Chicopee, MA
WESTOVER AIR RESERVE BASE
April 2021

Notice of Intent for Massachusetts Remediation General Permit

315 Norwood Park South
2nd Floor
Norwood, Massachusetts 02062
781.255.1982
www.BETA-Inc.com

WESTOVER AIR RESERVE BASE
Chicopee, MA
MAG910000

NOTICE OF INTENT FOR MASSACHUSETTS REMEDIATION GENERAL PERMIT

Prepared by: BETA GROUP, INC.
Prepared for: Structural Associates, Inc.

April 2021

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1.0 INTRODUCTION

On behalf of the Structural Associates, Inc. (SAI) and the Westover Air Reserve Base (ARB), BETA Group, Inc. (BETA) has prepared this National Pollutant Discharge Elimination System (NPDES) Notice of Intent (NOI) for a proposed Activity IV discharge under the Massachusetts Remediation General Permit (RGP).

As part of the API Standard 653, the long-term design, maintenance and repairs of Tanks 26 & 27 located at the Westover ARB, in Chicopee, Massachusetts (the Site), require the permitted discharge of water generated from hydrostatic pressure testing of the tanks. Both tanks will be filled with potable water from a nearby fire hydrant.

This NOI is for the proposed discharge of potable water from a hydrostatic pressure test of two aboveground storage tanks (ASTs) to the municipal stormwater drainage system via the stormwater drainage system at the Westover ARB, located at 650 Airlift Drive, Chicopee, Massachusetts (the site). This NOI is being submitted to the United State Environmental Protection Agency (USEPA) in accordance with the requirements of the Massachusetts General Permit No. MAG070000.

A Site Locus Map is presented as Figure 1. A Site Plan, Environmental Resource Map and Discharge Activity Plan are presented as Figure 2, Figure 3, and Figure 4 respectively. A copy of the NOI is included as Appendix A.

2.0 GENERAL FACILITY INFORMATION

General Facility information for which this NOI applies:

Project Contact/Property Owner:

Ms. Champanine Saviengvong, Water Program Manager

439th Airlift Wing, Westover Air Reserve Base
Chicopee, MA

champanine.saviengvong@us.af.mil
Telephone: 413-557-3951

Site Operator:

Paul Metot, Project Manager

Structural Associates, Inc.
5903 Fisher Road
East Syracuse, New York 13057

Telephone:315-530-3994
Email: pmetot@structuralassociates.com

The Site appears on the United States Geological Survey (USGS) Topographic Quadrangle – Springfield – North, Massachusetts. See Figure 1 - Site Location Map.

2.1 SITE/FACILITY DESCRIPTION

The Westover ARB is located at 650 Airlift Drive, Chicopee, MA in a mixed industrial, commercial, and residential area of Chicopee, immediately north adjacent of the Chicopee Memorial State Park and Cooley Brook.

The Westover Air Reserve Base is owned and operated by The United States of American federal government and has been in operation since 1940 when it initially served as a bomber training base and port of embarkation/debarkation during World War II and since 1974, the base has been an Air Reserve Command Base. The facility is comprised of 2500 acres.

Facility ID 7026/Tank 26 and Facility ID 7027/Tank 27, which are the subject of this NOI, are both aboveground storage tanks (ASTs) located on the southern central portion of the base at the intersection of Frontage Road and Airlift Drive and used for the storage of Jet Fuel- Jet A, a commercial jet fuel. The tanks are both approximately 63-foot in diameter by 41-foot tall, single wall, vertical, field erected tank with an aluminum honeycomb internal floating pan. Secondary containment is provided by a reinforced concrete dike floor and walls; the containment wall is covered with a flexible membrane liner (FML) that extends under the concrete dike floor. Both tanks were constructed in 1998 and have an overflow capacity of approximately 20,000 barrels or 840,000 gallons. Refer to Figure 2 -Site Plan.

2.2 PROPOSED DISCHARGE LOCATION – RECEIVING WATER

The proposed discharge location for the potable water discharge following the hydrostatic test at both tanks is a stormwater outfall located at the southern portion of the Base, identified as Outfall 002. Based on the September 2020, Westover ARB Stormwater Pollution Prevention Plan (SWPPP), Outfall 002 is served by a large capacity oil water separator (OWS) which typically receives runoff from the runways where aircraft are parked and deiced, from maintenance hangars, and from the majority of the bulk aircraft fuel storage and transfer locations. Outfall 002 discharges directly to the Cooley Brook as depicted on Figure 2 – Site Plan. Industrial stormwater discharges from Outfall 001 and 002 are regulated by the General Permit (MAR042051) for the Stormwater Discharges from Small Municipal Storm Sewer Systems in Massachusetts (MS4 General Permit) and a multi-sector general stormwater permit (MA05B973) that was originally issued in 2002 for the Base, reissued in 2015, and will be renewed for 2021.

The approximate latitude and longitude of the discharge (outfall) point are:

Latitude: 42.185998 N

Longitude: -72.536482 W

The Cooley Brook is the nearest surface water body to the site which ultimately flows through the Chicopee Reservoir before entering the Chicopee River. The Cooley Brook is a Class B, Category 2 freshwater river. Refer to Figure 3 for a depiction of any priority resource areas and environmental receptors within 500 feet and 0.5 miles from the Site.

2.3 NATIONAL POLLUTANT DISCHARGE ELIMINATION (NPDES) STATUS

A NPDES permit has not been previously applied for or granted for this discharge. Site repair and construction activities related to the two ASTs will include an individual hydrostatic pressure test at each tank per the requirements of API Standard 653 which is the purpose of this NOI.

The facility is not covered by an individual NPDES permit and there are no pending applications on file for any other permit with US EPA for this facility, except as previously noted. Furthermore as defined by 40 CFR Section 122.2, a new discharger means any building, structure, facility, or installation:

A) From which there is or may be a "discharge of pollutants;"
B) That did not commence the "discharge of pollutants" at a particular "site" prior to August 13, 1979;
C) Which is not a "new source;" and,
D) Which has never received a finally effected NPDES permit for discharges at that "site."

Based on BETA's review of the site history obtained from the Base and SAI (described above), this site is not considered a new discharger.

Each tank will be tested separately, months apart, but discharge from each tank will be granted under this permit. During the test, each tank will be filled with approximately 800,000 gallons of potable water, pressurized to a hydrostatic head test pressure and then examined for leaks or changes in shape of the tank.

3.0 SOURCE WATER CONTAMINANT INFORMATION

3.1 INFLUENT/SOURCE WATER SAMPLING

On April 5. 2021, samples were collected from an on-site potable water source in preparation for this Notice of Intent for the proposed discharge under the Remediation General Permit from the dewatering of two aboveground storage tanks as a result of a hydrostatic pressure test. The sampling and selected analyses were based on the assumption that the proposed discharge is considered Activity Category IV contamination Type H; however, after email correspondence with Shauna Little of EPA, the source water was sampled and submitted for the laboratory analysis of parameters listed under Contaminant Type A. Inorganics (omitting cyanide) and Contaminant Type F. Fuel Parameters. . A tabulation summary of these analytical results is included in Table 1, and a copy of the laboratory analytical reports are included in Appendix B.

3.2 RECEIVING WATER SAMPLING

On April 5, 2021, a surface water sample was collected from the Cooley Brook. Due to site access and maintaining the safety of BETA personnel, the surface water sample was collected from within Chicopee State Park. The (Cooley Brook) sample was submitted to ESS Laboratory of Cranston, Rhode Island (ESS) for analysis of ammonia, total residual chlorine (TRC), hexavalent chromium, Priority Pollutants 13 (RCRA Metals), iron, hardness, pH, and temperature. A tabulation summary of these analytical results is included in Table 2, and a copy of the laboratory analytical reports are included in Appendix B.

3.3 SUMMARY OF ANALYTICAL RESULTS

Refer to Table 1 and Table 2,for a tabulated summary of these results; laboratory analytical reports are included in Appendix B. The detected concentrations are below the applicable NPDES RGP technology-based effluent limitation (TBEL) or water quality-based effluent limitation (WQBEL) standards (as developed in the NOI appendices), except concentrations of TRC in the source water sample, which can be attributed to the fact that the source water is potable water coming from the City of Chicopee and is chlorinated for disinfection.

4.0 DILUTION FACTOR

MassDEP was contacted on April 7, 2021 to confirm the 7Q10 flow and the dilution factor. Final correspondence confirming a 7Q10 flow of 0.524 cfs and a dilution factor of 2.0 was obtained by DEP on April 15, 2021. The dilution factor calculations were obtained as provided in Appendix V of the NPDES RGP instructions. The Effluent Limitation Calculations fillable electronic spreadsheet was subsequently completed and Adjusted WQBEL were calculated. Copies of the Effluent Limitation Calculations fillable electronic spreadsheet, StreamStats Report, and MassDEP correspondence are provided in Appendix C.

5.0 OUDISCHARGE INFORMATION

5.1 GENERAL

As part of the API Standard 653, the long-term design, maintenance and repairs of Tanks 26 & 27 located at the Westover ARB, in Chicopee, Massachusetts (the Site), require the permitted discharge of water generated from hydrostatic pressure testing of the tanks. The tests will be completed as separate events for each individual tank and are to be completed within 3-5 months of each other.

This NOI under the RGP is for potable water discharge necessary to control water following the completion of hydrostatic pressure testing. The discharged water is not considered contaminated; potable water is added to the tanks after they have been cleaned.

In September 2019, Facility 7026 / Tank 26 was cleaned and decommissioned. Facility 7027 /Tank 27 will be taken out of service and cleaned in July 2021. Before each tank is cleaned, all the JP-8 product is removed, then the tanks are cleaned with water and mild detergent and then wiped down for a vapor free condition/environment.

Following the tests at each tank, the water will be discharged to the storm water drainage system at the Base at approximately 235 gpm (not the exceed the 7Q10 flow rate of Cooley Brook per the requirements of this RGP). The water will be discharged into area catch basin (storm water inlets) that lead to the OWS associated with Outfall 002. The proposed discharge activity plan is depicted in Figure 4.

5.1.1 BMPS

Per the requirements of the NPDES RGP, control measures and best management practices will be implemented to meet the effluent limitations and requirements of this permit. At a minimum, the operator will have a totalizer and/or meter installed at the discharge location for measuring and maintaining the permitted effluent flow and flow rate, control measures will be implemented for the proper management of any solid and/or hazardous waste to prevent potential pollutants from entering Cooley Brook during discharge.

5.2 RECEIVING WATER INFORMATION

The proposed discharge location for the potable water discharge following the hydrostatic test at both tanks is a stormwater outfall located at the southern portion of the Base, identified as Outfall 002, which is served by a large capacity oil water separator (OWS) (outfall described above). Outfall 002 discharges directly to the Cooley Brook as depicted on Figure 4. The approximate latitude and longitude of the discharge (outfall) point are:

Latitude: 42.185998 N

Longitude: -72.536482 W

The Cooley Brook is the nearest surface water body to the site which ultimately flows through the Chicopee Reservoir before entering the Chicopee River.

The Cooley Brook is a Class B, Category 2 freshwater river. The discharge point for these dewatering activities is not within an Area of Critical Environmental Concern (ACEC). Figure 3 provides a MassDEP Priority Resource Map identifying potential environmental receptors within a 500 foot and ½ mile radius from the disposal site.

The receiving water for the indirect discharge of potable water from the facility is the Cooley Brook, which empties into the Chicopee River. Figure 4 depicts the discharge sampling plan. StreamStats was consulted and it was determined based on athe discharge location on the Cooley Brook that the 7Q10 is 0.524 cubic feet per second (cfs). The StreamStats Report is provided in Appendix C.

Per the USEPA Region 1- Impaired Waters and 303(d) Listings the Cooley Brook is a part of the Chicopee River "water body." It is listed as a Category 2 water body, these waters are attaining some uses; however other uses have not been assessed. The individual designated use of the Cooley Brook is for fish, other aquatic life, and wildlife. Current recommendations

The USEPA Map depicting the Waterbody Assessments and TMDL Status of the water bodies in Chicopee, MA and the Chicopee River watershed are included in Appendix D. Refer to the webpage below for a complete listing of Impaired Waters in Massachusetts. There is no TMDL Status for the Cooley Brook.

https://ofmpub.epa.gov/tmdl_waters10/attains_impaired_waters.show_list_approval_document?p_list_approval_docs_id=163

6.0 DETERMINATION OF ENDANGERED SPECIES ACT ELIGIBILITY (ESA)

The United States Department of the Interior Fish and Wildlife Service – New England Ecological Services Field Office was contacted regarding the determination of endangered species act eligibility (ESA). There are no endangered or candidate species and no critical habitats within the project area for this NOI. There is one threatened species, the Northern Long-eared Bat (Myotis septentrionalis), on the list that is statewide. However, no critical habitat has been designated for this species on the site. Per the U.S. Fish and Wildlife Services, the Northern Long-eared Bat hibernates in caves and mines, swarming in surrounded wooded areas in autumn, and foraging in upland forests in late spring and summer. Based on the location, timeline, and scope of this work, it is unlikely that discharge activities associated with this facility will adversely affect the Northern Long-eared Bat. Therefore, this ESA determination is FWS Criterion C. Fish and Wildlife Service – New England Service Field Office Correspondence is provided as Appendix E.

