NOTICE OF INTENT FOR

MASSACHUSETTS REMEDIATION GENERAL PERMIT

SHELL BRANDED SERVICE STATION
945 BELMONT STREET
BROCKTON, MA
FORMER RTN 4-1088

Prepared for:
COLBEA ENTERPRISES LLC
2050 PLAINFIELD PIKE
CRANSTON, RI 02921

February 2020

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1.0 INTRODUCTION

Tg2 Solutions, LLC (Tg2) prepared Notice of Intent (NOI) for a Massachusetts Remediation General Permit (RGP) for construction dewatering at the Shell-branded gasoline station located at 945 Belmont Street, in Brockton, Massachusetts on behalf of the site owner, Colbea Enterprises LLC (Colbea). 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. This site has formerly been identified by Massachusetts Department of Environmental Protection (MassDEP) as Release Tracking Number (RTN) 4-1088.

This NOI for an RGP is being submitted to account for site renovation activities being conducted at the facility. A portion of these activities include the dewatering of an excavation to allow for the removal and replacement of gasoline underground storage tanks (USTs). For the purpose of this NOI, the "facility" is defined as the area located within the property boundaries of 945 Belmont Street, in Brockton, Massachusetts. Note, the property appraiser lists this facility as 955 Belmont Street. A Site Locus Map is presented as **Figure 1**. A Site Plan is presented as **Figure 2**. A copy of the NOI is included as **Attachment A**.

2.0 GENERAL FACILITY INFORMATION

General site information for which this Phase I applies includes the following:

Property Owner/Facility Operator:	Thomas Breckel Operator Colbea Enterprises LLC 2050 Plainfield Pike Cranston, RI 02920 Tel: (401) 943-0005
Owner/Facility Operator Contact:	Eric D. Simpson, Environmental Program Director Esimpson@eastsodeenterprise.com Tel: (401) 943-0005
USGS Quadrangle:	Brockton, Massachusetts
Longitude, Latitude: (approximate)	- 71° 03' 20.76" W, 42° 03' 53.74" N
Site Zoning:	General Commercial

County: Plymouth

2.1 Facility Description

The facility is a Shell-branded service station located at 945 Belmont Street in a commercial area of Brockton, Massachusetts. The property is improved with a single-story building, which includes a convenience store and gasoline dispensers. Subsurface structures include three 10,000-gallon USTs and one 10,000-gallon diesel UST. The facility is located on a 0.96-acre parcel. Refer to **Figure 2** - Site Plan, for the location of existing UST systems, dispensers, sampling locations, and pertinent facility features.

2.2 Sensitive Environmental Receptors

The nearest surface water body is a drainage swale and its associated wetland, located approximately 100 feet to the west of the facility. Depth to water at the site has historically ranged from approximately six to nine feet below ground surface (bgs), depending on measurement location. Groundwater does not intersect surface water or wetland areas within the boundaries of the facility. A 100 year floodplain is collocated with the wetland. A waterbody assessment and TMDL status relative to the facility location is provided in **Figure 3**.

The facility is not located within a Zone II area, Interim Wellhead Protection Area (IWPA), or a Zone A or a Potentially Productive Aquifer. Areas of Critical Environmental Concern are not located within 500 feet of the site. Areas of Priority Habitats of Rare Species, Habitats of Rare Wildlife, or Certified Vernal Pools are not located within 500 feet of the facility. Areas of Concern in relation to the facility are located on **Figure 4**. **Figure 5** provides a Bureau of Waste Site Cleanup Receptor Map identifying potential environmental receptors within a 500 foot and ½ mile radius from the site.

2.3 National Pollutant Discharge Elimination System (NPDES) Status

Site redevelopment construction activities have not yet begun at the facility and are planned for mid to late spring 2020. 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. 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 groundwater samples collected at the facility, this site is not considered a new discharge.

3.0 DISCHARGE INFORMATION

This NOI for an RGP is being applied for groundwater discharge necessary during site redevelopment construction activities. These activities include the raze and rebuild of the facility building, and removal and replacement of the existing USTs and associated piping, and dispenser islands. The proposed discharge location for treated groundwater is a wetland located west of the property, as depicted on **Figure 2 and 2A**. This wetland discharges to an artificial pond that connects to the Coweeset Brook, an intermittent stream that becomes perennial after its confluence with the Dorchester Brook. The latitude and longitude of the catch basin discharge and outfall point are:

Wetland Discharge Point:

Latitude: 42.064844
Longitude: -71.056145

Outfall (Unnamed Pond) Point:

Latitude: 42.064787
Longitude: -71.058035

The dewatering and treatment system anticipated for this work includes a 20,000-gallon baffled setting fractionation tank, sediment bag filters, a greensand filter vessel for iron removal, and two activated carbon filter vessels for remaining contaminant removal. This system is designed to meet the required effluent limits for this permit. A diagram of the treatment system is provided on **Figure 6**.

Only one discharge point, described above, will be necessary for dewatering activities. The estimated maximum daily flow is 40 gallons per minute (gpm), with a design flow of 60 gpm. These estimations are expected to decrease once the excavation has been dewatered, and do not include surface run-off following precipitation events. The pH of onsite groundwater was measured at 6.53 (s.u.) and site activities are not anticipated to alter this pH. Discharge activities will only occur during site redevelopment, which is expected to occur in the late spring of 2020. The discharge point for these dewatering activities is a wetland west of the site. Areas of Concern in relation to the facility are located on **Figure 4**. **Figure 5** provides a Bureau of Waste Site Cleanup Receptor Map identifying potential environmental receptors within a 500 foot and ½ mile radius from the site.

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

3.1 Receiving Water Information

The receiving water for the indirect discharge of groundwater from the facility is Coweeset Brook, which merges with the Dorchester Brook. StreamStats was consulted and it was determined based on a location on Coweeset Brook, that the 7Q10 is 0.00386 cubic feet per second (cfs). The StreamStats Report is provided in **Attachment B**. Per the Waterbody Assessment and TMDL Status Map (**Figure 3**), Coweeset Brook does not have a TMDL assignment and has been assigned as Class B – no uses assessed.

3.2.1 Receiving Water Classification

The Coweeset Brook is classified as Class B and is not an Outstanding Resource Water. Based on the MassDEP Division of Water Pollution Control the downgradient discharge point is Coweeset Brook and does not appear classified:

https://www.mass.gov/doc/final-massachusetts-year-2016-integrated-list-of-waters/download

http://www.mass.gov/eea/docs/dep/water/laws/i-thru-z/tblfig.pdf

https://www.mass.gov/files/documents/2017/08/zu/16ilwplist.pdf

The Coweeset Brook is identified as segment ID MA62-22.

4.0 CONATAMINANT INFORMATION

On January 28, 2020, groundwater samples were collected from on-site monitoring well MW-2 and the outfall discharge location at the wetlands west of the facility. Groundwater samples collected from MW-2 during January 2020 were submitted to ESS Laboratory, Cranston, Rhode Island (ESS) for analysis of metals, hardness, ethanol, chloride, total cyanide, total petroleum hydrocarbons (TPH), total suspended solids (TSS), total residual chlorine (TRC), ammonia, hexavalent chromium, trivalent chromium, phenol, 1,4-dioxane, ethylene dibromide, volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), polychlorinated biphenyls (PBCs), tert-butyl alcohol (TBA), and tert-amyl methyl ether (TAME). Surface water samples from the discharge location, Discharge, during January 2020 were submitted to ESS for analysis of ammonia, hexavalent chromium, metals, iron, pH, hardness, and salinity.

Results from the groundwater sampling of MW-2 did not demonstrate concentrations of potential contaminants of concern (pCOCs) above detected above Massachusetts Department of Environmental Protection (MassDEP) reportable concentrations for groundwater (RCGW-2) or the technology-based effluent limitations (TBELs). The facility has previously been, and is currently, a gasoline and service station, and does not use

any pH neutralization or dechlorination chemicals. Based on the summarized groundwater sampling results there are potential water-quality issues in the vicinity of the discharge.

Results from the surface water sample (Discharge) did not demonstrate pCOCs exceeding TBELs or RCGW-2 standards. **Table 1** provides a summary of detected pCOCs from groundwater collected at the facility (influent) and the surface water sample. Groundwater and surface water laboratory analytical reports are provided in **Attachment C**.

5.0 DILUTION FACTOR

MassDEP was contacted on February 13, 2020 to confirm the 7Q10 flow and determine a dilution factor. Final correspondence received on February 18, 2020 confirmed a dilution factor of one (1). The Dilution Factor and Effluent Limitation Calculations fillable electronic spreadsheet was subsequently completed. Copies of the Dilution Factor and Effluent Limitation Calculations fillable electronic spreadsheet, StreamStats Report, and MassDEP correspondence are provided in **Attachment B**.

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. Therefore, this ESA determination is FWS Criterion C. Fish and Wildlife Service – New England Service Field Office Correspondence is provided as **Attachment D**.

7.0 DOCUMENTATION OF NATION HISTORIC PRESERVATION ACT (NHPA) REQUIREMENTS

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

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

A site vicinity map showing historic places within a quarter mile of the facility and a table documenting the historic places is provided in **Attachment E**. No historic places are located within 500 feet of the facility. Based on the scope of this work, it is unlikely that dewatering activities associated with the redevelopment of this facility will adversely affect any historic places.

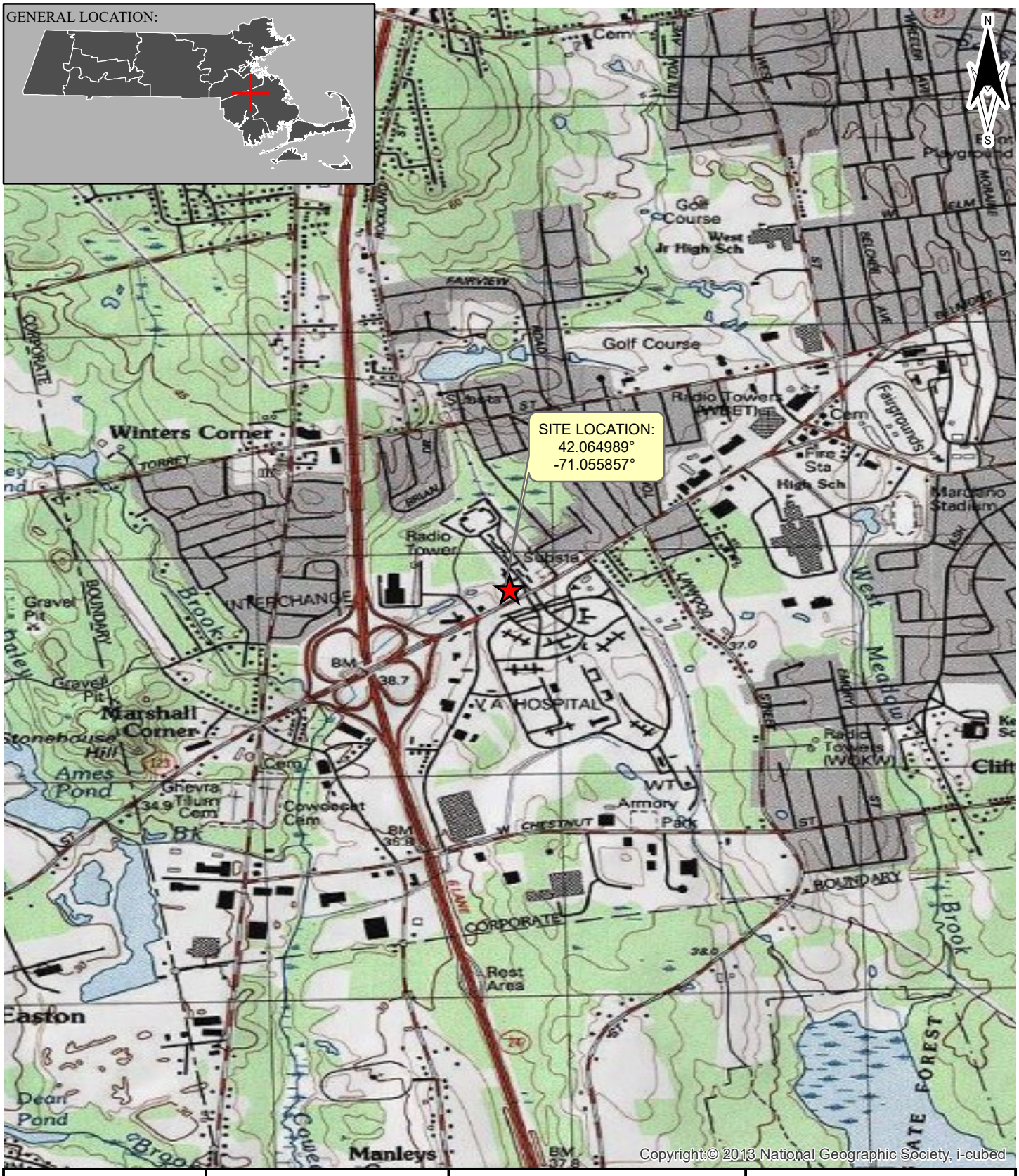
8.0 SUPPLEMENTAL INFORMATION

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

9.0 REDEVELOPMENT CONSTRUCTION SCHEDULE

Redevelopment construction activities requiring dewatering are anticipated to begin in spring 2020 and are anticipated to be complete by mid-summer 2020.

FIGURES



LEGEND

★ SITE LOCATION

NOTES:
1) NAD 83
2) LOCATION IS APPROXIMATE.

DATE: FEBRUARY 15, 2020

0 1,000 2,000 4,000
Feet

FIGURE 1

SITE LOCUS MAP

PREPARED BY:
TG2 SOLUTIONS LLC
231 ELM STREET
BLACKSTONE, MA 01504

SHELL-BRANDED STATION
945 BELMONT STREET
BROCKTON, MA

Legend

- RGP SAMPLE LOCATION
- DISCHARGE LOCATION
- PROPERTY BOUNDARY (APPROX)
- SITE LOCATION

NOTES:
1) NAD 83
2) PARCEL BOUNDARIES PROVIDED BY MASS GIS - LEVEL 3 ASSESSOR'S PARCELS (2015). ALL BOUNDARIES ARE APPROXIMATE AND SHOULD NOT BE USED TO DETERMINE LEGAL OWNERSHIP.
3) ALL FEATURE LOCATIONS ARE APPROXIMATE.

0 20 40 80
Feet

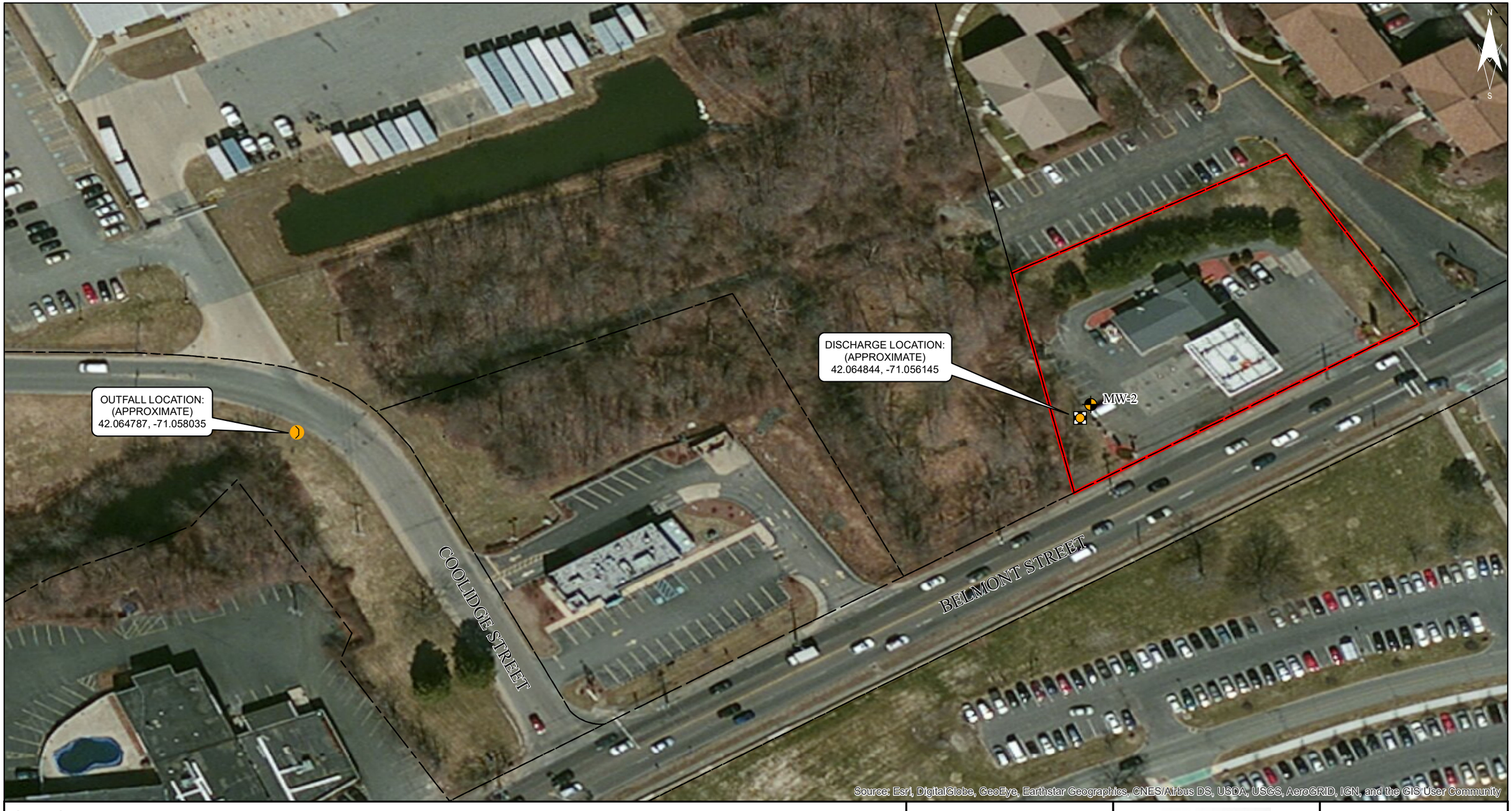
DATE: FEBRUARY 15, 2020

231 ELM STREET
BLACKSTONE, MA 01504

FIGURE 2

SITE PLAN

SHELL-BRANDED STATION
945 BELMONT STREET
BROCKTON, MA



Legend

- RGP SAMPLE LOCATION
- DISCHARGE LOCATION
- OUTFALL
- PROPERTY BOUNDARY (APPROX)
- SITE LOCATION

NOTES:
1) NAD 83
2) PARCEL BOUNDARIES PROVIDED BY MASS GIS - LEVEL 3 ASSESSOR'S PARCELS (2015). ALL BOUNDARIES ARE APPROXIMATE AND SHOULD NOT BE USED TO DETERMINE LEGAL OWNERSHIP.
3) ALL FEATURE LOCATIONS ARE APPROXIMATE.

