8/18 12:34	EEH
tert-Amyl Methyl Ether (TAME)	ND	0.50	0.28	µg/L	1		EPA 624	5/8/18	5/8/18 12:34	EEH
Benzene	ND	1.0	0.34	µg/L	1		EPA 624	5/8/18	5/8/18 12:34	EEH
tert-Butyl Alcohol (TBA)	3.0	20	2.9	µg/L	1	J	EPA 624	5/8/18	5/8/18 12:34	EEH
Ethylbenzene	ND	2.0	0.37	µg/L	1		EPA 624	5/8/18	5/8/18 12:34	EEH
Methyl tert-Butyl Ether (MTBE)	0.72	2.0	0.24	µg/L	1	J	EPA 624	5/8/18	5/8/18 12:34	EEH
Toluene	ND	1.0	0.35	µg/L	1		EPA 624	5/8/18	5/8/18 12:34	EEH
Xylenes (total)	ND	3.0		µg/L	1		EPA 624	5/8/18	5/8/18 12:34	EEH
m+p Xylene	0.73	2.0	0.65	µg/L	1	J	EPA 624	5/8/18	5/8/18 12:34	EEH
o-Xylene	ND	2.0	0.35	µg/L	1		EPA 624	5/8/18	5/8/18 12:34	EEH

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
1,2-Dichloroethane-d4	85.5	70-130		5/8/18 12:34
Toluene-d8	97.2	70-130		5/8/18 12:34
4-Bromofluorobenzene	96.8	70-130		5/8/18 12:34

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

Project Location: 251 Everett Ave., Chelsea, MA | Sample Description: | Work Order: 18E0250

Date Received: 5/4/2018

Field Sample #: MW-101 | Sampled: 5/4/2018 09:16

Sample ID: 18E0250-01

Sample Matrix: Ground Water

Semivolatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Benzo(a)anthracene (SIM)	ND	0.056	µg/L	1		EPA 625	5/7/18	5/11/18 22:44	IMR
Benzo(a)pyrene (SIM)	ND	0.11	µg/L	1		EPA 625	5/7/18	5/11/18 22:44	IMR
Benzo(b)fluoranthene (SIM)	ND	0.056	µg/L	1		EPA 625	5/7/18	5/11/18 22:44	IMR
Benzo(k)fluoranthene (SIM)	ND	0.22	µg/L	1		EPA 625	5/7/18	5/11/18 22:44	IMR
Bis(2-ethylhexyl)phthalate (SIM)	ND	1.1	µg/L	1		EPA 625	5/7/18	5/11/18 22:44	IMR
Chrysene (SIM)	ND	0.22	µg/L	1		EPA 625	5/7/18	5/11/18 22:44	IMR
Dibenz(a,h)anthracene (SIM)	ND	0.22	µg/L	1		EPA 625	5/7/18	5/11/18 22:44	IMR
Indeno(1,2,3-cd)pyrene (SIM)	ND	0.22	µg/L	1		EPA 625	5/7/18	5/11/18 22:44	IMR
Pentachlorophenol (SIM)	ND	1.1	µg/L	1		EPA 625	5/7/18	5/11/18 22:44	IMR

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
2-Fluorophenol	64.2	15-110		5/11/18 22:44
Phenol-d6	45.0	15-110		5/11/18 22:44
Nitrobenzene-d5	78.3	30-130		5/11/18 22:44
2-Fluorobiphenyl	62.0	30-130		5/11/18 22:44
2,4,6-Tribromophenol	94.4	15-110		5/11/18 22:44
p-Terphenyl-d14	62.6	30-130		5/11/18 22:44

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

Project Location: 251 Everett Ave., Chelsea, MA Sample Description: Work Order: 18E0250

Date Received: 5/4/2018

Field Sample #: MW-101 Sampled: 5/4/2018 09:16

Sample ID: 18E0250-01

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
Acenaphthene	ND	5.6	1.7	µg/L	1		EPA 625.1	5/7/18	5/9/18 16:23	BGL
Acenaphthylene	ND	5.6	1.5	µg/L	1		EPA 625.1	5/7/18	5/9/18 16:23	BGL
Anthracene	ND	5.6	1.7	µg/L	1		EPA 625.1	5/7/18	5/9/18 16:23	BGL
Benzidine	ND	22	11	µg/L	1	V-04, V-05, L-04	EPA 625.1	5/7/18	5/9/18 16:23	BGL
Benzo(g,h,i)perylene	ND	5.6	2.5	µg/L	1		EPA 625.1	5/7/18	5/9/18 16:23	BGL
4-Bromophenylphenylether	ND	11	1.5	µg/L	1		EPA 625.1	5/7/18	5/9/18 16:23	BGL
Butylbenzylphthalate	ND	11	2.2	µg/L	1		EPA 625.1	5/7/18	5/9/18 16:23	BGL
4-Chloro-3-methylphenol	ND	11	1.5	µg/L	1		EPA 625.1	5/7/18	5/9/18 16:23	BGL
Bis(2-chloroethoxy)methane	ND	11	2.0	µg/L	1		EPA 625.1	5/7/18	5/9/18 16:23	BGL
Bis(2-chloroethyl)ether	ND	11	1.9	µg/L	1		EPA 625.1	5/7/18	5/9/18 16:23	BGL
Bis(2-chloroisopropyl)ether	ND	11	2.5	µg/L	1		EPA 625.1	5/7/18	5/9/18 16:23	BGL
2-Chloronaphthalene	ND	11	1.7	µg/L	1		EPA 625.1	5/7/18	5/9/18 16:23	BGL
2-Chlorophenol	ND	11	1.4	µg/L	1		EPA 625.1	5/7/18	5/9/18 16:23	BGL
4-Chlorophenylphenylether	ND	11	1.6	µg/L	1		EPA 625.1	5/7/18	5/9/18 16:23	BGL
Di-n-butylphthalate	ND	11	2.0	µg/L	1		EPA 625.1	5/7/18	5/9/18 16:23	BGL
1,3-Dichlorobenzene	ND	5.6	1.7	µg/L	1		EPA 625.1	5/7/18	5/9/18 16:23	BGL
1,4-Dichlorobenzene	ND	5.6	1.7	µg/L	1		EPA 625.1	5/7/18	5/9/18 16:23	BGL
1,2-Dichlorobenzene	ND	5.6	1.5	µg/L	1		EPA 625.1	5/7/18	5/9/18 16:23	BGL
3,3-Dichlorobenzidine	ND	11	2.6	µg/L	1		EPA 625.1	5/7/18	5/9/18 16:23	BGL
2,4-Dichlorophenol	ND	11	1.6	µg/L	1		EPA 625.1	5/7/18	5/9/18 16:23	BGL
Diethylphthalate	ND	11	1.7	µg/L	1		EPA 625.1	5/7/18	5/9/18 16:23	BGL
2,4-Dimethylphenol	ND	11	4.1	µg/L	1		EPA 625.1	5/7/18	5/9/18 16:23	BGL
Dimethylphthalate	ND	11	1.7	µg/L	1		EPA 625.1	5/7/18	5/9/18 16:23	BGL
4,6-Dinitro-2-methylphenol	ND	11	2.2	µg/L	1		EPA 625.1	5/7/18	5/9/18 16:23	BGL
2,4-Dinitrophenol	ND	11	3.7	µg/L	1		EPA 625.1	5/7/18	5/9/18 16:23	BGL
2,4-Dinitrotoluene	ND	11	2.0	µg/L	1		EPA 625.1	5/7/18	5/9/18 16:23	BGL
2,6-Dinitrotoluene	ND	11	1.7	µg/L	1		EPA 625.1	5/7/18	5/9/18 16:23	BGL
Di-n-octylphthalate	ND	11	2.4	µg/L	1	V-05	EPA 625.1	5/7/18	5/9/18 16:23	BGL
1,2-Diphenylhydrazine (as Azobenzene)	ND	11	2.8	µg/L	1		EPA 625.1	5/7/18	5/9/18 16:23	BGL
Fluoranthene	ND	5.6	2.0	µg/L	1		EPA 625.1	5/7/18	5/9/18 16:23	BGL
Fluorene	ND	5.6	1.6	µg/L	1		EPA 625.1	5/7/18	5/9/18 16:23	BGL
Hexachlorobenzene	ND	11	1.7	µg/L	1		EPA 625.1	5/7/18	5/9/18 16:23	BGL
Hexachlorobutadiene	ND	11	1.7	µg/L	1		EPA 625.1	5/7/18	5/9/18 16:23	BGL
Hexachlorocyclopentadiene	ND	11	2.1	µg/L	1		EPA 625.1	5/7/18	5/9/18 16:23	BGL
Hexachloroethane	ND	11	1.7	µg/L	1		EPA 625.1	5/7/18	5/9/18 16:23	BGL
Isophorone	ND	11	2.1	µg/L	1		EPA 625.1	5/7/18	5/9/18 16:23	BGL
Naphthalene	ND	5.6	1.9	µg/L	1		EPA 625.1	5/7/18	5/9/18 16:23	BGL
Nitrobenzene	ND	11	1.7	µg/L	1		EPA 625.1	5/7/18	5/9/18 16:23	BGL
2-Nitrophenol	ND	11	1.8	µg/L	1		EPA 625.1	5/7/18	5/9/18 16:23	BGL
4-Nitrophenol	ND	11	1.2	µg/L	1		EPA 625.1	5/7/18	5/9/18 16:23	BGL
N-Nitrosodimethylamine	ND	11	1.7	µg/L	1		EPA 625.1	5/7/18	5/9/18 16:23	BGL
N-Nitrosodiphenylamine	ND	11	2.1	µg/L	1		EPA 625.1	5/7/18	5/9/18 16:23	BGL
N-Nitrosodi-n-propylamine	ND	11	1.9	µg/L	1		EPA 625.1	5/7/18	5/9/18 16:23	BGL
2-Methylnaphthalene	ND	5.6	1.8	µg/L	1		EPA 625.1	5/7/18	5/9/18 16:23	BGL

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

Project Location: 251 Everett Ave., Chelsea, MA | Sample Description: | Work Order: 18E0250

Date Received: 5/4/2018

Field Sample #: MW-101 | Sampled: 5/4/2018 09:16

Sample ID: 18E0250-01

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
Phenanthrene	ND	5.6	1.5	µg/L	1		EPA 625.1	5/7/18	5/9/18 16:23	BGL
2-Methylphenol	ND	11	1.5	µg/L	1		EPA 625.1	5/7/18	5/9/18 16:23	BGL
Phenol	ND	11	1.1	µg/L	1		EPA 625.1	5/7/18	5/9/18 16:23	BGL
3/4-Methylphenol	ND	11	1.3	µg/L	1		EPA 625.1	5/7/18	5/9/18 16:23	BGL
Pyrene	ND	5.6	1.7	µg/L	1		EPA 625.1	5/7/18	5/9/18 16:23	BGL
1,2,4-Trichlorobenzene	ND	5.6	1.8	µg/L	1		EPA 625.1	5/7/18	5/9/18 16:23	BGL
2,4,6-Trichlorophenol	ND	11	1.7	µg/L	1		EPA 625.1	5/7/18	5/9/18 16:23	BGL

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
2-Fluorophenol	59.3	15-110		5/9/18 16:23
Phenol-d6	47.5	15-110		5/9/18 16:23
Nitrobenzene-d5	65.5	30-130		5/9/18 16:23
2-Fluorobiphenyl	56.5	30-130		5/9/18 16:23
2,4,6-Tribromophenol	64.9	15-110		5/9/18 16:23
p-Terphenyl-d14	64.0	30-130		5/9/18 16:23

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

Project Location: 251 Everett Ave., Chelsea, MA Sample Description: Work Order: 18E0250

Date Received: 5/4/2018

Field Sample #: MW-101 Sampled: 5/4/2018 09:16

Sample ID: 18E0250-01

Sample Matrix: Ground Water

Metals Analyses (Total)

Analyte	Results	RL	DL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Antimony	ND	5.0		µg/L	5	DL-15	EPA 200.8	5/9/18	5/10/18 12:26	WSD
Arsenic	ND	5.0		µg/L	5	DL-15	EPA 200.8	5/9/18	5/10/18 12:26	WSD
Cadmium	ND	1.0		µg/L	5	DL-15	EPA 200.8	5/9/18	5/10/18 12:26	WSD
Chromium	ND	50		µg/L	5	DL-15	EPA 200.8	5/9/18	5/10/18 12:26	WSD
Chromium, Trivalent	0.0			mg/L	1		Tri Chrome Calc.	5/9/18	5/10/18 12:26	WSD
Copper	32	5.0		µg/L	5	DL-15	EPA 200.8	5/9/18	5/10/18 12:26	WSD
Iron	2.5	0.050		mg/L	1		EPA 200.7	5/9/18	5/10/18 14:36	QNW
Lead	ND	2.5		µg/L	5	DL-15	EPA 200.8	5/9/18	5/10/18 12:26	WSD
Mercury	ND	0.00010		mg/L	1		EPA 245.1	5/9/18	5/10/18 9:54	EJB
Nickel	ND	25		µg/L	5	DL-15	EPA 200.8	5/9/18	5/10/18 12:26	WSD
Selenium	ND	25	11	µg/L	5	DL-15	EPA 200.8	5/9/18	5/10/18 12:26	WSD
Silver	ND	1.0		µg/L	5	DL-15	EPA 200.8	5/9/18	5/10/18 12:26	WSD
Zinc	ND	100		µg/L	5	DL-15	EPA 200.8	5/9/18	5/10/18 12:26	WSD

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

Project Location: 251 Everett Ave., Chelsea, MA Sample Description: Work Order: 18E0250

Date Received: 5/4/2018

Field Sample #: MW-101 Sampled: 5/4/2018 09:16

Sample ID: 18E0250-01

Sample Matrix: Ground Water

Metals Analyses (Dissolved)

Analyte	Results	RL	DL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Antimony	ND	5.0		µg/L	5	DL-15	EPA 200.8	5/10/18	5/11/18 10:46	WSD
Arsenic	ND	5.0		µg/L	5	DL-15	EPA 200.8	5/10/18	5/11/18 10:46	WSD
Cadmium	ND	1.0		µg/L	5	DL-15	EPA 200.8	5/10/18	5/11/18 10:46	WSD
Chromium	ND	50		µg/L	5	DL-15	EPA 200.8	5/10/18	5/11/18 10:46	WSD
Copper	24	5.0		µg/L	5	DL-15	EPA 200.8	5/10/18	5/11/18 10:46	WSD
Iron	0.75	0.050		mg/L	1		EPA 200.7	5/10/18	5/11/18 10:51	QNW
Lead	ND	2.5		µg/L	5	DL-15	EPA 200.8	5/10/18	5/11/18 10:46	WSD
Mercury	ND	0.00010		mg/L	1		EPA 245.1	5/10/18	5/11/18 9:15	EJB
Nickel	ND	25		µg/L	5	DL-15	EPA 200.8	5/10/18	5/11/18 10:46	WSD
Selenium	ND	25	11	µg/L	5	DL-15	EPA 200.8	5/10/18	5/11/18 10:46	WSD
Silver	ND	1.0		µg/L	5	DL-15	EPA 200.8	5/10/18	5/11/18 10:46	WSD
Zinc	ND	100		µg/L	5	DL-15	EPA 200.8	5/10/18	5/11/18 10:46	WSD

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

Project Location: 251 Everett Ave., Chelsea, MA Sample Description: Work Order: 18E0250

Date Received: 5/4/2018

Field Sample #: MW-101 Sampled: 5/4/2018 09:16

Sample ID: 18E0250-01

Sample Matrix: Ground Water

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

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Chlorine, Residual	ND	0.020	mg/L	1		SM21-22 4500 CL G	5/4/18	5/4/18 22:52	LED
Hexavalent Chromium	ND	0.0040	mg/L	1		SW-846 7196A	5/4/18	5/4/18 21:32	LED
Hexavalent Chromium	ND	0.0040	mg/L	1		SM21-22 3500 Cr B	5/4/18	5/4/18 21:32	LED
pH @18.6°C	6.5		pH Units	1	H-05	SM21-22 4500 H B	5/5/18	5/5/18 11:15	IS
Total Suspended Solids	24	2.2	mg/L	1		SM21-22 2540D	5/7/18	5/7/18 14:40	LL
Silica Gel Treated HEM (SGT-HEM)	ND	1.6	mg/L	1		EPA 1664B	5/8/18	5/8/18 12:30	LL

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

Project Location: 251 Everett Ave., Chelsea, MA Sample Description: Work Order: 18E0250

Date Received: 5/4/2018

Field Sample #: MW-101 Sampled: 5/4/2018 09:16

Sample ID: 18E0250-01

Sample Matrix: Ground Water

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

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Hardness	1160	10	mg/L	1		SM21-22 2340C		5/11/18 0:00	SGS

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

Project Location: 251 Everett Ave., Chelsea, MA Sample Description: Work Order: 18E0250

Date Received: 5/4/2018

Field Sample #: MW-101 Sampled: 5/4/2018 09:16

Sample ID: 18E0250-01

Sample Matrix: Ground Water

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

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Ammonia as N	1.81	0.075	mg/L	1		SM19-22 4500 NH3 C		5/8/18 22:22	ALPHA

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

Project Location: 251 Everett Ave., Chelsea, MA Sample Description: Work Order: 18E0250

Date Received: 5/4/2018

Field Sample #: MW-101 Sampled: 5/4/2018 09:16

Sample ID: 18E0250-01

Sample Matrix: Ground Water

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

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Chloride	3700	100	mg/L	100		EPA 300.0		5/9/18 0:00	EUROF
Cyanide	<0.00500	0.00500	mg/L	1		EPA 335.4		5/10/18 0:00	EUROF

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

Project Location: 251 Everett Ave., Chelsea, MA Sample Description: Work Order: 18E0250

Date Received: 5/4/2018

Field Sample #: SW-1 Sampled: 5/4/2018 11:35

Sample ID: 18E0250-02

Sample Matrix: Surface Water

Metals Analyses (Total)

Analyte	Results	RL	DL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Antimony	ND	5.0		µg/L	5	DL-15	EPA 200.8	5/9/18	5/10/18 12:29	WSD
Arsenic	28	5.0		µg/L	5	DL-15	EPA 200.8	5/9/18	5/10/18 12:29	WSD
Cadmium	ND	1.0		µg/L	5	DL-15	EPA 200.8	5/9/18	5/10/18 12:29	WSD
Chromium	ND	50		µg/L	5	DL-15	EPA 200.8	5/9/18	5/10/18 12:29	WSD
Chromium, Trivalent	0.0			mg/L	1		Tri Chrome Calc.	5/9/18	5/10/18 12:29	WSD
Copper	63	5.0		µg/L	5	DL-15	EPA 200.8	5/9/18	5/10/18 12:29	WSD
Iron	0.77	0.050		mg/L	1		EPA 200.7	5/9/18	5/10/18 14:54	QNW
Lead	4.5	2.5		µg/L	5	DL-15	EPA 200.8	5/9/18	5/10/18 12:29	WSD
Mercury	ND	0.00010		mg/L	1		EPA 245.1	5/9/18	5/10/18 9:52	EJB
Nickel	ND	25		µg/L	5	DL-15	EPA 200.8	5/9/18	5/10/18 12:29	WSD
Selenium	95	25	11	µg/L	5	DL-15	EPA 200.8	5/9/18	5/10/18 12:29	WSD
Silver	ND	1.0		µg/L	5	DL-15	EPA 200.8	5/9/18	5/10/18 12:29	WSD
Zinc	ND	100		µg/L	5	DL-15	EPA 200.8	5/9/18	5/10/18 12:29	WSD

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

Project Location: 251 Everett Ave., Chelsea, MA Sample Description: Work Order: 18E0250

Date Received: 5/4/2018

Field Sample #: SW-1 Sampled: 5/4/2018 11:35

Sample ID: 18E0250-02

Sample Matrix: Surface Water

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

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Hexavalent Chromium	ND	0.0040	mg/L	1		SW-846 7196A	5/4/18	5/4/18 21:32	LED
Hexavalent Chromium	ND	0.0040	mg/L	1		SM21-22 3500 Cr B	5/4/18	5/4/18 21:32	LED
pH @20.2°C	8.0		pH Units	1	H-05	SM21-22 4500 H B	5/5/18	5/5/18 11:15	IS

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

Project Location: 251 Everett Ave., Chelsea, MA Sample Description: Work Order: 18E0250

Date Received: 5/4/2018

Field Sample #: SW-1 Sampled: 5/4/2018 11:35

Sample ID: 18E0250-02

Sample Matrix: Surface Water

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

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Hardness	2500	10	mg/L	1		SM21-22 2340C		5/11/18 0:00	SGS

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

Project Location: 251 Everett Ave., Chelsea, MA Sample Description: Work Order: 18E0250

Date Received: 5/4/2018

Field Sample #: SW-1 Sampled: 5/4/2018 11:35

Sample ID: 18E0250-02

Sample Matrix: Surface Water

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

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Ammonia as N	0.056	0.075	mg/L	1		SM19-22 4500 NH3 C		5/8/18 22:23	ALPHA