7.0 DOCUMENTATION OF NATION HISTORIC PRESERVATION ACT (NHPA) REQUIREMENTS

Listings of historic places within the City of Chicopee were obtained from the Massachusetts Cultural Resources Information System (MARCIS) online database:

http://mhc-macris.net/Towns.aspx?Page=towns.asp

A copy of the MARCIS report is provided in Attachment E. No historic places were listed as being located at the site per the MACRIS database. Therefore, based on the location, scope of this work, and unchanged building use it is unlikely that the discharge activities associated with the repairs and reconstruction of this facility will adversely affect any of these historic places.

8.0 SUPPLEMENTAL INFORMATION

At this time no additional supplemental information is necessary to meet the requirements of the NOI for the RGP.

9.0 PROJECTED SCHEDULE

For the purposes of this RGP, discharge will be conducted from each tank at different times. BETA's correspondence with Shauna Little indicated that these separate discharges could be covered under the same RGP without the need for a Notice of Change submittal. The discharge at Facility 7026/ Tank 26 following the hydrostatic test is tentatively scheduled for April 28, 2021 through May 3, 2021. Following the cleaning and decommissioning of Facility 7027/ Tank 27 in July 2021, discharge from the hydrostatic test is tentatively scheduled for September 7, 2021 through September 13, 2021. Discharge from each tank is expected to take approximately 5 days. Correspondence from EPA is included as Appendix C.

TABLES

BETA Group Inc.
701 George Washington Highway, Lincoln, RI 02865
P : 401.333.2832 |F: 401.333.9225 |W: beta-inc.com

TABLE 1 - Summary of Untreated Influent - Source Water Analytical Data
Westover AFB - Facility 7026 and Facility 7027
Chicopee, Massachusetts

SAMPLE ID	Westover (Source Water)			
SAMPLING DATE	4/5/2021			Adjusted
LAB SAMPLE ID	21D0108-01	TBEL	WQBEL	WQBEL
UNITS (unless otherwise specified)	(µg/L)			
pH	7.03	NE	NE	NE
Hardness (mg/L)	7180	NE	NE	NE
Salinity	--	NE	NE	NE
Contaminant Type A. Inorganics				
Water Chemistry		mg/L	(µg/L)	(µg/L)
Ammonia (mg/L)	BRL (<0.1)	Report	--	--
Chloride (mg/L)	9.4	Report	--	--
Total Cyanide (LL) (mg/L)	-	178	1.0	146.1
Total Residual Chlorine (mg/L)	0.9	0.2	11	17
Total Suspended Solids (mg/L)	BRL (<5)	30	--	--
Total Metals		(µg/L)	(µg/L)	(µg/L)
Antimony	BRL (<25)	206	640	992
Arsenic	BRL (<2.5)	104	10	16
Cadmium	BRL (<2)	10.2	0.25	36.8625
Chromium	BRL (<10)	323	85	188833.7
Copper	BRL (<10)	242	9	2524
Iron	BRL (<50)	5000	1000	1104
Lead	BRL (<5)	160	2.5	10786.19
Mercury	BRL (<0.2)	0.739	0.77	1.4
Nickel	BRL (<25)	1450	52	13406.7
Selenium	BRL (<5)	235.8	5.0	7.8
Silver	BRL (<5)	35.1	3.2	190968
Zinc	BRL (<25)	420	120	31037
Contaminant Type F. Fuel Parameters		(µg/L)	(µg/L)	(µg/L)
Total Petroleum Hydrocarbons	BRL(<5)	5.0		--
Ethanol (mg/L)	BRL (<10)	Report		--
Methyl tert-Butyl Ether	BRL(<3.0)	70	20	31
Tertiary-amyl methyl ether	BRL (<1)	90		--
Tertiary-butyl Alcohol	BRL (<25)	120		

Notes: Concentrations presented in ug/L - micrograms per liter - parts per billion or mg/L - milligrams per liter - parts per million
BRL - Below laboratory Reporting Limit
ND - Non-Detect
Bold values are above applicable RGP standards
"-" - Sample not analyzed for specified compound

TBEL and WQBEL applies if standard is bolded.

TBEL : Technology Based Effluent Limitation

WQBEL: Water-Quality Based Effluent Limitation

TBEL and WQBEL determined and calculated (Adjusted WQBEL) based on the National Pollutant Discharge Elimination System (NPDES) General Permit for Remediation Activity Discharges in accordance with Appendix V and are included with in the Notice of Intent (NOI) submitted to the EPA.

The WQBEL determined based on the assumption that the receiving water body (The Cooley Brook) is a freshwater surface water.

TABLE 2 - Summary of Receiving Water Analytical Data
Westover AFB - Facility 7026 and Facility 7027
Chicopee, Massachusetts

SAMPLE ID	Cooley Brook (Receiving Water)
SAMPLING DATE	4/5/2021
LAB SAMPLE ID	21D0108-02
UNITS (unless otherwise specified)	(µg/L)
pH	7.19
Hardness (mg/L)	37400
Salinity	--
Water Chemistry	
Ammonia (mg/L)	BRL (<0.1)
Chloride (mg/L)	15
Total Cyanide (LL) (mg/L)	-
Total Residual Chlorine (mg/L)	BRL (<0.02)
Total Suspended Solids (mg/L)	6
Total Metals	
Antimony	BRL (<25)
Arsenic	BRL (<2.5)
Cadmium	BRL (<2)
Chromium	BRL (<10)
Copper	BRL (<10)
Iron	288
Lead	BRL (<5)
Mercury	BRL (<0.2)
Nickel	BRL (<25)
Selenium	BRL (<5)
Silver	BRL (<5)
Zinc	BRL (<25)

Notes: Concentrations presented in ug/L - micrograms per liter - parts per billion or mg/L - milligrams per liter - parts per million
BRL - Below laboratory Reporting Limit
NE - Not Established
Bold values are above applicable RGP standards
"-" - Sample not analyzed for specified compound

FIGURES

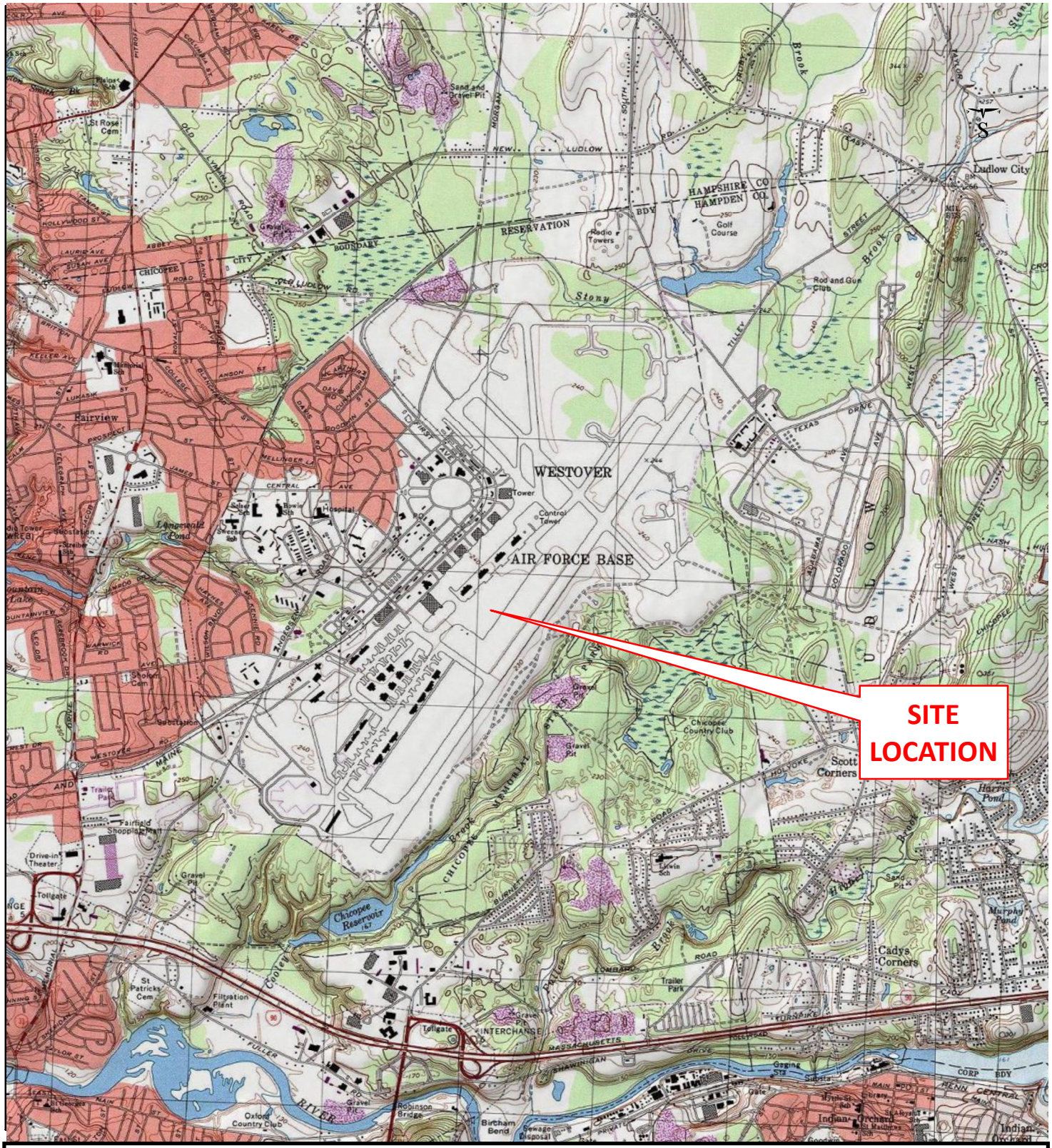


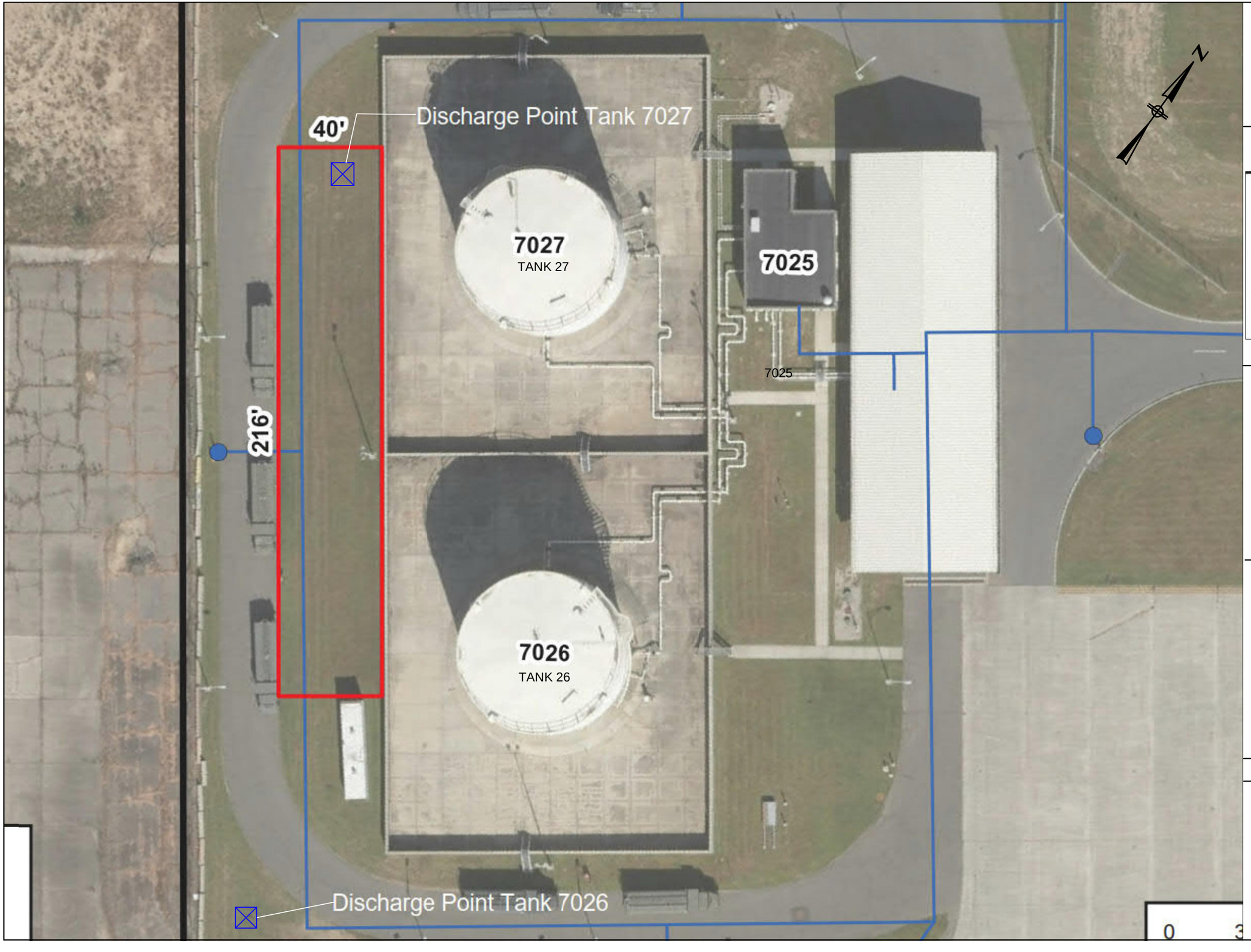
Figure 1 - Site Location

439th Airlift Wing
Westover ARB
Chicopee, MA

Latitude : 42° 11' 9.59" N
Longitude: 72° 32' 11.34" W

0 1,500 3,000 6,000
Feet

BETA
IMPROVING COMMUNITIES TOGETHER



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Legend

- Fire Hydrant
- Water Line
- Installation Area

NPDES RGP DISCHARGE PLAN

LEGEND

- CATCH BASIN

439th Airlift Wing
Westover ARB
Chicopee, MA

Original Plan:
Digsafe - Bulk Fuels
Date: 17 Oct. 2019

Scale:1" = 400'