0 40 80 160
Feet

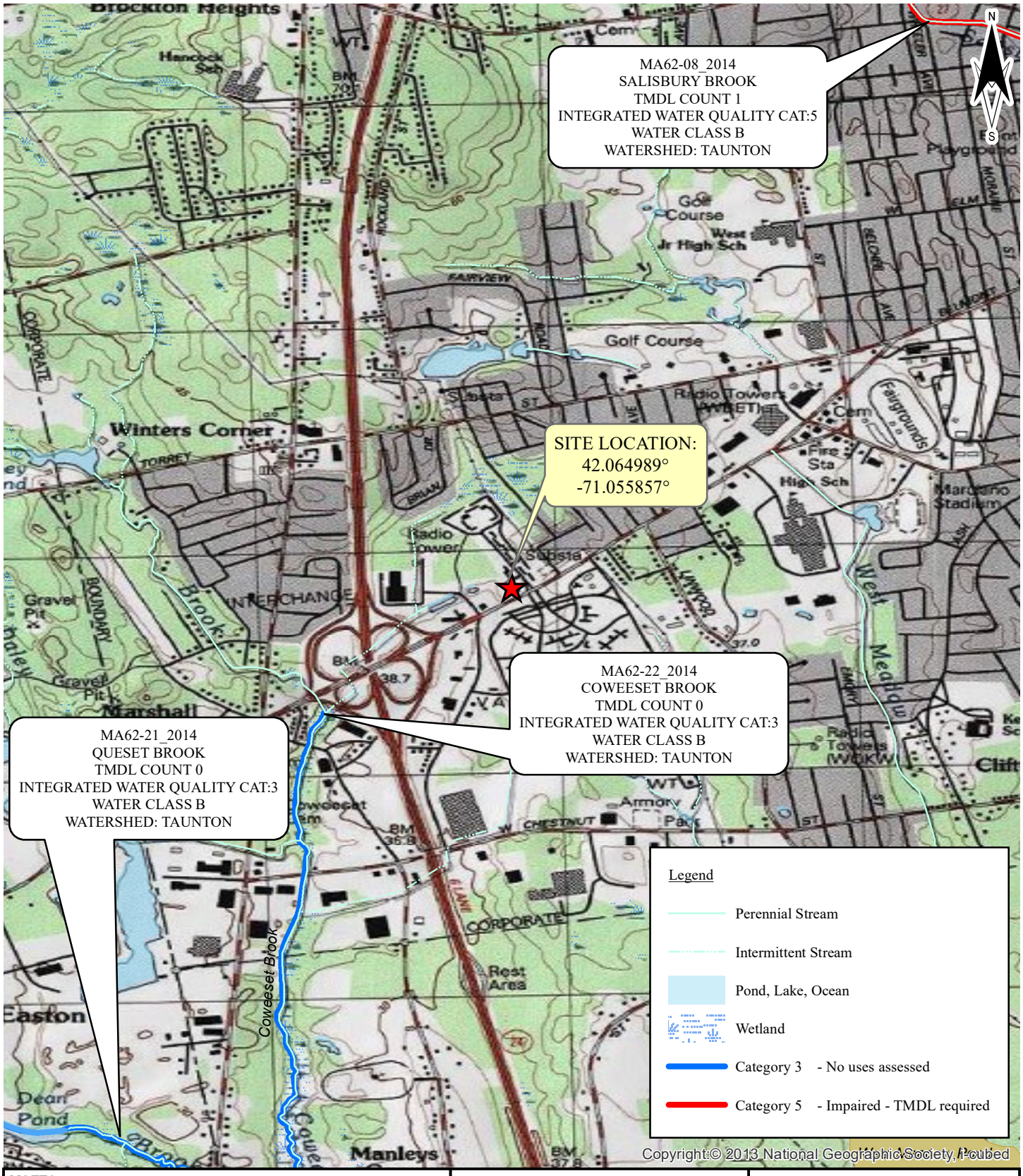
DATE: FEB. 13, 2020

231 ELM STREET
BLACKSTONE, MA 01504

FIGURE 2A

EXTENDED SITE PLAN

SHELL-BRANDED STATION
945 BELMONT STREET
BROCKTON, MA



NOTES:
1) NAD 83
2) MassDEP 2014 INTEGRATED LIST OF WATERS (305(b)/303(d)) (2016) AND MassDEP HYDROGRAPHY (2010)TAKEN FROM MASSGIS.
3. MA82A-015_2014: ASSESSMENT ID WITH REPORTING CYCLE YEAR
4. UNNAMED TRIBUTARY: WATERBODY NAME BASED ON SARIS, PALIS, OR CAMIS.
5: (1): NUMBER OF UNIQUE DWM/WPP TMDLs ASSOCIATED FOR ASSOCIATED REPORTING YEAR.
6: CLASS B: CLASS LISTED IN 314 CMR 4.05(3) AND (4).

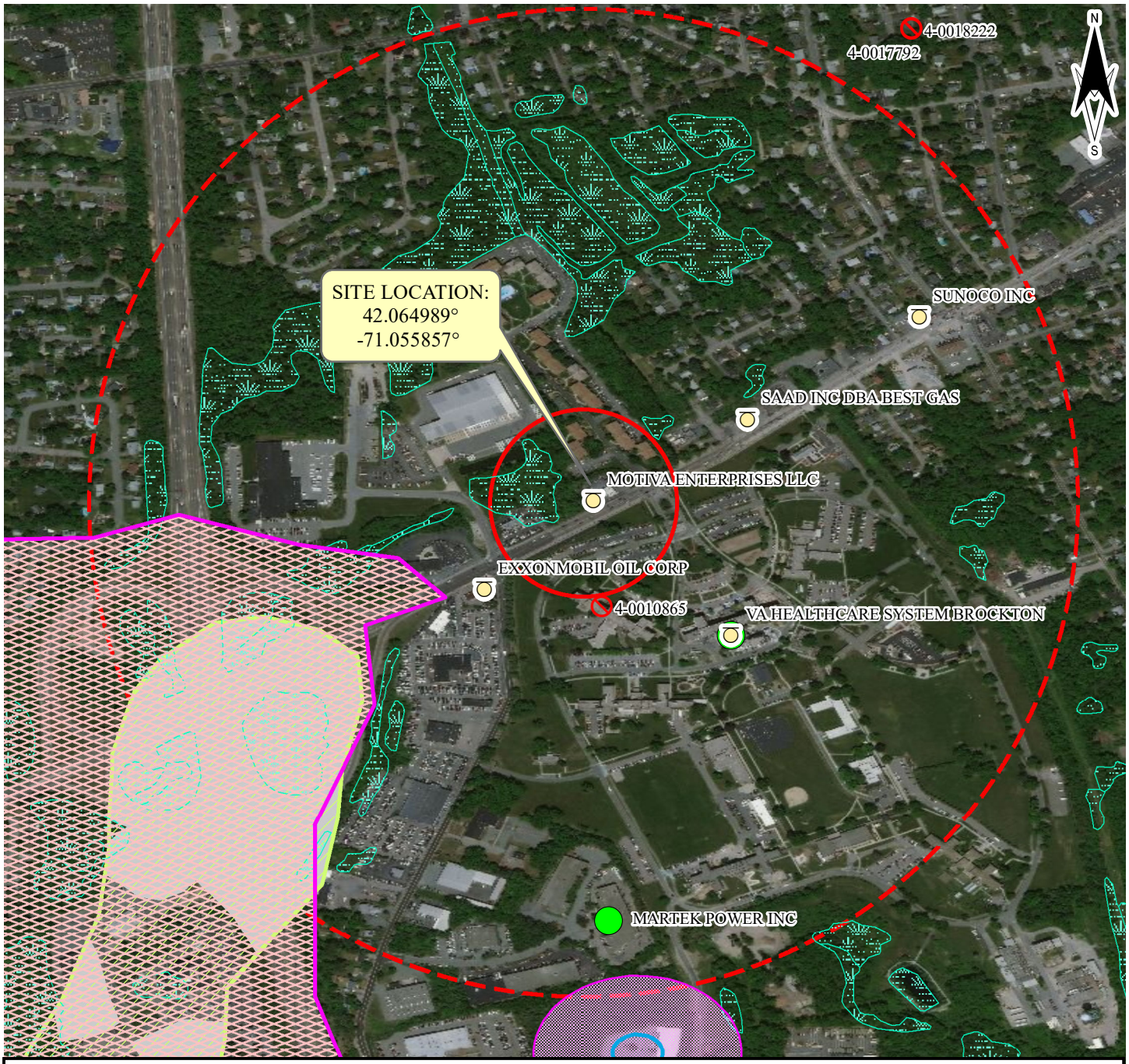
0 1,000 2,000 4,000
Feet

FIGURE 3

WATERBODY ASSESSMENT & TMDL STATUS

PREPARED BY:
TG2 SOLUTIONS LLC
231 ELM STREET
BLACKSTONE, MA 01504

SHELL-BRANDED STATION
945 BELMONT STREET
BROCKTON, MA



Legend

- Underground Storage Tanks
- AUL Site (with RTN)
- Bureau of Waste Prevention Major Facility
- Wetlands
- Medium Yield Aquifer
- Half-Mile Radius
- 500-Foot Radius
- DEP Approved Zone I
- DEP Approved Zone II
- IWPA
- Non Potential Drinking Water Source Area - Medium Yield

NOTES:
1) NAD 83
2) ALL LAYERS TAKEN FROM MASS GIS. THE MOST UP TO DATE DATA WAS USED FOR ALL LAYERS BUT IS SUBJECT TO CHANGE. ALL DATA MAINTAINED BY MASS GIS.

DATE: FEBRUARY 15, 2020

0 400 800 1,600
Feet

PREPARED BY:
TG2 SOLUTIONS LLC
231 ELM STREET
BLACKSTONE, MA 01504

FIGURE 4

AREAS OF ENVIRONMENTAL CONCERN

SHELL-BRANDED STATION
945 BELMONT STREET
BROCKTON, MA

MassDEP - Bureau of Waste Site Cleanup

FIGURE 5

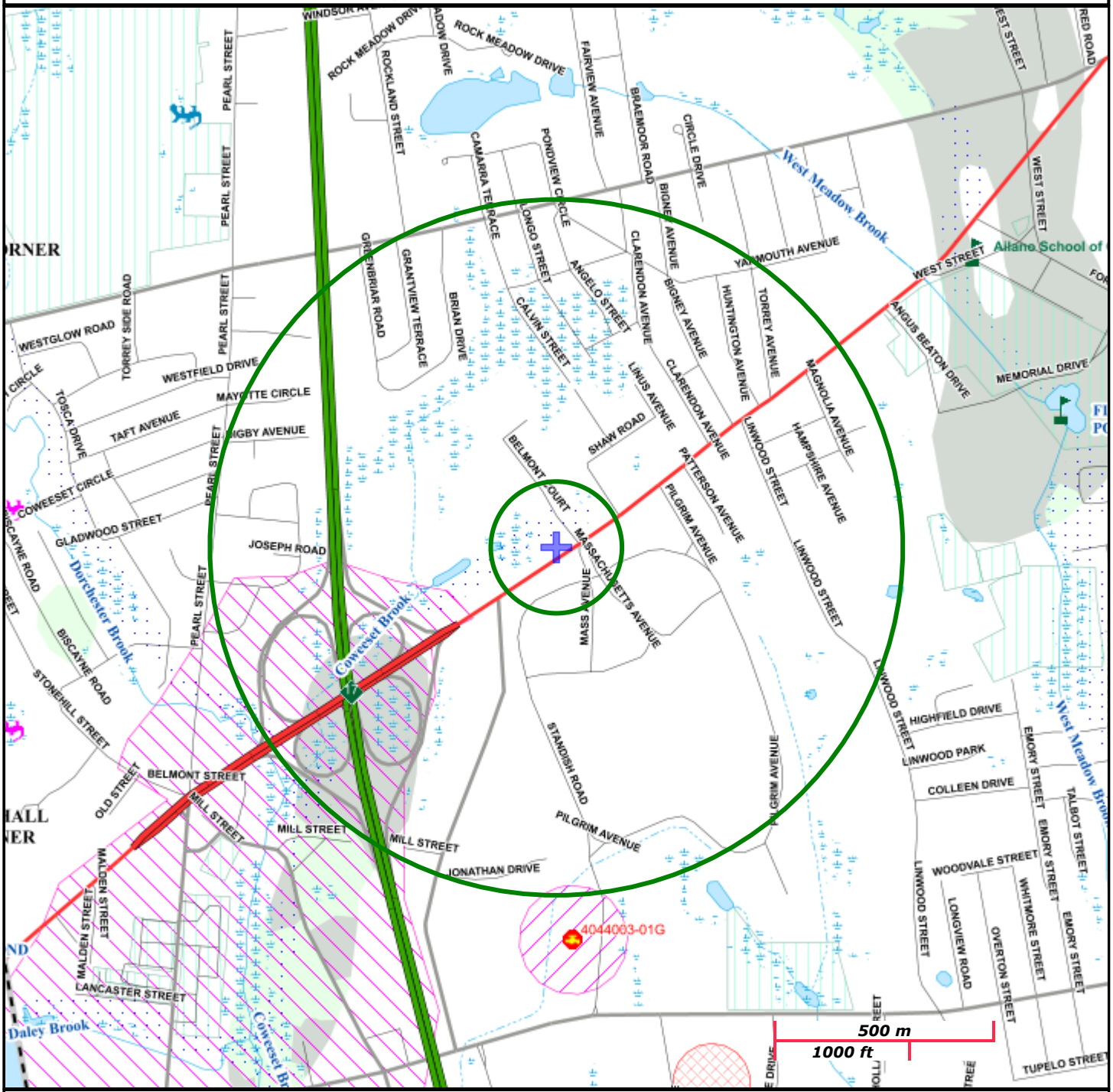
Phase 1 Site Assessment Map: 500 feet & 0.5 Mile Radii

Site Information:
SHELL-BRANDED SERVICE STATION
945 BELMONT STREET BROCKTON, MA

NAD83 UTM Meters:
4659035mN , 329912mE (Zone: 19)
February 15, 2020

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

MassDEP
Commonwealth of Massachusetts
Department of Environmental Protection



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

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

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

Aquifers: Medium Yield, High Yield, EPA Sole Source

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

PWS Protection Areas: Zone II, IWPA, Zone A

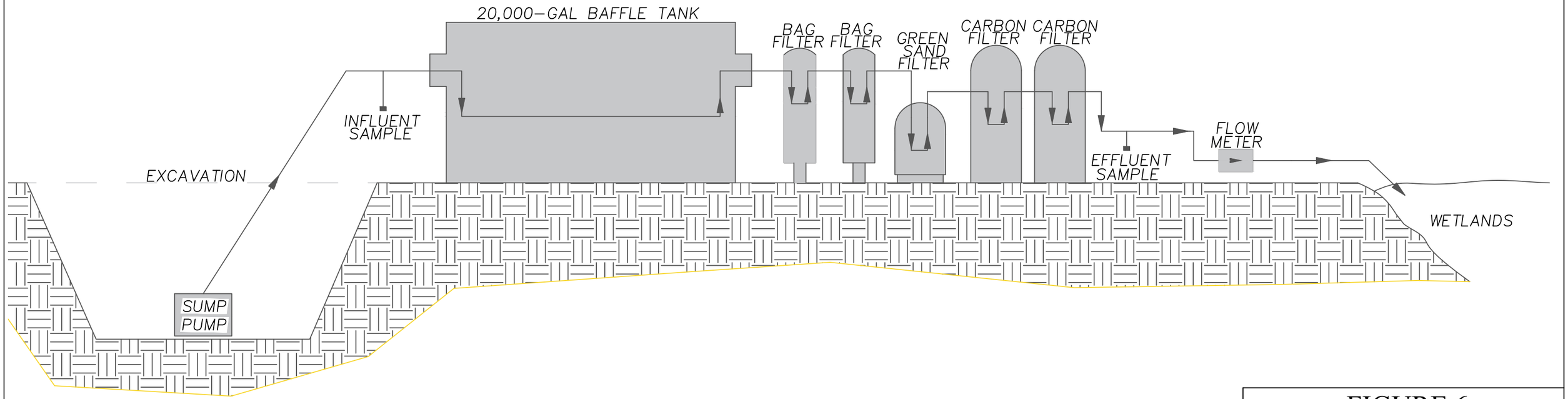
Hydrography: Open Water, PWS Reservoir, Tidal Flat

Wetlands: Freshwater, Saltwater, Cranberry Bog

FEMA 100yr Floodplain; Protected Open Space; ACEC

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

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



NOTES:
1) NOT TO SCALE.
2) THE DISTANCE FROM THE WETLAND DISCHARGE LOCATION TO THE OUTFALL IS APPROXIMATELY 500 FEET.