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

Project Location: 251 Everett Ave., Chelsea, MA Sample Description: Work Order: 18E0250

Date Received: 5/4/2018

Field Sample #: MW-101 Sampled: 5/4/2018 09:16

Sample ID: 18E0250-03

Sample Matrix: Ground Water

Metals Analyses (Dissolved)

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	5/8/18	5/9/18 16:16	WSD
Arsenic	ND	1.0		µg/L	1		EPA 200.8	5/8/18	5/9/18 16:16	WSD
Cadmium	0.31	0.20		µg/L	1		EPA 200.8	5/8/18	5/9/18 16:16	WSD
Chromium	ND	10		µg/L	1		EPA 200.8	5/8/18	5/9/18 16:16	WSD
Copper	35	1.0		µg/L	1		EPA 200.8	5/8/18	5/9/18 16:16	WSD
Iron	0.71	0.050		mg/L	1		EPA 200.7	5/8/18	5/9/18 17:52	QNW
Lead	ND	2.5		µg/L	5	DL-15	EPA 200.8	5/8/18	5/9/18 19:04	MJH
Mercury	ND	0.00010		mg/L	1		EPA 245.1	5/11/18	5/14/18 9:08	EJB
Nickel	14	5.0		µg/L	1		EPA 200.8	5/8/18	5/9/18 16:16	WSD
Selenium	ND	5.0	2.1	µg/L	1		EPA 200.8	5/8/18	5/9/18 16:16	WSD
Silver	ND	0.20		µg/L	1		EPA 200.8	5/8/18	5/9/18 16:16	WSD
Zinc	ND	20		µg/L	1		EPA 200.8	5/8/18	5/9/18 16:16	WSD

con-test® ANALYTICAL LABORATORY
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Sample Extraction Data

EPA 1664B

Lab Number [Field ID]	Batch	Initial [mL]	Date
18E0250-01 [MW-101]	B202780	850	05/08/18

Prep Method: EPA 200.7 Dissolved-EPA 200.7

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
18E0250-03 [MW-101]	B202851	50.0	50.0	05/08/18

Prep Method: EPA 200.7-EPA 200.7

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
18E0250-01 [MW-101]	B202962	50.0	50.0	05/09/18
18E0250-02 [SW-1]	B202962	50.0	50.0	05/09/18

Prep Method: EPA 200.7 Dissolved-EPA 200.7

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
18E0250-01RE1 [MW-101]	B203048	50.0	50.0	05/10/18

Prep Method: EPA 200.8 Dissolved-EPA 200.8

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
18E0250-03 [MW-101]	B202852	50.0	50.0	05/08/18

Prep Method: EPA 200.8-EPA 200.8

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
18E0250-01 [MW-101]	B202963	50.0	50.0	05/09/18
18E0250-02 [SW-1]	B202963	50.0	50.0	05/09/18

Prep Method: EPA 200.8 Dissolved-EPA 200.8

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
18E0250-01RE1 [MW-101]	B203049	50.0	50.0	05/10/18

Prep Method: EPA 245.1-EPA 245.1

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
18E0250-01 [MW-101]	B202960	6.00	6.00	05/09/18
18E0250-02 [SW-1]	B202960	6.00	6.00	05/09/18

Prep Method: EPA 245.1 Dissolved-EPA 245.1

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
18E0250-01RE1 [MW-101]	B203076	6.00	6.00	05/10/18

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Sample Extraction Data

Prep Method: EPA 245.1 Dissolved-EPA 245.1

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
18E0250-03 [MW-101]	B203181	6.00	6.00	05/11/18

Prep Method: SW-846 5030B-EPA 624

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
18E0250-01 [MW-101]	B202784	5	5.00	05/08/18

Prep Method: SW-846 3510C-EPA 625

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
18E0250-01 [MW-101]	B203018	900	1.00	05/07/18

Prep Method: SW-846 3510C-EPA 625.1

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
18E0250-01 [MW-101]	B202662	900	1.00	05/07/18

SM21-22 2540D

Lab Number [Field ID]	Batch	Initial [mL]	Date
18E0250-01 [MW-101]	B202665	230	05/07/18

SM21-22 3500 Cr B

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
18E0250-01 [MW-101]	B202619	50.0	50.0	05/04/18
18E0250-02 [SW-1]	B202619	50.0	50.0	05/04/18

SM21-22 4500 CL G

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
18E0250-01 [MW-101]	B202618	100	100	05/04/18

SM21-22 4500 H B

Lab Number [Field ID]	Batch	Initial [mL]	Date
18E0250-01 [MW-101]	B202623	50.0	05/05/18
18E0250-02 [SW-1]	B202623	50.0	05/05/18

SW-846 7196A

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
18E0250-01 [MW-101]	B202621	50.0	50.0	05/04/18
18E0250-02 [SW-1]	B202621	50.0	50.0	05/04/18

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Sample Extraction Data

Prep Method: SW-846 5030B-SW-846 8260C

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
18E0250-01 [MW-101]	B202831	5	5.00	05/08/18

Prep Method: SW-846 3005A-Tri Chrome Calc.

Lab Number [Field ID]	Batch	Initial [mL]	Date
18E0250-01 [MW-101]	B202964	1.00	05/09/18
18E0250-02 [SW-1]	B202964	1.00	05/09/18

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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 B202831 - SW-846 5030B										
Blank (B202831-BLK1)				Prepared: 05/08/18 Analyzed: 05/09/18						
Ethanol	ND	50	µg/L							V-16
Surrogate: 1,2-Dichloroethane-d4	*25.2*		µg/L	25.0		101	70-130			
Surrogate: Toluene-d8	*25.1*		µg/L	25.0		100	70-130			
Surrogate: 4-Bromofluorobenzene	*25.1*		µg/L	25.0		101	70-130			
LCS (B202831-BS1)				Prepared: 05/08/18 Analyzed: 05/09/18						
Ethanol	119	50	µg/L	100		119	40-160			V-16
Surrogate: 1,2-Dichloroethane-d4	*24.6*		µg/L	25.0		98.3	70-130			
Surrogate: Toluene-d8	*24.9*		µg/L	25.0		99.6	70-130			
Surrogate: 4-Bromofluorobenzene	*25.4*		µg/L	25.0		102	70-130			
LCS Dup (B202831-BSD1)				Prepared: 05/08/18 Analyzed: 05/09/18						
Ethanol	123	50	µg/L	100		123	40-160	3.30	25	V-16
Surrogate: 1,2-Dichloroethane-d4	*24.9*		µg/L	25.0		99.5	70-130			
Surrogate: Toluene-d8	*24.8*		µg/L	25.0		99.2	70-130			
Surrogate: 4-Bromofluorobenzene	*25.0*		µg/L	25.0		100	70-130			

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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 B202784 - SW-846 5030B										
Blank (B202784-BLK1)				Prepared & Analyzed: 05/08/18						
Acetone	ND	50	µg/L							
tert-Amyl Methyl Ether (TAME)	ND	0.50	µg/L							
Benzene	ND	1.0	µg/L							
tert-Butyl Alcohol (TBA)	ND	20	µg/L							
Ethylbenzene	ND	2.0	µg/L							
Methyl tert-Butyl Ether (MTBE)	ND	2.0	µg/L							
Toluene	ND	1.0	µg/L							
Xylenes (total)	ND	3.0	µg/L							
m+p Xylene	ND	2.0	µg/L							
o-Xylene	ND	2.0	µg/L							
Surrogate: 1,2-Dichloroethane-d4	*21.1*		µg/L	25.0		84.3	70-130			
Surrogate: Toluene-d8	*24.5*		µg/L	25.0		97.9	70-130			
Surrogate: 4-Bromofluorobenzene	*24.1*		µg/L	25.0		96.4	70-130			
LCS (B202784-BS1)				Prepared & Analyzed: 05/08/18						
Acetone	164	50	µg/L	200		82.2	70-160			†
tert-Amyl Methyl Ether (TAME)	19.5	0.50	µg/L	20.0		97.7	70-130			
Benzene	19.3	1.0	µg/L	20.0		96.4	65-135			
tert-Butyl Alcohol (TBA)	152	20	µg/L	200		75.9	40-160			†
Ethylbenzene	21.4	2.0	µg/L	20.0		107	60-140			
Methyl tert-Butyl Ether (MTBE)	18.8	2.0	µg/L	20.0		94.2	70-130			
Toluene	19.8	1.0	µg/L	20.0		98.8	70-130			
m+p Xylene	41.9	2.0	µg/L	40.0		105	70-130			
o-Xylene	20.6	2.0	µg/L	20.0		103	70-130			
Surrogate: 1,2-Dichloroethane-d4	*22.0*		µg/L	25.0		87.8	70-130			
Surrogate: Toluene-d8	*24.2*		µg/L	25.0		96.9	70-130			
Surrogate: 4-Bromofluorobenzene	*24.1*		µg/L	25.0		96.3	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 B203018 - SW-846 3510C										
Blank (B203018-BLK1)				Prepared: 05/07/18 Analyzed: 05/11/18						
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	0.20	µg/L							
Indeno(1,2,3-cd)pyrene (SIM)	ND	0.20	µg/L							
Pentachlorophenol (SIM)	ND	1.0	µg/L							
Surrogate: 2-Fluorophenol	*114*		µg/L	200		57.2	15-110			
Surrogate: Phenol-d6	*84.6*		µg/L	200		42.3	15-110			
Surrogate: Nitrobenzene-d5	*89.6*		µg/L	100		89.6	30-130			
Surrogate: 2-Fluorobiphenyl	*77.4*		µg/L	101		76.7	30-130			
Surrogate: 2,4,6-Tribromophenol	*212*		µg/L	200		106	15-110			
Surrogate: p-Terphenyl-d14	*82.5*		µg/L	101		81.7	30-130			
LCS (B203018-BS1)				Prepared: 05/07/18 Analyzed: 05/11/18						
Benzo(a)anthracene (SIM)	45.9	1.2	µg/L	50.0		91.8	40-140			
Benzo(a)pyrene (SIM)	50.6	2.5	µg/L	50.0		101	40-140			
Benzo(b)fluoranthene (SIM)	52.0	1.2	µg/L	50.0		104	40-140			
Benzo(k)fluoranthene (SIM)	48.8	5.0	µg/L	50.0		97.7	40-140			
Bis(2-ethylhexyl)phthalate (SIM)	51.6	25	µg/L	50.0		103	40-140			
Chrysene (SIM)	44.0	5.0	µg/L	50.0		88.0	40-140			
Dibenz(a,h)anthracene (SIM)	50.9	5.0	µg/L	50.0		102	40-140			
Indeno(1,2,3-cd)pyrene (SIM)	54.6	5.0	µg/L	50.0		109	40-140			
Pentachlorophenol (SIM)	34.4	25	µg/L	50.0		68.9	40-140			
Surrogate: 2-Fluorophenol	*73.0*		µg/L	200		36.5	15-110			
Surrogate: Phenol-d6	*75.0*		µg/L	200		37.5	15-110			
Surrogate: Nitrobenzene-d5	*86.6*		µg/L	100		86.6	30-130			
Surrogate: 2-Fluorobiphenyl	*76.3*		µg/L	101		75.5	30-130			
Surrogate: 2,4,6-Tribromophenol	*156*		µg/L	200		77.8	15-110			
Surrogate: p-Terphenyl-d14	*73.7*		µg/L	101		73.0	30-130			
LCS Dup (B203018-BSD1)				Prepared: 05/07/18 Analyzed: 05/11/18						
Benzo(a)anthracene (SIM)	46.3	1.2	µg/L	50.0		92.6	40-140	0.867	20	
Benzo(a)pyrene (SIM)	50.9	2.5	µg/L	50.0		102	40-140	0.591	20	
Benzo(b)fluoranthene (SIM)	52.2	1.2	µg/L	50.0		104	40-140	0.432	20	
Benzo(k)fluoranthene (SIM)	49.3	5.0	µg/L	50.0		98.6	40-140	0.866	20	
Bis(2-ethylhexyl)phthalate (SIM)	51.6	25	µg/L	50.0		103	40-140	0.0485	20	
Chrysene (SIM)	44.3	5.0	µg/L	50.0		88.6	40-140	0.680	20	
Dibenz(a,h)anthracene (SIM)	51.1	5.0	µg/L	50.0		102	40-140	0.392	20	
Indeno(1,2,3-cd)pyrene (SIM)	54.6	5.0	µg/L	50.0		109	40-140	0.0915	20	‡
Pentachlorophenol (SIM)	36.7	25	µg/L	50.0		73.4	40-140	6.32	20	
Surrogate: 2-Fluorophenol	*78.4*		µg/L	200		39.2	15-110			
Surrogate: Phenol-d6	*79.1*		µg/L	200		39.6	15-110			
Surrogate: Nitrobenzene-d5	*86.1*		µg/L	100		86.1	30-130			
Surrogate: 2-Fluorobiphenyl	*74.8*		µg/L	101		74.0	30-130			
Surrogate: 2,4,6-Tribromophenol	*157*		µg/L	200		78.4	15-110			
Surrogate: p-Terphenyl-d14	*74.6*		µg/L	101		73.9	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 B202662 - SW-846 3510C										
Blank (B202662-BLK1)				Prepared: 05/07/18 Analyzed: 05/08/18						
Acenaphthene	ND	5.0	µg/L							
Acenaphthylene	ND	5.0	µg/L							
Anthracene	ND	5.0	µg/L							
Benzidine	ND	20	µg/L							L-04, V-04, V-05
Benzo(g,h,i)perylene	ND	5.0	µg/L							
4-Bromophenylphenylether	ND	10	µg/L							
Butylbenzylphthalate	ND	10	µg/L							
4-Chloro-3-methylphenol	ND	10	µg/L							
Bis(2-chloroethoxy)methane	ND	10	µg/L							
Bis(2-chloroethyl)ether	ND	10	µg/L							
Bis(2-chloroisopropyl)ether	ND	10	µg/L							
2-Chloronaphthalene	ND	10	µg/L							
2-Chlorophenol	ND	10	µg/L							
4-Chlorophenylphenylether	ND	10	µg/L							
Di-n-butylphthalate	ND	10	µg/L							
1,3-Dichlorobenzene	ND	5.0	µg/L							
1,4-Dichlorobenzene	ND	5.0	µg/L							
1,2-Dichlorobenzene	ND	5.0	µg/L							
3,3-Dichlorobenzidine	ND	10	µg/L							
2,4-Dichlorophenol	ND	10	µg/L							
Diethylphthalate	ND	10	µg/L							
2,4-Dimethylphenol	ND	10	µg/L							
Dimethylphthalate	ND	10	µg/L							
4,6-Dinitro-2-methylphenol	ND	10	µg/L							
2,4-Dinitrophenol	ND	10	µg/L							
2,4-Dinitrotoluene	ND	10	µg/L							
2,6-Dinitrotoluene	ND	10	µg/L							
Di-n-octylphthalate	ND	10	µg/L							
1,2-Diphenylhydrazine (as Azobenzene)	ND	10	µg/L							
Fluoranthene	ND	5.0	µg/L							
Fluorene	ND	5.0	µg/L							
Hexachlorobenzene	ND	10	µg/L							
Hexachlorobutadiene	ND	10	µg/L							
Hexachlorocyclopentadiene	ND	10	µg/L							V-05
Hexachloroethane	ND	10	µg/L							
Isophorone	ND	10	µg/L							
Naphthalene	ND	5.0	µg/L							
Nitrobenzene	ND	10	µg/L							
2-Nitrophenol	ND	10	µg/L							
4-Nitrophenol	ND	10	µg/L							
N-Nitrosodimethylamine	ND	10	µg/L							
N-Nitrosodiphenylamine	ND	10	µg/L							
N-Nitrosodi-n-propylamine	ND	10	µg/L							
2-Methylnaphthalene	ND	5.0	µg/L							
Phenanthrene	ND	5.0	µg/L							
2-Methylphenol	ND	10	µg/L							
Phenol	ND	10	µg/L							
3/4-Methylphenol	ND	10	µg/L							
Pyrene	ND	5.0	µg/L							
1,2,4-Trichlorobenzene	ND	5.0	µg/L							
2,4,6-Trichlorophenol	ND	10	µg/L							
Surrogate: 2-Fluorophenol	*102*		µg/L	200		51.0	15-110			