Figure No. 2
Site Plan
Facility 7026/7027

\\BETA-INC.COM\MA\PROJECTS\7300\7320 - SAI WESTOVER\DRAWING FILES\XREFS\DISCHARGE DIAGRAM.DWG

MassDEP - Bureau of Waste Site Cleanup

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

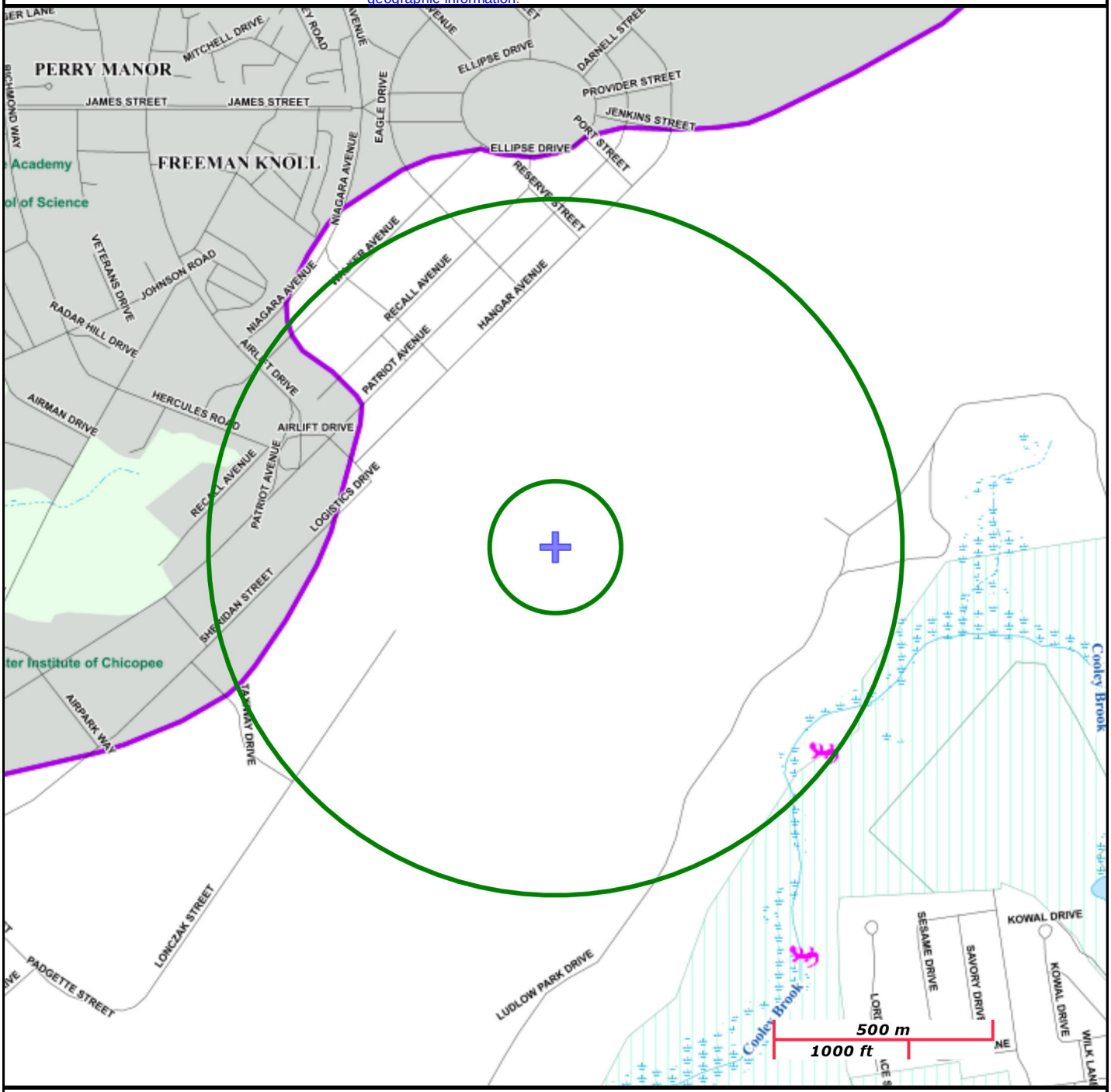
FIGURE 3

Site Information:
WESTOVER ARB
650 AIRLIFT DR CHICOPEE, MA

NAD83 UTM Meters:
4673790mN , 702888mE (Zone: 18)
April 8, 2021

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

MassDEP
Commonwealth of Massachusetts
Department of Environmental Protection



Prepared by:

BETA
www.BETA-Inc.com

Print Date: 4/20/2021 11:30 AM

Legend

- SWPPP Flow Arrow
- Outfall
- SWPPP Basin Line
- Storm Sewer Oil Water Seperator
- Wastewater Oil Water Seperator
- 100' Buffer Wetlands
- 100' Riverfront Area
- 200' Riverfront Area
- Stormwater Pipe
- Water Line
- Water Body
- Wetland
- Installation Area

NPDES RGP DISCHARGE PLAN

LEGEND

- CATCH BASIN
- DISCHARGE FLOW

439th Airlift Wing
Westover ARB

Chicopee, MA

Original Plan:
Base Aerial Map with Environmental Data
Date: 27 Jan 2021

Scale:1" = 400'

Figure No. 4
Proposed Discharge Activity Plan
Facility 7026/7027

PROJECT SITE
OPEN OWS
OWS/OUTFALL 002
COOLEY BROOK
OUTFALL 001
OUTFALL 002
OUTFALL 007
Logistics Drive
Frontage Drive
East Apron
Taxiway N
Taxiway G
Runway 05-23
5375
2400
2426
2427
7002
7001
7045
7046
7071
7025
7026
7027
7028
7000
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7522
8905

\\BETA-INC.COM\MA\PROJECTS\7300\7320 - SAI WESTOVER\DRAWING FILES\XREFS\DISCHARGE DIAGRAM.DWG

APPENDIX A
Notice of Intent

BETA Group Inc.
701 George Washington Highway, Lincoln, RI 02865
P : 401.333.2832 |F: 401.333.9225 |W: beta-inc.com

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:
Westover Air Reserve Base, Facility 7026/Tank 26 and Facility 7027/Tank 27</td><td colspan="3">Site address: 650 Airlift Drive,the Facilities/Tanks are located at the corner of Frontage Road and Airlift Drive.
Street:</td></tr>
<tr><td>City: Chicopee</td><td>State: MA</td><td>Zip: 01222</td></tr>
<tr><td rowspan="4">2. Site owner
439th Airlift Air Reserve Base
Westover Air Reserve Base

Owner is (check one): ■ Federal ☐ State/Tribal ☐ Private
☐ Other; if so, specify:</td><td colspan="3">Contact Person: Champanine Saviengvong</td></tr>
<tr><td>Telephone: 413-557-3951</td><td colspan="2">Email: champanine.saviengvong@us.af.</td></tr>
<tr><td colspan="3">Mailing address: Same as above
Street:</td></tr>
<tr><td>City: Chicopee</td><td>State: MA</td><td>Zip: 01222</td></tr>
<tr><td rowspan="4">3. Site operator, if different than owner
Structural Associates Inc. (SAI)</td><td colspan="3">Contact Person: Paul Metot</td></tr>
<tr><td>Telephone: 315-530-3994</td><td colspan="2">Email: pmetot@structuralassociates.com</td></tr>
<tr><td colspan="3">Mailing address:
Street: 5903 Fisher Road</td></tr>
<tr><td>City: East Syracuse</td><td>State: NY</td><td>Zip: 13057</td></tr>
<tr><td>4. NPDES permit number assigned by EPA:
NA

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

B. Receiving water information:

1. Name of receiving water(s):	Waterbody identification of receiving water(s):	Classification of receiving water(s):
Cooley Brook	MA36-38	Class B

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

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

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

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

4. Indicate the seven day-ten-year low flow (7Q10) of the receiving water determined in accordance with the instructions in Appendix V for sites located in Massachusetts and Appendix VI for sites located in New Hampshire.	0.524
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.	2.0

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:

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

C. Source water information:

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

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

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

D. Discharge information

1.The discharge(s) is a(n) (check any that apply): ☐ Existing discharge ■ New discharge ☐ New source	
Outfall(s): Outfall 002	Outfall location(s): (Latitude, Longitude) 42.185998, -72.536482
Discharges enter the receiving water(s) via (check any that apply): ☐ Direct discharge to the receiving water ■ Indirect discharge, if so, specify: ■ A private storm sewer system ☐ A municipal storm sewer system If the discharge enters the receiving water via a private or municipal storm sewer system: Has notification been provided to the owner of this system? (check one): ■ Yes ☐ No Has the operator has received permission from the owner to use such system for discharges? (check one): ■ Yes ☐ No, if so, explain, with an estimated timeframe for obtaining permission: Has the operator attached a summary of any additional requirements the owner of this system has specified? (check one): ■ Yes ☐ No	
Provide the expected start and end dates of discharge(s) (month/year): April 2021 to May 2021 and later for second tank Indicate if the discharge is expected to occur over a duration of: ■ less than 12 months ☐ 12 months or more ☐ is an emergency discharge	
Has the operator attached a site plan in accordance with the instructions in D, above? (check one): ■ Yes ☐ No	

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

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

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

4. Influent and Effluent Characteristics

Parameter	Known or believed absent	Known or believed present	# of samples	Test method (#)	Detection limit (µg/l)	Influent		Effluent Limitations	
						Daily maximum (µg/l)	Daily average (µg/l)	TBEL	WQBEL
A. Inorganics									
Ammonia	✔		1	350.1	100	0	0	Report mg/L	---
Chloride		✔	1	300	500	9.4	9.4	Report µg/l	---
Total Residual Chlorine		✔	1	4500Cl D	20	900	900	0.2 mg/L	17
Total Suspended Solids	✔		1	2540D	5000	0	0	30 mg/L	---
Antimony	✔		1	200.7	25	<25	<25	206 µg/L	93511
Arsenic	✔		1	3113B	2.5	<2.5	<2.5	104 µg/L	1461
Cadmium	✔		1	200.8	2.0	<2.0	<2.0	10.2 µg/L	429.3
Chromium III	✔		1	200.7	10	<10	<10	323 µg/L	175792.8
Chromium VI	✔		1	200.7	10	<10	<10	323 µg/L	1670.7
Copper	✔		1	200.7	10	0	0	242 µg/L	20529.5
Iron	✔		1	200.7	50	<50	<50	5,000 µg/L	102278
Lead	✔		1	200.8	5.0	<5	<5	160 µg/L	27983.71
Mercury	✔		1	245.1	0.2	0	0	0.739 µg/L	132.36
Nickel	✔		1	200.7	25	<25	<25	1,450 µg/L	116065.5
Selenium	✔		1	3113B	5.0	<5	<5	235.8 µg/L	730.6
Silver	✔		1	200.7	5.0	<5	<5	35.1 µg/L	140326.4
Zinc	✔		1	200.7	25	<25	<25	420 µg/L	264764.4
Cyanide								178 mg/L	
B. Non-Halogenated VOCs									
Total BTEX								100 µg/L	---
Benzene								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								1.0 µg/L	---
Benzo(a)anthracene								As Total PAHs	
Benzo(a)pyrene									
Benzo(b)fluoranthene									
Benzo(k)fluoranthene									
Chrysene									
Dibenzo(a,h)anthracene									
Indeno(1,2,3-cd)pyrene									

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								100 µg/L	---
Naphthalene								20 µg/L	---
E. Halogenated SVOCs									
Total PCBs								0.000064 µg/L	---
Pentachlorophenol								1.0 µg/L	---
F. Fuels Parameters									
Total Petroleum Hydrocarbons	✔		1	1664A	5000	0	0	5.0 mg/L	---
Ethanol	✔		1	D3695	10,000	<10,000	<10,000	Report mg/L	---
Methyl-tert-Butyl Ether	✔		1	524.2	0.5	0	0	70 µg/L	2922
tert-Butyl Alcohol	✔		1	524.2	0.5	0	0	120 µg/L in MA 40 µg/L in NH	---
tert-Amyl Methyl Ether	✔		1	524.2	0.5	0	0	90 µg/L in MA 140 µg/L in NH	---
Other (i.e., pH, temperature, hardness, salinity, LC_{50}, additional pollutants present); if so, specify:									
Total Hardness	✔		1	CALC	412	7180	7180		
pH	✔		1	4500 H+B		7.03	7.03		
Temperature	✔		1			16.8	16.8		

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.

