CLEAN SOILS ENVIRONMENTAL

Clean Soils Environmental, Ltd.
33 Estes Street
Ipswich, MA 01938
978-356-1177
cleansoils.com

September 12, 2019

Ms. Shauna Little
Environmental Protection Agency
Office of Environmental Stewardship (OES)
Water Technical Unit
5 Post Office Square, Suite 110 (OES4-SMR)
Boston, MA 02109-3912

Via email to: NPDES.Generalpermits@epa.gov

Re: NPDES RGP NOI
Valvoline Instant Oil Change (VIOC) Facility
118 Cambridge Street
Burlington, Massachusetts
MassDEP RTN 3-1081
CSE Project No. 2018.17

Dear Ms. Little,

On behalf of Valvoline Instant Oil Change (VIOC), Clean Soils Environmental, Ltd. (CSE) has revised the attached National Pollutant Discharge Elimination System (NPDES) Notice of Intent (NOI) to discharge treated groundwater under the auspices of the Remediation General Permit (RGP). This request is to allow for the treatment and discharge of potentially impacted groundwater to allow excavation activities associated with the remediation of impacted soil under Massachusetts Department of Environmental Protection (MassDEP) Release Tracking Number (RTN) 3-1081 and construction of the planned VIOC Facility at 118 Cambridge Street in Burlington, Massachusetts (the Property).

The revised NOI form is included as **Appendix A**. Thank you for your comments provided in your September 3, 2019 email, which are summarized here with CSE's responses:

Comment #1: Suggested NOI format, Part B.7. Any metal detected in influent must also be analyzed in receiving water to complete the effluent limit calculations required in Appendix V.

- Response #1**:** The Outfall 001 receiving water sample (Wetlands-1) was sampled for all influent detected metals including: Antimony, Arsenic, Iron, and Silver. The results are summarized on Table 2.

Comment #2: Suggested NOI format, Part D.1. Selection appears to be made in error. "New Discharge" appears to apply as this site does not appear to have an existing RGP permit.

- Response #2**:** Part D.1 has been revised to reflect a "New Discharge".

Comment #3: Suggested NOI format, Part D.1. Please list the number of outfalls for which you are seeking coverage. If the site will utilize one treatment system with one effluent point, Outfall 001 is sufficient.

- Response #3**:** the site will utilize one treatment system with one effluent point, which has been identified as "Outfall 001" in Part D.1.

Comment #4 Suggested NOI format, Part D.2. Selection appears to be made in error. Activity Category III, rather than I appears to apply. Concurrently, correct Contamination types G.A. G.D. and G.F.

- Response #4**:** Part D.2 has been corrected to a "Activity Category III" with corresponding Contamination types G.A. G.D. and G.F.

Comment #5: Suggested NOI format, Part D.4. Please indicate Naphthalene as present, a it was detected in the sample(s) collected.

- Response #5**:** Naphthalene has been marked as present in Part D.4.

Comment #6: Suggested NOI format, Part D.4. Please provide an electronic copy of the WQBEL calculations (in excel format).

- Response #6: An electronic copy of the WQBEL calculations is attached. Additionally, the excel format shall be submit directly via e-mail.

Comment #7: Suggested NOI format, Part E.3. Please correct design flow and/or maximum flow entries. The flow limit that will apply for the discharge will be equal to the design flow entered, or 1 MGD, whichever is less. As a result, the maximum proposed flow cannot exceed the design flow of the treatment system.

- Response #7**:** Part E.3 has been corrected to a 40 gpm design flow capacity and maximum effluent flow; the average effluent floe will be 10 gpm.

GENERAL SITE INFORMATION

The Property consists of an approximate 17,000 square foot parcel of land located at the intersection of Cambridge Street and Edwards Road in Burlington, Massachusetts. The site is currently operating as an automobile repair facility. The Property is covered by bituminous asphalt, with limited areas of landscaping and is located in an area zoned for mixed commercial and residential uses. The Property is bound to the north by Edwards Road and a dry cleaner facility beyond, to the east by residential properties, to the west by the Gochis Insurance property and residential properties beyond, and to the south by commercial properties.

The work area will consist of the northern portion of the Property where the current building with a slab-on-grade foundation will be razed and a cellar hole will be excavated and prepared for the planned VIOC facility. Dewatering is anticipated to be required for construction of the building foundations, utilities, and possible drainage improvements. Groundwater has been encountered at the site at approximately 4 to 6 feet below grade. Excavation for the building cellar foundation and utilities are expected to extend through fill and silty sand deposits with residual petroleum hydrocarbon (I.e., gasoline) affected soil to a depth of approximately 9 feet below existing grade in the paved portion of the work area, or approximately 3 to 5 ft below the average groundwater table.

Additional water may also be generated from surface runoff from precipitation and construction-generated water (e.g., wheel washes, dust control, decontamination activities, water utility testing, etc.). Temporary construction dewatering is anticipated to begin in September 2019 and is estimated to occur intermittently over a period of approximately 3 months.

This Property is portion of a Massachusetts Contingency Plan (MCP) waste disposal site identified as Massachusetts Department of Environmental Protection (MassDEP) Release Tracking Number (RTN) 3-1081.

On July 28, 1980, a notification was made to the MassDEP reporting a release of gasoline from the former underground storage tanks (USTs) located on the Property, which was operating as an Exxon gasoline retail facility at that time. Exxon implemented remediation activities consisting of water table depression and product recovery until April 1984. According to the available historical information, Exxon recovered approximately 3,575 gallons of liquid phase hydrocarbons (LPH) during the remediation activities at this location. In November 2000, a Phase IV – Remedy Implementation Plan (RIP) was submitted to the MADEP outlining the proposed remedial activities including the application of the remedial additive Oxygen Releasing Compound (ORC) on portions of the properties located at 118 Cambridge Street, 113 Cambridge Street, and 111 Cambridge Street, were initiated in April of 2001. Sampling results indicated decreased concentrations of petroleum constituents in groundwater in several of the pilot testing monitoring wells in the target (source) area. On August 14, 2007 Kleinfelder, on behalf of ExxonMobil, submitted a Phase IV RIP, outlining plans for the implementation of selective soil excavation in the source area on the 118 Cambridge Street property. Excavation activities took place between November 2007 and January 2008, a total of approximately 2,649 tons of soil were excavated and transported off-site for subsequent disposal/recycling. On August 19, 2010, a Class C-1 Response Action Outcome (RAO) Statement was submit to the MADEP. Since then, ORC socks have been periodically replaced within on-site monitoring wells and at least one groundwater monitoring well (MW-30) remains above the MCP GW-1 Groundwater Standard.

In June 2019, CSE implemented subsurface exploration program consisting of nine (9) test borings, designated as SB-1 through SB-9, was conducted to characterize in-situ soil anticipated to be excavated and transported off-site as part of construction activities. All nine (9) borings were completed via direct-push geoprobe technology within the proposed building footprint to a depth of 10 feet below ground surface (fbgs)

A total of five (5) soil samples were collected for site soil characterization. The selected soil samples were placed in laboratory grade sample bottles with the appropriate preservatives, placed on ice for preservation, and transported via a carrier to a Massachusetts Certified Laboratory (New England Testing Laboratory or "NETLAB") under a Chain of Custody to analyzed for total petroleum hydrocarbons (TPH) and Lead (Pb).

SOURCE WATER INFORMATION

According to the Massachusetts Geographic Information System (MassGIS) Map dated May 30, 2019 (**Figure 4**), the Property is not located within a Zone II or Zone A of a public drinking water supply or an Interim Wellhead Protection Area (IWPA). However, the Property is located within the Town of Burlington Aquifer Protection Zone (**Figure 5**). According to current Town of Burlington Bylaws, groundwater within this area is considered to be a Potential Drinking Water Source under the MCP and therefore must meet GW-1 Groundwater Standards.

There are no surface waters, vernal pools, ponds, lakes, streams, rivers or reservoirs known to be located within a 500-foot radius of the site. Unnamed wetlands exist to the southeast, southwest, and northwest of the Property. Long Meadow Brook is located approximately 1,640 feet west of Property, with an associated wetland area located within 450 feet of the Property. A protected open space exists to the northwest, west and southwest of the site, approximately 160 feet northwest of the site at its closest point. Public use areas within 500 feet of site include a Veterans of Foreign Wars lodge, which has a basement, and an athletic field used by Burlington High School.

To evaluate groundwater (source water) quality at the Property, one representative groundwater sample was obtained on June 12, 2019 from the monitoring well MW-30. The well location is shown on **Figure 2**.

The groundwater sample was sent to a MassDEP-certified laboratory, NETLAB, for analysis of constituents consistent with requirements of the 2017 NPDES Remediation General Permit, including volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), polycyclic aromatic hydrocarbons (PAHs), total metals, total petroleum hydrocarbons, pesticides, polychlorinated biphenyls (PCBs), total suspended solids, chloride, total cyanide, total phenolics, and total residual chlorine.

A summary of the groundwater chemical analytical data is provided as **Table 1**. The laboratory data report is provided in **Appendix F**.

Table 1 indicates Total Residual of Chlorine exceeds the 2017 NPDES RGP Site-Specific Criteria. Typically, Chlorine is not found in groundwater. It is mainly found in surface water. However, treated domestic drinking water with chlorine could have been induced via upgradient discharges from wash water for automobile cleaning (possible source abutter to the east), discharges from swimming pool (to the east), and discharges from lawn sprinkler systems. The remaining were all below this 2017 NPDES RGP Site-Specific Criteria.

UPDATED RECEIVING WATER INFORMATION

Receiving water quality data was collected in support of this NOI on June 12 and September 9, 2019, the results of which are summarized in **Table 2**. Receiving water temperature was obtained in the field at 19° C and 15.6° C, respectively. The sample was collected from Outfall 001 (Wetlands-1) feeding Long Meadow Brook approximately 50 ft from the proposed discharge area (i.e., stormwater outfall) as shown on **Figure 3A**. The laboratory data report is provided in **Appendix F**.

The receiving water for the indirect discharge of groundwater from the Property is a wetland that drains to Long Meadow Brook (freshwater). The seven-day-ten-year flow (7Q10) of the receiving water was established using the U.S. Geological Survey (USGS) StreamStats program and confirmed by Massachusetts Department of Environmental Protection (MassDEP) on June 7, 2019. According to MassDEP, a discharge to wetlands does not calculate a 7Q10 since no dilution is granted for discharges to wetlands. See e-mail correspondence included in **Appendix B**.

The EPA suggested WQBEL Calculation spreadsheet was used to calculate the effluent criteria for the site. Groundwater and Receiving Water data were input, and the resulting criteria were tabulated. Copies of the "EnterData" and "FreshwaterResults" tabs from the excel file provided as an additional resource by EPA are included in Appendix B and will be transmitted electronically with the NOI.

DISCHARGE INFORMATION

This NOI for an RGP is being applied for groundwater discharge necessary during site redevelopment construction activities. Please note, Long Meadow Brook is not an Outstanding Water Body according to the following link: http://maps.massgis.state.ma.us/map_ol/oliver.php. Therefore, it appears a discharge of treated remedial wastewater to a Wetlands is allowed without the use of a Publicly Owned Treatment Works (POTW).

During the excavation activities, it will be necessary to perform temporary construction dewatering to control surface water runoff from precipitation, groundwater seepage, and construction-generated water to enable excavations in-the-dry. Construction dewatering will include pumping and discharging treated groundwater to a municipal storm drain catch basin located on Edwards Road which discharges to wetlands north of the Burlington High School Athletic Field located approximately 1,000 feet northeast of the Property. The wetlands discharge to the Long Meadow Brook which is not an Outstanding Water Body. Refer to **Figures 3 and 3A** for the discharge route. The latitude and longitude of the discharge point (Outfall 001) is: 42°30'05.1"N, 71°11'46.6"W.

The temporary dewatering will take place in the cellar hole excavation and will be conducted with sumps located in the excavation. A Best Management Practices Plan (BMPP), which outlines the proposed discharge operations covered under the RGP, will be available at the Property and is not being submitted with this NOI as requested by EPA.

An effluent treatment system will be designed and implemented by the Contractor to meet the applicable 2017 RGP Discharge Effluent Criteria. Prior to discharge, collected water will be routed through a sedimentation tank and bag filters to remove suspended solids and undissolved chemical constituents, as shown on **Figure 6**. The treatment system may be modified, as necessary to include granulated activated carbon (GAC), ion exchange, and pH adjustment.

Only one discharge point, described above, will be necessary for dewatering activities. The estimated maximum daily flow is 40 gallons per minute (gpm), with a design flow of 40 gpm and

average effluent flow of 10 gpm. These estimations are expected to decrease once the excavation has been dewatered, and do not include surface run-off following precipitation events. The pH of onsite groundwater was measured at 6.13 (s.u.) and site activities are not anticipated to alter this pH. Discharge activities will only occur during site redevelopment, which is expected to occur between September to December 2019.

If needed, modifications to the system will be made. Modifications to the system will be submitted for approval via a Notice of Change (NOC).

DETERMINATION OF ENDANGERED SPECIES ACT ELIGIBILITY

According to the guidelines outlined in Appendix I of the 2017 NPDES RGP, a preliminary determination for the action area associated with this project was established using the U.S. Fish and Wildlife Service (FWS) Information, Planning, and Conservation (IPAC) online system; a copy of the determination is attached in **Appendix D**. There are no endangered or candidate species and no critical habitats within the project area for this NOI. There is one threatened species, the Northern Long-eared Bat (Myotis septentrionalis), on the list for this facility. However, no critical habitat has been designated for this species. Per the U.S. Fish and Wildlife Services, the Northern Long-eared Bat hibernates in caves and mines, swarming in surrounded wooded areas in autumn, and foraging in upland forests in late spring and summer. Based on the location and scope of this work in a densely commercially developed area, it is unlikely that dewatering activities associated with the redevelopment of this facility will adversely affect the Northern Long-eared Bat. Therefore, this ESA determination is FWS Criterion C.

DOCUMENTATION OF NATIONAL HISTORIC PRESERVATION ACT REQUIREMENTS

Based on a review of the resources provided by the U.S. National Register of Historic Places and a review of the Massachusetts Cultural Resource Information System (MACRIS), no historic places are located within 500 feet of the facility. Based on the location of historic places relative to the facility and the scope of this work, it is unlikely that dewatering activities associated with the redevelopment of this facility will adversely affect any historic places, and the discharge is considered to meet Criterion A. Documentation is included in **Appendix E**.

SUPPLEMENTAL INFORMATION

The table below lists the Operator, and the Owner as well as CSE, the consultant for the Operator.

Consultant	Operator	Owner
Clean Soils Environmental, Ltd. William H. Mitchell, Jr., LSP 33 Estes Street Ipswich, MA 01938 bill@cleansoils.com (978) 356-1177 Full Grade II Operator Grade IV Operator/In Training	Randolph L. Kazazian III Henley Enterprises dba Valvoline Instant Oil Change 54 Jaconnet Street, Newton Highlands, MA 02461 rkazazian@vioc.net (617) 340-8929	Mr. Thomas Harrington 163 Fayette Street Watertown, MA 02472

CLOSING

Thank you very much for your consideration. Please feel free to contact us should you wish to discuss the information contained herein or if you need additional information.

Sincerely yours,

Clean Soils Environmental, Ltd.

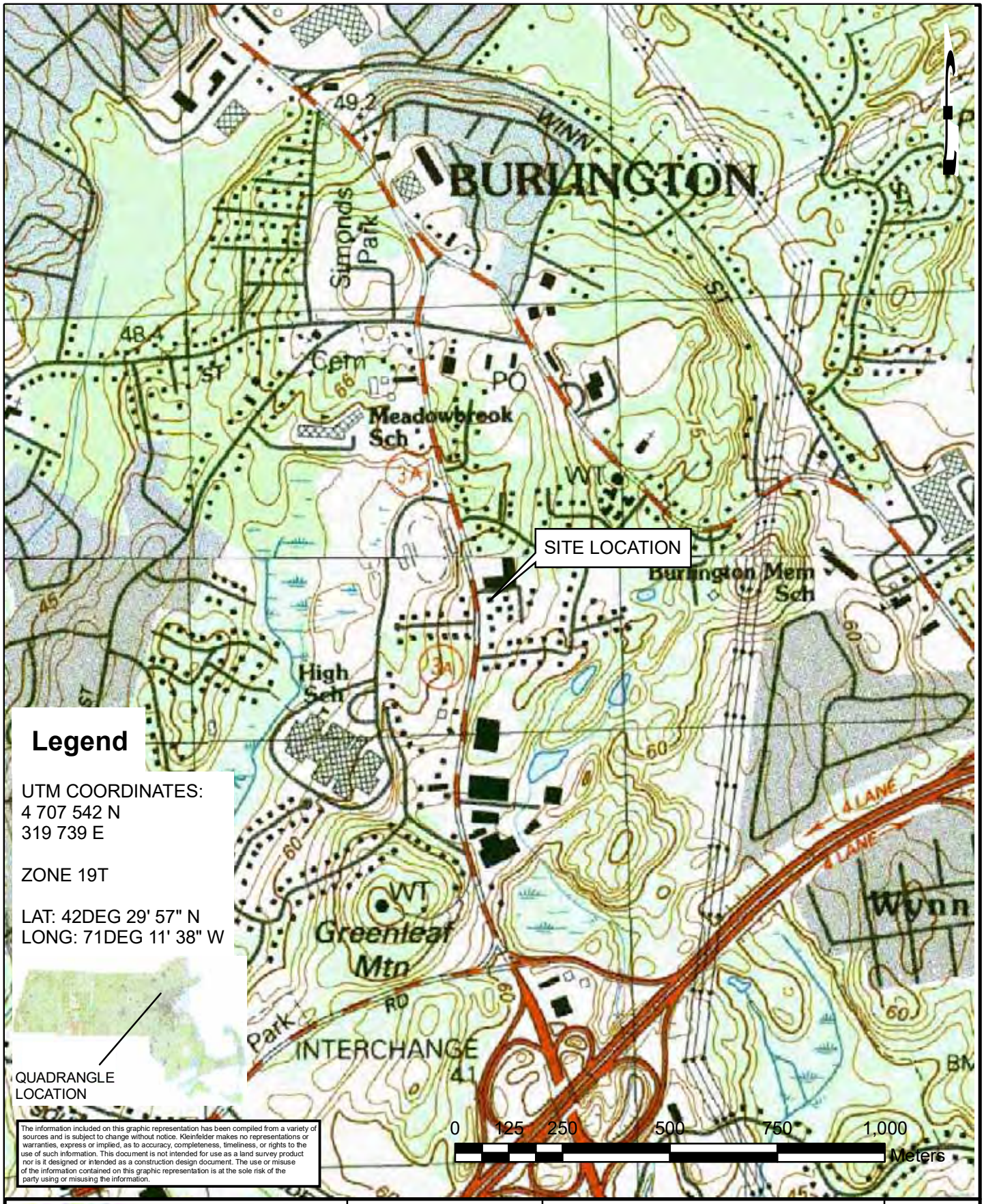
Kevin L. McAndrews
Project Manager, Geologist

William H. Mitchell, Jr., LSP
President, Geologist

Enclosures:

Figure 1 – Project Locus
Figure 2 – Site and Subsurface Exploration Location
Figure 3 - Stormwater Drainage Map
Figure 3A – Receiving Water Location
Figure 4 – MassDEP Phase I Site Assessment Map
Figure 5 – Town of Burlington Aquifer Protection Map
Figure 6 – Proposed Dewatering Treatment Schematic
Table I – Summary of Source Water Quality Data
Table II – Summary of Receiving Water Quality Data
Appendix A – Notice of Intent (NOI)
Appendix B – Effluent Limitations Documentation
Appendix C – Additional Treatment Information
Appendix D – Endangered Species Act Assessment
Appendix E – National Historic Preservation Act Review
Appendix F – Laboratory Data Reports

FIGURES & TABLES



Legend

UTM COORDINATES:
4 707 542 N
319 739 E

ZONE 19T

LAT: 42DEG 29' 57" N
LONG: 71DEG 11' 38" W

QUADRANGLE LOCATION

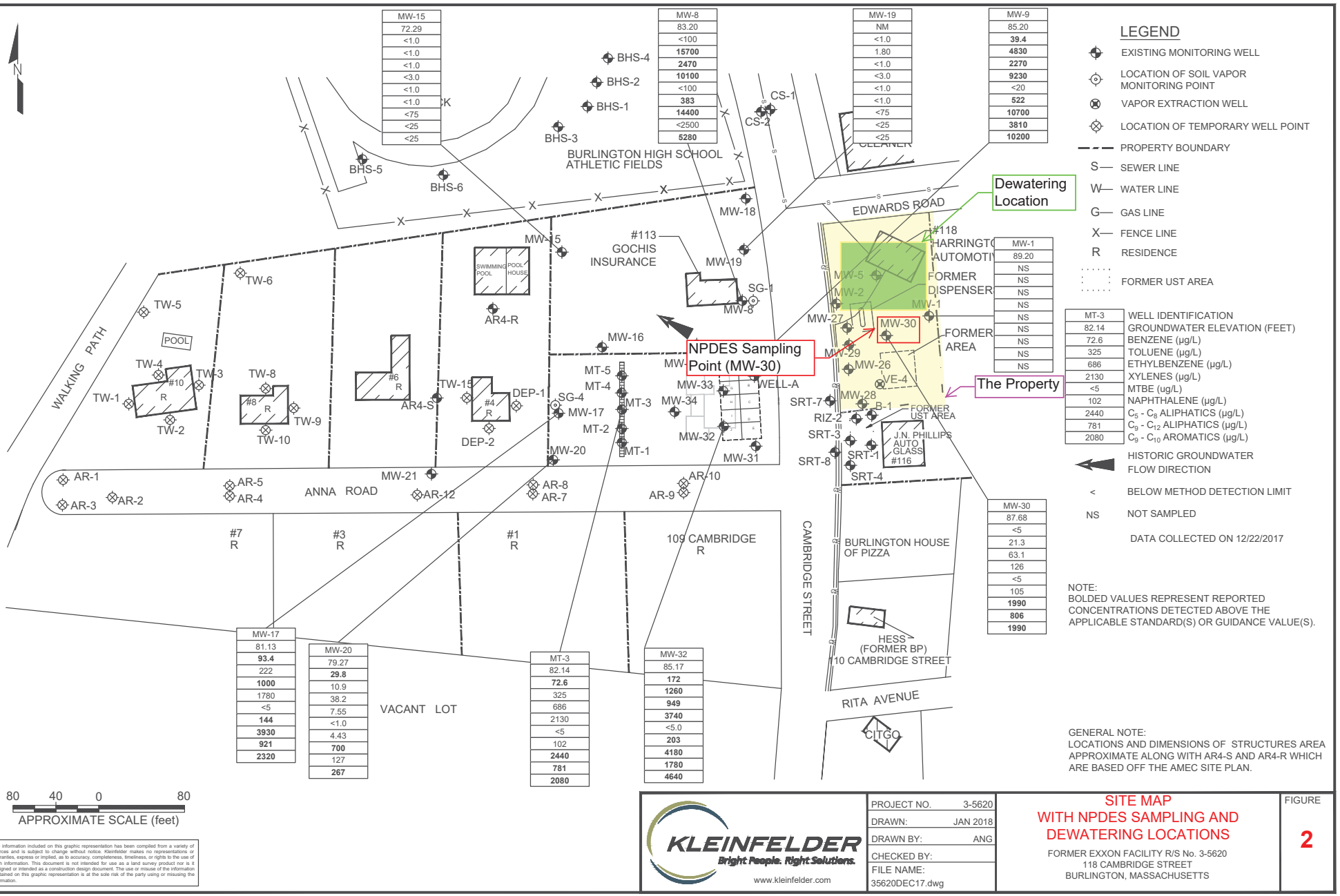
KLEINFELDER
Bright People. Right Solutions.
www.kleinfelder.com

PROJECT NO.	3-5620
DRAWN:	FEB 2007
DRAWN BY:	ANG
CHECKED BY:	
FILE NAME:	35620_BUR_LOC

LOCUS PLAN

FORMER EXXON FACILITY #3-5620
118 CAMBRIDGE STREET
BURLINGTON, MASSACHUSETTS

PLATE
1



CAD FILE: \\rockyhill\ROCKYHILL-DATA\Groups\GISData\CADD\KLF PROJECTS\MASSACHUSETTS\Littleton\35620\2017\ LAYOUT: 35620DEC17F1

ATTACHED XREFS:
LITTLETON, MA

KLEINFELDER
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www.kleinfelder.com