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QUALITY CONTROL

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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC		%REC Limits	RPD	RPD Limit	Notes
Batch B202662 - SW-846 3510C											
Blank (B202662-BLK1)				Prepared: 05/07/18 Analyzed: 05/08/18							
Surrogate: Phenol-d6	*77.8*		µg/L	200		38.9		15-110			
Surrogate: Nitrobenzene-d5	*76.0*		µg/L	100		76.0		30-130			
Surrogate: 2-Fluorobiphenyl	*68.4*		µg/L	101		67.7		30-130			
Surrogate: 2,4,6-Tribromophenol	*141*		µg/L	200		70.4		15-110			
Surrogate: p-Terphenyl-d14	*79.5*		µg/L	101		78.7		30-130			
LCS (B202662-BS1)				Prepared: 05/07/18 Analyzed: 05/08/18							
Acenaphthene	43.0	5.0	µg/L	50.0		86.0		47-145			
Acenaphthylene	40.7	5.0	µg/L	50.0		81.3		33-145			
Anthracene	45.6	5.0	µg/L	50.0		91.2		27-133			
Benzidine	17.3	20	µg/L	50.0		**34.6**	*	40-140			V-04, V-05, L-04, J
Benzo(g,h,i)perylene	46.4	5.0	µg/L	50.0		92.8		10-219			
4-Bromophenylphenylether	43.0	10	µg/L	50.0		86.0		53-127			
Butylbenzylphthalate	40.5	10	µg/L	50.0		81.0		10-152			
4-Chloro-3-methylphenol	42.2	10	µg/L	50.0		84.3		22-147			
Bis(2-chloroethoxy)methane	50.1	10	µg/L	50.0		100		33-184			
Bis(2-chloroethyl)ether	44.8	10	µg/L	50.0		89.7		12-158			
Bis(2-chloroisopropyl)ether	52.2	10	µg/L	50.0		104		36-166			
2-Chloronaphthalene	39.9	10	µg/L	50.0		79.8		60-120			
2-Chlorophenol	41.5	10	µg/L	50.0		82.9		23-134			
4-Chlorophenylphenylether	41.7	10	µg/L	50.0		83.4		25-158			
Di-n-butylphthalate	39.8	10	µg/L	50.0		79.7		10-120			
1,3-Dichlorobenzene	38.0	5.0	µg/L	50.0		76.0		10-172			
1,4-Dichlorobenzene	38.8	5.0	µg/L	50.0		77.5		20-124			
1,2-Dichlorobenzene	40.0	5.0	µg/L	50.0		80.0		32-129			
3,3-Dichlorobenzidine	50.7	10	µg/L	50.0		101		10-262			
2,4-Dichlorophenol	44.0	10	µg/L	50.0		87.9		39-135			
Diethylphthalate	40.0	10	µg/L	50.0		80.0		10-120			
2,4-Dimethylphenol	43.0	10	µg/L	50.0		86.0		32-120			
Dimethylphthalate	41.6	10	µg/L	50.0		83.1		10-120			
4,6-Dinitro-2-methylphenol	43.6	10	µg/L	50.0		87.2		10-181			
2,4-Dinitrophenol	48.5	10	µg/L	50.0		97.1		10-191			
2,4-Dinitrotoluene	45.9	10	µg/L	50.0		91.8		39-139			
2,6-Dinitrotoluene	44.6	10	µg/L	50.0		89.2		50-158			
Di-n-octylphthalate	37.4	10	µg/L	50.0		74.8		4-146			
1,2-Diphenylhydrazine (as Azobenzene)	42.3	10	µg/L	50.0		84.7		40-140			
Fluoranthene	45.0	5.0	µg/L	50.0		90.1		26-137			
Fluorene	41.9	5.0	µg/L	50.0		83.9		59-121			
Hexachlorobenzene	41.2	10	µg/L	50.0		82.3		10-152			
Hexachlorobutadiene	39.7	10	µg/L	50.0		79.4		24-120			
Hexachlorocyclopentadiene	31.8	10	µg/L	50.0		63.7		40-140			V-05
Hexachloroethane	38.0	10	µg/L	50.0		76.0		40-120			
Isophorone	45.4	10	µg/L	50.0		90.8		21-196			
Naphthalene	42.4	5.0	µg/L	50.0		84.7		21-133			
Nitrobenzene	41.8	10	µg/L	50.0		83.6		35-180			
2-Nitrophenol	46.9	10	µg/L	50.0		93.7		29-182			
4-Nitrophenol	21.5	10	µg/L	50.0		43.0		10-132			
N-Nitrosodimethylamine	28.6	10	µg/L	50.0		57.1		40-140			
N-Nitrosodiphenylamine	53.2	10	µg/L	50.0		106		40-140			
N-Nitrosodi-n-propylamine	46.8	10	µg/L	50.0		93.6		10-230			
2-Methylnaphthalene	45.4	5.0	µg/L	50.0		90.8		40-140			
Phenanthrene	45.2	5.0	µg/L	50.0		90.3		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 B202662 - SW-846 3510C											
LCS (B202662-BS1)				Prepared: 05/07/18 Analyzed: 05/08/18							
2-Methylphenol	37.4	10	µg/L	50.0		74.7		40-140			
Phenol	21.8	10	µg/L	50.0		43.6		5-120			
3/4-Methylphenol	39.5	10	µg/L	50.0		79.0		40-140			
Pyrene	40.9	5.0	µg/L	50.0		81.8		52-120			
1,2,4-Trichlorobenzene	41.1	5.0	µg/L	50.0		82.2		44-142			
2,4,6-Trichlorophenol	44.2	10	µg/L	50.0		88.3		37-144			
Surrogate: 2-Fluorophenol	*122*		µg/L	200		61.0		15-110			
Surrogate: Phenol-d6	*92.8*		µg/L	200		46.4		15-110			
Surrogate: Nitrobenzene-d5	*87.4*		µg/L	100		87.4		30-130			
Surrogate: 2-Fluorobiphenyl	*78.2*		µg/L	101		77.4		30-130			
Surrogate: 2,4,6-Tribromophenol	*181*		µg/L	200		90.7		15-110			
Surrogate: p-Terphenyl-d14	*83.6*		µg/L	101		82.7		30-130			
LCS Dup (B202662-BSD1)				Prepared: 05/07/18 Analyzed: 05/08/18							
Acenaphthene	41.3	5.0	µg/L	50.0		82.5		47-145	4.06	48	
Acenaphthylene	38.9	5.0	µg/L	50.0		77.8		33-145	4.37	74	
Anthracene	43.3	5.0	µg/L	50.0		86.7		27-133	5.10	66	
Benzidine	12.5	20	µg/L	50.0		**25.0**	*	40-140	32.5		L-04, V-04, V-05, J
Benzo(g,h,i)perylene	42.0	5.0	µg/L	50.0		83.9		10-219	10.0	97	
4-Bromophenylphenylether	40.8	10	µg/L	50.0		81.7		53-127	5.08	43	
Butylbenzylphthalate	40.7	10	µg/L	50.0		81.4		10-152	0.394	60	
4-Chloro-3-methylphenol	42.7	10	µg/L	50.0		85.4		22-147	1.27	73	
Bis(2-chloroethoxy)methane	46.8	10	µg/L	50.0		93.5		33-184	6.92	54	
Bis(2-chloroethyl)ether	42.2	10	µg/L	50.0		84.5		12-158	5.95	108	
Bis(2-chloroisopropyl)ether	48.9	10	µg/L	50.0		97.7		36-166	6.69	76	
2-Chloronaphthalene	38.4	10	µg/L	50.0		76.8		60-120	3.91	24	
2-Chlorophenol	38.8	10	µg/L	50.0		77.6		23-134	6.65	61	
4-Chlorophenylphenylether	41.9	10	µg/L	50.0		83.8		25-158	0.550	61	
Di-n-butylphthalate	40.3	10	µg/L	50.0		80.6		10-120	1.12	47	
1,3-Dichlorobenzene	35.4	5.0	µg/L	50.0		70.8		10-172	7.17		
1,4-Dichlorobenzene	35.5	5.0	µg/L	50.0		71.1		20-124	8.67		
1,2-Dichlorobenzene	36.9	5.0	µg/L	50.0		73.8		32-129	8.01		
3,3-Dichlorobenzidine	47.3	10	µg/L	50.0		94.7		10-262	6.88	108	
2,4-Dichlorophenol	42.9	10	µg/L	50.0		85.8		39-135	2.42	50	
Diethylphthalate	40.7	10	µg/L	50.0		81.4		10-120	1.74	100	
2,4-Dimethylphenol	40.2	10	µg/L	50.0		80.3		32-120	6.86	58	
Dimethylphthalate	41.2	10	µg/L	50.0		82.5		10-120	0.749	183	
4,6-Dinitro-2-methylphenol	43.1	10	µg/L	50.0		86.1		10-181	1.29	203	
2,4-Dinitrophenol	51.0	10	µg/L	50.0		102		10-191	5.02	132	
2,4-Dinitrotoluene	45.2	10	µg/L	50.0		90.4		39-139	1.54	42	
2,6-Dinitrotoluene	44.0	10	µg/L	50.0		88.0		50-158	1.26	48	
Di-n-octylphthalate	38.1	10	µg/L	50.0		76.2		4-146	1.83	69	
1,2-Diphenylhydrazine (as Azobenzene)	39.8	10	µg/L	50.0		79.6		40-140	6.16		
Fluoranthene	42.4	5.0	µg/L	50.0		84.7		26-137	6.13	66	
Fluorene	41.3	5.0	µg/L	50.0		82.7		59-121	1.42	38	
Hexachlorobenzene	39.8	10	µg/L	50.0		79.6		10-152	3.36	55	
Hexachlorobutadiene	38.6	10	µg/L	50.0		77.2		24-120	2.78	62	
Hexachlorocyclopentadiene	30.3	10	µg/L	50.0		60.6		40-140	4.95		V-05
Hexachloroethane	35.6	10	µg/L	50.0		71.1		40-120	6.63	52	
Isophorone	44.0	10	µg/L	50.0		87.9		21-196	3.20	93	
Naphthalene	39.9	5.0	µg/L	50.0		79.9		21-133	5.91	65	
Nitrobenzene	38.9	10	µg/L	50.0		77.7		35-180	7.29	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 B202662 - SW-846 3510C										
LCS Dup (B202662-BSD1)				Prepared: 05/07/18 Analyzed: 05/08/18						
2-Nitrophenol	43.9	10	µg/L	50.0		87.8	29-182	6.50	55	
4-Nitrophenol	21.3	10	µg/L	50.0		42.6	10-132	1.03	131	
N-Nitrosodimethylamine	26.5	10	µg/L	50.0		53.0	40-140	7.52		
N-Nitrosodiphenylamine	50.5	10	µg/L	50.0		101	40-140	5.23		
N-Nitrosodi-n-propylamine	43.3	10	µg/L	50.0		86.7	10-230	7.70	87	
2-Methylnaphthalene	44.5	5.0	µg/L	50.0		89.0	40-140	2.00	30	
Phenanthrene	43.1	5.0	µg/L	50.0		86.1	54-120	4.76	39	
2-Methylphenol	34.2	10	µg/L	50.0		68.4	40-140	8.80	30	
Phenol	20.6	10	µg/L	50.0		41.2	5-120	5.52	64	
3/4-Methylphenol	36.9	10	µg/L	50.0		73.8	40-140	6.81	30	
Pyrene	40.0	5.0	µg/L	50.0		80.1	52-120	2.20	49	
1,2,4-Trichlorobenzene	38.5	5.0	µg/L	50.0		77.0	44-142	6.58	50	
2,4,6-Trichlorophenol	40.6	10	µg/L	50.0		81.2	37-144	8.38	58	
Surrogate: 2-Fluorophenol	*116*		µg/L	200		57.9	15-110			
Surrogate: Phenol-d6	*86.9*		µg/L	200		43.5	15-110			
Surrogate: Nitrobenzene-d5	*81.2*		µg/L	100		81.2	30-130			
Surrogate: 2-Fluorobiphenyl	*71.6*		µg/L	101		70.9	30-130			
Surrogate: 2,4,6-Tribromophenol	*180*		µg/L	200		90.2	15-110			
Surrogate: p-Terphenyl-d14	*84.6*		µg/L	101		83.8	30-130			

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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 B202960 - EPA 245.1										
Blank (B202960-BLK1)				Prepared: 05/09/18 Analyzed: 05/10/18						
Mercury	ND	0.00010	mg/L							
LCS (B202960-BS1)				Prepared: 05/09/18 Analyzed: 05/10/18						
Mercury	0.00202	0.00010	mg/L	0.00200		101	85-115			
LCS Dup (B202960-BSD1)				Prepared: 05/09/18 Analyzed: 05/10/18						
Mercury	0.00202	0.00010	mg/L	0.00200		101	85-115	0.0824	20	
Duplicate (B202960-DUP1)		**Source: 18E0250-02**		Prepared: 05/09/18 Analyzed: 05/10/18						
Mercury	ND	0.00010	mg/L		ND			NC	30	
Matrix Spike (B202960-MS1)		**Source: 18E0250-02**		Prepared: 05/09/18 Analyzed: 05/10/18						
Mercury	0.00208	0.00010	mg/L	0.00200	0.0000348	102	75-125			
Batch B202962 - EPA 200.7										
Blank (B202962-BLK1)				Prepared: 05/09/18 Analyzed: 05/10/18						
Iron	ND	0.050	mg/L							
LCS (B202962-BS1)				Prepared: 05/09/18 Analyzed: 05/10/18						
Iron	4.22	0.050	mg/L	4.00		106	85-115			
LCS Dup (B202962-BSD1)				Prepared: 05/09/18 Analyzed: 05/10/18						
Iron	4.31	0.050	mg/L	4.00		108	85-115	2.02	20	
Batch B202963 - EPA 200.8										
Blank (B202963-BLK1)				Prepared: 05/09/18 Analyzed: 05/10/18						
Antimony	ND	1.0	µg/L							
Arsenic	ND	1.0	µg/L							
Cadmium	ND	0.20	µg/L							
Chromium	ND	10	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							
Silver	ND	0.20	µg/L							
Zinc	ND	20	µg/L							
LCS (B202963-BS1)				Prepared: 05/09/18 Analyzed: 05/10/18						
Antimony	519	10	µg/L	500		104	85-115			
Arsenic	510	10	µg/L	500		102	85-115			
Cadmium	523	2.0	µg/L	500		105	85-115			
Chromium	530	100	µg/L	500		106	85-115			
Copper	1020	10	µg/L	1000		102	85-115			
Lead	527	5.0	µg/L	500		105	85-115			
Nickel	516	50	µg/L	500		103	85-115			
Selenium	499	50	µg/L	500		99.7	85-115			
Silver	518	2.0	µg/L	500		104	85-115			
Zinc	1040	200	µg/L	1000		104	85-115			

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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 B202963 - EPA 200.8										
LCS Dup (B202963-BSD1)				Prepared: 05/09/18 Analyzed: 05/10/18						
Antimony	525	10	µg/L	500		105	85-115	1.19	20	
Arsenic	523	10	µg/L	500		105	85-115	2.47	20	
Cadmium	528	2.0	µg/L	500		106	85-115	0.916	20	
Chromium	536	100	µg/L	500		107	85-115	1.08	20	
Copper	1070	10	µg/L	1000		107	85-115	4.96	20	
Lead	534	5.0	µg/L	500		107	85-115	1.28	20	
Nickel	526	50	µg/L	500		105	85-115	1.89	20	
Selenium	513	50	µg/L	500		103	85-115	2.80	20	
Silver	525	2.0	µg/L	500		105	85-115	1.38	20	
Zinc	1040	200	µg/L	1000		104	85-115	0.290	20	

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QUALITY CONTROL

Metals Analyses (Dissolved) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B202849 - EPA 245.1 Dissolved										
Blank (B202849-BLK1)				Prepared: 05/08/18 Analyzed: 05/09/18						
Mercury	ND	0.00010	mg/L							
LCS (B202849-BS1)				Prepared: 05/08/18 Analyzed: 05/09/18						
Mercury	0.00206	0.00010	mg/L	0.00200		103	85-115			
LCS Dup (B202849-BSD1)				Prepared: 05/08/18 Analyzed: 05/09/18						
Mercury	0.00206	0.00010	mg/L	0.00200		103	85-115	0.278	20	
Batch B202851 - EPA 200.7 Dissolved										
Blank (B202851-BLK1)				Prepared: 05/08/18 Analyzed: 05/09/18						
Iron	ND	0.050	mg/L							
LCS (B202851-BS1)				Prepared: 05/08/18 Analyzed: 05/09/18						
Iron	4.45	0.050	mg/L	4.00		111	85-115			
LCS Dup (B202851-BSD1)				Prepared: 05/08/18 Analyzed: 05/09/18						
Iron	4.38	0.050	mg/L	4.00		109	85-115	1.60	20	
Batch B202852 - EPA 200.8 Dissolved										
Blank (B202852-BLK1)				Prepared: 05/08/18 Analyzed: 05/09/18						
Antimony	ND	1.0	µg/L							
Arsenic	ND	1.0	µg/L							
Cadmium	ND	0.20	µg/L							
Chromium	ND	10	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							
Silver	ND	0.20	µg/L							
Zinc	ND	20	µg/L							
LCS (B202852-BS1)				Prepared: 05/08/18 Analyzed: 05/09/18						
Antimony	499	10	µg/L	500		99.8	85-115			
Arsenic	503	10	µg/L	500		101	85-115			
Cadmium	503	2.0	µg/L	500		101	85-115			
Chromium	544	100	µg/L	500		109	85-115			
Copper	1030	10	µg/L	1000		103	85-115			
Lead	500	5.0	µg/L	500		99.9	85-115			
Nickel	519	50	µg/L	500		104	85-115			
Selenium	489	50	µg/L	500		97.9	85-115			
Silver	503	2.0	µg/L	500		101	85-115			
Zinc	1020	200	µg/L	1000		102	85-115			

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QUALITY CONTROL

Metals Analyses (Dissolved) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B202852 - EPA 200.8 Dissolved										
LCS Dup (B202852-BSD1)				Prepared: 05/08/18 Analyzed: 05/09/18						
Antimony	538	10	µg/L	500		108	85-115	7.55	20	
Arsenic	527	10	µg/L	500		105	85-115	4.76	20	
Cadmium	542	2.0	µg/L	500		108	85-115	7.47	20	
Chromium	569	100	µg/L	500		114	85-115	4.49	20	
Copper	1090	10	µg/L	1000		109	85-115	6.43	20	
Lead	536	5.0	µg/L	500		107	85-115	6.99	20	
Nickel	561	50	µg/L	500		112	85-115	7.77	20	
Selenium	514	50	µg/L	500		103	85-115	5.01	20	
Silver	540	2.0	µg/L	500		108	85-115	7.06	20	
Zinc	1080	200	µg/L	1000		108	85-115	5.38	20	
Batch B203048 - EPA 200.7 Dissolved										
Blank (B203048-BLK1)				Prepared: 05/10/18 Analyzed: 05/11/18						
Iron	ND	0.050	mg/L							
LCS (B203048-BS1)				Prepared: 05/10/18 Analyzed: 05/11/18						
Iron	4.27	0.050	mg/L	4.00		107	85-115			
LCS Dup (B203048-BSD1)				Prepared: 05/10/18 Analyzed: 05/11/18						
Iron	4.26	0.050	mg/L	4.00		106	85-115	0.350	20	
Batch B203049 - EPA 200.8 Dissolved										
Blank (B203049-BLK1)				Prepared: 05/10/18 Analyzed: 05/11/18						
Antimony	ND	1.0	µg/L							
Arsenic	ND	1.0	µg/L							
Cadmium	ND	0.20	µg/L							
Chromium	ND	10	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							
Silver	ND	0.20	µg/L							
Zinc	ND	20	µg/L							
LCS (B203049-BS1)				Prepared: 05/10/18 Analyzed: 05/11/18						
Antimony	553	10	µg/L	500		111	85-115			
Arsenic	540	10	µg/L	500		108	85-115			
Cadmium	564	2.0	µg/L	500		113	85-115			
Chromium	564	100	µg/L	500		113	85-115			
Copper	1060	10	µg/L	1000		106	85-115			
Lead	553	5.0	µg/L	500		111	85-115			
Nickel	542	50	µg/L	500		108	85-115			
Selenium	522	50	µg/L	500		104	85-115			
Silver	544	2.0	µg/L	500		109	85-115			
Zinc	1080	200	µg/L	1000		108	85-115			

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QUALITY CONTROL

Metals Analyses (Dissolved) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B203049 - EPA 200.8 Dissolved										
LCS Dup (B203049-BSD1)				Prepared: 05/10/18 Analyzed: 05/11/18						
Antimony	540	10	µg/L	500		108	85-115	2.51	20	
Arsenic	531	10	µg/L	500		106	85-115	1.68	20	
Cadmium	549	2.0	µg/L	500		110	85-115	2.74	20	
Chromium	553	100	µg/L	500		111	85-115	1.94	20	
Copper	1050	10	µg/L	1000		105	85-115	1.46	20	
Lead	542	5.0	µg/L	500		108	85-115	2.13	20	
Nickel	532	50	µg/L	500		106	85-115	1.83	20	
Selenium	517	50	µg/L	500		103	85-115	1.08	20	
Silver	529	2.0	µg/L	500		106	85-115	2.87	20	
Zinc	1060	200	µg/L	1000		106	85-115	2.27	20	
Batch B203076 - EPA 245.1 Dissolved										
Blank (B203076-BLK1)				Prepared: 05/10/18 Analyzed: 05/11/18						
Mercury	ND	0.00010	mg/L							
LCS (B203076-BS1)				Prepared: 05/10/18 Analyzed: 05/11/18						
Mercury	0.00199	0.00010	mg/L	0.00200		99.3	85-115			
LCS Dup (B203076-BSD1)				Prepared: 05/10/18 Analyzed: 05/11/18						
Mercury	0.00196	0.00010	mg/L	0.00200		98.2	85-115	1.12	20	
Duplicate (B203076-DUP1)		**Source: 18E0250-01RE1**		Prepared: 05/10/18 Analyzed: 05/11/18						
Mercury	ND	0.00010	mg/L		ND			NC	30	
Matrix Spike (B203076-MS1)		**Source: 18E0250-01RE1**		Prepared: 05/10/18 Analyzed: 05/11/18						
Mercury	0.00197	0.00010	mg/L	0.00200	ND	98.6	70-130			
Batch B203181 - EPA 245.1 Dissolved										
Blank (B203181-BLK1)				Prepared: 05/11/18 Analyzed: 05/14/18						
Mercury	ND	0.00010	mg/L							
LCS (B203181-BS1)				Prepared: 05/11/18 Analyzed: 05/14/18						
Mercury	0.00196	0.00010	mg/L	0.00200		98.1	85-115			
LCS Dup (B203181-BSD1)				Prepared: 05/11/18 Analyzed: 05/14/18						
Mercury	0.00191	0.00010	mg/L	0.00200		95.7	85-115	2.57	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 B202618 - SM21-22 4500 CL G										
Blank (B202618-BLK1)				Prepared & Analyzed: 05/04/18						
Chlorine, Residual	ND	0.020	mg/L							
LCS (B202618-BS1)				Prepared & Analyzed: 05/04/18						
Chlorine, Residual	1.2	0.020	mg/L	1.34		87.9	76-135			
LCS Dup (B202618-BSD1)				Prepared & Analyzed: 05/04/18						
Chlorine, Residual	1.2	0.020	mg/L	1.34		87.4	76-135	0.679	7.41	
Duplicate (B202618-DUP1)	**Source: 18E0250-01**			Prepared & Analyzed: 05/04/18						
Chlorine, Residual	ND	0.020	mg/L		ND			NC	35.9	
Matrix Spike (B202618-MS1)	**Source: 18E0250-01**			Prepared & Analyzed: 05/04/18						
Chlorine, Residual	0.85	0.020	mg/L	1.00	ND	84.8	10-185			
Batch B202619 - SM21-22 3500 Cr B										
Blank (B202619-BLK1)				Prepared & Analyzed: 05/04/18						
Hexavalent Chromium	ND	0.0040	mg/L							
LCS (B202619-BS1)				Prepared & Analyzed: 05/04/18						
Hexavalent Chromium	0.10	0.0040	mg/L	0.100		99.7	83.2-114			
LCS Dup (B202619-BSD1)				Prepared & Analyzed: 05/04/18						
Hexavalent Chromium	0.10	0.0040	mg/L	0.100		101	83.2-114	1.15	7.51	
Batch B202621 - SW-846 7196A										
Blank (B202621-BLK1)				Prepared & Analyzed: 05/04/18						
Hexavalent Chromium	ND	0.0040	mg/L							
LCS (B202621-BS1)				Prepared & Analyzed: 05/04/18						
Hexavalent Chromium	0.10	0.0040	mg/L	0.100		99.7	80-120			
LCS Dup (B202621-BSD1)				Prepared & Analyzed: 05/04/18						
Hexavalent Chromium	0.10	0.0040	mg/L	0.100		101	80-120	1.15	20	
Batch B202623 - SM21-22 4500 H B										
LCS (B202623-BS1)				Prepared & Analyzed: 05/05/18						
pH	5.97		pH Units	6.00		99.5	90-110			

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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 B202665 - SM21-22 2540D										
Blank (B202665-BLK1)				Prepared & Analyzed: 05/07/18						
Total Suspended Solids	ND	2.5	mg/L							
LCS (B202665-BS1)				Prepared & Analyzed: 05/07/18						
Total Suspended Solids	194	10	mg/L	200		97.0	64.3-117			
Batch B202780 - EPA 1664B										
Blank (B202780-BLK1)				Prepared & Analyzed: 05/08/18						
Silica Gel Treated HEM (SGT-HEM)	ND	1.4	mg/L							
Blank (B202780-BLK2)				Prepared & Analyzed: 05/08/18						
Silica Gel Treated HEM (SGT-HEM)	ND	7.0	mg/L							
LCS (B202780-BS1)				Prepared & Analyzed: 05/08/18						
Silica Gel Treated HEM (SGT-HEM)	13		mg/L	10.0		128	64-132			
LCS (B202780-BS2)				Prepared & Analyzed: 05/08/18						
Silica Gel Treated HEM (SGT-HEM)	99		mg/L	100		99.0	64-132			

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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.