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

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

3. Provide the **design flow capacity** in gallons per minute (gpm) of the most limiting component. Indicate the most limiting component: Is use of a flow meter feasible? (check one): ■ Yes ☐ No, if so, provide justification:	
Provide the proposed maximum effluent flow in gpm.	235
Provide the average effluent flow in gpm.	100
If Activity Category IV applies, indicate the estimated total volume of water that will be discharged:	1,600,000

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.

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:	
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. 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 ☐ 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: Paul C Metot Digitally signed by Paul C Metot Date: 2021.04.20 13:00:34 -04'00'	Date: 4/20/2021
Print Name and Title: Paul Metot, Project Manager	

APPENDIX B
Laboratory Analytical Report

CERTIFICATE OF ANALYSIS

Craig Ellis
Beta Engineering
315 Norwood Park South
Norwood, MA 02062

RE: SAI Westover - RGP (7320)
ESS Laboratory Work Order Number: 21D0108

This signed Certificate of Analysis is our approved release of your analytical results. These results are only representative of sample aliquots received at the laboratory. ESS Laboratory expects its clients to follow all regulatory sampling guidelines. Beginning with this page, the entire report has been paginated. This report should not be copied except in full without the approval of the laboratory. Samples will be disposed of thirty days after the final report has been delivered. If you have any questions or concerns, please feel free to call our Customer Service Department.

Laurel Stoddard
Laboratory Director

REVIEWED
By ESS Laboratory at 4:36 pm, Apr 14, 2021

Analytical Summary
The project as described above has been analyzed in accordance with the ESS Quality Assurance Plan. This plan utilizes the following methodologies: US EPA SW-846, US EPA Methods for Chemical Analysis of Water and Wastes per 40 CFR Part 136, APHA Standard Methods for the Examination of Water and Wastewater, American Society for Testing and Materials (ASTM), and other recognized methodologies. The analyses with these noted observations are in conformance to the Quality Assurance Plan. In chromatographic analysis, manual integration is frequently used instead of automated integration because it produces more accurate results.

The test results present in this report are in compliance with TNI and relative state standards, and/or client Quality Assurance Project Plans (QAPP). The laboratory has reviewed the following: Sample Preservations, Hold Times, Initial Calibrations, Continuing Calibrations, Method Blanks, Blank Spikes, Blank Spike Duplicates, Duplicates, Matrix Spikes, Matrix Spike Duplicates, Surrogates and Internal Standards. Any results which were found to be outside of the recommended ranges stated in our SOPs will be noted in the Project Narrative.

CERTIFICATE OF ANALYSIS

Client Name: Beta Engineering
Client Project ID: SAI Westover - RGP

ESS Laboratory Work Order: 21D0108

SAMPLE RECEIPT

The following samples were received on April 06, 2021 for the analyses specified on the enclosed Chain of Custody Record.

The samples and analyses listed below were analyzed in accordance with the 2017 Remediation General Permit under the National Pollutant Discharge Elimination System (NPDES).

ESS Laboratory is unable to achieve the required detection limit of 0.4 mg/L for Ethanol for the RGP permit. We have also been unable to procure a subcontract laboatory that is able to achieve this limit. The data for Ethanol has been reported using our current method reporting limit.

Lab Number	Sample Name	Matrix	Analysis
21D0108-01	Westover	Aqueous	1664A, 200.7, 200.8, 245.1, 2540D, 300.0, 3113B, 350.1, 3500Cr B-2009, 4500 H+ B, 4500Cl D, 524.2, ASTM D3695, CALC
21D0108-02	Cooley Brook	Aqueous	200.7, 200.8, 245.1, 2540D, 300.0, 3113B, 350.1, 3500Cr B-2009, 4500 H+ B, 4500Cl D, CALC

CERTIFICATE OF ANALYSIS

Client Name: Beta Engineering
Client Project ID: SAI Westover - RGP

ESS Laboratory Work Order: 21D0108

PROJECT NARRATIVE

Classical Chemistry

21D0108-01	**Estimated value. Sample hold times were exceeded (H).**
	Hexavalent Chromium
21D0108-01	**The maximum holding time listed in 40 CFR Part 136 Table II for pH, Dissolved Oxygen, Sulfite and Residual Chlorine is fifteen minutes.**
21D0108-02	**Estimated value. Sample hold times were exceeded (H).**
	Hexavalent Chromium
21D0108-02	**The maximum holding time listed in 40 CFR Part 136 Table II for pH, Dissolved Oxygen, Sulfite and Residual Chlorine is fifteen minutes.**

Dissolved Metals

21D0108-01	**Elevated Method Reporting Limits due to sample matrix (EL).**
	Cadmium , Lead , Silver
21D0108-02	**Elevated Method Reporting Limits due to sample matrix (EL).**
	Cadmium , Lead , Silver

Total Metals

21D0108-01	**Elevated Method Reporting Limits due to sample matrix (EL).**
	Cadmium , Lead , Silver
21D0108-02	**Elevated Method Reporting Limits due to sample matrix (EL).**
	Cadmium , Lead , Silver

No other observations noted.

End of Project Narrative.

DATA USABILITY LINKS

To ensure you are viewing the most current version of the documents below, please clear your internet cookies for www.ESSLaboratory.com. Consult your IT Support personnel for information on how to clear your internet cookies.

Definitions of Quality Control Parameters

Semivolatile Organics Internal Standard Information

Semivolatile Organics Surrogate Information

Volatile Organics Internal Standard Information

Volatile Organics Surrogate Information

EPH and VPH Alkane Lists

CERTIFICATE OF ANALYSIS

Client Name: Beta Engineering
Client Project ID: SAI Westover - RGP

ESS Laboratory Work Order: 21D0108

CURRENT SW-846 METHODOLOGY VERSIONS

Analytical Methods

1010A - Flashpoint
6010C - ICP
6020A - ICP MS
7010 - Graphite Furnace
7196A - Hexavalent Chromium
7470A - Aqueous Mercury
7471B - Solid Mercury
8011 - EDB/DBCP/TCP
8015C - GRO/DRO
8081B - Pesticides
8082A - PCB
8100M - TPH
8151A - Herbicides
8260B - VOA
8270D - SVOA
8270D SIM - SVOA Low Level
9014 - Cyanide
9038 - Sulfate
9040C - Aqueous pH
9045D - Solid pH (Corrosivity)
9050A - Specific Conductance
9056A - Anions (IC)
9060A - TOC
9095B - Paint Filter
MADEP 04-1.1 - EPH
MADEP 18-2.1 - VPH

Prep Methods

3005A - Aqueous ICP Digestion
3020A - Aqueous Graphite Furnace / ICP MS Digestion
3050B - Solid ICP / Graphite Furnace / ICP MS Digestion
3060A - Solid Hexavalent Chromium Digestion
3510C - Separatory Funnel Extraction
3520C - Liquid / Liquid Extraction
3540C - Manual Soxhlet Extraction
3541 - Automated Soxhlet Extraction
3546 - Microwave Extraction
3580A - Waste Dilution
5030B - Aqueous Purge and Trap
5030C - Aqueous Purge and Trap
5035A - Solid Purge and Trap

SW846 Reactivity Methods 7.3.3.2 (Reactive Cyanide) and 7.3.4.1 (Reactive Sulfide) have been withdrawn by EPA. These methods are reported per client request and are not NELAP accredited.

CERTIFICATE OF ANALYSIS

Client Name: Beta Engineering
Client Project ID: SAI Westover - RGP
Client Sample ID: Westover
Date Sampled: 04/05/21 10:45
Percent Solids: N/A

ESS Laboratory Work Order: 21D0108
ESS Laboratory Sample ID: 21D0108-01
Sample Matrix: Aqueous
Units: ug/L

Extraction Method: 3005A/200.7

Dissolved Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (25.0)		200.7		5	KJK	04/09/21 18:54	100	10	DD10734
Arsenic	ND (2.5)		3113B		5	KJK	04/10/21 21:23	100	10	DD10734
Cadmium	**EL** ND (2.0)		200.8		50	NAR	04/08/21 16:46	100	10	DD10734
Chromium	ND (10.0)		200.7		5	KJK	04/09/21 18:54	100	10	DD10734
Copper	ND (10.0)		200.7		5	KJK	04/09/21 18:54	100	10	DD10734
Iron	ND (50.0)		200.7		5	KJK	04/09/21 18:54	100	10	DD10734
Lead	**EL** ND (5.0)		200.8		50	NAR	04/08/21 16:57	100	10	DD10734
Mercury	ND (0.20)		245.1		1	JRB	04/08/21 11:52	20	40	DD10736
Nickel	ND (25.0)		200.7		5	KJK	04/09/21 18:54	100	10	DD10734
Selenium	ND (5.0)		3113B		5	KJK	04/09/21 20:51	100	10	DD10734
Silver	**EL** ND (5.0)		200.7		5	KJK	04/09/21 18:54	100	10	DD10734
Zinc	ND (25.0)		200.7		5	KJK	04/09/21 18:54	100	10	DD10734

CERTIFICATE OF ANALYSIS

Client Name: Beta Engineering
Client Project ID: SAI Westover - RGP
Client Sample ID: Westover
Date Sampled: 04/05/21 10:45
Percent Solids: N/A

ESS Laboratory Work Order: 21D0108
ESS Laboratory Sample ID: 21D0108-01
Sample Matrix: Aqueous
Units: ug/L

Extraction Method: 3005A/200.7

Total Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (25.0)		200.7		5	KJK	04/09/21 18:44	100	10	DD10734
Arsenic	ND (2.5)		3113B		5	KJK	04/10/21 21:12	100	10	DD10734
Cadmium	**EL** ND (2.0)		200.8		50	NAR	04/08/21 16:46	100	10	DD10734
Chromium	ND (10.0)		200.7		5	KJK	04/09/21 18:44	100	10	DD10734
Copper	ND (10.0)		200.7		5	KJK	04/09/21 18:44	100	10	DD10734
Iron	ND (50.0)		200.7		5	KJK	04/09/21 18:44	100	10	DD10734
Lead	**EL** ND (5.0)		200.8		50	NAR	04/08/21 16:46	100	10	DD10734
Mercury	ND (0.2)		245.1		1	JRB	04/08/21 11:47	20	40	DD10736
Nickel	ND (25.0)		200.7		5	KJK	04/09/21 18:44	100	10	DD10734
Selenium	ND (5.0)		3113B		5	KJK	04/09/21 20:39	100	10	DD10734
Silver	**EL** ND (5.0)		200.7		5	KJK	04/09/21 18:44	100	10	DD10734
Total Hardness	**7180** (412)		CALC		5	KJK	04/09/21 18:44	1	1	[CALC]
Zinc	ND (25.0)		200.7		5	KJK	04/09/21 18:44	100	10	DD10734

CERTIFICATE OF ANALYSIS

Client Name: Beta Engineering
Client Project ID: SAI Westover - RGP
Client Sample ID: Westover
Date Sampled: 04/05/21 10:45
Percent Solids: N/A
Initial Volume: 25
Final Volume: 25
Extraction Method: 524.2

ESS Laboratory Work Order: 21D0108
ESS Laboratory Sample ID: 21D0108-01
Sample Matrix: Aqueous
Units: ug/L
Analyst: MD

524.2 Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1,1-Trichloroethane	ND (0.5)		524.2		1	04/08/21 15:24	D1D0138	DD10821
1,1,2-Trichloroethane	ND (0.5)		524.2		1	04/08/21 15:24	D1D0138	DD10821
1,1-Dichloroethane	ND (0.5)		524.2		1	04/08/21 15:24	D1D0138	DD10821
1,1-Dichloroethene	ND (0.5)		524.2		1	04/08/21 15:24	D1D0138	DD10821
1,2-Dichlorobenzene	ND (0.5)		524.2		1	04/08/21 15:24	D1D0138	DD10821
1,2-Dichloroethane	ND (0.5)		524.2		1	04/08/21 15:24	D1D0138	DD10821
1,3-Dichlorobenzene	ND (0.5)		524.2		1	04/08/21 15:24	D1D0138	DD10821
1,4-Dichlorobenzene	ND (0.5)		524.2		1	04/08/21 15:24	D1D0138	DD10821
Acetone	ND (5.0)		524.2		1	04/08/21 15:24	D1D0138	DD10821
Benzene	ND (0.5)		524.2		1	04/08/21 15:24	D1D0138	DD10821
Carbon Tetrachloride	ND (0.3)		524.2		1	04/08/21 15:24	D1D0138	DD10821
cis-1,2-Dichloroethene	ND (0.5)		524.2		1	04/08/21 15:24	D1D0138	DD10821
Ethylbenzene	ND (0.5)		524.2		1	04/08/21 15:24	D1D0138	DD10821
Methyl tert-Butyl Ether	ND (0.5)		524.2		1	04/08/21 15:24	D1D0138	DD10821
Methylene Chloride	ND (0.5)		524.2		1	04/08/21 15:24	D1D0138	DD10821
Naphthalene	ND (0.5)		524.2		1	04/08/21 15:24	D1D0138	DD10821
Tertiary-amyl methyl ether	ND (1.0)		524.2		1	04/08/21 15:24	D1D0138	DD10821
Tertiary-butyl Alcohol	ND (25.0)		524.2		1	04/08/21 15:24	D1D0138	DD10821
Tetrachloroethene	ND (0.5)		524.2		1	04/08/21 15:24	D1D0138	DD10821
Toluene	ND (0.5)		524.2		1	04/08/21 15:24	D1D0138	DD10821
Trichloroethene	ND (0.5)		524.2		1	04/08/21 15:24	D1D0138	DD10821
Vinyl Chloride	ND (0.2)		524.2		1	04/08/21 15:24	D1D0138	DD10821
Xylene O	ND (0.5)		524.2		1	04/08/21 15:24	D1D0138	DD10821
Xylene P,M	ND (0.5)		524.2		1	04/08/21 15:24	D1D0138	DD10821

