October 2, 2018

By Email: NPDES.Generalpermits@epa.gov

Shauna Little
EPA – Region 1, Office of Ecosystem Protection
5 Post Office Square, Suite 100
Mail Code OEP06-1
Boston, MA 02109-3912

Subject: Revised Notice of Intent (NOI)
Remediation General Permit
236-240 Salem Street Medford, Massachusetts

Dear Ms. Little,

On behalf of the property owner, HHC One Salem LLC, and in accordance with the National Pollutant Discharge Elimination System (NPDES) Remediation General Permit (RGP) in Massachusetts, MAG910000, ***Cooperstown Environmental LLC*** (Cooperstown) hereby submits additional information in support of a revised Notice of Intent (NOI) and supporting documentation, as required by the U.S. Environmental Protection Agency (EPA) for those discharges seeking a determination of coverage under this general permit.

For the purposes of this general permit, HHC One Salem LLC of Salem, MA and Recon Outfitters of Sturbridge, MA are respectively considered the "Owner" and "Operator" of a planned discharge. This revised NOI was prepared in accordance with the general requirements of the NPDES and related guidance documentation provided by EPA as well as your correspondence requesting additional information as described below. The effluent flow will not exceed 1 million gallons a day (MGD).

On September 20, 2018, we received e-mail correspondence that the original NOI was incomplete. The reasons are listed below along with the additional information and clarifications requested as well as the changes made to the NOI:

- NOI Format, Part B.1. Please indicate the Segment ID assigned by MassDEP to the receiving water.

Resolution: The segment ID MA71-02 has been added to the NOI

- NOI Format, Part B.6. Confirmation must be obtained from MassDEP for use of a dilution factor in WQBEL calculations. Please obtain confirmation and indicate the date and MassDEP staff from whom confirmation was received. Attach a copy of the correspondence to verify.

Resolution: Correspondence was received from MassDEP on 9/26/2018 that the dilution factor is correct, and it is attached to the revised NOI.

- NOI Format, Part D.1. Please clarify if the discharge will be via one treatment system (Outfall 001) to the receiving water outfall indicated and clarify which storm sewer system(s) (e.g. Outfall 001 to outfall at Mystic River via City of Wakefield's storm sewer system). Include both geographic coordinates. The treatment system outfall location can be an estimate within the site boundary if the treatment system is mobile.

Resolution: We have estimated the location of the treatment system outfall at the site and added it to the NOI along with the name of the municipal system.

- NOI Format, Part D.3. Please correct the contamination types. Based on the activity category selected, the contamination type boxes in a should be selected, rather than boxes under Type G.

Resolution: The activity category was initially incorrect. The activity category should be contaminated site dewatering (Activity III) as the only purpose is the construction of a building foundation at the site. Although concentrations are above background in groundwater, there was no reportable condition associated with groundwater at the site and no groundwater remediation is warranted at the site. The activity category has been corrected on the revised NOI.

- NOI Format, Part D.4. Acetone and phenol analyses are required of activity category I. The TBEL for acetone will automatically apply so analysis is not necessary. However, EPA does not have enough information to determine if a WQBEL is necessary for phenol. If reanalysis is not possible, you may indicate phenol as present such that the most stringent limitation applies.

Resolution: Monitoring is occurring under Activity category III-G (corrected above). We will apply the most stringent standards for acetone and phenol.

- NOI Format, Part D.4. Please provide the excel file of WQBEL calculations.

Resolution: The excel file is now included in Appendix C.

The revised NOI and updated appendices are attached. If you have any questions or require additional information, please contact me at 978-470-4755, or by email at jeanne@cooperstownenv.com.

Very sincerely yours,
***Cooperstown Environmental LLC***

Jeanne Westervelt, PG, LSP
Technical Services Director

**Attachments**
**Appendix A — Revised 2017 RGP Notice of Intent with Figures**
**Appendix B — Laboratory Analytical Reports**
**Appendix C — WQBEL Applicability Determination from DEP with spreadsheet**
**Appendix D — Endangered Species Act Documentation**
**Appendix E — National Historic Preservation Act Documentation**
**Appendix F — Medford Water and Sewer Commission Discharge Requirements**

**Appendix A**

**NOI and Figures**

## 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:<br>FORMER AUTOMOTIVE STATION</td><td colspan="3">Site address: 236-240<br>Street: SALEM STREET</td></tr>
<tr><td>City: MEDFORD</td><td>State: MA</td><td>Zip: 02155</td></tr>
<tr><td rowspan="4">2. Site owner<br>HHC ONE SALEM LLC<br><br>Owner is (check one): ☐ Federal ☐ State/Tribal ■ Private<br>☐ Other; if so, specify:</td><td colspan="3">Contact Person: MILAN PATEL, HHC One Salem LLC</td></tr>
<tr><td colspan="2">Telephone: 978-740-2767</td><td>Email: milan@patelgroup.com</td></tr>
<tr><td colspan="3">Mailing address: 27<br>Street: CONGRESS STREET</td></tr>
<tr><td>City: SALEM</td><td>State: MA</td><td>Zip: 01970</td></tr>
<tr><td rowspan="4">3. Site operator, if different than owner<br>STEVE YOUNG, PM</td><td colspan="3">Contact Person: MILAN PATEL</td></tr>
<tr><td colspan="2">Telephone: 978-740-2767</td><td>Email: milan@patelgroup.com</td></tr>
<tr><td colspan="3">Mailing address:<br>Street: 27 CONGRESS STREET</td></tr>
<tr><td>City: SALEM</td><td>State: MA</td><td>Zip: 01970</td></tr>
<tr><td>4. NPDES permit number assigned by EPA:<br><br>NPDES permit is (check all that apply: ■ RGP ☐ DGP ☐ CGP<br>☐ 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):<br>■ MA Chapter 21e; list RTN(s): 3-33562<br>☐ NH Groundwater Management Permit or Groundwater Release Detection Permit:<br>☐ CERCLA<br>☐ UIC Program<br>☐ POTW Pretreatment<br>☐ 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): |
|---|---|---|
| MYSTIC RIVER | MA71-02 | B (Warm water, CSO) |

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

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

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

3. Indicate if the receiving water(s) is listed in the State's Integrated List of Waters (i.e., CWA Section 303(d)). Include which designated uses are impaired, and any pollutants indicated. Also, indicate if a final TMDL is available for any of the indicated pollutants. For more information, contact the appropriate State as noted in Part 4.6 of the RGP. segment MA71-02: arsenic, chlordane, chlorophyll-a, DDT, DO saturation, E coli, PCB, total phosphorous, Secchi disk trans., Chronic tox. NO TMDLS

| | |
|---|---|
| 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. | 2.288 mgd |
| 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. | 19.69 |

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: 9/26/2018

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<br><br>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):<br>■ Yes ☐ No | ☐ Contaminated surface water<br><br>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):<br>☐ Yes ■ No | ☐ The receiving water<br><br>☐ A surface water other than the receiving water; if so, indicate waterbody: | ☐ Potable water; if so, indicate municipality or origin:<br><br>☐ Other; if so, specify: |

| | |
|---|---|
| 2. Source water contaminants: inorganics, gasoline related, fuel oil related | |
| 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):<br>Outfall 001 to outfall at Mystic River (after MH-54) near Pleasant Street Medford, MA via City of Medford Storm Sewer System | Outfall location(s): (Latitude, Longitude)<br>Site Outfall: 42.420579, -71.100057<br><br>Mystic River Outfall: 42.414837, -71.103117 |
| Discharges enter the receiving water(s) via (check any that apply): ☐ Direct discharge to the receiving water ■ Indirect discharge, if so, specify:<br>via storm water system<br>☐ A private storm sewer system ■ A municipal storm sewer system<br>If the discharge enters the receiving water via a private or municipal storm sewer system:<br>Has notification been provided to the owner of this system? (check one): ■ Yes ☐ No<br>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:<br>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): 8/2018-2/2019<br>Indicate if the discharge is expected to occur over a duration of: ■ less than 12 months ☐ 12 months or more ☐ is an emergency discharge | |
| Has the operator attached a site plan in accordance with the instructions in D, above? (check one): ■ Yes ☐ No | |

<table>
<tr><td>2. Activity Category: (check all that apply)</td><td colspan="2">3. Contamination Type Category: (check all that apply)</td></tr>
<tr><td rowspan="5">☐ I – Petroleum-Related Site Remediation<br>☐ II – Non-Petroleum-Related Site Remediation<br>■ III – Contaminated Site Dewatering<br>☐ IV – Dewatering of Pipelines and Tanks<br>☐ V – Aquifer Pump Testing<br>☐ VI – Well Development/Rehabilitation<br>☐ VII – Collection Structure Dewatering/Remediation<br>☐ VIII – Dredge-Related Dewatering</td><td colspan="2">a. If Activity Category I or II: (check all that apply)<br><br>☐ A. Inorganics<br>☐ B. Non-Halogenated Volatile Organic Compounds<br>☐ C. Halogenated Volatile Organic Compounds<br>☐ D. Non-Halogenated Semi-Volatile Organic Compounds<br>☐ E. Halogenated Semi-Volatile Organic Compounds<br>☐ 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)<br><br>■ A. Inorganics<br>■ B. Non-Halogenated Volatile Organic Compounds<br>☐ C. Halogenated Volatile Organic Compounds<br>■ D. Non-Halogenated Semi-Volatile Organic Compounds<br>☐ E. Halogenated Semi-Volatile Organic Compounds<br>■ 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 | 0.1 | | 0.2 | Report mg/L | --- |
| Chloride | ✔ | | 1 | SM4500 | 20 | | 368000 | Report µg/l | --- |
| Total Residual Chlorine | ✔ | | 1 | SM4500 | 0.01 | | 0.04 | 0.2 mg/L | NA |
| Total Suspended Solids | | ✔ | 1 | SM2540 | 2 | | 28 | 30 mg/L | --- |
| Antimony | ✔ | | 1 | EPA 200.7 | 5 | | ND | 206 µg/L | NA |
| Arsenic | | ✔ | 1 | EPA 200.7 | 10 | | ND | 104 µg/L | NA |
| Cadmium | | ✔ | 1 | EPA 200.7 | 4 | | ND | 10.2 µg/L | NA |
| Chromium III | | ✔ | 1 | EPA6010 | 15 | | ND | 323 µg/L | NA |
| Chromium VI | ✔ | | 1 | 3500 CR | 10 | | ND | 323 µg/L | NA |
| Copper | | | 1 | EPA 200.7 | 5 | | 9 | 242 µg/L | NA |
| Iron | | | 1 | EPA 200.7 | 50 | | 1740 | 5,000 µg/L | NA |
| Lead | | ✔ | 1 | EPA 200.7 | 5 | | 9 | 160 µg/L | NA |
| Mercury | ✔ | | 1 | EPA 200.7 | 0.2 | | ND | 0.739 µg/L | NA |
| Nickel | ✔ | | 1 | EPA 200.7 | 5 | | ND | 1,450 µg/L | NA |
| Selenium | ✔ | | 1 | EPA 200.7 | 10 | | ND | 235.8 µg/L | NA |
| Silver | ✔ | | 1 | EPA 200.7 | 5 | | ND | 35.1 µg/L | NA |
| Zinc | ✔ | | 1 | EPA 200.7 | 20 | | 26 | 420 µg/L | NA |
| Cyanide | ✔ | | 1 | 4500 CN | 5 | | ND | 178 mg/L | NA |
| **B. Non-Halogenated VOCs** | | | | | | | | | |
| Total BTEX | | ✔ | 1 | EPA 624 | 20 | | ND | 100 µg/L | --- |
| Benzene | | ✔ | 1 | EPA 624 | 5 | | ND | 5.0 µg/L | --- |
| 1,4 Dioxane | ✔ | | | | | | | 200 µg/L | --- |
| Acetone | ✔ | | | | | | | 7.97 mg/L | --- |
| Phenol | ✔ | | | | | | | 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 | ✔ | | | | | | | 4.4 µg/L | |
| 1,2 Dichlorobenzene | ✔ | | | | | | | 600 µg/L | --- |
| 1,3 Dichlorobenzene | ✔ | | | | | | | 320 µg/L | --- |
| 1,4 Dichlorobenzene | ✔ | | | | | | | 5.0 µg/L | --- |
| Total dichlorobenzene | ✔ | | | | | | | 763 µg/L in NH | --- |
| 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 | |
| cis-1,2 Dichloroethylene | ✔ | | | | | | | 70 µg/L | --- |
| Vinyl Chloride | ✔ | | | | | | | 2.0 µg/L | --- |
| **D. Non-Halogenated SVOCs** | | | | | | | | | |
| Total Phthalates | ✔ | | | | | | | 190 µg/L | |
| Diethylhexyl phthalate | ✔ | | | | | | | 101 µg/L | |
| Total Group I PAHs | | ✔ | 1 | EPA 625 | 3.5 | | ND | 1.0 µg/L | --- |
| Benzo(a)anthracene | | ✔ | 1 | EPA 625 | 0.5 | | ND | As Total PAHs | NA |
| Benzo(a)pyrene | | ✔ | 1 | EPA 625 | 0.5 | | ND | | NA |
| Benzo(b)fluoranthene | | ✔ | 1 | EPA 625 | 0.5 | | ND | | NA |
| Benzo(k)fluoranthene | | ✔ | 1 | EPA 625 | 0.5 | | ND | | NA |
| Chrysene | | ✔ | 1 | EPA 625 | 0.5 | | ND | | NA |
| Dibenzo(a,h)anthracene | | ✔ | 1 | EPA 625 | 0.5 | | ND | | NA |
| Indeno(1,2,3-cd)pyrene | | ✔ | 1 | EPA 625 | 0.5 | | ND | | NA |