FIGURE 6

GROUNDWATER DEWATERING INSTALLATION DIAGRAM

SHELL-BRANDED SERVICE STATION
LOCATED AT
945 BELMONT STREET
BROCKTON, MA
PREPARED FOR
COLBEA ENTERPRISES LLC

TG2 SOLUTIONS, LLC
231 ELM STREET
BLACKSTONE, MA 0154

DATE: FEB. 13, 2020 REVISED:

TABLES

TABLE 1
SUMMARY OF WATER MONITORING DATA
Shell-Branded Service Station
945 Belmont Street
Brockton, Massachusetts

		Cadmium (µg/L)	Copper (µg/L)	Iron (µg/L)	Lead (µg/L)	Zinc (µg/L)	Ammonia (as N) (mg/L)	Chloride (mg/L)	Hardness (mg/L)	pH
MassDEP Reportable Concentrations (RCGW-2)		4	100,000	NA	1,000	900	NA	NA	NA	NA
Effluent Limitations - TBEL		10.2	242	5,000	160	420	Report	Report	NA	NA
Well ID	**Sample Date**									
Receiving Water - Discharge	01/28/20	**0.4**	**6.8**	**640**	**1.6**	**35.5**	**0.15**	--	**99.7**	**6.19**
MW-2	01/28/20	**0.2**	ND	**56.7**	ND	**9.4**	**0.13**	**376**	**85.0**	**6.53**

Notes:
µg/L - micrograms per liter
mg/L - milligram per liter
MassDEP - Massachusetts Department of Envnironmental Protection
NA - not available
TBEL - Technology-Based Effluent Limitations
"--" - not sampled
MTBE - Methyl tert-Butyl Ether
[a] - Total Group I PAHs is the sum of: benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, dibenzo(a,h)anthracene, and indeno(1,2,3-cd)pyrene. The compliance level for each individual PAH is 0.1 µg/L.
[b] - Total Group II PAHs is the sum of: acenaphthene, acenaphthylene, anthracene, benzo(g,h,i)perylene, fluoranthene, fluorene, naphthalene, phenanthrene, and pyrene. The total compliance level for Group II PAHs is 100 µg/L.
Bold - above method detection limits
Bold & Shaded - above RCGW-2 and/or TBEL Effluent Limitations

ATTACHMENT A

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

A. General site information:

<table>
<tr><td rowspan="2">1. Name of site:

Colbea Shell-Branded Gasoline Station
945 Belmont Street, Brockton, MA ת</td><td colspan="3">Site address:
Street: 945 Belmont Street</td></tr>
<tr><td>City: Brockton</td><td>State: MA</td><td>Zip: 02301</td></tr>
<tr><td rowspan="4">2. Site owner

Colbea Enterprises, LLC
2050 Plainfield Pike
Cranston, RI 02921

Owner is (check one): ☐ Federal ☐ State/Tribal ☒ Private
☐ Other; if so, specify:</td><td colspan="3">Contact Person: Eric Simpson</td></tr>
<tr><td colspan="2">Telephone: 401-943-0005</td><td>Email: Esimpson@eastsodeenterprise.com</td></tr>
<tr><td colspan="3">Mailing address:
Street: 2050 Plainfield Pike</td></tr>
<tr><td>City: Cranston</td><td>State: RI</td><td>Zip: 02920</td></tr>
<tr><td rowspan="4">3. Site operator, if different than owner

Same as owner</td><td colspan="3">Contact Person: Same as above</td></tr>
<tr><td colspan="2">Telephone:</td><td>Email:</td></tr>
<tr><td colspan="3">Mailing address:
Street:</td></tr>
<tr><td>City:</td><td>State:</td><td>Zip:</td></tr>
<tr><td colspan="2">4. NPDES permit number assigned by EPA:

NPDES permit is (check all that apply: ☑ RGP ☐ DGP ☐ CGP
☐ MSGP ☐ Individual NPDES permit ☐ Other; if so, specify:</td><td colspan="2">5. Other regulatory program(s) that apply to the site (check all that apply):
☑ MA Chapter 21e; list RTN(s): Former 4-1088
☐ 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):
Wetland to Coweeset Brook	MA62-22	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. Not listed/classified

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.	0.00386 cfs
5. Indicate the requested dilution factor for the calculation of water quality-based effluent limitations (WQBELs) determined in accordance with the instructions in Appendix V for sites in Massachusetts and Appendix VI for sites in New Hampshire.	1.0

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: February 18, 2020

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

C. Source water information:

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

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

2. Source water contaminants:	
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): The proposed discharge location for treated groundwater is a wetland located immediately west of the site, which discharges to Coweeset Brook.	Outfall location(s): (Latitude, Longitude) Wetland Discharge Point: Latitude: 42.064844, Longitude:-71.056145 Outfall (Unnamed Pond) Point: Latitude: 42.064787, Longitude: -71.05803529
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 to June 2020 for construction, dewatering expected to be less than that 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		x	1	350.1	0.10	0.13	0.13	Report mg/L	---
Chloride		x	1	300.0	50	376,000	376,000	Report µg/l	---
Total Residual Chlorine	x		1	4500CID	0.02	<0.02	0.0	0.2 mg/L	11
Total Suspended Solids	x		1	2340D	5	<5	0.0	30 mg/L	–
Antimony	x		1	200.8	5	<5	0.0	206 µg/L	–
Arsenic	x		1	3113B	0.5	<0.5	0.0	104 µg/L	–
Cadmium		x	1	200.8	0.1	0.2	0.2	10.2 µg/L	–
Chromium III	x		1	200.7	2	<2	0.0	323 µg/L	–
Chromium VI	x		1	3500Cr	10	<10	0.0	323 µg/L	–
Copper	x		1	200.7	2.0	<2	0.0	242 µg/L	–
Iron		x	1	200.7	10	56.7	56.7	5,000 µg/L	–
Lead	x		1	200.7	0.5	<0.5	0.0	160 µg/L	–
Mercury	x		1	245.1	0.2	<0.2	0.0	0.739 µg/L	–
Nickel	x		1	200.7	5.0	<5.0	0.0	1,450 µg/L	–
Selenium	x		1	200.7	1	<1	0.0	235.8 µg/L	–
Silver	x		1	200.7	1	<1	0.0	35.1 µg/L	–
Zinc		x	1	200.7	5	9.4	9.4	420 µg/L	–
Cyanide	x		1	4500CN CE	5	<5	0.0	178 mg/L	–
B. Non-Halogenated VOCs									
Total BTEX	x		1	524.2	0.5	<0.5	0.0	100 µg/L	---
Benzene	x		1	524.2	0.5	<0.5	0.0	5.0 µg/L	---
1,4 Dioxane	x		1	8270 D SIM	0.250	<0.250	0.0	200 µg/L	---
Acetone	x		1	524.2	5.0	<5.0	0.0	7.97 mg/L	---
Phenol	x		1	420.1	50	<50	0.0	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	x		1	524.2	0.3	<0.3	0.0	4.4 µg/L	–
1,2 Dichlorobenzene	x		1	524.2	0.5	<0.5	0.0	600 µg/L	---
1,3 Dichlorobenzene	x		1	524.2	0.5	<0.5	0.0	320 µg/L	---
1,4 Dichlorobenzene	x		1	524.2	0.5	<0.5	0.0	5.0 µg/L	---
Total dichlorobenzene	x		1	524.2	0.5	<0.5	0.0	763 µg/L in NH	---
1,1 Dichloroethane	x		1	524.2	0.5	<0.5	0.0	70 µg/L	---
1,2 Dichloroethane	x		1	524.2	0.5	<0.5	0.0	5.0 µg/L	---
1,1 Dichloroethylene	x		1	524.2	0.5	<0.5	0.0	3.2 µg/L	---
Ethylene Dibromide	x		1	524.2	0.5	<0.5	0.0	0.05 µg/L	---
Methylene Chloride	x		1	524.2	0.5	<0.5	0.0	4.6 µg/L	---
1,1,1 Trichloroethane	x		1	524.2	0.5	<0.5	0.0	200 µg/L	---
1,1,2 Trichloroethane	x		1	524.2	0.5	<0.5	0.0	5.0 µg/L	---
Trichloroethylene	x		1	524.2	0.5	<0.5	0.0	5.0 µg/L	---
Tetrachloroethylene	x		1	524.2	0.5	<0.5	0.0	5.0 µg/L	–
cis-1,2 Dichloroethylene	x		1	524.2	0.5	<0.5	0.0	70 µg/L	---
Vinyl Chloride	x		1	524.2	0.2	<0.2	0.0	2.0 µg/L	---
D. Non-Halogenated SVOCs									
Total Phthalates	x		1	625.1 SIM	2.34	<2.34	0.0	190 µg/L	–
Diethylhexyl phthalate	x		1	625.1 SIM	2.34	<2.34	0.0	101 µg/L	–
Total Group I PAHs	x		1	625.1 SIM	0.05	<0.05	0.0	1.0 µg/L	---
Benzo(a)anthracene	x		1	625.1 SIM	0.05	<0.05	0.0	As Total PAHs	–
Benzo(a)pyrene	x		1	625.1 SIM	0.05	<0.05	0.0		–
Benzo(b)fluoranthene	x		1	625.1 SIM	0.05	<0.05	0.0		–
Benzo(k)fluoranthene	x		1	625.1 SIM	0.05	<0.05	0.0		–
Chrysene	x		1	625.1 SIM	0.05	<0.05	0.0		–
Dibenzo(a,h)anthracene	x		1	625.1 SIM	0.05	<0.05	0.0		–
Indeno(1,2,3-cd)pyrene	x		1	625.1 SIM	0.05	<0.05	0.0		–

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	x		1	625.1 SIM	0.19	<0.19	0.0	100 µg/L	---
Naphthalene	x		1	625.1 SIM	0.19	<0.19	0.0	20 µg/L	---
E. Halogenated SVOCs									
Total PCBs	x		1	608.3	0.09	<0.09	0.0	0.000064 µg/L	---
Pentachlorophenol	x		1	625.1 SIM	0.84	<0.84	0.0	1.0 µg/L	---
F. Fuels Parameters									
Total Petroleum Hydrocarbons	x		1	1664A	5	<5.0	0.0	5.0 mg/L	---
Ethanol	x		1	D3695	10	<10	0.0	Report mg/L	---
Methyl-tert-Butyl Ether	x		1	524.2	0.5	<0.5	0.0	70 µg/L	
tert-Butyl Alcohol	x		1	524.2	25.0	<25	0.0	120 µg/L in MA 40 µg/L in NH	---
tert-Amyl Methyl Ether	x		1	524.2	1.0	<1.0	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:									
Hardness		x	1	200.7	82.4	85,000	85,000		
pH		x	1	9040	—	**6.53**			

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.

See NOI RGP Report Section 3.0, and Figure 6

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:	60 gpm
Provide the proposed maximum effluent flow in gpm.	40 gpm
Provide the average effluent flow in gpm.	< 40 gpm
If Activity Category IV applies, indicate the estimated total volume of water that will be discharged:	

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

F. Chemical and additive information

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

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

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

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

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

G. Endangered Species Act eligibility determination

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

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

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

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

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

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

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

H. National Historic Preservation Act eligibility determination

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

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

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

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

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

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

I. Supplemental information

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

Please refer to the NOI RGP Report, attached. This report includes a site map with discharge and outfall locations, water classifications, potential environmental receptors, groundwater analytical tables and laboratory analytical reports, and supporting documentation for the ESA determination and historic sites within the vicinity of the facility this NOI RGP is being applied for.

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

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

J. Certification requirement

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I have no personal knowledge that the information submitted is other than true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.	
BMPP certification statement: A BMPP meeting the requirements of this general permit will be developed and implemented upon initiation of discharge.	
Notification provided to the appropriate State, including a copy of this NOI, if required.	Check one: Yes ☑ No ☐
Notification provided to the municipality in which the discharge is located, including a copy of this NOI, if requested.	Check one: Yes ☑ No ☐
Notification provided to the owner of a private or municipal storm sewer system, if such system is used for site discharges, including a copy of this NOI, if requested.	Check one: Yes ☑ No ☐ NA ☐
Permission obtained from the owner of a private or municipal storm sewer system, if such system is used for site discharges. If yes, attach additional conditions. If no, attach explanation and timeframe for obtaining permission.	Check one: Yes ☑ No ☐ NA ☐
Notification provided to the owner/operator of the area associated with activities covered by an additional discharge permit(s). Additional discharge permit is (check one): ☐ RGP ☐ DGP ☐ CGP ☐ MSGP ☐ Individual NPDES permit ☐ Other; if so, specify:	Check one: Yes ☐ No ☐ NA ☑
Signature: Eric Simpson	Date: 2/14/2020
Print Name and Title: Eric Simpson - Environmental Manager	

ATTACHMENT B

Subject: RE: RGP NOI - 945 Belmont St, Brockton
Date: Tuesday, February 18, 2020 at 1:09:52 PM Eastern Standard Time
From: Ruan, Xiaodan (DEP)
To: 'lsmith@tg2solutions.com'
CC: Vakalopoulos, Catherine (DEP)

Hi Leah,

Based on the information you provided and I also checked the GIS, it looks like the discharge is going into a wetland and then an artificial pond that connects to the Coweeset Brook which is an intermittent stream at the beginning, but then become perennial after its confluence with the Dorchester Brook. Because of the nature of the receiving waters (wetland, artificial pond and intermittent stream), the dilution factor would be 1.

Here is some information that will help you fill out the NOI:

The segment ID for the perennial portion of the Coweeset Brook is MA62-22, is classified as Class B, is not an Outstanding Resource Water, and is listed as "No uses assessed" on the State's Integrated List of Waters: https://www.mass.gov/doc/final-massachusetts-year-2016-integrated-list-of-waters/download.

Also, if the site is not *currently* being regulated by the MCP then in addition to submitting the NOI, you also need to apply with MassDEP by submitting a transmittal form and a $500 fee (unless fee exempt). The instructions are located here: https://www.mass.gov/how-to/wm-15-npdes-general-permit-notice-of-intent. Please make sure to also send me a copy of the transmittal form (I'm mentioning this here because it's not in the online instructions yet).

Let me know if you have any questions.

Thanks,
Xiaodan

From: Vakalopoulos, Catherine (DEP) <catherine.vakalopoulos@mass.gov>
Sent: Friday, February 14, 2020 6:11 PM
To: Ruan, Xiaodan (DEP) <xiaodan.ruan@mass.gov>
Cc: 'lsmith@tg2solutions.com' <lsmith@tg2solutions.com>
Subject: FW: RGP NOI - 945 Belmont St, Brockton

Hi Xiaodan,
I was not able to get to this today. Can you please check this when you get back into the office on Tuesday? If not, let me know.
Thanks,
Cathy

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

From: Leah Smith [mailto:lsmith@tg2solutions.com]
Sent: Thursday, February 13, 2020 9:27 PM

To: Vakalopoulos, Catherine (DEP)
Cc: Jason Sherburne; Eric Simpson
Subject: RGP NOI - 945 Belmont St, Brockton

Good evening,

I'm working on a RGP on behalf of a client to complete a NOI for a RGP for redevelopment activities at 945 Belmont Street, Brockton. This facility is an active gasoline station with a closed RTN (4-1088) and is being redeveloped into an updated gasoline station facility with new tanks, etc.

Attached please find the dilution factor spreadsheet and effluent limit calculations, as well as the StreamStats output. The discharge location is a wetland located west of the site property, which discharges to an unnamed pond that appears to connect with an unnamed intermittent stream located west of the site – see Figure 2A. The unnamed stream connects to Dorchester Brook southwest of the interchange. The discharge flow was calculated based on the design flow: (60 gpm x 60 mph x 24h) / 1 million = 0.0864 mgd. The latitude and longitude of the wetland discharge point and outfall point are:

Wetland Discharge Point:

Latitude:	42.064844
Longitude:	-71.056145

Outfall Point:

Latitude:	42.064787
Longitude:	-71.058035

I've also attached a table with the summary of contaminants detected in the influent sample (site groundwater) and the outfall surface water sample.

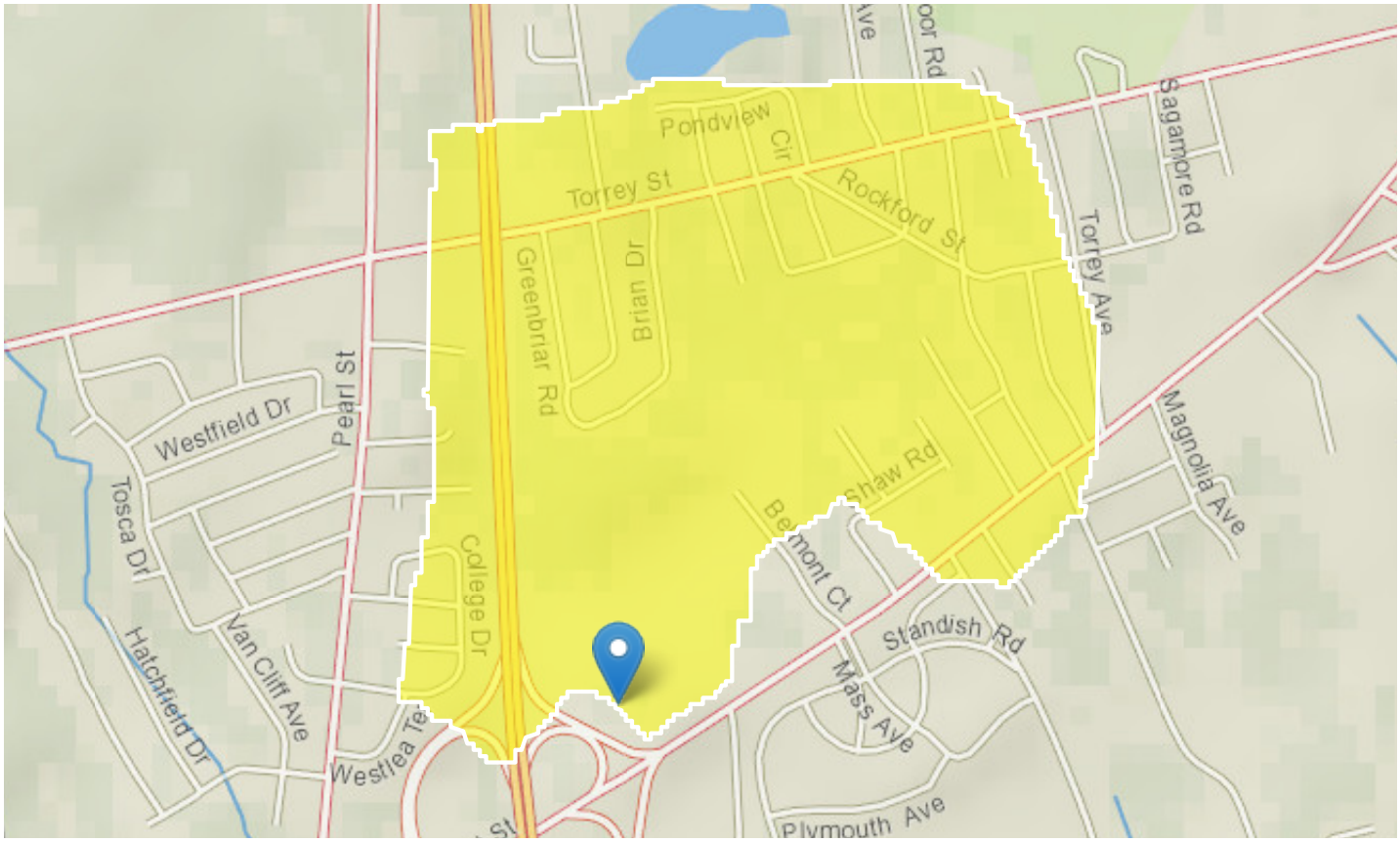
Could you please verify the 7Q10 information and dilution factor? Please let me know if you require any additional information.

Thanks for your help.