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*103 %*		*80-120*
Surrogate: 4-Bromofluorobenzene	*99 %*		*80-120*

CERTIFICATE OF ANALYSIS

Client Name: Beta Engineering
Client Project ID: SAI Westover - RGP
Client Sample ID: Westover
Date Sampled: 04/05/21 10:45
Percent Solids: N/A

ESS Laboratory Work Order: 21D0108
ESS Laboratory Sample ID: 21D0108-01
Sample Matrix: Aqueous

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Ammonia as N	ND (0.10)		350.1		1	JLK	04/09/21 16:48	mg/L	DD10838
Chloride	**9.4** (0.5)		300.0		1	EEM	04/07/21 22:08	mg/L	DD10716
Hexavalent Chromium	**H** ND (10.0)		3500Cr B-2009		1	CCP	04/06/21 20:15	ug/L	DD10657
pH	**7.03** (N/A)		4500 H+ B		1	EAM	04/06/21 19:15	S.U.	DD10661
pH Sample Temp	**Aqueous pH measured in water at 16.8 ºC.** (N/A)								
Total Petroleum Hydrocarbon	ND (5)		1664A		1	LAB	04/07/21 15:15	mg/L	DD10713
Total Residual Chlorine	**900** (20.0)		4500Cl D		1	CCP	04/06/21 19:47	ug/L	DD10656
Total Suspended Solids	ND (5)		2540D		1	CCP	04/08/21 15:30	mg/L	DD10826

CERTIFICATE OF ANALYSIS

Client Name: Beta Engineering
Client Project ID: SAI Westover - RGP
Client Sample ID: Westover
Date Sampled: 04/05/21 10:45
Percent Solids: N/A
Initial Volume: 1
Final Volume: 1
Extraction Method: No Prep

ESS Laboratory Work Order: 21D0108
ESS Laboratory Sample ID: 21D0108-01
Sample Matrix: Aqueous
Units: mg/L
Analyst: IBM
Prepared: 4/14/21 9:12

Alcohol Scan by GC/FID

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
Ethanol	ND (10)		ASTM D3695		1	IBM	04/14/21 11:43		DD11402

CERTIFICATE OF ANALYSIS

Client Name: Beta Engineering
Client Project ID: SAI Westover - RGP
Client Sample ID: Cooley Brook
Date Sampled: 04/05/21 12:45
Percent Solids: N/A

ESS Laboratory Work Order: 21D0108
ESS Laboratory Sample ID: 21D0108-02
Sample Matrix: Aqueous
Units: ug/L

Extraction Method: 3005A/200.7

Dissolved Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (25.0)		200.7		5	KJK	04/09/21 18:57	100	10	DD10734
Arsenic	ND (2.5)		3113B		5	KJK	04/10/21 21:46	100	10	DD10734
Cadmium	**EL** ND (2.0)		200.8		50	NAR	04/08/21 16:52	100	10	DD10734
Chromium	ND (10.0)		200.7		5	KJK	04/09/21 18:57	100	10	DD10734
Copper	ND (10.0)		200.7		5	KJK	04/09/21 18:57	100	10	DD10734
Iron	**123** (50.0)		200.7		5	KJK	04/09/21 18:57	100	10	DD10734
Lead	**EL** ND (5.0)		200.8		50	NAR	04/08/21 17:25	100	10	DD10734
Mercury	ND (0.20)		245.1		1	JRB	04/08/21 11:54	20	40	DD10736
Nickel	ND (25.0)		200.7		5	KJK	04/09/21 18:57	100	10	DD10734
Selenium	ND (5.0)		3113B		5	KJK	04/09/21 21:47	100	10	DD10734
Silver	**EL** ND (5.0)		200.7		5	KJK	04/09/21 18:57	100	10	DD10734
Zinc	ND (25.0)		200.7		5	KJK	04/09/21 18:57	100	10	DD10734

CERTIFICATE OF ANALYSIS

Client Name: Beta Engineering
Client Project ID: SAI Westover - RGP
Client Sample ID: Cooley Brook
Date Sampled: 04/05/21 12:45
Percent Solids: N/A

ESS Laboratory Work Order: 21D0108
ESS Laboratory Sample ID: 21D0108-02
Sample Matrix: Aqueous
Units: ug/L

Extraction Method: 3005A/200.7

Total Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (25.0)		200.7		5	KJK	04/09/21 18:45	100	10	DD10734
Arsenic	ND (2.5)		3113B		5	KJK	04/10/21 21:18	100	10	DD10734
Cadmium	**EL** ND (2.0)		200.8		50	NAR	04/08/21 16:52	100	10	DD10734
Chromium	ND (10.0)		200.7		5	KJK	04/09/21 18:45	100	10	DD10734
Copper	ND (10.0)		200.7		5	KJK	04/09/21 18:45	100	10	DD10734
Iron	**288** (50.0)		200.7		5	KJK	04/09/21 18:45	100	10	DD10734
Lead	**EL** ND (5.0)		200.8		50	NAR	04/08/21 16:52	100	10	DD10734
Mercury	ND (0.2)		245.1		1	JRB	04/08/21 11:49	20	40	DD10736
Nickel	ND (25.0)		200.7		5	KJK	04/09/21 18:45	100	10	DD10734
Selenium	ND (5.0)		3113B		5	KJK	04/09/21 20:45	100	10	DD10734
Silver	**EL** ND (5.0)		200.7		5	KJK	04/09/21 18:45	100	10	DD10734
Total Hardness	**37400** (412)		CALC		5	KJK	04/09/21 18:45	1	1	[CALC]
Zinc	ND (25.0)		200.7		5	KJK	04/09/21 18:45	100	10	DD10734

CERTIFICATE OF ANALYSIS

Client Name: Beta Engineering
Client Project ID: SAI Westover - RGP
Client Sample ID: Cooley Brook
Date Sampled: 04/05/21 12:45
Percent Solids: N/A

ESS Laboratory Work Order: 21D0108
ESS Laboratory Sample ID: 21D0108-02
Sample Matrix: Aqueous

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Ammonia as N	ND (0.10)		350.1		1	JLK	04/09/21 16:49	mg/L	DD10838
Chloride	**15.0** (2.5)		300.0		5	EEM	04/07/21 22:25	mg/L	DD10716
Hexavalent Chromium	**H** ND (10.0)		3500Cr B-2009		1	CCP	04/06/21 20:15	ug/L	DD10657
pH	**7.19** (N/A)		4500 H+ B		1	EAM	04/06/21 19:15	S.U.	DD10661
pH Sample Temp	**Aqueous pH measured in water at 17.0 ºC.** (N/A)								
Total Residual Chlorine	ND (20.0)		4500Cl D		1	CCP	04/06/21 19:47	ug/L	DD10656
Total Suspended Solids	**6** (5)		2540D		1	CCP	04/08/21 15:30	mg/L	DD10826

CERTIFICATE OF ANALYSIS

Client Name: Beta Engineering
Client Project ID: SAI Westover - RGP

ESS Laboratory Work Order: 21D0108

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Dissolved Metals										
Batch DD10734 - 3005A/200.7										
Blank										
Antimony	ND	10.0	ug/L							
Chromium	ND	4.0	ug/L							
Copper	ND	2.0	ug/L							
Iron	ND	50.0	ug/L							
Nickel	ND	10.0	ug/L							
Silver	ND	2.0	ug/L							
Zinc	ND	10.0	ug/L							
Blank										
Cadmium	ND	0.2	ug/L							
Lead	ND	0.5	ug/L							
Blank										
Arsenic	ND	0.5	ug/L							
Selenium	ND	1.0	ug/L							
LCS										
Antimony	50.1	25.0	ug/L	50.00		100	85-115			
Chromium	50.8	10.0	ug/L	50.00		102	85-115			
Copper	53.6	5.0	ug/L	50.00		107	85-115			
Iron	259	50.0	ug/L	250.0		104	85-115			
Nickel	53.9	25.0	ug/L	50.00		108	85-115			
Silver	26.8	5.0	ug/L	25.00		107	85-115			
Zinc	55.1	25.0	ug/L	50.00		110	85-115			
LCS										
Cadmium	21.4	1.0	ug/L	25.00		86	85-115			
Lead	43.0	2.5	ug/L	50.00		86	85-115			
LCS										
Arsenic	55.3	12.5	ug/L	50.00		111	85-115			
Selenium	102	25.0	ug/L	100.0		102	85-115			
Batch DD10736 - 245.1/7470A										
Blank										
Mercury	ND	0.20	ug/L							
Blank										
Mercury	ND	0.20	ug/L							
LCS										
Mercury	5.68	0.20	ug/L	6.042		94	85-115			
LCS Dup										
Mercury	5.85	0.20	ug/L	6.042		97	85-115	3	20	
Total Metals										
Batch DD10734 - 3005A/200.7										
Blank										
Antimony	ND	10.0	ug/L							

CERTIFICATE OF ANALYSIS

Client Name: Beta Engineering
Client Project ID: SAI Westover - RGP

ESS Laboratory Work Order: 21D0108

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Total Metals										
Batch DD10734 - 3005A/200.7										
Chromium	ND	4.0	ug/L							
Copper	ND	2.0	ug/L							
Iron	ND	50.0	ug/L							
Nickel	ND	10.0	ug/L							
Silver	ND	2.0	ug/L							
Zinc	ND	10.0	ug/L							
Blank										
Cadmium	ND	0.2	ug/L							
Lead	ND	0.5	ug/L							
Blank										
Arsenic	ND	0.5	ug/L							
Selenium	ND	1.0	ug/L							
LCS										
Antimony	50.1	25.0	ug/L	50.00		100	85-115			
Chromium	50.8	10.0	ug/L	50.00		102	85-115			
Copper	53.6	5.0	ug/L	50.00		107	85-115			
Iron	259	50.0	ug/L	250.0		104	85-115			
Nickel	53.9	25.0	ug/L	50.00		108	85-115			
Silver	26.8	5.0	ug/L	25.00		107	85-115			
Zinc	55.1	25.0	ug/L	50.00		110	85-115			
LCS										
Cadmium	21.4	1.0	ug/L	25.00		86	85-115			
Lead	43.0	2.5	ug/L	50.00		86	85-115			
LCS										
Arsenic	55.3	12.5	ug/L	50.00		111	85-115			
Selenium	102	25.0	ug/L	100.0		102	85-115			
Batch DD10736 - 245.1/7470A										
Blank										
Mercury	ND	0.2	ug/L							
LCS										
Mercury	5.7	0.2	ug/L	6.042		94	85-115			
LCS Dup										
Mercury	5.9	0.2	ug/L	6.042		97	85-115	3	20	
524.2 Volatile Organic Compounds										
Batch DD10821 - 524.2										
Blank										
1,1,1-Trichloroethane	ND	0.5	ug/L							
1,1,2-Trichloroethane	ND	0.5	ug/L							
1,1-Dichloroethane	ND	0.5	ug/L							
1,1-Dichloroethene	ND	0.5	ug/L							
1,2-Dichlorobenzene	ND	0.5	ug/L							
1,2-Dichloroethane	ND	0.5	ug/L							