PROJECT NO.	3-5620
DRAWN:	JAN 2018
DRAWN BY:	ANG
CHECKED BY:	
FILE NAME:	35620DEC17.dwg

SITE MAP WITH NPDES SAMPLING AND DEWATERING LOCATIONS

FORMER EXXON FACILITY R/S No. 3-5620
118 CAMBRIDGE STREET
BURLINGTON, MASSACHUSETTS

FIGURE
2

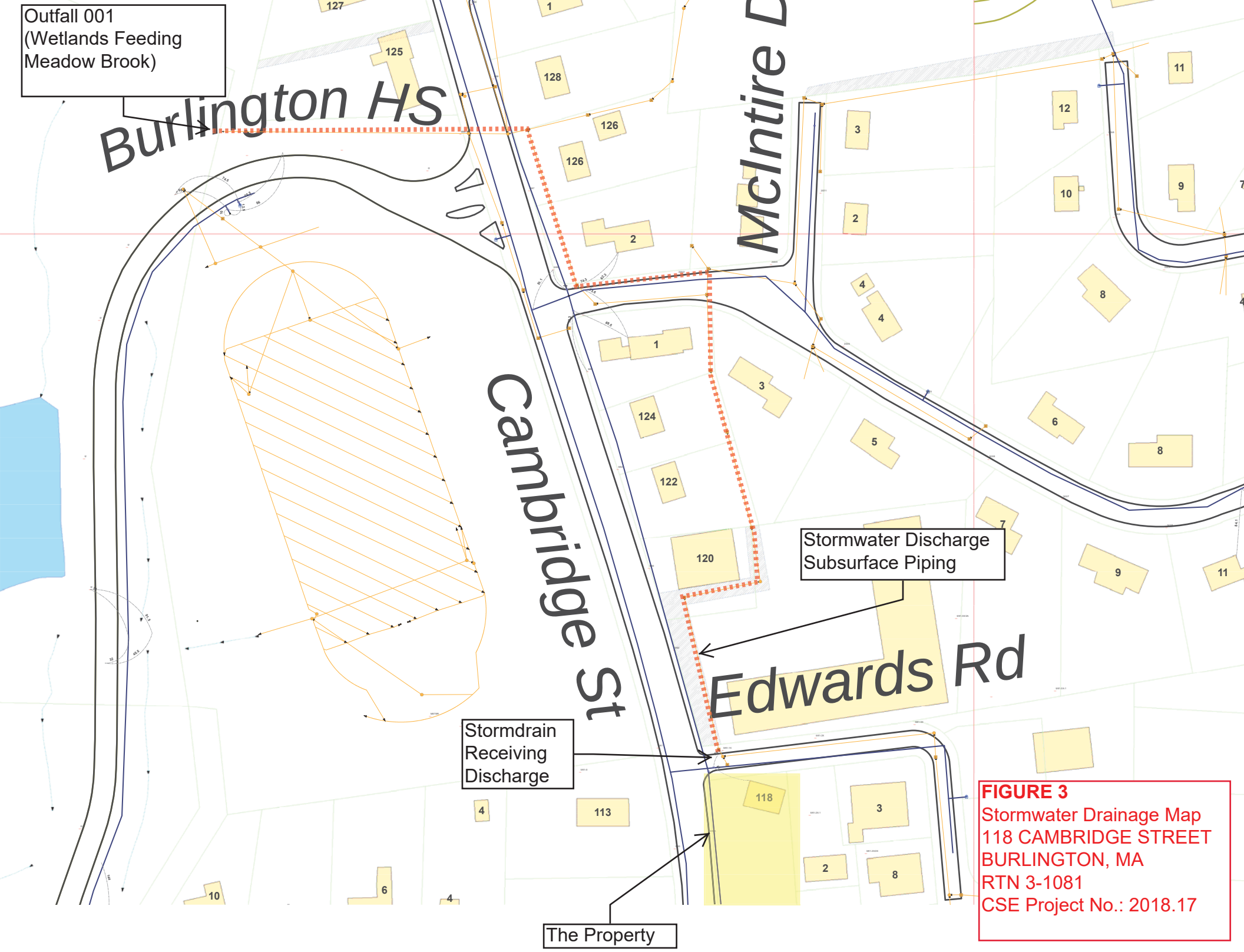


FIGURE 3
Stormwater Drainage Map
118 CAMBRIDGE STREET
BURLINGTON, MA
RTN 3-1081
CSE Project No.: 2018.17

Figure 3A

Aerial Site Map with Receiving Water Location
118 CAMBRIDGE STREET
BURLINGTON, MASSACHUSETTS
RTN 3-1081
CSE Project No.: 2018.17

MassDEP - Bureau of Waste Site Cleanup

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

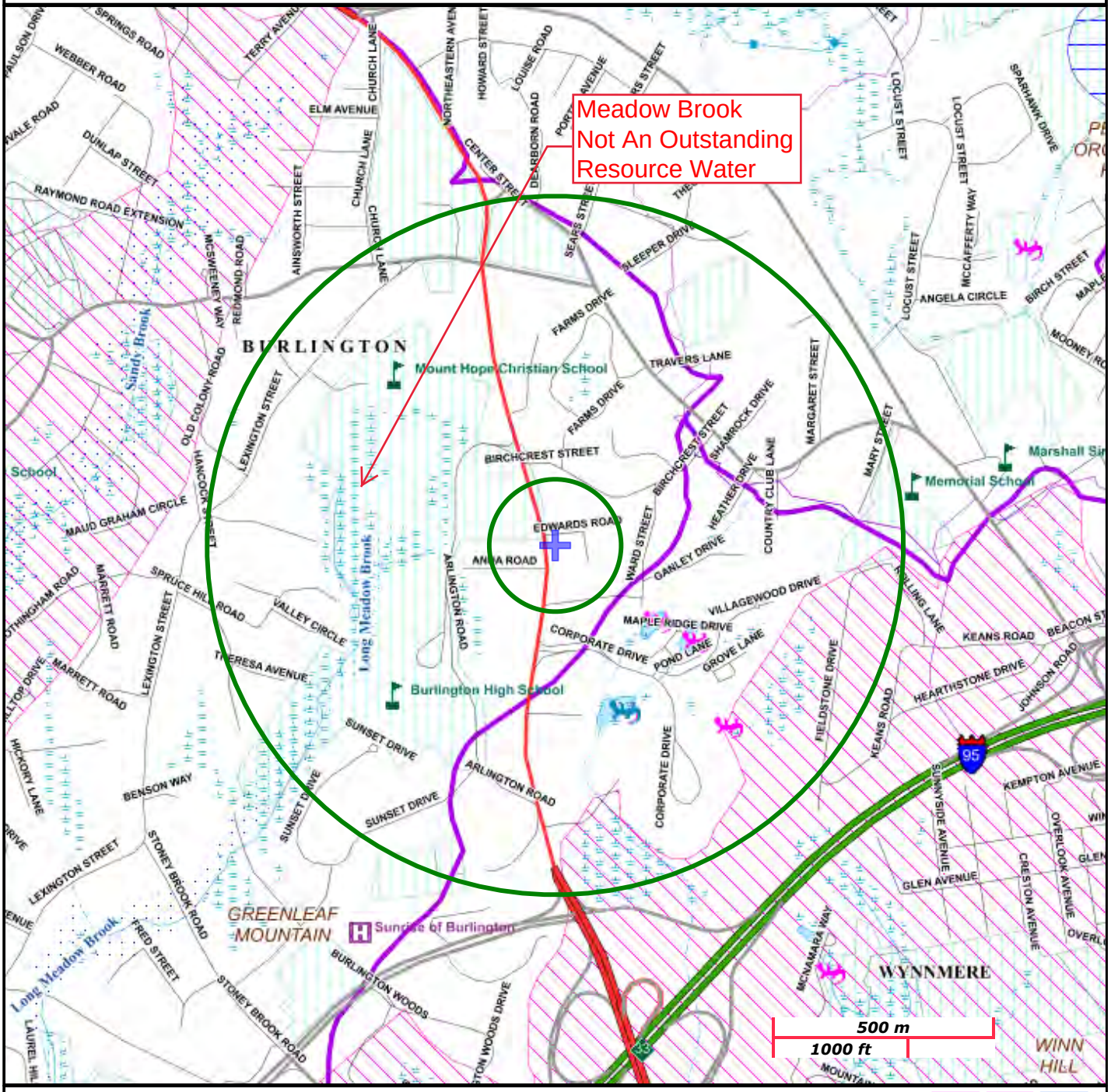
Site Information:
COMMERCIAL REDEVELOPMNET
118 CAMBRIDGE STREET BURLINGTON, MA
3-000001081

NAD83 UTM Meters:
4707531mN , 319737mE (Zone: 19)
May 30, 2019

Figure 4

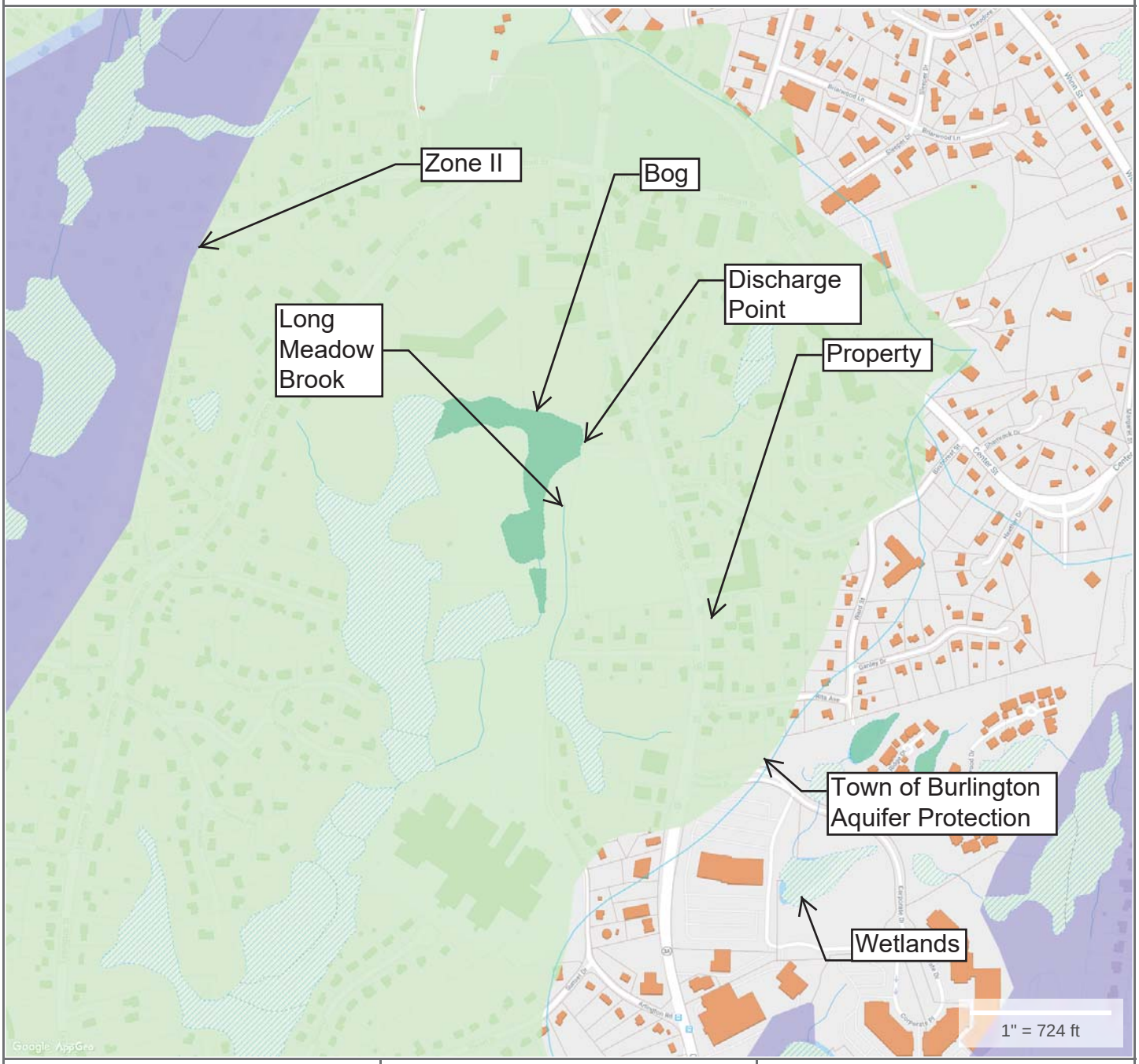
The information shown is the best available at the date of printing. However, it may be incomplete. The responsible party and LSP are ultimately responsible for ascertaining the true conditions surrounding the site. Metadata for data layers shown on this map can be found at: http://www.mass.gov/mgis/.

MassDEP
Commonwealth of Massachusetts
Department of Environmental Protection



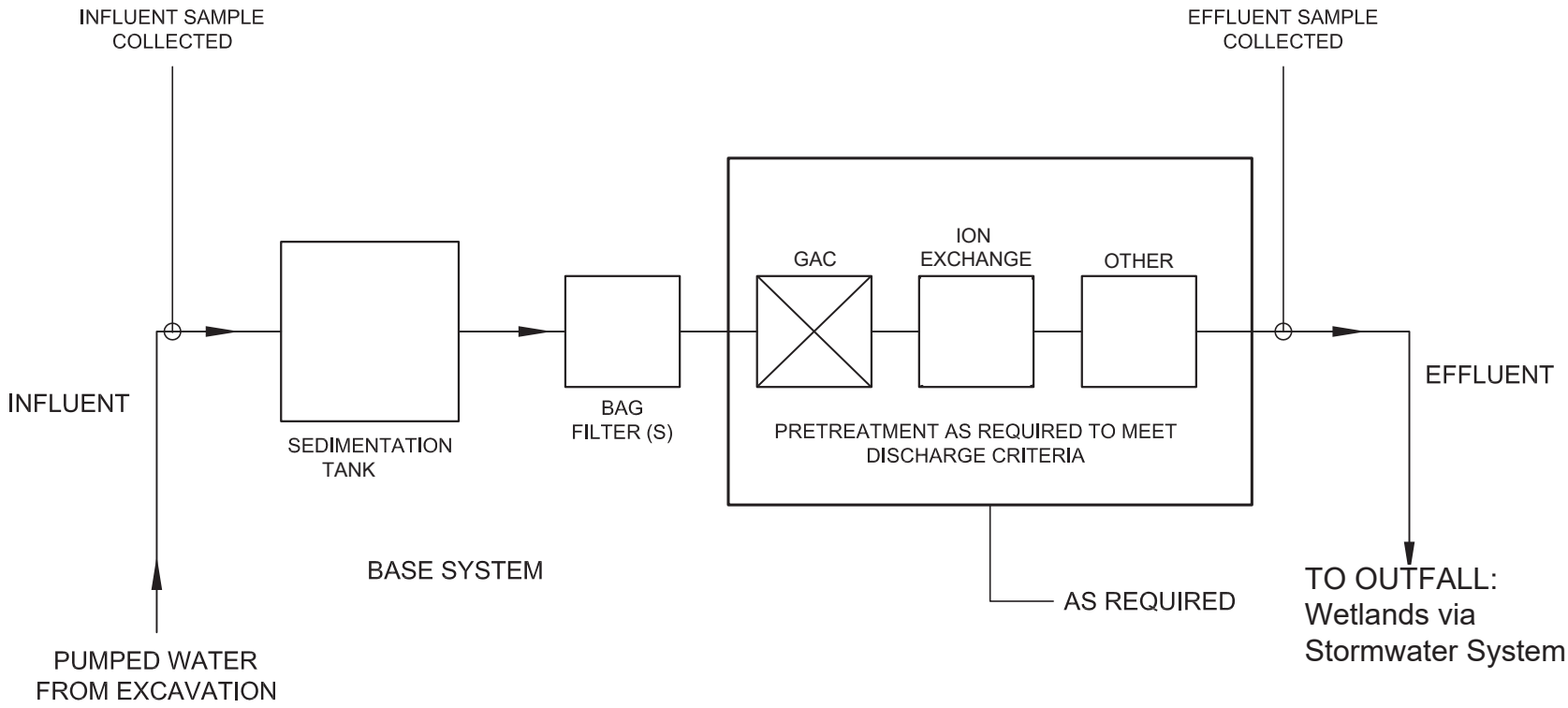
Roads: Limited Access, Divided, Other Hwy, Major Road, Minor Road, Track, Trail
Boundaries: Town, County, DEP Region; Train; Powerline; Pipeline; Aqueduct
Basins: Major, PWS; Streams: Perennial, Intermittent, Man Made Shore, Dam
Aquifers: Medium Yield, High Yield, EPA Sole Source
Non Potential Drinking Water Source Area: Medium, High (Yield)
PWS Protection Areas: Zone II, IWPA, Zone A
Hydrography: Open Water, PWS Reservoir, Tidal Flat
Wetlands: Freshwater, Saltwater, Cranberry Bog
FEMA 100yr Floodplain; Protected Open Space; ACEC
Est. Rare Wetland Wildlife Hab; Vernal Pool: Cert., Potential
Solid Waste Landfill; PWS: Com.GW,SW, Emerg., Non-Com.

FIGURE 4



MAP FOR REFERENCE ONLY
NOT A LEGAL DOCUMENT

Figure 5



LEGEND:

→ DIRECTION OF FLOW

☒ INDICATES TECHNOLOGY EXPECTED TO BE USED ON THIS PROJECT

NOTE:

1. DETAILS OF TREATMENT SYSTEM MAY VARY FROM SYSTEM INDICATED ABOVE. SPECIFIC MEANS AND METHODS OF TREATMENT TO BE SELECTED BY CONTRACTOR. WATER WILL BE TREATED TO MEET REQUIRED EFFLUENT STANDARDS.

FIGURE 6
Proposed Dewatering Treatment Schematic
118 Cambridge St.
Burlington, MA
June 20, 2019

Table 1
Groundwater Laboratory Analytical Results
VIOC Facility - 118 Cambridge St, Burlington, MA
MassDEP RTN 3-1081
CSE Project No. 2018.17

CHEMICAL	MW-30
Volatile Organics (ug/l)	
Total BTEX	23
SUM of Volatile Organic Compounds	23
Volatile Organics by SIM (ug/l)	
1,4-Dioxane	<500
Semivolatile Organics (ug/l)	
SUM of Semi-Volatile Organic Compounds	6
Semivolatile Organics By SIM (ug/l)	
SUM of Group I PAHs	<2
SUM of Group II PAHs	6
SUM of Semi-Volatile Organic Compounds (SIM)	<2
Total Petroleum Hydrocarbons (ug/l)	
TPH, SGT-HEM	407
Total Metals (ug/l)	
Antimony, Total	0.5
Arsenic, Total	16.1
Cadmium, Total	<0.1
Chromium, Total	<15
Copper, Total	<1
Iron, Total	2060
Lead, Total	<0.1
Mercury, Total	<0.2
Nickel, Total	<1
Selenium, Total	<5
Silver, Total	0.1
Zinc, Total	<1
Pesticides (ug/l)	
1,2-Dibromo-3-chloropropane (DBCP)	<1
1,2-Dibromoethane (Ethylene Dibromide)	<1
Polychlorinated Biphenyls (ug/l)	
SUM of PCBs	<0.2
Other (ug/l)	
Chloride	395000
Chlorine, Total Residual	60
Chromium, Hexavalent	<10
Chromium, Trivalent	<15
Cyanide, Total	<10
Ethanol	<10,000
Hardness	105000
Nitrogen, Ammonia	100
Ph (SU)	6.13
Phenolics, Total	ND
Total Suspended Solids	6000

ABBREVIATIONS:
- : Not analyzed
ug/l: micrograms per liter
NA: Not Applicable
<1: Result not detected above reporting limit
SU: Standard Units

NOTES:
Analytes detected in at least one sample are reported herein.
For a complete list of analytes see the laboratory data sheets.

Table 2

Receiving Water Laboratory Analytical Results

VIOC Facility - 118 Cambridge St, Burlington, MA

MassDEP RTN 3-1081

CSE Project No. 2018.17

CHEMICAL	Wetlands-1
General Chemistry	
pH (SU)	6.2
Ammonia (ug/l)	<100
Total Metals (ug/l)	
Total Hardness	161000
Calcium	51400
Magnesium	7790
Antimony	<5
Arsenic	<10
Iron	5170
Silver	<5

ABBREVIATIONS:

ug/l: micrograms per liter

<1: Result not detected above reporting limit

SU: Standard Units

APPENDIX A:
NOTICE OF INTENT (NOI)

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:
Valvoline Instant Oil Change (VIOC) Facility</td><td colspan="3">Site address: 118 Cambridge Street
Street:</td></tr>
<tr><td>City: Burlington</td><td>State: MA</td><td>Zip: 01803</td></tr>
<tr><td rowspan="4">2. Site owner
Amelia M. Harrington

Owner is (check one): ☐ Federal ☐ State/Tribal ■ Private
☐ Other; if so, specify:</td><td colspan="3">Contact Person: Amelia M. Harrington</td></tr>
<tr><td colspan="2">Telephone:</td><td>Email:</td></tr>
<tr><td colspan="3">Mailing address: 11 Lisa Street
Street:</td></tr>
<tr><td>City: Burlington</td><td>State: MA</td><td>Zip: 01803</td></tr>
<tr><td rowspan="4">3. Site operator, if different than owner
Henley Enterprises
dba Valvoline Instant Oil Change</td><td colspan="3">Contact Person: Randolph L. Kazazian III</td></tr>
<tr><td colspan="2">Telephone: (617) 340-8929</td><td>Email: rkazazian@vioc.net</td></tr>
<tr><td colspan="3">Mailing address:
Street: 54 Jaconnet Street,</td></tr>
<tr><td>City: Newton Highlands</td><td>State: MA</td><td>Zip: 02461</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):
3-1081
☐ 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):
Long Meadow Brook	MA83-11	Class B

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

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

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

If yes, specify: Burlington Aquifer Protection

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. Long Meadow Brook TMDL (2587) for Escherichia Coliform and Fecal Coliform [CN 122.0, 9/12/2002]

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.	NA
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.	NA

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: 6/7/2019 Confirmed No 7Q10 or WQBELs since discharge to wetland - via Ms. Cathy 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: Burlington Aquifer Protection ☐ Other; if so, specify:

2. Source water contaminants: Gasoline	
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): Outfall 001 (Stormwater Outfall to Wetlands Near Burlington Highschool)	Outfall location(s): (Latitude, Longitude) 42°30'05.1"N 71°11'46.6"W
Discharges enter the receiving water(s) via (check any that apply): ☐ Direct discharge to the receiving water ■ Indirect discharge, if so, specify: Discharge will enter municipal stromwater drainage system via catch basin on Edwards Road which discharges to Wetlands feeding Long Meadow Brook. ☐ 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 - December 2019 Indicate if the discharge is expected to occur over a duration of: ■ less than 12 months ☐ 12 months or more ☐ is an emergency discharge	
Has the operator attached a site plan in accordance with the instructions in D, above? (check one): ■ Yes ☐ No	

<table>
<tr><td>2. Activity Category: (check all that apply)</td><td colspan="2">3. Contamination Type Category: (check all that apply)</td></tr>
<tr><td rowspan="4">☐ I – Petroleum-Related Site Remediation
☐ II – Non-Petroleum-Related Site Remediation
■ III – Contaminated Site Dewatering
☐ IV – Dewatering of Pipelines and Tanks
☐ V – Aquifer Pump Testing
☐ VI – Well Development/Rehabilitation
☐ VII – Collection Structure Dewatering/Remediation
☐ VIII – Dredge-Related Dewatering</td><td colspan="2">a. If Activity Category I or II: (check all that apply)

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

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

4. Influent and Effluent Characteristics

Parameter	Known or believed absent	Known or believed present	# of samples	Test method (#)	Detection limit (µg/l)	Influent		Effluent Limitations	
						Daily maximum (µg/l)	Daily average (µg/l)	TBEL	WQBEL
A. Inorganics									
Ammonia		✔	1	SM4500-N	100	100	100	Report mg/L	---
Chloride		✔	1	SM4500CI	10,000	395,000	395,000	Report µg/l	---
Total Residual Chlorine		✔	1	SM4500-C	10	60	60	0.2 mg/L	
Total Suspended Solids		✔	1	SM2540-D	2,000	6,000	6,000	30 mg/L	---
Antimony		✔	1	200.8	0.1	0.5	0.5	206 µg/L	---
Arsenic		✔	1	200.8	0.1	16.1	16.1	104 µg/L	
Cadmium	✔		1	200.8	0.1	<0.1	<0.1	10.2 µg/L	---
Chromium III	✔		1	SM3500-C	15	<15	<15	323 µg/L	---
Chromium VI	✔		1	SM3500-C	10	<10	<10	323 µg/L	---
Copper	✔		1	200.8	1	<1	<1	242 µg/L	---
Iron		✔	1	200.8	1	2,060	2,060	5,000 µg/L	
Lead	✔		1	200.8	0.1	<0.1	<0.1	160 µg/L	---
Mercury	✔		1	245.1	0.2	<0.2	<0.2	0.739 µg/L	---
Nickel	✔		1	200.8	1	<1	<1	1,450 µg/L	---
Selenium	✔		1	200.8	5	<5	<5	235.8 µg/L	---
Silver		✔	1	200.8	0.1	0.1	0.1	35.1 µg/L	---
Zinc	✔		1	200.8	1	<1	<1	420 µg/L	---
Cyanide	✔		1	SM4500-C	10	<10	<10	178 mg/L	---
B. Non-Halogenated VOCs									
Total BTEX	✔		1	624.1	1	23	23	100 µg/L	---
Benzene	✔		1	624.1	1	<1	<1	5.0 µg/L	---
1,4 Dioxane	✔		1	624.1	500	<500	<500	200 µg/L	---
Acetone	✔		1	624.1	5	<5	<5	7.97 mg/L	---
Phenol	✔		1	624.1	2	<2	<2	1,080 µg/L	---