| 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 | EPA 625 | 4.5 | | ND | 100 µg/L | --- |
| Naphthalene | | ✔ | 1 | EPA 625 | 0.5 | | ND | 20 µg/L | --- |
| **E. Halogenated SVOCs** | | | | | | | | | |
| Total PCBs | ✔ | | | | | | | 0.000064 µg/L | --- |
| Pentachlorophenol | ✔ | | | | | | | 1.0 µg/L | --- |
| **F. Fuels Parameters** | | | | | | | | | |
| Total Petroleum Hydrocarbons | | ✔ | 1 | EPA 1664 | 2 | | 2 | 5.0 mg/L | --- |
| Ethanol | | ✔ | 1 | 1666,1671 | 50 | | ND | Report mg/L | --- |
| Methyl-tert-Butyl Ether | | ✔ | 1 | 524.2 | 2.5 | | ND | 70 µg/L | NA |
| tert-Butyl Alcohol | | ✔ | 1 | EPA 624 | 25 | | ND | 120 µg/L in MA<br>40 µg/L in NH | --- |
| tert-Amyl Methyl Ether | | ✔ | 1 | EPA 624 | 5 | | ND | 90 µg/L in MA<br>140 µg/L in NH | --- |
| **Other (i.e., pH, temperature, hardness, salinity, $LC_{50}$, additional pollutants present); if so, specify:** | | | | | | | | | |
| pH | | ✔ | 1 | | 0.1 | 7.9 | | | |
| Temperature | | ✔ | 1 | Field Test | ice | 78 degrees F | | | |
| Hardness | | ✔ | 1 | | 1250 | 367,000 | | | |
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## 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.
pumping from foundation sump into frac tanks, 10 micron bag filtration, followed by filtration through dual 1K GAC units.

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.<br>Indicate the most limiting component: 85 gpm, media filtration<br>Is use of a flow meter feasible? (check one): ■ Yes ☐ No, if so, provide justification: | |
| Provide the proposed maximum effluent flow in gpm. | 85 gpm |
| Provide the average effluent flow in gpm. | 50 gpm |
| If Activity Category IV applies, indicate the estimated total volume of water that will be discharged: | |

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

## F. Chemical and additive information

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

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

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

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

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

## G. Endangered Species Act eligibility determination

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

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

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

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

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

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

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

## H. National Historic Preservation Act eligibility determination

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

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

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

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

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

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

## I. Supplemental information

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

Cover letter detailing current site conditions, sampling considerations and contaminant selection rationale.

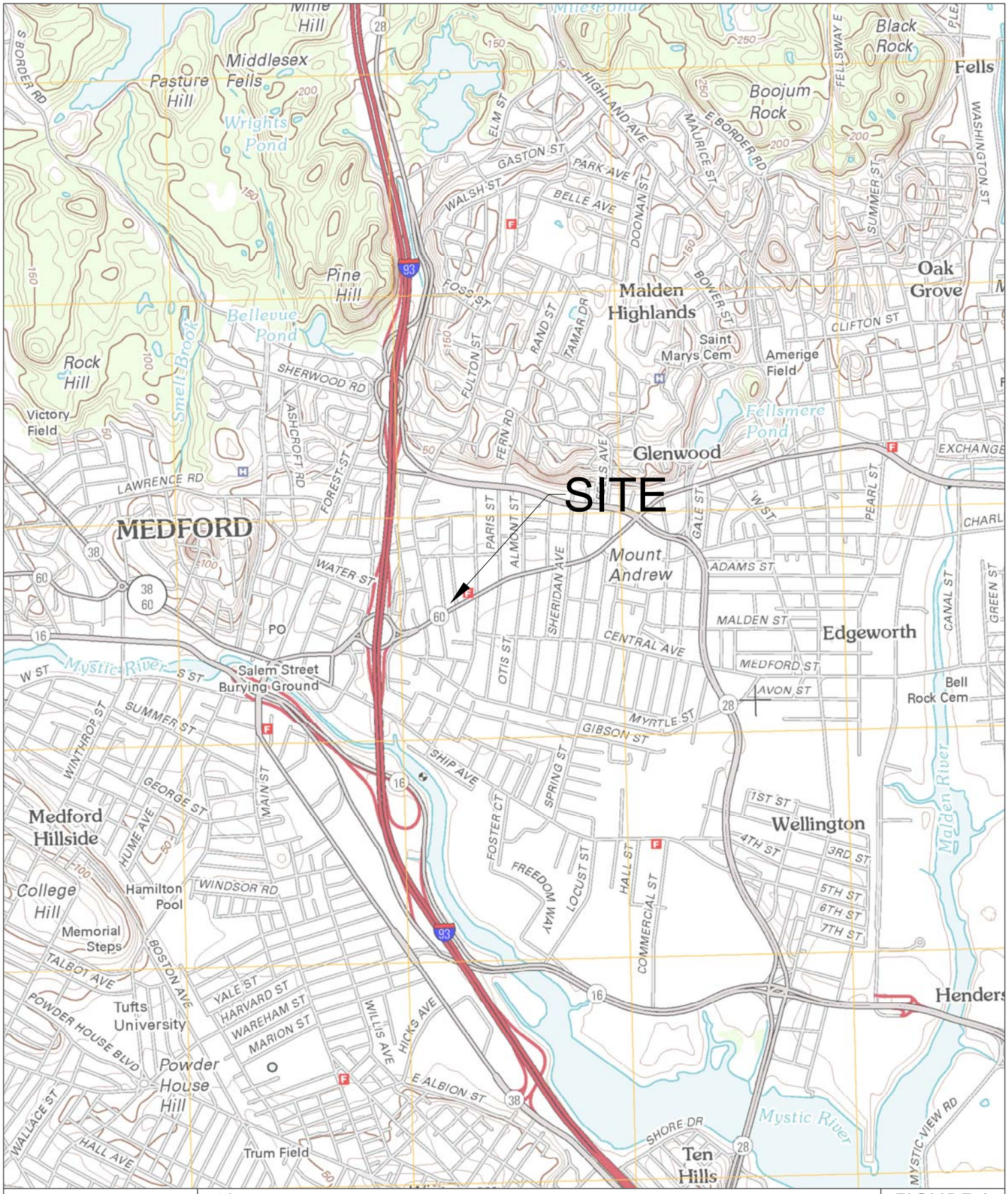
Has the operator attached data, including any laboratory case narrative and chain of custody used to support the application? (check one): ■ Yes ☐ No

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

## J. Certification requirement

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

| | |
|---|---|
| BMPP certification statement: | I certify under the penalty of law that a Best Management Practices Plan (BMPP) meeting the requirements of this general permit has been developed and implemented for the existing discharge. Should the terms set forth in USEPA's written authorization to discharge under this general permit result in the need for BMPP modification, said revisions will be made and implemented upon receipt of EPA's written authorization. |
| Notification provided to the appropriate State, including a copy of this NOI, if required. | Check one: Yes ■ No ☐ |
| Notification provided to the municipality in which the discharge is located, including a copy of this NOI, if requested. | Check one: Yes ■ No ☐ |
| Notification provided to the owner of a private or municipal storm sewer system, if such system is used for site discharges, including a copy of this NOI, if requested. | Check one: Yes ■ No ☐ NA ☐ |
| Permission obtained from the owner of a private or municipal storm sewer system, if such system is used for site discharges. If yes, attach additional conditions. If no, attach explanation and timeframe for obtaining permission. | Check one: Yes ■ No ☐ NA ☐ |
| Notification provided to the owner/operator of the area associated with activities covered by an additional discharge permit(s). Additional discharge permit is (check one): ☐ RGP ☐ DGP ☐ CGP ☐ MSGP ☐ Individual NPDES permit ☐ Other; if so, specify: | Check one: Yes ☐ No ☐ NA ■ |
| Signature:  | Date: 8/28/2018 |
| Print Name and Title: Milan Patel, HHC One Salem | |

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# Site Locus

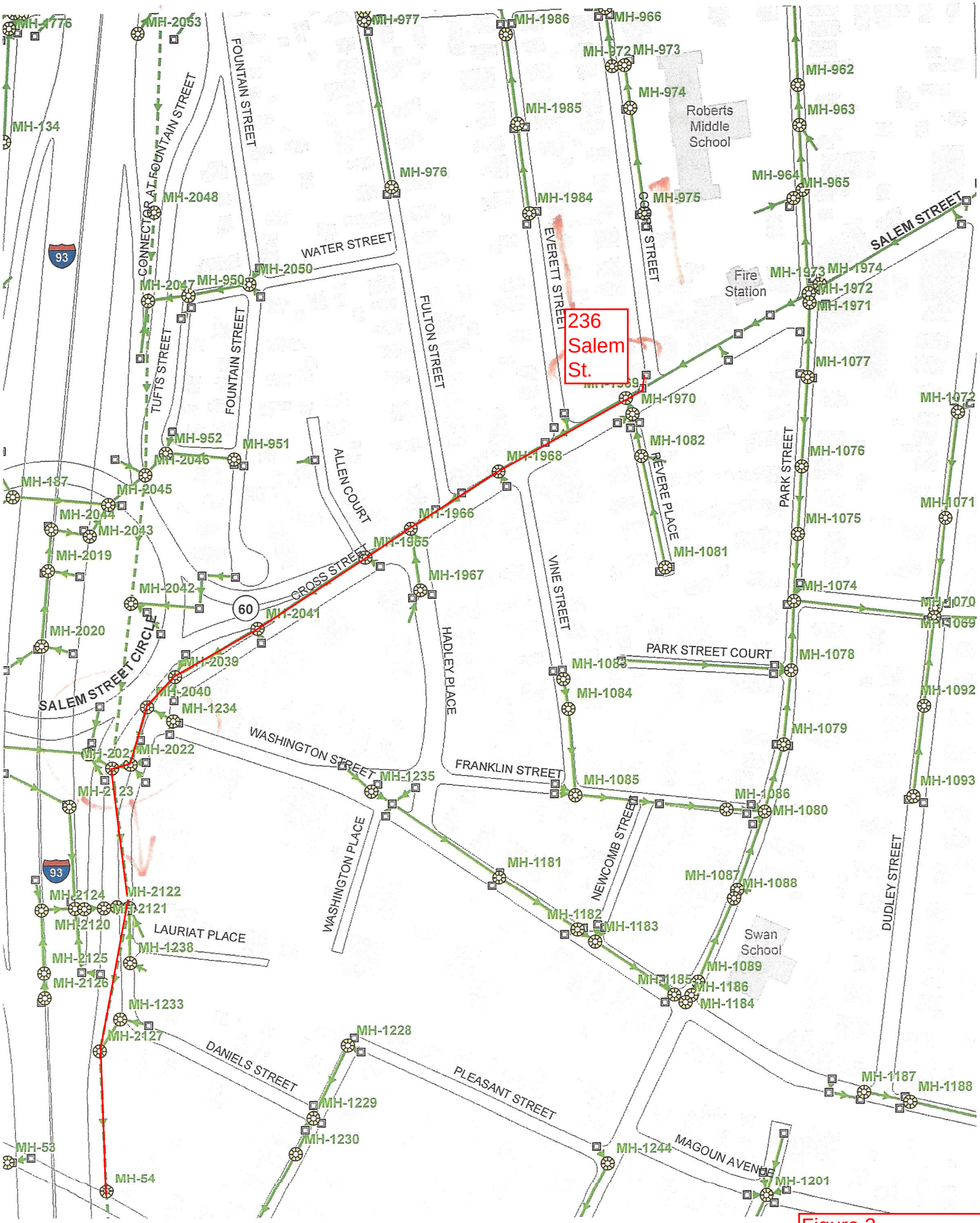
236-240 Salem Street
Medford, Massachusetts