CERTIFICATE OF ANALYSIS

Client Name: Beta Engineering
Client Project ID: SAI Westover - RGP

ESS Laboratory Work Order: 21D0108

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
524.2 Volatile Organic Compounds										
Batch DD10821 - 524.2										
1,3-Dichlorobenzene	ND	0.5	ug/L							
1,4-Dichlorobenzene	ND	0.5	ug/L							
Acetone	ND	5.0	ug/L							
Benzene	ND	0.5	ug/L							
Carbon Tetrachloride	ND	0.3	ug/L							
cis-1,2-Dichloroethene	ND	0.5	ug/L							
Ethylbenzene	ND	0.5	ug/L							
Methyl tert-Butyl Ether	ND	0.5	ug/L							
Methylene Chloride	ND	0.5	ug/L							
Naphthalene	ND	0.5	ug/L							
Tertiary-amyl methyl ether	ND	1.0	ug/L							
Tertiary-butyl Alcohol	ND	25.0	ug/L							
Tetrachloroethene	ND	0.5	ug/L							
Toluene	ND	0.5	ug/L							
Trichloroethene	ND	0.5	ug/L							
Vinyl Chloride	ND	0.2	ug/L							
Xylene O	ND	0.5	ug/L							
Xylene P,M	ND	0.5	ug/L							
Surrogate: 1,2-Dichlorobenzene-d4	*5.17*		ug/L	*5.000*		*103*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*4.96*		ug/L	*5.000*		*99*	*80-120*			
LCS										
1,1,1-Trichloroethane	9.1	0.5	ug/L	10.00		91	70-130			
1,1,2-Trichloroethane	8.6	0.5	ug/L	10.00		86	70-130			
1,1-Dichloroethane	9.7	0.5	ug/L	10.00		97	70-130			
1,1-Dichloroethene	10.1	0.5	ug/L	10.00		101	70-130			
1,2-Dichlorobenzene	9.7	0.5	ug/L	10.00		97	70-130			
1,2-Dichloroethane	9.5	0.5	ug/L	10.00		95	70-130			
1,3-Dichlorobenzene	9.8	0.5	ug/L	10.00		98	70-130			
1,4-Dichlorobenzene	9.9	0.5	ug/L	10.00		99	70-130			
Acetone	53.2	5.0	ug/L	50.00		106	70-130			
Benzene	9.4	0.5	ug/L	10.00		94	70-130			
Carbon Tetrachloride	9.2	0.3	ug/L	10.00		92	70-130			
cis-1,2-Dichloroethene	9.6	0.5	ug/L	10.00		96	70-130			
Ethylbenzene	9.1	0.5	ug/L	10.00		91	70-130			
Methyl tert-Butyl Ether	8.0	0.5	ug/L	10.00		80	70-130			
Methylene Chloride	9.2	0.5	ug/L	10.00		92	70-130			
Naphthalene	8.8	0.5	ug/L	10.00		88	70-130			
Tertiary-amyl methyl ether	7.5	1.0	ug/L	10.00		75	70-130			
Tertiary-butyl Alcohol	47.5	25.0	ug/L	50.00		95	70-130			
Tetrachloroethene	10.2	0.5	ug/L	10.00		102	70-130			
Toluene	9.2	0.5	ug/L	10.00		92	70-130			
Trichloroethene	9.6	0.5	ug/L	10.00		96	70-130			
Vinyl Chloride	10.5	0.2	ug/L	10.00		105	70-130			
Xylene O	10.2	0.5	ug/L	10.00		102	70-130			
Xylene P,M	18.7	0.5	ug/L	20.00		94	70-130			

CERTIFICATE OF ANALYSIS

Client Name: Beta Engineering
Client Project ID: SAI Westover - RGP

ESS Laboratory Work Order: 21D0108

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
524.2 Volatile Organic Compounds										
Batch DD10821 - 524.2										
Surrogate: 1,2-Dichlorobenzene-d4	*5.40*		ug/L	*5.000*		*108*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*5.07*		ug/L	*5.000*		*101*	*80-120*			
LCS Dup										
1,1,1-Trichloroethane	9.1	0.5	ug/L	10.00		91	70-130	0.7	20	
1,1,2-Trichloroethane	8.4	0.5	ug/L	10.00		84	70-130	3	20	
1,1-Dichloroethane	9.4	0.5	ug/L	10.00		94	70-130	3	20	
1,1-Dichloroethene	10.0	0.5	ug/L	10.00		100	70-130	1	20	
1,2-Dichlorobenzene	9.7	0.5	ug/L	10.00		97	70-130	0.2	20	
1,2-Dichloroethane	9.4	0.5	ug/L	10.00		94	70-130	1	20	
1,3-Dichlorobenzene	9.8	0.5	ug/L	10.00		98	70-130	0.2	20	
1,4-Dichlorobenzene	9.8	0.5	ug/L	10.00		98	70-130	0.4	20	
Acetone	49.7	5.0	ug/L	50.00		99	70-130	7	20	
Benzene	9.3	0.5	ug/L	10.00		93	70-130	2	20	
Carbon Tetrachloride	9.1	0.3	ug/L	10.00		91	70-130	1	20	
cis-1,2-Dichloroethene	9.6	0.5	ug/L	10.00		96	70-130	0.7	20	
Ethylbenzene	9.2	0.5	ug/L	10.00		92	70-130	1	20	
Methyl tert-Butyl Ether	7.8	0.5	ug/L	10.00		78	70-130	2	20	
Methylene Chloride	9.2	0.5	ug/L	10.00		92	70-130	0	20	
Naphthalene	8.6	0.5	ug/L	10.00		86	70-130	2	20	
Tertiary-amyl methyl ether	7.4	1.0	ug/L	10.00		74	70-130	2	20	
Tertiary-butyl Alcohol	46.6	25.0	ug/L	50.00		93	70-130	2	25	
Tetrachloroethene	10.3	0.5	ug/L	10.00		103	70-130	0.9	20	
Toluene	9.1	0.5	ug/L	10.00		91	70-130	0.8	20	
Trichloroethene	9.7	0.5	ug/L	10.00		97	70-130	0.7	20	
Vinyl Chloride	10.4	0.2	ug/L	10.00		104	70-130	1	20	
Xylene O	10.1	0.5	ug/L	10.00		101	70-130	0.4	20	
Xylene P,M	18.6	0.5	ug/L	20.00		93	70-130	0.7	20	
Surrogate: 1,2-Dichlorobenzene-d4	*5.45*		ug/L	*5.000*		*109*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*5.03*		ug/L	*5.000*		*101*	*80-120*			
Classical Chemistry										
Batch DD10656 - General Preparation										
Blank										
Total Residual Chlorine	ND	20.0	ug/L							
LCS										
Total Residual Chlorine	2.26		mg/L	2.270		100	85-115			
Batch DD10657 - General Preparation										
Blank										
Hexavalent Chromium	ND	10.0	ug/L							
LCS										
Hexavalent Chromium	522	10.0	ug/L	499.8		104	90-110			
LCS Dup										
Hexavalent Chromium	506	10.0	ug/L	499.8		101	90-110	3	20	

CERTIFICATE OF ANALYSIS

Client Name: Beta Engineering
Client Project ID: SAI Westover - RGP

ESS Laboratory Work Order: 21D0108

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Classical Chemistry										
Batch DD10713 - General Preparation										
Blank										
Total Petroleum Hydrocarbon	ND	5	mg/L							
LCS										
Total Petroleum Hydrocarbon	14	5	mg/L	19.38		73	66-114			
Batch DD10716 - General Preparation										
Blank										
Chloride	ND	0.5	mg/L							
LCS										
Chloride	9.8		mg/L	10.00		98	90-110			
Batch DD10826 - General Preparation										
Blank										
Total Suspended Solids	ND	5	mg/L							
LCS										
Total Suspended Solids	86		mg/L	81.70		105	80-120			
Batch DD10838 - NH4 Prep										
Blank										
Ammonia as N	ND	0.10	mg/L							
LCS										
Ammonia as N	0.91	0.10	mg/L	0.9994		91	80-120			
Alcohol Scan by GC/FID										
Batch DD11402 - No Prep										
Blank										
Ethanol	ND	10	mg/L							
LCS										
Ethanol	1230	10	mg/L	952.8		129	60-140			
LCS Dup										
Ethanol	1250	10	mg/L	952.8		131	60-140	1	30	

CERTIFICATE OF ANALYSIS

Client Name: Beta Engineering
Client Project ID: SAI Westover - RGP

ESS Laboratory Work Order: 21D0108

Notes and Definitions

Z16a	Aqueous pH measured in water at 17.0 ºC.
Z16	Aqueous pH measured in water at 16.8 ºC.
U	Analyte included in the analysis, but not detected
HT	The maximum holding time listed in 40 CFR Part 136 Table II for pH, Dissolved Oxygen, Sulfite and Residual Chlorine is fifteen minutes.
H	Estimated value. Sample hold times were exceeded (H).
EL	Elevated Method Reporting Limits due to sample matrix (EL).
D	Diluted.
ND	Analyte NOT DETECTED at or above the MRL (LOQ), LOD for DoD Reports, MDL for J-Flagged Analytes
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
MDL	Method Detection Limit
MRL	Method Reporting Limit
LOD	Limit of Detection
LOQ	Limit of Quantitation
DL	Detection Limit
I/V	Initial Volume
F/V	Final Volume
§	Subcontracted analysis; see attached report
1	Range result excludes concentrations of surrogates and/or internal standards eluting in that range.
2	Range result excludes concentrations of target analytes eluting in that range.
3	Range result excludes the concentration of the C9-C10 aromatic range.
Avg	Results reported as a mathematical average.
NR	No Recovery
[CALC]	Calculated Analyte
SUB	Subcontracted analysis; see attached report
RL	Reporting Limit
EDL	Estimated Detection Limit
MF	Membrane Filtration
MPN	Most Probably Number
TNTC	Too numerous to Count
CFU	Colony Forming Units

CERTIFICATE OF ANALYSIS

Client Name: Beta Engineering
Client Project ID: SAI Westover - RGP

ESS Laboratory Work Order: 21D0108

ESS LABORATORY CERTIFICATIONS AND ACCREDITATIONS

ENVIRONMENTAL

Rhode Island Potable and Non Potable Water: LAI00179
http://www.health.ri.gov/find/labs/analytical/ESS.pdf

Connecticut Potable and Non Potable Water, Solid and Hazardous Waste: PH-0750
http://www.ct.gov/dph/lib/dph/environmental_health/environmental_laboratories/pdf/OutofStateCommercialLaboratories.pdf

Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI00002
http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/partners/labCert.shtml

Massachusetts Potable and Non Potable Water: M-RI002
http://public.dep.state.ma.us/Labcert/Labcert.aspx

New Hampshire (NELAP accredited) Potable and Non Potable Water, Solid and Hazardous Waste: 2424
http://des.nh.gov/organization/divisions/water/dwgb/nhelap/index.htm

New York (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: 11313
http://www.wadsworth.org/labcert/elap/comm.html

New Jersey (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: RI006
http://datamine2.state.nj.us/DEP_OPRA/OpraMain/pi_main?mode=pi_by_site&sort_order=PI_NAMEA&Select+a+Site:=58715

United States Department of Agriculture Soil Permit: P330-12-00139

Pennsylvania: 68-01752
http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx

ESS Laboratory Sample and Cooler Receipt Checklist

Client: Beta Engineering - ML/TB

Shipped/Delivered Via: ESS Courier

ESS Project ID: 21D0108
Date Received: 4/6/2021
Project Due Date: 4/13/2021
Days for Project: 5 Day

1. Air bill manifest present? No
   Air No.: NA
2. Were custody seals present? No
3. Is radiation count <100 CPM? Yes
4. Is a Cooler Present? Yes
   Temp: 0.9 Iced with: Ice
5. Was COC signed and dated by client? Yes
6. Does COC match bottles? Yes
7. Is COC complete and correct? Yes
8. Were samples received intact? Yes
9. **Were labs informed about short holds & rushes?** (Yes) / No / NA
10. Were any analyses received outside of hold time? (Yes) / No
    Hex chrome, TRC

11. Any Subcontracting needed? Yes / (No)
    ESS Sample IDs:
    Analysis:
    TAT:
12. Were VOAs received? (Yes) / ~~No~~
    a. Air bubbles in aqueous VOAs? Yes / (No)
    b. Does methanol cover soil completely? Yes / No / NA
13. Are the samples properly preserved? (Yes) / No
    a. If metals preserved upon receipt: Date: Time: By:
    b. Low Level VOA vials frozen: Date: Time: By:

Sample Receiving Notes:

14. Was there a need to contact Project Manager? (Yes) / No
    a. Was there a need to contact the client? Yes / (No)
    Who was contacted? Date: Time: By:

Sample Number	Container ID	Proper Container	Air Bubbles Present	Sufficient Volume	Container Type	Preservative	Record pH (Cyanide and 608 Pesticides)
1	151118	Yes	N/A	Yes	1L Amber	H2SO4	
1	151120	Yes	N/A	Yes	1L Amber	NP	
1	151124	Yes	N/A	Yes	1L Poly	NP	
1	151126	Yes	N/A	Yes	500 mL Poly	HNO3	
1	151127	Yes	N/A	Yes	500 mL Poly	HNO3	
1	151134	Yes	N/A	Yes	500 mL Poly	H2SO4	
1	151136	Yes	N/A	Yes	250 mL Poly	HNO3	
1	151140	Yes	N/A	Yes	250 mL Poly	NP	
1	151144	Yes	N/A	Yes	VOA Vial	HCl	
1	151145	Yes	N/A	Yes	VOA Vial	HCl	
1	151146	Yes	N/A	Yes	VOA Vial	HCl	
1	151147	Yes	N/A	Yes	VOA Vial	HCl	
1	151148	Yes	N/A	Yes	VOA Vial	HCl	
1	151149	Yes	N/A	Yes	VOA Vial	HCl	
1	151156	Yes	N/A	Yes	VOA Vial	NP	
1	151157	Yes	N/A	Yes	VOA Vial	NP	

ESS Laboratory Sample and Cooler Receipt Checklist

Client: Beta Engineering - ML/TB

ESS Project ID: 21D0108
Date Received: 4/6/2021

1 ~~2~~	151160 ~~151119~~	Yes	N/A	Yes	1L Amber	H2SO4
2	151121	Yes	N/A	Yes	1L Amber	NP
2	151125	Yes	N/A	Yes	1L Poly	NP
2	151128	Yes	N/A	Yes	500 mL Poly	HNO3
2	151129	Yes	N/A	Yes	500 mL Poly	HNO3
2	151135	Yes	N/A	Yes	500 mL Poly	H2SO4
2	151137	Yes	N/A	Yes	250 mL Poly	HNO3
2	151141	Yes	N/A	Yes	250 mL Poly	NP