Parameter	Known or believed absent	Known or believed present	# of samples	Test method (#)	Detection limit (µg/l)	Influent		Effluent Limitations	
						Daily maximum (µg/l)	Daily average (µg/l)	TBEL	WQBEL
C. Halogenated VOCs									
Carbon Tetrachloride	✔		1	624.1	1	<1	<1	4.4 µg/L	---
1,2 Dichlorobenzene	✔		1	624.1	1	<1	<1	600 µg/L	---
1,3 Dichlorobenzene	✔		1	624.1	1	<1	<1	320 µg/L	---
1,4 Dichlorobenzene	✔		1	624.1	1	<1	<1	5.0 µg/L	---
Total dichlorobenzene	✔		1	624.1	1	<1	<1	763 µg/L in NH	---
1,1 Dichloroethane	✔		1	624.1	1	<1	<1	70 µg/L	---
1,2 Dichloroethane	✔		1	624.1	1	<1	<1	5.0 µg/L	---
1,1 Dichloroethylene	✔		1	624.1	1	<1	<1	3.2 µg/L	---
Ethylene Dibromide	✔		1	624.1	1	<1	<1	0.05 µg/L	---
Methylene Chloride	✔		1	624.1	5	<5	<5	4.6 µg/L	---
1,1,1 Trichloroethane	✔		1	624.1	1	<1	<1	200 µg/L	---
1,1,2 Trichloroethane	✔		1	624.1	1	<1	<1	5.0 µg/L	---
Trichloroethylene	✔		1	624.1	1	<1	<1	5.0 µg/L	---
Tetrachloroethylene	✔		1	624.1	1	<1	<1	5.0 µg/L	---
cis-1,2 Dichloroethylene	✔		1	624.1	1	<1	<1	70 µg/L	---
Vinyl Chloride	✔		1	624.1	1	<1	<1	2.0 µg/L	---
D. Non-Halogenated SVOCs									
Total Phthalates	✔		1	625.1	6	<6	<6	190 µg/L	---
Diethylhexyl phthalate	✔		1	625.1	6	<6	<6	101 µg/L	---
Total Group I PAHs	✔		1	625.1	2	<2	<2	1.0 µg/L	---
Benzo(a)anthracene	✔		1	625.1	2	<2	<2	As Total PAHs	---
Benzo(a)pyrene	✔		1	625.1	2	<2	<2		---
Benzo(b)fluoranthene	✔		1	625.1	2	<2	<2		---
Benzo(k)fluoranthene	✔		1	625.1	2	<2	<2		---
Chrysene	✔		1	625.1	2	<2	<2		---
Dibenzo(a,h)anthracene	✔		1	625.1	2	<2	<2		---
Indeno(1,2,3-cd)pyrene	✔		1	625.1	2	<2	<2		---

Parameter	Known or believed absent	Known or believed present	# of samples	Test method (#)	Detection limit (µg/l)	Influent		Effluent Limitations	
						Daily maximum (µg/l)	Daily average (µg/l)	TBEL	WQBEL
Total Group II PAHs		✔	1	625.1	2	6	6	100 µg/L	---
Naphthalene		✔	1	625.1	2	6	6	20 µg/L	---
E. Halogenated SVOCs									
Total PCBs	✔		1	8082A	0.2	<0.2	<0.2	0.000064 µg/L	---
Pentachlorophenol	✔		1	625.1	5	<5	<5	1.0 µg/L	---
F. Fuels Parameters									
Total Petroleum Hydrocarbons		✔	1	EPA-8100	200	407	407	5.0 mg/L	---
Ethanol	✔		1	EPA-8100	10,000	<10,000	<10,000	Report mg/L	---
Methyl-tert-Butyl Ether	✔		1	624.1	1	<1	<1	70 µg/L	---
tert-Butyl Alcohol	✔		1	624.1	5	<5	<5	120 µg/L in MA 40 µg/L in NH	---
tert-Amyl Methyl Ether	✔		1	624.1	1	<1	<1	90 µg/L in MA 140 µg/L in NH	---
Other (i.e., pH, temperature, hardness, salinity, LC_{50}, additional pollutants present); if so, specify:									
pH		✔	1	field	-	6.13	6.13		

E. Treatment system information

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

☐ Adsorption/Absorption ☐ Advanced Oxidation Processes ☐ Air Stripping ■ Granulated Activated Carbon ("GAC")/Liquid Phase Carbon Adsorption

☐ Ion Exchange ☐ Precipitation/Coagulation/Flocculation ■ Separation/Filtration ☐ Other; if so, specify:

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

The treatment system will consist of a construction dewatering pump that will pump water to a settling tank, the water will then be pumped through at least one set of in-line canister bag filters. Due to the presence of residual petroleum releases at the Property where encountered and if needed water will be pumped through granular activated carbon vessels. Untreated water may be stored in holding tanks to provide adequate storage while waiting for discharge. Treated water will be pumped to a storm-water drains shown on the attached figure that ultimately discharges to the Wetlands as one outfall.

Identify each major treatment component (check any that apply):

■ Fractionation tanks☐ Equalization tank ☐ Oil/water separator ☐ Mechanical filter ☐ Media filter

☐ Chemical feed tank ☐ Air stripping unit ■ Bag filter ☐ Other; if so, specify:

Indicate if either of the following will occur (check any that apply):

☐ Chlorination ☐ De-chlorination

3. Provide the **design flow capacity** in gallons per minute (gpm) of the most limiting component. Indicate the most limiting component: Bag Filters and GAC Is use of a flow meter feasible? (check one): ■ Yes ☐ No, if so, provide justification:	40
Provide the proposed maximum effluent flow in gpm.	40
Provide the average effluent flow in gpm.	10
If Activity Category IV applies, indicate the estimated total volume of water that will be discharged:	NA

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

F. Chemical and additive information

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

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

2. Provide the following information for each chemical/additive, using attachments, if necessary:
NA will provide in notice of change if needed.
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.

Refer to the NOI RGP Report, attached. This report includes site maps, locations of the influent sample point, discharge/outfall location, water classifications, potential environmental receptors, groundwater analytical tables and laboratory analytical reports, and supporting documentation for the ESA determination and historic sites within the vicinity of the facility this NOI RGP is applicable to.

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

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

J. Certification requirement

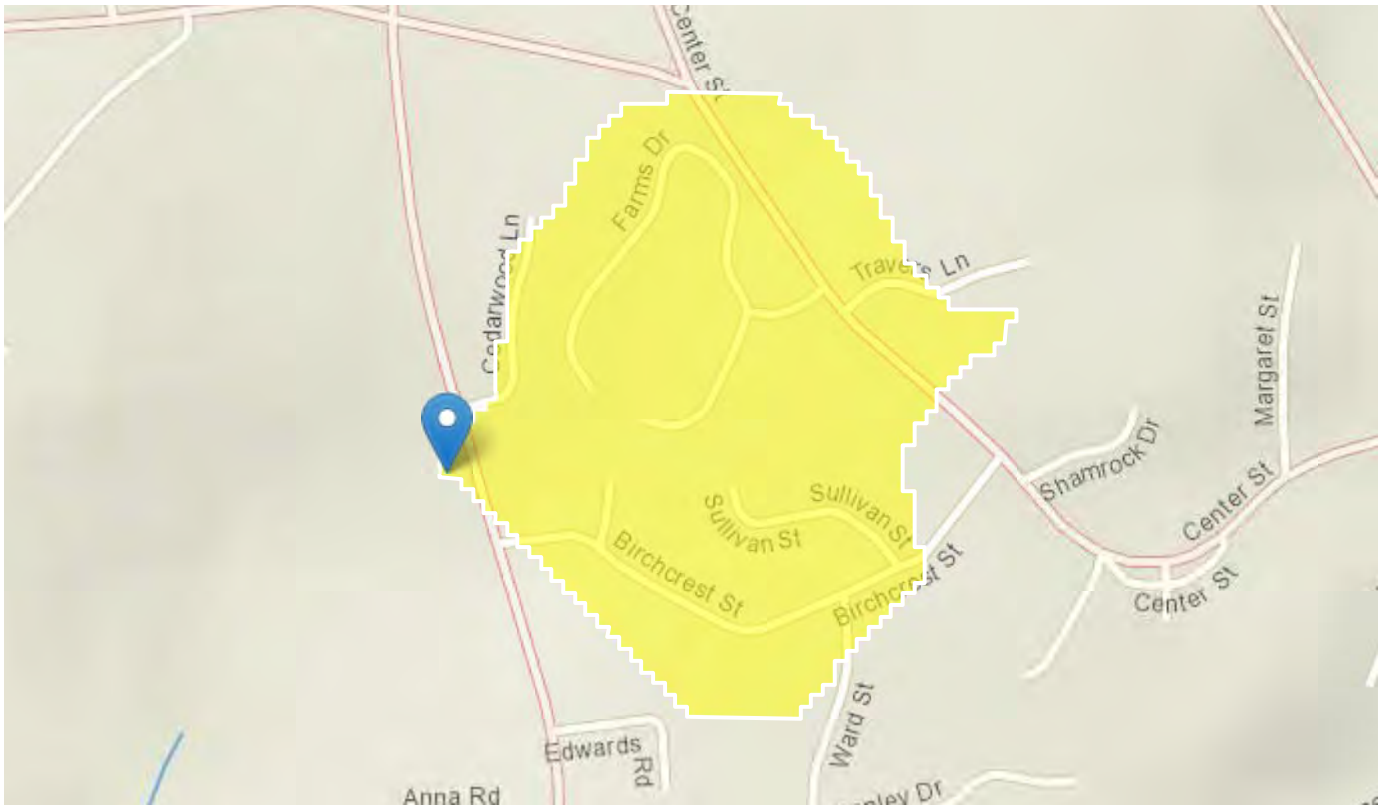
I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage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

BMPP certification statement:	A BMPP meeting the requirements of thie general permit will be implemented at the site upon initiation of discharge.
Notification provided to the appropriate State, including a copy of this NOI, if required.	Check one: Yes ☐ No ■ NA
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: 7/11/2019
Print Name and Title:	William H. Mitchell, Jr., LSP

APPENDIX B:
EFFLUENT LIMITATIONS DOCUMENTATION

StreamStats Report

Region ID: MA
Workspace ID: MA20190606202641315000
Clicked Point (Latitude, Longitude): 42.50137, -71.19527
Time: 2019-06-06 16:27:01 -0400



Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	0.0663	square miles
BSLDEM250	Mean basin slope computed from 1:250K DEM	3.996	percent
DRFTPERSTR	Area of stratified drift per unit of stream length	-100000	square mile per mile
MAREGION	Region of Massachusetts 0 for Eastern 1 for Western	0	dimensionless
ELEV	Mean Basin Elevation	227	feet

Parameter Code	Parameter Description	Value	Unit
LC06STOR	Percentage of water bodies and wetlands determined from the NLCD 2006	0	percent
BSLDEM10M	Mean basin slope computed from 10 m DEM	6.188	percent
PCTSNDGRV	Percentage of land surface underlain by sand and gravel deposits	0	percent
FOREST	Percentage of area covered by forest	12.92	percent

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

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.0663	square miles	1.61	149
BSLDEM250	Mean Basin Slope from 250K DEM	3.996	percent	0.32	24.6
DRFTPERSTR	Stratified Drift per Stream Length	-100000	square mile per mile	0	1.29
MAREGION	Massachusetts Region	0	dimensionless	0	1

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

Statistic	Value	Unit

Low-Flow Statistics Citations

Peak-Flow Statistics Parameters[Peak Statewide 2016 5156]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.0663	square miles	0.16	512
ELEV	Mean Basin Elevation	227	feet	80.6	1948
LC06STOR	Percent Storage from NLCD2006	0	percent	0	32.3

Peak-Flow Statistics Disclaimers[Peak Statewide 2016 5156]

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

Peak-Flow Statistics Flow Report[Peak Statewide 2016 5156]

Statistic	Value	Unit
2 Year Peak Flood	5.34	ft^3/s
5 Year Peak Flood	9.24	ft^3/s
10 Year Peak Flood	12.4	ft^3/s
25 Year Peak Flood	17.2	ft^3/s
50 Year Peak Flood	21.2	ft^3/s
100 Year Peak Flood	25.5	ft^3/s
200 Year Peak Flood	30.3	ft^3/s
500 Year Peak Flood	37.2	ft^3/s

Peak-Flow Statistics Citations

Zarriello, P.J.,2017, Magnitude of flood flows at selected annual exceedance probabilities for streams in Massachusetts: U.S. Geological Survey Scientific Investigations Report 2016–5156, 99 p. (https://dx.doi.org/10.3133/sir20165156)

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

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.0663	square miles	1.61	149
DRFTPERSTR	Stratified Drift per Stream Length	-100000	square mile per mile	0	1.29
MAREGION	Massachusetts Region	0	dimensionless	0	1
BSLDEM250	Mean Basin Slope from 250K DEM	3.996	percent	0.32	24.6

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

Statistic	Value	Unit

Flow-Duration Statistics Citations

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

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.0663	square miles	1.61	149
BSLDEM250	Mean Basin Slope from 250K DEM	3.996	percent	0.32	24.6
DRFTPERSTR	Stratified Drift per Stream Length	-100000	square mile per mile	0	1.29
MAREGION	Massachusetts Region	0	dimensionless	0	1

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

Statistic	Value	Unit

August Flow-Duration Statistics Citations

Bankfull Statistics Parameters[Bankfull Statewide SIR2013 5155]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.0663	square miles	0.6	329
BSLDEM10M	Mean Basin Slope from 10m DEM	6.188	percent	2.2	23.9

Bankfull Statistics Disclaimers[Bankfull Statewide SIR2013 5155]

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

Bankfull Statistics Flow Report[Bankfull Statewide SIR2013 5155]

Statistic	Value	Unit
Bankfull Width	5.04	ft

Statistic	Value	Unit
Bankfull Depth	0.427	ft
Bankfull Area	2.11	ft^2
Bankfull Streamflow	4.3	ft^3/s

Bankfull Statistics Citations

Bent, G.C., and Waite, A.M.,2013, Equations for estimating bankfull channel geometry and discharge for streams in Massachusetts: U.S. Geological Survey Scientific Investigations Report 2013–5155, 62 p., (http://pubs.usgs.gov/sir/2013/5155/)

Probability Statistics Parameters[Perennial Flow Probability]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.0663	square miles	0.01	1.99
PCTSNDGRV	Percent Underlain By Sand And Gravel	0	percent	0	100
FOREST	Percent Forest	12.92	percent	0	100
MAREGION	Massachusetts Region	0	dimensionless	0	1

Probability Statistics Flow Report[Perennial Flow Probability]

PIl: Prediction Interval-Lower, PIu: Prediction Interval-Upper, SEp: Standard Error of Prediction, SE: Standard Error (other -- see report)

Statistic	Value	Unit	PC
Probability Stream Flowing Perennially	0.456	dim	71

Probability Statistics Citations

Bent, G.C., and Steeves, P.A.,2006, A revised logistic regression equation and an automated procedure for mapping the probability of a stream flowing perennially in Massachusetts: U.S. Geological Survey Scientific Investigations Report 2006–5031, 107 p. (http://pubs.usgs.gov/sir/2006/5031/pdfs/SIR_2006-5031rev.pdf)

Application Version: 4.3.1

Gmail by Google

Kevin McAndrews <kevin@cleansoils.com>

RGP Permit and Receiving Water Information Request

5 messages

Kevin McAndrews <kevin@cleansoils.com> Thu, Jun 6, 2019 at 3:59 PM
To: catherine.vakalopoulos@mass.gov, jennifer.wood@mass.gov
Cc: Bill Mitchell <bill@cleansoils.com>

Good afternoon,

I'm preparing a RGP NOI for an upcoming development project and according to the Appendix V guidance,

> "Prior to completing the NOI requirements for the Remediation General Permit (RGP), the State must be contacted to confirm the critical low flow (7Q10) of the receiving water, dilution factor (DF), other appropriate hydrologic conditions, or to confirm site-specific limiting factors, including additional water quality-based effluent limitations (WQBELs)."

Therefore, I'm requesting assistance for determining the 7Q10, DF, WQBELs and/or any other relevant information for the Receiving Water (Long Meadow Brook, MA83-11).

Any information and/or resources are greatly appreciated!

4. Specify 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. 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 located in Massachusetts and Appendix VI for sites located in New Hampshire.

Thanks,

Kevin L. McAndrews
Project Manager, Geologist
Clean Soils Environmental, Ltd.
CLEAN SOILS ENVIRONMENTAL LTD
33 Estes Street
Ipswich, MA 01938
Office: 978-356-1177
Cell: 508-776-1446
Fax: 978-356-1849
kevin@cleansoils.com

www.cleansoils.com

Vakalopoulos, Catherine (DEP) <catherine.vakalopoulos@state.ma.us> Thu, Jun 6, 2019 at 4:22 PM
To: Kevin McAndrews <kevin@cleansoils.com>
Cc: Bill Mitchell <bill@cleansoils.com>, "Wood, Jennifer (DEP)" <jennifer.wood@state.ma.us>, "Little.shauna@Epa.gov" <Little.shauna@epa.gov>

Hi Kevin,

I can help you tomorrow over the phone, just give me a call. In the meantime, check out USGS StreamStats (see link in Appendix V) to calculate the 7Q10. I can walk you through it tomorrow if you need help. For calculating the WQBELs, Appendix V has Fillable Electronic Format right under it on the main RGP page so that you don't have to calculate the WQBELs by hand. If you have any questions about that, please contact Shauna Little at EPA. I've cc'd her here.

Cathy

Cathy Vakalopoulos, Massachusetts Department of Environmental Protection
1 Winter St., Boston, MA 02108, 617-348-4026

Please consider the environment before printing this e-mail

[Quoted text hidden]

Kevin McAndrews <kevin@cleansoils.com> Thu, Jun 6, 2019 at 4:23 PM
To: "Vakalopoulos, Catherine (DEP)" <catherine.vakalopoulos@state.ma.us>
Cc: Bill Mitchell <bill@cleansoils.com>, "Wood, Jennifer (DEP)" <jennifer.wood@state.ma.us>, "Little.shauna@Epa.gov" <Little.shauna@epa.gov>

Thank you for your help!

Thanks,

Kevin L. McAndrews
Project Manager, Geologist
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www.cleansoils.com

[Quoted text hidden]

Vakalopoulos, Catherine (DEP) <catherine.vakalopoulos@state.ma.us> Fri, Jun 7, 2019 at 11:29 AM
To: Kevin McAndrews <kevin@cleansoils.com>

Hi Kevin,

Since this is the site of a former gas station, you were correct, the RGP activity category is I – Petroleum-related site remediation. As we discussed over the phone, the discharge will be to a wetland, that's why StreamStats didn't work for you. No dilution is granted for discharges to wetlands.

Please let me know if you have any further questions.

[Quoted text hidden]

Kevin McAndrews <kevin@cleansoils.com> Fri, Jun 7, 2019 at 11:33 AM
To: "Vakalopoulos, Catherine (DEP)" <catherine.vakalopoulos@state.ma.us>

Thank you for the clarification!

Thanks,

Kevin L. McAndrews
Project Manager, Geologist
Clean Soils Environmental, Ltd.
CLEAN SOILS ENVIRONMENTAL LTD
33 Estes Street
Ipswich, MA 01938
Office: 978-356-1177
Cell: 508-776-1446
Fax: 978-356-1849
kevin@cleansoils.com
www.cleansoils.com

[Quoted text hidden]

Enter number values in green boxes below

Enter values in the units specified

↓

0	Q_R = Enter upstream flow in **MGD**	Freshwater: Q_R equal to the 7Q10; enter alternate Q_R if approved by the State; enter 0 if no dilution factor approved
0		Saltwater (estuarine and marine): enter Q_R if approved by the State; enter 0 if no entry
0.0576	Q_P = Enter discharge flow in **MGD**	Discharge flow is equal to the design flow or 1 MGD, whichever is less
0	Downstream 7Q10	Only if approved by State as the entry for Q_R; leave 0 if no entry

Enter a dilution factor, if other than zero

↓

0		Saltwater (estuarine and marine): only if approved by the State Leave 0 if no entry

Enter values in the units specified

↓

105	C_d = Enter influent hardness in **mg/L** $CaCO_3$	Freshwater only
161	C_s = Enter receiving water hardness in **mg/L** $CaCO_3$	

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

↓

6.2	pH in **Standard Units**	pH, temperature, and ammonia required for all discharges Hardness required for freshwater Salinity required for saltwater (estuarine and marine) Metals required for all discharges if present and if dilution factor is > 1 Enter 0 if non-detect or testing not required
15.6	Temperature in **°C**	
0	Ammonia in **mg/L**	
161	Hardness in **mg/L** $CaCO_3$	
0	Salinity in **ppt**	
0	Antimony in **µg/L**	
0	Arsenic in **µg/L**	
0	Cadmium in **µg/L**	
0	Chromium III in **µg/L**	
0	Chromium VI in **µg/L**	
0	Copper in **µg/L**	
5170	Iron in **µg/L**	
0	Lead in **µg/L**	
0	Mercury in **µg/L**	
0	Nickel in **µg/L**	
0	Selenium in **µg/L**	
0	Silver in **µg/L**	
0	Zinc in **µg/L**	

Enter **influent** concentrations in the units specified

↓

60	TRC in **µg/L**	if >1 sample, enter maximum if >10 samples, may enter 95th percentile Enter 0 if non-detect or testing not required
0.1	Ammonia in **mg/L**	
0.5	Antimony in **µg/L**	
16.1	Arsenic in **µg/L**	
0	Cadmium in **µg/L**	
0	Chromium III in **µg/L**	
0	Chromium VI in **µg/L**	
0	Copper in **µg/L**	
2060	Iron in **µg/L**	
0	Lead in **µg/L**	
0	Mercury in **µg/L**	
0	Nickel in **µg/L**	
0	Selenium in **µg/L**	
0.1	Silver in **µg/L**	
0	Zinc in **µg/L**	
0	Cyanide in **µg/L**	
0	Phenol in **µg/L**	
0	Carbon Tetrachloride in **µg/L**	
0	Tetrachloroethylene in **µg/L**	
0	Total Phthalates in **µg/L**	
0	Diethylhexylphthalate in **µg/L**	
0	Benzo(a)anthracene in **µg/L**	
0	Benzo(a)pyrene in **µg/L**	
0	Benzo(b)fluoranthene in **µg/L**	
0	Benzo(k)fluoranthene in **µg/L**	
0	Chrysene in **µg/L**	
0	Dibenzo(a,h)anthracene in **µg/L**	
0	Indeno(1,2,3-cd)pyrene in **µg/L**	
0	Methyl-tert butyl ether in **µg/L**	

Dilution Factor	1.0					
A. Inorganics	TBEL applies if bolded		WQBEL applies if bolded		Compliance Level applies if shown	
Ammonia	**Report**	mg/L	---			
Chloride	**Report**	µg/L	---			
Total Residual Chlorine	0.2	mg/L	**11**	µg/L	50	µg/L
Total Suspended Solids	**30**	mg/L	---			
Antimony	**206**	µg/L	640	µg/L		
Arsenic	104	µg/L	**10**	µg/L		
Cadmium	**10.2**	µg/L	0.2806	µg/L		
Chromium III	**323**	µg/L	89.7	µg/L		
Chromium VI	**323**	µg/L	11.4	µg/L		
Copper	**242**	µg/L	9.7	µg/L		
Iron	5000	µg/L	**1000**	µg/L		
Lead	**160**	µg/L	3.39	µg/L		
Mercury	**0.739**	µg/L	0.91	µg/L		
Nickel	**1450**	µg/L	54.4	µg/L		
Selenium	**235.8**	µg/L	5.0	µg/L		
Silver	**35.1**	µg/L	4.1	µg/L		
Zinc	**420**	µg/L	124.9	µg/L		
Cyanide	**178**	mg/L	5.2	µg/L	---	µg/L
B. Non-Halogenated VOCs						
Total BTEX	**100**	µg/L	---			
Benzene	**5.0**	µg/L	---			
1,4 Dioxane	**200**	µg/L	---			
Acetone	**7970**	µg/L	---			
Phenol	**1,080**	µg/L	300	µg/L		
C. Halogenated VOCs						
Carbon Tetrachloride	**4.4**	µg/L	1.6	µg/L		
1,2 Dichlorobenzene	**600**	µg/L	---			
1,3 Dichlorobenzene	**320**	µg/L	---			
1,4 Dichlorobenzene	**5.0**	µg/L	---			
Total dichlorobenzene	**---**	µg/L	---			
1,1 Dichloroethane	**70**	µg/L	---			
1,2 Dichloroethane	**5.0**	µg/L	---			
1,1 Dichloroethylene	**3.2**	µg/L	---			
Ethylene Dibromide	**0.05**	µg/L	---			
Methylene Chloride	**4.6**	µg/L	---			
1,1,1 Trichloroethane	**200**	µg/L	---			
1,1,2 Trichloroethane	**5.0**	µg/L	---			
Trichloroethylene	**5.0**	µg/L	---			
Tetrachloroethylene	**5.0**	µg/L	3.3	µg/L		
cis-1,2 Dichloroethylene	**70**	µg/L	---			
Vinyl Chloride	**2.0**	µg/L	---			
D. Non-Halogenated SVOCs						
Total Phthalates	**190**	µg/L	---	µg/L		
Diethylhexyl phthalate	**101**	µg/L	2.2	µg/L		