SOURCE: USGS

FIGURE 1

N

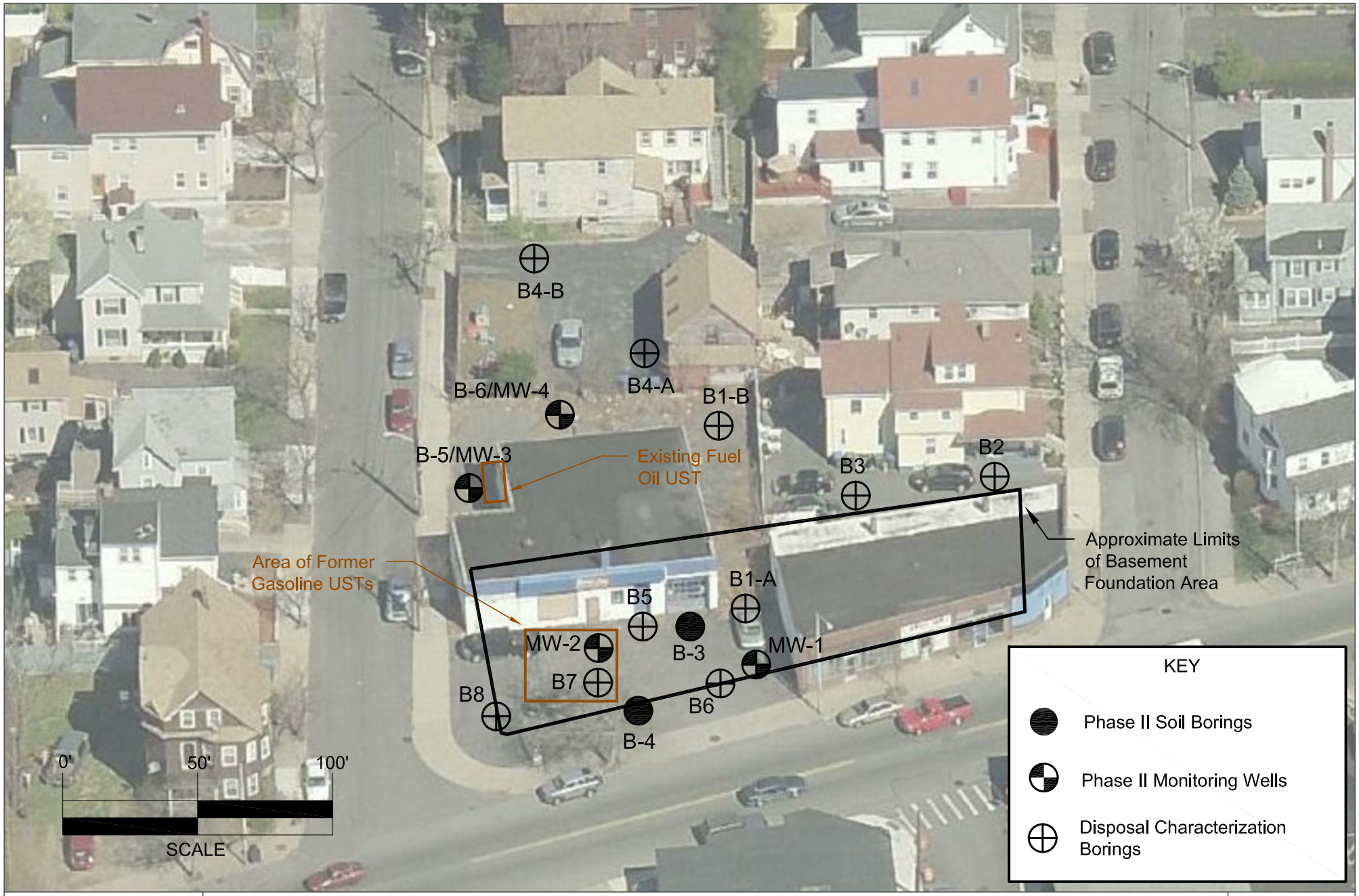
SCALE: 1"=2000'




Continued

Figure 2
Drainage Scehmatic From Site to Discharge Outfalle


MH-2044
MH-2019
MH-2020
93
SALEM STREET CIRCLE
SALEM STREET
CROSS STREET
60
MH-2042
MH-2041
MH-1965
MH-1966
MH-1967
HADLEY PLACE
VINE STREET
MH-1081
MH-1075
MH-1074
MH-1070
MH-1069
PARK STREET COURT
MH-1083
MH-1084
MH-1078
MH-1079
MH-1092
MH-2039
MH-2040
MH-1234
MH-2021
MH-2022
WASHINGTON STREET
MH-1235
FRANKLIN STREET
MH-1085
MH-1086
MH-1080
MH-1093
MH-2123
WASHINGTON PLACE
NEWCOMB STREET
DUDLEY STREET
MH-1181
MH-1087
MH-1088
MH-2124
MH-2122
MH-2121
MH-2120
LAURIAT PLACE
MH-1238
MH-1182
MH-1183
Swan School
MH-2125
MH-2126
MH-1089
MH-1185
MH-1186
MH-1184
MH-1233
MH-2127
DANIELS STREET
MH-1228
MH-1229
MH-1187
MH-1188
MH-53
MH-1230
PLEASANT STREET
PLEASANT STREET COURT
MH-1244
MH-54
MH-1201
MAGOUN AVENUE
MH-1231
MH-1232
MH-1243
PARK STREET
CUDWORTH STREET
MH-1239
THATCHER STREET
MH-1202
MH-1245
MH-1203
MH-1240
CUSHING STREET
93
MH-1241
MH-1205
MH-1936
MH-1204
MH-1249
MH-1937
MH-1211
MH-1248
MH-1206
ABBOTT STREET
MH-1246
MH-1247
MH-1214
MH-1250
MH-1251
MH-1207
Mystic River
Mystic River Reservation
MH-1252
RIVERSIDE AVENUE
PEMBROKE STREET
MH-1253
MH-1215
16

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# Soil Characterization Boring Locations

236-240 Salem Street
Medford, Massachusetts

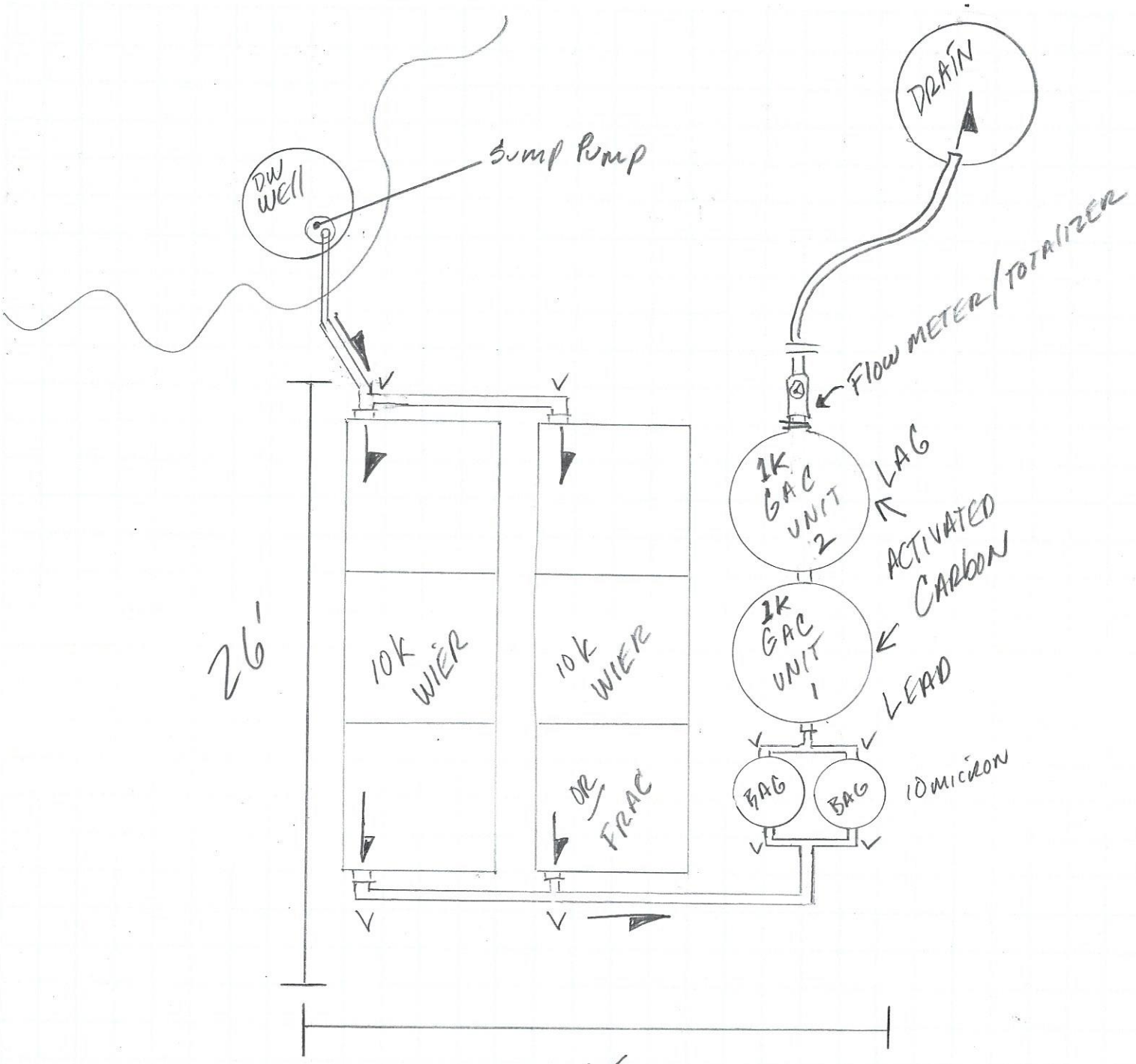
SOURCE: Bing Maps

FIGURE 3

N

PO BOX 222
Sturbridge, MA 01566
Liam Ferguson - (774) 245-6623
Matt DelMonte - (774) 200-4503
Craig Bezarro - (508) 962-7838

VETERAN OWNED BUSINESS




SYSTEM MAX - 85GPM -

CONTAMINENT - SEDIMENTS, LIGHT TPH

Figure 4
Dewatering Treatment Schematic
236-240 Salem Street
Medford, MA

**Appendix B**

**Laboratory Data**

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

# REPORT OF ANALYTICAL RESULTS

## NETLAB Work Order Number: 8H27034
## Client Project: 236 Salem St, Medford, MA

Report Date: 28-August-2018

Prepared for:

Eric Andrews
Cooperstown Environmental
23 Main Street
Andover, MA 01810

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 08/27/18. 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 8H27034. Custody records are included in this report.

| Lab ID | Sample | Matrix | Date Sampled | Date Received |
|---|---|---|---|---|
| 8H27034-01 | Source Water | Water | 08/27/2018 | 08/27/2018 |
| 8H27034-02 | Receiving Water | Water | 08/27/2018 | 08/27/2018 |

# *Request for Analysis*

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

### Receiving Water (Lab Number: 8H27034-02)

| Analysis | Method |
|---|---|
| Ammonia | SM4500-NH3-D |
| Antimony | EPA 200.7 |
| Arsenic | EPA 200.7 |
| Cadmium | EPA 200.7 |
| Calcium | SM3120-B |
| Chloride | SM4500CI-B |
| Chromium | EPA 6010C |
| Copper | EPA 200.7 |
| Cyanide | SM4500-CN-E |
| Hexavalent Chromium | SM3500-Cr-B |
| Iron | EPA 200.7 |
| Lead | EPA 200.7 |
| Magnesium | SM3120-B |
| Mercury | EPA 245.1 |
| Nickel | EPA 200.7 |
| pH | SM4500-H-B |
| Selenium | EPA 200.7 |
| Silver | EPA 200.7 |
| Total Residual Chlorine | SM4500-CI-G |
| Total Suspended Solids | SM2540-D |
| Trivalent Chromium | Calculation |
| Zinc | EPA 200.7 |

### Source Water (Lab Number: 8H27034-01)

| Analysis | Method |
|---|---|
| Acid Base/Neutral Extractables | EPA 625.1 |
| Ammonia | SM4500-NH3-D |
| Antimony | EPA 200.7 |
| Arsenic | EPA 200.7 |
| Cadmium | EPA 200.7 |
| Calcium | SM3120-B |
| Chloride | SM4500CI-B |
| Chromium | EPA 6010C |
| Copper | EPA 200.7 |
| Cyanide | SM4500-CN-E |
| Hexavalent Chromium | SM3500-Cr-B |
| Iron | EPA 200.7 |
| Lead | EPA 200.7 |
| Magnesium | SM3120-B |
| Mercury | EPA 245.1 |
| Methanol and Ethanol | EPA-8100-mod |
| Nickel | EPA 200.7 |
| Oil & Grease, SGT | EPA 1664A |
| pH | SM4500-H-B |
| Selenium | EPA 200.7 |
| Silver | EPA 200.7 |
| Total Residual Chlorine | SM4500-CI-G |

## *Request for Analysis (continued)*

**Source Water (Lab Number: 8H27034-01) (continued)**

| Analysis | Method |
|---|---|
| Total Suspended Solids | SM2540-D |
| Trivalent Chromium | Calculation |
| Volatile Organic Compounds | EPA 524.2 |
| Volatile Organic Compounds | EPA 624.1 |
| Zinc | EPA 200.7 |

## *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

*Method 1664, Revision A: N-Hexane Extractable Material (HEM; Oil and Grease) and Silica Gel Treated N-Hexane Extractable Material (SGTHEM; Non-polar*, USEPA, 1999

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

*Methods for the Determination of Organic Compounds in Finished Drinking Water and Raw Source Water*, USEPA/EMSL, 1985

*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.

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.

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.

Sample was reported with elevated detection limits due to the foaming nature of the sample.