Leah

StreamStats Report

Region ID:
MA
Workspace ID:
MA20200209233154654000
Clicked Point (Latitude, Longitude):
42.06390, -71.05978
Time:
2020-02-09 18:32:09 -0500



Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	0.39	square miles
DRFTPERSTR	Area of stratified drift per unit of stream length	0.0874	square mile per mile
MAREGION	Region of Massachusetts 0 for Eastern 1 for Western	0	dimensionless
BSLDEM250	Mean basin slope computed from 1:250K DEM	1.095	percent
ELEV	Mean Basin Elevation	132	feet
LC06STOR	Percentage of water bodies and wetlands determined from the NLCD 2006	2.06	percent

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

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.39	square miles	1.61	149
DRFTPERSTR	Stratified Drift per Stream Length	0.0874	square mile per mile	0	1.29
MAREGION	Massachusetts Region	0	dimensionless	0	1
BSLDEM250	Mean Basin Slope from 250K DEM	1.095	percent	0.32	24.6

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

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

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

Statistic	Value	Unit
50 Percent Duration	0.366	ft^3/s
60 Percent Duration	0.231	ft^3/s
70 Percent Duration	0.122	ft^3/s
75 Percent Duration	0.0893	ft^3/s
80 Percent Duration	0.0596	ft^3/s
85 Percent Duration	0.0387	ft^3/s
90 Percent Duration	0.0237	ft^3/s
95 Percent Duration	0.0117	ft^3/s
98 Percent Duration	0.00741	ft^3/s
99 Percent Duration	0.00493	ft^3/s

Flow-Duration 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/)

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

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.39	square miles	1.61	149
BSLDEM250	Mean Basin Slope from 250K DEM	1.095	percent	0.32	24.6
DRFTPERSTR	Stratified Drift per Stream Length	0.0874	square mile per mile	0	1.29
MAREGION	Massachusetts Region	0	dimensionless	0	1

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

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

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

Statistic	Value	Unit
7 Day 2 Year Low Flow	0.0145	ft^3/s
7 Day 10 Year Low Flow	0.00386	ft^3/s

Low-Flow Statistics Citations

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

Peak-Flow Statistics Parameters[Peak Statewide 2016 5156]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.39	square miles	0.16	512
ELEV	Mean Basin Elevation	132	feet	80.6	1948
LC06STOR	Percent Storage from NLCD2006	2.06	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
2 Year Peak Flood	20.1	ft^3/s	10.1	40	42.3
5 Year Peak Flood	33.9	ft^3/s	16.8	68.6	43.4
10 Year Peak Flood	45	ft^3/s	21.7	93.3	44.7
25 Year Peak Flood	61.3	ft^3/s	28.5	132	47.1
50 Year Peak Flood	74.8	ft^3/s	33.7	166	49.4
100 Year Peak Flood	89.3	ft^3/s	38.9	205	51.8
200 Year Peak Flood	105	ft^3/s	44.4	249	54.1
500 Year Peak Flood	128	ft^3/s	51.5	319	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)

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Application Version: 4.3.11

Enter number values in green boxes below

Enter values in the units specified

↓		
0.00386	Q_R = Enter upstream flow in **MGD**	Freshwater: Q_R equal to the 7Q10; enter alternate Q_R if approved by the State; enter 0 if no dilution factor approved
0.0864	Q_P = Enter discharge flow in **MGD**	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
0	Downstream 7Q10	Only if approved by State as the entry for Q_R; leave 0 if no entry

Enter a dilution factor, if other than zero

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

Enter values in the units specified

↓		
85	C_d = Enter influent hardness in **mg/L** $CaCO_3$	Freshwater only
99.7	C_s = Enter receiving water hardness in **mg/L** $CaCO_3$	

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

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

Enter **influent** concentrations in the units specified

↓		
0	TRC in **µg/L**	if >1 sample, enter maximum
0.13	Ammonia in **mg/L**	if >10 samples, may enter 95th percentile
0	Antimony in **µg/L**	Enter 0 if non-detect or testing not required
0	Arsenic in **µg/L**	
0	Cadmium in **µg/L**	
0	Chromium III in **µg/L**	
0	Chromium VI in **µg/L**	
0	Copper in **µg/L**	
56.7	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**	
9.4	Zinc in **µg/L**	
0	Cyanide in **µg/L**	
0	Phenol in **µg/L**	
0	Carbon Tetrachloride in **µg/L**	
0	Tetrachloroethylene in **µg/L**	
0	Total Phthalates in **µg/L**	
0	Diethylhexylphthalate in **µg/L**	
0	Benzo(a)anthracene in **µg/L**	
0	Benzo(a)pyrene in **µg/L**	
0	Benzo(b)fluoranthene in **µg/L**	
0	Benzo(k)fluoranthene in **µg/L**	
0	Chrysene in **µg/L**	
0	Dibenzo(a,h)anthracene in **µg/L**	
0	Indeno(1,2,3-cd)pyrene in **µg/L**	
0	Methyl-tert butyl ether in **µg/L**	

I. Dilution Factor Calculation Method

A. 7Q10

Refer to Appendix V for determining critical low flow; must be approved by State before use in calculations.

B. Dilution Factor

Calculated as follows:

$$Df = \frac{Q_R + Q_P}{Q_P}$$

Q_R = 7Q10 in MGD

Q_P = Discharge flow, in MGD

II. Effluent Limitation Calculation Method

A. Calculate Water Quality Criterion:

Step 1. Downstream hardness, calculated as follows:

$$C_r = \frac{Q_dC_d + Q_sC_s}{Q_r}$$

C_r = Downstream hardness in mg/L

Q_d = Discharge flow in MGD

C_d = Discharge hardness in mg/L

Q_s = Upstream flow (7Q10) in MGD

C_s = Upstream (receiving water) hardness in mg/L

Q_r = Downstream receiving water flow in MGD

Step 2. Total recoverable water quality criteria for hardness-dependent metals, calculated as follows:

Total Recoverable Criteria = $\exp\{m_c[\ln(h)] + b_c\}$

m_c = Pollutant-specific coefficient (m_a for silver)

b_c = Pollutant-specific coefficient (b_a for silver)

ln = Natural logarithm

h = Hardness calculated in Step 1

Step 3. Total recoverable water quality criteria for non-hardness-dependent metals, calculated as follows:

$$\text{WQC in µg/L} = \frac{\text{dissolved WQC in µg/L}}{\text{dissolved to total recoverable factor}}$$

B. Calculate WQBEL:

Step 1. WQBEL calculated as follows for parameter sampled in and detected in the receiving water:

$$C_d = \frac{Q_r C_r - Q_sC_s}{Q_d}$$

C_r = Water quality criterion in µg/I

Q_d = Discharge flow in MGD

C_d = WQBEL in µg/L

Q_s = Upstream flow (7Q10) in MGD

C_s = Ustream (receiving water) concentration in µg/L

Q_r = Downstream receiving water flow in MGD

Step 2. WQBEL calculated as follows for parameter not sampled in or not detected in receiving water:

$$C_d = (Q_r/Q_d) \times C_r$$

C_r = Water quality criterion in µg/I
Q_d = Discharge flow in MGD
Q_r = Downstream receiving water flow in MGD

C. Determine if a WQBEL applies:

Step 1. For parameter sampled in and detected in receiving water, downstream concentrations calculated as follows:

$$C_r = \frac{Q_dC_d + Q_sC_s}{Q_r}$$

C_r = Downstream concentration in µg/L
Q_d = Discharge flow in MGD
C_d = Influent concentration in µg/L
Q_s = Upstream flow (7Q10) in MGD
C_s = Upstream (receiving water) concentration in µg/L
Q_r = Downstream receiving water flow in MGD

The WQBEL applies if:

1) the projected downstream concentration calculated in accordance with Step 1, above, and the discharge concentration of a parameter are greater than the WQC calculated for that parameter in accordance with II.A, above

AND

2) the WQBEL determined for that parameter in accordance with II.B, above, is less than the TBEL in Part 2.1.1 of the RGP for that parameter. Otherwise, the TBEL in Part 2.1.1 of the RGP for that parameter applies.

Step 2. For a parameter not sampled in or not detected in receiving water, the WQBEL applies if:

1) the discharge concentration of a parameter is greater than the WQBEL determined for that parameter in accordance with II.A or II.B, above;

AND

2) the WQBEL determined for that parameter in accordance with II.A or II.B, above is less than the TBEL in Part 2.1.1 of the RGP for that parameter. Otherwise, the TBEL in

Part 2.1.1 of the RGP for that parameter applies.

Dilution Factor	1.0					
A. Inorganics	TBEL applies if bolded		WQBEL applies if bolded		Compliance Level applies if shown	
Ammonia	**Report**	mg/L	---			
Chloride	**Report**	µg/L	---			
Total Residual Chlorine	0.2	mg/L	**11**	µg/L	50	µg/L
Total Suspended Solids	**30**	mg/L	---			
Antimony	**206**	µg/L	669	µg/L		
Arsenic	**104**	µg/L	10	µg/L		
Cadmium	**10.2**	µg/L	0.2520	µg/L		
Chromium III	**323**	µg/L	79.3	µg/L		
Chromium VI	**323**	µg/L	11.9	µg/L		
Copper	**242**	µg/L	8.2	µg/L		
Iron	**5000**	µg/L	1016	µg/L		
Lead	**160**	µg/L	2.66	µg/L		
Mercury	**0.739**	µg/L	0.95	µg/L		
Nickel	**1450**	µg/L	47.8	µg/L		
Selenium	**235.8**	µg/L	5.2	µg/L		
Silver	**35.1**	µg/L	3.0	µg/L		
Zinc	**420**	µg/L	108.2	µg/L		
Cyanide	**178**	mg/L	5.4	µg/L	---	µg/L
B. Non-Halogenated VOCs						
Total BTEX	**100**	µg/L	---			
Benzene	**5.0**	µg/L	---			
1,4 Dioxane	**200**	µg/L	---			
Acetone	**7970**	µg/L	---			
Phenol	**1,080**	µg/L	313	µg/L		
C. Halogenated VOCs						
Carbon Tetrachloride	**4.4**	µg/L	1.7	µg/L		
1,2 Dichlorobenzene	**600**	µg/L	---			
1,3 Dichlorobenzene	**320**	µg/L	---			
1,4 Dichlorobenzene	**5.0**	µg/L	---			
Total dichlorobenzene	**---**	µg/L	---			
1,1 Dichloroethane	**70**	µg/L	---			
1,2 Dichloroethane	**5.0**	µg/L	---			
1,1 Dichloroethylene	**3.2**	µg/L	---			
Ethylene Dibromide	**0.05**	µg/L	---			
Methylene Chloride	**4.6**	µg/L	---			
1,1,1 Trichloroethane	**200**	µg/L	---			
1,1,2 Trichloroethane	**5.0**	µg/L	---			
Trichloroethylene	**5.0**	µg/L	---			
Tetrachloroethylene	**5.0**	µg/L	3.4	µg/L		
cis-1,2 Dichloroethylene	**70**	µg/L	---			
Vinyl Chloride	**2.0**	µg/L	---			

D. Non-Halogenated SVOCs						
Total Phthalates	**190**	µg/L	---	µg/L		
Diethylhexyl phthalate	**101**	µg/L	2.3	µg/L		
Total Group I Polycyclic Aromatic Hydrocarbons	**1.0**	µg/L	---			
Benzo(a)anthracene	**1.0**	µg/L	0.0040	µg/L	---	µg/L
Benzo(a)pyrene	**1.0**	µg/L	0.0040	µg/L	---	µg/L
Benzo(b)fluoranthene	**1.0**	µg/L	0.0040	µg/L	---	µg/L
Benzo(k)fluoranthene	**1.0**	µg/L	0.0040	µg/L	---	µg/L
Chrysene	**1.0**	µg/L	0.0040	µg/L	---	µg/L
Dibenzo(a,h)anthracene	**1.0**	µg/L	0.0040	µg/L	---	µg/L
Indeno(1,2,3-cd)pyrene	**1.0**	µg/L	0.0040	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	21	µg/L		
tert-Butyl Alcohol	**120**	µg/L	---			
tert-Amyl Methyl Ether	**90**	µg/L	---			

I. Dilution Factor Calculation Method

A. 7Q10

No flow assumed at critical low flow for saltwater unless otherwise approved by the State

B. Dilution Factor

No dilution assumed for saltwater, unless otherwise approved by the State

II. Effluent Limitation Calculation Method

A. Calculate Water Quality Criterion:

Step 1. Not applicable to saltwater

Step 2. Not applicable to saltwater

Step 3. Total recoverable water quality criteria for dissolved metals, calculated as follows:

$$\text{WQC in µg/L} = \frac{\text{dissolved WQC in µg/L}}{\text{dissolved to total recoverable factor}}$$

B. Calculate WQBEL:

Step 1. WQBEL calculated as follows for parameter sampled in and detected in the receiving water:

$$C_d = \frac{Q_r C_r - Q_s C_s}{Q_d}$$

C_r = Water quality criterion in µg/I
Q_d = Discharge flow in MGD
C_d = WQBEL in µg/L
Q_s = Upstream flow (7Q10) in MGD
C_s = Ustream (receiving water) concentration in µg/L
Q_r = Downstream receiving water flow in MGD

Step 2. WQBEL calculated as follows for parameter not sampled in or not detected in receiving water:

$$C_d = (Q_r/Q_d) \times C_r$$

C_r = Water quality criterion in µg/I
Q_d = Discharge flow in MGD
Q_r = Downstream receiving water flow in MGD

C. Determine if a WQBEL applies:

Step 1. For parameter sampled in and detected in receiving water, downstream concentrations calculated as follows:

$$C_r = \frac{Q_d C_d + Q_s C_s}{Q_r}$$

C_r = Downstream concentration in µg/L
Q_d = Discharge flow in MGD
C_d = Influent concentration in µg/L
Q_s = Upstream flow (7Q10) in MGD
C_s = Upstream (receiving water) concentration in µg/L
Q_r = Downstream receiving water flow in MGD

The WQBEL applies if:

1) the projected downstream concentration calculated in accordance with Step 1, above, and the discharge concentration of a parameter is greater than the WQC calculated for that parameter in accordance with II.A, above

AND

2) the WQBEL determined for that parameter in accordance with II.B, above, is less than the TBEL in Part 2.1.1 of the RGP for that parameter. Otherwise, the TBEL in Part 2.1.1 of the RGP for that parameter applies.

Step 2. For a parameter not detected in or not sampled in receiving water, the WQBEL applies if:

1) the discharge concentration of a parameter is greater than the WQBEL determined for that parameter in accordance with II.A or II.B, above;

AND

2) the WQBEL determined for that parameter in accordance with II.A or II.B, above is less than the TBEL in Part 2.1.1 of the RGP for that parameter. Otherwise, the TBEL in Part 2.1.1 of the RGP for that parameter applies.

Dilution Factor	1.0					
A. Inorganics	TBEL applies if bolded		WQBEL applies if bolded		Compliance Level applies if shown	
Ammonia	**Report**	mg/L	---			
Chloride	**Report**	µg/L	---			
Total Residual Chlorine	0.2	mg/L	**7.8**	µg/L	50	µg/L
Total Suspended Solids	**30**	mg/L	---			
Antimony	**206**	µg/L	669	µg/L		
Arsenic	**104**	µg/L	38	µg/L		
Cadmium	**10.2**	µg/L	9.2	µg/L		
Chromium III	**323**	µg/L	104.5	µg/L		
Chromium VI	**323**	µg/L	53	µg/L		
Copper	**242**	µg/L	3.7	µg/L		
Iron	**5000**	µg/L	---	µg/L		
Lead	**160**	µg/L	8.8	µg/L		
Mercury	**0.739**	µg/L	1.16	µg/L		
Nickel	**1450**	µg/L	8.7	µg/L		
Selenium	**235.8**	µg/L	74	µg/L		
Silver	**35.1**	µg/L	2.3	µg/L		
Zinc	**420**	µg/L	88	µg/L		
Cyanide	**178**	mg/L	1.0	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	**7.97**	mg/L	---			
Phenol	**1,080**	µg/L	313	µg/L		
C. Halogenated VOCs						
Carbon Tetrachloride	**4.4**		1.7	µg/L		
1,2 Dichlorobenzene	**600**	µg/L	---			
1,3 Dichlorobenzene	**320**	µg/L	---			
1,4 Dichlorobenzene	**5.0**	µg/L	---			
Total dichlorobenzene	**---**	µg/L	---			
1,1 Dichloroethane	**70**	µg/L	---			
1,2 Dichloroethane	**5.0**	µg/L	---			
1,1 Dichloroethylene	**3.2**	µg/L	---			
Ethylene Dibromide	**0.05**	µg/L	---			
Methylene Chloride	**4.6**	µg/L	---			
1,1,1 Trichloroethane	**200**	µg/L	---			
1,1,2 Trichloroethane	**5.0**	µg/L	---			
Trichloroethylene	**5.0**	µg/L	---			
Tetrachloroethylene	**5.0**	µg/L	3.4	µg/L		
cis-1,2 Dichloroethylene	**70**	µg/L	---			
Vinyl Chloride	**2.0**	µg/L	---			

D. Non-Halogenated SVOCs						
Total Phthalates	**190**	µg/L	---	µg/L		
Diethylhexyl phthalate	**101**	µg/L	2.3	µg/L		
Total Group I Polycyclic Aromatic Hydrocarbons	**1.0**	µg/L	---			
Benzo(a)anthracene	**1.0**	µg/L	0.0040	µg/L	---	µg/L
Benzo(a)pyrene	**1.0**	µg/L	0.0040	µg/L	---	µg/L
Benzo(b)fluoranthene	**1.0**	µg/L	0.0040	µg/L	---	µg/L
Benzo(k)fluoranthene	**1.0**	µg/L	0.0040	µg/L	---	µg/L
Chrysene	**1.0**	µg/L	0.0040	µg/L	---	µg/L
Dibenzo(a,h)anthracene	**1.0**	µg/L	0.0040	µg/L	---	µg/L
Indeno(1,2,3-cd)pyrene	**1.0**	µg/L	0.0040	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	21	µg/L		
tert-Butyl Alcohol	**120**	µg/L	---			
tert-Amyl Methyl Ether	**90**	µg/L	---			

ATTACHMENT C

CERTIFICATE OF ANALYSIS

Eric D. Simpson
Tg2 Solutions
231 Elm Street
Blackstone, MA 01504

RE: 945 Belmont St Brockton MA - RGP (N/A)
ESS Laboratory Work Order Number: 20A0778

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 5:45 pm, Feb 05, 2020

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.

Subcontracted Analyses
Analytical Balance - Middleboro, MA Chloride

CERTIFICATE OF ANALYSIS

Client Name: Tg2 Solutions
Client Project ID: 945 Belmont St Brockton MA - RGP

ESS Laboratory Work Order: 20A0778

SAMPLE RECEIPT

The following samples were received on January 28, 2020 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
20A0778-01	MW-2	Ground Water	1664A, 200.7, 200.8, 245.1, 2540D, 3113B, 350.1, 3500Cr B-2009, 420.1, 4500 CN CE, 4500Cl D, 504.1, 524.2, 608.3, 625.1 SIM, 8270D SIM, ASTM D3695, SUB

CERTIFICATE OF ANALYSIS

Client Name: Tg2 Solutions
Client Project ID: 945 Belmont St Brockton MA - RGP

ESS Laboratory Work Order: 20A0778

PROJECT NARRATIVE

524.2 Volatile Organic Compounds

D0A0276-CCV1 [redacted]
Tetrachloroethene (31% @ 30%)

DA03134-BS1 [redacted]
Tetrachloroethene (67% @ 70-130%)

625.1(SIM) Semi-Volatile Organic Compounds

20A0778-01 [redacted]
2,4,6-Tribromophenol (115% @ 15-110%)

D0A0273-CCV1 [redacted]
2,4,6-Tribromophenol (135% @ 80-120%), Pentachlorophenol (109% @ 80-120%)

D0A0273-CCV1 [redacted]
2,4,6-Tribromophenol (35% @ 20%)

DA02802-BS2 [redacted]
2,4,6-Tribromophenol (115% @ 15-110%)

DA02802-BSD2 [redacted]
Acenaphthene (28% @ 20%), Indeno(1,2,3-cd)Pyrene (22% @ 20%), Naphthalene (47% @ 20%), Pentachlorophenol (21% @ 20%)

DA02802-BSD2 [redacted]
2,4,6-Tribromophenol (139% @ 15-110%)

Classical Chemistry

20A0778-01 [redacted]

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.