DL-15	Sample required a dilution due to low internal standard recovery of the lesser diluted digestion, reporting limit is elevated.
H-05	Holding time was exceeded. pH analysis should be performed immediately at time of sampling. Nominal 15 minute holding time was exceeded.
J	Detected but below the Reporting Limit (lowest calibration standard); therefore, result is an estimated concentration (CLP J-Flag).
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.
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-05	Continuing calibration did not meet method specifications and was biased on the low side for this compound. Reported result is estimated.
V-16	Response factor is less than method specified minimum acceptable value. Reduced precision and accuracy may be associated with reported result.

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CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
EPA 200.7 in Water	
Iron	CT,MA,NH,NY,RI,NC,ME,VA
Iron	CT,MA,NH,NY,RI,NC,ME,VA
EPA 200.8 in Water	
Antimony	CT,MA,NH,NY,RI,NC,ME,VA
Antimony	CT,MA,NH,NY,RI,NC,ME,VA
Arsenic	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
Cadmium	CT,MA,NH,NY,RI,NC,ME,VA
Chromium	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
Copper	CT,MA,NH,NY,RI,NC,ME,VA
Lead	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
Nickel	CT,MA,NH,NY,RI,NC,ME,VA
Selenium	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
Silver	CT,MA,NH,NY,RI,NC,ME,VA
Zinc	CT,MA,NH,RI,NY,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
Mercury	CT,MA,NH,RI,NY,NC,ME,VA
EPA 300.0 in Water	
Chloride	NC,NY,MA,VA,ME,NH,CT,RI
EPA 624 in Water	
Benzene	MA,ME,VA
1,2-Dichlorobenzene	MA,ME,VA
1,3-Dichlorobenzene	MA,ME,VA
1,4-Dichlorobenzene	MA,ME,VA
Ethylbenzene	MA,ME,VA
Toluene	MA,ME,VA
m+p Xylene	MA,VA
o-Xylene	MA,VA
EPA 625 in Water	
2-Fluorophenol	NC,VA
Phenol-d6	VA
Nitrobenzene-d5	VA
EPA 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

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CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
EPA 625.1 in Water	
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-chloroethoxy)methane	CT,MA,NH,NY,NC,RI,ME,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 (as 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
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-Nitrosodiphenylamine	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

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CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
EPA 625.1 in Water	
2,4,6-Trichlorophenol	CT,MA,NH,NY,NC,RI,ME,VA
2-Fluorophenol	NC
SM19-22 4500 NH3 C in Water	
Ammonia as N	NY,MA,CT,RI,VA,NC,ME
SM21-22 2340C in Water	
Hardness	CT,MA,NH,RI,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
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 H B in Water	
pH	CT,MA,RI
SW-846 7196A in Water	
Hexavalent Chromium	CT,NH,NY,NC,ME,VA
SW-846 8260C in Water	
Acetone	CT,ME,NH,VA,NY
tert-Amyl Methyl Ether (TAME)	ME,NH,VA,NY
Benzene	CT,ME,NH,VA,NY
tert-Butyl Alcohol (TBA)	ME,NH,VA,NY
1,2-Dichlorobenzene	CT,ME,NH,VA,NY
1,3-Dichlorobenzene	CT,ME,NH,VA,NY
1,4-Dichlorobenzene	CT,ME,NH,VA,NY
Ethylbenzene	CT,ME,NH,VA,NY
Hexachlorobutadiene	CT,ME,NH,VA,NY
Methyl tert-Butyl Ether (MTBE)	CT,ME,NH,VA,NY
Naphthalene	ME,NH,VA,NY
Toluene	CT,ME,NH,VA,NY
1,2,4-Trichlorobenzene	CT,ME,NH,VA,NY
m+p Xylene	CT,ME,NH,VA,NY
o-Xylene	CT,ME,NH,VA,NY
Xylenes (total)	NY

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

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC - ISO17025:2005	100033	03/1/2020
MA	Massachusetts DEP	M-MA100	06/30/2018
CT	Connecticut Department of Publilc Health	PH-0567	09/30/2019
NY	New York State Department of Health	10899 NELAP	04/1/2019
NH-S	New Hampshire Environmental Lab	2516 NELAP	02/5/2019
RI	Rhode Island Department of Health	LAO00112	12/30/2018
NC	North Carolina Div. of Water Quality	652	12/31/2018
NJ	New Jersey DEP	MA007 NELAP	06/30/2018
FL	Florida Department of Health	E871027 NELAP	06/30/2018
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2018
ME	State of Maine	2011028	06/9/2019
VA	Commonwealth of Virginia	460217	12/14/2018
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2018
VT-DW	Vermont Department of Health Drinking Water	VT-255716	06/12/2018
NC-DW	North Carolina Department of Health	25703	07/31/2018

18E0250

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CHAIN OF CUSTODY RECORD

39 Spruce Street
East Longmeadow, MA 01028

Page 1 of 1

Phone: 413-525-2332
Fax: 413-525-6405
Email: info@contestlabs.com

Company Name:	EnviroTrac Ltd.
Address:	2 Merchant St., Suite 2, Sharon, MA 02067
Phone:	781-793-0074
Project Name:	Speedway #2457
Project Location:	251 Everett Avenue, Chelsea, MA
Project Number:	03.SW2457.01
Project Manager:	Aaron Benoit
Con-Test Quote Name/Number:	
Invoice Recipient:	Dena Tomassi
Sampled By:	W. Fernandez

Requested Turnaround Time
7-Day ☐ 10-Day ☐
Due Date: 5 day TAT

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

Data Delivery
Format: PDF ☑ EXCEL ☑
Other:
CLP Like Data Pkg Required: ☐
Email To: denat@envirotrac.com
Fax To #:

ANALYSIS REQUESTED

	Chloride by 300 / SM 4110 B	TRC by 4500 Cl G	TSS by SM 2540 D	Cyanide by 335.4	Benzene and Total BTEX by 624	SVOCs by 625	TPH by 1664 A	Ethanol by 8260	MTBE, TBA, TAME by 624	pH by SM 4500 HB / EPA 150.1	Hardness by SM 2340 C	Chromium VI by 7196 A	Ammonia by SM4500 B&D	Mercury by 245.1 / 7470 A	Total Metals by 200.8	Dissolved Metals by 200.7	5-micron Metals by 200.7
# of Containers	1	1	1	1	3	2	2	3	3	2	2	2	2	1	2	1	1
² Preservation Code	I	I	I	X	H	I	H	H	H	I	I	I	S	N	N	N	N
³ Container Code	P	P	P	P	V	A	A	V	V	P	P	P	P	P	P	P	P

Con-Test Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	Composite	Grab	¹Matrix Code	Conc Code	Chloride	TRC	TSS	Cyanide	BTEX	SVOCs	TPH	Ethanol	MTBE, TBA, TAME	pH	Hardness	Chromium VI	Ammonia	Mercury	Total Metals	Dissolved Metals	5-micron Metals
1	MW-101	5/14/18	9:40		x	GW	U	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
2	SW-1	5/14/18	~~11:10~~ 11:30		x	O	U										x	x	x	x	x	x		

Dissolved Metals Samples
○ Field Filtered
○ Lab to Filter

Orthophosphate Samples
○ Field Filtered
○ Lab to Filter

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

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)

Comments: Metals = Sb, As, Cd, CrIII, Cu, Fe, Pb, Ni, Se, Ag, Zn; dissolved metals sample has been field filtered with a 0.45-micron filter. 5-micron metals sample has been field filtered with a 5-micron filter.

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

Relinquished by: (signature) [signature]	Date/Time: 5/4/18 1507
Received by: (signature) [signature]	Date/Time: 5/4/18 1507
Relinquished by: (signature) [signature]	Date/Time: 5/4/18 1945
Received by: (signature) [signature] 2.1	Date/Time: 5/4/18 19:45
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:

Detection Limit Requirements
MA: Must meet GW-1 standards
CT:
Other:

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

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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

Glassware Submitted: MW-101
- 4 250 mL, unpreserved plastic
- 1 250 mL sulfuric pres. plastic
- 3, 250 mL nitric preserved plastic (1 not filtered, 1 filtered 5mm filter, 1 filtred with 0.45 mm filtered)
- 1, 500 mL NaOH/Ascorbic acid preserved plastic
- 9, 40 mL HCL VOA vials
- 2, 1 L unpreserved amberglass
- 2, 1 L HCL preserved Amber

SW-1
- 2 250 mL unpreserved plastic
- 1 250 mL sulfric pres. plastic
- 1, 250 mL nitric preserved plastic

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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 Envirotrac

Received By SE Date 5/14/18 Time 19:45

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 # 577 Actual Temp - 2.1 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 pertinent Information? Client T Analysis T Sampler Name T 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? F Who was notified? ____

Are there Short Holds? F Who was notified? ____

Is there enough Volume? T

Is there Headspace where applicable? F MS/MSD? F

Proper Media/Containers Used? T Is splitting samples required? F

Were trip blanks received? F On COC? N/A

Do all samples have the proper pH? T Acid pH<2 Base pH>12

Vials	#	Containers:	#		#		#
Unp-		1 Liter Amb.	4	1 Liter Plastic		16 oz Amb.	
HCL-	9	500 mL Amb.		500 mL Plastic	1	8oz Amb/Clear	
Meoh-		250 mL Amb.		250 mL Plastic	12	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			

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:

Aaron Benoit

From: Dena Tomassi
Sent: Monday, May 07, 2018 1:52 PM
To: Aaron Benoit
Subject: Speedway #2457 and #2468: RGP ethanol analysis

Aaron,

Although the RGP calls for method 1671 for ethanol, there is a data substitution provision in the RGP for instances where specific methods can't be utilized (for whatever reason). In those instances, so long as the RGP limit can be met, we can email the EPA, explain why we used one method instead of the other, and provide the analytical that shows the parameter meets the applicable RGP method by the alternative method. We had to do this in two cases in the past (one for Speedway #2410 Walpole and one for Speedway #2436 Dennis Port). For both of those projects, ethanol was run by 8260.

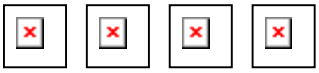
So, in summary and as discussed in our telephone call, please proceed with the ethanol analysis by 8260 for both Lowell and Chelsea.

Please let me know if you have any other questions or if you need anything else.

Thanks,

Dena

Dena Tomassi | Project Manager | EnviroTrac Ltd. | 2 Merchant Street Suite 2, Sharon MA 02067
781.793.0074 (Office) | 781.793.7877 (Fax) | 201.988.7888 (Cell) | denat@envirotrac.com



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

August 8, 2018

Dena Tomassi
EnviroTrac Ltd.
2 Merchant Street, Suite 2
Sharon, MA 02067

Project Location: 251 Everett Ave., Chelsea, MA
Client Job Number:
Project Number: 03.SW2457.01
Laboratory Work Order Number: 18E0250

Enclosed are results of analyses for samples received by the laboratory on May 4, 2018. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Aaron L. Benoit
Project Manager

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

EnviroTrac Ltd.
2 Merchant Street, Suite 2
Sharon, MA 02067
ATTN: Dena Tomassi

REPORT DATE: 8/8/2018

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 03.SW2457.01

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 18E0250

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

PROJECT LOCATION: 251 Everett Ave., Chelsea, MA

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
MW-101	18E0250-01	Ground Water		EPA 200.8	
SW-1	18E0250-02	Surface Water		EPA 200.8	
MW-101	18E0250-03	Ground Water		EPA 200.8	

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CASE NARRATIVE SUMMARY

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

EPA 200.8

Qualifications:

DL-15

Sample required a dilution due to low internal standard recovery of the lesser diluted digestion, reporting limit is elevated.

Analyte & Samples(s) Qualified:

Nickel
18E0250-01[MW-101], 18E0250-01RE1[MW-101], 18E0250-02[SW-1]

Zinc
18E0250-01[MW-101], 18E0250-01RE1[MW-101], 18E0250-02[SW-1]

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
Project Manager

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Project Location: 251 Everett Ave., Chelsea, MA Sample Description: Work Order: 18E0250

Date Received: 5/4/2018

Field Sample #: MW-101 Sampled: 5/4/2018 09:16

Sample ID: 18E0250-01

Sample Matrix: Ground Water

Metals Analyses (Total)

Analyte	Results	RL	DL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Nickel	16	25	1.9	µg/L	5	DL-15	EPA 200.8	5/9/18	5/10/18 12:26	WSD
Zinc	ND	100	24	µg/L	5	DL-15	EPA 200.8	5/9/18	5/10/18 12:26	WSD

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Project Location: 251 Everett Ave., Chelsea, MA Sample Description: Work Order: 18E0250

Date Received: 5/4/2018

Field Sample #: MW-101 Sampled: 5/4/2018 09:16

Sample ID: 18E0250-01

Sample Matrix: Ground Water

Metals Analyses (Dissolved)

Analyte	Results	RL	DL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Nickel	15	25	1.9	µg/L	5	DL-15	EPA 200.8	5/10/18	5/11/18 10:46	WSD
Zinc	ND	100	24	µg/L	5	DL-15	EPA 200.8	5/10/18	5/11/18 10:46	WSD

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Project Location: 251 Everett Ave., Chelsea, MA Sample Description: Work Order: 18E0250

Date Received: 5/4/2018

Field Sample #: SW-1 Sampled: 5/4/2018 11:35

Sample ID: 18E0250-02

Sample Matrix: Surface Water

Metals Analyses (Total)

Analyte	Results	RL	DL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Nickel	7.3	25	1.9	µg/L	5	DL-15	EPA 200.8	5/9/18	5/10/18 12:29	WSD
Zinc	ND	100	24	µg/L	5	DL-15	EPA 200.8	5/9/18	5/10/18 12:29	WSD

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Project Location: 251 Everett Ave., Chelsea, MA Sample Description: Work Order: 18E0250

Date Received: 5/4/2018

Field Sample #: MW-101 Sampled: 5/4/2018 09:16

Sample ID: 18E0250-03

Sample Matrix: Ground Water

Metals Analyses (Dissolved)

Analyte	Results	RL	DL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Nickel	14	5.0	0.37	µg/L	1		EPA 200.8	5/8/18	5/9/18 16:16	WSD
Zinc	20	20	4.9	µg/L	1		EPA 200.8	5/8/18	5/9/18 16:16	WSD

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Sample Extraction Data

Prep Method: EPA 200.8 Dissolved-EPA 200.8

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
18E0250-03 [MW-101]	B202852	50.0	50.0	05/08/18

Prep Method: EPA 200.8-EPA 200.8

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
18E0250-01 [MW-101]	B202963	50.0	50.0	05/09/18
18E0250-02 [SW-1]	B202963	50.0	50.0	05/09/18

Prep Method: EPA 200.8 Dissolved-EPA 200.8

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
18E0250-01RE1 [MW-101]	B203049	50.0	50.0	05/10/18

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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 B202963 - EPA 200.8										
Blank (B202963-BLK1)				Prepared: 05/09/18 Analyzed: 05/10/18						
Nickel	ND	5.0	µg/L							
Zinc	ND	20	µg/L							
LCS (B202963-BS1)				Prepared: 05/09/18 Analyzed: 05/10/18						
Nickel	516	50	µg/L	500		103	85-115			
Zinc	1040	200	µg/L	1000		104	85-115			
LCS Dup (B202963-BSD1)				Prepared: 05/09/18 Analyzed: 05/10/18						
Nickel	526	50	µg/L	500		105	85-115	1.89	20	
Zinc	1040	200	µg/L	1000		104	85-115	0.290	20	

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QUALITY CONTROL

Metals Analyses (Dissolved) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B202852 - EPA 200.8 Dissolved										
Blank (B202852-BLK1)				Prepared: 05/08/18 Analyzed: 05/09/18						
Nickel	ND	5.0	µg/L							
Zinc	ND	20	µg/L							
LCS (B202852-BS1)				Prepared: 05/08/18 Analyzed: 05/09/18						
Nickel	519	50	µg/L	500		104	85-115			
Zinc	1020	200	µg/L	1000		102	85-115			
LCS Dup (B202852-BSD1)				Prepared: 05/08/18 Analyzed: 05/09/18						
Nickel	561	50	µg/L	500		112	85-115	7.77	20	
Zinc	1080	200	µg/L	1000		108	85-115	5.38	20	
Batch B203049 - EPA 200.8 Dissolved										
Blank (B203049-BLK1)				Prepared: 05/10/18 Analyzed: 05/11/18						
Nickel	ND	5.0	µg/L							
Zinc	ND	20	µg/L							
LCS (B203049-BS1)				Prepared: 05/10/18 Analyzed: 05/11/18						
Nickel	542	50	µg/L	500		108	85-115			
Zinc	1080	200	µg/L	1000		108	85-115			
LCS Dup (B203049-BSD1)				Prepared: 05/10/18 Analyzed: 05/11/18						
Nickel	532	50	µg/L	500		106	85-115	1.83	20	
Zinc	1060	200	µg/L	1000		106	85-115	2.27	20	

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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.
DL-15	Sample required a dilution due to low internal standard recovery of the lesser diluted digestion, reporting limit is elevated.

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CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
EPA 200.8 in Water	
Nickel	CT,MA,NH,NY,RI,NC,ME,VA
Nickel	CT,MA,NH,NY,RI,NC,ME,VA
Zinc	CT,MA,NH,NY,RI,NC,ME,VA
Zinc	CT,MA,NH,RI,NY,NC,ME,VA

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

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC - ISO17025:2005	100033	03/1/2020
MA	Massachusetts DEP	M-MA100	06/30/2019
CT	Connecticut Department of Publilc Health	PH-0567	09/30/2019
NY	New York State Department of Health	10899 NELAP	04/1/2019
NH-S	New Hampshire Environmental Lab	2516 NELAP	02/5/2019
RI	Rhode Island Department of Health	LAO00112	12/30/2018
NC	North Carolina Div. of Water Quality	652	12/31/2018
NJ	New Jersey DEP	MA007 NELAP	06/30/2019
FL	Florida Department of Health	E871027 NELAP	06/30/2019
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2019
ME	State of Maine	2011028	06/9/2019
VA	Commonwealth of Virginia	460217	12/14/2018
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2018
VT-DW	Vermont Department of Health Drinking Water	VT-255716	06/12/2019
NC-DW	North Carolina Department of Health	25703	07/31/2019

18E0250

http://www.contestlabs.com Doc # 381 Rev 1_03242017

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CHAIN OF CUSTODY RECORD

Phone: 413-525-2332
Fax: 413-525-6405
Email: info@contestlabs.com

39 Spruce Street
East Longmeadow, MA 01028

Company Name:	EnviroTrac Ltd.
Address:	2 Merchant St., Suite 2, Sharon, MA 02067
Phone:	781-793-0074
Project Name:	Speedway #2457
Project Location:	251 Everett Avenue, Chelsea, MA
Project Number:	03.SW2457.01
Project Manager:	Aaron Benoit
Con-Test Quote Name/Number:	
Invoice Recipient:	Dena Tomassi
Sampled By:	W. Fernandez

Requested Turnaround Time
7-Day ☐ 10-Day ☐
Due Date: 5 day TAT

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

Data Delivery
Format: PDF ☑ EXCEL ☑
Other:
CLP Like Data Pkg Required: ☐
Email To: denat@envirotrac.com
Fax To #:

ANALYSIS REQUESTED

Analysis	# of Containers	Preservation Code[2]	Container Code[3]	MW-101	SW-1
Chloride by 300 / SM 4110 B	1	I	P	x	
TRC by 4500 Cl G	1	I	P	x	
TSS by SM 2540 D	1	I	P	x	
Cyanide by 335.4	1	X	P	x	
Benzene and Total BTEX by 624	3	H	V	x	
SVOCs by 625	2	I	A	x	
TPH by 1664 A	2	H	A	x	
Ethanol by 8260	3	H	V	x	
MTBE, TBA, TAME by 624	3	H	V	x	
pH by SM 4500 HB / EPA 150.1	2	I	P	x	x
Hardness by SM 2340 C	2	I	P	x	x
Chromium VI by 7196 A	2	I	P	x	x
Ammonia by SM4500 B&D	2	S	P	x	x
Mercury by 245.1 / 7470 A	1	N	P	x	x
Total Metals by 200.8	2	N	P	x	x
Dissolved Metals by 200.7	1	N	P	x	
5-micron Metals by 200.7	1	N	P	x	

Con-Test Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	Composite	Grab	[1]Matrix Code	Conc Code
1	MW-101	5/4/18	9:40		x	GW	U
2	SW-1	5/4/18	~~[illegible]~~ 11:30		x	O	U

Dissolved Metals Samples
○ Field Filtered
○ Lab to Filter

Orthophosphate Samples
○ Field Filtered
○ Lab to Filter

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

[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)

Comments: Metals = Sb, As, Cd, CrIII, Cu, Fe, Pb, Ni, Se, Ag, Zn; dissolved metals sample has been field filtered with a 0.45-micron filter. 5-micron metals sample has been field filtered with a 5-micron filter.