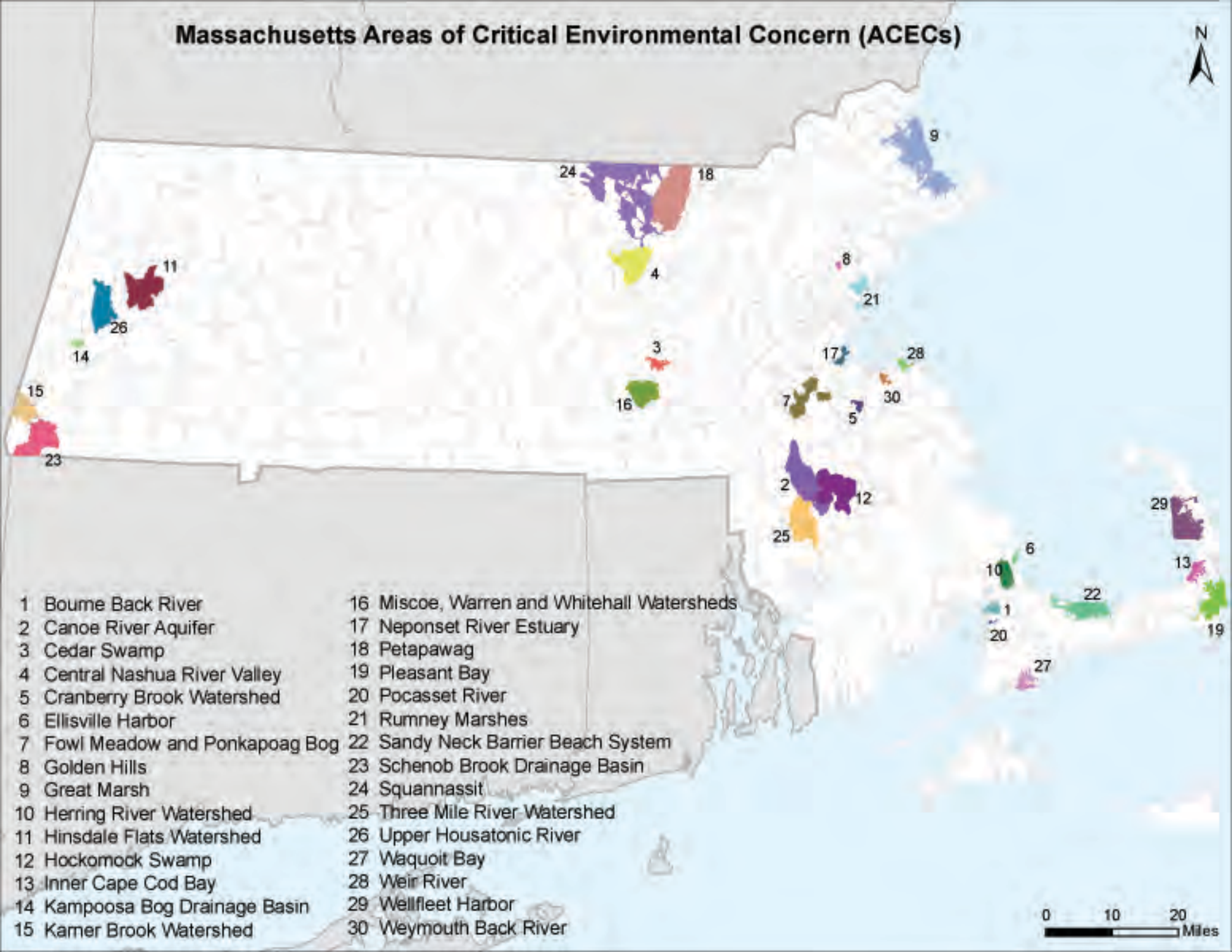
Total Group I Polycyclic Aromatic Hydrocarbons	**1.0**	µg/L	---			
Benzo(a)anthracene	**1.0**	µg/L	0.0038	µg/L	---	µg/L
Benzo(a)pyrene	**1.0**	µg/L	0.0038	µg/L	---	µg/L
Benzo(b)fluoranthene	**1.0**	µg/L	0.0038	µg/L	---	µg/L
Benzo(k)fluoranthene	**1.0**	µg/L	0.0038	µg/L	---	µg/L
Chrysene	**1.0**	µg/L	0.0038	µg/L	---	µg/L
Dibenzo(a,h)anthracene	**1.0**	µg/L	0.0038	µg/L	---	µg/L
Indeno(1,2,3-cd)pyrene	**1.0**	µg/L	0.0038	µg/L	---	µg/L
Total Group II Polycyclic Aromatic Hydrocarbons	**100**	µg/L	---			
Naphthalene	**20**	µg/L	---			
E. Halogenated SVOCs						
Total Polychlorinated Biphenyls	**0.000064**	µg/L	---		0.5	µg/L
Pentachlorophenol	**1.0**	µg/L	---			
F. Fuels Parameters						
Total Petroleum Hydrocarbons	**5.0**	mg/L	---			
Ethanol	**Report**	mg/L	---			
Methyl-tert-Butyl Ether	**70**	µg/L	20	µg/L		
tert-Butyl Alcohol	**120**	µg/L	---			
tert-Amyl Methyl Ether	**90**	µg/L	---			

APPENDIX C:
ADDITIONAL TREATMENT INFORMATION

Sedimentation & Activated Carbon Treatment Only. No Additional Treatment information is included within this Section of the NOI.

APPENDIX D:
ENDANGERED SPECIES ACT ASSESSMENT

Massachusetts Areas of Critical Environmental Concern (ACECs)



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

MassDEP - Bureau of Waste Site Cleanup

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

Site Information:
COMMERCIAL REDEVELOPMNET
118 CAMBRIDGE STREET BURLINGTON, MA
3-000001081

NAD83 UTM Meters:
4707531mN , 319737mE (Zone: 19)
May 30, 2019

Figure 4

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

MassDEP
Commonwealth of Massachusetts
Department of Environmental Protection

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

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

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

Aquifers: Medium Yield, High Yield, EPA Sole Source

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

PWS Protection Areas: Zone II, IWPA, Zone A

Hydrography: Open Water, PWS Reservoir, Tidal Flat

Wetlands: Freshwater, Saltwater, Cranberry Bog

FEMA 100yr Floodplain; Protected Open Space; ACEC

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

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

TABLE 1
FEDERALLY LISTED ENDANGERED AND THREATENED SPECIES IN MASSACHUSETTS

COUNTY	SPECIES	FEDERAL STATUS	GENERAL LOCATION/HABITAT	TOWNS
Barnstable	Piping Plover	Threatened	Coastal Beaches	All Towns
	Roseate Tern	Endangered	Coastal beaches and the Atlantic Ocean	All Towns
	Northeastern beach tiger beetle	Threatened	Coastal Beaches	Chatham
	Sandplain gerardia	Endangered	Open areas with sandy soils.	Sandwich and Falmouth.
	Northern Redbellied Cooter	Endangered	Inland Ponds and Rivers	Bourne (north of the Cape Cod Canal)
	Red Knot[1]	Threatened	Coastal Beaches and Rocky Shores, sand and mud flats	Coastal Towns
	Northern Longeared Bat	Threatened Final 4(d) Rule	Winter- mines and caves, Summer – wide variety of forested habitats	Statewide
Berkshire	Bog Turtle	Threatened	Wetlands	Egremont and Sheffield
	Northern Longeared Bat	Threatened Final 4(d) Rule	Winter- mines and caves, Summer – wide variety of forested habitats	Statewide
Bristol	Piping Plover	Threatened	Coastal Beaches	Fairhaven, Dartmouth, Westport
	Roseate Tern	Endangered	Coastal beaches and the Atlantic Ocean	Fairhaven, New Bedford, Dartmouth, Westport
	Northern Redbellied Cooter	Endangered	Inland Ponds and Rivers	Taunton
	Red Knot[1]	Threatened	Coastal Beaches and Rocky Shores, sand and mud flats	Coastal Towns
	Northern Longeared Bat	Threatened Final 4(d) Rule	Winter- mines and caves, Summer – wide variety of forested habitats	Statewide
Dukes	Roseate Tern	Endangered	Coastal beaches and the Atlantic Ocean	All Towns
	Piping Plover	Threatened	Coastal Beaches	All Towns
	Northeastern beach tiger beetle	Threatened	Coastal Beaches	Aquinnah and Chilmark
	Sandplain gerardia	Endangered	Open areas with sandy soils.	West Tisbury
	Red Knot[1]	Threatened	Coastal Beaches and Rocky Shores, sand and mud flats	Coastal Towns
	Northern Longeared Bat	Threatened Final 4(d) Rule	Winter- mines and caves, Summer – wide variety of forested habitats	Statewide

FEDERALLY LISTED ENDANGERED AND THREATENED SPECIES IN MASSACHUSETTS

COUNTY	SPECIES	FEDERAL STATUS	GENERAL LOCATION/HABITAT	TOWNS
Essex	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Gloucester, Essex and Manchester
	Piping Plover	Threatened	Coastal Beaches	Gloucester, Essex, Ipswich, Rowley, Revere, Newbury, Newburyport and Salisbury
	Red Knot[1]	Threatened	Coastal Beaches and Rocky Shores, sand and mud flats	Coastal Towns
	Northern Longeared Bat	Threatened Final 4(d) Rule	Winter- mines and caves, Summer – wide variety of forested habitats	Statewide
Franklin	Northeastern bulrush	Endangered	Wetlands	Montague, Warwick
	Dwarf wedgemussel	Endangered	Mill River	Whately
	Northern Longeared Bat	Threatened Final 4(d) Rule	Winter- mines and caves, Summer – wide variety of forested habitats	Statewide
Hampshire	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Hadley
	Puritan tiger beetle	Threatened	Sandy beaches along the Connecticut River	Northampton and Hadley
	Dwarf wedgemussel	Endangered	Rivers and Streams.	Hatfield, Amherst and Northampton
	Northern Longeared Bat	Threatened Final 4(d) Rule	Winter- mines and caves, Summer – wide variety of forested habitats	Statewide
Hampden	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Southwick
	Northern Longeared Bat	Threatened Final 4(d) Rule	Winter- mines and caves, Summer – wide variety of forested habitats	Statewide
Middlesex	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Groton
	Northern Longeared Bat	Threatened Final 4(d) Rule	Winter- mines and caves, Summer – wide variety of forested habitats	Statewide
Nantucket	Piping Plover	Threatened	Coastal Beaches	Nantucket
	Roseate Tern	Endangered	Coastal beaches and the Atlantic Ocean	Nantucket
	American burying beetle	Endangered	Upland grassy meadows	Nantucket
	Red Knot[1]	Threatened	Coastal Beaches and Rocky Shores, sand and mud flats	Coastal Towns
	Northern Longeared Bat	Threatened Final 4(d) Rule	Winter- mines and caves, Summer – wide variety of forested habitats	Statewide

FEDERALLY LISTED ENDANGERED AND THREATENED SPECIES IN MASSACHUSETTS

COUNTY	SPECIES	FEDERAL STATUS	GENERAL LOCATION/HABITAT	TOWNS
Plymouth	Piping Plover	Threatened	Coastal Beaches	Scituate, Marshfield, Duxbury, Plymouth, Wareham and Mattapoisett
	Northern Redbellied Cooter	Endangered	Inland Ponds and Rivers	Kingston, Middleborough, Carver, Plymouth, Bourne, Wareham, Halifax, and Pembroke
	Roseate Tern	Endangered	Coastal beaches and the Atlantic Ocean	Plymouth, Marion, Wareham, and Mattapoisett.
	Red Knot[1]	Threatened	Coastal Beaches and Rocky Shores, sand and mud flats	Coastal Towns
	Northern Longeared Bat	Threatened Final 4(d) Rule	Winter- mines and caves, Summer – wide variety of forested habitats	Statewide
Suffolk	Piping Plover	Threatened	Coastal Beaches	Revere, Winthrop
	Red Knot[1]	Threatened	Coastal Beaches and Rocky Shores, sand and mud flats	Coastal Towns
	Northern Longeared Bat	Threatened Final 4(d) Rule	Winter- mines and caves, Summer – wide variety of forested habitats	Statewide
Worcester	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Leominster
	Northern Longeared Bat	Threatened Final 4(d) Rule	Winter- mines and caves, Summer – wide variety of forested habitats	Statewide

Updated 02/05/2016

[1]Migratory only, scattered along the coast in small numbers

-Eastern cougar and gray wolf are considered extirpated in Massachusetts.
-Endangered gray wolves are not known to be present in Massachusetts, but dispersing individuals from source populations in Canada may occur statewide.
-Critical habitat for the Northern Red-bellied Cooter is present in Plymouth County.

Town: BURLINGTON or Species (Common Name): or Species (Scientific Name):

Showing 1 to 4 of 4 entries Search:

First Previous 1 Next Last

Town	Taxonomic Group	Scientific Name	Common Name	MESA Status	Most Recent Obs
BURLINGTON	Vascular Plant	Carex polymorpha	Variable Sedge	E	2016
BURLINGTON	Vascular Plant	Nabalus serpentarius	Lion's Foot	E	1906
BURLINGTON	Fish	Notropis bifrenatus	Bridle Shiner	SC	2013
BURLINGTON	Reptile	Terrapene carolina	Eastern Box Turtle	SC	1998

Show 10 entries

IPaC **U.S. Fish & Wildlife Service**

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 County, 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.

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.

The following species are potentially affected by activities in this location:

Mammals

NAME	STATUS

Northern Long-eared Bat Myotis septentrionalis Threatened

No critical habitat has been designated for this species.
https://ecos.fws.gov/ecp/species/9045

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

THERE ARE NO CRITICAL HABITATS 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.)
Bald Eagle *Haliaeetus leucocephalus* 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	Breeds Oct 15 to Aug 31
Black-billed Cuckoo *Coccyzus erythropthalmus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9399	Breeds May 15 to Oct 10
Bobolink *Dolichonyx oryzivorus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 20 to Jul 31
Buff-breasted Sandpiper *Calidris subruficollis* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9488	Breeds elsewhere
Canada Warbler *Cardellina canadensis* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 20 to Aug 10
Dunlin *Calidris alpina arcticola* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds elsewhere

Evening Grosbeak Coccothraustes vespertinus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds elsewhere
Lesser Yellowlegs Tringa flavipes This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9679	Breeds elsewhere
Prairie Warbler Dendroica discolor This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 1 to Jul 31
Red-headed Woodpecker Melanerpes erythrocephalus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 10 to Sep 10
Rusty Blackbird Euphagus carolinus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds elsewhere
Semipalmated Sandpiper Calidris pusilla This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds elsewhere
Short-billed Dowitcher Limnodromus griseus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9480	Breeds elsewhere
Snowy Owl Bubo scandiacus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds elsewhere
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.

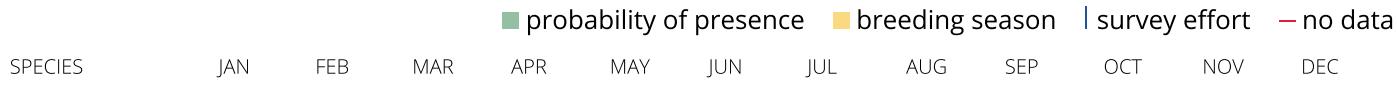
Breeding Season (▪)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

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.

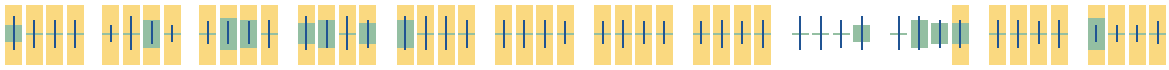
To see a bar's survey effort range, simply hover your mouse cursor over the bar.

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

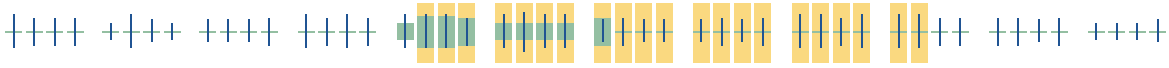
Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.



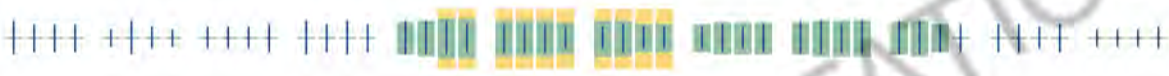
Bald Eagle
Non-BCC Vulnerable (This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.)



Black-billed Cuckoo
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

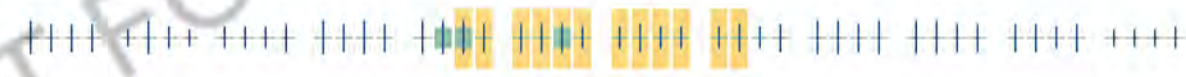


Bobolink
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)



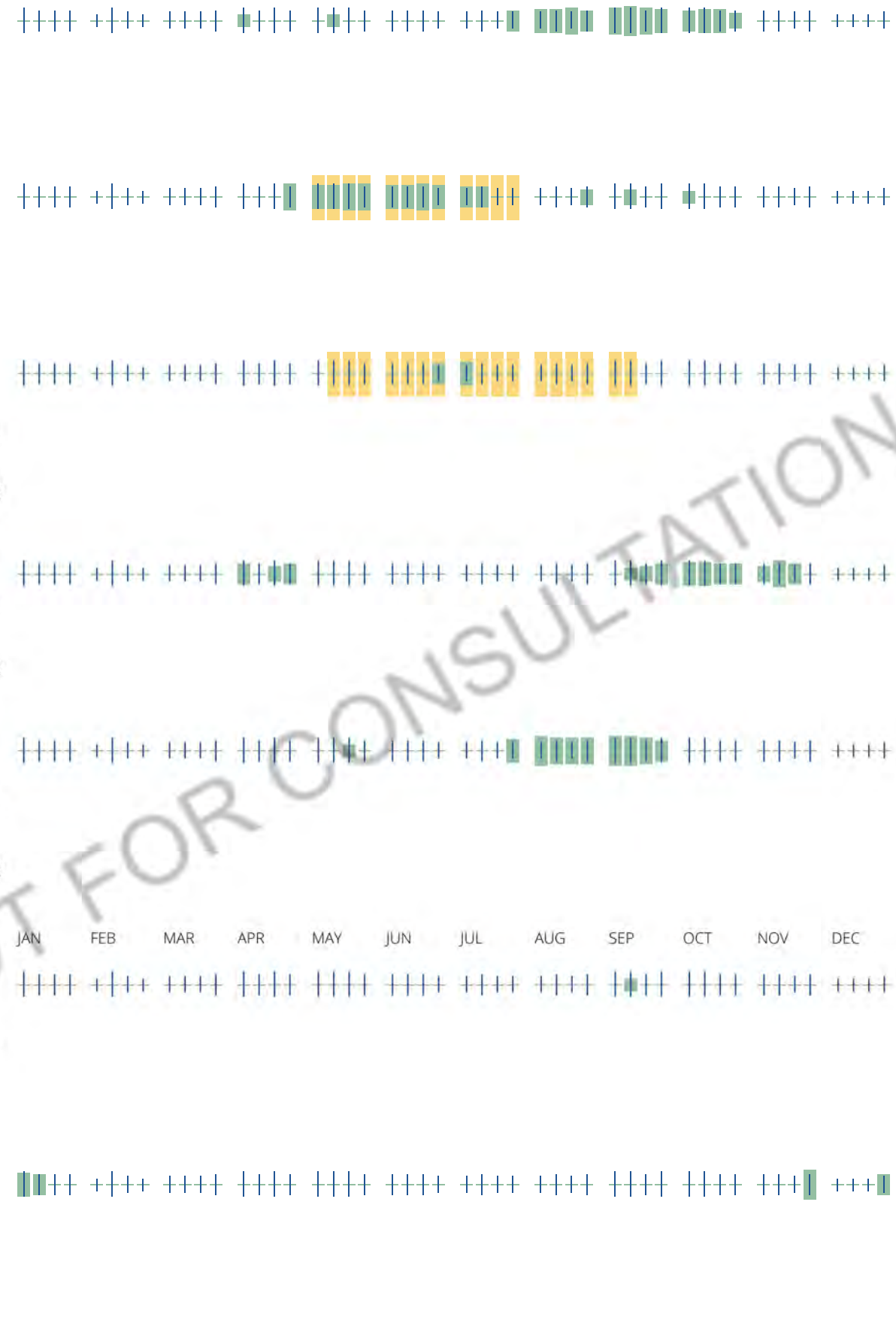
Buff-breasted Sandpiper
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

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

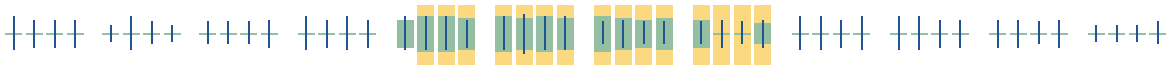


Dunlin
BCC - BCR (This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA)

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



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



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 AKN Phenology 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:

FRESHWATER EMERGENT WETLAND

PEM1Ed

FRESHWATER FORESTED/SHRUB WETLAND

PFO1E

PSS1E

RIVERINE

R2UBHx

R4SBCx

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

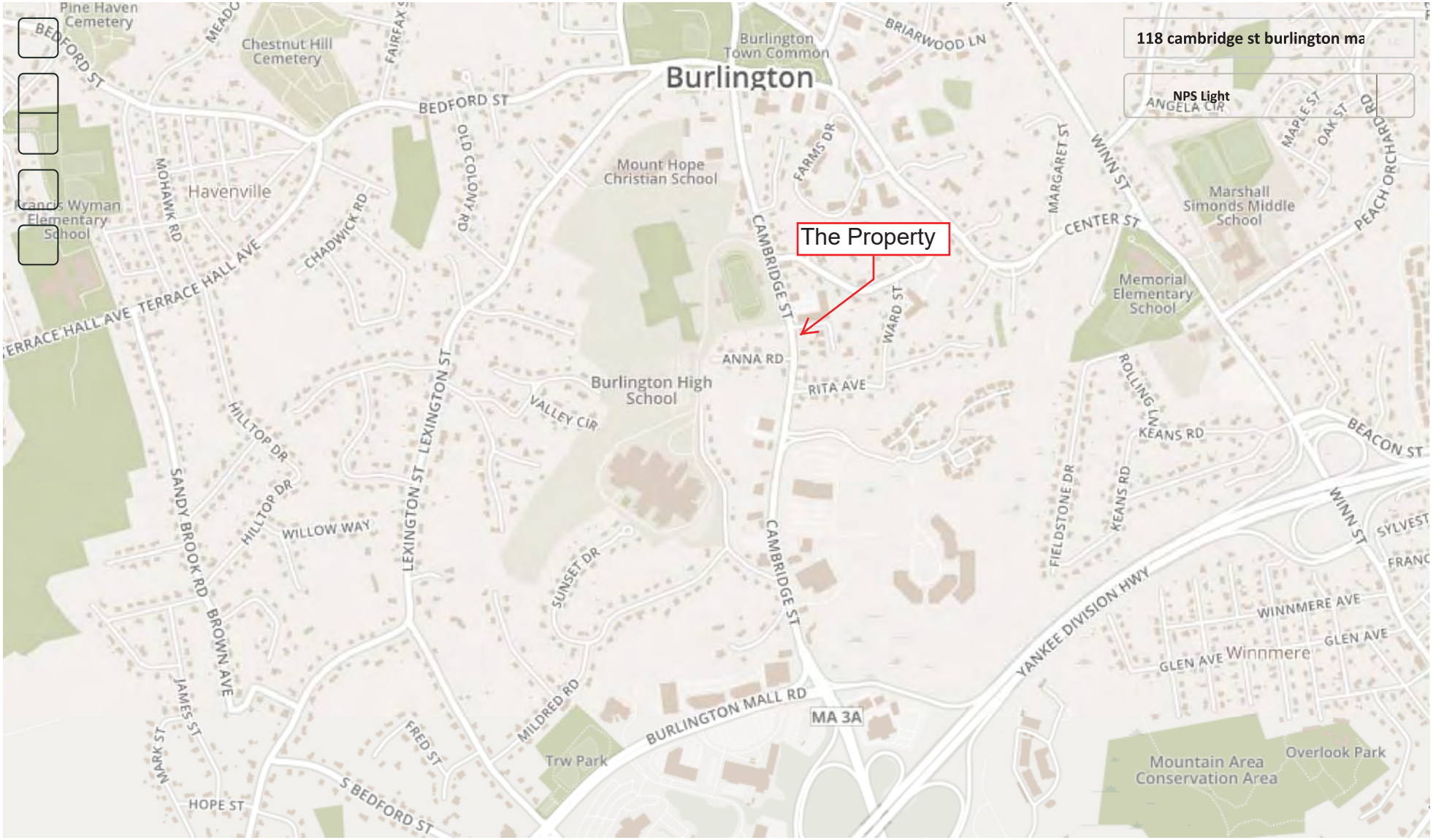
Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, 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.

APPENDIX E:
NATIONAL HISTORIC PRESERVATION ACT REVIEW

National Register of Historic Places

National Park Service
U.S. Department of the Interior

Public, non-restricted data depicting National Register spatial data processed by the Cultural Resources GIS facility. ...