[redacted]

CERTIFICATE OF ANALYSIS

Client Name: Tg2 Solutions
Client Project ID: 945 Belmont St Brockton MA - RGP

ESS Laboratory Work Order: 20A0778

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: Tg2 Solutions
Client Project ID: 945 Belmont St Brockton MA - RGP
Client Sample ID: MW-2
Date Sampled: 01/28/20 09:30
Percent Solids: N/A

ESS Laboratory Work Order: 20A0778
ESS Laboratory Sample ID: 20A0778-01
Sample Matrix: Ground Water
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 (5.0)		200.7		1	KJK	01/29/20 12:12	100	10	DA02838
Arsenic	ND (0.5)		3113B		1	KJK	01/30/20 15:56	100	10	DA02838
Cadmium	**0.2** (0.1)		200.8		5	KJK	01/29/20 12:20	100	10	DA02838
Chromium	ND (2.0)		200.7		1	KJK	01/29/20 12:12	100	10	DA02838
Copper	ND (2.0)		200.7		1	KJK	01/29/20 12:12	100	10	DA02838
Iron	ND (20.0)		200.7		2	KJK	01/31/20 10:51	100	10	DA02838
Lead	ND (0.5)		200.8		5	KJK	01/29/20 12:20	100	10	DA02838
Mercury	ND (0.20)		245.1		1	MKS	01/29/20 13:21	20	40	DA02905
Nickel	ND (5.0)		200.7		1	KJK	01/29/20 12:12	100	10	DA02838
Selenium	ND (1.0)		3113B		1	KJK	01/30/20 18:35	100	10	DA02838
Silver	ND (1.0)		200.7		1	KJK	01/29/20 12:12	100	10	DA02838
Zinc	**8.1** (5.0)		200.7		1	KJK	01/29/20 12:12	100	10	DA02838

CERTIFICATE OF ANALYSIS

Client Name: Tg2 Solutions
Client Project ID: 945 Belmont St Brockton MA - RGP
Client Sample ID: MW-2
Date Sampled: 01/28/20 09:30
Percent Solids: N/A

ESS Laboratory Work Order: 20A0778
ESS Laboratory Sample ID: 20A0778-01
Sample Matrix: Ground Water
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 (5.0)		200.7		1	KJK	01/29/20 11:55	100	10	DA02838
Arsenic	ND (0.5)		3113B		1	KJK	01/30/20 16:02	100	10	DA02838
Cadmium	ND (0.1)		200.8		5	KJK	01/29/20 12:06	100	10	DA02838
Chromium	ND (2.0)		200.7		1	KJK	01/29/20 11:55	100	10	DA02838
Copper	ND (2.0)		200.7		1	KJK	01/29/20 11:55	100	10	DA02838
Hardness	**85000** (82.4)		200.7		1	KJK	01/29/20 11:55	1	1	[CALC]
Iron	**56.7** (10.0)		200.7		1	KJK	01/29/20 11:55	100	10	DA02838
Lead	ND (0.5)		200.8		5	KJK	01/29/20 12:06	100	10	DA02838
Mercury	ND (0.2)		245.1		1	MKS	01/29/20 13:18	20	40	DA02905
Nickel	ND (5.0)		200.7		1	KJK	01/29/20 11:55	100	10	DA02838
Selenium	ND (1.0)		3113B		1	KJK	01/30/20 18:41	100	10	DA02838
Silver	ND (0.5)		200.7		1	KJK	01/29/20 11:55	100	10	DA02838
Zinc	**9.4** (5.0)		200.7		1	KJK	01/29/20 11:55	100	10	DA02838

CERTIFICATE OF ANALYSIS

Client Name: Tg2 Solutions
Client Project ID: 945 Belmont St Brockton MA - RGP
Client Sample ID: MW-2
Date Sampled: 01/28/20 09:30
Percent Solids: N/A
Initial Volume: 25
Final Volume: 25
Extraction Method: 524.2

ESS Laboratory Work Order: 20A0778
ESS Laboratory Sample ID: 20A0778-01
Sample Matrix: Ground Water
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	01/31/20 16:14	D0A0276	DA03134
1,1,2-Trichloroethane	ND (0.5)		524.2		1	01/31/20 16:14	D0A0276	DA03134
1,1-Dichloroethane	ND (0.5)		524.2		1	01/31/20 16:14	D0A0276	DA03134
1,1-Dichloroethene	ND (0.5)		524.2		1	01/31/20 16:14	D0A0276	DA03134
1,2-Dichlorobenzene	ND (0.5)		524.2		1	01/31/20 16:14	D0A0276	DA03134
1,2-Dichloroethane	ND (0.5)		524.2		1	01/31/20 16:14	D0A0276	DA03134
1,3-Dichlorobenzene	ND (0.5)		524.2		1	01/31/20 16:14	D0A0276	DA03134
1,4-Dichlorobenzene	ND (0.5)		524.2		1	01/31/20 16:14	D0A0276	DA03134
Acetone	ND (5.0)		524.2		1	01/31/20 16:14	D0A0276	DA03134
Benzene	ND (0.5)		524.2		1	01/31/20 16:14	D0A0276	DA03134
Carbon Tetrachloride	ND (0.3)		524.2		1	01/31/20 16:14	D0A0276	DA03134
cis-1,2-Dichloroethene	ND (0.5)		524.2		1	01/31/20 16:14	D0A0276	DA03134
Ethylbenzene	ND (0.5)		524.2		1	01/31/20 16:14	D0A0276	DA03134
Methyl tert-Butyl Ether	ND (0.5)		524.2		1	01/31/20 16:14	D0A0276	DA03134
Methylene Chloride	ND (0.5)		524.2		1	01/31/20 16:14	D0A0276	DA03134
Naphthalene	ND (0.5)		524.2		1	01/31/20 16:14	D0A0276	DA03134
Tertiary-amyl methyl ether	ND (1.0)		524.2		1	01/31/20 16:14	D0A0276	DA03134
Tertiary-butyl Alcohol	ND (25.0)		524.2		1	01/31/20 16:14	D0A0276	DA03134
Tetrachloroethene	ND (0.5)		524.2		1	01/31/20 16:14	D0A0276	DA03134
Toluene	ND (0.5)		524.2		1	01/31/20 16:14	D0A0276	DA03134
Trichloroethene	ND (0.5)		524.2		1	01/31/20 16:14	D0A0276	DA03134
Vinyl Chloride	ND (0.2)		524.2		1	01/31/20 16:14	D0A0276	DA03134
Xylene O	ND (0.5)		524.2		1	01/31/20 16:14	D0A0276	DA03134
Xylene P,M	ND (0.5)		524.2		1	01/31/20 16:14	D0A0276	DA03134

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*97 %*		*80-120*
Surrogate: 4-Bromofluorobenzene	*98 %*		*80-120*

CERTIFICATE OF ANALYSIS

Client Name: Tg2 Solutions
Client Project ID: 945 Belmont St Brockton MA - RGP
Client Sample ID: MW-2
Date Sampled: 01/28/20 09:30
Percent Solids: N/A
Initial Volume: 1070
Final Volume: 1
Extraction Method: 3510C

ESS Laboratory Work Order: 20A0778
ESS Laboratory Sample ID: 20A0778-01
Sample Matrix: Ground Water
Units: ug/L
Analyst: MJV
Prepared: 1/29/20 11:05

608.3 Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.09)		608.3		1	01/30/20 15:10		DA02903
Aroclor 1221	ND (0.09)		608.3		1	01/30/20 15:10		DA02903
Aroclor 1232	ND (0.09)		608.3		1	01/30/20 15:10		DA02903
Aroclor 1242	ND (0.09)		608.3		1	01/30/20 15:10		DA02903
Aroclor 1248	ND (0.09)		608.3		1	01/30/20 15:10		DA02903
Aroclor 1254	ND (0.09)		608.3		1	01/30/20 15:10		DA02903
Aroclor 1260	ND (0.09)		608.3		1	01/30/20 15:10		DA02903
Aroclor 1262	ND (0.09)		608.3		1	01/30/20 15:10		DA02903
Aroclor 1268	ND (0.09)		608.3		1	01/30/20 15:10		DA02903

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*90 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*96 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*67 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*75 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: Tg2 Solutions
Client Project ID: 945 Belmont St Brockton MA - RGP
Client Sample ID: MW-2
Date Sampled: 01/28/20 09:30
Percent Solids: N/A
Initial Volume: 1070
Final Volume: 0.25
Extraction Method: 3510C

ESS Laboratory Work Order: 20A0778
ESS Laboratory Sample ID: 20A0778-01
Sample Matrix: Ground Water
Units: ug/L
Analyst: VSC
Prepared: 1/29/20 10:10

625.1(SIM) Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Acenaphthene	ND (0.19)		625.1 SIM		1	02/01/20 5:03	D0A0273	DA02802
Acenaphthylene	ND (0.19)		625.1 SIM		1	02/01/20 5:03	D0A0273	DA02802
Anthracene	ND (0.19)		625.1 SIM		1	02/01/20 5:03	D0A0273	DA02802
Benzo(a)anthracene	ND (0.05)		625.1 SIM		1	02/01/20 5:03	D0A0273	DA02802
Benzo(a)pyrene	ND (0.05)		625.1 SIM		1	02/01/20 5:03	D0A0273	DA02802
Benzo(b)fluoranthene	ND (0.05)		625.1 SIM		1	02/01/20 5:03	D0A0273	DA02802
Benzo(g,h,i)perylene	ND (0.19)		625.1 SIM		1	02/01/20 5:03	D0A0273	DA02802
Benzo(k)fluoranthene	ND (0.05)		625.1 SIM		1	02/01/20 5:03	D0A0273	DA02802
bis(2-Ethylhexyl)phthalate	ND (2.34)		625.1 SIM		1	02/01/20 5:03	D0A0273	DA02802
Butylbenzylphthalate	ND (2.34)		625.1 SIM		1	02/01/20 5:03	D0A0273	DA02802
Chrysene	ND (0.05)		625.1 SIM		1	02/01/20 5:03	D0A0273	DA02802
Dibenzo(a,h)Anthracene	ND (0.05)		625.1 SIM		1	02/01/20 5:03	D0A0273	DA02802
Diethylphthalate	ND (2.34)		625.1 SIM		1	02/01/20 5:03	D0A0273	DA02802
Dimethylphthalate	ND (2.34)		625.1 SIM		1	02/01/20 5:03	D0A0273	DA02802
Di-n-butylphthalate	ND (2.34)		625.1 SIM		1	02/01/20 5:03	D0A0273	DA02802
Di-n-octylphthalate	ND (2.34)		625.1 SIM		1	02/01/20 5:03	D0A0273	DA02802
Fluoranthene	ND (0.19)		625.1 SIM		1	02/01/20 5:03	D0A0273	DA02802
Fluorene	ND (0.19)		625.1 SIM		1	02/01/20 5:03	D0A0273	DA02802
Indeno(1,2,3-cd)Pyrene	ND (0.05)		625.1 SIM		1	02/01/20 5:03	D0A0273	DA02802
Naphthalene	ND (0.19)		625.1 SIM		1	02/01/20 5:03	D0A0273	DA02802
Pentachlorophenol	ND (0.84)		625.1 SIM		1	02/01/20 5:03	D0A0273	DA02802
Phenanthrene	ND (0.19)		625.1 SIM		1	02/01/20 5:03	D0A0273	DA02802
Pyrene	ND (0.19)		625.1 SIM		1	02/01/20 5:03	D0A0273	DA02802

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*64 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*115 %*	*S+*	*15-110*
Surrogate: 2-Fluorobiphenyl	*70 %*		*30-130*
Surrogate: Nitrobenzene-d5	*85 %*		*30-130*
Surrogate: p-Terphenyl-d14	*88 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: Tg2 Solutions
Client Project ID: 945 Belmont St Brockton MA - RGP
Client Sample ID: MW-2
Date Sampled: 01/28/20 09:30
Percent Solids: N/A
Initial Volume: 500
Final Volume: 0.5
Extraction Method: 3535A

ESS Laboratory Work Order: 20A0778
ESS Laboratory Sample ID: 20A0778-01
Sample Matrix: Ground Water
Units: ug/L
Analyst: VSC
Prepared: 1/29/20 15:00

8270D(SIM) Semi-Volatile Organic Compounds w/ Isotope Dilution

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,4-Dioxane	ND (0.250)		8270D SIM		1	01/29/20 22:31	D0A0234	DA02840

	%Recovery	Qualifier	Limits
Surrogate: 1,4-Dioxane-d8	48 %		15-115

CERTIFICATE OF ANALYSIS

Client Name: Tg2 Solutions
Client Project ID: 945 Belmont St Brockton MA - RGP
Client Sample ID: MW-2
Date Sampled: 01/28/20 09:30
Percent Solids: N/A

ESS Laboratory Work Order: 20A0778
ESS Laboratory Sample ID: 20A0778-01
Sample Matrix: Ground Water

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Ammonia as N	**0.13** (0.10)		350.1		1	EEM	01/30/20 15:53	mg/L	DA02927
Hexavalent Chromium	ND (10.0)		3500Cr B-2009		1	EEM	01/29/20 9:20	ug/L	DA02913
Phenols	ND (50)		420.1		1	EEM	01/31/20 15:55	ug/L	DA03117
Total Cyanide	ND (5.00)		4500 CN CE		1	EEM	01/30/20 13:40	ug/L	DA03015
Total Petroleum Hydrocarbon	ND (5)		1664A		1	LAB	02/03/20 14:43	mg/L	DB00317
Total Residual Chlorine	ND (20.0)		4500Cl D		1	CCP	01/28/20 16:24	ug/L	DA02835
Total Suspended Solids	ND (5)		2540D		1	CCP	01/29/20 15:02	mg/L	DA02931

CERTIFICATE OF ANALYSIS

Client Name: Tg2 Solutions
Client Project ID: 945 Belmont St Brockton MA - RGP
Client Sample ID: MW-2
Date Sampled: 01/28/20 09:30
Percent Solids: N/A
Initial Volume: 1
Final Volume: 1
Extraction Method: General Subbed Prep

ESS Laboratory Work Order: 20A0778
ESS Laboratory Sample ID: 20A0778-01
Sample Matrix: Ground Water

Analyst: SUB
Prepared: 1/29/20 0:00

Subcontracted Analysis

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Chloride	**376** (0.500)		SUB		1	SUB	01/29/20 0:00	mg/L	DA03126

CERTIFICATE OF ANALYSIS

Client Name: Tg2 Solutions
Client Project ID: 945 Belmont St Brockton MA - RGP
Client Sample ID: MW-2
Date Sampled: 01/28/20 09:30
Percent Solids: N/A
Initial Volume: 35
Final Volume: 2
Extraction Method: 504/8011

ESS Laboratory Work Order: 20A0778
ESS Laboratory Sample ID: 20A0778-01
Sample Matrix: Ground Water
Units: ug/L
Analyst: CAD
Prepared: 2/3/20 10:30

504.1 1,2-Dibromoethane / 1,2-Dibromo-3-chloropropane

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2-Dibromo-3-Chloropropane	ND (0.015)		504.1		1	02/03/20 18:02		DB00336
1,2-Dibromoethane	ND (0.015)		504.1		1	02/03/20 18:02		DB00336

	%Recovery	Qualifier	Limits
Surrogate: Pentachloroethane	*134 %*		*30-150*
Surrogate: Pentachloroethane [2C]	*128 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: Tg2 Solutions
Client Project ID: 945 Belmont St Brockton MA - RGP
Client Sample ID: MW-2
Date Sampled: 01/28/20 09:30
Percent Solids: N/A
Initial Volume: 1
Final Volume: 1
Extraction Method: No Prep

ESS Laboratory Work Order: 20A0778
ESS Laboratory Sample ID: 20A0778-01
Sample Matrix: Ground Water
Units: mg/L
Analyst: ZLC
Prepared: 1/31/20 7:47

Alcohol Scan by GC/FID

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
Ethanol	ND (10)		ASTM D3695		1	ZLC	02/03/20 10:58		DA03101

CERTIFICATE OF ANALYSIS

Client Name: Tg2 Solutions
Client Project ID: 945 Belmont St Brockton MA - RGP

ESS Laboratory Work Order: 20A0778

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Dissolved Metals										
Batch DA02838 - 3005A/200.7										
Blank										
Antimony	ND	5.0	ug/L							
Chromium	ND	2.0	ug/L							
Copper	ND	2.0	ug/L							
Iron	ND	10.0	ug/L							
Nickel	ND	5.0	ug/L							
Silver	ND	1.0	ug/L							
Zinc	ND	5.0	ug/L							
Blank										
Cadmium	ND	0.1	ug/L							
Lead	ND	0.5	ug/L							
Blank										
Arsenic	ND	0.5	ug/L							
Selenium	ND	1.0	ug/L							
LCS										
Antimony	49.7	5.0	ug/L	50.00		99	85-115			
Chromium	48.5	2.0	ug/L	50.00		97	85-115			
Copper	52.4	2.0	ug/L	50.00		105	85-115			
Iron	228	10.0	ug/L	250.0		91	85-115			
Nickel	50.3	5.0	ug/L	50.00		101	85-115			
Silver	25.4	1.0	ug/L	25.00		102	85-115			
Zinc	51.3	5.0	ug/L	50.00		103	85-115			
LCS										
Cadmium	23.9	2.5	ug/L	25.00		96	85-115			
Lead	47.7	0.5	ug/L	50.00		95	85-115			
LCS										
Arsenic	47.4	12.5	ug/L	50.00		95	85-115			
Selenium	104	25.0	ug/L	100.0		104	85-115			
LCS Dup										
Arsenic	43.9	12.5	ug/L	50.00		88	85-115	8	20	
Selenium	95.7	25.0	ug/L	100.0		96	85-115	8	20	
Batch DA02905 - 245.1/7470A										
Blank										
Mercury	ND	0.20	ug/L							
LCS										
Mercury	5.80	0.20	ug/L	6.042		96	85-115			
LCS Dup										
Mercury	5.70	0.20	ug/L	6.042		94	85-115	2	20	
Total Metals										
Batch DA02838 - 3005A/200.7										
Blank										