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

Signature	Date/Time
Relinquished by: (signature) [signature]	5/4/18 1507
Received by: (signature) [signature]	5/4/18 1507
Relinquished by: (signature) [signature]	5/4/18 1945
Received by: (signature) [signature] 2.1	5/4/18 19:45
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:

Detection Limit Requirements
MA: Must meet GW-1 standards
CT:
Other:

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

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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

Glassware Submitted: MW-101
- 1, 500 mL NaOH/Ascorbic acid preserved plastic
- 2, 1 L HCL preserved Amber
- 4 250 mL, unpreserved plastic
- 9, 40 mL HCL VOA vials
- 1 250 mL sulfuric pres. plastic
- 2, 1 L unpreserved amberglass
- 3, 250 mL nitric preserved plastic (1 not filtered, 1 filtered 5mm filter, 1 filtred with 0.45 mm filtered)

SW-1
- 2, 250 mL unpreserved plastic
- 1, 250 mL sulfric pres. plastic
- 1, 250 mL nitric preserved plastic

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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 Envirotrac

Received By SE Date 5/14/18 Time 19:45

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 # 577 Actual Temp - 2.1 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 pertinent Information? Client T Analysis T Sampler Name T 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? F Who was notified? ____

Are there Short Holds? F Who was notified? ____

Is there enough Volume? T

Is there Headspace where applicable? F MS/MSD? F

Proper Media/Containers Used? T Is splitting samples required? F

Were trip blanks received? F On COC? N/A

Do all samples have the proper pH? T Acid pH<2 Base pH>12

Vials	#	Containers:	#		#		#
Unp-		1 Liter Amb.	4	1 Liter Plastic		16 oz Amb.	
HCL-	9	500 mL Amb.		500 mL Plastic	1	8oz Amb/Clear	
Meoh-		250 mL Amb.		250 mL Plastic	12	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			

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:

Aaron Benoit

From: Dena Tomassi
Sent: Monday, May 07, 2018 1:52 PM
To: Aaron Benoit
Subject: Speedway #2457 and #2468: RGP ethanol analysis

Aaron,

Although the RGP calls for method 1671 for ethanol, there is a data substitution provision in the RGP for instances where specific methods can't be utilized (for whatever reason). In those instances, so long as the RGP limit can be met, we can email the EPA, explain why we used one method instead of the other, and provide the analytical that shows the parameter meets the applicable RGP method by the alternative method. We had to do this in two cases in the past (one for Speedway #2410 Walpole and one for Speedway #2436 Dennis Port). For both of those projects, ethanol was run by 8260.

So, in summary and as discussed in our telephone call, please proceed with the ethanol analysis by 8260 for both Lowell and Chelsea.

Please let me know if you have any other questions or if you need anything else.

Thanks,

Dena

Dena Tomassi | Project Manager | EnviroTrac Ltd. | 2 Merchant Street Suite 2, Sharon MA 02067
781.793.0074 (Office) | 781.793.7877 (Fax) | 201.988.7888 (Cell) | denat@envirotrac.com

APPENDIX C

Dilution Factor (DF) Calculation

The site will discharge to freshwater receiving waters in Massachusetts. The DF is calculated using the equation below.

A. Determine 7Q10:

The 7Q10 was obtained from the online StreamStats application available at: https://streamstats.usgs.gov/ss/.

The 7Q10 is not available for the receiving water.

B. Calculate Dilution Factor:

The equation used to calculate the dilution factor is:

$$\frac{QS + QD}{QD}$$

Where:

QS= 7Q10 in million gallons per day (MGD)
QD = Discharge flow in MGD

A DF of 1.0 will be used.

APPENDIX D

Massachusetts Cultural Resource Information System

MACRIS

MACRIS Search Results

Search Criteria: Town(s): Chelsea; Resource Type(s): Area, Building, Burial Ground, Object, Structure;

Inv. No.	Property Name	Street	Town	Year
CLS.A	Bellingham Square District		Chelsea	
CLS.B	Chelsea Square Historic District		Chelsea	
CLS.C	Downtown Chelsea Residential District		Chelsea	
CLS.D	Naval Hospital, Boston Historic District		Chelsea	
CLS.E	Metropolitan Park System of Greater Boston		Chelsea	
CLS.F	Heard - Maple Streets Industrial Area		Chelsea	
CLS.G	Marginal Street Industrial Area		Chelsea	
CLS.H	Upper Broadway Industrial Area		Chelsea	
CLS.I	Webster - Spencer Avenues Industrial Area		Chelsea	
CLS.J	Chelsea Garden Cemetery		Chelsea	
CLS.K	Eleanor Street Area		Chelsea	
CLS.L	Fitz Terrace Area		Chelsea	
CLS.M	Soldiers' Home		Chelsea	
CLS.N	Webster Avenue Area		Chelsea	
CLS.O	Chestnut Street Area		Chelsea	
CLS.P	High Street Area		Chelsea	
CLS.Q	Howell Court Area		Chelsea	
CLS.R	Pine Street Area		Chelsea	
CLS.S	Metropolitan Park System of Greater Boston		Chelsea	
CLS.T	Revere Beach Parkway		Chelsea	
CLS.U	Forbes Lithograph Manufacturing Company		Chelsea	
CLS.V	Saint Stanislaus Bishop and Martyr Church Complex		Chelsea	
CLS.W	Winnisimmet Streetscape		Chelsea	
CLS.X	Pembroke Streetscape		Chelsea	
CLS.Y	Williams Street Area		Chelsea	
CLS.Z	School Streetscape		Chelsea	

Inv. No.	Property Name	Street	Town	Year
CLS.AA	Front Streetscape		Chelsea	
CLS.AB	Eldridge Place Streetscape		Chelsea	
CLS.AC	Beacon Street, 5-11		Chelsea	
CLS.AD	Medford Street, 1-35		Chelsea	
CLS.AE	Medford Street, 2-56		Chelsea	
CLS.AF	Beacon Street, 16-22 and Tremont Street, 34		Chelsea	
CLS.AG	Beacon Street, 27-41		Chelsea	
CLS.AH	Beacon Street, 11-21		Chelsea	
CLS.AI	Beacon Street, 50-66		Chelsea	
CLS.AJ	Beacon Street, 24-42		Chelsea	
CLS.AK	Broadway, 49-69		Chelsea	
CLS.AL	Marlboro Streetscape		Chelsea	
CLS.AM	Grove Streetscape		Chelsea	
CLS.602	Naval Hospital Chapel	6 Admirals Way	Chelsea	1945
CLS.607	Cardy, William T. and Sons Paper Box Company	214 Arlington St	Chelsea	1908
CLS.368	Jackson, E. B. House	16 Bassett St	Chelsea	c 1900
CLS.230		5 Beacon St	Chelsea	r 1850
CLS.229		7 Beacon St	Chelsea	r 1850
CLS.222		10 Beacon St	Chelsea	c 1870
CLS.209		13 Beacon St	Chelsea	r 1850
CLS.210		15 Beacon St	Chelsea	r 1850
CLS.224		16-22 Beacon St	Chelsea	c 1865
CLS.225		16-22 Beacon St	Chelsea	c 1865
CLS.226		16-22 Beacon St	Chelsea	c 1865
CLS.227		16-22 Beacon St	Chelsea	c 1865
CLS.211		17 Beacon St	Chelsea	r 1850
CLS.212		19 Beacon St	Chelsea	r 1850
CLS.213		21 Beacon St	Chelsea	r 1850
CLS.191		24 Beacon St	Chelsea	r 1865
CLS.214		27 Beacon St	Chelsea	c 1850
CLS.192		28 Beacon St	Chelsea	r 1865
CLS.215		29 Beacon St	Chelsea	c 1850
CLS.216		31 Beacon St	Chelsea	c 1850
CLS.193		32 Beacon St	Chelsea	r 1865
CLS.217		33 Beacon St	Chelsea	c 1850
CLS.194		34 Beacon St	Chelsea	r 1865
CLS.218		35 Beacon St	Chelsea	c 1850
CLS.195		36 Beacon St	Chelsea	r 1865

Inv. No.	Property Name	Street	Town	Year
CLS.219		37 Beacon St	Chelsea	c 1850
CLS.196		38 Beacon St	Chelsea	r 1865
CLS.220		39 Beacon St	Chelsea	c 1850
CLS.197		40 Beacon St	Chelsea	r 1865
CLS.221		41 Beacon St	Chelsea	c 1850
CLS.198		42 Beacon St	Chelsea	r 1865
CLS.199		44 Beacon St	Chelsea	c 1850
CLS.200		50 Beacon St	Chelsea	c 1865
CLS.201		52 Beacon St	Chelsea	c 1865
CLS.202		54 Beacon St	Chelsea	c 1865
CLS.203		56 Beacon St	Chelsea	c 1865
CLS.204		60 Beacon St	Chelsea	c 1865
CLS.205		62 Beacon St	Chelsea	c 1865
CLS.206		64 Beacon St	Chelsea	c 1865
CLS.207		66 Beacon St	Chelsea	c 1865
CLS.754	Lawrence, Parker - Newhall, Cheever House	69 Beacon St	Chelsea	r 1850
CLS.702	Page, Samuel - Rosenberg, Louis House	95-97 Beacon St	Chelsea	r 1840
CLS.703	Samuels, Joseph House	102-104 Beacon St	Chelsea	r 1850
CLS.781		105 Beacon St	Chelsea	r 1875
CLS.704	Gould, Robert S. House	109 Beacon St	Chelsea	c 1842
CLS.705	Gould, William House	112 Beacon St	Chelsea	1844
CLS.706		116 Beacon St	Chelsea	c 1912
CLS.707	Waters, Jonathan S. House	116R Beacon St	Chelsea	c 1871
CLS.708		118 Beacon St	Chelsea	r 1880
CLS.709	Walters, Jonathan S. House	118R Beacon St	Chelsea	r 1870
CLS.710	Gannon, Timothy House	132 Beacon St	Chelsea	r 1890
CLS.915	Belling Street Bridge over Conrail	Belling St	Chelsea	1918
CLS.911	Bellingham Square Clock	Bellingham Sq	Chelsea	
CLS.901	Broadway Bridge	Broadway	Chelsea	c 1917
CLS.930	Columbus, Christopher Monument	Broadway	Chelsea	1938
CLS.190	Gardner, Abel House	26-28 Broadway	Chelsea	c 1805
CLS.189		51 Broadway	Chelsea	r 1850
CLS.188		53 Broadway	Chelsea	r 1850
CLS.187		55 Broadway	Chelsea	r 1850
CLS.186		57 Broadway	Chelsea	r 1850
CLS.185		59 Broadway	Chelsea	r 1850
CLS.184		61 Broadway	Chelsea	r 1850
CLS.183		63 Broadway	Chelsea	r 1850

Inv. No.	Property Name	Street	Town	Year
CLS.182		65 Broadway	Chelsea	r 1850
CLS.181		67 Broadway	Chelsea	r 1850
CLS.180		69 Broadway	Chelsea	r 1850
CLS.179		73 Broadway	Chelsea	r 1880
CLS.178		75 Broadway	Chelsea	r 1880
CLS.177		81 Broadway	Chelsea	1912
CLS.336	Bernstein, Anna House	85 Broadway	Chelsea	c 1876
CLS.337	Britt, William B. House	87 Broadway	Chelsea	c 1876
CLS.175	Imperial, The	100 Broadway	Chelsea	c 1890
CLS.176		103 Broadway	Chelsea	c 1870
CLS.338		120 Broadway	Chelsea	
CLS.339		120 Broadway	Chelsea	
CLS.163	Lenox Hotel	160 Broadway	Chelsea	c 1898
CLS.912	Stebbins Fountain	171 Broadway	Chelsea	c 1896
CLS.913	Chelsea Conversation	171 Broadway	Chelsea	c 1978
CLS.931	Crab Bricks	171 Broadway	Chelsea	1977
CLS.932	Pulaski, Gen. Casimir Monument	171 Broadway	Chelsea	1931
CLS.152	Wheeler Building	186 Broadway	Chelsea	c 1874
CLS.154	Stebbins Block	210 Broadway	Chelsea	c 1840
CLS.167	Stebbins Block	218 Broadway	Chelsea	c 1860
CLS.583	Exchange Building	227 Broadway	Chelsea	r 1909
CLS.340		232-236 Broadway	Chelsea	c 1935
CLS.174	Panonia Building	233 Broadway	Chelsea	r 1900
CLS.1	Wesson, Charles Building	251 Broadway	Chelsea	1910
CLS.87		260 Broadway	Chelsea	1912
CLS.3	Chelsea Savings Bank	267 Broadway	Chelsea	1909
CLS.86	Detorres Building	270 Broadway	Chelsea	1911
CLS.4	Bernstein, Fannie Building	275 Broadway	Chelsea	1909
CLS.85	Gould, Jesse - Willis Building	276 Broadway	Chelsea	1910
CLS.5	Bernstein - Lerman Building	279 Broadway	Chelsea	1920
CLS.6	Whittlesey, C. M. Building	287 Broadway	Chelsea	1908
CLS.84		288 Broadway	Chelsea	1909
CLS.83		290 Broadway	Chelsea	1911
CLS.82	Nelson - Dykeman Building	296 Broadway	Chelsea	1908
CLS.7	Bernstein - Lerman Building	297 Broadway	Chelsea	1919
CLS.81	Cushon, F. K. Building	302-306 Broadway	Chelsea	1908
CLS.8	Chelsea Masonic Temple	307 Broadway	Chelsea	1910
CLS.80	Hersom Brothers Building	308-312 Broadway	Chelsea	1908

Inv. No.	Property Name	Street	Town	Year
CLS.9	Currier General Store	313-317 Broadway	Chelsea	1910
CLS.79		320 Broadway	Chelsea	1911
CLS.10	Baer, Hyman D. Building	327 Broadway	Chelsea	c 1908
CLS.11	Baer, Hyman D. Building	331 Broadway	Chelsea	1908
CLS.12	Bernstein, Nathan - Lerman, David Building	339 Broadway	Chelsea	1920
CLS.13	Slosberg, Robert Building	343-349 Broadway	Chelsea	1909
CLS.77	Richmond, Moses Building	350 Broadway	Chelsea	1915
CLS.14	Slade, H. A. Building	351 Broadway	Chelsea	1908
CLS.76		360 Broadway	Chelsea	1915
CLS.15	Executive Building, The	361 Broadway	Chelsea	r 1915
CLS.75		376 Broadway	Chelsea	1964
CLS.74	Emerson, Fred Building	380 Broadway	Chelsea	1908
CLS.73	Mann, A. K. Building	388 Broadway	Chelsea	1909
CLS.72	Drake, Dr. Willard Building	394 Broadway	Chelsea	1908
CLS.71	Slade, George F. Building	396 Broadway	Chelsea	1912
CLS.16	Weinstein, Nathan - Gordon, Morris Building	399 Broadway	Chelsea	1913
CLS.70	Sevinor, R. Building	400 Broadway	Chelsea	1919
CLS.17	Mann, A. K. Building	403 Broadway	Chelsea	1908
CLS.69	Anthony, George Building	404 Broadway	Chelsea	1915
CLS.18	Jones, Robert Building	407 Broadway	Chelsea	1909
CLS.68	Strauss, Henry Building	408 Broadway	Chelsea	1908
CLS.19	Douglass, Ella Building	411 Broadway	Chelsea	1908
CLS.20	Wentworth, Royal General Store	413 Broadway	Chelsea	1910
CLS.21	Wentworth, Henry Building	413 Broadway	Chelsea	1911
CLS.67		416 Broadway	Chelsea	1909
CLS.914	Chelsea Walk	418-420 Broadway	Chelsea	1978
CLS.65		422 Broadway	Chelsea	1908
CLS.64		426 Broadway	Chelsea	1912
CLS.63		434 Broadway	Chelsea	1912
CLS.22	County Savings Bank Building	435 Broadway	Chelsea	1910
CLS.62		440 Broadway	Chelsea	1915
CLS.23	Loud, Julia M. Building	443 Broadway	Chelsea	1909
CLS.25	Broadway National Bank	449 Broadway	Chelsea	1969
CLS.61	Freeman Building	458 Broadway	Chelsea	r 1908
CLS.60	DeDomenico Building	466 Broadway	Chelsea	r 1908
CLS.26	Callahan, N. M. Building	469 Broadway	Chelsea	1922
CLS.27	Wheeler, Herbert - Lawrence, Abbott Building	475 Broadway	Chelsea	1910
CLS.48	DeDomenico, S. Building	478 Broadway	Chelsea	r 1908

Inv. No.	Property Name	Street	Town	Year
CLS.28	Cohen, Julius Apartments	481 Broadway	Chelsea	1910
CLS.36	Chelsea City Hall	500 Broadway	Chelsea	1910
CLS.910	Soldiers and Sailors Monument	501 Broadway	Chelsea	c 1867
CLS.29	Chelsea Public Library	569 Broadway	Chelsea	1910
CLS.30	Eisenberg - Shapiro Building	571 Broadway	Chelsea	1929
CLS.34	Saint Rose Roman Catholic School	580 Broadway	Chelsea	1911
CLS.31	McGlinckey, Elizabeth V. Building	583 Broadway	Chelsea	1911
CLS.32	Klein, Joseph Row House	585 Broadway	Chelsea	1908
CLS.33	Saint Rose Roman Catholic Church	598 Broadway	Chelsea	1866
CLS.1003	Chelsea Engine #3 Fire Station	883 Broadway	Chelsea	1887
CLS.630	Chelsea Wire Fabric Rubber Factory	960 Broadway	Chelsea	c 1890
CLS.631	United Indigo and Chemical Company Brick Addition	960 Broadway	Chelsea	r 1915
CLS.632	American Finish and Chemical Company Shed	960 Broadway	Chelsea	c 1970
CLS.636	American Finish and Chemical Office	1010 Broadway	Chelsea	1964
CLS.633	Suffolk Varnish Factory - North Building	1016 Broadway	Chelsea	c 1910
CLS.634	Raffi-Swanson Lacquer Factory - South Building	1016 Broadway	Chelsea	c 1928
CLS.635	American Finish and Chemical Sheds	1016 Broadway	Chelsea	r 1965
CLS.588	Boston Naval Hospital - Building 59	100 Captains Row	Chelsea	c 1857
CLS.645	Cary Avenue Baptist Church	16 Cary Ave	Chelsea	c 1865
CLS.646	Cary Avenue Baptist Church Hall	16 Cary Ave	Chelsea	c 1865
CLS.647	First Church of Christ Scientist	18 Cary Ave	Chelsea	c 1927
CLS.648	McKey - Baldwin, F. S. House	22 Cary Ave	Chelsea	c 1874
CLS.649	Flanders, E. S. House	28 Cary Ave	Chelsea	c 1874
CLS.650	Wadsworth, Lewis L. House	29 Cary Ave	Chelsea	c 1874
CLS.551		12-14 Central Ave	Chelsea	r 1908
CLS.552		29 Central Ave	Chelsea	r 1914
CLS.553		35 Central Ave	Chelsea	r 1914
CLS.554		37 Central Ave	Chelsea	1915
CLS.800	Chelsea Garden Cemetery	70 Central Ave	Chelsea	1841
CLS.801	Chelsea Garden Cemetery - Civil War Soldier's Plot	70 Central Ave	Chelsea	1868
CLS.902	Chelsea Garden Cemetery - Gerris Grave Stone	70 Central Ave	Chelsea	r 1850
CLS.903	Chelsea Garden Cemetery - Slate Grave Stone	70 Central Ave	Chelsea	r 1850
CLS.904	Chelsea Garden Cemetery - Litchfield Grave Stone	70 Central Ave	Chelsea	1945
CLS.905	Chelsea Garden Cemetery - Spooner Ornamental Plot	70 Central Ave	Chelsea	c 1940
CLS.906	Chelsea Garden Cemetery - Crafts Grave Stone	70 Central Ave	Chelsea	1916