Massachusetts Cultural Resource Information System

MACRIS

MACRIS Search Results

Search Criteria: Town(s): Burlington; Street Name: cambridge st; Resource Type(s): Area, Building, Burial Ground, Object, Structure;

Inv. No.	Property Name	Street	Town	Year
BUR.904	Burlington Town Common	2 Bedford St	Burlington	c 1640
BUR.12		95 Cambridge St	Burlington	1855
BUR.28	Nichols, Henry Barn	138 Cambridge St	Burlington	c 1845
BUR.29	Boston, Charles Tobin House	141 Cambridge St	Burlington	c 1920
BUR.8	Wood, Sylvanus House	245 Cambridge St	Burlington	1760
BUR.47	Reed Ham Works Barn	328 Cambridge St	Burlington	c 1850
BUR.7	Reed, Isaiah and Thomas I. House and Farm	336 Cambridge St	Burlington	c 1820
BUR.48		340 Cambridge St	Burlington	c 1905
BUR.49		355 Cambridge St	Burlington	c 1905

Massachusetts Cultural Resource Information System

Scanned Record Cover Page

Inventory No:	BUR.12
Historic Name:	
Common Name:	
Address:	95 Cambridge St
City/Town:	Burlington
Village/Neighborhood:	
Local No:	
Year Constructed:	1855
Architect(s):	
Architectural Style(s):	No style
Use(s):	Single Family Dwelling House
Significance:	Architecture
Area(s):	
Designation(s):	
Building Materials(s):	Roof: Asphalt Shingle Wall: Aluminum Siding; Wood Foundation: Stone, Uncut

Commonwealth of Massachusetts
Massachusetts Historical Commission
220 Morrissey Boulevard, Boston, Massachusetts 02125
www.sec.state.ma.us/mhc

MAR · 66

MISSION
Boston
p:
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X 7oget!! BUR.12VV

2. Town BURLINGTON

Street 95 CAMBRIDGE ST

Name FRANK A MERRY Build.

Present Owner RICHARD A MERRY, ESQ

Present Use Home Pl-8

Original Use Home

Date 1855-6 Style SALT-BOX

Source of Date DEEDS

Architect

3. CONDITION: Excellent Good Fair Deteriorated Moved Altered beyond help

IMPORTANCE of site to area: Great Moderate None Detrimental Endangered

4. DESCRIPTION

FOUNDATION: High Regular None Material: FIELD STONE

MATERIAL: Frame (Cover: WOOD) Brick Stone (other) ALUMINUM

STORIES: 1 2 3 4 CHIMNEYS: 1 2 3 4 Center End Cluster Elaborate Irregular

PLAN: Symmetrical/Asymmetrical Simple/Complex Attached: Ells Stable Dependency

PORCHES: 1 2 3 4 Portico Balcony _____ Interior: Gallery/porch

ROOF: Ridge Gambrel Flat Hip Mansard _____
Tower Cupola Gables 1 2 3 4 Balustrade Grillwork _____

FACADE: Gable End: Front/Side Symmetrical/Asymmetrical Ornate Simple/Complicated

Cornice: Simple/Ornate Narrow/Wide Deep/Shallow Dentils/Brackets _____

Entrance: Front/Side Centered Double Features: _____

Windows: Spacing: Regular/Irregular Identical/Varied _____

Corners: Plain Pilasters Quoins Obscured _____

OUTBUILDINGS _____ LANDSCAPING _____

5. Indicate location of site on map below

6. Footage of structure from street 40
Property has 100 feet frontage on street

Recorder RICHARD A MERRY

For BURLINGTON HISTORICAL SOCIETY
(Name of organization)

MAR 3. 1967

Photo ✓

NOTE: Recorder should obtain written permission from Commission or sponsoring organization before using this form. (See Reverse Side)

BUR.12

PLEASE INDICATE ANY INTERIOR FEATURES OF NOTE (For use with important structures)

Fireplaces

Stairway

Other 2 c – 24" hand hewed wide pine flooring

PLEASE GIVE A BRIEF DESCRIPTION OF HISTORIC IMPORTANCE OF SITE (Refer to the theme circled on front of form. What happened? Who important? When" Comment)

When Hancock + Adams came from Lexington to Burlington it is stated that they spent time at this building while hiding from the British.

the house fails RT 3A at a side angle because when the house was originally built, RT 3A did not exist.

Reference: (Where was this information obtained? What book, records, etc.)

this story has been passed down from owner to owner.

Bibliography

Original Owner:

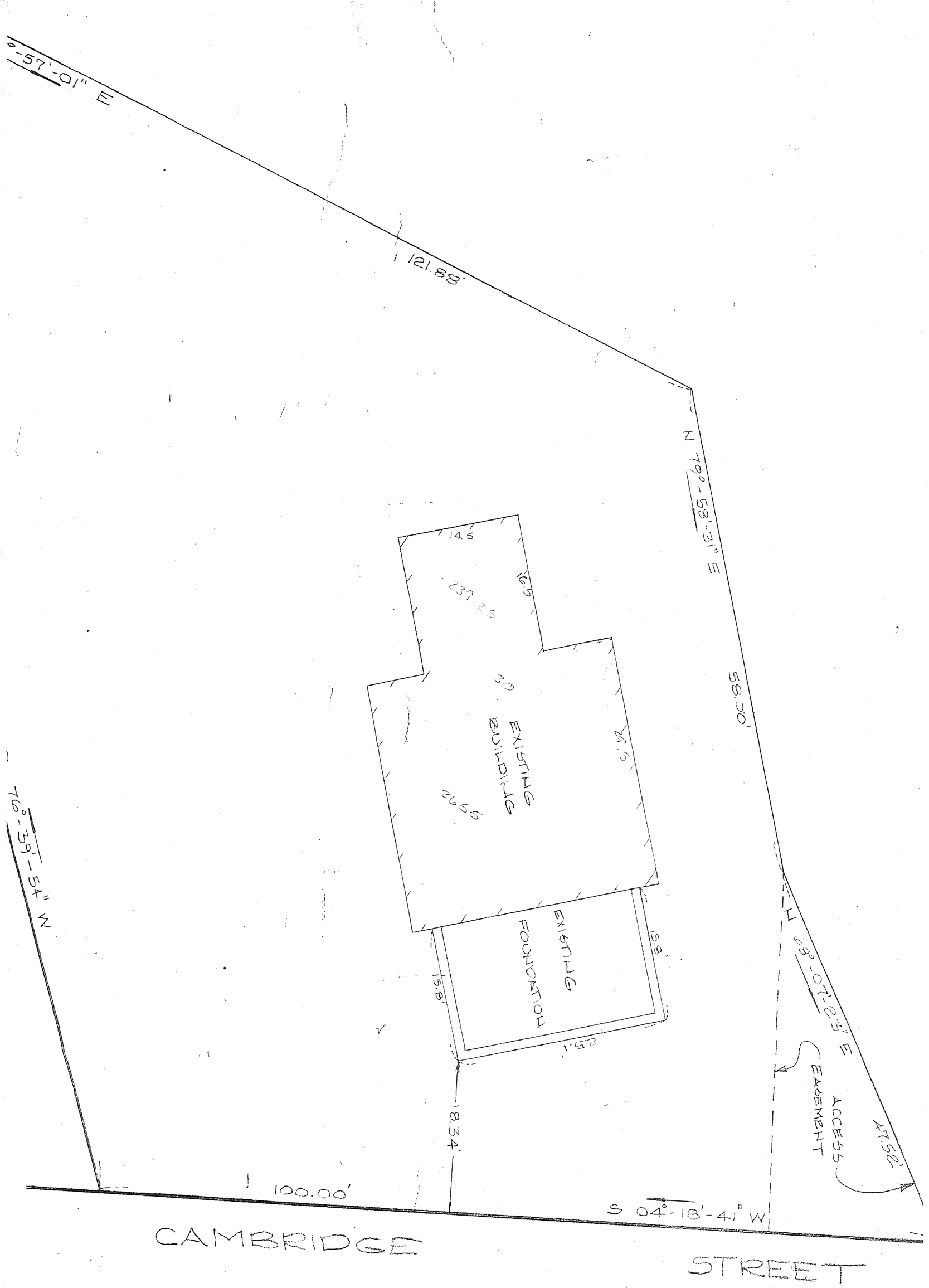
Deed Information: Book Number_____ Page_____, _____ Registry of Deeds

Supplementary information and plans provided by Toni Faria, Burlington Historical Commission, 3 May 2013

The original building is now part of a larger building owned by Herb Chambers Co. The front section is original; the rear section has been added. Previous owner was F.A. Meany

BUR.12

Town of Burlington Assessor's Map
Map 35
Revised: January 1, 2012
Scale: 1" = 100'
Print Date: August, 2012
This map was created from data provided by the Town of Burlington. The information provided is for informational purposes only. The Town of Burlington shall not be held responsible for the accuracy or misuse of the data or its accompanying maps.
28 29 30
34 35 36
40 41 42
N
S
E
W
Meadow Brook School
(Christian School)
29-154-0
Town of Burlington
29-161-0
High School
Atheletic Field
35-138-0
High School
35-85-0
35-110-0
11757 sf
Old Colony Rd
Hancock St
Lexington St
Independence Dr
Frothingham Rd
Indian Hill Rd
Spruce Hill Rd
Valley Cir
Shady Lane Dr
Theresa Ave
Arlington Rd
Right of Way
Anna Rd
Cambridge St
Edwards Rd
Rita Ave
Corporate Dr
Birchcrest St
McIntire Dr
Condominium



Burlington Bld. Dept

BUR.12

Massachusetts Cultural Resource Information System
Scanned Record Cover Page

Inventory No:	BUR.28
Historic Name:	Nichols, Henry Barn
Common Name:	Rose, A. J. Carpet Company - Smail Art Gallery
Address:	138 Cambridge St
City/Town:	Burlington
Village/Neighborhood:	Burlington Center
Local No:	29-113-0
Year Constructed:	c 1845
Architect(s):	
Architectural Style(s):	Altered beyond recognition; No style
Use(s):	Abandoned or Vacant; Agricultural; Art Gallery; Business Office; Out Building; Warehouse
Significance:	Agriculture; Architecture; Commerce
Area(s):	BUR.B: Burlington Common
Designation(s):	
Building Materials(s):	Roof: Asphalt Shingle Wall: Wood; Wood Clapboard Foundation: Stone, Uncut

SECT A BUR.28

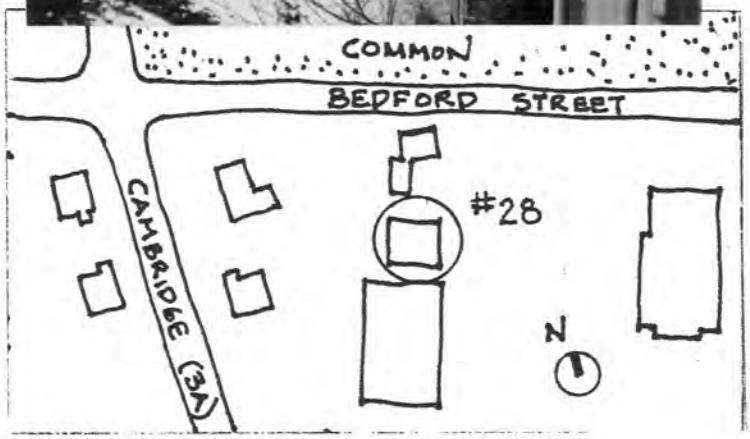
FORM B – BUILDING

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

Assessor's Number	USGS Quad	Area(s)	Form Number
29-113-0	WILMING	B	28

Town Burlington

Place *(neighborhood or village)* BURLINGTON



Address 138 Cambridge Street

Historic Name Walker Barn (Nichols Barn)

Uses: Present Storage / Vacant

Original Agricultural (Farm Outbuilding)

Date of Construction ca. 1845-1851
Source architectural style and materials , census

Style/Form Greek Revival

Architect/Builder unknown

Exterior Material:

Foundation fieldstone

Wall/Trim wood clapboards

Roof asphalt shingles

Outbuildings/Secondary Structures None

Major Alterations *(with dates)*

Lean-To added on left (east) side, ca. 1880
New windows and doors on first and second floors, after 1947 and after 1969

Condition Good

Moved ☑ **no** ☐ **yes** **Date**

Acreage

Setting fronts Bedford Street and Burlington Common south of General Walker House [9 Bedford Street]

Recorded by John V. Goff

Organization Historic Preservation & Design, Salem, MA

Date *(month / year)* 6 / 1999

RECEIVED
SEP 30 1999
MASS. HIST. COMM

Follow Massachusetts Historical Commission Survey Manual instructions for completing this form.

BUILDING FORM

ARCHITECTURAL DESCRIPTION ☐ *see continuation sheet*

Describe architectural features. Evaluate the characteristics of this building in terms of other buildings within the community.

The Walker Barn or Henry Nichols Barn, now listed as 138 Cambridge Street, was originally erected as a Barn for the **General John Walker House** at nearby **9 Bedford Street**. When viewed and approached from the House, the Barn is seen to be a large 2-1/2 story front gabled Greek Revival Style Barn with an attached lean-to extension running the full length of the left or east side. The main part of the barn measures 35 feet wide x 50 feet long while the lean-to extension measures 20 feet wide. The combination of main barn with lean to has produced a traditional New England Saltbox architectural form and appearance, making it one of the most visible, picturesque and character-defining structures downtown. Both parts together, the barn measures 55 feet wide x 50 feet long.

The front of the barn retains two doors at street grade, and an assortment of new casement windows, as well as one old transom light located in the center of the Main Barn, over where the large barn door opening used to be. The front also retains one 6/6 Greek Revival Style window in the attic.

The second most prominent façade (the west side, which faces Cambridge Street) drops down to a lower level, to provide better headroom, lighting, and vehicle access to the basement. Like many barns and rural outbuildings of the 19th century, the Walker Barn takes advantage of a hillside location to provide multiple ground level access points at different floors. To minimize the amount of grade alteration required, there are curved retaining walls and a ramp that lead to the basement barn door. The west façade has had newer 1960s casement windows installed on much of the wall. However, it appears the essential window rhythm is intact, and that the wall originally displayed four bays of 6/6 windows for 2-1/2 floors. One of the old 6/6 windows survives near the southwest corner at an upper level.

The main part of the barn is built upon a large fieldstone foundation which drops in height on the west wall, where the outside grade is lower. The basement's ground access occurs in the center of the center bay on the west side. Principal framing members run laterally across the building (east-west), while secondary floor joists run north south within each bay. The first floor barn framing is massive, and extremely well executed. Hand-hewn timbers rest upon granite posts which provide interim support. Structurally, the main part of the barn runs three structural bays long.

Two pitched roofed vent structures or cupolas are mounted on the roof ridge, and are visible from different parts of town.

There is no basement beneath the lean-to addition.

HISTORICAL NARRATIVE ☑ *see continuation sheet*

Discuss the history of the building. Explain its associations with local (or state) history. Include uses of the building, and the role(s) the owners/occupants played within the community.

The early history of the Walker Barn has not been well documented, and historical research is still ongoing. Prior to 1999, local tradition tended to equate the building of the barn with the building of the 18th century **Gen. John Walker House** which stands nearby at **9 Bedford Street**, facing the Burlington Common. New research, however, favors the interpretation that the barn was built perhaps about 70 years later than the house--or about the year 1850.

The primary pieces of evidence which all suggest a circa 1850 build date for the barn include the following:

1. The size of the barn, massing, front gabled orientation, and 6/6 windows all suggest that the barn was designed originally in the Greek Revival Style. The Greek Revival Style was most popular between about 1830 and 1860 nationally (and in Burlington between about 1845 and 1860). Thus architectural style suggests a date of construction in the 1845-1860 period;

INVENTORY FORM CONTINUATION SHEET

Town Burlington
Property Walker Barn (Nichols Barn)
Address 138 Cambridge Street

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

Area(s) B
Form No. 28

Historical Narrative–cont'd

2. The first floor framing of the barn is supported by nicely worked granite piers, which appear to be original and integral with the barn's first construction. These granite piers have quarry marks on their edges which indicate that a round drill was used to feather-and-split the stone from the original quarry site. This type of quarry mark is generally associated with the Quincy, MA method of quarrying, pioneered in the 1820s. Thus, the construction "signature marks" point to a post-1820 build date;
3. Burlington "Valuation" lists from 1851 indicate that a "Barn" stood on the property that year, when the property was part of a 51 acre farm owned by Henry Nichols. Thus it appears that the barn was built prior to 1851.

Taken together, all the pieces of hard evidence listed above suggest that the barn was built between 1820 and 1860, and most likely between about 1845 and 1851. The circa 1845 date is suggested by the early popularization of the Greek Revival Style in Burlington, while the 1851 date is indicated by the Town of Burlington "Valuation List." published that year.

It thus appears most reasonable to infer that the Barn was built neither by the Walkers--nor by the Cutlers who ran a tavern on the property in the 1830s--but constructed instead for Henry Nichols. Significantly, Nichols' occupation was listed as a "Farmer" so the Barn was apparently built to support him in his chosen vocation.

On April 29, 1999, Burlington historian John Goff was erroneously quoted to have "said...that records show the Walker Barn was built by an E. T. Walker..." Mr. Goff later noted [on a May 4th draft of this survey form] that no such statement was ever made. Much as it is only natural to want the barn to be as old (and therefore as historically significant) as the nearby Walker House, known facts discovered in 1999 suggest a later build period--with no less relative importance for the barn. The barn is still highly important locally, as one of the last Greek Revival Style Barns surviving in Burlington, and one of the most visible historic symbols downtown of Burlington's Colonial and 19th century agricultural heritage.

From the Valuation List & Record of Taxes of the Town of Burlington printed in 1851, we know that Henry Nichols of Burlington owned the following property in 1851:

1 dwelling house	[valued at]	$550.	
1 barn	[valued at]	$400	[as well as]
3 horses			
2 cows			
1 carriage.			

BUR.28

INVENTORY FORM CONTINUATION SHEET

Town Burlington
Property Walker Barn (Nichols Barn)
Address 138 Cambridge Street

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

Area(s) B
Form No. 28

Historical Narrative–cont'd

It thus appears that the Barn was given a high 4/5 or 80 percent of the value of the House--because of the Barn's large size and good condition in 1851. It is also worth noting that at mid-century, Henry Nichols maintained the Nichols Barn and the Walker-Cutler-Nichols House (**General John Walker House, 9 Bedford Street**) as primary features on a 51 acre farm. Surviving written records suggest that he built it not only to store hay and other agricultural products at high (and dry) level, but also to provide animal shelter for 3 horses and 2 cows. The basement driveway which provided access to the lowest floor of the Barn perhaps was also used to enable the Barn to additionally function as a Garage, to provide shelter for Mr. Nichols's "carriage."

Mr. & Mrs. Henry Nichols and Family

While the 1851 Valuation List helps us place Henry Nichols on the property (and in the barn) that year, we must turn to other sources to learn more about this Greek Revival Period Burlington farmer. From the Burlington census, we know that Henry Nichols was born in Massachusetts in 1820, so therefore he was 35 years old in 1855, and 31 when the Barn was assessed in 1851.

While title search will likely be able to define with more precision the year in which the Nichols family purchased the property, the census suggests that the Nichols family bought the property and improved it about 1851. From the birth dates of Mr. Nichols' children, we can determine that Mr. Nichols was newly married and actively raising young children in the early 1850s. Available census records from 1855 and 1865 indicate that Henry Nichols was married by 1852, to Harriet M (or N.) Nichols (maiden name unknown) who was then about 24 years old. In 1852, Mr. & Mrs. Henry & Harriet Nichols became the proud parents of little Susan E. Nichols, their first child and daughter. George Skelton (likely of the prolific Burlington Skeltons-see **Bradford Skelton House, 92 Francis Wyman Road**, also **Horace Skelton House, 93 Francis Wyman Road**, etc.) 5 years younger than Henry, also worked then as a "Laborer" on the Nichols family farm.

During the American Civil War--in 1860--when little Susan E. Nichols had grown up to be 7 years of age, Susan received a new sibling--a brother. The baby boy was named Henry H. Nichols, after the father. By 1865--at the War's conclusion--little Susan and Henry H. Nichols were 12 and 5 years of age, and likely assisted doing chores on the farm. There were no buildings crowding the barn. The streets were dirt roads. Extensive fields surrounded the barn. Henry Nichols served the Town as Assessor, Highway Surveyor, and Selectman. Son Henry H. Nichols followed his father's footsteps into public service, and was active on the Burlington School Board.

In 1865, 20 year old farmer George H. Gleason, and 30 year old Ann Shedd (b. 1835) lived with the four members of the Nichols family (Mr. & Mrs. Henry & Harriet Nichols, with daughter Susie and son Henry H.) The only known Shedds in Burlington hailed from the **Samuel & Abner Shedd House** at **4 Francis Wyman Road**. It seems likely that Ann was related, a daughter of Abner & Elizabeth Shedd of 4 Francis Wyman Road. Younger children to Abner & Elizabeth--who still lived at the old Shedd place in 1855--included Juliett Shedd (b. 1838), Almira Shedd (b. 1841) and Elizabeth Shedd Jr. (b. 1846).

INVENTORY FORM CONTINUATION SHEET

Town Burlington
Property Walker Barn (Nichols Barn)
Address 138 Cambridge Street

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

Area(s)	Form No.
B	28

Historical Narrative–cont'd

The Nichols family occupied the property (and utilized the barn) until 1871, when the property was sold to Edwin Alonzo Bennett. The Nichols family graves survive as prominent features in the **Chestnut Hill Cemetery**.

The Bennetts and Akesons

In 1871, the Nichols family sold their Walker-Cutler-Nichols place (**General John Walker House**, with Walker Barn) to Edwin Alonzo Bennett. Edwin Alonzo Bennett was a fairly well known figure in town, because he and his brother George Holden Bennett [see George H. Bennett, 1875 occupant of **Bennett House** at **54 Francis Wyman Road**] jointly owned a large L-shaped building on Cambridge Street, (near the Center Street intersection, current site of Simonds Park). The "Bennett Block" as it was locally known, is illustrated in Lotta Cavanaugh Rice Dunham's History of Burlington 1640-1950 book. Since the 1920s the Bennett Block (a/k/a Gleason Block) has survived in town, but in two separated pieces. The two parts to the "L" were separated and moved to different lots, and re-used as private homes. For more information on the Bennetts and the Bennett Block, see survey materials for **13 Sears Street, 2 Mill Street, and 54 Francis Wyman Road**. The Victorian Style ridge ventilators or cupolas on the roof of the Henry Nichols Barn were likely added during the Bennett's ownership period. The saltbox lean-to addition on the east side of the Barn was likely also added during the Bennetts' ownership period. The Bennett brothers Edwin Alonzo Bennett and George Holden Bennett are both thought to have been Victorian Era grandsons of Edward Bennett who built the original **Bennett House** at **54 Francis Wyman Road** about 1830. The Burlington Bennetts were widely respected as farmers, businessmen, and property owners.

Between 1928 and about 1947, the Nichols-Bennett Barn was owned by Joshua Holden Bennett (Edwin A.'s grandnephew) as well as the family of Mr. & Mrs. John Akeson. The Akesons purchased the place in 1935 (Great Depression years), and "repaired the buildings and returned them to their old time grandeur." The Akesons are noted to have largely concentrated their attention on the house, "making it one of the finest homes in the town."

The Smails and Later Owners

About 1950, Lotta Cavanaugh Rice Dunham noted that "In 1947 it [the Walker property--house and barn] was sold to the present owner, Mr. Robert Smail." The Smails are credited with undertaking further restorations to the house (see **9 Bedford Street)** about 1947, and with installing an art gallery in the barn. Most of the modern windows and doors appear to have been installed in connection with the art gallery conversion. First floor restrooms, and a brick chimney and mechanical upgrades also accompanied the art gallery conversion.

In 1969, John A. Marino purchased the property (house, barn and lands) and converted the house into an office building. The late Colonial Revival doorway with broken pediment and pineapple motif on the Bedford Street front likely dates from in or after the 1960s ownership period.

Between 1977 and 1979, the property was divided by Andrew Boyagian d/b/a Hutton Park Realty. The house was deeded separately to Virginia A. Harris, a real estate agent, and after Harris, to Robert B. MacDonald Tr., and General Walker Realty Trust, the house owners of record as of 1998. (See **9 Bedford Street**).

INVENTORY FORM CONTINUATION SHEET

Town Burlington
Property Walker Barn (Nichols Barn)
Address 138 Cambridge Street

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

Area(s) B | Form No. 28

Historical Narrative--cont'd

Assessor's records indicate that Andrew Boyagian d/b/a Hutton Park Realty remained owner of the barn in 1999. Title to the barn was secured in 1977, via Middlesex County deed recorded at Book 13259, Page 707.

Current Use and 1999 Endangered Status

The Walker Barn (Nichols Barn) while currently owned by Andrew Boyagian d/b/a Hutton Park Realty, is used by the A. J. Rose company for carpet and flooring storage [basement level]. The Rose company also maintains a newer carpet showroom and warehouse south of the barn.

The upper floors of the barn are mostly vacant at present, occasionally used for some purposes. In April, 1999, the Burlington Police Auxiliary used some of the vacant first floor office rooms for conducting a telemarketing fund drive. The upstairs two levels are said to contain modern office suites.

During March and April, 1999, American Stores Properties Inc. submitted a proposal to move or demolish the Walker Barn because it caused a potential conflict with traffic patterns surrounding a proposal for a new Osco Drug Store. The drug store is being proposed to be built on the site of the A. J. Rose carpet company facility, located just south of the barn.

As a result of the new Osco Drug / American Stores proposal, the Walker Barn (Mr. & Mrs. Henry Nichols Barn) is currently endangered. An intent to file nomination for "Most Endangered Property" status with Historic Massachusetts, Inc. was published by the Burlington Historical Commission in late April, 1999. The Historic Commission will be seeking to save the Walker Barn from demolition in 1999 because it survives as a rare and important example of a Greek Revival Style Barn, and an important historic landmark associated with Burlington's ca, 1640s-1940s agricultural and farming community heritage.