CERTIFICATE OF ANALYSIS

Client Name: Tg2 Solutions
Client Project ID: 945 Belmont St Brockton MA - RGP

ESS Laboratory Work Order: 20A0778

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Total Metals										
Batch DA02838 - 3005A/200.7										
Antimony	ND	5.0	ug/L							
Chromium	ND	2.0	ug/L							
Copper	ND	2.0	ug/L							
Iron	ND	10.0	ug/L							
Nickel	ND	5.0	ug/L							
Silver	ND	0.5	ug/L							
Zinc	ND	5.0	ug/L							
Blank										
Cadmium	ND	0.1	ug/L							
Lead	ND	0.5	ug/L							
Blank										
Arsenic	ND	0.5	ug/L							
Selenium	ND	1.0	ug/L							
LCS										
Antimony	49.7	5.0	ug/L	50.00		99	85-115			
Chromium	48.5	2.0	ug/L	50.00		97	85-115			
Copper	52.4	2.0	ug/L	50.00		105	85-115			
Iron	228	10.0	ug/L	250.0		91	85-115			
Nickel	50.3	5.0	ug/L	50.00		101	85-115			
Silver	25.4	0.5	ug/L	25.00		102	85-115			
Zinc	51.3	5.0	ug/L	50.00		103	85-115			
LCS										
Cadmium	23.9	2.5	ug/L	25.00		96	85-115			
Lead	47.7	2.5	ug/L	50.00		95	85-115			
LCS										
Arsenic	47.4	12.5	ug/L	50.00		95	85-115			
Selenium	104	25.0	ug/L	100.0		104	85-115			
LCS Dup										
Arsenic	43.9	12.5	ug/L	50.00		88	85-115	8	20	
Selenium	95.7	25.0	ug/L	100.0		96	85-115	8	20	
Batch DA02905 - 245.1/7470A										
Blank										
Mercury	ND	0.2	ug/L							
LCS										
Mercury	5.8	0.2	ug/L	6.042		96	85-115			
LCS Dup										
Mercury	5.7	0.2	ug/L	6.042		94	85-115	2	20	
524.2 Volatile Organic Compounds										
Batch DA03134 - 524.2										
Blank										
1,1,1-Trichloroethane	ND	0.5	ug/L							

CERTIFICATE OF ANALYSIS

Client Name: Tg2 Solutions
Client Project ID: 945 Belmont St Brockton MA - RGP

ESS Laboratory Work Order: 20A0778

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
524.2 Volatile Organic Compounds										
Batch DA03134 - 524.2										
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							
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	*5.00*		ug/L	*5.000*		*100*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*4.86*		ug/L	*5.000*		*97*	*80-120*			
LCS										
1,1,1-Trichloroethane	9.7	0.5	ug/L	10.00		97	70-130			
1,1,2-Trichloroethane	10.0	0.5	ug/L	10.00		100	70-130			
1,1-Dichloroethane	9.6	0.5	ug/L	10.00		96	70-130			
1,1-Dichloroethene	10.1	0.5	ug/L	10.00		101	70-130			
1,2-Dichlorobenzene	10.0	0.5	ug/L	10.00		100	70-130			
1,2-Dichloroethane	10.1	0.5	ug/L	10.00		101	70-130			
1,3-Dichlorobenzene	10.2	0.5	ug/L	10.00		102	70-130			
1,4-Dichlorobenzene	10.4	0.5	ug/L	10.00		104	70-130			
Acetone	43.3	5.0	ug/L	50.00		87	70-130			
Benzene	9.5	0.5	ug/L	10.00		95	70-130			
Carbon Tetrachloride	9.4	0.3	ug/L	10.00		94	70-130			
cis-1,2-Dichloroethene	9.9	0.5	ug/L	10.00		99	70-130			
Ethylbenzene	9.6	0.5	ug/L	10.00		96	70-130			
Methyl tert-Butyl Ether	9.9	0.5	ug/L	10.00		99	70-130			
Methylene Chloride	10.3	0.5	ug/L	10.00		103	70-130			
Naphthalene	9.8	0.5	ug/L	10.00		98	70-130			
Tertiary-amyl methyl ether	10.0	1.0	ug/L	10.00		100	70-130			
Tertiary-butyl Alcohol	47.8	25.0	ug/L	50.00		96	70-130			
Tetrachloroethene	6.7	0.5	ug/L	10.00		67	70-130			B-

CERTIFICATE OF ANALYSIS

Client Name: Tg2 Solutions
Client Project ID: 945 Belmont St Brockton MA - RGP

ESS Laboratory Work Order: 20A0778

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
524.2 Volatile Organic Compounds										
Batch DA03134 - 524.2										
Toluene	9.3	0.5	ug/L	10.00		93	70-130			
Trichloroethene	9.9	0.5	ug/L	10.00		99	70-130			
Vinyl Chloride	8.3	0.2	ug/L	10.00		83	70-130			
Xylene O	9.0	0.5	ug/L	10.00		90	70-130			
Xylene P,M	19.6	0.5	ug/L	20.00		98	70-130			
Surrogate: 1,2-Dichlorobenzene-d4	*5.07*		ug/L	*5.000*		*101*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*4.94*		ug/L	*5.000*		*99*	*80-120*			
LCS Dup										
1,1,1-Trichloroethane	10.5	0.5	ug/L	10.00		105	70-130	9	20	
1,1,2-Trichloroethane	10.0	0.5	ug/L	10.00		100	70-130	0.3	20	
1,1-Dichloroethane	10.6	0.5	ug/L	10.00		106	70-130	9	20	
1,1-Dichloroethene	11.2	0.5	ug/L	10.00		112	70-130	10	20	
1,2-Dichlorobenzene	10.9	0.5	ug/L	10.00		109	70-130	9	20	
1,2-Dichloroethane	11.1	0.5	ug/L	10.00		111	70-130	10	20	
1,3-Dichlorobenzene	11.1	0.5	ug/L	10.00		111	70-130	8	20	
1,4-Dichlorobenzene	11.4	0.5	ug/L	10.00		114	70-130	9	20	
Acetone	44.0	5.0	ug/L	50.00		88	70-130	2	20	
Benzene	10.7	0.5	ug/L	10.00		107	70-130	12	20	
Carbon Tetrachloride	10.8	0.3	ug/L	10.00		108	70-130	14	20	
cis-1,2-Dichloroethene	11.4	0.5	ug/L	10.00		114	70-130	14	20	
Ethylbenzene	11.4	0.5	ug/L	10.00		114	70-130	17	20	
Methyl tert-Butyl Ether	10.9	0.5	ug/L	10.00		109	70-130	9	20	
Methylene Chloride	11.1	0.5	ug/L	10.00		111	70-130	7	20	
Naphthalene	10.5	0.5	ug/L	10.00		105	70-130	6	20	
Tertiary-amyl methyl ether	10.6	1.0	ug/L	10.00		106	70-130	6	20	
Tertiary-butyl Alcohol	49.6	25.0	ug/L	50.00		99	70-130	4	25	
Tetrachloroethene	7.8	0.5	ug/L	10.00		78	70-130	15	20	
Toluene	11.2	0.5	ug/L	10.00		112	70-130	18	20	
Trichloroethene	10.8	0.5	ug/L	10.00		108	70-130	9	20	
Vinyl Chloride	9.2	0.2	ug/L	10.00		92	70-130	11	20	
Xylene O	10.4	0.5	ug/L	10.00		104	70-130	15	20	
Xylene P,M	22.6	0.5	ug/L	20.00		113	70-130	14	20	
Surrogate: 1,2-Dichlorobenzene-d4	*5.02*		ug/L	*5.000*		*100*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*4.78*		ug/L	*5.000*		*96*	*80-120*			
608.3 Polychlorinated Biphenyls (PCB)										
Batch DA02903 - 3510C										
Blank										
Aroclor 1016	ND	0.10	ug/L							
Aroclor 1016 [2C]	ND	0.10	ug/L							
Aroclor 1221	ND	0.10	ug/L							
Aroclor 1221 [2C]	ND	0.10	ug/L							
Aroclor 1232	ND	0.10	ug/L							
Aroclor 1232 [2C]	ND	0.10	ug/L							
Aroclor 1242	ND	0.10	ug/L							

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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
608.3 Polychlorinated Biphenyls (PCB)										
Batch DA02903 - 3510C										
Aroclor 1242 [2C]	ND	0.10	ug/L							
Aroclor 1248	ND	0.10	ug/L							
Aroclor 1248 [2C]	ND	0.10	ug/L							
Aroclor 1254	ND	0.10	ug/L							
Aroclor 1254 [2C]	ND	0.10	ug/L							
Aroclor 1260	ND	0.10	ug/L							
Aroclor 1260 [2C]	ND	0.10	ug/L							
Aroclor 1262	ND	0.10	ug/L							
Aroclor 1262 [2C]	ND	0.10	ug/L							
Aroclor 1268	ND	0.10	ug/L							
Aroclor 1268 [2C]	ND	0.10	ug/L							
Surrogate: Decachlorobiphenyl	*0.0502*		ug/L	*0.05000*		*100*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0479*		ug/L	*0.05000*		*96*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0267*		ug/L	*0.05000*		*53*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0281*		ug/L	*0.05000*		*56*	*30-150*			
LCS										
Aroclor 1016	0.94	0.10	ug/L	1.000		94	50-140			
Aroclor 1016 [2C]	0.81	0.10	ug/L	1.000		81	50-140			
Aroclor 1260	0.99	0.10	ug/L	1.000		99	1-164			
Aroclor 1260 [2C]	0.92	0.10	ug/L	1.000		92	1-164			
Surrogate: Decachlorobiphenyl	*0.0559*		ug/L	*0.05000*		*112*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0547*		ug/L	*0.05000*		*109*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0351*		ug/L	*0.05000*		*70*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0353*		ug/L	*0.05000*		*71*	*30-150*			
LCS Dup										
Aroclor 1016	1.18	0.10	ug/L	1.000		118	50-140	23	36	
Aroclor 1016 [2C]	0.87	0.10	ug/L	1.000		87	50-140	8	36	
Aroclor 1260	1.02	0.10	ug/L	1.000		102	1-164	3	38	
Aroclor 1260 [2C]	0.94	0.10	ug/L	1.000		94	1-164	3	38	
Surrogate: Decachlorobiphenyl	*0.0538*		ug/L	*0.05000*		*108*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0524*		ug/L	*0.05000*		*105*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0327*		ug/L	*0.05000*		*65*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0340*		ug/L	*0.05000*		*68*	*30-150*			
625.1(SIM) Semi-Volatile Organic Compounds										
Batch DA02802 - 3510C										
Blank										
Acenaphthene	ND	0.20	ug/L							
Acenaphthylene	ND	0.20	ug/L							
Anthracene	ND	0.20	ug/L							
Benzo(a)anthracene	ND	0.05	ug/L							
Benzo(a)pyrene	ND	0.05	ug/L							

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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
625.1(SIM) Semi-Volatile Organic Compounds										
Batch DA02802 - 3510C										
Benzo(b)fluoranthene	ND	0.05	ug/L							
Benzo(g,h,i)perylene	ND	0.20	ug/L							
Benzo(k)fluoranthene	ND	0.05	ug/L							
bis(2-Ethylhexyl)phthalate	ND	2.50	ug/L							
Butylbenzylphthalate	ND	2.50	ug/L							
Chrysene	ND	0.05	ug/L							
Dibenzo(a,h)Anthracene	ND	0.05	ug/L							
Diethylphthalate	ND	2.50	ug/L							
Dimethylphthalate	ND	2.50	ug/L							
Di-n-butylphthalate	ND	2.50	ug/L							
Di-n-octylphthalate	ND	2.50	ug/L							
Fluoranthene	ND	0.20	ug/L							
Fluorene	ND	0.20	ug/L							
Indeno(1,2,3-cd)Pyrene	ND	0.05	ug/L							
Naphthalene	ND	0.20	ug/L							
Pentachlorophenol	ND	0.90	ug/L							
Phenanthrene	ND	0.20	ug/L							
Pyrene	ND	0.20	ug/L							
Surrogate: 1,2-Dichlorobenzene-d4	*0.874*		ug/L	*2.500*		*35*	*30-130*			
Surrogate: 2,4,6-Tribromophenol	*3.71*		ug/L	*3.750*		*99*	*15-110*			
Surrogate: 2-Fluorobiphenyl	*1.25*		ug/L	*2.500*		*50*	*30-130*			
Surrogate: Nitrobenzene-d5	*1.85*		ug/L	*2.500*		*74*	*30-130*			
Surrogate: p-Terphenyl-d14	*2.25*		ug/L	*2.500*		*90*	*30-130*			
LCS										
Acenaphthene	3.32	0.20	ug/L	4.000		83	40-140			
Acenaphthylene	3.22	0.20	ug/L	4.000		81	40-140			
Anthracene	3.29	0.20	ug/L	4.000		82	40-140			
Benzo(a)anthracene	3.14	0.05	ug/L	4.000		79	40-140			
Benzo(a)pyrene	3.34	0.05	ug/L	4.000		84	40-140			
Benzo(b)fluoranthene	3.24	0.05	ug/L	4.000		81	40-140			
Benzo(g,h,i)perylene	3.14	0.20	ug/L	4.000		79	40-140			
Benzo(k)fluoranthene	3.28	0.05	ug/L	4.000		82	40-140			
bis(2-Ethylhexyl)phthalate	4.49	2.50	ug/L	4.000		112	40-140			
Butylbenzylphthalate	4.41	2.50	ug/L	4.000		110	40-140			
Chrysene	3.23	0.05	ug/L	4.000		81	40-140			
Dibenzo(a,h)Anthracene	3.29	0.05	ug/L	4.000		82	40-140			
Diethylphthalate	3.81	2.50	ug/L	4.000		95	40-140			
Dimethylphthalate	3.57	2.50	ug/L	4.000		89	40-140			
Di-n-butylphthalate	4.19	2.50	ug/L	4.000		105	40-140			
Di-n-octylphthalate	4.06	2.50	ug/L	4.000		102	40-140			
Fluoranthene	3.39	0.20	ug/L	4.000		85	40-140			
Fluorene	3.43	0.20	ug/L	4.000		86	40-140			
Indeno(1,2,3-cd)Pyrene	3.32	0.05	ug/L	4.000		83	40-140			
Naphthalene	2.91	0.20	ug/L	4.000		73	40-140			
Pentachlorophenol	3.89	0.90	ug/L	4.000		97	30-130			

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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
625.1(SIM) Semi-Volatile Organic Compounds										
Batch DA02802 - 3510C										
Phenanthrene	3.21	0.20	ug/L	4.000		80	40-140			
Pyrene	3.31	0.20	ug/L	4.000		83	40-140			
Surrogate: 1,2-Dichlorobenzene-d4	*1.72*		ug/L	*2.500*		*69*	*30-130*			
Surrogate: 2,4,6-Tribromophenol	*4.30*		ug/L	*3.750*		*115*	*15-110*			*S+*
Surrogate: 2-Fluorobiphenyl	*1.74*		ug/L	*2.500*		*70*	*30-130*			
Surrogate: Nitrobenzene-d5	*2.03*		ug/L	*2.500*		*81*	*30-130*			
Surrogate: p-Terphenyl-d14	*2.06*		ug/L	*2.500*		*83*	*30-130*			
LCS Dup										
Acenaphthene	2.50	0.20	ug/L	4.000		63	40-140	28	20	D+
Acenaphthylene	2.65	0.20	ug/L	4.000		66	40-140	19	20	
Anthracene	3.34	0.20	ug/L	4.000		84	40-140	2	20	
Benzo(a)anthracene	3.48	0.05	ug/L	4.000		87	40-140	10	20	
Benzo(a)pyrene	3.89	0.05	ug/L	4.000		97	40-140	15	20	
Benzo(b)fluoranthene	3.74	0.05	ug/L	4.000		93	40-140	14	20	
Benzo(g,h,i)perylene	3.79	0.20	ug/L	4.000		95	40-140	19	20	
Benzo(k)fluoranthene	3.79	0.05	ug/L	4.000		95	40-140	14	20	
bis(2-Ethylhexyl)phthalate	4.81	2.50	ug/L	4.000		120	40-140	7	20	
Butylbenzylphthalate	4.87	2.50	ug/L	4.000		122	40-140	10	20	
Chrysene	3.56	0.05	ug/L	4.000		89	40-140	10	20	
Dibenzo(a,h)Anthracene	3.91	0.05	ug/L	4.000		98	40-140	17	20	
Diethylphthalate	3.96	2.50	ug/L	4.000		99	40-140	4	20	
Dimethylphthalate	3.71	2.50	ug/L	4.000		93	40-140	4	20	
Di-n-butylphthalate	4.28	2.50	ug/L	4.000		107	40-140	2	20	
Di-n-octylphthalate	4.69	2.50	ug/L	4.000		117	40-140	14	20	
Fluoranthene	3.62	0.20	ug/L	4.000		91	40-140	7	20	
Fluorene	3.10	0.20	ug/L	4.000		77	40-140	10	20	
Indeno(1,2,3-cd)Pyrene	4.14	0.05	ug/L	4.000		104	40-140	22	20	D+
Naphthalene	1.79	0.20	ug/L	4.000		45	40-140	47	20	D+
Pentachlorophenol	4.81	0.90	ug/L	4.000		120	30-130	21	20	D+
Phenanthrene	3.34	0.20	ug/L	4.000		84	40-140	4	20	
Pyrene	3.75	0.20	ug/L	4.000		94	40-140	12	20	
Surrogate: 1,2-Dichlorobenzene-d4	*0.930*		ug/L	*2.500*		*37*	*30-130*			
Surrogate: 2,4,6-Tribromophenol	*5.22*		ug/L	*3.750*		*139*	*15-110*			*S+*
Surrogate: 2-Fluorobiphenyl	*1.37*		ug/L	*2.500*		*55*	*30-130*			
Surrogate: Nitrobenzene-d5	*2.08*		ug/L	*2.500*		*83*	*30-130*			
Surrogate: p-Terphenyl-d14	*2.33*		ug/L	*2.500*		*93*	*30-130*			
8270D(SIM) Semi-Volatile Organic Compounds w/ Isotope Dilution										
Batch DA02840 - 3535A										
Blank										
1,4-Dioxane	ND	0.250	ug/L							
Surrogate: 1,4-Dioxane-d8	*2.93*		ug/L	*5.000*		*59*	*15-115*			
LCS										
1,4-Dioxane	9.74	0.250	ug/L	10.00		97	40-140			
Surrogate: 1,4-Dioxane-d8	*3.10*		ug/L	*5.000*		*62*	*15-115*			