2nd Review

Initials AG

Were all containers scanned into storage/lab? (Yes) No

Are barcode labels on correct containers? Yes / No / NA

Are all Flashpoint stickers attached/container ID # circled? Yes / No / NA

Are all Hex Chrome stickers attached? Yes / No / NA

Are all QC stickers attached? Yes / No / NA

Are VOA stickers attached if bubbles noted? Yes / No / NA

Completed By: [signature] Date & Time: 4/6/21 17:26

Reviewed By: [signature] Date & Time: 4/6/21 1738

185 Frances Avenue
Cranston, RI 02921
Phone: 401-461-7181
Fax: 401-461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

ESS Lab # 21D0108 | Page of

Turn Time: ☐ >5 ☒ 5 ☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐ Same Day

Regulatory State: MA Criteria: RGP

Is this project for any of the following?: ☐ CT RCP ☐ MA MCP ☒ RGP ☐ Permit ☐ 401 WQ

ELECTRONIC DELIVERABLES (Final Reports are PDF)

☐ Limit Checker ☐ State Forms ☐ EQuIS
☒ Excel ☐ Hard Copy ☐ Enviro Data
☐ CLP-Like Package ☒ Other (Specify) → PDF

CLIENT INFORMATION

Client: BETA Group, Inc.
Address: 1 Springfield St, Suite 4
Chicopee, MA 01013
Phone: 413-331-5326
Email Distribution List: cellis@beta-inc.com
mmendes@beta-inc.com

PROJECT INFORMATION

Project Name: SAI Westover
Project Location: Chicopee, MA
Project Number: 7320
Project Manager: Craig Ellis
Bill to: BETA Group, Inc.
PO#:
Quote#:

Client acknowledges that sampling is compliant with all EPA / State regulatory programs

REQUESTED ANALYSES

ESS Lab ID	Collection Date	Collection Time	Sample Type	Sample Matrix	Sample ID	Clorine, TRC, TSS	Cr+6	Ammonia	TPH 1664	Total Metals	pH, temperature	VOC 524	Ethanol	Hardness	Dissolved Metals FF	Total Number of Bottles
1	4/5/21	10:45AM	Water	Aqueous	Westover	X	X	X	X	X	X	X	X	X	X	15
2	4/5/21	12:45PM	Water	Aqueous	Cooley Brook	X	X	X		X	X			X	X	7
Container Type: AC-Air Cassette AG-Amber Glass B-BOD Bottle C-Cubitainer J-Jar O-Other P-Poly S-Sterile V-Vial						P	P	P	AG	P	AG	V	V	P	P	
Container Volume: 1-100 mL 2-2.5 gal 3-250 mL 4-300 mL 5-500 mL 6-1L 7-VOA 8-2 oz 9-4 oz 10-8 oz 11-Other*						6	3	5	6	5	6	7	7	3	5	
Preservation Code: 1-Non Preserved 2-HCl 3-H2SO4 4-HNO3 5-NaOH 6-Methanol 7-Na2S2O3 8-ZnAce, NaOH 9-NH4Cl 10-DI H2O 11-Other*						1	1	3	3	4	1	2	1	4	4	

Sampled by : Danny P. Rebelo

Chain needs to be filled out neatly and completely for on time delivery.

Comments: * Please specify "Other" preservative and containers types in this space

RGP Reporting Limits

All samples submitted are subject to ESS Laboratory's payment terms and conditions.

Dissolved Filtration

☐ Lab Filter

Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)
[signature]	4/6/21	10:26 AM	[signature]	[signature] 0.9 ice	4/6/21	17:06	[signature]

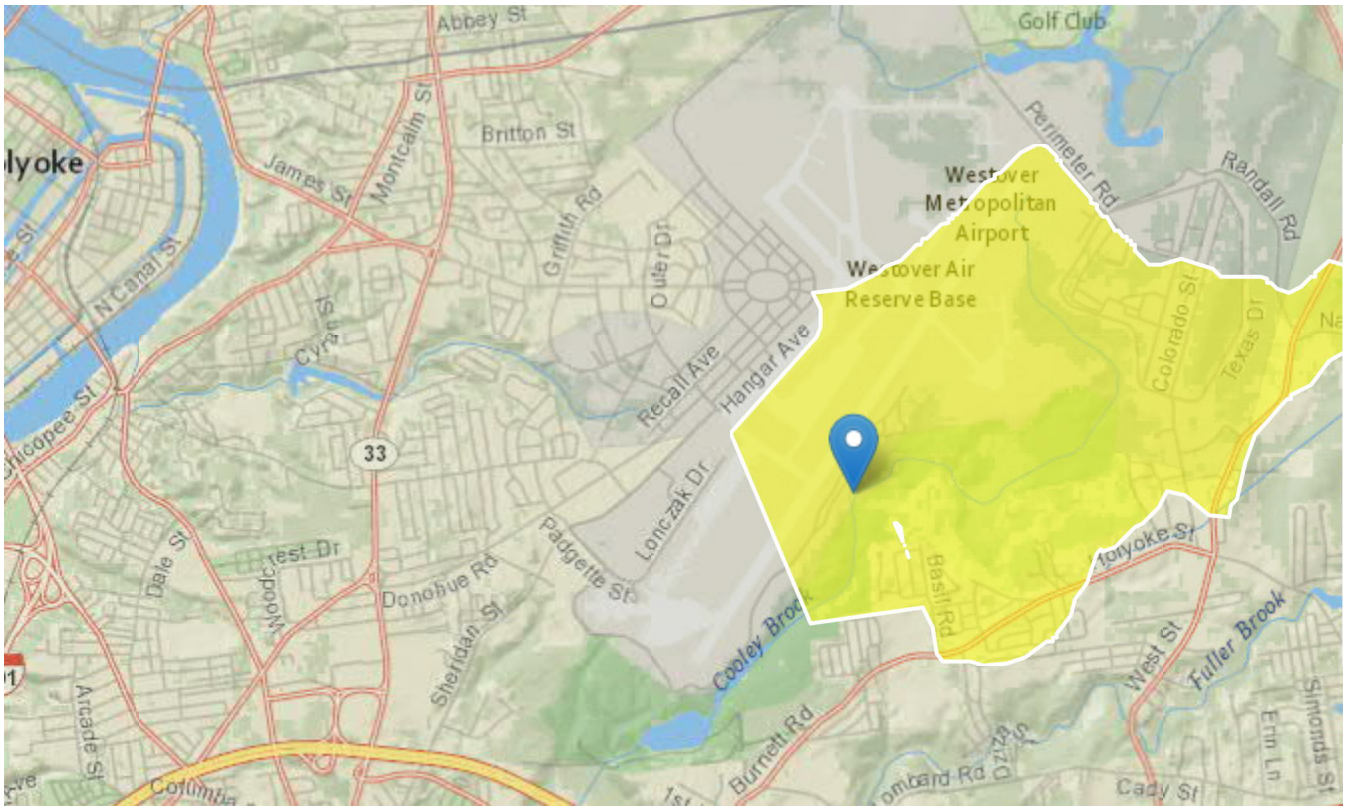
APPENDIX C

Flow Calculation Data & MassDEP Correspondence

BETA Group Inc.
701 George Washington Highway, Lincoln, RI 02865
P : 401.333.2832 |F: 401.333.9225 |W: beta-inc.com

StreamStats Report

Region ID: MA
Workspace ID: MA20210407171351662000
Clicked Point (Latitude, Longitude): 42.18578, -72.53632
Time: 2021-04-07 13:14:23 -0400



Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	3.51	square miles
BSLDEM250	Mean basin slope computed from 1:250K DEM	1.157	percent
DRFTPERSTR	Area of stratified drift per unit of stream length	0.7	square mile per mile
MAREGION	Region of Massachusetts 0 for Eastern 1 for Western	1	dimensionless
ELEV	Mean Basin Elevation	239	feet

Parameter Code	Parameter Description	Value	Unit
LC06STOR	Percentage of water bodies and wetlands determined from the NLCD 2006	10.04	percent

General Disclaimers

This watershed has been edited, computed flows and basin characteristics may not apply. For more information, submit a support request from the 'Help' button in the upper-right of the screen, attach a pdf of this report and request assistance from your local streamstats regional representative.

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

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	3.51	square miles	1.61	149
BSLDEM250	Mean Basin Slope from 250K DEM	1.157	percent	0.32	24.6
DRFTPERSTR	Stratified Drift per Stream Length	0.7	square mile per mile	0	1.29
MAREGION	Massachusetts Region	1	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	0.971	ft^3/s	0.156	5.82	49.5	49.5
7 Day 10 Year Low Flow	0.524	ft^3/s	0.069	3.71	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/)

Peak-Flow Statistics Parameters [Peak Statewide 2016 5156]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	3.51	square miles	0.16	512
ELEV	Mean Basin Elevation	239	feet	80.6	1948
LC06STOR	Percent Storage from NLCD2006	10.04	percent	0	32.3

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

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

Statistic	Value	Unit	PII	PIu	SEp
50-percent AEP flood	99.2	ft^3/s	50.7	194	42.3
20-percent AEP flood	164	ft^3/s	82.7	325	43.4
10-percent AEP flood	215	ft^3/s	106	436	44.7
4-percent AEP flood	289	ft^3/s	138	607	47.1
2-percent AEP flood	350	ft^3/s	161	759	49.4
1-percent AEP flood	415	ft^3/s	186	928	51.8
0.5-percent AEP flood	485	ft^3/s	211	1120	54.1
0.2-percent AEP flood	586	ft^3/s	243	1410	57.6

Peak-Flow Statistics Citations

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

needed pursuant to further analysis and review. No warranty, expressed or implied, is made by the USGS or the U.S. Government as to the functionality of the software and related material nor shall the fact of release constitute any such warranty. Furthermore, the software is released on condition that neither the USGS nor the U.S. Government shall be held liable for any damages resulting from its authorized or unauthorized use.

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

Application Version: 4.5.1
StreamStats Services Version: 1.2.22
NSS Services Version: 2.1.1

Enter values in the units specified

↓

5.26	Q_R = Enter upstream flow in **MGD**
0.036	Q_P = Enter discharge flow in **MGD**
5.26	Downstream 7Q10

Enter a dilution factor, if other than zero

↓

0

Enter values in the units specified

↓

	C_d = Enter influent hardness in **mg/L** $CaCO_3$
2500	C_s = Enter receiving water hardness in **mg/L** $CaCO_3$

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

↓

7.45	pH in **Standard Units**
13.01	Temperature in **°C**
0.42	Ammonia in **mg/L**
2500	Hardness in **mg/L** $CaCO_3$
11.89	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**
5.5	Copper in **µg/L**
300	Iron in **µg/L**
0	Lead in **µg/L**
0	Mercury in **µg/L**
0	Nickel in **µg/L**
0	Selenium in **µg/L**
0	Silver in **µg/L**
20.2	Zinc in **µg/L**

Enter **influent** concentrations in the units specified

↓	
0	TRC in **µg/L**
0.5	Ammonia in **mg/L**
0	Antimony in **µg/L**
19.4	Arsenic in **µg/L**
3.1	Cadmium in **µg/L**
0	Chromium III in **µg/L**
0	Chromium VI in **µg/L**
92.3	Copper in **µg/L**
1241.9	Iron in **µg/L**
1.8	Lead in **µg/L**
0	Mercury in **µg/L**
17.4	Nickel in **µg/L**
0	Selenium in **µg/L**
3.3	Silver in **µg/L**
306.8	Zinc in **µg/L**
14	Cyanide in **µg/L**
0	Phenol in **µg/L**
0	Carbon Tetrachloride in **µg/L**
0	Tetrachloroethylene in **µg/L**
29.8	Total Phthalates in **µg/L**
10.8	Diethylhexylphthalate in **µg/L**
0	Benzo(a)anthracene in **µg/L**
0.085	Benzo(a)pyrene in **µg/L**
0.0283	Benzo(b)fluoranthene in **µg/L**
0.035	Benzo(k)fluoranthene in **µg/L**
0	Chrysene in **µg/L**
0.025	Dibenzo(a,h)anthracene in **µg/L**
0.074	Indeno(1,2,3-cd)pyrene in **µg/L**
0	Methyl-tert butyl ether in **µg/L**

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	147.1					
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	1607	µg/L	---	µg/L
Total Suspended Solids	**30**	mg/L	---			
Antimony	**206**	µg/L	93511	µg/L		
Arsenic	**104**	µg/L	1461	µg/L		
Cadmium	**10.2**	µg/L	429.3202	µg/L		
Chromium III	**323**	µg/L	175792.8	µg/L		
Chromium VI	**323**	µg/L	1670.7	µg/L		
Copper	**242**	µg/L	20529.5	µg/L		
Iron	**5000**	µg/L	102278	µg/L		
Lead	**160**	µg/L	27983.71	µg/L		
Mercury	**0.739**	µg/L	132.36	µg/L		
Nickel	**1450**	µg/L	116065.5	µg/L		
Selenium	**235.8**	µg/L	730.6	µg/L		
Silver	**35.1**	µg/L	140326.4	µg/L		
Zinc	**420**	µg/L	264764.4	µg/L		
Cyanide	**178**	mg/L	759.8	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	43833	µg/L		
C. Halogenated VOCs						
Carbon Tetrachloride	**4.4**	µg/L	233.8	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	482.2	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	321.4	µg/L		

Total Group I Polycyclic Aromatic Hydrocarbons	**1.0**	µg/L	---			
Benzo(a)anthracene	**1.0**	µg/L	0.5552	µg/L	---	µg/L
Benzo(a)pyrene	**1.0**	µg/L	0.5552	µg/L	---	µg/L
Benzo(b)fluoranthene	**1.0**	µg/L	0.5552	µg/L	---	µg/L
Benzo(k)fluoranthene	**1.0**	µg/L	0.5552	µg/L	---	µg/L
Chrysene	**1.0**	µg/L	0.5552	µg/L	---	µg/L
Dibenzo(a,h)anthracene	**1.0**	µg/L	0.5552	µg/L	---	µg/L
Indeno(1,2,3-cd)pyrene	**1.0**	µg/L	0.5552	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	2922	µg/L		
tert-Butyl Alcohol	**120**	µg/L	---			
tert-Amyl Methyl Ether	**90**	µg/L	---			

Mykel Mendes

From: Vakalopoulos, Catherine (DEP) <catherine.vakalopoulos@state.ma.us>
Sent: Friday, April 16, 2021 10:09 AM
To: Mykel Mendes
Cc: Ruan, Xiaodan (DEP)
Subject: Re: MA RGP 7Q10 and DF confirmation

Yes because that's what we used to calculate the dilution factor because you said that it was the design flow. If the project scope changes and the design flow increases, you'd need to recalculate the dilution factor. As for the "0" in the spreadsheet for the dilution factor, I believe you can put 2.0 in there instead. Any other questions on the spreadsheet should be directed to Shauna Little at EPA.