Wet Chemistry

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

# Results: Calculation

**Sample: Source Water**
**Lab Number: 8H27034-01 (Water)**

| Analyte | Result | Qual | Reporting Limit | Units | Date Prepared | Date Analyzed |
|---|---|---|---|---|---|---|
| Trivalent Chromium | ND | | 0.0150 | mg/L | 08/28/18 7:44 | 08/28/18 13:43 |

# Results: Calculation

**Sample: Receiving Water**
**Lab Number: 8H27034-02 (Water)**

| Analyte | Result | Qual | Reporting Limit | Units | Date Prepared | Date Analyzed |
|---|---|---|---|---|---|---|
| Trivalent Chromium | ND | | 0.0150 | mg/L | 08/28/18 7:44 | 08/28/18 13:46 |

# Results: General Chemistry

## Sample: Source Water

**Lab Number: 8H27034-01 (Water)**

| Analyte | Result | Qual | Reporting Limit | Units | Date Prepared | Date Analyzed |
|---|---|---|---|---|---|---|
| **Ammonia** | **0.2** | | 0.1 | mg/L | 08/27/18 | 08/27/18 |
| **Chloride** | **368** | | 20 | mg/L | 08/27/18 | 08/27/18 |
| Cyanide | ND | | 0.005 | mg/L | 08/28/18 | 08/28/18 |
| Hexavalent chromium | ND | | 0.01 | mg/L | 08/27/18 16:30 | 08/27/18 16:30 |
| **pH** | **7.9** | | 0.1 | SU | 08/27/18 17:00 | 08/27/18 17:00 |
| **Oil & Grease SGT** | **2** | | 2 | mg/L | 08/27/18 | 08/27/18 |
| **Total Residual Chlorine** | **0.04** | | 0.01 | mg/L | 08/27/18 17:45 | 08/27/18 17:45 |
| **Total Suspended Solids** | **28** | | 2 | mg/L | 08/27/18 | 08/27/18 |

# Results: General Chemistry

## Sample: Receiving Water

**Lab Number: 8H27034-02 (Water)**

| Analyte | Result | Qual | Reporting Limit | Units | Date Prepared | Date Analyzed |
|---|---|---|---|---|---|---|
| Ammonia | ND | | 0.1 | mg/L | 08/27/18 | 08/27/18 |
| **Chloride** | **255** | | 10 | mg/L | 08/27/18 | 08/27/18 |
| Cyanide | ND | | 0.005 | mg/L | 08/28/18 | 08/28/18 |
| Hexavalent chromium | ND | | 0.01 | mg/L | 08/27/18 16:30 | 08/27/18 16:30 |
| **pH** | **7.5** | | 0.1 | SU | 08/27/18 17:00 | 08/27/18 17:00 |
| Total Residual Chlorine | ND | | 0.01 | mg/L | 08/27/18 17:45 | 08/27/18 17:45 |
| **Total Suspended Solids** | **8** | | 2 | mg/L | 08/27/18 | 08/27/18 |

# Results: Total Metals

## Sample: Source Water

**Lab Number: 8H27034-01 (Water)**

| Analyte | Result | Qual | Reporting Limit | Units | Date Prepared | Date Analyzed |
|---|---|---|---|---|---|---|
| **Total Hardness** | **367** | | 0.125 | mg/L | 08/28/18 | 08/28/18 |
| Antimony | ND | | 0.005 | mg/L | 08/28/18 | 08/28/18 |
| Arsenic | ND | | 0.010 | mg/L | 08/28/18 | 08/28/18 |
| Cadmium | ND | | 0.004 | mg/L | 08/28/18 | 08/28/18 |
| **Calcium** | **135** | | 0.05 | mg/L | 08/28/18 | 08/28/18 |
| Chromium | ND | | 0.005 | mg/L | 08/28/18 | 08/28/18 |
| **Copper** | **0.009** | | 0.005 | mg/L | 08/28/18 | 08/28/18 |
| **Iron** | **1.74** | | 0.050 | mg/L | 08/28/18 | 08/28/18 |
| **Lead** | **0.009** | | 0.005 | mg/L | 08/28/18 | 08/28/18 |
| **Magnesium** | **7.29** | | 0.05 | mg/L | 08/28/18 | 08/28/18 |
| Mercury | ND | | 0.0002 | mg/L | 08/28/18 | 08/28/18 |
| Nickel | ND | | 0.005 | mg/L | 08/28/18 | 08/28/18 |
| Selenium | ND | | 0.010 | mg/L | 08/28/18 | 08/28/18 |
| Silver | ND | | 0.005 | mg/L | 08/28/18 | 08/28/18 |
| **Zinc** | **0.026** | | 0.020 | mg/L | 08/28/18 | 08/28/18 |

# Results: Total Metals

## Sample: Receiving Water

**Lab Number: 8H27034-02 (Water)**

| Analyte | Result | Qual | Reporting Limit | Units | Date Prepared | Date Analyzed |
|---|---|---|---|---|---|---|
| **Total Hardness** | **144** | | 0.125 | mg/L | 08/28/18 | 08/28/18 |
| Antimony | ND | | 0.005 | mg/L | 08/28/18 | 08/28/18 |
| Arsenic | ND | | 0.010 | mg/L | 08/28/18 | 08/28/18 |
| Cadmium | ND | | 0.004 | mg/L | 08/28/18 | 08/28/18 |
| **Calcium** | **42.5** | | 0.05 | mg/L | 08/28/18 | 08/28/18 |
| Chromium | ND | | 0.005 | mg/L | 08/28/18 | 08/28/18 |
| **Copper** | **0.007** | | 0.005 | mg/L | 08/28/18 | 08/28/18 |
| **Iron** | **0.558** | | 0.050 | mg/L | 08/28/18 | 08/28/18 |
| Lead | ND | | 0.005 | mg/L | 08/28/18 | 08/28/18 |
| **Magnesium** | **9.11** | | 0.05 | mg/L | 08/28/18 | 08/28/18 |
| Mercury | ND | | 0.0002 | mg/L | 08/28/18 | 08/28/18 |
| Nickel | ND | | 0.005 | mg/L | 08/28/18 | 08/28/18 |
| Selenium | ND | | 0.010 | mg/L | 08/28/18 | 08/28/18 |
| Silver | ND | | 0.005 | mg/L | 08/28/18 | 08/28/18 |
| **Zinc** | **0.033** | | 0.020 | mg/L | 08/28/18 | 08/28/18 |

# Results: Volatile Organic Compounds

## Sample: Source Water

**Lab Number: 8H27034-01 (Water)**

| Analyte | Result | Qual | Reporting Limit | Units | Date Prepared | Date Analyzed |
|---|---|---|---|---|---|---|
| Methyl t-butyl ether (MTBE) | ND | | 2.5 | ug/l | 08/27/18 | 08/27/18 |
| Benzene | ND | | 5 | ug/l | 08/27/18 | 08/27/18 |
| Toluene | ND | | 5 | ug/l | 08/27/18 | 08/27/18 |
| tert-Butyl alcohol | ND | | 25 | ug/l | 08/27/18 | 08/27/18 |
| Total xylenes | ND | | 5 | ug/l | 08/27/18 | 08/27/18 |
| o-Xylene | ND | | 5 | ug/l | 08/27/18 | 08/27/18 |
| m&p-Xylene | ND | | 10 | ug/l | 08/27/18 | 08/27/18 |
| tert-Amyl methyl ether | ND | | 5 | ug/l | 08/27/18 | 08/27/18 |
| Ethylbenzene | ND | | 5 | ug/l | 08/27/18 | 08/27/18 |

| Surrogate(s) | Recovery% | Limits | | |
|---|---|---|---|---|
| *4-Bromofluorobenzene* | *97.0%* | *70-130* | 08/27/18 | 08/27/18 |
| *1,2-Dichloroethane-d4* | *111%* | *70-130* | 08/27/18 | 08/27/18 |
| *Toluene-d8* | *99.9%* | *70-130* | 08/27/18 | 08/27/18 |

# Results: Semivolatile organic compounds

**Sample: Source Water**

**Lab Number: 8H27034-01 (Water)**

| Analyte | Result | Qual | Reporting Limit | Units | Date Prepared | Date Analyzed |
|---|---|---|---|---|---|---|
| Ethanol | ND | | 50 | mg/L | 08/28/18 | 08/28/18 |

# Results: Base/Neutral & Acid Extractables

## Sample: Source Water

**Lab Number: 8H27034-01 (Water)**

| Analyte | Result | Qual | Reporting Limit | Units | Date Prepared | Date Analyzed |
|---|---|---|---|---|---|---|
| Acenaphthene | ND | | 0.5 | ug/l | 08/28/18 | 08/28/18 |
| Acenaphthylene | ND | | 0.5 | ug/l | 08/28/18 | 08/28/18 |
| Anthracene | ND | | 0.5 | ug/l | 08/28/18 | 08/28/18 |
| Benzo(a)anthracene | ND | | 0.5 | ug/l | 08/28/18 | 08/28/18 |
| Benzo(a)pyrene | ND | | 0.5 | ug/l | 08/28/18 | 08/28/18 |
| Benzo(b)fluoranthene | ND | | 0.5 | ug/l | 08/28/18 | 08/28/18 |
| Benzo(g,h,i)perylene | ND | | 0.5 | ug/l | 08/28/18 | 08/28/18 |
| Benzo(k)fluoranthene | ND | | 0.5 | ug/l | 08/28/18 | 08/28/18 |
| Chrysene | ND | | 0.5 | ug/l | 08/28/18 | 08/28/18 |
| Dibenz(a,h)anthracene | ND | | 0.5 | ug/l | 08/28/18 | 08/28/18 |
| Fluoranthene | ND | | 0.5 | ug/l | 08/28/18 | 08/28/18 |
| Fluorene | ND | | 0.5 | ug/l | 08/28/18 | 08/28/18 |
| Indeno(1,2,3-cd)pyrene | ND | | 0.5 | ug/l | 08/28/18 | 08/28/18 |
| Naphthalene | ND | | 0.5 | ug/l | 08/28/18 | 08/28/18 |
| Phenanthrene | ND | | 0.5 | ug/l | 08/28/18 | 08/28/18 |
| Pyrene | ND | | 0.5 | ug/l | 08/28/18 | 08/28/18 |

| Surrogate(s) | Recovery% | Limits | | |
|---|---|---|---|---|
| *Nitrobenzene-d5* | *69.9%* | *15-130* | 08/28/18 | 08/28/18 |
| *p-Terphenyl-d14* | *88.2%* | *50-130* | 08/28/18 | 08/28/18 |
| *2-Fluorobiphenyl* | *74.8%* | *35-130* | 08/28/18 | 08/28/18 |
| *Phenol-d6* | *18.5%* | *10-83* | 08/28/18 | 08/28/18 |
| *2,4,6-Tribromophenol* | *109%* | *44-120* | 08/28/18 | 08/28/18 |
| *2-Fluorophenol* | *27.4%* | *10-81* | 08/28/18 | 08/28/18 |

## Quality Control

### General Chemistry

| Analyte | Result | Qual | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|
| ***Batch: B8H1040 - Oil & Grease*** | | | | | | | | | | |
| **Blank (B8H1040-BLK1)** | | | | | Prepared & Analyzed: 08/27/18 | | | | | |
| Oil & Grease SGT | ND | | 2 | mg/L | | | | | | |
| **LCS (B8H1040-BS1)** | | | | | Prepared & Analyzed: 08/27/18 | | | | | |
| Oil & Grease SGT | 19 | | 2 | mg/L | 20.0 | | 95.0 | 64-132 | | |
| ***Batch: B8H1049 - Ammonia*** | | | | | | | | | | |
| **Blank (B8H1049-BLK1)** | | | | | Prepared & Analyzed: 08/27/18 | | | | | |
| Ammonia | ND | | 0.1 | mg/L | | | | | | |
| **Blank (B8H1049-BLK2)** | | | | | Prepared & Analyzed: 08/27/18 | | | | | |
| Ammonia | ND | | 0.1 | mg/L | | | | | | |
| **LCS (B8H1049-BS1)** | | | | | Prepared & Analyzed: 08/27/18 | | | | | |
| Ammonia | 0.9 | | 0.1 | mg/L | 1.00 | | 90.4 | 90-110 | | |
| **LCS (B8H1049-BS2)** | | | | | Prepared & Analyzed: 08/27/18 | | | | | |
| Ammonia | 1.0 | | 0.1 | mg/L | 1.00 | | 99.4 | 90-110 | | |
| **Duplicate (B8H1049-DUP1)** | | **Source: 8H23008-08** | | | Prepared & Analyzed: 08/27/18 | | | | | |
| Ammonia | ND | | 0.1 | mg/L | | ND | | | | 20 |
| **Matrix Spike (B8H1049-MS1)** | | **Source: 8H23008-08** | | | Prepared & Analyzed: 08/27/18 | | | | | |
| Ammonia | 0.9 | | 0.1 | mg/L | 1.00 | ND | 87.1 | 80-120 | | |
| ***Batch: B8H1050 - Hexavalent Chrome*** | | | | | | | | | | |
| **Blank (B8H1050-BLK1)** | | | | | Prepared & Analyzed: 08/27/18 | | | | | |
| Hexavalent chromium | ND | | 0.01 | 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: B8H1050 - Hexavalent Chrome (Continued)*** | | | | | | | | | | |
| **Blank (B8H1050-BLK2)** | | | | | Prepared & Analyzed: 08/27/18 | | | | | |
| Hexavalent chromium | ND | | 0.01 | mg/L | | | | | | |
| **LCS (B8H1050-BS1)** | | | | | Prepared & Analyzed: 08/27/18 | | | | | |
| Hexavalent chromium | 0.48 | | 0.01 | mg/L | 0.500 | | 95.4 | 90-110 | | |
| **LCS (B8H1050-BS2)** | | | | | Prepared & Analyzed: 08/27/18 | | | | | |
| Hexavalent chromium | 0.10 | | 0.01 | mg/L | 0.100 | | 96.0 | 90-110 | | |
| **LCS (B8H1050-BS3)** | | | | | Prepared: 08/27/18 Analyzed: 08/28/18 | | | | | |
| Hexavalent chromium | 0.48 | | 0.01 | mg/L | 0.500 | | 96.2 | 90-110 | | |
| **Duplicate (B8H1050-DUP1)** | | **Source: 8H27025-01** | | | Prepared & Analyzed: 08/27/18 | | | | | |
| Hexavalent chromium | ND | | 0.01 | mg/L | | ND | | | | 20 |
| **Matrix Spike (B8H1050-MS1)** | | **Source: 8H27025-01** | | | Prepared & Analyzed: 08/27/18 | | | | | |
| Hexavalent chromium | 0.40 | | 0.01 | mg/L | 0.500 | ND | 81.0 | 80-120 | | |
| ***Batch: B8H1061 - TSS*** | | | | | | | | | | |
| **Blank (B8H1061-BLK1)** | | | | | Prepared & Analyzed: 08/27/18 | | | | | |
| Total Suspended Solids | ND | | 2 | mg/L | | | | | | |
| **LCS (B8H1061-BS1)** | | | | | Prepared & Analyzed: 08/27/18 | | | | | |
| Total Suspended Solids | 902 | | 10 | mg/L | 1000 | | 90.2 | 90-110 | | |
| **Duplicate (B8H1061-DUP1)** | | **Source: 8H27046-01** | | | Prepared & Analyzed: 08/27/18 | | | | | |
| Total Suspended Solids | 136 | | 4 | mg/L | | 137 | | | 0.587 | 20 |