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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D(SIM) Semi-Volatile Organic Compounds w/ Isotope Dilution										
Batch DA02840 - 3535A										
LCS Dup										
1,4-Dioxane	10.3	0.250	ug/L	10.00		103	40-140	6	20	
Surrogate: 1,4-Dioxane-d8	*2.89*		ug/L	*5.000*		*58*	*15-115*			
Classical Chemistry										
Batch DA02835 - General Preparation										
Blank										
Total Residual Chlorine	ND	20.0	ug/L							
LCS										
Total Residual Chlorine	2.20		mg/L	2.210		100	85-115			
Batch DA02913 - General Preparation										
Blank										
Hexavalent Chromium	ND	10.0	ug/L							
LCS										
Hexavalent Chromium	526	10.0	ug/L	499.8		105	90-110			
LCS Dup										
Hexavalent Chromium	528	10.0	ug/L	499.8		106	90-110	0.4	20	
Batch DA02927 - NH4 Prep										
Blank										
Ammonia as N	ND	0.10	mg/L							
LCS										
Ammonia as N	0.10	0.10	mg/L	0.09994		102	80-120			
LCS										
Ammonia as N	0.94	0.10	mg/L	0.9994		94	80-120			
Batch DA02931 - General Preparation										
Blank										
Total Suspended Solids	ND	5	mg/L							
LCS										
Total Suspended Solids	90		mg/L	90.70		99	80-120			
Batch DA03015 - TCN Prep										
Blank										
Total Cyanide	ND	5.00	ug/L							
LCS										
Total Cyanide	19.4	5.00	ug/L	20.06		97	90-110			
LCS										
Total Cyanide	157	5.00	ug/L	150.4		104	90-110			
LCS Dup										
Total Cyanide	155	5.00	ug/L	150.4		103	90-110	2	20	
Batch DA03117 - General Preparation										
Blank										

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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Classical Chemistry										
Batch DA03117 - General Preparation										
Phenols	ND	50	ug/L							
LCS										
Phenols	105	50	ug/L	100.0		105	80-120			
LCS										
Phenols	946	50	ug/L	1000		95	80-120			
Batch DB00317 - General Preparation										
Blank										
Total Petroleum Hydrocarbon	ND	5	mg/L							
LCS										
Total Petroleum Hydrocarbon	17	5	mg/L	19.38		86	66-114			
504.1 1,2-Dibromoethane / 1,2-Dibromo-3-chloropropane										
Batch DB00336 - 504/8011										
Blank										
1,2-Dibromo-3-Chloropropane	ND	0.015	ug/L							
1,2-Dibromo-3-Chloropropane [2C]	ND	0.015	ug/L							
1,2-Dibromoethane	ND	0.015	ug/L							
1,2-Dibromoethane [2C]	ND	0.015	ug/L							
Surrogate: Pentachloroethane	*0.156*		ug/L	*0.2000*		*78*	*30-150*			
Surrogate: Pentachloroethane [2C]	*0.154*		ug/L	*0.2000*		*77*	*30-150*			
LCS										
1,2-Dibromo-3-Chloropropane	0.101	0.015	ug/L	0.08000		126	70-130			
1,2-Dibromo-3-Chloropropane [2C]	0.089	0.015	ug/L	0.08000		111	70-130			
1,2-Dibromoethane	0.091	0.015	ug/L	0.08000		114	70-130			
1,2-Dibromoethane [2C]	0.082	0.015	ug/L	0.08000		103	70-130			
Surrogate: Pentachloroethane	*0.0873*		ug/L	*0.2000*		*44*	*30-150*			
Surrogate: Pentachloroethane [2C]	*0.0798*		ug/L	*0.2000*		*40*	*30-150*			
LCS										
1,2-Dibromo-3-Chloropropane	0.258	0.015	ug/L	0.2000		129	70-130			
1,2-Dibromo-3-Chloropropane [2C]	0.241	0.015	ug/L	0.2000		120	70-130			
1,2-Dibromoethane	0.253	0.015	ug/L	0.2000		126	70-130			
1,2-Dibromoethane [2C]	0.253	0.015	ug/L	0.2000		126	70-130			
Surrogate: Pentachloroethane	*0.239*		ug/L	*0.2000*		*120*	*30-150*			
Surrogate: Pentachloroethane [2C]	*0.228*		ug/L	*0.2000*		*114*	*30-150*			
Alcohol Scan by GC/FID										
Batch DA03101 - No Prep										
Blank										
Ethanol	ND	10	mg/L							
LCS										

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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Alcohol Scan by GC/FID										
Batch DA03101 - No Prep										
Ethanol	1170	10	mg/L	951.9		123	60-140			
LCS Dup										
Ethanol	1020	10	mg/L	951.9		107	60-140	14	30	

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Notes and Definitions

U	Analyte included in the analysis, but not detected
S+	Surrogate recovery(ies) above upper control limit (S+).
Q	Calibration required quadratic regression (Q).
HT	The maximum holding time listed in 40 CFR Part 136 Table II for pH, Dissolved Oxygen, Sulfite and Residual Chlorine is fifteen minutes.
D+	Relative percent difference for duplicate is outside of criteria (D+).
D	Diluted.
CD+	Continuing Calibration %Diff/Drift is above control limit (CD+).
CD-	Continuing Calibration %Diff/Drift is below control limit (CD-).
B-	Blank Spike recovery is below lower control limit (B-).
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: Tg2 Solutions
Client Project ID: 945 Belmont St Brockton MA - RGP

ESS Laboratory Work Order: 20A0778

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

Analytical Balance CORPORATION

CERTIFICATE OF ANALYSIS

Shawn Morrell
ESS Laboratory
185 Frances Avenue
Cranston, RI 02910-2211

COLLECTED BY: Customer
TIME: 9:30
LOCATION: 20A0778-01

REPORTED: 02/03/2020
ORDER #: G2044343
SAMPLE DATE: 1/28/2020
DATE RECEIVED: 1/29/2020
SAMPLE ID: Grab
DESCRIPTION: WATER

RESULTS OF ANALYSIS

Parameter	Analytical Method	Date Analyzed	Units	Det. Limit*	Result
Test Parameters				**LAB-ID#:** **2044343-01**	
Chloride 4110B	SM 4110 B	01/29/2020	mg/L	0.5	**376**

Unless otherwise noted, all analyses were conducted by Analytical Balance Corp. (M-MA022).

NA = Not Applicable
ND = Not Detected
'<' = Less Than
'*' = Detection Limit

Approved By: Timothy A. Begley

Digitally signed by Timothy A. Begley
CN=Timothy A. Begley
2.5.4.11=
Date: 2020.02.04 17:27:26

Lab Manager / Date

ESS Laboratory

Analytical Balance

CHAIN OF CUSTODY

Division of Thielsch Engineering, Inc.
185 Frances Avenue, Cranston, RI 02910-2211
Tel. (401) 461-7181 Fax (401) 461-4486
www.esslaboratory.com

ESS Lab # 20A0778

Turn Time **DUE 2/4/20**

Reporting Limits - **MA RGP**

Regulatory State: **MA** RI CT NH NJ NY ME Other_____

Is this project for any of the following:(please circle)
MA-MCP Navy USACE CT DEP Other_____

Electonic Deliverables Excel Access PDF

Co. Name	Project #	Project Name	
ESS LABORATORY		20A0778	
Contact Person	**Address**		
Shawn Morrell / Heather Masse			
City	**State**	**Zip**	**PO #**
			B03042
Tel.	**Email:** Smorrell@thielsch.com; Hmasse@thielsch.com		

ESS Lab ID	Date	Collection Time	Grab -G Composite C	Matrix	Sample ID	Pres Code	# of Containers	Type of Container	Vol of Container	Analysis: Cl: 300.0										
	1/28/20	0930	G	GW	20A0778-01					X										

Container Type: P-Poly G-Glass AG-Amber Glass S-Sterile V-VOA

Matrix: S-Soil SD-Solid D-Sludge WW-Wastewater GW-Groundwater SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filter

Cooler Present _____Yes _____No

Seals Intact ____ Yes _____No NA:___

Cooler Temperature: ___, 8___

Internal Use Only

[ ] Pickup

[ ] Technician___

Preservation Code: 1-NP, 2-HCl, 3-H2SO4, 4-HNO3, 5-NaOH, 6-MeOH, 7-Asorbic Acid, 8-ZnAct, 9-_____

Sampled by :

Comments: Please send Sample Confirmation after samples have been received to Heather Masse - hmasse@thielsch.com

Relinquished by: (Signature, Date & Time)	Received by: (Signature, Date & Time)	Relinquished by: (Signature, Date & Time)	Received by: (Signature, Date & Time)
1/28/20 8:62	1/28/20 8:25	1/28/20 5??	1/29 9??
Relinquished by: (Signature, Date & Time)	Received by: (Signature, Date & Time)	Relinquished by: (Signature, Date & Time)	Received by: (Signature, Date & Time)
1/28/20 12:10			

By circling MA-MCP, client acknowledges samples were collected in accordance with MADEP CAM VIIA

Please fax to the laboratory all changes to Chain of Custody

1 (White) Lab Copy
2 (Yellow) Client Receipt

ESS Laboratory Sample and Cooler Receipt Checklist

Client: Tg2 Solutions - TB

Shipped/Delivered Via: Client

ESS Project ID: 20A0778
Date Received: 1/28/2020
Project Due Date: 2/4/2020
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: 2.1 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~~

11. Any Subcontracting needed? ~~Yes~~ / No
    ESS Sample IDs: 1
    Analysis: cl
    TAT: STD
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:

Poured of for Sub

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	8861	Yes	N/A	Yes	1L Amber	NP	
1	8862	Yes	N/A	Yes	1L Amber	NP	
1	8863	Yes	N/A	Yes	1L Amber	NP	
1	8864	Yes	N/A	Yes	1L Amber	NP	
1	8865	Yes	N/A	Yes	1L Amber	NP	
1	8866	Yes	N/A	Yes	1L Amber	NP	
1	8867	Yes	N/A	Yes	1L Amber	H2SO4	
1	8868	Yes	N/A	Yes	1L Amber	H2SO4	
1	8869	Yes	N/A	Yes	1L Poly	NP	
1	8870	Yes	N/A	Yes	500 mL Poly	HNO3	
1	8871	Yes	N/A	Yes	500 mL Poly	HNO3	
1	8872	Yes	N/A	Yes	250 mL Poly	NP	
1	8873	Yes	N/A	Yes	250 mL Poly	HNO3	
1	8874	Yes	N/A	Yes	500 mL Poly	H2SO4	
1	8875	Yes	N/A	Yes	250 mL Poly	NaOH	
1	8876	Yes	No	Yes	VOA Vial	HCl	
1	8877	Yes	No	Yes	VOA Vial	HCl	

ESS Laboratory Sample and Cooler Receipt Checklist

Client: Tg2 Solutions - TB

ESS Project ID: 20A0778
Date Received: 1/28/2020

1	8878	Yes	No	Yes	VOA Vial	HCl
1	8879	Yes	No	Yes	VOA Vial	HCl
1	8880	Yes	No	Yes	VOA Vial	HCl
1	8881	Yes	No	Yes	VOA Vial	HCl
1	8882	Yes	No	Yes	VOA Vial	NP
1	9125	Yes	N/A	Yes	250 mL Poly	NP

2nd Review

Were all containers scanned into storage/lab? Initials

Are barcode labels on correct containers?	Yes / No
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: Date & Time: 1/24/20 8:51

Reviewed By: Date & Time:

Delivered By:

ESS Laboratory Sample and Cooler Receipt Checklist

Client: Tg2 Solutions - TB

Shipped/Delivered Via: Client

ESS Project ID: 20A0778
Date Received: 1/28/2020
Project Due Date: 2/4/2020
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: 2.1 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

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	8861	Yes	N/A	Yes	1L Amber	NP	
1	8862	Yes	N/A	Yes	1L Amber	NP	
1	8863	Yes	N/A	Yes	1L Amber	NP	
1	8864	Yes	N/A	Yes	1L Amber	NP	
1	8865	Yes	N/A	Yes	1L Amber	NP	
1	8866	Yes	N/A	Yes	1L Amber	NP	
1	8867	Yes	N/A	Yes	1L Amber	H2SO4	
1	8868	Yes	N/A	Yes	1L Amber	H2SO4	
1	8869	Yes	N/A	Yes	1L Poly	NP	
1	8870	Yes	N/A	Yes	500 mL Poly	HNO3	
1	8871	Yes	N/A	Yes	500 mL Poly	HNO3	
1	8872	Yes	N/A	Yes	250 mL Poly	NP	
1	8873	Yes	N/A	Yes	250 mL Poly	HNO3	
1	8874	Yes	N/A	Yes	500 mL Poly	H2SO4	
1	8875	Yes	N/A	Yes	250 mL Poly	NaOH	**pH>12 1/28 JA**
1	8876	Yes	No	Yes	VOA Vial	HCl	
1	8877	Yes	No	Yes	VOA Vial	HCl	

ESS Laboratory Sample and Cooler Receipt Checklist

Client: Tg2 Solutions - TB

ESS Project ID: 20A0778
Date Received: 1/28/2020

1	8878	Yes	No	Yes	VOA Vial	HCl
1	8879	Yes	No	Yes	VOA Vial	HCl
1	8880	Yes	No	Yes	VOA Vial	HCl
1	8881	Yes	No	Yes	VOA Vial	HCl
1	8882	Yes	No	Yes	VOA Vial	NP

2nd Review

Were all containers scanned into storage/lab? Initials _____ 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: _____ Date & Time: 1/28/20 1516

Reviewed By: _____ Date & Time: 1/28/20 1339

Delivered By: _____ 1/28/20 1339

CHAIN OF CUSTODY RECORD

Tg

231 ELM STREET, BLACKSTONE, MA 01504

20A0778

Laboratory: ESS, Cranston, RI

Project Mgr: Eric Simpson
Phone # 508-298-8686

Project Client
Project Name 945 Belmont Street, Brockton MA RGP
Address 945 Belmont Street, Brockton MA
Sampler: Karl Jensen

Regulated State: MA

MATRIX CODES

GW	Groundwater
SL	Soil
DW	Drinking Water
SW	Surface Water
WW	Waste Water
IA	Indoor Air
SG	Soil Gas/Vapor

Lab to Invoice: Tg2, LLC
esimpson@tg2solutions.com

Lab Report to:
esimpson@tg2solutions.com
jsherburne@tg2solutions.com

Field ID / Point of Collection	Collection Date	Collection Time	Matrix	# of bottles Glass	Plastic	VOA's	TOTSAMPLE	Preservation HCL	NaOH	HNO3	H2So4	MEOH	Other	None	ANALYSES REQUESTED Cl, TRC, TSS	Cr+6	Cyanide	Ammonia	TPH 1664	Total Metals, Hardness	1, 4 Dioxane	EDB	SVOC 625 SIM	PCB 608	VOC 524	Ethanol	Phenol	Dissolved Metals, Field Filtered	Comments:
1 MW-2	1/28/20	0930	GW	8	7	7	22	6	1	3	3			9	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	

Turnaround Information

- [ ] STANDARD
- [X] 5 DAY
- [ ] 3 DAY
- [ ] Other
- [ ] RUSH

QA/QC

2.1 ICE

Additional Information

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by Sampler:	Date:	Time:	Received By:	Date:	Time:
1.)	1/28/20	1120	2.)	1/28/20	1120
Relinquished by:	Date:	Time	Received By:	Date:	Time:
3.)			4.)		

CERTIFICATE OF ANALYSIS

Eric D. Simpson
Tg2 Solutions
231 Elm Street
Blackstone, MA 01504

RE: 945 Belmont St Brockton MA - RGP (N/A)
ESS Laboratory Work Order Number: 20A0779

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 5:43 pm, Feb 05, 2020

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: Tg2 Solutions
Client Project ID: 945 Belmont St Brockton MA - RGP

ESS Laboratory Work Order: 20A0779

SAMPLE RECEIPT

The following samples were received on January 28, 2020 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
20A0779-01	Discharge	Ground Water	200.7, 200.8, 245.1, 2520B, 3113B, 350.1, 3500Cr B-2009, 4500 H+ B

CERTIFICATE OF ANALYSIS

Client Name: Tg2 Solutions
Client Project ID: 945 Belmont St Brockton MA - RGP

ESS Laboratory Work Order: 20A0779

PROJECT NARRATIVE

Classical Chemistry
20A0779-01 [redacted]

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.