Inv. No.	Property Name	Street	Town	Year
CLS.907	Chelsea Garden Cemetery - Founder's Monument	70 Central Ave	Chelsea	1916
CLS.908	Chelsea Garden Cemetery - Townsend Grave Stone	70 Central Ave	Chelsea	1895
CLS.909	Chelsea Garden Cemetery - Bickford Grave Stone	70 Central Ave	Chelsea	1918
CLS.923	Chelsea Garden Cemetery - Stone Retaining Wall	70 Central Ave	Chelsea	c 1841
CLS.924	Chelsea Garden Cemetery - Wrought Iron Fence	70 Central Ave	Chelsea	c 1930
CLS.925	Chelsea Garden Cemetery - Cast Iron Cannon	70 Central Ave	Chelsea	r 1850
CLS.926	Chelsea Garden Cemetery - Metal Flagpole	70 Central Ave	Chelsea	r 1950
CLS.927	Chelsea Garden Cemetery - Tombs	70 Central Ave	Chelsea	c 1842
CLS.928	Chelsea Garden Cemetery - Olsen Memorial Centotaph	70 Central Ave	Chelsea	1862
CLS.900	Chelsea Street Bridge over Chelsea River	Chelsea St	Chelsea	1936
CLS.49	Hixon, William E. Building	224 Cherry St	Chelsea	1912
CLS.45	Hixon, William E. Building	230 Cherry St	Chelsea	1912
CLS.124	Feinstein Building	7 Chester Ave	Chelsea	1912
CLS.135	Rosen - Selesnick Building	8 Chester Ave	Chelsea	1911
CLS.125	Baker, Morris Building	23-25 Chester St	Chelsea	1911
CLS.134	Richardson, Emma House	26 Chester St	Chelsea	1908
CLS.126	Maltzman, Jacob Building	27-31 Chester St	Chelsea	1912
CLS.133	Segal - Ostrovitz House	30 Chester St	Chelsea	1916
CLS.755	Fay, Frank B. House	27 Chestnut St	Chelsea	r 1840
CLS.756		33 Chestnut St	Chelsea	r 1880
CLS.757	Lawrence, Parker - Lent, Vincent House	48 Chestnut St	Chelsea	r 1850
CLS.758	Lawrence, Parker - Whitney, Charles House	50 Chestnut St	Chelsea	r 1850
CLS.759	Slade, Levi - Shipley, Horatio House	58 Chestnut St	Chelsea	c 1844
CLS.799	Saint Stanislaus Roman Catholic Church Rectory	163 Chestnut St	Chelsea	c 1910
CLS.1000	Saint Stanislaus Roman Catholic Church	163 Chestnut St	Chelsea	1908
CLS.1001	Saint Stanislaus Roman Catholic Church Convent	181 Chestnut St	Chelsea	c 1908
CLS.1002	Saint Stanislaus Roman Catholic Church School	181 Chestnut St	Chelsea	1919
CLS.51		253 Chestnut St	Chelsea	1911
CLS.52	Sheehan, Mary Building	257 Chestnut St	Chelsea	1911
CLS.53	Weinstein, Nathan Building	261 Chestnut St	Chelsea	1914
CLS.58	Sheckter, Bennet Three-Decker	270 Chestnut St	Chelsea	1915
CLS.57	Rosenfield, Aleck House	274 Chestnut St	Chelsea	1916
CLS.56	Skeckter, Bennet House	278 Chestnut St	Chelsea	1915
CLS.55		280 Chestnut St	Chelsea	1914

Inv. No.	Property Name	Street	Town	Year
CLS.54	Glazer, Philip Apartments	284-286 Chestnut St	Chelsea	1916
CLS.38	Central Fire Station	307 Chestnut St	Chelsea	1908
CLS.39	New England Telephone and Telegraph Company	311 Chestnut St	Chelsea	1911
CLS.35	New England Telephone and Telegraph Company	1 City Hall Ave	Chelsea	1958
CLS.390	Chelsea High School	8 Clark Ave	Chelsea	1905
CLS.651	Laurie, David A. House	11 Clark Ave	Chelsea	c 1910
CLS.652	Edwards, John C. - Peak, John C. House	13-15 Clark Ave	Chelsea	c 1870
CLS.784	Peak, John C. Carriage Barn	13-15 Clark Ave	Chelsea	c 1886
CLS.653	Stickney, Joseph W. House	19 Clark Ave	Chelsea	c 1870
CLS.785	Makatzky, Samuel Garage	19 Clark Ave	Chelsea	1935
CLS.348	Dodge, George E. House	57 Clark Ave	Chelsea	c 1890
CLS.584	Boston Naval Hospital - Quarters A	50 Commandants Way	Chelsea	c 1856
CLS.585	Boston Naval Hospital - Building 1	100 Commandants Way	Chelsea	c 1836
CLS.587	Boston Naval Hospital - Building 3	255 Commandants Way	Chelsea	c 1836
CLS.586	Boston Naval Hospital - Building 2	285 Commandants Way	Chelsea	c 1836
CLS.2	Congress Building	11 Congress Ave	Chelsea	1909
CLS.555		14 Congress Ave	Chelsea	r 1908
CLS.562		15 Congress Ave	Chelsea	r 1908
CLS.556		18 Congress Ave	Chelsea	r 1914
CLS.557		22-24 Congress Ave	Chelsea	r 1908
CLS.558		26 Congress Ave	Chelsea	r 1908
CLS.559		32 Congress Ave	Chelsea	r 1908
CLS.563		37 Congress Ave	Chelsea	r 1908
CLS.564		47 Congress Ave	Chelsea	r 1908
CLS.561		52-54 Congress Ave	Chelsea	r 1914
CLS.565		69-71 Congress Ave	Chelsea	r 1908
CLS.566		73 Congress Ave	Chelsea	r 1908
CLS.567		75 Congress Ave	Chelsea	r 1908
CLS.568		77 Congress Ave	Chelsea	r 1914
CLS.569		85-87 Congress Ave	Chelsea	r 1914
CLS.570		89 Congress Ave	Chelsea	r 1908
CLS.362	Moses, Susie A. House	3 County Rd	Chelsea	c 1900
CLS.363	Hodgdon, Susan M. House	15 County Rd	Chelsea	c 1890
CLS.356	Gould, James House	16 County Rd	Chelsea	c 1900
CLS.364		19 County Rd	Chelsea	c 1914
CLS.365	Buck, P. B. House	25 County Rd	Chelsea	1890

Inv. No.	Property Name	Street	Town	Year
CLS.357	First Congregational Church	26 County Rd	Chelsea	1906
CLS.358	Herson, Frank S. House	36-38 County Rd	Chelsea	c 1890
CLS.359	Chipman, William R. House	44 County Rd	Chelsea	c 1900
CLS.366	Faunce, Charles W. House	51 County Rd	Chelsea	1914
CLS.360		52 County Rd	Chelsea	c 1914
CLS.361	Faunce, Charles W. House	56 County Rd	Chelsea	c 1914
CLS.367	Pepper, Emma K. L. House	57 County Rd	Chelsea	c 1900
CLS.654		37 Crest Ave	Chelsea	r 1905
CLS.655	Larrabee, M. F. House	41 Crest Ave	Chelsea	r 1890
CLS.730	Commandant's House - Soldiers' Home	76 Crest Ave	Chelsea	1911
CLS.729	Williams Hall - Soldiers' Home	80 Crest Ave	Chelsea	r 1890
CLS.732	Adams, John G. B. Hospital - Soldiers' Home	86 Crest Ave	Chelsea	1908
CLS.736	Soldiers' Home Greenhouse	88 Crest Ave	Chelsea	
CLS.737	Soldiers' Home Laundry	88 Crest Ave	Chelsea	1920
CLS.733	Soldiers' Home Headquarters	91 Crest Ave	Chelsea	c 1886
CLS.731	Sullivan Building - Soldiers' Home	96 Crest Ave	Chelsea	c 1886
CLS.728	Sargent Hall - Soldiers' Home	100 Crest Ave	Chelsea	r 1890
CLS.426	Bennett Houses	25 Division St	Chelsea	1860
CLS.427	Bennett Houses	27 Division St	Chelsea	r 1860
CLS.428	Bennett Houses	29 Division St	Chelsea	1860
CLS.429	Bennett Houses	31 Division St	Chelsea	1860
CLS.430	Donnell House	33 Division St	Chelsea	r 1890
CLS.420		34 Division St	Chelsea	c 1840
CLS.421		36 Division St	Chelsea	c 1840
CLS.431		37 Division St	Chelsea	r 1890
CLS.422	Godbold House	40 Division St	Chelsea	r 1825
CLS.432		47-49 Division St	Chelsea	r 1900
CLS.423		50 Division St	Chelsea	c 1845
CLS.433		51-55 Division St	Chelsea	r 1920
CLS.424		52 Division St	Chelsea	1960
CLS.434	Cardy House	59-61 Division St	Chelsea	c 1845
CLS.164	Gerrish, George Apartments	73 Division St	Chelsea	c 1860
CLS.165	Gerrish, George Apartments	75 Division St	Chelsea	c 1860
CLS.166	Gerrish, George Apartments	77 Division St	Chelsea	c 1860
CLS.161	Gerrish, George Rowhouse	82 Division St	Chelsea	c 1850
CLS.162	Gerrish, George Rowhouse	86 Division St	Chelsea	c 1850
CLS.435		127 Division St	Chelsea	r 1910
CLS.436		129 Division St	Chelsea	r 1910

Inv. No.	Property Name	Street	Town	Year
CLS.437		151 Division St	Chelsea	r 1910
CLS.438		155 Division St	Chelsea	r 1920
CLS.439		157 Division St	Chelsea	r 1920
CLS.644	Sawyer Crystal Blue Company Factory	12 Dudley St	Chelsea	r 1865
CLS.637	Martin, Thomas Elastic Web Co. North Weaving Loft	60 Dudley St	Chelsea	r 1875
CLS.638	Martin, Thomas Elastic Web Co. South Weaving Loft	60 Dudley St	Chelsea	r 1875
CLS.639	Martin, Thomas Elastic Web Weaving & Winding Loft	60 Dudley St	Chelsea	1908
CLS.325		1 Eldridge Pl	Chelsea	c 1870
CLS.326		2 Eldridge Pl	Chelsea	c 1870
CLS.327		3 Eldridge Pl	Chelsea	c 1870
CLS.328		4 Eldridge Pl	Chelsea	c 1870
CLS.329		5 Eldridge Pl	Chelsea	c 1870
CLS.330		6 Eldridge Pl	Chelsea	c 1870
CLS.331		7 Eldridge Pl	Chelsea	c 1870
CLS.334		10 Eldridge Pl	Chelsea	c 1870
CLS.656	Davis, D. C. House	56 Eleanor St	Chelsea	c 1880
CLS.657	Oakes, Annie M. House	58 Eleanor St	Chelsea	c 1914
CLS.658	Oakes, George T. House	62 Eleanor St	Chelsea	c 1870
CLS.659	Perkins, James H. House	64 Eleanor St	Chelsea	c 1870
CLS.660	Thompson, W. - Martin, Thomas House	65 Eleanor St	Chelsea	c 1874
CLS.661	Watts, L. H. House	68 Eleanor St	Chelsea	c 1890
CLS.662	McConville - Parsons, M. E. House	79 Eleanor St	Chelsea	c 1890
CLS.663	Cook, C. S. House	83 Eleanor St	Chelsea	r 1890
CLS.664	Turner, Thomas - Manson, A. F. House	86 Eleanor St	Chelsea	c 1880
CLS.665	Turner, Thomas - Cutter, Howard House	92 Eleanor St	Chelsea	r 1890
CLS.481		6 Ellsworth St	Chelsea	r 1908
CLS.482	Gerrish House	44 Ellsworth St	Chelsea	r 1880
CLS.571		12 Essex St	Chelsea	r 1914
CLS.916	Quigley Park	25 Essex St	Chelsea	
CLS.572		44 Essex St	Chelsea	r 1914
CLS.573		48 Essex St	Chelsea	r 1908
CLS.574		50 Essex St	Chelsea	r 1908
CLS.576		51 Essex St	Chelsea	r 1908
CLS.575		52 Essex St	Chelsea	r 1908
CLS.577		53 Essex St	Chelsea	r 1908
CLS.578		55 Essex St	Chelsea	r 1908

Inv. No.	Property Name	Street	Town	Year
CLS.579		57 Essex St	Chelsea	r 1908
CLS.580		59 Essex St	Chelsea	r 1908
CLS.341	Chelsea Clock Company	284 Everett Ave	Chelsea	1895
CLS.40	Zelterman, A. Building	1-3 Fay Sq	Chelsea	1916
CLS.317	Gerrish, George House	2-8 Ferry St	Chelsea	c 1874
CLS.50	Hixon, William E. Building	13-17 Fifth St	Chelsea	r 1912
CLS.59	Mosca, Bernardo Building	16 Fifth St	Chelsea	1909
CLS.721		1-3 Fitz Terr	Chelsea	r 1900
CLS.722		2-4 Fitz Terr	Chelsea	r 1900
CLS.724		5-7 Fitz Terr	Chelsea	r 1900
CLS.723		6 Fitz Terr	Chelsea	r 1900
CLS.726		9-11 Fitz Terr	Chelsea	r 1900
CLS.725		10-12 Fitz Terr	Chelsea	r 1900
CLS.786	Forbes Lithograph Mfg. Company - Building A	1 Forbes St	Chelsea	c 1883
CLS.787	Forbes Lithograph Mfg. Company - Building A-1	1 Forbes St	Chelsea	1881
CLS.788	Forbes Lithograph Mfg. Company - Building B	1 Forbes St	Chelsea	1881
CLS.789	Forbes Lithograph Mfg. Company - Building B-1	1 Forbes St	Chelsea	r 1900
CLS.790	Forbes Lithograph Mfg. Company - Building C	1 Forbes St	Chelsea	1881
CLS.791	Forbes Lithograph Mfg. Company - Building C-1	1 Forbes St	Chelsea	1911
CLS.792	Forbes Lithograph Mfg. Company - Building D	1 Forbes St	Chelsea	r 1880
CLS.793	Forbes Lithograph Mfg. Company - Building G	1 Forbes St	Chelsea	r 1900
CLS.794	Forbes Lithograph Mfg. Company - Building K	1 Forbes St	Chelsea	r 1900
CLS.795	Forbes Lithograph Mfg. Company - Building N	1 Forbes St	Chelsea	1881
CLS.796	Forbes Lithograph Mfg. Company - Building S	1 Forbes St	Chelsea	c 1894
CLS.797	Forbes Lithograph Mfg. Company - Building W	1 Forbes St	Chelsea	1928
CLS.798	Forbes Lithograph Mfg. Company - Building X	1 Forbes St	Chelsea	1923
CLS.938	Forbes Street Bridge over B & M Railroad	1 Forbes St	Chelsea	
CLS.667	Lowell, Edward H. House	19 Forsyth St	Chelsea	r 1890
CLS.88	Freedman, H. Building	9 Fourth St	Chelsea	1911
CLS.600		14 Fourth St	Chelsea	1909
CLS.89	Slade, H. A. Printing Offices	18 Fourth St	Chelsea	1908
CLS.668	Jeffers, Harriet C. House	91 Franklin Ave	Chelsea	c 1874
CLS.669	Maggi, Edith M. House	96 Franklin Ave	Chelsea	c 1900
CLS.670	Tucker, William House	138 Franklin Ave	Chelsea	r 1905
CLS.370	Stebbins, Isaac House	146 Franklin Ave	Chelsea	c 1870
CLS.372	McClennan, E. - Burrage, A. A. House	155 Franklin Ave	Chelsea	c 1890
CLS.378	Pratt, Caleb House	33 Franklin St	Chelsea	c 1870
CLS.377	Cheever, Dr. John House	56 Franklin St	Chelsea	c 1870

Inv. No.	Property Name	Street	Town	Year
CLS.671	Blanchar, J. S. House	158 Franklin St	Chelsea	c 1880
CLS.701	Bowles House	10-12 Freemont Ave	Chelsea	
CLS.284		6 Front St	Chelsea	c 1950
CLS.276		12 Front St	Chelsea	r 1850
CLS.277		14 Front St	Chelsea	r 1850
CLS.278		16 Front St	Chelsea	r 1850
CLS.279		18 Front St	Chelsea	r 1850
CLS.280		20 Front St	Chelsea	r 1850
CLS.281		22 Front St	Chelsea	r 1850
CLS.282		24 Front St	Chelsea	r 1850
CLS.283		26 Front St	Chelsea	r 1850
CLS.666	Davis, E. House	12 Gardner St	Chelsea	c 1874
CLS.345	Calder, William House	13 Gardner St	Chelsea	c 1870
CLS.343	Wheelock, E. W. House	24 Gardner St	Chelsea	c 1900
CLS.672	Anderson, Alfred and Edward House	33 Gardner St	Chelsea	c 1890
CLS.380		74 Garland St	Chelsea	r 1915
CLS.608	Russell Box Company - Chelsea Carton Company	88 Gerrish Ave	Chelsea	c 1911
CLS.609	Russell Box Company Engine House	88 Gerrish Ave	Chelsea	c 1911
CLS.610	Russell Box Company Storehouse	88 Gerrish Ave	Chelsea	1914
CLS.136	Kaplan, Isidor Building	12 Grove St	Chelsea	1912
CLS.137	Kaplan, Isidor Building	16 Grove St	Chelsea	1912
CLS.138	Packard, Angeline House	24 Grove St	Chelsea	1911
CLS.139	Rotman, H. Building	26 Grove St	Chelsea	1915
CLS.140	Wolf and Glazer Building	30 Grove St	Chelsea	1916
CLS.141	Sneed, Samuel Building	36 Grove St	Chelsea	1912
CLS.142	Sneed, Samuel Building	44 Grove St	Chelsea	1912
CLS.375	Menns, M. E. House	79 Harvard St	Chelsea	c 1870
CLS.483	Cunningham House	12 Hawthorn St	Chelsea	r 1857
CLS.484	Cunningham House	14 Hawthorn St	Chelsea	r 1857
CLS.485	Cunningham House	16 Hawthorn St	Chelsea	r 1857
CLS.486	Gerrish House	28 Hawthorn St	Chelsea	r 1857
CLS.487	Gerrish House	30 Hawthorn St	Chelsea	r 1857
CLS.488	Gerrish House	32 Hawthorn St	Chelsea	r 1857
CLS.489		34 Hawthorn St	Chelsea	r 1857
CLS.507		35 Hawthorn St	Chelsea	c 1880
CLS.490		36 Hawthorn St	Chelsea	r 1857
CLS.491		38 Hawthorn St	Chelsea	r 1857

Inv. No.	Property Name	Street	Town	Year
CLS.508	Marine Hospital Barn	39-41 Hawthorn St	Chelsea	c 1840
CLS.492		40 Hawthorn St	Chelsea	r 1857
CLS.493	Black House	42 Hawthorn St	Chelsea	r 1857
CLS.494		44 Hawthorn St	Chelsea	r 1857
CLS.495		46 Hawthorn St	Chelsea	r 1857
CLS.509		51 Hawthorn St	Chelsea	r 1914
CLS.496		52 Hawthorn St	Chelsea	r 1914
CLS.510		53 Hawthorn St	Chelsea	r 1914
CLS.497		56 Hawthorn St	Chelsea	r 1908
CLS.511		59 Hawthorn St	Chelsea	r 1914
CLS.512		61 Hawthorn St	Chelsea	r 1908
CLS.498		64 Hawthorn St	Chelsea	r 1908
CLS.500		70 Hawthorn St	Chelsea	r 1914
CLS.501		74 Hawthorn St	Chelsea	1916
CLS.502		78-80 Hawthorn St	Chelsea	r 1914
CLS.503		84-86 Hawthorn St	Chelsea	r 1914
CLS.504	Chelsea Veteran Firemen's Association Building	88 Hawthorn St	Chelsea	r 1908
CLS.505	Richmond Building	100 Hawthorn St	Chelsea	r 1908
CLS.506		102-108 Hawthorn St	Chelsea	r 1915
CLS.513		111 Hawthorn St	Chelsea	r 1914
CLS.514	Hawthorne Building	113-117 Hawthorn St	Chelsea	r 1914
CLS.102	Kaplan, Hyman Building	116 Hawthorn St	Chelsea	1911
CLS.515		119 Hawthorn St	Chelsea	r 1914
CLS.90	Hawthorn Apartments	121 Hawthorn St	Chelsea	1925
CLS.98		130 Hawthorn St	Chelsea	1930
CLS.99	Exxon Gas Station	130 Hawthorn St	Chelsea	1937
CLS.91	Ribok, David Building	131-133 Hawthorn St	Chelsea	1916
CLS.92	Ribok, David Building	135 Hawthorn St	Chelsea	1916
CLS.93	Feinstein Building	139-141 Hawthorn St	Chelsea	1912
CLS.94	Victoria Building	149 Hawthorn St	Chelsea	1911
CLS.95	First National Store	157-163 Hawthorn St	Chelsea	1946
CLS.96	Bull, John Building	165 Hawthorn St	Chelsea	1912
CLS.24	U. S. Post Office - Chelsea Branch	175 Hawthorn St	Chelsea	r 1910
CLS.760	Wilkinson, John H. House	8 High St	Chelsea	r 1865
CLS.761	Wentworth, Henry House	11 High St	Chelsea	r 1850
CLS.762	Wilkinson, John H. House	12 High St	Chelsea	r 1850
CLS.763	Wilkinson, John H. House	16 High St	Chelsea	r 1850
CLS.764	Peabody, James H. - Webber, G. T. Double	19-21 High St	Chelsea	r 1845