## Quality Control
**(Continued)**

### General Chemistry (Continued)

| Analyte | Result | Qual | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|
| ***Batch: B8H1063 - Chloride*** | | | | | | | | | | |
| **Blank (B8H1063-BLK1)** | | | | | Prepared & Analyzed: 08/27/18 | | | | | |
| Chloride | ND | | 1 | mg/L | | | | | | |
| **LCS (B8H1063-BS1)** | | | | | Prepared & Analyzed: 08/27/18 | | | | | |
| Chloride | 59 | | 1 | mg/L | 60.6 | | 98.0 | 90-110 | | |
| **Duplicate (B8H1063-DUP1)** | | **Source: 8H27034-01** | | | Prepared & Analyzed: 08/27/18 | | | | | |
| Chloride | 358 | | 20 | mg/L | | 368 | | | 2.60 | 20 |
| **Matrix Spike (B8H1063-MS1)** | | **Source: 8H27034-01** | | | Prepared & Analyzed: 08/27/18 | | | | | |
| Chloride | 453 | | 20 | mg/L | 60.6 | 368 | 140 | 80-120 | | |
| ***Batch: B8H1066 - Residual chlorine*** | | | | | | | | | | |
| **Blank (B8H1066-BLK1)** | | | | | Prepared & Analyzed: 08/27/18 | | | | | |
| Total Residual Chlorine | ND | | 0.01 | mg/L | | | | | | |
| **Blank (B8H1066-BLK2)** | | | | | Prepared & Analyzed: 08/27/18 | | | | | |
| Total Residual Chlorine | ND | | 0.01 | mg/L | | | | | | |
| **LCS (B8H1066-BS1)** | | | | | Prepared & Analyzed: 08/27/18 | | | | | |
| Total Residual Chlorine | 0.50 | | 0.01 | mg/L | 0.500 | | 99.4 | 90-110 | | |
| **LCS (B8H1066-BS2)** | | | | | Prepared & Analyzed: 08/27/18 | | | | | |
| Total Residual Chlorine | 0.50 | | 0.01 | mg/L | 0.500 | | 101 | 90-110 | | |
| **Duplicate (B8H1066-DUP1)** | | **Source: 8H27034-02** | | | Prepared & Analyzed: 08/27/18 | | | | | |
| Total Residual Chlorine | ND | | 0.01 | mg/L | | ND | | | | 20 |

## Quality Control
**(Continued)**

### General Chemistry (Continued)

| Analyte | Result | Qual | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|
| ***Batch: B8H1066 - Residual chlorine (Continued)*** | | | | | | | | | | |
| **Matrix Spike (B8H1066-MS1)** | | | **Source: 8H27034-02** | | Prepared & Analyzed: 08/27/18 | | | | | |
| Total Residual Chlorine | 0.46 | | 0.01 | mg/L | 0.500 | ND | 91.4 | 80-120 | | |
| ***Batch: B8H1077 - pH*** | | | | | | | | | | |
| **LCS (B8H1077-BS1)** | | | | | Prepared & Analyzed: 08/27/18 | | | | | |
| pH | 7.1 | | 0.1 | SU | 7.00 | | 101 | 90-110 | | |
| **LCS (B8H1077-BS2)** | | | | | Prepared & Analyzed: 08/27/18 | | | | | |
| pH | 7.1 | | 0.1 | SU | 7.00 | | 101 | 90-110 | | |
| **Duplicate (B8H1077-DUP1)** | | | **Source: 8H27039-01** | | Prepared & Analyzed: 08/27/18 | | | | | |
| pH | 7.0 | | 0.1 | SU | | 7.1 | | | 0.852 | 20 |
| ***Batch: B8H1093 - Cyanide*** | | | | | | | | | | |
| **Blank (B8H1093-BLK1)** | | | | | Prepared & Analyzed: 08/28/18 | | | | | |
| Cyanide | ND | | 0.01 | mg/L | | | | | | |
| **Blank (B8H1093-BLK2)** | | | | | Prepared & Analyzed: 08/28/18 | | | | | |
| Cyanide | ND | | 0.01 | mg/L | | | | | | |
| **LCS (B8H1093-BS1)** | | | | | Prepared & Analyzed: 08/28/18 | | | | | |
| Cyanide | 0.10 | | 0.01 | mg/L | 0.100 | | 104 | 90-110 | | |
| **LCS (B8H1093-BS2)** | | | | | Prepared & Analyzed: 08/28/18 | | | | | |
| Cyanide | 0.11 | | 0.01 | mg/L | 0.100 | | 106 | 90-110 | | |

## Quality Control
**(Continued)**

### General Chemistry (Continued)

| Analyte | Result | Qual | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|
| ***Batch: B8H1093 - Cyanide (Continued)*** | | | | | | | | | | |
| **LCS (B8H1093-BS3)** | | | | | Prepared & Analyzed: 08/28/18 | | | | | |
| Cyanide | 0.10 | | 0.01 | mg/L | 0.100 | | 104 | 90-110 | | |
| **Duplicate (B8H1093-DUP1)** | | | **Source: 8H23001-01** | | Prepared & Analyzed: 08/28/18 | | | | | |
| Cyanide | ND | | 0.01 | mg/L | | ND | | | | 200 |
| **Matrix Spike (B8H1093-MS1)** | | | **Source: 8H23001-01** | | Prepared & Analyzed: 08/28/18 | | | | | |
| Cyanide | 0.11 | | 0.01 | mg/L | 0.100 | ND | 114 | 80-120 | | |

## Quality Control
**(Continued)**

### Total Metals

| Analyte | Result | Qual | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|
| ***Batch: B8H1055 - Hot plate acid digestion waters*** | | | | | | | | | | |
| **Blank (B8H1055-BLK1)** | | | | | Prepared & Analyzed: 08/28/18 | | | | | |
| Chromium | ND | | 0.001 | mg/L | | | | | | |
| Nickel | ND | | 0.001 | mg/L | | | | | | |
| Lead | ND | | 0.001 | mg/L | | | | | | |
| Iron | ND | | 0.012 | mg/L | | | | | | |
| Copper | ND | J | 0.005 | mg/L | | | | | | |
| Arsenic | ND | | 0.002 | mg/L | | | | | | |
| Magnesium | ND | | 0.01 | mg/L | | | | | | |
| Calcium | ND | | 0.01 | mg/L | | | | | | |
| Antimony | ND | | 0.001 | mg/L | | | | | | |
| Silver | ND | | 0.001 | mg/L | | | | | | |
| Cadmium | ND | | 0.001 | mg/L | | | | | | |
| Selenium | ND | | 0.002 | mg/L | | | | | | |
| Zinc | ND | | 0.005 | mg/L | | | | | | |
| **LCS (B8H1055-BS1)** | | | | | Prepared & Analyzed: 08/28/18 | | | | | |
| Calcium | 11.0 | | 0.05 | mg/L | 10.0 | | 110 | 85-115 | | |
| Arsenic | 0.217 | | 0.010 | mg/L | 0.200 | | 109 | 85-115 | | |
| Cadmium | 1.04 | | 0.004 | mg/L | 1.00 | | 104 | 85-114 | | |
| Chromium | 1.07 | | 0.005 | mg/L | 1.00 | | 107 | 85-115 | | |
| Magnesium | 11.1 | | 0.05 | mg/L | 10.0 | | 111 | 85-115 | | |
| Iron | 11.1 | | 0.050 | mg/L | 10.0 | | 111 | 85-115 | | |
| Silver | 0.399 | | 0.005 | mg/L | 0.400 | | 99.8 | 85-115 | | |
| Zinc | 1.08 | | 0.020 | mg/L | 1.00 | | 108 | 85-115 | | |
| Nickel | 1.05 | | 0.005 | mg/L | 1.00 | | 105 | 85-112 | | |
| Lead | 1.14 | | 0.005 | mg/L | 1.00 | | 114 | 85-115 | | |
| Selenium | 0.202 | | 0.010 | mg/L | 0.200 | | 101 | 85-115 | | |
| Antimony | 1.13 | | 0.005 | mg/L | 1.00 | | 113 | 85-115 | | |
| Copper | 1.02 | | 0.020 | mg/L | 1.00 | | 102 | 85-115 | | |

## Quality Control
**(Continued)**

### Total Metals (Continued)

| Analyte | Result | Qual | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|
| ***Batch: B8H1103 - Hot plate acid digestion waters*** | | | | | | | | | | |
| **Blank (B8H1103-BLK1)** | | | | | Prepared & Analyzed: 08/28/18 | | | | | |
| Mercury | ND | | 0.0002 | mg/L | | | | | | |
| **LCS (B8H1103-BS1)** | | | | | Prepared & Analyzed: 08/28/18 | | | | | |
| Mercury | 1.02 | | | ug/l | 1.00 | | 102 | 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: B8H1073 - Purge-Trap*** | | | | | | | | | | |
| **Blank (B8H1073-BLK1)** | | | | | Prepared & Analyzed: 08/27/18 | | | | | |
| Benzene | ND | | 1 | ug/l | | | | | | |
| Toluene | ND | | 1 | ug/l | | | | | | |
| tert-Butyl alcohol | ND | | 5 | ug/l | | | | | | |
| Total xylenes | ND | | 1 | 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* | | | *47.5* | ug/l | *50.0* | | *95.0* | *70-130* | | |
| *Surrogate: 1,2-Dichloroethane-d4* | | | *48.0* | ug/l | *50.0* | | *96.0* | *70-130* | | |
| *Surrogate: Toluene-d8* | | | *55.2* | ug/l | *50.0* | | *110* | *70-130* | | |
| **LCS (B8H1073-BS1)** | | | | | Prepared & Analyzed: 08/27/18 | | | | | |
| Benzene | 19 | | | ug/l | 20.0 | | 96.5 | 65-135 | | |
| Toluene | 19 | | | ug/l | 20.0 | | 95.8 | 70-130 | | |
| tert-Butyl alcohol | 23 | | | ug/l | 20.0 | | 116 | 70-130 | | |
| Total xylenes | 50 | | 1 | ug/l | | | | 70-130 | | |
| o-Xylene | 16 | | | ug/l | 20.0 | | 77.8 | 70-130 | | |
| m&p-Xylene | 34 | | | ug/l | 40.0 | | 86.2 | 70-130 | | |
| tert-Amyl methyl ether | 25 | | | ug/l | 20.0 | | 127 | 70-130 | | |
| Ethylbenzene | 14 | | | ug/l | 20.0 | | 72.0 | 60-140 | | |
| *Surrogate: 4-Bromofluorobenzene* | | | *51.4* | ug/l | *50.0* | | *103* | *70-130* | | |
| *Surrogate: 1,2-Dichloroethane-d4* | | | *49.0* | ug/l | *50.0* | | *98.0* | *70-130* | | |
| *Surrogate: Toluene-d8* | | | *54.5* | ug/l | *50.0* | | *109* | *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: B8H1097 - EPA 3580A*** | | | | | | | | | | |
| **Blank (B8H1097-BLK1)** | | | | | Prepared & Analyzed: 08/28/18 | | | | | |
| Ethanol | ND | | 10 | mg/L | | | | | | |