[redacted]

CERTIFICATE OF ANALYSIS

Client Name: Tg2 Solutions
Client Project ID: 945 Belmont St Brockton MA - RGP

ESS Laboratory Work Order: 20A0779

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: Tg2 Solutions
Client Project ID: 945 Belmont St Brockton MA - RGP
Client Sample ID: Discharge
Date Sampled: 01/28/20 10:00
Percent Solids: N/A

ESS Laboratory Work Order: 20A0779
ESS Laboratory Sample ID: 20A0779-01
Sample Matrix: Ground Water
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 (5.0)		200.7		1	KJK	01/29/20 12:18	200	20	DA02838
Arsenic	ND (0.5)		3113B		1	KJK	01/30/20 16:54	200	20	DA02838
Cadmium	**0.4** (0.1)		200.8		5	KJK	01/29/20 12:25	200	20	DA02838
Chromium	ND (2.0)		200.7		1	KJK	01/29/20 12:18	200	20	DA02838
Copper	**6.8** (2.0)		200.7		1	KJK	01/29/20 12:18	200	20	DA02838
Hardness	**99700** (82.4)		200.7		1	KJK	01/29/20 12:18	1	1	[CALC]
Iron	**640** (10.0)		200.7		1	KJK	01/29/20 12:18	200	20	DA02838
Lead	**1.6** (0.5)		200.8		5	KJK	01/29/20 12:25	200	20	DA02838
Mercury	ND (0.2)		245.1		1	MKS	01/29/20 13:23	20	40	DA02905
Nickel	ND (5.0)		200.7		1	KJK	01/29/20 12:18	200	20	DA02838
Selenium	ND (1.0)		3113B		1	KJK	01/30/20 19:27	200	20	DA02838
Silver	ND (0.5)		200.7		1	KJK	01/29/20 12:18	200	20	DA02838
Zinc	**35.5** (5.0)		200.7		1	KJK	01/29/20 12:18	200	20	DA02838

CERTIFICATE OF ANALYSIS

Client Name: Tg2 Solutions
Client Project ID: 945 Belmont St Brockton MA - RGP
Client Sample ID: Discharge
Date Sampled: 01/28/20 10:00
Percent Solids: N/A

ESS Laboratory Work Order: 20A0779
ESS Laboratory Sample ID: 20A0779-01
Sample Matrix: Ground Water

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Ammonia as N	**0.15** (0.10)		350.1		1	EEM	01/30/20 15:54	mg/L	DA02927
Hexavalent Chromium	ND (10.0)		3500Cr B-2009		1	EEM	01/29/20 9:20	ug/L	DA02913
pH	**6.19** (N/A)		4500 H+ B		1	CCP	01/28/20 21:13	S.U.	DA02831
pH Sample Temp	**Aqueous pH measured in water at 17.8 ºC.** (N/A)								
Salinity	**1.1** (0.1)		2520B		1	CCP	01/30/20 15:30	ppt	DA03034

CERTIFICATE OF ANALYSIS

Client Name: Tg2 Solutions
Client Project ID: 945 Belmont St Brockton MA - RGP

ESS Laboratory Work Order: 20A0779

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Total Metals										
Batch DA02838 - 3005A/200.7										
Blank										
Antimony	ND	5.0	ug/L							
Chromium	ND	2.0	ug/L							
Copper	ND	2.0	ug/L							
Iron	ND	10.0	ug/L							
Nickel	ND	5.0	ug/L							
Silver	ND	0.5	ug/L							
Zinc	ND	5.0	ug/L							
Blank										
Cadmium	ND	0.1	ug/L							
Lead	ND	0.5	ug/L							
Blank										
Arsenic	ND	0.5	ug/L							
Selenium	ND	1.0	ug/L							
LCS										
Antimony	49.7	5.0	ug/L	50.00		99	85-115			
Chromium	48.5	2.0	ug/L	50.00		97	85-115			
Copper	52.4	2.0	ug/L	50.00		105	85-115			
Iron	228	10.0	ug/L	250.0		91	85-115			
Nickel	50.3	5.0	ug/L	50.00		101	85-115			
Silver	25.4	0.5	ug/L	25.00		102	85-115			
Zinc	51.3	5.0	ug/L	50.00		103	85-115			
LCS										
Cadmium	23.9	2.5	ug/L	25.00		96	85-115			
Lead	47.7	2.5	ug/L	50.00		95	85-115			
LCS										
Arsenic	47.4	12.5	ug/L	50.00		95	85-115			
Selenium	104	25.0	ug/L	100.0		104	85-115			
LCS Dup										
Arsenic	43.9	12.5	ug/L	50.00		88	85-115	8	20	
Selenium	95.7	25.0	ug/L	100.0		96	85-115	8	20	
Batch DA02905 - 245.1/7470A										
Blank										
Mercury	ND	0.2	ug/L							
LCS										
Mercury	5.8	0.2	ug/L	6.042		96	85-115			
LCS Dup										
Mercury	5.7	0.2	ug/L	6.042		94	85-115	2	20	
Classical Chemistry										
Batch DA02913 - General Preparation										
Blank										

CERTIFICATE OF ANALYSIS

Client Name: Tg2 Solutions
Client Project ID: 945 Belmont St Brockton MA - RGP

ESS Laboratory Work Order: 20A0779

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Classical Chemistry										
Batch DA02913 - General Preparation										
Hexavalent Chromium	ND	10.0	ug/L							
LCS										
Hexavalent Chromium	526	10.0	ug/L	499.8		105	90-110			
LCS Dup										
Hexavalent Chromium	528	10.0	ug/L	499.8		106	90-110	0.4	20	
Batch DA02927 - NH4 Prep										
Blank										
Ammonia as N	ND	0.10	mg/L							
LCS										
Ammonia as N	0.10	0.10	mg/L	0.09994		102	80-120			
LCS										
Ammonia as N	0.94	0.10	mg/L	0.9994		94	80-120			
Batch DA03034 - General Preparation										
LCS										
Salinity	1.0		ppt	1.000		96	85-115			

CERTIFICATE OF ANALYSIS

Client Name: Tg2 Solutions
Client Project ID: 945 Belmont St Brockton MA - RGP ESS Laboratory Work Order: 20A0779

Notes and Definitions

Z16	Aqueous pH measured in water at 17.8 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.
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: Tg2 Solutions
Client Project ID: 945 Belmont St Brockton MA - RGP

ESS Laboratory Work Order: 20A0779

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: Tg2 Solutions - TB

Shipped/Delivered Via: Client

ESS Project ID: 20A0779
Date Received: 1/28/2020
Project Due Date: 2/4/2020
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: 2.1 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

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	8883	Yes	N/A	Yes	1L Poly	NP	
1	8884	Yes	N/A	Yes	500 mL Poly	H2SO4	
1	8885	Yes	N/A	Yes	500 mL Poly	HNO3	
1	8886	Yes	N/A	Yes	500 mL Poly	HNO3	
1	8887	Yes	N/A	Yes	250 mL Poly	NP	

2nd Review
Were all containers scanned into storage/lab? Initials
Are barcode labels on correct containers? Yes / No
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: Date & Time: 1/28/20 1302
Reviewed By: Date & Time: 1/28/20 1329
Delivered

ESS Laboratory Sample and Cooler Receipt Checklist

Client: Tg2 Solutions - TB

ESS Project ID: 20A0779

Date Received: 1/28/2020

By: [signature] 1/28/20 1359

CHAIN OF CUSTODY RECORD

20A0779

Tg

231 ELM STREET, BLACKSTONE, MA 01504

Laboratory: ESS, Cranston, RI

Project Mgr: Eric Simpson

Phone # 508-298-8686

Project Client

Project Name 945 Belmont Street, Brockton MA RGP

Address 945 Belmont Street, Brockton MA

Sampler: Karl Jensen

Regulated State: MA

MATRIX CODES

GW	Groundwater
SL	Soil
DW	Drinking Water
SW	Surface Water
WW	Waste Water
IA	Indoor Air
SG	Soil Gas/Vapor

Lab to Invoice: Tg2, LLC
esimpson@tg2solutions.com

Lab Report to:
esimpson@tg2solutions.com
jsherburne@tg2solutions.com

Field ID / Point of Collection	Collection Date	Collection Time	Matrix	# of bottles Glass	Plastic	VOA's	TOT/SAMPLE	Preservation HCL	NaOH	HNO3	H2So4	MEOH	Other	None	ANALYSES REQUESTED Cr+6	Ammonia	Total metals	Hardness	pH, Salinity	Comments:
1 Discharge	1/28/20	1000	SW	5			5			2	1			2	X	X	X	X	X	

Turnaround Information

- [ ] STANDARD
- [x] 5 DAY
- [ ] 3 DAY
- [ ] Other
- [ ] RUSH

QA/QC

Additional Information

2.1

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by Sampler:	Date:	Time:	Received By:	Date:	Time:
1.)	1/28/20	1120	2.)	1/28/20	11:20
Relinquished by:	Date:	Time	Received By:	Date:	Time:
3.)			4.)		

ATTACHMENT D

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: February 09, 2020
Consultation Code: 05E1NE00-2020-SLI-1303
Event Code: 05E1NE00-2020-E-03719
Project Name: 945 Belmont, Brockton - Colbea Station

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

To Whom It May Concern:

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

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

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

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

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

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

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

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

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

Attachment(s):

- Official Species List

Official Species List

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

This species list is provided by:

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

Project Summary

Consultation Code: 05E1NE00-2020-SLI-1303

Event Code: 05E1NE00-2020-E-03719

Project Name: 945 Belmont, Brockton - Colbea Station

Project Type: DEVELOPMENT

Project Description: This facility has historically been an active gasoline station with underground storage tanks (USTs) and dispenser islands. Plans to redevelop the facility are anticipated under a National Pollutant Discharge Elimination System (NPDES). Therefore, a determination of endangered species act eligibility is required.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/42.0650283028075N71.05583233390257W

Counties: Plymouth, MA

Endangered Species Act Species

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

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

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

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

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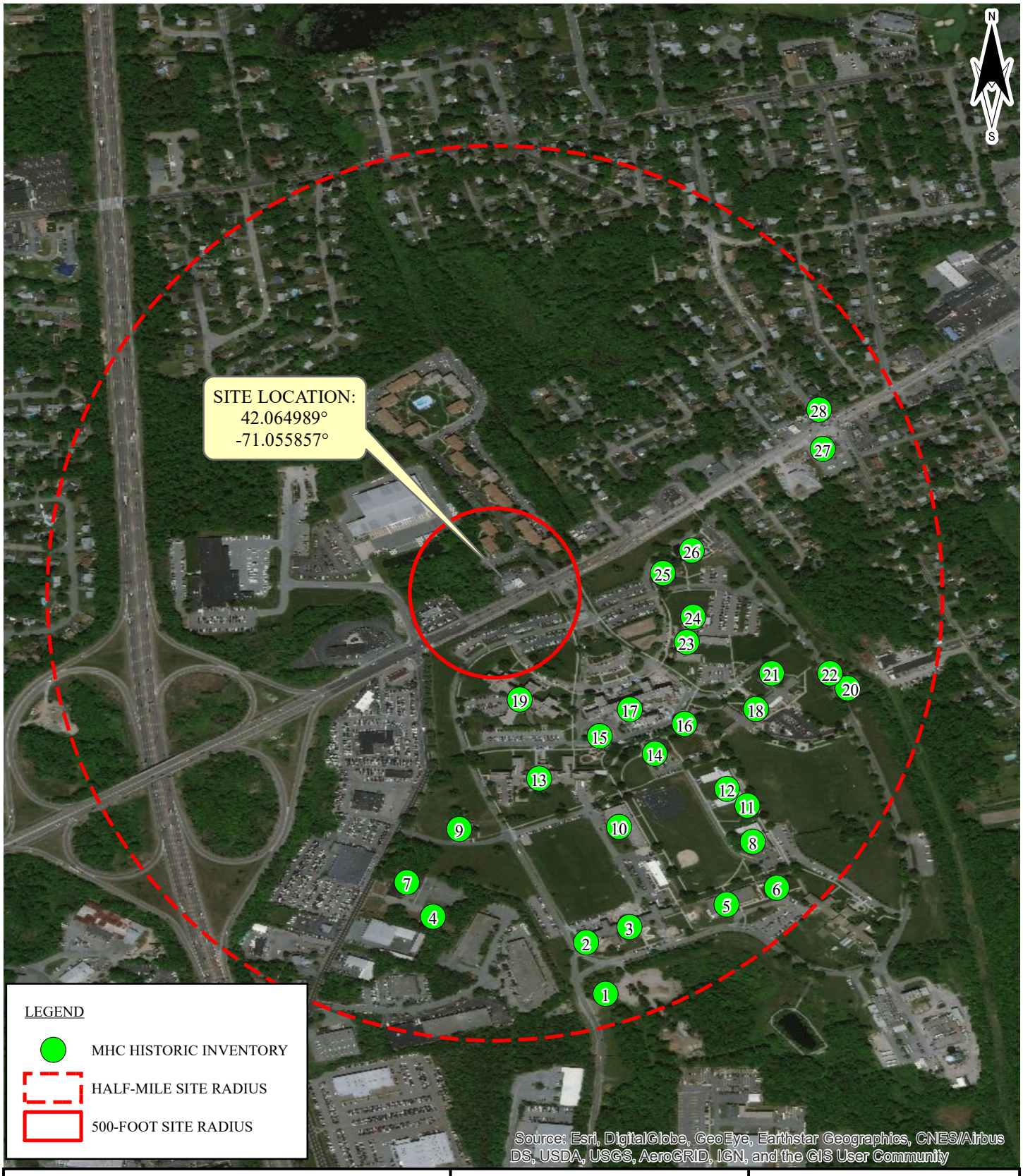
1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Critical habitats

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

ATTACHMENT E



NOTES:
1) NAD 83 STATE PLANE MASSACHUSETTS (METERS)
2) MASSGIS - MHC HISTORIC INVENTORY (UPDATED CONTINUALLY). THE MACRIS MAPS ONLINE MAPPING APPLICATION DISPLAYS HISTORIC RESOURCES INCLUDED IN THE MASSACHUSETTS CULTURAL RESOURCE INFORMATION SYSTEM MAINTAINED BY THE MASSACHUSETTS HISTORICAL COMMISSION.
3) NUMBERS SHOWN ON MAP CORRESPOND TO "OBJECTID" IN TABLE. ALL NUMBERS MAY NOT BE SHOWN. PLEASE SEE TABLE FOR COMPLETE LIST.

0 400 800 1,600
Feet

PREPARED BY:
TG2 SOLUTIONS LLC
231 ELM STREET
BLACKSTONE, MA 01504

ATTACHMENT A

EXTENDED AREA MAP
WITH MARCIS INVENTORY

SHELL-BRANDED STATION
945 BELMONT STREET
BROCKTON, MA

OBJECTID	MHCN	DEMOLISHED	TYPE	DESIGNATIO	D_DATE	HISTORIC_N	COMMON_NAM	ADDRESS	TOWN_NAME	CONSTRUCTI	ARCHITECTU	MAKER	USE_TYPE	SIGNIFICAN
1	BRO.620		Building			Brockton VA Hospital - Sewage Pumping Station	Brockton VA Hospital - Building #50	940 Belmont St	Brockton	1953	No style;		Pumping Station;	Architecture; Engineering; Health Medicine; Military;
2	BRO.630		Building			Brockton VA Hospital - Emergency Generator	Brockton VA Hospital - Building #70	940 Belmont St	Brockton	1979	No style;		Power House;	Architecture; Engineering; Health Medicine; Military;
3	BRO.605		Building			Brockton VA Hospital - Continued Treatment Bldg.	Brockton VA Hospital - Building #5	940 Belmont St	Brockton	1953	No style;		Hospital;	Architecture; Health Medicine; Military;
4	BRO.581		Building			Brockton U. S. Army Reserve Center Garage		124 Manley St	Brockton	1964	No style;	Bailey and Patton;	Maintenance Facility; Military Other; Warehouse;	Architecture; Military; Transportation;
5	BRO.611		Building			Brockton VA Hospital - Gym and Swimming Pool Bldg.	Brockton VA Hospital - Building #23	940 Belmont St	Brockton	1953	No style;		Athletic Field Or Court; Sports Facility;	Architecture; Health Medicine; Military; Recreation;
6	BRO.629		Building			Brockton VA Hospital - Emergency Generator	Brockton VA Hospital - Building #69	940 Belmont St	Brockton	1979	No style;		Power House;	Architecture; Engineering; Health Medicine; Military;
7	BRO.580		Building			Brockton U. S. Army Reserve Center		124 Manley St	Brockton	1964	Contemporary;	Abel, Peter Inc.; Urbahn, Brayton and Burrows;	Business Office; Military Other; Other Educational;	Architecture; Education; Military; Politics Government;
8	BRO.610		Building			Brockton VA Hospital - Library - Recreation Bldg.	Brockton VA Hospital - Building #22	940 Belmont St	Brockton	1953	No style;		Community Center; Library;	Architecture; Education; Health Medicine; Military; Recreation;
9	BRO.624		Building			Brockton VA Hospital - Attendants' Quarters	Brockton VA Hospital - Building #62	940 Belmont St	Brockton	1953	No style;		Other Residential; Workers Housing;	Architecture; Health Medicine; Military;
10	BRO.608		Building			Brockton VA Hospital - Kitchen - Dining Hall	Brockton VA Hospital - Building #20	940 Belmont St	Brockton	1953	No style;		Dining Hall; Warehouse;	Architecture; Health Medicine; Military;
11	BRO.971		Structure			Brockton VA Hospital - Connecting Corridors		940 Belmont St	Brockton	1953			Other Medical;	Architecture; Engineering; Health Medicine; Military;
12	BRO.613		Building			Brockton VA Hospital - Medical Rehab. Building	Brockton VA Hospital - Building #25	940 Belmont St	Brockton	1953	No style;		Hospital; Warehouse;	Architecture; Health Medicine; Military;
13	BRO.604		Building			Brockton VA Hospital - Tuberculosis Building	Brockton VA Hospital - Building #4	940 Belmont St	Brockton	1953	No style;		Hospital;	Architecture; Health Medicine; Military;
14	BRO.609		Building			Brockton VA Hospital - Theater	Brockton VA Hospital - Building #21	940 Belmont St	Brockton	1953	No style;		Abandoned or Vacant; Auditorium; Theater;	Architecture; Health Medicine; Military; Recreation;
15	BRO.627		Building			Brockton VA Hospital - Emergency Generator	Brockton VA Hospital - Building #67	940 Belmont St	Brockton	1975	No style;		Power House;	Architecture; Engineering; Health Medicine; Military;
16	BRO.612		Building			Brockton VA Hospital - Chapel	Brockton VA Hospital - Building #24	940 Belmont St	Brockton	1953	No style;		Chapel;	Architecture; Health Medicine; Military; Religion;
17	BRO.603		Building			Brockton VA Hospital - General Medicine - Surgery	Brockton VA Hospital - Building #3	940 Belmont St	Brockton	1953	No style;		Hospital;	Architecture; Health Medicine; Military;
18	BRO.607		Building			Brockton VA Hospital - Infirm Building	Brockton VA Hospital - Building #8	940 Belmont St	Brockton	1953	No style;		Hospital;	Architecture; Health Medicine; Military;
19	BRO.602		Building			Brockton VA Hospital - Admissions - Treatment Bldg	Brockton VA Hospital - Building #2	940 Belmont St	Brockton	1953	No style;		Hospital;	Architecture; Health Medicine; Military;
20	BRO.970		Structure			Brockton VA Hospital - Reservoir	Brockton VA Hospital - Building #49	940 Belmont St	Brockton	1953			Utilities Other;	Architecture; Engineering; Health Medicine; Military;
21	BRO.628		Building			Brockton VA Hospital - Emergency Generator	Brockton VA Hospital - Building #68	940 Belmont St	Brockton	1979	No style;		Power House;	Architecture; Engineering; Health Medicine; Military;
22	BRO.619		Building			Brockton VA Hospital - Water Pump House	Brockton VA Hospital - Building #47	940 Belmont St	Brockton	1953	No style;		Pumping Station;	Architecture; Engineering; Health Medicine; Military;
23	BRO.601		Building			Brockton VA Hospital - Administration Building	Brockton VA Hospital - Building #1	940 Belmont St	Brockton	1953	No style;		Administration Office;	Architecture; Health Medicine; Military;
24	BRO.631		Building			Brockton VA Hospital - Switchgear Building	Brockton VA Hospital - Building #71	940 Belmont St	Brockton	1979	No style;		Power House;	Architecture; Engineering; Health Medicine; Military;
25	BRO.623		Building			Brockton VA Hospital - Apartment Building	Brockton VA Hospital - Building #61	940 Belmont St	Brockton	1953	No style;		Apartment House; Other Medical;	Architecture; Health Medicine; Military;
26	BRO.622		Building	NRIND	12/20/2016;	Howard Home For Aged Men	Brockton VA Hospital - Building #60	940 Belmont St	Brockton	1924	Colonial Revival;	Jackson, Ralph Prescott;	Business Office; Dormitory; Nursing Home; Other Educational; Other Medical;	Architecture; Health Medicine; Military; Religion;
27	BRO.205	y	Building			Minor, Wesley Lyng House		826 Belmont St	Brockton	1870	Italianate;		Single Family Dwelling House;	Architecture;
28	BRO.159		Building			Bryant, William Cullen House	Ames, Fiske - Francis, George - Bryant, Mildred Copeland House	815 Belmont St	Brockton	1810	Federal;		Single Family Dwelling House;	Architecture; Literature;