From: Mykel Mendes <MMendes@BETA-Inc.com>
Date: Thursday, April 15, 2021 at 4:12 PM
To: "Vakalopoulos, Catherine (DEP)" <catherine.vakalopoulos@mass.gov>
Cc: "Ruan, Xiaodan (DEP)" <xiaodan.ruan@mass.gov>
Subject: RE: MA RGP 7Q10 and DF confirmation

Just to clarify, would it be okay to have use the 235 GPM flow rate for our discharge?

Thank you!
Mykel

Mykel Mendes
Environmental Engineer

BETA Group, Inc. | Worcester: 508.756.1600 ext. 158 | Lincoln: 401.333.2382
Twitter | LinkedIn | Facebook | Instagram

From: Vakalopoulos, Catherine (DEP) <catherine.vakalopoulos@state.ma.us>
Sent: Thursday, April 15, 2021 3:47 PM
To: Mykel Mendes <MMendes@BETA-Inc.com>
Cc: Ruan, Xiaodan (DEP) <xiaodan.ruan@state.ma.us>
Subject: Re: MA RGP 7Q10 and DF confirmation

Hi Mykel,
Xiaodan and I both got slightly lower 7Q10s in StreamStats but it only reduced dilution factor calculation by 0.1. So for all intents and purposes, your dilution factor calculation of 2.0 is correct for the discharge of hydrostatic test water to Cooley Brook from the Westover Air Reserve Base in Chicopee.

For the NOI:
Waterbody and ID: Cooley Brook (MA36-38) within Chicopee River Watershed
Classification: B
Outstanding Resource Water?: no
State's most recent Integrated List is located here: https://link.edgepilot.com/s/6e89df9f/98ygejMEy0Kbdj67Vncq5g?u=https://www.mass.gov/files/documents/2020/01/07/16ilwplist.pdf. Cooley Brook does not have any causes of impairments listed.
TMDLs: none

Since this work does not seem to be a part of the clean-up of an MCP site, in addition to submitting the NOI to EPA, you need to apply with MassDEP and submit a $500 fee (unless fee exempt, e.g., municipality) using the ePLACE. The instructions are located here: https://link.edgepilot.com/s/a2a93193/uNXsgFyeXUWCABVX0kHFCw?u=https://www.mass.gov/how-to/wm-15-npdes-general-permit-notice-of-intent. Technical assistance is available on the front page of the ePLACE application webpage.

Please let me know if you have any additional questions.

Cathy Vakalopoulos

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

From: Mykel Mendes <MMendes@BETA-Inc.com>
Date: Wednesday, April 14, 2021 at 5:02 PM
To: "Vakalopoulos, Catherine (DEP)" <catherine.vakalopoulos@mass.gov>
Subject: RE: MA RGP 7Q10 and DF confirmation

Hi Cathy,

Sure!

The proposed discharge location for the potable water discharge following the hydrostatic test at both tanks is a stormwater outfall located at the southern portion of the Base, identified as Outfall 002.

The approximate latitude and longitude of the discharge (outfall) point are:

Latitude: 42.185998 N

Longitude: -72.536482 W

Let me know if you need anything else!
Mykel

Mykel Mendes
Environmental Engineer

BETA Group, Inc. | Worcester: 508.756.1600 ext. 158 | Lincoln: 401.333.2382
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Join our team!

From: Vakalopoulos, Catherine (DEP) <catherine.vakalopoulos@state.ma.us>
Sent: Wednesday, April 14, 2021 4:55 PM
To: Mykel Mendes <MMendes@BETA-Inc.com>
Subject: Re: MA RGP 7Q10 and DF confirmation

Hi Mykel,
Can you please send me a lat/long where the proposed discharge will be? Because Cooley Brook runs along the base and the 7Q10 will increase as you move downstream. If you don't have a lat/long, you could give me the nearest street like Labelle Circle, Tolpa Circle, etc.
Thanks,
Cathy

From: Mykel Mendes <MMendes@BETA-Inc.com>
Date: Wednesday, April 7, 2021 at 2:43 PM
To: "Vakalopoulos, Catherine (DEP)" <catherine.vakalopoulos@mass.gov>
Subject: MA RGP 7Q10 and DF confirmation

Hi Cathy,

I'm in the process of completing and submitting an RGP NOI for the Westover ARB in Chicopee, MA for a new Activity IV discharge. I wanted to confirm our 7Q10. We are still waiting for the source water and receiving water analytical data, so is it possible to confirm our 7Q10 and DF factors without our WBQEL calcs. Our source water will be potable water and the tanks have been decontaminated.

I used the StreamStats program to calculate a 7Q10 value of 0.524 CFS. The client would like to meet our effluent limits as we will be discharging water from two ASTs (during separate events) following a hydrostatic pressure test; (design flow would be 235 gpm /0.334 MGD. The storage capacity of the tank is approximately 800,000 gallons which is why we'd like to max the design flow to meet our effluent limitation per the requirements of the permit. We will be discharging via an outfall on the base into the Cooley Brook. The Cooley Brook is freshwater and I calculated a dilution factor of 2.0 I did notice, however on the "MALimitsBook" excel spreadsheet, to leave the dilution factor as 0 for freshwater, but the permit application instructions it says differently. Could you clarify a little.

Let me know if you need additional information.

Thank you!
Mykel

Mykel Mendes
Environmental Engineer

BETA Group, Inc.
Worcester: 508.756.1600 ext. 158 | Lincoln: 401.333.2382

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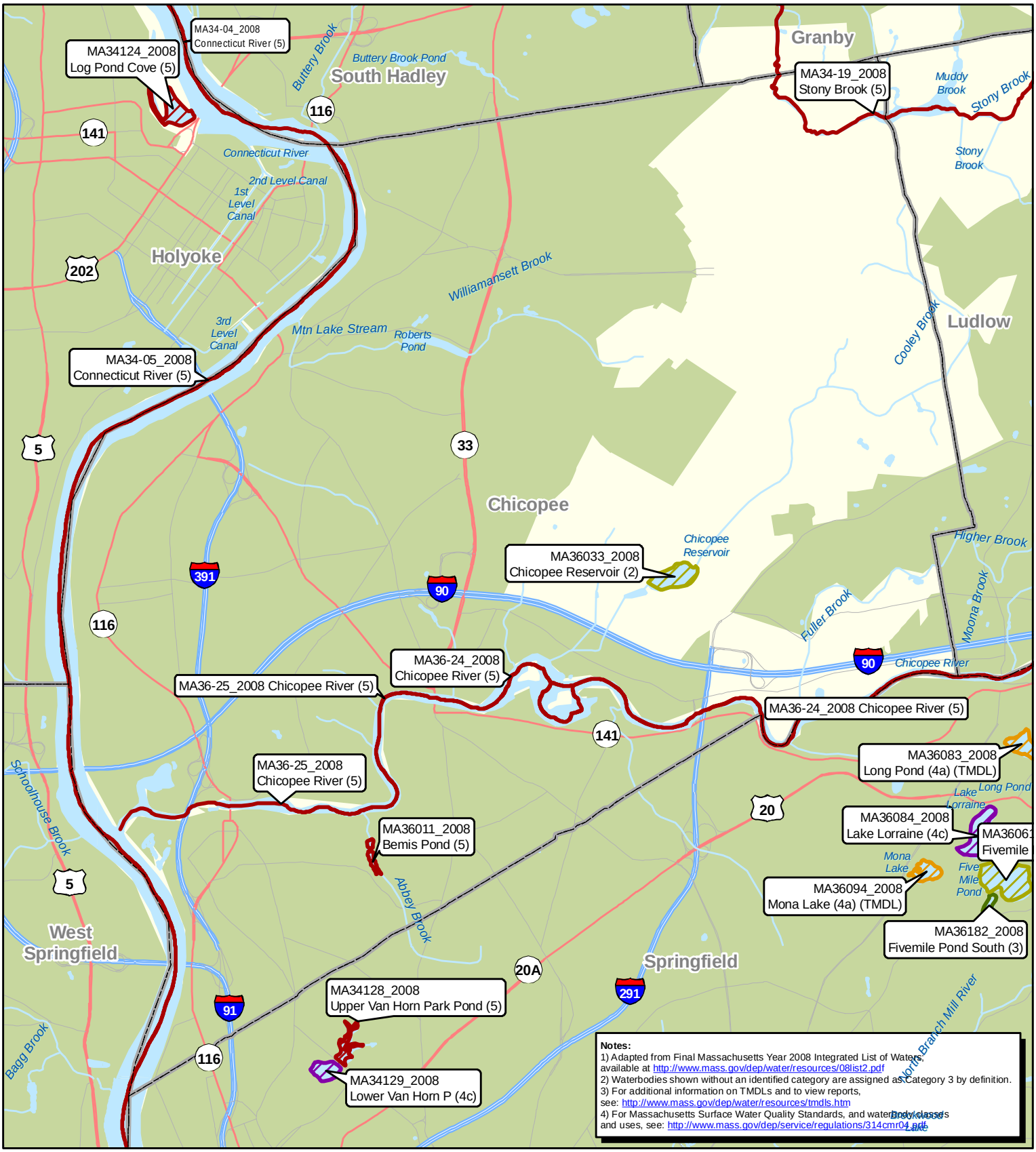
APPENDIX D

Receiving Water Information – Cooley Brook



Waterbody Assessment and TMDL Status
Chicopee, MA

N

0 0.5 Miles

EPA

Map produced by EPA Region I GIS Center
Map Tracker ID 6678, February 25, 2010
Data Sources: TeleAtlas, Census Bureau, USGS, MassDEP

Waterbody Label

State ID,
Waterbody Name (Category)
(TMDL(s) approved for this waterbody)

See companion table for a listing of pollutants, non-pollutants, and TMDLs for each waterbody

Assessment of Waterbody Segment

- Category 2: Attaining some uses; other uses not assessed
- Category 3: Insufficient information to make assessments for any use.
- Category 4a: TMDL is completed and approved for one or more pollutants
- Category 4c: Impairment not caused by a pollutant.
- Category 5: Impaired or threatened for one or more uses and requiring a TMDL.

- Waterbodies
- Swamp/Marsh
- MS4 Urbanized Areas (2000 Census)
- Municipal Boundaries

APPENDIX E

MARCIS Report and Fish and Wildlife Report Correspondence

BETA Group Inc.
701 George Washington Highway, Lincoln, RI 02865
P : 401.333.2832 |F: 401.333.9225 |W: beta-inc.com

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: April 05, 2021
Consultation Code: 05E1NE00-2021-SLI-2220
Event Code: 05E1NE00-2021-E-06969
Project Name: Westover ARB NPDES RGP

Subject: List of threatened and endangered species that may occur in your proposed project location 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: 05E1NE00-2021-SLI-2220
Event Code: 05E1NE00-2021-E-06969
Project Name: Westover ARB NPDES RGP
Project Type: OIL OR GAS
Project Description: Project includes the discharge of up to approximately 1.6 million gallons potable water from a hydrostatic pressure tank of two aboveground storage tanks located on the Westover ARB in Chicopee, MA via a NPDES RGP. The project is tentatively scheduled for the end of April 2021.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@42.188178750000006,-72.53940999028792,14z

Counties: Hampden County, Massachusetts

Endangered Species Act Species

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

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

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

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

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

Critical habitats

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

Massachusetts Cultural Resource Information System

MACRIS

MACRIS Search Results

Search Criteria: Town(s): Chicopee; Street No: 650; Street Name: Airlift Dr; Resource Type(s): Area, Building, Burial Ground, Object, Structure; Name: Westover ARB;

Inv. No.	Property Name	Street	Town	Year