## Quality Control
**(Continued)**

### Base/Neutral & Acid Extractables

| Analyte | Result | Qual | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|
| ***Batch: B8H1053 - Sep-Funnel-extraction*** | | | | | | | | | | |
| **Blank (B8H1053-BLK1)** | | | | | Prepared & Analyzed: 08/28/18 | | | | | |
| Acenaphthene | ND | | 0.5 | ug/l | | | | | | |
| Acenaphthylene | ND | | 0.5 | ug/l | | | | | | |
| Anthracene | ND | | 0.5 | ug/l | | | | | | |
| Benzo(a)anthracene | ND | | 0.5 | ug/l | | | | | | |
| Benzo(a)pyrene | ND | | 0.5 | ug/l | | | | | | |
| Benzo(b)fluoranthene | ND | | 0.5 | ug/l | | | | | | |
| Benzo(g,h,i)perylene | ND | | 0.5 | ug/l | | | | | | |
| Benzo(k)fluoranthene | ND | | 0.5 | ug/l | | | | | | |
| Chrysene | ND | | 0.5 | ug/l | | | | | | |
| Dibenz(a,h)anthracene | ND | | 0.5 | ug/l | | | | | | |
| Fluoranthene | ND | | 0.5 | ug/l | | | | | | |
| Fluorene | ND | | 0.5 | ug/l | | | | | | |
| Indeno(1,2,3-cd)pyrene | ND | | 0.5 | ug/l | | | | | | |
| Naphthalene | ND | | 0.5 | ug/l | | | | | | |
| Phenanthrene | ND | | 0.5 | ug/l | | | | | | |
| Pyrene | ND | | 0.5 | ug/l | | | | | | |
| *Surrogate: Nitrobenzene-d5* | | | *50.0* | ug/l | *50.0* | | *100* | *15-130* | | |
| *Surrogate: p-Terphenyl-d14* | | | *44.6* | ug/l | *50.0* | | *89.1* | *50-130* | | |
| *Surrogate: 2-Fluorobiphenyl* | | | *48.0* | ug/l | *50.0* | | *96.0* | *35-130* | | |
| *Surrogate: Phenol-d6* | | | *11.2* | ug/l | *50.0* | | *22.4* | *10-83* | | |
| *Surrogate: 2,4,6-Tribromophenol* | | | *55.9* | ug/l | *50.0* | | *112* | *44-120* | | |
| *Surrogate: 2-Fluorophenol* | | | *19.3* | ug/l | *50.0* | | *38.6* | *10-81* | | |
| **LCS (B8H1053-BS1)** | | | | | Prepared & Analyzed: 08/28/18 | | | | | |
| Acenaphthene | 46 | | 2 | ug/l | 50.0 | | 91.3 | 60-132 | | |
| Acenaphthylene | 47 | | 2 | ug/l | 50.0 | | 93.6 | 54-126 | | |
| Anthracene | 44 | | 2 | ug/l | 50.0 | | 89.0 | 43-120 | | |
| Benzo(a)anthracene | 43 | | 2 | ug/l | 50.0 | | 86.1 | 42-133 | | |
| Benzo(a)pyrene | 45 | | 2 | ug/l | 50.0 | | 90.4 | 32-148 | | |
| Benzo(b)fluoranthene | 45 | | 2 | ug/l | 50.0 | | 89.3 | 42-140 | | |
| Benzo(g,h,i)perylene | 48 | | 2 | ug/l | 50.0 | | 96.4 | 5-195 | | |
| Benzo(k)fluoranthene | 46 | | 2 | ug/l | 50.0 | | 91.3 | 25-146 | | |
| Chrysene | 43 | | 2 | ug/l | 50.0 | | 86.7 | 44-140 | | |
| Dibenz(a,h)anthracene | 46 | | 2 | ug/l | 50.0 | | 92.2 | 5-200 | | |
| Fluoranthene | 45 | | 2 | ug/l | 50.0 | | 90.7 | 43-121 | | |
| Fluorene | 50 | | 2 | ug/l | 50.0 | | 100 | 70-120 | | |
| Indeno(1,2,3-cd)pyrene | 47 | | 2 | ug/l | 50.0 | | 93.1 | 5-151 | | |
| Naphthalene | 46 | | 2 | ug/l | 50.0 | | 91.5 | 36-120 | | |
| Phenanthrene | 45 | | 2 | ug/l | 50.0 | | 89.8 | 65-120 | | |
| Pyrene | 41 | | 2 | ug/l | 50.0 | | 82.6 | 70-120 | | |
| *Surrogate: Nitrobenzene-d5* | | | *53.0* | ug/l | *50.0* | | *106* | *15-130* | | |
| *Surrogate: p-Terphenyl-d14* | | | *45.2* | ug/l | *50.0* | | *90.4* | *50-130* | | |
| *Surrogate: 2-Fluorobiphenyl* | | | *50.0* | ug/l | *50.0* | | *100* | *35-130* | | |
| *Surrogate: Phenol-d6* | | | *14.0* | ug/l | *50.0* | | *28.0* | *10-83* | | |
| *Surrogate: 2,4,6-Tribromophenol* | | | *59.6* | ug/l | *50.0* | | *119* | *44-120* | | |
| *Surrogate: 2-Fluorophenol* | | | *22.2* | ug/l | *50.0* | | *44.5* | *10-81* | | |

## Notes and Definitions

| Item | Definition |
|---|---|
| J | Below reporting limit |
| Wet | Sample results reported on a wet weight basis. |
| ND | Analyte NOT DETECTED at or above the reporting limit. |
| RPD | Relative Percent Difference. |
| %REC | Percent Recovery. |
| Source | Sample that was matrix spiked or duplicated. |

NEW ENGLAND TESTING LABORA
59 Greenhill Street
West Warwick, RI 02893
1-888-863-8522

8 H 2 7034 0

ID

| PROJ. NO. | PROJECT NAME/LOCATION |
|---|---|
| | 236 Salem Street, Medford, MA |

CLIENT: Cooperstown Environmental
REPORT TO: Eric Andrews, Jeanne Lisa
INVOICE TO:

| DATE | TIME | COMP | GRAB | SAMPLE I.D. | AQUEOUS | SOIL | OTHER | NO. OF CONTAINERS | PRESERVATIVE | TESTS** | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 8/27/18 | 8:20 | | ✓ | Source Water | ✓ | | | 11 | HCl, NaOH $HNO_3$, $H_2SO_4$ | ✓ | |
| 8/27/18 | 9:40 | | ✓ | Receiving Water | ✓ | | | 5 | $HNO_3$, $H_2SO_4$ | ✓ | ✓ |

TESTS**: $NH_3$; Cl; TRC; TSS; Sb; As; Cd; Cr III; Cr VI; Cu; Pb; Hg; Ni; Se; Ag; Zn; Cn; Total BTEX; Benzene; Total (6) PAH; Benzo (a) anthracene; Benzo (b) fluoranthene; Benzo k fluoranthene; Chrysene; Dibenzo (a,h) anthracene; Indeno (1,2,3-cd) pyrene; Total (6) group PAHs; Naphthalene; TPH; Ethanol; MTBE; tert-Butyl Alcohol; tert-Amyl Methyl Ether; PH; Hardness

| Sampled by: (Signature) | Date/Time | Received by: (Signature) | Date/Time |
|---|---|---|---|
| | 8/27/18 10:00 | | 8/27/18 1350 |
| Relinquished by: (Signature) | Date/Time | Received by: (Signature) | Date/Time |
| | 8/27/18 1615 | | |
| Relinquished by: (Signature) | Date/Time | Received for Laboratory by: (Signature) | Date/Time |
| | | | 8/27/18 1615 |

Laboratory Remarks:
Temp. received: 3
Cooled ☐

Special Instructions:
List Specific Detection Limit Requirements:
Please see attached table for methods and required detection limits.

Turnaround (Business Days): *24 hour*

**Netlab subcontracts the following tests: Radiologicals, Radon, Asbestos, UCMRs, Perchlorate, Bromate, Bromide, Sieve, Salmonella, Carbamates, CT ETPH

TA

| Parameter | Applicable D.L. (ug/L) | NETLAB Method | Bottles Needed |
|---|---|---|---|
| Ammonia | 100 | SM4500-NH3-D | 500 ml H2SO4 |
| Chloride | 230,000 | SM 4500-CL B | 250 ml P |
| Total Residual Chlorine | 50 | SM4500-Cl-G | 250 ml P |
| Total Suspended Solids | 30,000 | SM2540-D | 250 ml P |
| Antimony | 20 | EPA 200.7 | 250 ml P HNO3 |
| Arsenic | 20 | EPA 200.7 | 250 ml P HNO3 |
| Cadmium | 10 | EPA 200.7 | 250 ml P HNO3 |
| Chromium III | 100 | EPA6010C | 250 ml P HNO3 |
| Chromium VI | 50 | 3500-CR B | 250 ml P HNO3 |
| Copper | 3.7 | EPA 200.7 | 250 ml P HNO3 |
| Iron | 40 | EPA 200.7 | 250 ml P HNO3 |
| Lead | 20 | EPA 200.7 | 250 ml P HNO3 |
| Mercury | 0.2 | EPA 245.1 | 250 ml P HNO3 |
| Nickel | 20 | EPA 200.7 | 250 ml P HNO3 |
| Selenium | 40 | EPA 200.7 | 250 ml P HNO3 |
| Silver | 10 | EPA 200.7 | 250 ml P HNO3 |
| Zinc | 15 | EPA 200.7 | 250 ml P HNO3 |
| Cyanide | 5 | 4500 CN-E | 250 ml P NaOH |
| Total BTEX | 1 or 2 | EPA 624 | 40 ml Vial HCL |
| Benzene | 2 | EPA 624 | 40 ml Vial HCL |
| Total Group I Polycyclic Aromatic Hydrocarbons | 0.5 | EPA 625 | 1 L Amb. Nonpres |
| Benzo(a)anthracene | 0.5 | EPA 625 | 1 L Amb. Nonpres |
| Benzo(a)pyrene | 0.5 | EPA 625 | 1 L Amb. Nonpres |
| Benzo(b)fluoranthene | 0.5 | EPA 625 | 1 L Amb. Nonpres |
| Benzo(k)fluoranthene | 0.5 | EPA 625 | 1 L Amb. Nonpres |
| Chrysene | 0.5 | EPA 625 | 1 L Amb. Nonpres |
| Dibenzo(a,h)anthracene | 0.5 | EPA 625 | 1 L Amb. Nonpres |
| Indeno(1,2,3-cd)pyrene | 0.5 | EPA 625 | 1 L Amb. Nonpres |
| Total Group II PAHs | .5-2.5 | EPA 625 | 1 L Amb. Nonpres |
| Napthalene | 0.5 | EPA 625 | 1 L Amb. Nonpres |
| TPH | 5,000 | EPA 1664A | [illegible] |
| Ethanol | 400 | 1666, 1671, D3695 | [illegible] |
| Methyl-tert-Butyl Ether | 20 | 524.2 | 40 ml Vial HCL |
| tert-Butyl Alcohol | 10 | EPA 624 | 40 ml Vial HCL |
| tert-Amyl Methyl Ether | 10 | EPA 624 | 40 ml Vial HCL |

**Appendix C**

**WQBEL Applicability Determination**

## Jeanne Westervelt

**From:** Wood, Jennifer (DEP) <jennifer.wood@state.ma.us>
**Sent:** Wednesday, September 26, 2018 3:48 PM
**To:** Jeanne Westervelt
**Cc:** Vakalopoulos, Catherine (DEP)
**Subject:** RE: permission for use of a dilution factor in WQBEL calculations

Hi Jeanne,

Your dilution factor calculation of 19.69 for the proposed discharge in the Mystic River at lat/long 42.414837, -71.103117 is correct. Also, since the facility is indicated as an MCP site, a fee and further review of the NOI by MassDEP is not required.

Please let me know if you have any questions.

*Jennifer Wood*
*Environmental Engineer*
*Department of Environmental Protection*
*1 Winter Street, 5th Floor*
*Boston, MA 02108*
*(p) 617-654-6536*

---

**From:** Jeanne Westervelt [mailto:jeanne@cooperstownenv.com]
**Sent:** Wednesday, September 26, 2018 1:09 PM
**To:** Wood, Jennifer (DEP)
**Subject:** permission for use of a dilution factor in WQBEL calculations

Hello-

I am preparing a notice of intent to discharge under the 2017 RGP for contaminated site construction dewatering. A copy of the NOI is attached. I would like to know if a dilution factor is allowed for WQBEL calculations for segment MA71-02 of the Mystic River as described in Section B of the attached NOI.

Any information you can provide would be appreciated.