Inv. No.	Property Name	Street	Town	Year
	House			
CLS.765	Blake, John J. - Pratt, Phinneas House	20 High St	Chelsea	c 1846
CLS.766	Blake, John J. House	24 High St	Chelsea	c 1844
CLS.767	Blake, John J. - Pettingill, S. S. House	28 High St	Chelsea	r 1850
CLS.768		30 High St	Chelsea	r 1860
CLS.673	Kilby, Charles House	6 Hillside Ave	Chelsea	c 1890
CLS.674	Kilby, Charles House	12 Hillside Ave	Chelsea	c 1890
CLS.675	Coakley, M. B. House	18 Hillside Ave	Chelsea	c 1915
CLS.676	Soldiers Home Assistant Commandant's House	34 Hillside Ave	Chelsea	c 1890
CLS.735	Keville House - Soldiers' Home	60 Hillside Ave	Chelsea	r 1950
CLS.734	Saint Michael Archangel Chapel - Soldiers' Home	90 Hillside Ave	Chelsea	r 1950
CLS.769	Gould, William House	3 Howell Ct	Chelsea	r 1850
CLS.770	Wilkinson, John H. - Peabody, James A. House	6-8 Howell Ct	Chelsea	r 1840
CLS.771	Gould, William House	9 Howell Ct	Chelsea	r 1845
CLS.772	Wilkinson, John H. - Peabody, James A. House	10-12 Howell Ct	Chelsea	r 1840
CLS.773		17 Howell Ct	Chelsea	r 1890
CLS.774	Peabody, James A. House	20 Howell Ct	Chelsea	c 1840
CLS.677		45-47 Jefferson Ave	Chelsea	1926
CLS.382	Underhill, J. J. House	17 John St	Chelsea	c 1870
CLS.678	Pratt, O. - Hixon, J. L. House	20 John St	Chelsea	r 1885
CLS.383	Butler, R. E. House	21 John St	Chelsea	1890
CLS.384	Butler, J. E. House	23 John St	Chelsea	c 1885
CLS.385	Paul, F. E. House	25-27 John St	Chelsea	c 1890
CLS.680	Strahan, Jonathan Double House	29-31 John St	Chelsea	r 1880
CLS.679	Hutchins, E. R. House	32 John St	Chelsea	r 1874
CLS.681	Strahan, Jonathan Double House	33-35 John St	Chelsea	r 1880
CLS.682	Strahan, Jonathan Double House	37-39 John St	Chelsea	r 1890
CLS.379		57 Kimball Rd	Chelsea	r 1915
CLS.683		6 Lafayette Ave	Chelsea	c 1900
CLS.684	Rich, Thomas W. House	21 Lafayette Ave	Chelsea	c 1874
CLS.387	Lynch, Patrick House	11 Library	Chelsea	c 1909
CLS.342	Strahan, Thomas Wallpaper Factory	260 Maple St	Chelsea	c 1907
CLS.616	Strahan, Thomas Wallpaper Factory Storehouse	260 Maple St	Chelsea	c 1920
CLS.617	Strahan, Thomas Wallpaper Factory Office Building	260 Maple St	Chelsea	1946
CLS.582	Captain's Row	68 Marginal St	Chelsea	c 1842
CLS.589	Captain's Row	88 Marginal St	Chelsea	c 1842
CLS.595	Captain's Row	92 Marginal St	Chelsea	c 1842

Inv. No.	Property Name	Street	Town	Year
CLS.591	Captian's Row	96 Marginal St	Chelsea	c 1842
CLS.618	Austin, C. F. Cracker and Animal Food Bakery	110 Marginal St	Chelsea	1864
CLS.619	Austin, C. F. Bakery Brick Loft #1	110 Marginal St	Chelsea	c 1864
CLS.620	Austin, C. F. Bakery Brick Loft #2	110 Marginal St	Chelsea	1902
CLS.621	White, Holman Company Furniture Factory	124 Marginal St	Chelsea	c 1880
CLS.623	White, A. and Company Chair Factory Warehouse	150 Marginal St	Chelsea	1982
CLS.622	White, A. and Company Chair Factory	158 Marginal St	Chelsea	c 1865
CLS.624	Cabot, Samuel Company Stain Plant	227 Marginal St	Chelsea	c 1909
CLS.625	Cabot, Samuel Company Eelgrass Quilting Warehouse	229 Marginal St	Chelsea	c 1909
CLS.626	Cabot, Samuel Company Flue Building	235 Marginal St	Chelsea	1925
CLS.627	Cabot, Samuel Company Lampblack Building	235 Marginal St	Chelsea	1924
CLS.628	Cabot, Samuel Company Shingle Shed	250 Marginal St	Chelsea	c 1920
CLS.629	Cabot, Samuel Company Washroom and Lunchroom	250 Marginal St	Chelsea	r 1925
CLS.145	Hubner, Augustus Building	15 Marlboro	Chelsea	1911
CLS.146	McCarthy, Ellen House	19 Marlboro	Chelsea	1909
CLS.150	Weinstein, Nathan Building	41-43 Marlboro	Chelsea	1910
CLS.143	White, Mary Building	1 Marlboro St	Chelsea	1908
CLS.144	Murphy House	3 Marlboro St	Chelsea	1909
CLS.147	Baker, Morris Building	25 Marlboro St	Chelsea	1910
CLS.148	Weinstein, Nathan Building	31 Marlboro St	Chelsea	1910
CLS.149	Weinstein, Nathan Building	35 Marlboro St	Chelsea	1910
CLS.231		1 Medford St	Chelsea	c 1850
CLS.247		2 Medford St	Chelsea	c 1850
CLS.232		3 Medford St	Chelsea	c 1850
CLS.248		4 Medford St	Chelsea	c 1850
CLS.233		5 Medford St	Chelsea	c 1850
CLS.249		6 Medford St	Chelsea	c 1850
CLS.234		7 Medford St	Chelsea	c 1850
CLS.250		8 Medford St	Chelsea	c 1850
CLS.235		9 Medford St	Chelsea	c 1850
CLS.251		10 Medford St	Chelsea	c 1850
CLS.236		11 Medford St	Chelsea	c 1850
CLS.252		12 Medford St	Chelsea	c 1850
CLS.237		13 Medford St	Chelsea	c 1850
CLS.253		14 Medford St	Chelsea	c 1850
CLS.238		15 Medford St	Chelsea	c 1850

Inv. No.	Property Name	Street	Town	Year
CLS.254		16 Medford St	Chelsea	c 1850
CLS.255		16 Medford St	Chelsea	c 1850
CLS.239		17 Medford St	Chelsea	c 1850
CLS.240		19 Medford St	Chelsea	c 1850
CLS.256		20 Medford St	Chelsea	c 1850
CLS.241		21 Medford St	Chelsea	c 1850
CLS.257		22 Medford St	Chelsea	c 1850
CLS.242		23 Medford St	Chelsea	c 1850
CLS.258		24 Medford St	Chelsea	c 1850
CLS.243		25 Medford St	Chelsea	c 1850
CLS.259		26 Medford St	Chelsea	c 1850
CLS.260		28 Medford St	Chelsea	c 1850
CLS.261		30 Medford St	Chelsea	c 1850
CLS.262		32 Medford St	Chelsea	c 1850
CLS.246		33 Medford St	Chelsea	c 1850
CLS.263		34 Medford St	Chelsea	c 1850
CLS.264		36 Medford St	Chelsea	c 1850
CLS.265		38 Medford St	Chelsea	c 1850
CLS.266		40 Medford St	Chelsea	c 1850
CLS.267		42 Medford St	Chelsea	c 1850
CLS.268		44 Medford St	Chelsea	c 1850
CLS.603		46 Medford St	Chelsea	c 1850
CLS.270		48 Medford St	Chelsea	c 1850
CLS.271		50 Medford St	Chelsea	c 1850
CLS.272		52 Medford St	Chelsea	c 1850
CLS.273		54 Medford St	Chelsea	c 1850
CLS.274		56 Medford St	Chelsea	c 1850
CLS.918	Mill Creek Railroad Bridge	Mill Creek	Chelsea	1985
CLS.373	Ladies Relief Society Building	3 Nichols St	Chelsea	c 1885
CLS.376	Pratt, Caleb House	35 Nichols St	Chelsea	c 1870
CLS.374	Ruggles, Louisa M. House	42 Nichols St	Chelsea	c 1900
CLS.294		1 Park St	Chelsea	
CLS.295		1 Park St	Chelsea	
CLS.296		1 Park St	Chelsea	
CLS.324		7-9 Park St	Chelsea	c 1850
CLS.601	Police Court Building	17-19 Park St	Chelsea	c 1897
CLS.160	Gerrish, George Rowhouse	80 Park St	Chelsea	c 1850
CLS.171	Gerrish, George Building	80 Park St	Chelsea	c 1845

Inv. No.	Property Name	Street	Town	Year
CLS.173	Bennett, S. H. Building	92 Park St	Chelsea	c 1870
CLS.448	Chelsea Square Garage	99-101 Park St	Chelsea	1917
CLS.172	Chelsea Fire Engine House #1	104 Park St	Chelsea	1871
CLS.470	Park Halls	108 Park St	Chelsea	r 1908
CLS.471		114 Park St	Chelsea	r 1920
CLS.478		115 Park St	Chelsea	c 1965
CLS.480		141 Park St	Chelsea	r 1920
CLS.472		144 Park St	Chelsea	r 1920
CLS.473		148 Park St	Chelsea	r 1920
CLS.474		152 Park St	Chelsea	r 1920
CLS.475		154 Park St	Chelsea	r 1920
CLS.476		156-160 Park St	Chelsea	r 1908
CLS.685	Hovey, James House	16 Parker St	Chelsea	c 1874
CLS.347	Goodwin, H. J. House	19-21 Parker St	Chelsea	c 1890
CLS.156	Bellingham - Cary, Gov. House	34 Parker St	Chelsea	r 1659
CLS.686	Holbrook, John House	41 Parker St	Chelsea	r 1915
CLS.344	Fitz, Eustace C. House	45 Parker St	Chelsea	r 1860
CLS.687	Hurvitz, Louis House	58 Parker St	Chelsea	r 1915
CLS.921	McArdle Bridge	Pearl St	Chelsea	1954
CLS.440	Ellis House	66 Pearl St	Chelsea	r 1855
CLS.441		68 Pearl St	Chelsea	c 1845
CLS.459		69 Pearl St	Chelsea	r 1830
CLS.442	Oakes House	70-72 Pearl St	Chelsea	r 1900
CLS.460	Nickerson House	73 Pearl St	Chelsea	c 1890
CLS.461		73 1/2 Pearl St	Chelsea	c 1875
CLS.462		77 Pearl St	Chelsea	r 1860
CLS.463	Shaw, P. S. House	79 Pearl St	Chelsea	r 1860
CLS.443	Slade House	80 Pearl St	Chelsea	r 1830
CLS.444	Slade House	82 Pearl St	Chelsea	r 1860
CLS.445		84 Pearl St	Chelsea	r 1865
CLS.464	Shaw, P. S. House	87 Pearl St	Chelsea	r 1860
CLS.446	Pratt House	88 Pearl St	Chelsea	c 1845
CLS.465	Nickerson House	89 Pearl St	Chelsea	r 1860
CLS.447	Kashishian Shoe Factory	92 Pearl St	Chelsea	c 1915
CLS.449		124-126 Pearl St	Chelsea	r 1920
CLS.450		128-130 Pearl St	Chelsea	r 1920
CLS.451		132 Pearl St	Chelsea	r 1910
CLS.550		139 Pearl St	Chelsea	r 1914

Inv. No.	Property Name	Street	Town	Year
CLS.560		139 Pearl St	Chelsea	r 1914
CLS.452		140 Pearl St	Chelsea	r 1920
CLS.453		144 Pearl St	Chelsea	r 1908
CLS.454		146-148 Pearl St	Chelsea	r 1908
CLS.455	Pearl Street Garage	154 Pearl St	Chelsea	1920
CLS.468		161-165 Pearl St	Chelsea	r 1908
CLS.456		168 Pearl St	Chelsea	r 1908
CLS.469		169-171 Pearl St	Chelsea	r 1920
CLS.457		170 Pearl St	Chelsea	r 1908
CLS.458		172-174 Pearl St	Chelsea	r 1908
CLS.101	Wolf - Glazer Building	178 Pearl St	Chelsea	1911
CLS.100	Freedman, Harry Building	184-186 Pearl St	Chelsea	1909
CLS.299		1 Pembroke St	Chelsea	r 1850
CLS.298		3 Pembroke St	Chelsea	r 1850
CLS.297		5 Pembroke St	Chelsea	r 1850
CLS.208		27 Pembroke St	Chelsea	r 1850
CLS.228		28 Pembroke St	Chelsea	r 1850
CLS.300	Gerrish, William House	34 Pembroke St	Chelsea	c 1880
CLS.386		10 Perkins Rd	Chelsea	r 1915
CLS.775		21 Pine St	Chelsea	r 1850
CLS.776	Francis, Edward House	27 Pine St	Chelsea	r 1845
CLS.777		29-31 Pine St	Chelsea	r 1850
CLS.778		32-38 Pine St	Chelsea	r 1840
CLS.779	Shanley, Thomas House	41 Pine St	Chelsea	c 1846
CLS.780	Lawrence, Parker - Oakes, Bradford House	45 Pine St	Chelsea	r 1845
CLS.782	Shanley, Thomas House	49 Pine St	Chelsea	c 1846
CLS.783		52 Pine St	Chelsea	r 1855
CLS.934	Revere Beach Parkway	Revere Beach Pkwy	Chelsea	1899
CLS.935	Samson, James Memorial Square	Revere Beach Pkwy	Chelsea	1903
CLS.936	Access Ramp E Overpass over Route 1 Access Ramp	Revere Beach Pkwy	Chelsea	1955
CLS.937	Revere Beach Parkway Median System	Revere Beach Pkwy	Chelsea	1899
CLS.381	Maggi, A. House	61 Reynolds Ave	Chelsea	c 1900
CLS.917	Tobin Bridge	Rt 1	Chelsea	1950
CLS.288		6 School St	Chelsea	r 1850
CLS.287		10 School St	Chelsea	r 1850
CLS.285		11 School St	Chelsea	r 1850
CLS.286		14 School St	Chelsea	r 1850

Inv. No.	Property Name	Street	Town	Year
CLS.127	Maltzman, Jacob Building	133 Shawmut	Chelsea	1912
CLS.132		136 Shawmut	Chelsea	1916
CLS.131	Segal - Ostovitz House	140 Shawmut	Chelsea	1916
CLS.128	Maltzman, Jacob House	141 Shawmut	Chelsea	1912
CLS.129	Winsor, Martha Building	143 Shawmut	Chelsea	1908
CLS.929	Chelsea Garden Cemetery - Patrick Centotaph	Shawmut St	Chelsea	1884
CLS.130	Chelsea Day Nursery	148 Shawmut St	Chelsea	1912
CLS.529		9 Shurtleff St	Chelsea	r 1840
CLS.530		15 Shurtleff St	Chelsea	r 1840
CLS.516		26 Shurtleff St	Chelsea	r 1857
CLS.531		27 Shurtleff St	Chelsea	r 1840
CLS.517		28 Shurtleff St	Chelsea	r 1857
CLS.518		30 Shurtleff St	Chelsea	r 1857
CLS.519		32 Shurtleff St	Chelsea	r 1857
CLS.532		33-35 Shurtleff St	Chelsea	r 1908
CLS.520		34 Shurtleff St	Chelsea	r 1857
CLS.533		37 Shurtleff St	Chelsea	r 1908
CLS.534		51 Shurtleff St	Chelsea	r 1914
CLS.521		52-54 Shurtleff St	Chelsea	r 1914
CLS.535	Bartlett, The	57-61 Shurtleff St	Chelsea	r 1908
CLS.536	Fitch House	65 Shurtleff St	Chelsea	r 1908
CLS.537	Harris House	69-71 Shurtleff St	Chelsea	r 1908
CLS.538	Harris House	75 Shurtleff St	Chelsea	r 1908
CLS.539	Greer House	77-81 Shurtleff St	Chelsea	r 1908
CLS.605	Shurtleff School	84 Shurtleff St	Chelsea	c 1909
CLS.540	Matz House	95-97 Shurtleff St	Chelsea	r 1908
CLS.541	Matz House	99 Shurtleff St	Chelsea	r 1908
CLS.542	Marnoy Building	101-107 Shurtleff St	Chelsea	1916
CLS.543		111 Shurtleff St	Chelsea	1970
CLS.522	Rosen Houses	112-114 Shurtleff St	Chelsea	r 1908
CLS.544		113-117 Shurtleff St	Chelsea	1986
CLS.523	Rosen Houses	116-118 Shurtleff St	Chelsea	r 1908
CLS.545		119 Shurtleff St	Chelsea	r 1915
CLS.524	Rosen Houses	120-122 Shurtleff St	Chelsea	r 1908
CLS.546		127 Shurtleff St	Chelsea	r 1915
CLS.525	Bean House	128-130 Shurtleff St	Chelsea	r 1908
CLS.547		129 Shurtleff St	Chelsea	r 1915
CLS.548		131 Shurtleff St	Chelsea	r 1915

Inv. No.	Property Name	Street	Town	Year
CLS.549	Collins House	135 Shurtleff St	Chelsea	r 1908
CLS.526	Jones House	136 Shurtleff St	Chelsea	r 1908
CLS.103	Glazer, Philip Building	137 Shurtleff St	Chelsea	1911
CLS.527	Shurtleff Street Synagogue	140 Shurtleff St	Chelsea	1960
CLS.104	Adams, Gardiner House	143 Shurtleff St	Chelsea	1909
CLS.528		144-146 Shurtleff St	Chelsea	r 1915
CLS.105	Baker, Morris Building	147 Shurtleff St	Chelsea	1911
CLS.123	Gold, Harry Apartment Building	148 Shurtleff St	Chelsea	1926
CLS.106	Baker, Morris Building	151 Shurtleff St	Chelsea	1911
CLS.107	Kaplan, Simon Building	159-161 Shurtleff St	Chelsea	1911
CLS.122	West, Charles A. Building	162 Shurtleff St	Chelsea	1911
CLS.108	Goldman, M. House	165 Shurtleff St	Chelsea	1919
CLS.109	Slotnick, Samuel Building	167 Shurtleff St	Chelsea	1914
CLS.121	Schwartz, B. and M. Building	168-170 Shurtleff St	Chelsea	1915
CLS.120	Slotnick, Lillian House	172 Shurtleff St	Chelsea	c 1919
CLS.110	Hersom, Harry L. House	173 Shurtleff St	Chelsea	1913
CLS.119	Slotnick, Samuel House	176 Shurtleff St	Chelsea	1913
CLS.111	First Baptist Church	185 Shurtleff St	Chelsea	1909
CLS.151	First Baptist Church Rectory	185 Shurtleff St	Chelsea	
CLS.118	Glazer, Philip Building	194 Shurtleff St	Chelsea	1911
CLS.112	Mount Bellingham Methodist Episcopal Church	195 Shurtleff St	Chelsea	1908
CLS.117	Glazer, Philip House	196 Shurtleff St	Chelsea	1911
CLS.116	Kaplan - Glazer Building	198-200 Shurtleff St	Chelsea	1915
CLS.113	Chelsea Y. M. C. A.	207 Shurtleff St	Chelsea	1910
CLS.114	Chelsea Post 34 American Legion Hall	215 Shurtleff St	Chelsea	1933
CLS.115	Baker, Sarah Building	221 Shurtleff St	Chelsea	1909
CLS.688	Vogel, Kassimir Double House	1-2 Silk St	Chelsea	r 1850
CLS.612	Walton, A. G. Company Shoe Factory	155 Sixth St	Chelsea	1905
CLS.613	Walton, A. G. Company Shoe Factory Boiler House	155 Sixth St	Chelsea	c 1906
CLS.614	Walton, A. G. Co. Shoe Factory Storage Building	155A Sixth St	Chelsea	1935
CLS.640	Everlastik Company Loft	181 Spencer Ave	Chelsea	1918
CLS.643	Chelsea Web Co. Weaving, Warping & Winding Loft	205 Spencer Ave	Chelsea	c 1900
CLS.642	Chelsea Web Company Loft	215 Spencer Ave	Chelsea	c 1882
CLS.389	Spencer Avenue School	220 Spencer Ave	Chelsea	1881
CLS.615	Bay State Improved Box Company Factory	238 Spruce St	Chelsea	c 1911
CLS.581		1-3 Suffolk St	Chelsea	r 1840