BIBLIOGRAPHY and/or REFERENCES

☐ *see continuation sheet*

Assessor's Records, Town of Burlington
Dunham, Lotta Cavanaugh Rice. The History of Burlington 1640-1950, (Zahora edition, 1998) pp. 75, 97, 98, 124, 125, 127, 128, old barn photo page 136.
Fogelberg, John Edward. Burlington: Part of A Greater Chronicle, 1976. P. 123.
Fogelberg, John Edward. "A General, A President, A Hero" in Daily Times Chronicle 8/5/1980. indexed as Ashworth index #59a.
Survey materials for 9 Bedford Street, 59 Center Street, 4, 54 92 and 93 Francis Wyman Road, 2 Mill Street, 13 Sears Street, 3 Winona Road, 5 Winona Road, 110 Winn Street.
Wasserman, Judy. "Advocates Look To Save Walker Barn" in Burlington Union, April 29, 1999, pp. 1 and 11.

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

BUR.28

Community Burlington
Property Address: 138 Cambridge Street

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

Area(s) Form No.
28

National Register of Historic Places Criteria Statement Form

Check all that apply:

☐ Individually Eligible ☑ Eligible only in a historic district

☑ Contributing to a potential historic district ☐ Potential historic district

Criteria: ☐ A ☑ B ☑ C ☐ D

Criteria Considerations: ☐A ☐B ☐C ☐D ☐E ☐F ☐G

Statement of Significance by **Historic Preservation & Design**
The criteria that are checked in the above sections must be justified here.

The Barn is significant by Criterion B (important persons) for its associations with the 19th century Nichols and Bennett families, significant farmers and merchants in Burlington.

In addition, it is significant by Criterion C (architectural style and/or construction) as a rare surviving example of a large farm barn with lean-to addition.

However, architectural alterations diminish the integrity, and thus the National Register eligibility of the resource.

BUR. 28

Original yellow form: Eligibility file
Copies: Inventory form X
Town file(w/corresp.)
Macris
NR director _____ Community: Burlington

MHC OPINION: ELIGIBILITY FOR NATIONAL REGISTER

Date Received: 2/11/05 Date Due: Date Reviewed: 2/16/05

Type: _X_Individual __District (Attach map indicating boundaries)

Name: Walker/Nichols Barn Inventory Form: 28

Address: 138 Cambridge St

Requested by: LHC

Action: _x_Honor __ITC __Grant __R & C
Other:

Agency: Staff in charge of Review:

INDIVIDUAL PROPERTIES

__ Eligible
__ Eligible, also in district
__ Eligible only in district
__ Ineligible
x More information needed

DISTRICTS

__ Eligible
__ Ineligible
__ More information needed

CRITERIA: __A __B __C __D

LEVEL: __Local __State __National

STATEMENT OF SIGNIFICANCE by Peter Petrisko

The Walker/Nichols barn is a c. 1845 barn associated with the General John Walker House (c. 1775) at 9 Bedford Street. Originally believed to have been built contemporaneously with the Walker House, subsequent research shows it was built much later when the property was owned by Henry Nichols. Currently the house and barn are on separate lots, having been subdivided in 1978, and are both in commercial use.

In c. 1871 the cupolas and saltbox addition were added to the barn and in c. 1935 both the Walker House and Nichols Barn were renovated. In 1947 the property was sold to Robert Smail who converted the barn to an art gallery. Most of the modern windows and doors were added at this time. Further alterations to the barn occurred in 1969 when the house and barn were converted to business offices. The Colonial Revival doorway and other window alterations date to this conversion. Currently the barn is vacant on the upper stories while the lower floors are being used as a carpet warehouse.

BUR.28

The survey consultant who completed the 1999 Burlington Survey did not feel the barn was individually eligible, but did feel the Walker House was. He also recommended that both the house and barn would contribute to a larger district centered on the Burlington Common. Staff felt that it was important to look at both the Walker House and the Nichols barn as a unit rather than separately as they are historically linked together. Staff would like to see historic photos of both properties if available. Is it known what renovations were done to the buildings in c. 1935? The window alterations to the barn in 1947 during its conversion to an art gallery are a major alteration, but may be within the historic period of significance. Staff would like to know what windows are still extant from the 1947 art gallery conversion and which are from the 1969 office conversion. Additional photographs of the other elevations of the house and barn and interior pictures of the barn, especially the timbers and granite supports, would be needed. Interior photographs of the Walker House would help staff determine what remains of any interior features from c. 1775, if any. Additional historic information regarding the original extent of the Walker farm and subsequent uses and owners of the property would help flesh out the history of the property. Contextual streetscape photographs would also be needed.

Massachusetts Cultural Resource Information System

Scanned Record Cover Page

Inventory No:	BUR.29
Historic Name:	Boston, Charles Tobin House
Common Name:	
Address:	141 Cambridge St
City/Town:	Burlington
Village/Neighborhood:	Burlington Center
Local No:	29-142-0
Year Constructed:	c 1920
Architect(s):	
Architectural Style(s):	Bungalow; Craftsman
Use(s):	Single Family Dwelling House
Significance:	Architecture
Area(s):	BUR.B: Burlington Common
Designation(s):	
Building Materials(s):	Roof: Asphalt Shingle Wall: Wood; Wood Clapboard; Wood Shingle Foundation: Stone, Uncut

DEMOLISHED

Commonwealth of Massachusetts
Massachusetts Historical Commission
220 Morrissey Boulevard, Boston, Massachusetts 02125
www.sec.state.ma.us/mhc

SEE A BUR.29

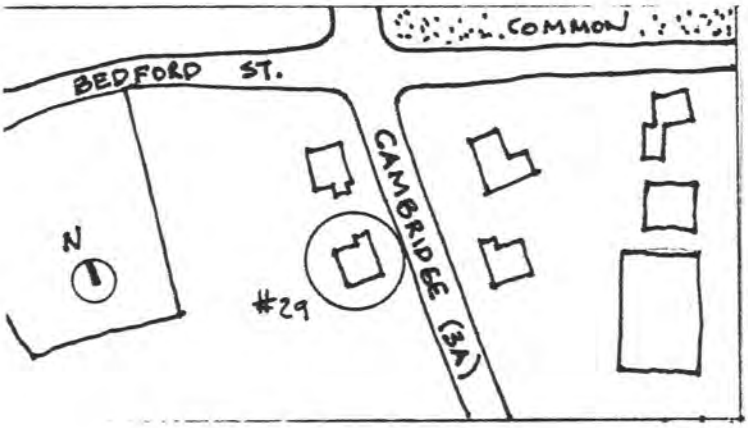
FORM B – BUILDING

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

Assessor's Number	USGS Quad	Area(s)	Form Number
29-142-0	WILMING	B	29

Sketch Map

Draw a map showing the building's location in relation to the nearest cross streets and/or major natural features. Show all buildings between inventoried building and nearest intersection or natural feature. Label streets including route numbers, if any. Circle and number the inventoried building. Indicate north.



Recorded by John V. Goff

Organization Historic Preservation & Design, Salem, MA

Date (*month / year*) 6 / 1999

Town Burlington

Place *(neighborhood or village)* DEMOLISHED

Burlington Common

141 Cambridge Street

Name Charles T. Boston Bungalow

Present Residential

Original Residential,

Construction ca. 1920

Dunham, Fogelberg, et al. (see Bibliography)

Form Early 20th century Bungalow

Architect/Builder unknown

Material:

Foundation field stone

Wall/Trim wood clapboards

Roof asphalt shingles

Outbuildings/Secondary Structures None

Major Alterations *(with dates)*

Colonial Revival style Front porch added

Condition Excellent

Moved ☑ **no** ☐ **yes Date**

Acreage less than one acre

Setting Faces east, fronting Cambridge Street adjacent and south of Burlington Historical Museum.

RECEIVED
SEP 30 1999
MASS. HIST. COMM

Follow Massachusetts Historical Commission Survey Manual instructions for completing this form.

BUR.29

BUILDING FORM

ARCHITECTURAL DESCRIPTION ☐ *see continuation sheet*

Describe architectural features. Evaluate the characteristics of this building in terms of other buildings within the community.

135 Cambridge Street, the Charles T. Boston Bungalow, is a modestly scaled early 20th century 1-1/2 story Bungalow located adjacent to and south of the Burlington Historical Museum. The building is basically square in plan, and supports a prominent Colonial Revival style hipped roof. The building has a fieldstone foundation, wood clapboard siding, and a very long skinny 1-story front porch which extends beyond the north wall of the house, fronting on Cambridge Street.

The building is a good example of a Post-World War I and early 20th century Bungalow, a house type which was developed initially from the Hindi "bangala" (meaning "of Bengal") in India. Bangalas originally referred to the "one story cottages with deep verandahs used by British officers in India during the days of the Raj.[see Baker, p. 108]" Later, by the 1890s, "Bungalows" were popularized as a compact, affordable and cool summer house type in California and the United States. The "bungalow craze" is said to have evolved in parallel with the Craftsman Style, popularized by Gustav Stickley of the Craftsman Magazine who also developed "Mission" Style Furniture. (In both bungalows and Craftsman Houses, the emphasis was on economy and a new, simpler lifestyle.) The Boston Bungalow in Burlington is significant as an example of an early 20th century Bungalow that also shows Colonial Revival influences in its use of the major hipped roof.

HISTORICAL NARRATIVE ☐ *see continuation sheet*

Discuss the history of the building. Explain its associations with local (or state) history. Include uses of the building, and the role(s) the owners/occupants played within the community.

135 Cambridge Street is thought to have been built in or about the year 1920 by one Charles Tobin Boston, who moved to Burlington prior to 1890. Following a career as a Farm Supervisor for such prominent Burlington agriculturalists as Fred F. Walker and the Kennigans, Mr. Boston, or "Tobe" (as he was locally known) rose to hold a number of significant Town Offices (Burlington Constable, Collector of Taxes, and Superintendent of Highways) between 1897 and 1923. The Bungalow at 135 Cambridge Street appears to have largely been built as a retirement home for Mr. & Mrs. Boston; located near and across Cambridge Street from the Kennigan Farm where "Tobe" worked prior to retirement.

Mr. Boston's claim to the property appears to have originated through his wife, Clara Shed(d), whom he married in 1892. Prior to Clara and "Tobe"'s decision to build their new bungalow on the property, the land supported the older Sumner Shedd home, an early 19th century? building visible in many early photographs of Burlington Center. Mr. and Mrs. Boston were noted to have torn down the older house in or around 1919, prior to building the bungalow. There is some speculation that some of the stones and/or portions of the stone foundation walls may survive from the earlier building.

BIBLIOGRAPHY and/or REFERENCES ☐ *see continuation sheet*

Assessor's Records, Town of Burlington

Baker, John Milnes, A.I.A. American House Styles: A Concise Guide, W.W. Norton & Co., New York. 1994, p. 108.

Dunham, Lotta Cavanaugh Rice. History of Burlington 1640-1950, [Zahora reprint 1998, page 98]

Fogelberg, John E. Burlington: Part of A Greater Chronicle. 1976;

articles by J.E. Fogelberg in Burlington Daily Times & Chronicle, 11/13/ 1979 and 5/17/1983..

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

Follow Massachusetts [illegible]orical Commission Survey Manual instructions f[illegible]mpleting this form.

Bur.29

Community Burlington
Property Address: 135 Cambridge Street

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

Area(s) Form No.
29

National Register of Historic Places Criteria Statement Form

Check all that apply:

☐ Individually Eligible ☑ Eligible only in a historic district

☑ Contributing to a potential historic district ☐ Potential historic district

Criteria: ☐ A ☑ B ☑ C ☐ D

Criteria Considerations: ☐ A ☐ B ☐ C ☐ D ☐ E ☐ F ☐ G

Statement of Significance by **Historic Preservation & Design**
The criteria that are checked in the above sections must be justified here.

The House is significant by Criterion B (important persons) for its associations with Charles T. Boston, who held numerous Town offices between 1897 and 1923.

In addition, it is significant by Criterion C (architectural style and/or construction) as a good example of a Bungalow Style house.

However, architectural alterations diminish the integrity, and thus the National Register eligibility of the resource.

APPENDIX F:
LABORATORY DATA REPORTS

New England Testing Laboratory, Inc.
(401) 353-3420

REPORT OF ANALYTICAL RESULTS

NETLAB Work Order Number: 9F13008
Client Project: 2018.17 - 118 Cambridge St, Burlington, MA

Report Date: 26-June-2019

Prepared for:

Kevin McAndrews
Clean Soils Environmental
33 Estes Street
Ipswich, MA 01938

Richard Warila, Laboratory Director
New England Testing Laboratory, Inc.
59 Greenhill Street
West Warwick, RI 02893
rich.warila@newenglandtesting.com

Samples Submitted :

The samples listed below were submitted to New England Testing Laboratory on 06/13/19. The group of samples appearing in this report was assigned an internal identification number (case number) for laboratory information management purposes. The client's designations for the individual samples, along with our case numbers, are used to identify the samples in this report. This report of analytical results pertains only to the sample(s) provided to us by the client which are indicated on the custody record. The case number for this sample submission is 9F13008. Custody records are included in this report.

Lab ID	Sample	Matrix	Date Sampled	Date Received
9F13008-01	MW-30	Water	06/12/2019	06/13/2019

Request for Analysis

At the client's request, the analyses presented in the following table were performed on the samples submitted.

MW-30 (Lab Number: 9F13008-01)

Analysis	Method
Acid Base/Neutral Extractables	EPA 625.1
Acrolein, Acrylonitrile & 2-CEVE	EPA 624.1
Ammonia	SM4500-NH3-D
Antimony	EPA 200.8
Arsenic	EPA 200.8
Cadmium	EPA 200.8
Calcium	SM3120-B
Chloride	SM4500CI-B
Chromium	EPA 6010C
Copper	EPA 200.8
Cyanide	SM4500-CN-E
Hexavalent Chromium	SM3500-Cr-B
Hydrocarbon Fingerprint	EPA-8100-mod
Iron	EPA 200.8
Lead	EPA 200.8
Magnesium	SM3120-B
Mercury	EPA 245.1
Methanol and Ethanol	EPA-8100-mod
Nickel	EPA 200.8
PCBs	EPA 8082A
Selenium	EPA 200.8
Silver	EPA 200.8
Total Residual Chlorine	SM4500-CI-G
Total Suspended Solids	SM2540-D
Trivalent Chromium	Calculation
Volatile Organic Compounds	EPA 624.1
Zinc	EPA 200.8

Method References

40 CFR Part 136, Guidelines Establishing Test Procedures for the Analysis of Pollutants Under the Clean Water Act, Office of Federal Register National Archives and Records Administration

Methods for the Determination of Metals in Environmental Samples EPA-600/R-94/111, USEPA, 1994

Method for Determining Diesel Range Organics, Method 4.1.25, Maine Health and Environmental Testing Laboratory

Standard Methods for the Examination of Water and Wastewater, 20th Edition, APHA/ AWWA-WPCF, 1998

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, USEPA

Case Narrative

Sample Receipt

The samples were all appropriately cooled and preserved upon receipt. The samples were received in the appropriate containers. The chain of custody was adequately completed and corresponded to the samples submitted.

Metals

All analyses were performed according to NETLAB's documented Standard Operating Procedures, within all required holding times, and with appropriate quality control measures. All QC was within laboratory established acceptance criteria. The samples were received, processed, and reported with no anomalies.

PCBs

All samples were extracted and analyzed within method specified holding times and according to NETLAB's documented standard operating procedures. The results for the associated calibration, method blank and laboratory control sample (LCS) were within method specified quality control criteria.

Semi-volatile Compounds

All samples were extracted and analyzed within method specified holding times and according to NETLAB's documented standard operating procedures. The results for the associated calibration, method blank and laboratory control sample (LCS) were within method specified quality control criteria.

Total Petroleum Hydrocarbons

All samples were extracted and analyzed within method specified holding times and according to NETLAB's documented standard operating procedures. The results for the associated calibration, method blank and laboratory control sample (LCS) were within method specified quality control criteria.

Volatile Organic Compounds

All samples were analyzed within method specified holding times and according to NETLAB's documented standard operating procedures. The results for the associated calibration, method blank and laboratory control sample (LCS) were within method specified quality control requirements and allowances.

Acrolein, Acrylonitrile, and 2-Chloroethylvinylether were analyzed beyond the method-recommended hold time.

Wet Chemistry

All samples were analyzed within method specified holding times and according to NETLAB's documented standard operating procedures.

The sample was received outside of the method recommended holding time of 24 hours for hexavalent chromium analysis.

Results: Calculation

Sample: MW-30

Lab Number: 9F13008-01 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Trivalent Chromium	ND		0.0150	mg/L	06/14/19 10:10	06/14/19 15:30

Results: General Chemistry

Sample: MW-30

Lab Number: 9F13008-01 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Ammonia	**0.1**		0.1	mg/L	06/19/19	06/19/19
Chloride	**395**		10	mg/L	06/18/19	06/18/19
Cyanide	ND		0.010	mg/L	06/17/19	06/17/19
Hexavalent chromium	ND		0.01	mg/L	06/14/19 10:10	06/14/19 10:10
Total Residual Chlorine	**0.06**		0.01	mg/L	06/13/19 17:50	06/13/19 17:50
Total Suspended Solids	**6**		2	mg/L	06/14/19	06/14/19

Results: Total Metals

Sample: MW-30

Lab Number: 9F13008-01 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Total Hardness	**105**		0.125	mg/L	06/14/19	06/14/19
Antimony	**0.0005**		0.0001	mg/L	06/14/19	06/17/19
Arsenic	**0.0161**		0.0001	mg/L	06/14/19	06/17/19
Cadmium	ND		0.0001	mg/L	06/14/19	06/17/19
Calcium	**36.7**		0.05	mg/L	06/14/19	06/14/19
Chromium	ND		0.005	mg/L	06/14/19	06/14/19
Copper	ND		0.001	mg/l	06/14/19	06/17/19
Iron	**2.06**		0.001	mg/l	06/14/19	06/17/19
Magnesium	**3.20**		0.05	mg/L	06/14/19	06/14/19
Mercury	ND		0.0002	mg/L	06/14/19	06/14/19
Nickel	ND		0.001	mg/l	06/14/19	06/17/19
Selenium	ND		0.005	mg/L	06/14/19	06/17/19
Silver	**0.0001**		0.0001	mg/L	06/14/19	06/18/19
Zinc	ND		0.001	mg/l	06/14/19	06/17/19
Lead	ND		0.0001	mg/L	06/14/19	06/17/19

Results: Volatile Organic Compounds

Sample: MW-30

Lab Number: 9F13008-01 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Benzene	ND		1	ug/l	06/14/19	06/14/19
Bromodichloromethane	ND		1	ug/l	06/14/19	06/14/19
Bromoform	ND		1	ug/l	06/14/19	06/14/19
Bromomethane	ND		1	ug/l	06/14/19	06/14/19
Carbon tetrachloride	ND		1	ug/l	06/14/19	06/14/19
Chlorobenzene	ND		1	ug/l	06/14/19	06/14/19
Chloroethane	ND		1	ug/l	06/14/19	06/14/19
Chloroform	ND		1	ug/l	06/14/19	06/14/19
Chloromethane	ND		1	ug/l	06/14/19	06/14/19
Dibromochloromethane	ND		1	ug/l	06/14/19	06/14/19
1,2-Dichlorobenzene	ND		1	ug/l	06/14/19	06/14/19
1,3-Dichlorobenzene	ND		1	ug/l	06/14/19	06/14/19
1,4-Dichlorobenzene	ND		1	ug/l	06/14/19	06/14/19
1,1-Dichloroethane	ND		1	ug/l	06/14/19	06/14/19
1,2-Dichloroethane	ND		1	ug/l	06/14/19	06/14/19
trans-1,2-Dichloroethene	ND		1	ug/l	06/14/19	06/14/19
1,1-Dichloroethene	ND		1	ug/l	06/14/19	06/14/19
1,2-Dichloropropane	ND		1	ug/l	06/14/19	06/14/19
cis-1,3-Dichloropropene	ND		1	ug/l	06/14/19	06/14/19
trans-1,3-Dichloropropene	ND		1	ug/l	06/14/19	06/14/19
Methylene chloride	ND		5	ug/l	06/14/19	06/14/19
Tetrachloroethene	ND		1	ug/l	06/14/19	06/14/19
Toluene	ND		1	ug/l	06/14/19	06/14/19
1,1,2-Trichloroethane	ND		1	ug/l	06/14/19	06/14/19
1,1,1-Trichloroethane	ND		1	ug/l	06/14/19	06/14/19
Trichloroethene	ND		1	ug/l	06/14/19	06/14/19
Vinyl chloride	ND		1	ug/l	06/14/19	06/14/19
1,1,2,2-Tetrachloroethane	ND		1	ug/l	06/14/19	06/14/19
Trichlorofluoromethane	ND		1	ug/l	06/14/19	06/14/19
cis-1,2-Dichloroethene	ND		1	ug/l	06/14/19	06/14/19
Acetone	ND		5	ug/l	06/14/19	06/14/19
tert-Butyl alcohol	ND		5	ug/l	06/14/19	06/14/19
Methyl t-butyl ether (MTBE)	ND		1	ug/l	06/14/19	06/14/19
1,2-Dibromoethane (EDB)	ND		1	ug/l	06/14/19	06/14/19
1,4-Dioxane	ND		500	ug/l	06/14/19	06/14/19
o-Xylene	**1**		1	ug/l	06/14/19	06/14/19
m&p-Xylene	**15**		2	ug/l	06/14/19	06/14/19
tert-Amyl methyl ether	ND		1	ug/l	06/14/19	06/14/19
Ethylbenzene	**7**		1	ug/l	06/14/19	06/14/19

Surrogate(s)	Recovery%	Limits		
4-Bromofluorobenzene	*96.7%*	*70-130*	06/14/19	06/14/19
1,2-Dichloroethane-d4	*108%*	*70-130*	06/14/19	06/14/19
Toluene-d8	*95.5%*	*70-130*	06/14/19	06/14/19

Results: Volatile Organic Compounds (Acrolein, Acrylonitrile & 2-CEVE)

Sample: MW-30

Lab Number: 9F13008-01 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Acrolein	ND		5	ug/l	06/18/19 8:14	06/18/19 13:46
Acrylonitrile	ND		5	ug/l	06/18/19 8:14	06/18/19 13:46
2-Chloroethylvinyl ether	ND		1	ug/l	06/18/19 8:14	06/18/19 13:46

Surrogate(s)	Recovery%	Limits		
4-Bromofluorobenzene	*95.7%*	*70-130*	06/18/19 8:14	06/18/19 13:46
1,2-Dichloroethane-d4	*105%*	*70-130*	06/18/19 8:14	06/18/19 13:46
Toluene-d8	*97.7%*	*70-130*	06/18/19 8:14	06/18/19 13:46

Results: Semivolatile organic compounds

Sample: MW-30

Lab Number: 9F13008-01 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Ethanol	ND		10	mg/L	06/20/19	06/20/19
Methanol	ND		10	mg/L	06/20/19	06/20/19
Isopropyl alcohol	ND		10	mg/L	06/20/19	06/20/19

Results: Base/Neutral & Acid Extractables

Sample: MW-30

Lab Number: 9F13008-01 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
1,2,4-Trichlorobenzene	ND		2	ug/l	06/18/19	06/18/19
1,2-Dichlorobenzene	ND		2	ug/l	06/18/19	06/18/19
1,3-Dichlorobenzene	ND		2	ug/l	06/18/19	06/18/19
1,4-Dichlorobenzene	ND		2	ug/l	06/18/19	06/18/19
Phenol	ND		2	ug/l	06/18/19	06/18/19
2,4,6-Trichlorophenol	ND		2	ug/l	06/18/19	06/18/19
2,4-Dichlorophenol	ND		2	ug/l	06/18/19	06/18/19
2,4-Dimethylphenol	ND		10	ug/l	06/18/19	06/18/19
2,4-Dinitrophenol	ND		5	ug/l	06/18/19	06/18/19
2,4-Dinitrotoluene	ND		2	ug/l	06/18/19	06/18/19
2,6-Dinitrotoluene	ND		2	ug/l	06/18/19	06/18/19
2-Chloronaphthalene	ND		2	ug/l	06/18/19	06/18/19
2-Chlorophenol	ND		2	ug/l	06/18/19	06/18/19
Nitrobenzene	ND		2	ug/l	06/18/19	06/18/19
2-Nitrophenol	ND		5	ug/l	06/18/19	06/18/19
4,6-Dinitro-2-methylphenol	ND		5	ug/l	06/18/19	06/18/19
4-Bromophenyl phenyl ether	ND		2	ug/l	06/18/19	06/18/19
4-Chloro-3-methylphenol	ND		2	ug/l	06/18/19	06/18/19
4-Chlorophenyl phenyl ether	ND		2	ug/l	06/18/19	06/18/19
4-Nitrophenol	ND		5	ug/l	06/18/19	06/18/19
Acenaphthene	ND		2	ug/l	06/18/19	06/18/19
Acenaphthylene	ND		2	ug/l	06/18/19	06/18/19
Anthracene	ND		2	ug/l	06/18/19	06/18/19
Benzidine	ND		60	ug/l	06/18/19	06/18/19
Benzo(a)anthracene	ND		2	ug/l	06/18/19	06/18/19
Benzo(a)pyrene	ND		2	ug/l	06/18/19	06/18/19
Benzo(b)fluoranthene	ND		2	ug/l	06/18/19	06/18/19
Benzo(g,h,i)perylene	ND		2	ug/l	06/18/19	06/18/19
Benzo(k)fluoranthene	ND		2	ug/l	06/18/19	06/18/19
Bis(2-chloroethoxy)methane	ND		2	ug/l	06/18/19	06/18/19
Bis(2-chloroethyl)ether	ND		2	ug/l	06/18/19	06/18/19
Bis(2-chloroisopropyl)ether	ND		2	ug/l	06/18/19	06/18/19
Bis(2-ethylhexyl)phthalate	ND		6	ug/l	06/18/19	06/18/19
Butyl benzyl phthalate	ND		2	ug/l	06/18/19	06/18/19
Chrysene	ND		2	ug/l	06/18/19	06/18/19
Di(n)octyl phthalate	ND		3	ug/l	06/18/19	06/18/19
Dibenz(a,h)anthracene	ND		2	ug/l	06/18/19	06/18/19
Diethyl phthalate	ND		2	ug/l	06/18/19	06/18/19
Dimethyl phthalate	ND		2	ug/l	06/18/19	06/18/19
Di-n-butylphthalate	ND		3	ug/l	06/18/19	06/18/19
Fluoranthene	ND		2	ug/l	06/18/19	06/18/19
Fluorene	ND		2	ug/l	06/18/19	06/18/19
Hexachlorobenzene	ND		2	ug/l	06/18/19	06/18/19
Hexachlorobutadiene	ND		2	ug/l	06/18/19	06/18/19
Hexachlorocyclopentadiene	ND		5	ug/l	06/18/19	06/18/19