Thanks,

Jeanne

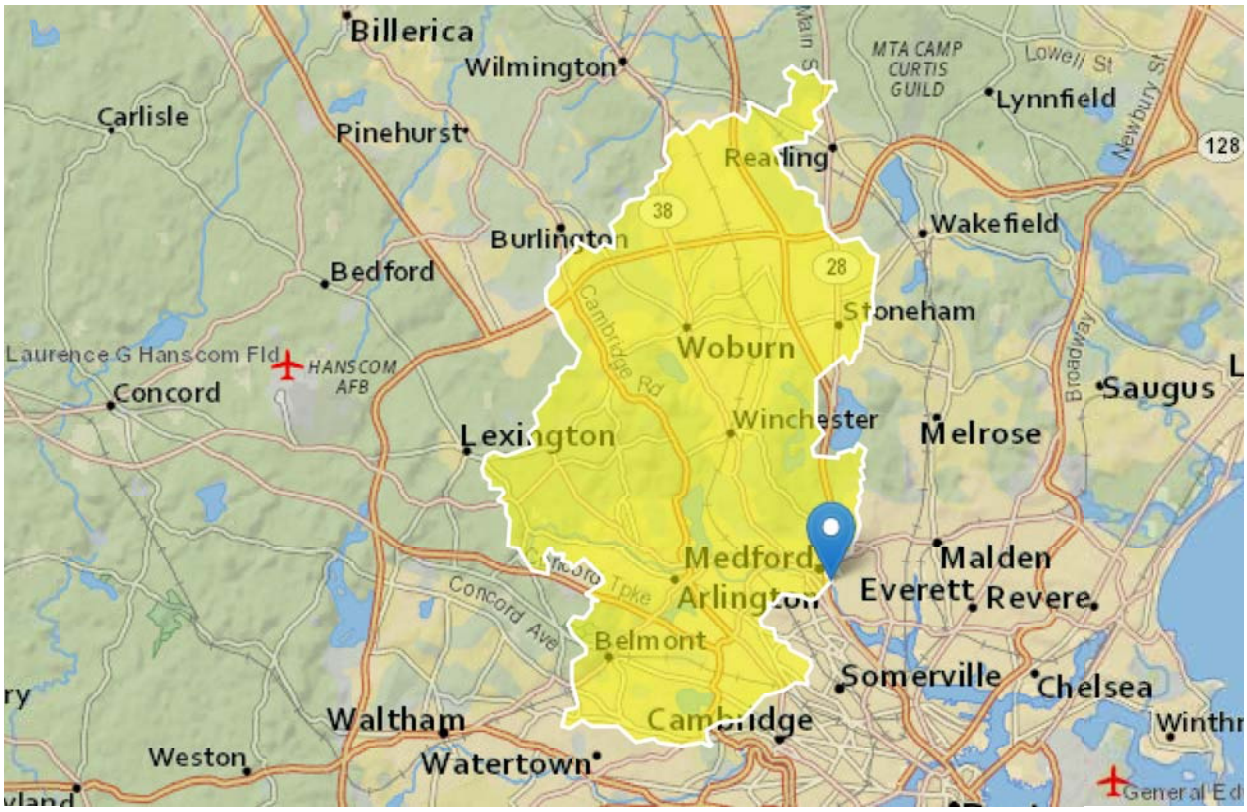
Jeanne Westervelt, PG, LSP
Technical Services Director

COOPERSTOWN
environmental
25 Main Street • Andover, MA • 01810

(978) 470-4755 (office)
www.CooperstownEnv.com
www.BrownfieldsTaxCredit.com

# StreamStats Report

**Region ID:** MA
**Workspace ID:** MA20180827155420181000
**Clicked Point (Latitude, Longitude):** 42.41470, -71.10300
**Time:** 2018-08-27 11:54:34 -0400




Mystic River discharge. 236 Salem Street Medford

Basin Characteristics

| Parameter Code | Parameter Description | Value | Unit |
|---|---|---|---|
| DRNAREA | Area that drains to a point on a stream | 48.2 | square miles |
| BSLDEM250 | Mean basin slope computed from 1:250K DEM | 2.429 | percent |
| DRFTPERSTR | Area of stratified drift per unit of stream length | 0.26 | square mile per mile |

| Parameter Code | Parameter Description | Value | Unit |
|---|---|---|---|
| MAREGION | Region of Massachusetts 0 for Eastern 1 for Western | 0 | dimensionless |

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

| Parameter Code | Parameter Name | Value | Units | Min Limit | Max Limit |
|---|---|---|---|---|---|
| DRNAREA | Drainage Area | 48.2 | square miles | 1.61 | 149 |
| BSLDEM250 | Mean Basin Slope from 250K DEM | 2.429 | percent | 0.32 | 24.6 |
| DRFTPERSTR | Stratified Drift per Stream Length | 0.26 | square mile per mile | 0 | 1.29 |
| MAREGION | Massachusetts Region | 0 | dimensionless | 0 | 1 |

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

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

| Statistic | Value | Unit | PII | PIu | SE | SEp |
|---|---|---|---|---|---|---|
| 7 Day 2 Year Low Flow | 7.31 | ft^3/s | 2.2 | 23.4 | 49.5 | 49.5 |
| 7 Day 10 Year Low Flow | 3.52 | ft^3/s | 0.867 | 13.3 | 70.8 | 70.8 |

*Low-Flow Statistics Citations*

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

Application Version: 4.2.1

**Enter number values in green boxes below**

Enter values in the units specified

↓

| | |
|---|---|
| 2.288 | $Q_R$ = Enter upstream flow in **MGD** |
| 0.1224 | $Q_P$ = Enter discharge flow in **MGD** |
| 0 | Downstream 7Q10 |

Enter a dilution factor, if other than zero

↓

| |
|---|
| 0 |

Enter values in the units specified

↓

| | |
|---|---|
| 367 | $C_d$ = Enter influent hardness in **mg/L** $CaCO_3$ |
| 144 | $C_s$ = Enter receiving water hardness in **mg/L** $CaCO_3$ |

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

↓

| | |
|---|---|
| 7.5 | pH in **Standard Units** |
| 25.55 | Temperature in **°C** |
| 0 | Ammonia in **mg/L** |
| 144 | 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** |
| 7 | Copper in **µg/L** |
| 5.58 | 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** |
| 33 | Zinc in **µg/L** |

Enter **influent** concentrations in the units specified

↓

| | |
|---|---|
| 40 | TRC in **µg/L** |
| 0.2 | Ammonia in **mg/L** |
| 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** |
| 9 | Copper in **µg/L** |
| 1740 | Iron in **µg/L** |
| 9 | Lead in **µg/L** |
| 0 | Mercury in **µg/L** |
| 0 | Nickel in **µg/L** |
| 0 | Selenium in **µg/L** |
| 0 | Silver in **µg/L** |
| 26 | 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** |

**Notes:**

Freshwater: $Q_R$ equal to the 7Q10; enter alternate $Q_R$ if approved by the State; enter 0 if no dilution factor approved

Saltwater (estuarine and marine): enter $Q_R$ if approved by the State; enter 0 if no entry

Discharge flow is equal to the design flow or 1 MGD, whichever is less

Only if approved by State as the entry for $Q_R$; leave 0 if no entry

Saltwater (estuarine and marine): only if approved by the State

Leave 0 if no entry

Freshwater only

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

if >1 sample, enter maximum

if >10 samples, may enter 95th percentile

Enter 0 if non-detect or testing not required

| | | | | | | |
|---|---|---|---|---|---|---|
| **Dilution Factor** | 19.7 | | | | | |
| **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 | 217 | µg/L | --- | µg/L |
| Total Suspended Solids | **30** | mg/L | --- | | | |
| Antimony | **206** | µg/L | 12603 | µg/L | | |
| Arsenic | **104** | µg/L | 197 | µg/L | | |
| Cadmium | **10.2** | µg/L | 7.3852 | µg/L | | |
| Chromium III | **323** | µg/L | 2434.1 | µg/L | | |
| Chromium VI | **323** | µg/L | 225.2 | µg/L | | |
| Copper | **242** | µg/L | 136.8 | µg/L | | |
| Iron | **5000** | µg/L | 19589 | µg/L | | |
| Lead | **160** | µg/L | 109.75 | µg/L | | |
| Mercury | **0.739** | µg/L | 17.84 | µg/L | | |
| Nickel | **1450** | µg/L | 1490.9 | µg/L | | |
| Selenium | **235.8** | µg/L | 98.5 | µg/L | | |
| Silver | **35.1** | µg/L | 157.1 | µg/L | | |
| Zinc | **420** | µg/L | 2809.7 | µg/L | | |
| Cyanide | **178** | mg/L | 102.4 | 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 | 5908 | µg/L | | |
| **C. Halogenated VOCs** | | | | | | |
| Carbon Tetrachloride | **4.4** | µg/L | 31.5 | 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 | 65.0 | 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 | 43.3 | µg/L | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| Total Group I Polycyclic Aromatic Hydrocarbons | **1.0** | µg/L | --- | | | |
| Benzo(a)anthracene | **1.0** | µg/L | 0.0748 | µg/L | --- | µg/L |
| Benzo(a)pyrene | **1.0** | µg/L | 0.0748 | µg/L | --- | µg/L |
| Benzo(b)fluoranthene | **1.0** | µg/L | 0.0748 | µg/L | --- | µg/L |
| Benzo(k)fluoranthene | **1.0** | µg/L | 0.0748 | µg/L | --- | µg/L |
| Chrysene | **1.0** | µg/L | 0.0748 | µg/L | --- | µg/L |
| Dibenzo(a,h)anthracene | **1.0** | µg/L | 0.0748 | µg/L | --- | µg/L |
| Indeno(1,2,3-cd)pyrene | **1.0** | µg/L | 0.0748 | 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 | 394 | µg/L | | |
| tert-Butyl Alcohol | **120** | µg/L | --- | | | |
| tert-Amyl Methyl Ether | **90** | µg/L | --- | | | |

# Appendix D

## Endangered Species Act Documentation

# Endangered Species

Midwest

## S7 Consultation Technical Assistance

**Decision Process for "No Effect" Determinations**

### Projects within a Develped Area - Step 6

**Step 6.** "No Effect" Determination and Documentation

Your project will have "no effect" on federally listed species. A "No Effect" determination is appropriate because your project is

- within a Developed Area (an area that is already paved or supports structures and the only vegetation is limited to frequently mowed grass or conventional landscaping), and
- does not involve removing native vegetation.

Since it will not affect suitable habitat for listed species, no listed species or designated critical habitat is anticipated to be directly or indirectly affected by this action.

**To document your section 7 review and "no effect" determination, we recommend that you print this page (go to File<Print Preview), fill-in the project name and date, attach your species list, and file in your administrative record.**

**Project Name:** 236-240 Salem Street Medford, MA

**Date:** 8/28/2018

Back
Home - "No Effect" Determination Process

# United States Department of the Interior

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

In Reply Refer To:
Consultation Code: 05E1NE00-2018-SLI-2903
Event Code: 05E1NE00-2018-E-06835
Project Name: 236-240 Salem Street Medford Ma

August 28, 2018

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

To Whom It May Concern:

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

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

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

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

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

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

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

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

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

Attachment(s):

- Official Species List

# Official Species List

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

This species list is provided by:

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

# Project Summary

Consultation Code: 05E1NE00-2018-SLI-2903

Event Code: 05E1NE00-2018-E-06835

Project Name: 236-240 Salem Street Medford Ma

Project Type: Guidance

Project Description: Dewatering discharge under NPDES RGP from site via municipal storm water system to outfall located at Mystic River.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/42.41505304093574N71.10298454761507W


Counties: Middlesex, MA

# Endangered Species Act Species

There is a total of 1 threatened, endangered, or candidate species on this species list.

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

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

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

---

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

## Mammals

| NAME | STATUS |
|---|---|
| Northern Long-eared Bat *Myotis septentrionalis*<br>No critical habitat has been designated for this species.<br>Species profile: https://ecos.fws.gov/ecp/species/9045 | Threatened |

## Critical habitats

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

**IPaC** Information for Planning and Consultation **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<br>No critical habitat has been designated for this species.<br>https://ecos.fws.gov/ecp/species/9045 | Threatened |

# 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*<br>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.<br>https://ecos.fws.gov/ecp/species/1626 | Breeds Oct 15 to Aug 31 |
| **Black-billed Cuckoo** *Coccyzus erythropthalmus*<br>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.<br>https://ecos.fws.gov/ecp/species/9399 | Breeds May 15 to Oct 10 |
| **Bobolink** *Dolichonyx oryzivorus*<br>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. | Breeds May 20 to Jul 31 |
| **Canada Warbler** *Cardellina canadensis*<br>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. | Breeds May 20 to Aug 10 |
| **Cerulean Warbler** *Dendroica cerulea*<br>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.<br>https://ecos.fws.gov/ecp/species/2974 | Breeds Apr 29 to Jul 20 |

| | |
|---|---|
| **Dunlin** *Calidris alpina arcticola*<br>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*<br>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. | Breeds elsewhere |
| **Kentucky Warbler** *Oporornis formosus*<br>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. | Breeds Apr 20 to Aug 20 |
| **Lesser Yellowlegs** *Tringa flavipes*<br>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.<br>https://ecos.fws.gov/ecp/species/9679 | Breeds elsewhere |
| **Nelson's Sparrow** *Ammodramus nelsoni*<br>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. | Breeds May 15 to Sep 5 |
| **Prairie Warbler** *Dendroica discolor*<br>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. | Breeds May 1 to Jul 31 |
| **Prothonotary Warbler** *Protonotaria citrea*<br>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. | Breeds Apr 1 to Jul 31 |
| **Red-headed Woodpecker** *Melanerpes erythrocephalus*<br>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. | Breeds May 10 to Sep 10 |
| **Red-throated Loon** *Gavia stellata*<br>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. | Breeds elsewhere |
| **Rusty Blackbird** *Euphagus carolinus*<br>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. | Breeds elsewhere |
| **Saltmarsh Sparrow** *Ammodramus caudacutus*<br>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. | Breeds May 15 to Sep 5 |

| | |
|---|---|
| Semipalmated Sandpiper Calidris pusilla<br>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. | Breeds elsewhere |
| Snowy Owl Bubo scandiacus<br>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. | Breeds elsewhere |
| Wood Thrush Hylocichla mustelina<br>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 (■)**