Inv. No.	Property Name	Street	Town	Year
CLS.689		8 Summit Ave	Chelsea	c 1914
CLS.690		29 Summit Ave	Chelsea	r 1930
CLS.691		29 Summit Ave	Chelsea	
CLS.727	Quigley Memorial Hospital - Soldiers' Home	100 Summit Ave	Chelsea	1952
CLS.922	Malone Park - Powderhorn Hill	100 Summit Ave	Chelsea	c 1775
CLS.933	Soldiers' Home Water Tower	100 Summit Ave	Chelsea	
CLS.301		16 Tremont St	Chelsea	c 1874
CLS.302		20 Tremont St	Chelsea	c 1880
CLS.305		21 Tremont St	Chelsea	c 1880
CLS.303		26 Tremont St	Chelsea	c 1880
CLS.304	Moore House	30 Tremont St	Chelsea	c 1860
CLS.223		34 Tremont St	Chelsea	c 1865
CLS.692	Willey, M. A. House	99 Tudor St	Chelsea	r 1885
CLS.606	Congregation Agudath Sholom	145 Walnut St	Chelsea	1909
CLS.388	Williams School	180 Walnut St	Chelsea	c 1909
CLS.369	Fall, Catherine - Clapp, Sarah House	6-8 Warren Ave	Chelsea	c 1890
CLS.920	Washington Avenue Bridge - Grand Junction Bridge	Washington Ave	Chelsea	1913
CLS.47	Healy, Thomas P. Building	10 Washington Ave	Chelsea	1909
CLS.46	Whitney, G. S. Building	18 Washington Ave	Chelsea	1909
CLS.44	Theise, Benjamin Building	22 Washington Ave	Chelsea	1924
CLS.43	Lawrence, F. P. Building	28 Washington Ave	Chelsea	1909
CLS.42	Chelsea Hebrew Free School	48 Washington Ave	Chelsea	c 1923
CLS.41	Hamer, Harry Building	52 Washington Ave	Chelsea	1922
CLS.693	Tudor Garage Company	141 Washington Ave	Chelsea	r 1900
CLS.694	Wilkinson, John H. Row House	189 Washington Ave	Chelsea	1889
CLS.695	Wilkinson, John H. Building	191-195 Washington Ave	Chelsea	1889
CLS.696	Saint Luke's Episcopal Church	203 Washington Ave	Chelsea	1907
CLS.697		208-214 Washington Ave	Chelsea	c 1870
CLS.698		216-220 Washington Ave	Chelsea	c 1874
CLS.699	Sandford, Mary J. House	242 Washington Ave	Chelsea	c 1870
CLS.349	Legg, Emily B. House	267 Washington Ave	Chelsea	c 1890
CLS.350	Babcock, S. G. House	269 Washington Ave	Chelsea	c 1900
CLS.351	Low, W. H. House	271 Washington Ave	Chelsea	c 1874
CLS.352	Smalley, Elizabeth H. House	279 Washington Ave	Chelsea	c 1900
CLS.353	Sawyer, Henry House	287 Washington Ave	Chelsea	c 1874
CLS.354	Curry, Silas House	289 Washington Ave	Chelsea	c 1874
CLS.355	Kimball, C. Henry House	295 Washington Ave	Chelsea	c 1880

Inv. No.	Property Name	Street	Town	Year
CLS.700	Harborview Apartments	300-312 Washington Ave	Chelsea	c 1924
CLS.919	Washington Park	390 Washington Ave	Chelsea	c 1885
CLS.391	Prattville School	441 Washington Ave	Chelsea	1897
CLS.37	Fire Alarm Headquarters	500 Washington St	Chelsea	c 1934
CLS.641	Eastern Elastic Gusset Company Loft	11 Webster Ave	Chelsea	c 1889
CLS.739		145 Webster Ave	Chelsea	
CLS.738		149 Webster Ave	Chelsea	
CLS.740		153 Webster Ave	Chelsea	
CLS.741		157 Webster Ave	Chelsea	
CLS.743		165 Webster Ave	Chelsea	
CLS.744		169 Webster Ave	Chelsea	
CLS.745		173 Webster Ave	Chelsea	
CLS.746		177 Webster Ave	Chelsea	
CLS.747		181 Webster Ave	Chelsea	
CLS.748		185 Webster Ave	Chelsea	
CLS.749	Tomczyk, Theresa House	187 Webster Ave	Chelsea	r 1900
CLS.750		191 Webster Ave	Chelsea	
CLS.751		193 Webster Ave	Chelsea	
CLS.742		195 Webster Ave	Chelsea	
CLS.752		199 Webster Ave	Chelsea	
CLS.425	Bennett Houses	9-11 Williams St	Chelsea	r 1860
CLS.292		35 Williams St	Chelsea	
CLS.289		38 Williams St	Chelsea	
CLS.290		40-42 Williams St	Chelsea	
CLS.293		43 Williams St	Chelsea	
CLS.291		88-90 Williams St	Chelsea	
CLS.711	Locke, Edwin House	120 Williams St	Chelsea	r 1845
CLS.611	Southwest Cone Company - Eastern Baking Company	201 Williams St	Chelsea	1916
CLS.320	Chase and Company Rubberworks	5-31 Winnisimmet St	Chelsea	1870
CLS.319	Chase and Company Rubberworks	39-37 Winnisimmet St	Chelsea	c 1874
CLS.316		44 Winnisimmet St	Chelsea	1925
CLS.318		65-69 Winnisimmet St	Chelsea	1900
CLS.312		84 Winnisimmet St	Chelsea	
CLS.313		88-90 Winnisimmet St	Chelsea	
CLS.311		101 Winnisimmet St	Chelsea	
CLS.314		102-104 Winnisimmet St	Chelsea	
CLS.310		111 Winnisimmet St	Chelsea	

Inv. No.	Property Name	Street	Town	Year
CLS.315		112-116 Winnisimmet St	Chelsea	1850
CLS.308		115 Winnisimmet St	Chelsea	
CLS.309		117-119 Winnisimmet St	Chelsea	
CLS.170	Stebbins, Issac Building	122 Winnisimmet St	Chelsea	1844
CLS.307		123 Winnisimmet St	Chelsea	
CLS.169	Stebbins, Issac Building	124 Winnisimmet St	Chelsea	c 1870
CLS.306		139 Winnisimmet St	Chelsea	
CLS.477		145 Winnisimmet St	Chelsea	c 1970
CLS.155	Gerrish Building	157 Winnisimmet St	Chelsea	1844
CLS.159	Broadway House - Park Hotel	171 Winnisimmet St	Chelsea	c 1850
CLS.168	Burman, B. Building	173 Winnisimmet St	Chelsea	c 1910
CLS.158	U. S. Post Office - Chelsea Branch	181 Winnisimmet St	Chelsea	c 1900

APPENDIX E

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

Middlesex and Suffolk counties, Massachusetts

Local office

New England Ecological Services Field Office

(603) 223-2541
(603) 223-0104

70 Commercial Street, Suite 300
Concord, NH 03301-5094

http://www.fws.gov/newengland

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population, even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species[1] and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries[2]).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact NOAA Fisheries for species under their jurisdiction.

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1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information.
2. 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.

THERE ARE NO ENDANGERED SPECIES EXPECTED TO OCCUR AT THIS LOCATION.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php
- Measures for avoiding and minimizing impacts to birds http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php
- Nationwide conservation measures for birds http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON (IF A BREEDING SEASON IS INDICATED FOR A BIRD ON YOUR LIST, THE BIRD MAY BREED IN YOUR PROJECT AREA SOMETIME WITHIN THE TIMEFRAME SPECIFIED, WHICH IS A VERY LIBERAL ESTIMATE OF THE DATES INSIDE WHICH THE BIRD BREEDS ACROSS ITS ENTIRE RANGE. "BREEDS ELSEWHERE" INDICATES THAT THE BIRD DOES NOT LIKELY BREED IN YOUR PROJECT AREA.)
American Oystercatcher Haematopus palliatus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/8935	Breeds Apr 15 to Aug 31

Bald Eagle Haliaeetus leucocephalus — Breeds Oct 15 to Aug 31

This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.
https://ecos.fws.gov/ecp/species/1626

Black Skimmer Rynchops niger — Breeds May 20 to Sep 15

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/5234

Bobolink Dolichonyx oryzivorus — Breeds May 20 to Jul 31

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Buff-breasted Sandpiper Calidris subruficollis — Breeds elsewhere

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9488

Canada Warbler Cardellina canadensis — Breeds May 20 to Aug 10

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Dunlin Calidris alpina arcticola — Breeds elsewhere

This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

King Rail Rallus elegans — Breeds May 1 to Sep 5

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/8936

Least Tern Sterna antillarum — Breeds Apr 20 to Sep 10

This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

Lesser Yellowlegs Tringa flavipes — Breeds elsewhere

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9679

Long-eared Owl asio otus — Breeds elsewhere

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/3631

Nelson's Sparrow Ammodramus nelsoni — Breeds May 15 to Sep 5
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Prairie Warbler Dendroica discolor — Breeds May 1 to Jul 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Purple Sandpiper Calidris maritima — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Red-throated Loon Gavia stellata — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Ruddy Turnstone Arenaria interpres morinella — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

Rusty Blackbird Euphagus carolinus — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Saltmarsh Sparrow Ammodramus caudacutus — Breeds May 15 to Sep 5
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Seaside Sparrow Ammodramus maritimus — Breeds May 10 to Aug 20
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Semipalmated Sandpiper Calidris pusilla — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Short-billed Dowitcher Limnodromus griseus — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9480

Snowy Owl Bubo scandiacus — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Whimbrel Numenius phaeopus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9483	Breeds elsewhere
Willet Tringa semipalmata This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Apr 20 to Aug 5
Wood Thrush Hylocichla mustelina This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 10 to Aug 31

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

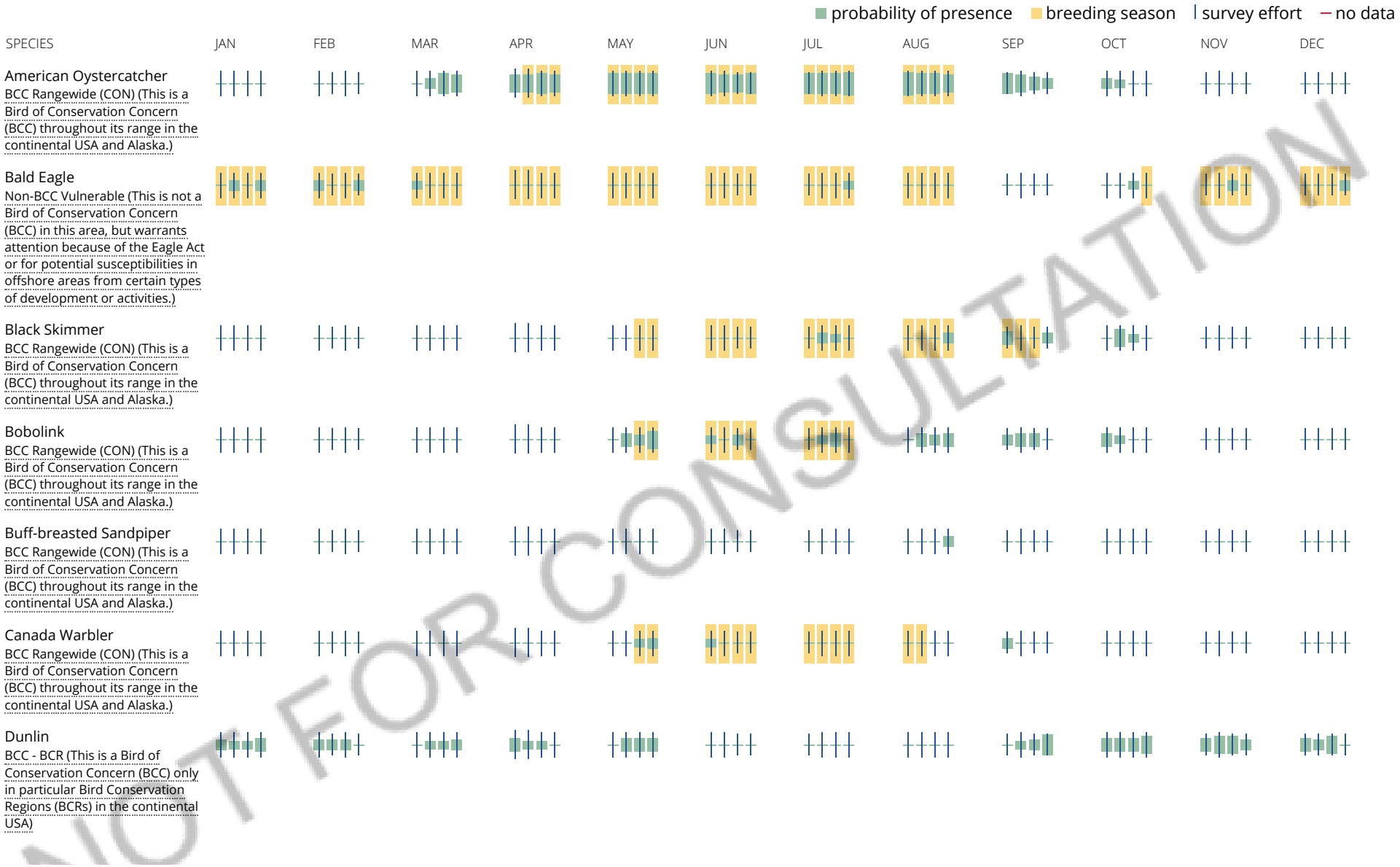
Breeding Season (■)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

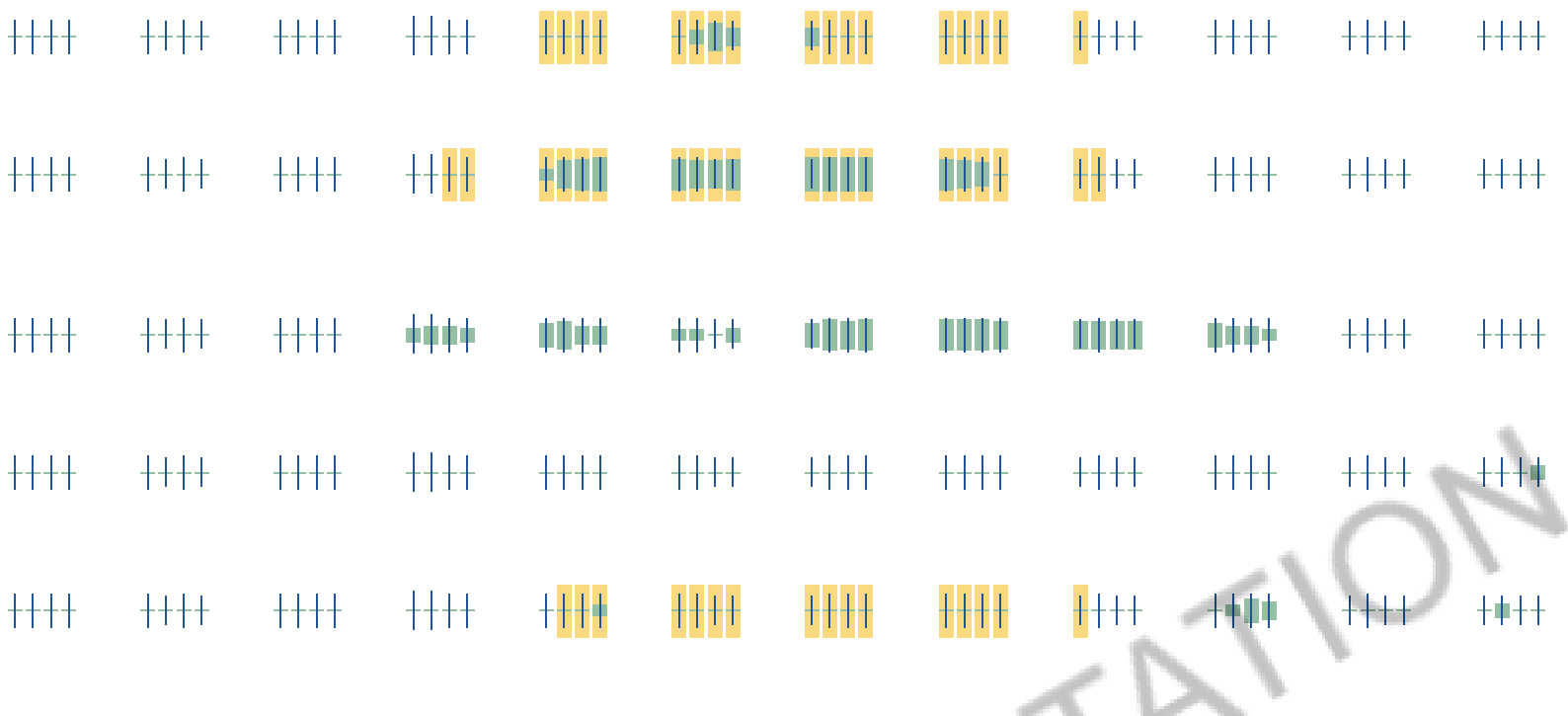
Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

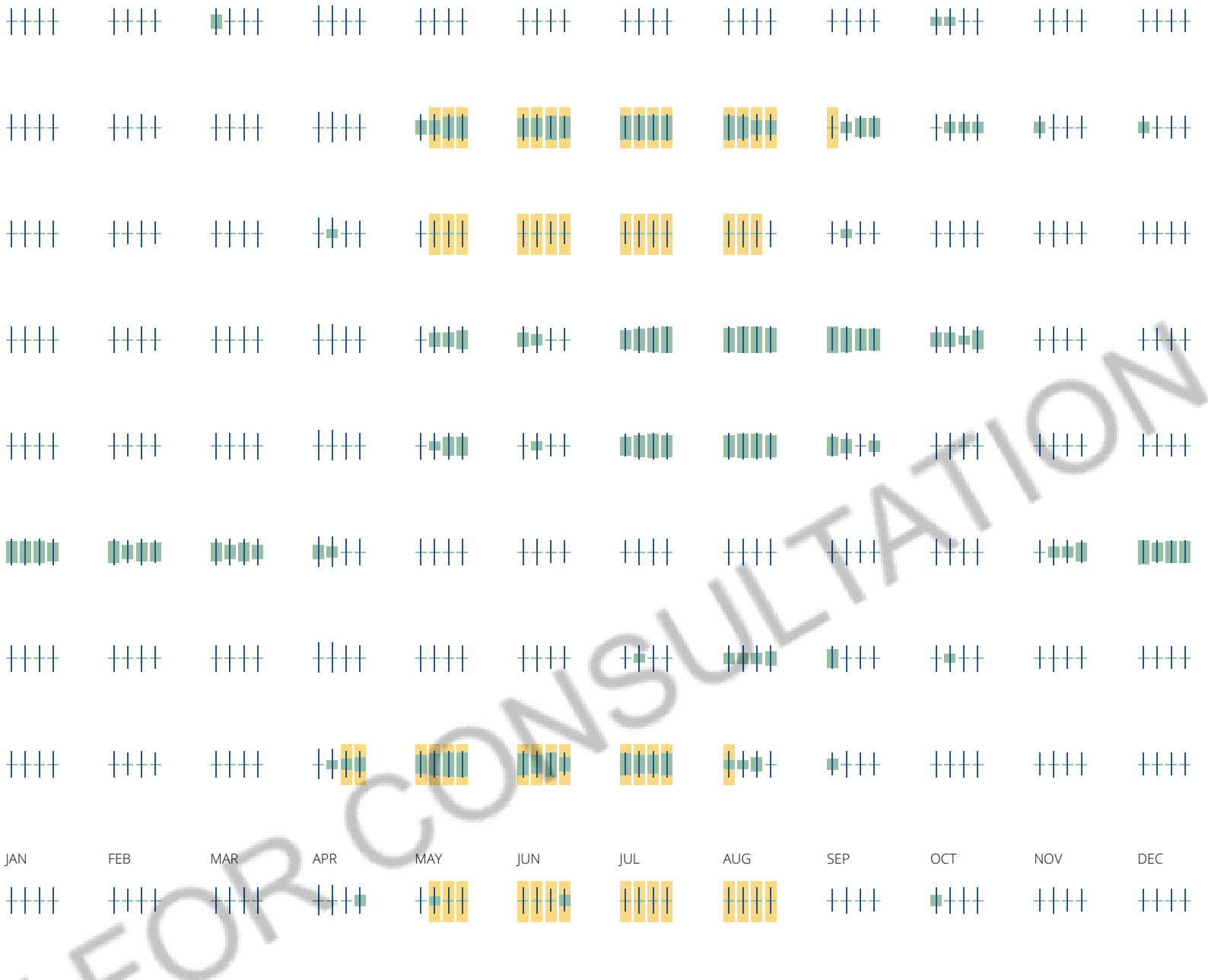
To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.







Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence

Summary. Additional measures and/or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the E-bird Explore Data Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets .

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: The Cornell Lab of Ornithology All About Birds Bird Guide, or (if you are unsuccessful in locating the bird of interest there), the Cornell Lab of Ornithology Neotropical Birds guide. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS AT THIS LOCATION.

Fish hatcheries

THERE ARE NO FISH HATCHERIES AT THIS LOCATION.

Wetlands in the National Wetlands Inventory

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

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

This location overlaps the following wetlands:

ESTUARINE AND MARINE DEEPWATER

E1UBLx

ESTUARINE AND MARINE WETLAND

E2USN

E2EM1P

A full description for each wetland code can be found at the National Wetlands Inventory website

Data limitations

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

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

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

Data exclusions

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

Data precautions

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