Results: Base/Neutral & Acid Extractables (Continued)

Sample: MW-30 (Continued)

Lab Number: 9F13008-01 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Hexachloroethane	ND		2	ug/l	06/18/19	06/18/19
Indeno(1,2,3-cd)pyrene	ND		2	ug/l	06/18/19	06/18/19
Isophorone	ND		2	ug/l	06/18/19	06/18/19
Naphthalene	**6**		2	ug/l	06/18/19	06/18/19
N-Nitrosodimethylamine	ND		2	ug/l	06/18/19	06/18/19
N-Nitrosodi-n-propylamine	ND		2	ug/l	06/18/19	06/18/19
N-Nitrosodiphenylamine	ND		2	ug/l	06/18/19	06/18/19
Pentachlorophenol	ND		5	ug/l	06/18/19	06/18/19
Phenanthrene	ND		2	ug/l	06/18/19	06/18/19
Pyrene	ND		2	ug/l	06/18/19	06/18/19

Surrogate(s)	Recovery%	Limits		
Nitrobenzene-d5	*68.0%*	*30-118*	06/18/19	06/18/19
p-Terphenyl-d14	*97.3%*	*38-130*	06/18/19	06/18/19
2-Fluorobiphenyl	*68.7%*	*30-119*	06/18/19	06/18/19
Phenol-d6	*12.8%*	*10-115*	06/18/19	06/18/19
2,4,6-Tribromophenol	*85.6%*	*15-130*	06/18/19	06/18/19
2-Fluorophenol	*23.4%*	*10-115*	06/18/19	06/18/19

Results: Polychlorinated Biphenyls (PCBs)

Sample: MW-30

Lab Number: 9F13008-01 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Aroclor-1016	ND		0.2	ug/l	06/18/19	06/18/19
Aroclor-1221	ND		0.4	ug/l	06/18/19	06/18/19
Aroclor-1232	ND		0.2	ug/l	06/18/19	06/18/19
Aroclor-1242	ND		0.2	ug/l	06/18/19	06/18/19
Aroclor-1248	ND		0.2	ug/l	06/18/19	06/18/19
Aroclor-1254	ND		0.2	ug/l	06/18/19	06/18/19
Aroclor-1260	ND		0.2	ug/l	06/18/19	06/18/19
Aroclor-1262	ND		0.2	ug/l	06/18/19	06/18/19
Aroclor-1268	ND		0.2	ug/l	06/18/19	06/18/19
PCBs (Total)	ND		0.2	ug/l	06/18/19	06/18/19

Surrogate(s)	Recovery%	Limits		
2,4,5,6-Tetrachloro-m-xylene (TCMX)	*46.1%*	*30-107*	06/18/19	06/18/19
Decachlorobiphenyl (DCBP)	*65.7%*	*30-140*	06/18/19	06/18/19

Results: Hydrocarbon Fingerprint

Sample: MW-30

Lab Number: 9F13008-01 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Gasoline	**407**		200	ug/l	06/19/19	06/20/19
Fuel oil #2/Diesel	ND		200	ug/l	06/19/19	06/20/19
Fuel oil #4	ND		200	ug/l	06/19/19	06/20/19
Fuel oil #6	ND		200	ug/l	06/19/19	06/20/19
Motor oil	ND		200	ug/l	06/19/19	06/20/19
Hydraulic fluid	ND		200	ug/l	06/19/19	06/20/19
Coal tar	ND		200	ug/l	06/19/19	06/20/19
Wood creosote	ND		200	ug/l	06/19/19	06/20/19
Asphalt	ND		200	ug/l	06/19/19	06/20/19
Total Petroleum Hydrocarbons	**407**		200	ug/l	06/19/19	06/20/19

Quality Control

General Chemistry

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B9F0600 - TSS										
Blank (B9F0600-BLK1)					Prepared & Analyzed: 06/14/19					
Total Suspended Solids	ND		2	mg/L						
LCS (B9F0600-BS1)					Prepared & Analyzed: 06/14/19					
Total Suspended Solids	1090		10	mg/L	1000		109	90-110		
Duplicate (B9F0600-DUP1)		**Source: 9F12018-01**			Prepared & Analyzed: 06/14/19					
Total Suspended Solids	78		5	mg/L		73			6.62	20
Batch: B9F0608 - Residual chlorine										
Blank (B9F0608-BLK1)					Prepared & Analyzed: 06/13/19					
Total Residual Chlorine	ND		0.01	mg/L						
Blank (B9F0608-BLK2)					Prepared & Analyzed: 06/13/19					
Total Residual Chlorine	ND		0.01	mg/L						
LCS (B9F0608-BS1)					Prepared & Analyzed: 06/13/19					
Total Residual Chlorine	0.49		0.01	mg/L	0.500		97.4	90-110		
LCS (B9F0608-BS2)					Prepared & Analyzed: 06/13/19					
Total Residual Chlorine	0.54		0.01	mg/L	0.500		108	90-110		
Duplicate (B9F0608-DUP1)		**Source: 9F13008-01**			Prepared & Analyzed: 06/13/19					
Total Residual Chlorine	0.13		0.01	mg/L		0.06			68.0	20
Matrix Spike (B9F0608-MS1)		**Source: 9F13008-01**			Prepared & Analyzed: 06/13/19					
Total Residual Chlorine	0.08		0.01	mg/L	0.500	0.06	3.00	80-120		

Quality Control
(Continued)

General Chemistry (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B9F0645 - Hexavalent Chrome										
Blank (B9F0645-BLK1)					Prepared & Analyzed: 06/14/19					
Hexavalent chromium	ND		0.01	mg/L						
Blank (B9F0645-BLK2)					Prepared & Analyzed: 06/14/19					
Hexavalent chromium	ND		0.01	mg/L						
LCS (B9F0645-BS1)					Prepared & Analyzed: 06/14/19					
Hexavalent chromium	0.45		0.01	mg/L	0.500		90.0	90-110		
LCS (B9F0645-BS2)					Prepared & Analyzed: 06/14/19					
Hexavalent chromium	0.10		0.01	mg/L	0.100		101	90-110		
LCS (B9F0645-BS3)					Prepared & Analyzed: 06/14/19					
Hexavalent chromium	0.48		0.01	mg/L	0.500		95.4	90-110		
Duplicate (B9F0645-DUP1)		**Source: 9F13008-01**			Prepared & Analyzed: 06/14/19					
Hexavalent chromium	ND		0.01	mg/L		ND				20
Matrix Spike (B9F0645-MS1)		**Source: 9F13008-01**			Prepared & Analyzed: 06/14/19					
Hexavalent chromium	0.30		0.01	mg/L	0.500	ND	59.8	80-120		
Batch: B9F0702 - Cyanide										
Blank (B9F0702-BLK1)					Prepared & Analyzed: 06/17/19					
Cyanide	ND		0.010	mg/L						
Blank (B9F0702-BLK2)					Prepared & Analyzed: 06/17/19					
Cyanide	ND		0.010	mg/L						

Quality Control
(Continued)

General Chemistry (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B9F0702 - Cyanide (Continued)										
LCS (B9F0702-BS1)					Prepared & Analyzed: 06/17/19					
Cyanide	0.091		0.010	mg/L	0.100		91.0	90-110		
LCS (B9F0702-BS2)					Prepared & Analyzed: 06/17/19					
Cyanide	0.090		0.010	mg/L	0.100		90.0	90-110		
LCS (B9F0702-BS3)					Prepared & Analyzed: 06/17/19					
Cyanide	0.091		0.010	mg/L	0.100		91.0	90-110		
Duplicate (B9F0702-DUP1)		**Source: 9F11044-02**			Prepared & Analyzed: 06/17/19					
Cyanide	ND		0.010	mg/L		ND				200
Matrix Spike (B9F0702-MS1)		**Source: 9F11044-02**			Prepared & Analyzed: 06/17/19					
Cyanide	0.090		0.010	mg/L	0.100	ND	90.0	80-120		
Batch: B9F0767 - Chloride										
Blank (B9F0767-BLK1)					Prepared & Analyzed: 06/18/19					
Chloride	ND		1	mg/L						
LCS (B9F0767-BS1)					Prepared & Analyzed: 06/18/19					
Chloride	64		1	mg/L	60.6		106	90-110		
Duplicate (B9F0767-DUP1)		**Source: 9F13008-01**			Prepared & Analyzed: 06/18/19					
Chloride	410		10	mg/L		395			3.92	20
Matrix Spike (B9F0767-MS1)		**Source: 9F13008-01**			Prepared & Analyzed: 06/18/19					
Chloride	426		10	mg/L	60.6	395	52.1	80-120		

Quality Control
(Continued)

General Chemistry (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B9F0816 - Ammonia										
Blank (B9F0816-BLK1)					Prepared & Analyzed: 06/19/19					
Ammonia	ND		0.1	mg/L						
Blank (B9F0816-BLK2)					Prepared & Analyzed: 06/19/19					
Ammonia	ND		0.1	mg/L						
LCS (B9F0816-BS1)					Prepared & Analyzed: 06/19/19					
Ammonia	1.0		0.1	mg/L	1.00		101	90-110		
LCS (B9F0816-BS2)					Prepared & Analyzed: 06/19/19					
Ammonia	1.1		0.1	mg/L	1.00		109	90-110		
Duplicate (B9F0816-DUP1)		**Source: 9F13038-01**			Prepared & Analyzed: 06/19/19					
Ammonia	ND		0.1	mg/L		ND				20
Matrix Spike (B9F0816-MS1)		**Source: 9F13038-01**			Prepared & Analyzed: 06/19/19					
Ammonia	1.1		0.1	mg/L	1.00	ND	112	80-120		

Quality Control
(Continued)

Total Metals

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B9F0592 - Hot plate acid digestion waters										
Blank (B9F0592-BLK1)					Prepared & Analyzed: 06/14/19					
Magnesium	ND		0.05	mg/L						
Selenium	ND		0.005	mg/L						
Silver	ND		0.0001	mg/L						
Arsenic	ND		0.0001	mg/L						
Cadmium	ND		0.0001	mg/L						
Copper	ND		0.001	mg/l						
Iron	ND		0.001	mg/l						
Nickel	ND		0.001	mg/l						
Antimony	ND		0.0001	mg/L						
Calcium	ND		0.05	mg/L						
Chromium	ND		0.005	mg/L						
Zinc	ND		0.001	mg/l						
Lead	ND		0.0001	mg/L						
LCS (B9F0592-BS1)					Prepared & Analyzed: 06/14/19					
Chromium	1.14		0.005	mg/L	1.00		114	85-115		
Calcium	11.5		0.05	mg/L	10.0		115	85-115		
Magnesium	11.5		0.05	mg/L	10.0		115	85-115		
LCS (B9F0592-BS2)					Prepared: 06/14/19 Analyzed: 06/17/19					
Selenium	0.018		0.005	mg/L	0.0200		92.0	85-115		
Zinc	0.191		0.001	mg/l	0.200		95.5	85-115		
Cadmium	0.0189		0.0001	mg/L	0.0200		94.5	85-115		
Arsenic	0.0189		0.0001	mg/L	0.0200		94.4	85-115		
Iron	0.203		0.001	mg/l	0.200		101	85-115		
Nickel	0.196		0.001	mg/l	0.200		97.9	85-115		
Copper	0.194		0.001	mg/l	0.200		96.8	85-115		
Silver	0.0198		0.0001	mg/L	0.0200		99.2	85-115		
Antimony	0.0179		0.0001	mg/L	0.0200		89.7	85-115		
Lead	0.0175		0.0001	mg/L	0.0200		87.6	85-115		

Quality Control
(Continued)

Volatile Organic Compounds

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B9F0585 - Purge-Trap										
Blank (B9F0585-BLK1)					Prepared & Analyzed: 06/14/19					
Benzene	ND		1	ug/l						
Bromodichloromethane	ND		1	ug/l						
Bromoform	ND		1	ug/l						
Bromomethane	ND		1	ug/l						
Carbon tetrachloride	ND		1	ug/l						
Chlorobenzene	ND		1	ug/l						
Chloroethane	ND		1	ug/l						
Chloroform	ND		1	ug/l						
Chloromethane	ND		1	ug/l						
Dibromochloromethane	ND		1	ug/l						
1,2-Dichlorobenzene	ND		1	ug/l						
1,3-Dichlorobenzene	ND		1	ug/l						
1,4-Dichlorobenzene	ND		1	ug/l						
1,1-Dichloroethane	ND		1	ug/l						
1,2-Dichloroethane	ND		1	ug/l						
trans-1,2-Dichloroethene	ND		1	ug/l						
1,1-Dichloroethene	ND		1	ug/l						
1,2-Dichloropropane	ND		1	ug/l						
cis-1,3-Dichloropropene	ND		1	ug/l						
trans-1,3-Dichloropropene	ND		1	ug/l						
Methylene chloride	ND		5	ug/l						
Tetrachloroethene	ND		1	ug/l						
Toluene	ND		1	ug/l						
1,1,2-Trichloroethane	ND		1	ug/l						
1,1,1-Trichloroethane	ND		1	ug/l						
Trichloroethene	ND		1	ug/l						
Vinyl chloride	ND		1	ug/l						
1,1,2,2-Tetrachloroethane	ND		1	ug/l						
Trichlorofluoromethane	ND		1	ug/l						
cis-1,2-Dichloroethene	ND		1	ug/l						
Acetone	ND		5	ug/l						
tert-Butyl alcohol	ND		5	ug/l						
Methyl t-butyl ether (MTBE)	ND		1	ug/l						
1,2-Dibromoethane (EDB)	ND		1	ug/l						
1,4-Dioxane	ND		500	ug/l						
o-Xylene	ND		1	ug/l						
m&p-Xylene	ND		2	ug/l						
tert-Amyl methyl ether	ND		1	ug/l						
Ethylbenzene	ND		1	ug/l						
Surrogate: 4-Bromofluorobenzene			*48.9*	ug/l	*50.0*		*97.8*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4			*53.3*	ug/l	*50.0*		*107*	*70-130*		
Surrogate: Toluene-d8			*49.2*	ug/l	*50.0*		*98.4*	*70-130*		

Volatile Organic Compounds (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B9F0585 - Purge-Trap (Continued)										
LCS (B9F0585-BS1)					Prepared & Analyzed: 06/14/19					
Benzene	24			ug/l	20.0		120	65-135		
Bromodichloromethane	23			ug/l	20.0		117	65-135		
Bromoform	22			ug/l	20.0		108	70-130		
Bromomethane	21			ug/l	20.0		103	15-185		
Carbon tetrachloride	25			ug/l	20.0		124	70-130		
Chlorobenzene	24			ug/l	20.0		118	65-135		
Chloroethane	26			ug/l	20.0		128	40-160		
Chloroform	23			ug/l	20.0		117	70-135		
Chloromethane	23			ug/l	20.0		113	1-205		
Dibromochloromethane	23			ug/l	20.0		113	70-135		
1,2-Dichlorobenzene	23			ug/l	20.0		116	65-135		
1,3-Dichlorobenzene	24			ug/l	20.0		118	70-130		
1,4-Dichlorobenzene	23			ug/l	20.0		116	65-135		
1,1-Dichloroethane	25			ug/l	20.0		124	70-130		
1,2-Dichloroethane	25			ug/l	20.0		125	70-130		
trans-1,2-Dichloroethene	25			ug/l	20.0		124	70-130		
1,1-Dichloroethene	26			ug/l	20.0		132	50-150		
1,2-Dichloropropane	24			ug/l	20.0		118	35-165		
cis-1,3-Dichloropropene	23			ug/l	20.0		117	25-175		
trans-1,3-Dichloropropene	23			ug/l	20.0		116	50-150		
Methylene chloride	25			ug/l	20.0		126	60-140		
Tetrachloroethene	23			ug/l	20.0		114	70-130		
Toluene	23			ug/l	20.0		117	70-130		
1,1,2-Trichloroethane	23			ug/l	20.0		116	70-130		
1,1,1-Trichloroethane	24			ug/l	20.0		119	70-130		
Trichloroethene	24			ug/l	20.0		118	65-135		
Vinyl chloride	23			ug/l	20.0		116	5-195		
1,1,2,2-Tetrachloroethane	23			ug/l	20.0		113	60-140		
Trichlorofluoromethane	25			ug/l	20.0		126	50-150		
cis-1,2-Dichloroethene	24			ug/l	20.0		119	70-130		
Acetone	25			ug/l	20.0		126	34-193		
tert-Butyl alcohol	24			ug/l	20.0		122	26-177		
Methyl t-butyl ether (MTBE)	22			ug/l	20.0		108	70-130		
1,2-Dibromoethane (EDB)	22			ug/l	20.0		111	70-130		
1,4-Dioxane	0			ug/l	20.0			70-130		
o-Xylene	23			ug/l	20.0		117	70-130		
m&p-Xylene	47			ug/l	40.0		118	70-130		
tert-Amyl methyl ether	20			ug/l	20.0		101	70-130		
Ethylbenzene	24			ug/l	20.0		122	60-140		
Surrogate: 4-Bromofluorobenzene			*50.4*	ug/l	*50.0*		*101*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4			*49.6*	ug/l	*50.0*		*99.2*	*70-130*		
Surrogate: Toluene-d8			*49.9*	ug/l	*50.0*		*99.8*	*70-130*		

Quality Control
(Continued)

Volatile Organic Compounds (Acrolein, Acrylonitrile & 2-CEVE)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B9F0699 - Purge-Trap										
Blank (B9F0699-BLK1)					Prepared & Analyzed: 06/18/19					
Acrolein	ND		5	ug/l						
Acrylonitrile	ND		5	ug/l						
2-Chloroethylvinyl ether	ND		1	ug/l						
Surrogate: 4-Bromofluorobenzene			*48.1*	ug/l	*50.0*		*96.3*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4			*52.1*	ug/l	*50.0*		*104*	*70-130*		
Surrogate: Toluene-d8			*49.9*	ug/l	*50.0*		*99.8*	*70-130*		
LCS (B9F0699-BS1)					Prepared & Analyzed: 06/18/19					
Acrylonitrile	18			ug/l	20.0		91.6	60-140		
Acrolein	15			ug/l	20.0		77.0	60-140		
2-Chloroethylvinyl ether	16			ug/l	20.0		78.8	1-225		
Surrogate: 4-Bromofluorobenzene			*49.6*	ug/l	*50.0*		*99.2*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4			*51.2*	ug/l	*50.0*		*102*	*70-130*		
Surrogate: Toluene-d8			*49.3*	ug/l	*50.0*		*98.6*	*70-130*		

Quality Control
(Continued)

Semivolatile organic compounds

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B9F0878 - EPA 3580A										
Blank (B9F0878-BLK1)					Prepared & Analyzed: 06/20/19					
Ethanol	ND		10	mg/L						
Methanol	ND		10	mg/L						
Isopropyl alcohol	ND		10	mg/L						

Base/Neutral & Acid Extractables

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B9F0707 - Sep-Funnel-extraction										
Blank (B9F0707-BLK1)					Prepared & Analyzed: 06/18/19					
1,2,4-Trichlorobenzene	ND		2	ug/l						
1,2-Dichlorobenzene	ND		2	ug/l						
1,3-Dichlorobenzene	ND		2	ug/l						
1,4-Dichlorobenzene	ND		2	ug/l						
Phenol	ND		2	ug/l						
2,4,6-Trichlorophenol	ND		2	ug/l						
2,4-Dichlorophenol	ND		2	ug/l						
2,4-Dimethylphenol	ND		10	ug/l						
2,4-Dinitrophenol	ND		5	ug/l						
2,4-Dinitrotoluene	ND		2	ug/l						
2,6-Dinitrotoluene	ND		2	ug/l						
2-Chloronaphthalene	ND		2	ug/l						
2-Chlorophenol	ND		2	ug/l						
Nitrobenzene	ND		2	ug/l						
2-Nitrophenol	ND		5	ug/l						
4,6-Dinitro-2-methylphenol	ND		5	ug/l						
4-Bromophenyl phenyl ether	ND		2	ug/l						
4-Chloro-3-methylphenol	ND		2	ug/l						
4-Chlorophenyl phenyl ether	ND		2	ug/l						
4-Nitrophenol	ND		5	ug/l						
Acenaphthene	ND		2	ug/l						
Acenaphthylene	ND		2	ug/l						
Anthracene	ND		2	ug/l						
Benzidine	ND		60	ug/l						
Benzo(a)anthracene	ND		2	ug/l						
Benzo(a)pyrene	ND		2	ug/l						
Benzo(b)fluoranthene	ND		2	ug/l						
Benzo(g,h,i)perylene	ND		2	ug/l						
Benzo(k)fluoranthene	ND		2	ug/l						
Bis(2-chloroethoxy)methane	ND		2	ug/l						
Bis(2-chloroethyl)ether	ND		2	ug/l						
Bis(2-chloroisopropyl)ether	ND		2	ug/l						
Bis(2-ethylhexyl)phthalate	ND		6	ug/l						
Butyl benzyl phthalate	ND		2	ug/l						
Chrysene	ND		2	ug/l						
Di(n)octyl phthalate	ND		3	ug/l						
Dibenz(a,h)anthracene	ND		2	ug/l						
Diethyl phthalate	ND		2	ug/l						
Dimethyl phthalate	ND		2	ug/l						
Di-n-butylphthalate	ND		3	ug/l						
Fluoranthene	ND		2	ug/l						
Fluorene	ND		2	ug/l						
Hexachlorobenzene	ND		2	ug/l						
Hexachlorobutadiene	ND		2	ug/l						
Hexachlorocyclopentadiene	ND		5	ug/l						
Hexachloroethane	ND		2	ug/l						
Indeno(1,2,3-cd)pyrene	ND		2	ug/l						
Isophorone	ND		2	ug/l						
Naphthalene	ND		2	ug/l						
N-Nitrosodimethylamine	ND		2	ug/l						
N-Nitrosodi-n-propylamine	ND		2	ug/l						
N-Nitrosodiphenylamine	ND		2	ug/l						
Pentachlorophenol	ND		5	ug/l						
Phenanthrene	ND		2	ug/l						