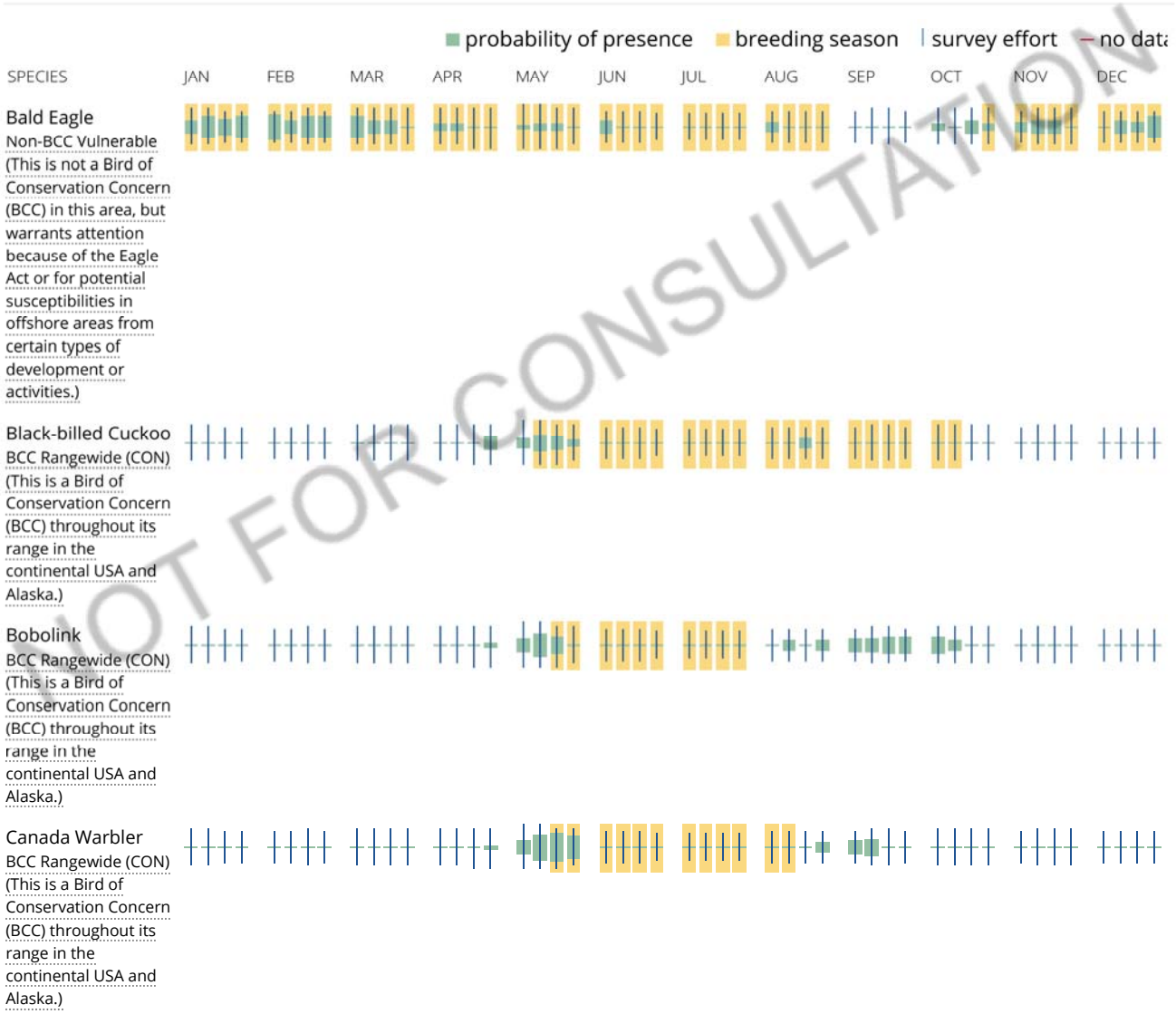
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

**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.

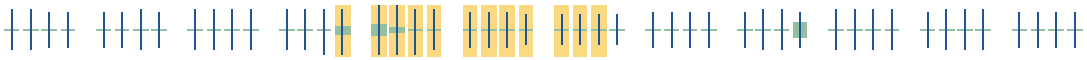
To see a bar's survey effort range, simply hover your mouse cursor over the bar.

**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.



Cerulean 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.)

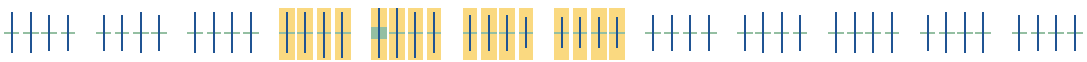
Kentucky Warbler
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

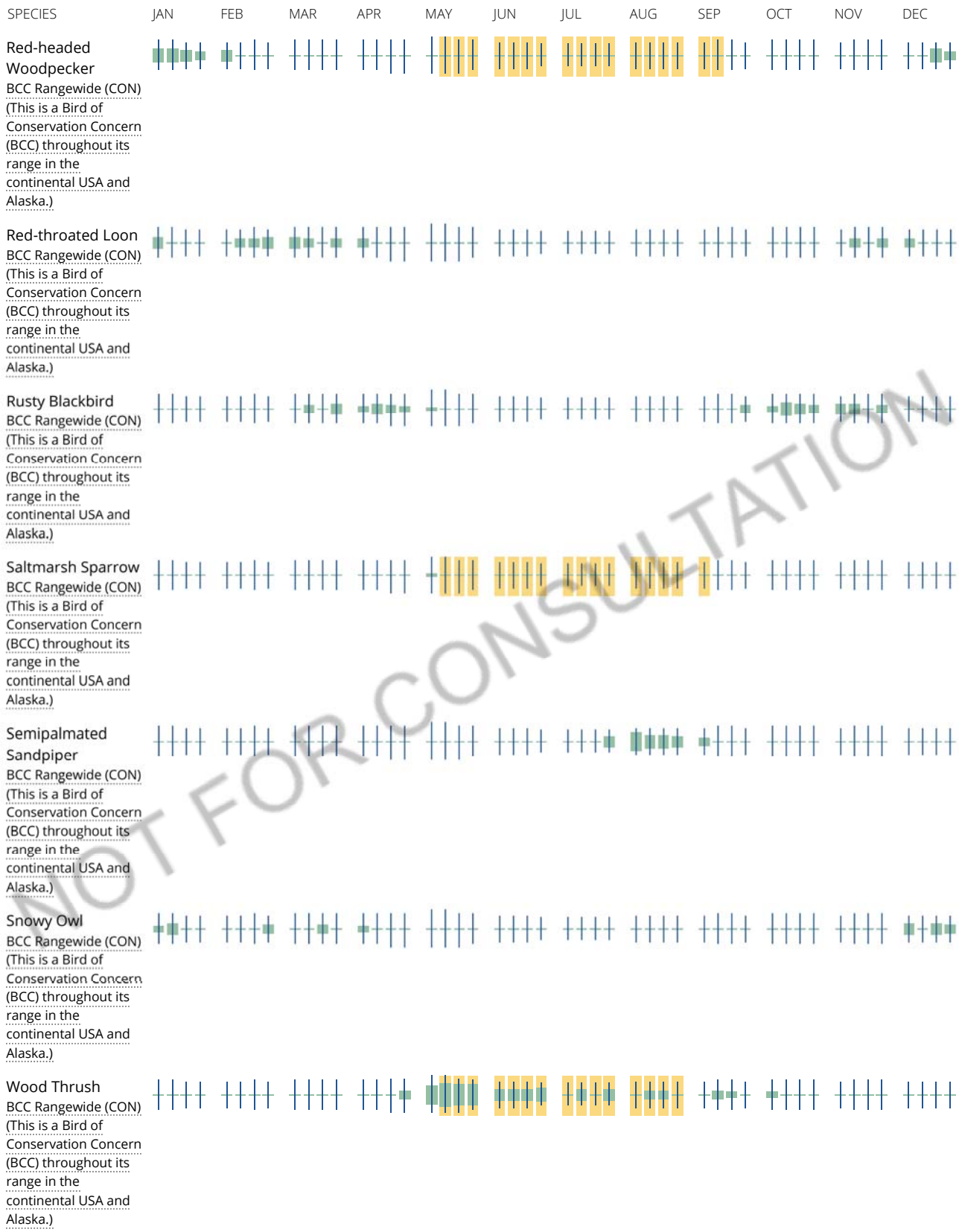
Lesser Yellowlegs
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

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

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

Prothonotary Warbler
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 E-bird Explore Data Tool.

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

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

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

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

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

**What are the levels of concern for migratory birds?**

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

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

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

**Details about birds that are potentially affected by offshore projects**

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

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

**What if I have eagles on my list?**

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

**Proper Interpretation and Use of Your Migratory Bird Report**

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your projec 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

## Wildlife refuges and fish hatcheries

REFUGE AND FISH HATCHERY INFORMATION IS NOT AVAILABLE AT THIS TIME

# 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:

RIVERINE

R2UBH

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**

**Historic Preservation Documentation**

# Massachusetts Cultural Resource Information System

# MACRIS

## MACRIS Search Results

Search Criteria: Town(s): Medford; Place: Medford Square; Resource Type(s): Area;

| Inv. No. | Property Name | Street | Town | Year |
|---|---|---|---|---|
| MDF.C | Park Street Court Streetscape | | Medford | |
| MDF.H | Ashland - Chestnut - Oakland - Water Streets Area | | Medford | |
| MDF.K | Washington Street Streetscape | | Medford | |
| MDF.L | Bradlee - Hall Estates | | Medford | |
| MDF.M | Hillside Avenue Historic District | | Medford | |
| MDF.N | Prospect Park | | Medford | |
| MDF.U | Metropolitan Park System of Greater Boston | | Medford | |
| MDF.AA | Mystic Valley Parkway | | Medford | |
| MDF.AL | Clisby - Mitchell Area | | Medford | |
| MDF.AM | Lawrence Memorial Hospital | | Medford | |
| MDF.AN | Medford Square | | Medford | |
| MDF.AO | Medford Square East | | Medford | |
| MDF.AP | Medford High School Campus, Old | | Medford | |
| MDF.AQ | Saint Joseph's Roman Catholic Church Parish Complex | | Medford | |
| MDF.AW | Hillside Avenue | | Medford | |

**Appendix F**

**City of Medford Discharge Requirements**

**City of Medford**
**Engineering Division**
City Hall – Room 300
85 George P. Hassett Drive
Medford, MA 02155

# CONSTRUCTION DEWATERING PROCEDURES

The City of Medford does not allow groundwater and /or stormwater which contains contaminants and /or pollutants to discharge into the storm drain system. All groundwater discharges resulting from construction activities discharging into the storm drain system shall be free of pollutants and contaminants.
All construction activities requiring dewatering shall comply with all applicable federal and state regulations. In case of conflict between regulations the more stringent regulation shall apply.

The City of Medford would allow groundwater dewatering discharge into the storm drain only under the following conditions:

- It is the owner's / applicant's responsibility to file for and obtain all required federal and state permits related to construction dewatering activities.

- A cover letter or memorandum shall be sent to Medford Engineering Division explaining the project, proposed catch basin or point of discharge to dewater onto. An appropriate site plan, sedimentation control procedure, protection of the City right of way for pedestrian and vehicle access during dewatering, treatment required, and any other pertinent information. The cover or memo shall also include estimate of flow of groundwater discharge (gallons per minute) and an estimate of the duration of the dewatering activity.

- The owner / applicant shall provide copies of the MWRA Dewatering Permit or the NPDES Exclusion Permit or the NPDES General Permit for Construction Dewatering Activity Discharges in the State of Massachusetts, if applicable.

- Prior to commencing dewatering, the Engineering Office shall be contacted by the owner/ applicant to arrange for inspection of the dewatering and discharge system. The City of Medford reserves the right to enter the property where groundwater dewatering is taking place for inspections.

- No contaminants and/or pollutants are allowed into the storm drain system.

- At the start of the dewatering activity the owner / applicant of the construction site shall sample, measure and conduct test analysis in accordance with applicable EPA approved procedures. The sampling required by the department shall be performed by a DEP certified independent laboratory. The parameters that should

be tested include fecal coliform, petroleum hydrocarbons (PHC), TTO (Volatile Organic Fraction) and TTO (Acid/ Base / Neutrals Organic Fraction).

- All dewatering activities must be stopped immediately and the Engineering Division contacted if you suspect groundwater contaminants, i.e. gasoline, fuel oil, solvents, etc.

- Surface discharge to the nearest downstream catch basin is not allowed. The hose must be extended from your manhole directly to the catch basin with ramps strategically placed so that they neither burst nor are frayed by vehicular traffic. If the pumps or hoses are in the curb line, proper precaution must be made for pedestrians using the street.

- All groundwater pumped from the work shall be disposed of without damage to pavements, other surfaces or property.

- If material or debris has washed or flowed into or has been placed in existing gutters, drains, pipes or structures, such material or debris shall be entirely removed and satisfactorily disposed of by the Contractor during the progress of work as directed by the Medford DPW.

- Any flooding or damage of property and possessions caused by siltation of existing gutters, pipes or structures shall be the responsibility of the Contractor.

- Provisions shall be made to insure that no material, water or solid, will freeze on any pavement or in any location which will cause inconvenience or hazard to the general public.

- Upon completion of the work, existing gutters, drains, pipes and structures shall be cleaned and material disposed of satisfactorily prior to acceptance by the Medford DPW