Base/Neutral & Acid Extractables (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B9F0707 - Sep-Funnel-extraction (Continued)										
Blank (B9F0707-BLK1)					Prepared & Analyzed: 06/18/19					
Pyrene	ND		2	ug/l						
Surrogate: Nitrobenzene-d5			*40.5*	ug/l	*50.0*		*80.9*	*30-118*		
Surrogate: p-Terphenyl-d14			*46.3*	ug/l	*50.0*		*92.6*	*38-130*		
Surrogate: 2-Fluorobiphenyl			*38.4*	ug/l	*50.0*		*76.8*	*30-119*		
Surrogate: Phenol-d6			*6.66*	ug/l	*50.0*		*13.3*	*10-115*		
Surrogate: 2,4,6-Tribromophenol			*38.6*	ug/l	*50.0*		*77.2*	*15-130*		
Surrogate: 2-Fluorophenol			*12.0*	ug/l	*50.0*		*24.0*	*10-115*		
LCS (B9F0707-BS1)					Prepared & Analyzed: 06/18/19					
1,2,4-Trichlorobenzene	40		2	ug/l	50.0		80.8	57-130		
1,2-Dichlorobenzene	44		2	ug/l	50.0		88.6	27-92		
1,3-Dichlorobenzene	43		2	ug/l	50.0		86.8	26-87		
1,4-Dichlorobenzene	43		2	ug/l	50.0		85.8	26-87		
Phenol	9		2	ug/l	50.0		18.5	17-120		
2,4,6-Trichlorophenol	45		2	ug/l	50.0		89.6	52-129		
2,4-Dichlorophenol	41		2	ug/l	50.0		81.1	53-122		
2,4-Dimethylphenol	44		10	ug/l	50.0		88.9	42-120		
2,4-Dinitrophenol	44		5	ug/l	50.0		87.7	5-173		
2,4-Dinitrotoluene	53		2	ug/l	50.0		105	48-127		
2,6-Dinitrotoluene	54		2	ug/l	50.0		108	68-137		
2-Chloronaphthalene	46		2	ug/l	50.0		92.6	65-120		
2-Chlorophenol	36		2	ug/l	50.0		71.4	36-120		
Nitrobenzene	46		2	ug/l	50.0		92.6	54-158		
2-Nitrophenol	45		5	ug/l	50.0		89.9	45-167		
4,6-Dinitro-2-methylphenol	52		5	ug/l	50.0		104	53-130		
4-Bromophenyl phenyl ether	52		2	ug/l	50.0		104	65-120		
4-Chloro-3-methylphenol	41		2	ug/l	50.0		81.6	41-128		
4-Chlorophenyl phenyl ether	48		2	ug/l	50.0		95.2	38-145		
4-Nitrophenol	8		5	ug/l	50.0		15.7	13-129		
Acenaphthene	51		2	ug/l	50.0		103	60-132		
Acenaphthylene	50		2	ug/l	50.0		99.9	54-126		
Anthracene	53		2	ug/l	50.0		106	43-120		
Benzo(a)anthracene	53		2	ug/l	50.0		106	42-133		
Benzo(a)pyrene	55		2	ug/l	50.0		109	32-148		
Benzo(b)fluoranthene	54		2	ug/l	50.0		109	42-140		
Benzo(g,h,i)perylene	54		2	ug/l	50.0		109	5-195		
Benzo(k)fluoranthene	54		2	ug/l	50.0		108	25-146		
Bis(2-chloroethoxy)methane	54		2	ug/l	50.0		109	49-165		
Bis(2-chloroethyl)ether	54		2	ug/l	50.0		109	43-126		
Bis(2-chloroisopropyl)ether	68		2	ug/l	50.0		135	63-139		
Bis(2-ethylhexyl)phthalate	62		6	ug/l	50.0		124	29-137		
Butyl benzyl phthalate	60		2	ug/l	50.0		120	5-152		
Chrysene	54		2	ug/l	50.0		108	44-140		
Di(n)octyl phthalate	60		3	ug/l	50.0		120	19-132		
Dibenz(a,h)anthracene	53		2	ug/l	50.0		107	5-200		
Diethyl phthalate	53		2	ug/l	50.0		106	5-120		
Dimethyl phthalate	50		2	ug/l	50.0		101	5-120		
Di-n-butylphthalate	53		3	ug/l	50.0		106	8-120		
Fluoranthene	51		2	ug/l	50.0		101	43-121		
Fluorene	52		2	ug/l	50.0		103	70-120		
Hexachlorobenzene	52		2	ug/l	50.0		103	8-142		
Hexachlorobutadiene	41		2	ug/l	50.0		82.7	38-120		
Hexachlorocyclopentadiene	31		5	ug/l	50.0		61.4	10-115		
Hexachloroethane	41		2	ug/l	50.0		82.4	55-120		

Base/Neutral & Acid Extractables (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B9F0707 - Sep-Funnel-extraction (Continued)										
LCS (B9F0707-BS1)					Prepared & Analyzed: 06/18/19					
Indeno(1,2,3-cd)pyrene	57		2	ug/l	50.0		114	5-151		
Isophorone	55		2	ug/l	50.0		109	47-180		
Naphthalene	46		2	ug/l	50.0		92.2	36-120		
N-Nitrosodimethylamine	11		2	ug/l	50.0		22.1	21-198		
N-Nitrosodi-n-propylamine	52		2	ug/l	50.0		103	14-198		
N-Nitrosodiphenylamine	63		2	ug/l	50.0		125	55-125		
Pentachlorophenol	59		5	ug/l	50.0		119	38-152		
Phenanthrene	53		2	ug/l	50.0		105	65-120		
Pyrene	53		2	ug/l	50.0		105	70-120		
Surrogate: Nitrobenzene-d5			*47.6*	ug/l	*50.0*		*95.2*	*30-118*		
Surrogate: p-Terphenyl-d14			*55.8*	ug/l	*50.0*		*112*	*38-130*		
Surrogate: 2-Fluorobiphenyl			*47.8*	ug/l	*50.0*		*95.6*	*30-119*		
Surrogate: Phenol-d6			*8.01*	ug/l	*50.0*		*16.0*	*10-115*		
Surrogate: 2,4,6-Tribromophenol			*55.9*	ug/l	*50.0*		*112*	*15-130*		
Surrogate: 2-Fluorophenol			*14.4*	ug/l	*50.0*		*28.9*	*10-115*		
Leach Fluid Blank (B9F0707-LBK1)					Prepared & Analyzed: 06/18/19					
1,2,4-Trichlorobenzene	ND		2	ug/l						
1,2-Dichlorobenzene	ND		2	ug/l						
1,3-Dichlorobenzene	ND		2	ug/l						
1,4-Dichlorobenzene	ND		2	ug/l						
Phenol	ND		2	ug/l						
2,4,6-Trichlorophenol	ND		2	ug/l						
2,4-Dichlorophenol	ND		2	ug/l						
2,4-Dimethylphenol	ND		10	ug/l						
2,4-Dinitrophenol	ND		5	ug/l						
2,4-Dinitrotoluene	ND		2	ug/l						
2,6-Dinitrotoluene	ND		2	ug/l						
2-Chloronaphthalene	ND		2	ug/l						
2-Chlorophenol	ND		2	ug/l						
Nitrobenzene	ND		2	ug/l						
2-Nitrophenol	ND		5	ug/l						
4,6-Dinitro-2-methylphenol	ND		5	ug/l						
4-Bromophenyl phenyl ether	ND		2	ug/l						
4-Chloro-3-methylphenol	ND		2	ug/l						
4-Chlorophenyl phenyl ether	ND		2	ug/l						
4-Nitrophenol	ND		5	ug/l						
Acenaphthene	ND		2	ug/l						
Acenaphthylene	ND		2	ug/l						
Anthracene	ND		2	ug/l						
Benzidine	ND		60	ug/l						
Benzo(a)anthracene	ND		2	ug/l						
Benzo(a)pyrene	ND		2	ug/l						
Benzo(b)fluoranthene	ND		2	ug/l						
Benzo(g,h,i)perylene	ND		2	ug/l						
Benzo(k)fluoranthene	ND		2	ug/l						
Bis(2-chloroethoxy)methane	ND		2	ug/l						
Bis(2-chloroethyl)ether	ND		2	ug/l						
Bis(2-chloroisopropyl)ether	ND		2	ug/l						
Bis(2-ethylhexyl)phthalate	ND		6	ug/l						
Butyl benzyl phthalate	ND		2	ug/l						
Chrysene	ND		2	ug/l						
Di(n)octyl phthalate	ND		3	ug/l						
Dibenz(a,h)anthracene	ND		2	ug/l						

Base/Neutral & Acid Extractables (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B9F0707 - Sep-Funnel-extraction (Continued)										
Leach Fluid Blank (B9F0707-LBK1)					Prepared & Analyzed: 06/18/19					
Diethyl phthalate	ND		2	ug/l						
Dimethyl phthalate	ND		2	ug/l						
Di-n-butylphthalate	ND		3	ug/l						
Fluoranthene	ND		2	ug/l						
Fluorene	ND		2	ug/l						
Hexachlorobenzene	ND		2	ug/l						
Hexachlorobutadiene	ND		2	ug/l						
Hexachlorocyclopentadiene	ND		5	ug/l						
Hexachloroethane	ND		2	ug/l						
Indeno(1,2,3-cd)pyrene	ND		2	ug/l						
Isophorone	ND		2	ug/l						
Naphthalene	ND		2	ug/l						
N-Nitrosodimethylamine	ND		2	ug/l						
N-Nitrosodi-n-propylamine	ND		2	ug/l						
N-Nitrosodiphenylamine	ND		2	ug/l						
Pentachlorophenol	ND		5	ug/l						
Phenanthrene	ND		2	ug/l						
Pyrene	ND		2	ug/l						
Surrogate: Nitrobenzene-d5			*38.6*	ug/l	*50.0*		*77.2*	*30-118*		
Surrogate: p-Terphenyl-d14			*47.5*	ug/l	*50.0*		*95.0*	*38-130*		
Surrogate: 2-Fluorobiphenyl			*35.0*	ug/l	*50.0*		*70.0*	*30-119*		
Surrogate: Phenol-d6			*6.66*	ug/l	*50.0*		*13.3*	*10-115*		
Surrogate: 2,4,6-Tribromophenol			*39.4*	ug/l	*50.0*		*78.9*	*15-130*		
Surrogate: 2-Fluorophenol			*12.4*	ug/l	*50.0*		*24.7*	*10-115*		

Quality Control
(Continued)

Polychlorinated Biphenyls (PCBs)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B9F0698 - Sep-Funnel-extraction										
Blank (B9F0698-BLK1)					Prepared & Analyzed: 06/18/19					
Aroclor-1016	ND		0.2	ug/l						
Aroclor-1221	ND		0.4	ug/l						
Aroclor-1232	ND		0.2	ug/l						
Aroclor-1242	ND		0.2	ug/l						
Aroclor-1248	ND		0.2	ug/l						
Aroclor-1254	ND		0.2	ug/l						
Aroclor-1260	ND		0.2	ug/l						
Aroclor-1262	ND		0.2	ug/l						
Aroclor-1268	ND		0.2	ug/l						
PCBs (Total)	ND		0.2	ug/l						
Surrogate: 2,4,5,6-Tetrachloro-m-xylene (TCMX)			*0.0443*	ug/l	*0.0800*		*55.4*	*30-107*		
Surrogate: Decachlorobiphenyl (DCBP)			*0.0512*	ug/l	*0.0800*		*64.0*	*30-140*		
LCS (B9F0698-BS1)					Prepared & Analyzed: 06/18/19					
Aroclor-1016	0.8		0.2	ug/l	1.00		77.9	40-124		
Aroclor-1260	0.8		0.2	ug/l	1.00		84.6	48-123		
Surrogate: 2,4,5,6-Tetrachloro-m-xylene (TCMX)			*0.0487*	ug/l	*0.0800*		*60.9*	*30-107*		
Surrogate: Decachlorobiphenyl (DCBP)			*0.0635*	ug/l	*0.0800*		*79.3*	*30-140*		

Quality Control
(Continued)

Hydrocarbon Fingerprint

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B9F0779 - Sep-Funnel-extraction										
Blank (B9F0779-BLK1)					Prepared: 06/19/19 Analyzed: 06/20/19					
Gasoline	ND		200	ug/l						
Fuel oil #2/Diesel	ND		200	ug/l						
Fuel oil #4	ND		200	ug/l						
Fuel oil #6	ND		200	ug/l						
Motor oil	ND		200	ug/l						
Hydraulic fluid	ND		200	ug/l						
Coal tar	ND		200	ug/l						
Wood creosote	ND		200	ug/l						
Asphalt	ND		200	ug/l						
Total Petroleum Hydrocarbons	ND		200	ug/l						
LCS (B9F0779-BS1)					Prepared: 06/19/19 Analyzed: 06/20/19					
Total Petroleum Hydrocarbons	7140		200	ug/l	10000		71.4	40-105		

Notes and Definitions

Item	Definition
Wet	Sample results reported on a wet weight basis.
ND	Analyte NOT DETECTED at or above the reporting limit.

New England Testing Laboratory
59 Greenhill Street
West Warwick, RI 02893
1-888-863-8522

9 F 1 3008 :

Chain of Custody Record

Project No.	Project Name/Location				Matrix					Tests**										
2018.17	118 Cambridge St. Burlington, MA																			
Client:	Clean Soils Environmental, Ltd. 33 Estes St. Ipswich, MA 01938																			
Report To:	kevin@cleansoils.com																			
Invoice To:	denise@cleansoils.com																			
Date	**Time**	**COMP**	**GRAB**	**Sample I.D.**	**Aqueous**	**Soil**	**Other**	**No. of Containers**	**Preservative**	Total Suspended Solids	Total Residual Chlorine	Total Cyanide	Ammonia (NH3)	Chloride	VOCs - Halogenated & Non-Halogenated	SVOCs - Halogenated & Non-Halogenated	Fuels Parameters	Total Metals (See Note	Hardness	
6/12/2019	1500		X	MW-30	X			13	HCl, HNO3, H2SO4, non	X	X	X	X	X	X	X	X	X	X	

Sampled By:	Date/Time	Received By:	Date/Time	Laboratory Remarks:
	6/12/19		6/13/19 935	
Relinquished By:	**Date/Time**	**Received By:**	**Date/Time**	**Temp. Received:** 4
	6/13/19 1500		6/13/19 1500	

Special Instructions: NPDES Permit Parameters:
Total Metals (Sb, As, Cd, Cr-III, ~~Cr-VI~~, Cu, Fe, Pb, Hg, Ni, Se, Ag, Zn)
Fuels Parameters Includes TPH-Fingerprint
Halogenated SVOCs Includes PCBs
Analyze using EPA 2017 RGP Approved testing methods,
— Compare to TBEL/WQBEL Effluent Limitations

Turnaround Time [Business Days]: 5

New England Testing Laboratory, Inc.
(401) 353-3420

REPORT OF ANALYTICAL RESULTS

NETLAB Work Order Number: 9F13007
Client Project: 2018.17 - 118 Cambridge St, Burlington, MA

Report Date: 20-June-2019

Prepared for:

Kevin McAndrews
Clean Soils Environmental
33 Estes Street
Ipswich, MA 01938

Richard Warila, Laboratory Director
New England Testing Laboratory, Inc.
59 Greenhill Street
West Warwick, RI 02893
rich.warila@newenglandtesting.com

Samples Submitted :

The samples listed below were submitted to New England Testing Laboratory on 06/13/19. The group of samples appearing in this report was assigned an internal identification number (case number) for laboratory information management purposes. The client's designations for the individual samples, along with our case numbers, are used to identify the samples in this report. This report of analytical results pertains only to the sample(s) provided to us by the client which are indicated on the custody record. The case number for this sample submission is 9F13007. Custody records are included in this report.

Lab ID	Sample	Matrix	Date Sampled	Date Received
9F13007-01	Wetlands-1	Water	06/12/2019	06/13/2019

Request for Analysis

At the client's request, the analyses presented in the following table were performed on the samples submitted.

Wetlands-1 (Lab Number: 9F13007-01)

Analysis	**Method**
Ammonia	SM4500-NH3-D
Calcium	SM3120-B
Magnesium	SM3120-B
pH	SM4500-H-B

Method References

Methods for the Determination of Metals in Environmental Samples EPA-600/R-94/111, USEPA, 1994

Standard Methods for the Examination of Water and Wastewater, 20th Edition, APHA/ AWWA-WPCF, 1998

Case Narrative

Sample Receipt

The samples were all appropriately cooled and preserved upon receipt. The samples were received in the appropriate containers. The chain of custody was adequately completed and corresponded to the samples submitted.

Metals

All analyses were performed according to NETLAB's documented Standard Operating Procedures, within all required holding times, and with appropriate quality control measures. All QC was within laboratory established acceptance criteria. The samples were received, processed, and reported with no anomalies.

Wet Chemistry

All samples were analyzed within method specified holding times and according to NETLAB's documented standard operating procedures.

Results: General Chemistry

Sample: Wetlands-1

Lab Number: 9F13007-01 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Ammonia	ND		0.1	mg/L	06/19/19	06/19/19
pH	**6.2**		0.1	SU	06/13/19 18:00	06/13/19 18:00

Results: Total Metals

Sample: Wetlands-1

Lab Number: 9F13007-01 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Total Hardness	**161**		0.125	mg/L	06/14/19	06/14/19
Calcium	**51.4**		0.05	mg/L	06/14/19	06/14/19
Magnesium	**7.79**		0.05	mg/L	06/14/19	06/14/19

Quality Control

General Chemistry

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B9F0607 - pH										
LCS (B9F0607-BS1)					Prepared & Analyzed: 06/13/19					
pH	7.0		0.1	SU	7.00		101	90-110		
LCS (B9F0607-BS2)					Prepared & Analyzed: 06/13/19					
pH	7.1		0.1	SU	7.00		101	90-110		
Duplicate (B9F0607-DUP1)		**Source: 9F13007-01**			Prepared & Analyzed: 06/13/19					
pH	6.2		0.1	SU		6.2			0.644	20
Batch: B9F0816 - Ammonia										
Blank (B9F0816-BLK1)					Prepared & Analyzed: 06/19/19					
Ammonia	ND		0.1	mg/L						
Blank (B9F0816-BLK2)					Prepared & Analyzed: 06/19/19					
Ammonia	ND		0.1	mg/L						
LCS (B9F0816-BS1)					Prepared & Analyzed: 06/19/19					
Ammonia	1.0		0.1	mg/L	1.00		101	90-110		
LCS (B9F0816-BS2)					Prepared & Analyzed: 06/19/19					
Ammonia	1.1		0.1	mg/L	1.00		109	90-110		
Duplicate (B9F0816-DUP1)		**Source: 9F13038-01**			Prepared & Analyzed: 06/19/19					
Ammonia	ND		0.1	mg/L		ND				20
Matrix Spike (B9F0816-MS1)		**Source: 9F13038-01**			Prepared & Analyzed: 06/19/19					
Ammonia	1.1		0.1	mg/L	1.00	ND	112	80-120		

Quality Control
(Continued)

Total Metals

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B9F0592 - Hot plate acid digestion waters										
Blank (B9F0592-BLK1)					Prepared & Analyzed: 06/14/19					
Magnesium	ND		0.05	mg/L						
Calcium	ND		0.05	mg/L						
LCS (B9F0592-BS1)					Prepared & Analyzed: 06/14/19					
Magnesium	11.5		0.05	mg/L	10.0		115	85-115		
Calcium	11.5		0.05	mg/L	10.0		115	85-115		

Notes and Definitions

Item	Definition
Wet	Sample results reported on a wet weight basis.
ND	Analyte NOT DETECTED at or above the reporting limit.

New England Testing Laboratory
59 Greenhill Street
West Warwick, RI 02893
1-888-863-8522

9 F 1 30074

Chain of Custody Record

Project No.	Project Name/Location				Matrix				Preservative	Tests**									
2018.17	118 Cambridge St. Burlington, MA																		
Client:	Clean Soils Environmental, Ltd. 33 Estes St. Ipswich, MA 01938																		
Report To:	kevin@cleansoils.com																		
Invoice To:	denise@cleansoils.com																		
Date	**Time**	**COMP**	**GRAB**	**Sample I.D.**	**Aqueous**	**Soil**	**Other**	**No. of Containers**		Ammonia (NH3)	Hardness	pH							
6/12/2019	1530		X	Wetlands-1	X			2	H2SO4/non	X	X	X							

Sampled By:	Date/Time	Received By:	Date/Time	Laboratory Remarks:	Special Instructions:
	6/12/19		6/13/19 935		Comply to RCGW-1 NPDES / RGP 4
Relinquished By:	**Date/Time**	**Received By:**	**Date/Time**	**Temp. Received:** 4	
	6/13/19 1500		6/13/19 1500		
					Turnaround Time [Business Days]: 5

New England Testing Laboratory, Inc.
(401) 353-3420

REPORT OF ANALYTICAL RESULTS

NETLAB Work Order Number: 9I10004
Client Project: 2018.17 - 118 Cambridge St, Burlington, MA

Report Date: 11-September-2019

Prepared for:

Kevin McAndrews
Clean Soils Environmental
33 Estes Street
Ipswich, MA 01938

Richard Warila, Laboratory Director
New England Testing Laboratory, Inc.
59 Greenhill Street
West Warwick, RI 02893
rich.warila@newenglandtesting.com

Samples Submitted :

The samples listed below were submitted to New England Testing Laboratory on 09/10/19. The group of samples appearing in this report was assigned an internal identification number (case number) for laboratory information management purposes. The client's designations for the individual samples, along with our case numbers, are used to identify the samples in this report. This report of analytical results pertains only to the sample(s) provided to us by the client which are indicated on the custody record. The case number for this sample submission is 9I10004. Custody records are included in this report.

Lab ID	Sample	Matrix	Date Sampled	Date Received
9I10004-01	Wetlands-1	Water	09/09/2019	09/10/2019

Request for Analysis

At the client's request, the analyses presented in the following table were performed on the samples submitted.

Wetlands-1 (Lab Number: 9I10004-01)

Analysis	**Method**
Antimony	EPA 6010C
Arsenic	EPA 6010C
Iron	EPA 6010C
Silver	EPA 6010C

Method References

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, USEPA

Case Narrative

Sample Receipt:

The samples associated with this work order were received in appropriately cooled and preserved containers. The chain of custody was adequately completed and corresponded to the samples submitted.

Exceptions: None

Analysis:

All samples were prepared and analyzed within method specified holding times and according to NETLAB's documented standard operating procedures. The results for the associated calibration, method blank and laboratory control sample (LCS) were within method specified quality control requirements and allowances.

Exceptions: None

Results: Total Metals

Sample: Wetlands-1

Lab Number: 9I10004-01 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Antimony	ND		0.005	mg/L	09/11/19	09/11/19
Arsenic	ND		0.01	mg/L	09/11/19	09/11/19
Iron	**5.17**		0.05	mg/L	09/11/19	09/11/19
Silver	ND		0.005	mg/L	09/11/19	09/11/19

Quality Control

Total Metals

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B9I0386 - Hot plate acid digestion waters										
Blank (B9I0386-BLK1)					Prepared & Analyzed: 09/11/19					
Antimony	ND		0.005	mg/L						
Iron	ND		0.05	mg/L						
Arsenic	ND		0.01	mg/L						
Silver	ND		0.005	mg/L						
LCS (B9I0386-BS1)					Prepared & Analyzed: 09/11/19					
Antimony	1.05		0.005	mg/L	1.00		105	85-115		
Iron	10.5		0.05	mg/L	10.0		105	85-115		
Arsenic	0.20		0.01	mg/L	0.200		101	85-115		
Silver	0.394		0.005	mg/L	0.400		98.6	85-115		
LCS Dup (B9I0386-BSD1)					Prepared & Analyzed: 09/11/19					
Antimony	1.04		0.005	mg/L	1.00		104	85-115	0.903	200
Iron	10.3		0.05	mg/L	10.0		103	85-115	1.23	15
Arsenic	0.20		0.01	mg/L	0.200		102	85-115	0.906	200
Silver	0.391		0.005	mg/L	0.400		97.7	85-115	0.924	200

Notes and Definitions

Item	Definition
Wet	Sample results reported on a wet weight basis.
ND	Analyte NOT DETECTED at or above the reporting limit.

New England Testing Laboratory
59 Greenhill Street
West Warwick, RI 02893
1-888-863-8522

9 I 1 0004

Chain of Custody Record

Project No.	Project Name/Location				Matrix					Tests**									
2018.17	118 Cambridge St. Burlington, MA - VIOC																		
Client:	Clean Soils Environmental, Ltd. 33 Estes St. Ipswich, MA 01938																		
Report To:	kevin@cleansoils.com																		
Invoice To:	denise@cleansoils.com																		
Date	**Time**	**COMP**	**GRAB**	**Sample I.D.**	**Aqueous**	**Soil**	**Other**	**No. of Containers**	**Preservative**	Antimony	Arsenic	Iron	Silver						
9/9/19	9:19		X	Wetlands-1	X			1	HNO_3	X	X	X	X						

Sampled By:	Date/Time	Received By:	Date/Time	Laboratory Remarks:	Special Instructions:
	9/9/19				total metals (compare to RGW-1)
Relinquished By:	**Date/Time**	**Received By:**	**Date/Time**	**Temp. Received:**	NPDES/RGP
Robert Lee	9-10-19 1540		9/10/19 1540	4	

Turnaround Time [Business Days]: 1

BP

MassDEP Analytical Protocol Certification Form

Laboratory Name: New England Testing Laboratory, Inc. Project #: 2018.17

Project Location: Burlington, MA RTN:

This Form provides certifications for the following data set: list Laboratory Sample ID Number(s): 9I10004

Matrices: ☒ Groundwater/Surface Water ☐ Soil/Sediment ☐ Drinking Water ☐ Air ☐ Other:

CAM Protocol (check all that apply below):

8260 VOC CAM II A ☐	7470/7471 Hg CAM III B ☐	MassDEP VPH (GC/PID/FID) CAM IV A ☐	8082 PCB CAM V A ☐	9014 Total Cyanide/PAC CAM VI A ☐	6860 Perchlorate CAM VIII B ☐
8270 SVOC CAM II B ☐	7010 Metals CAM III C ☐	MassDEP VPH (GC/MS) CAM IV C ☐	8081 Pesticides CAM V B ☐	7196 Hex Cr CAM VI B ☐	MassDEP APH CAM IX A ☐
6010 Metals CAM III A ☒	6020 Metals CAM III D ☐	MassDEP EPH CAM IV B ☐	8151 Herbicides CAM V C ☐	8330 Explosives CAM VIII A ☐	TO-15 VOC CAM IX B ☐

Affirmative Responses to Questions A through F are required for "Presumptive Certainty" status

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

Responses to Questions G, H and I below are required for "Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	☒ Yes ☐ No[1]

***Data User Note:** Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.*

H	Were **all** QC performance standards specified in the CAM protocol(s) achieved?	☒ Yes ☐ No[1]
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	☒ Yes ☐ No[1]

[1] *All negative responses must be addressed in an attached laboratory narrative.*

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, is accurate and complete.

Signature: _____ **Position:** Laboratory Director

Printed Name: Richard Warila **Date**: 9/11/2019