NOTICE OF INTENT FOR

MASSACHUSETTS REMEDIATION GENERAL PERMIT

SHELL BRANDED GASOLINE STATION
394 PROVIDENCE HIGHWAY
WESTWOOD, MA

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

April 29, 2018 (Revised)

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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 394 Providence Highway, Westwood, 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 NOI for a 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 394 Providence Highway in Westwood, Massachusetts. 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 disposal 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:	Dennis Darveau, Director of Construction Ddarveau@seasoncornermarket.com Tel: (401) 490-2209
USGS Quadrangle:	Norwood, Massachusetts
Longitude, Latitude: (approximate)	71° 10' 54.28" W, 42° 12' 51.23" N
Disposal Site Zoning:	Commercial
County:	Norfolk

2.1 Facility Description

The facility is a Colbea-owned, Shell-branded gasoline station located on an approximately 0.41 acre parcel at 394 Providence Highway in Westwood, Massachusetts. The Town of Westwood Assessor's Office identified the facility as Lot 082 on Map 24, zoned as commercial with the surrounding area identified as mixed commercial and industrial. A topographic map with the facility location, receiving water, and discharge point is provided in **Figure1**. **Figure 2** provides a site plan of current developments.

2.2 Sensitive Environmental Receptors

The nearest water body to the facility is a freshwater, forested wetland located approximately 50 feet north of the facility. A tributary of Purgatory Brook is located approximately 1,000 feet to the north/northeast. Purgatory Brook is classified as an Impaired water body and Total Maximum Daily Load (TMDL) is completed. A waterbody assessment and TMDL status relative to the facility location is provided in **Figure 3**. Groundwater does not intersect surface water or wetland areas within the boundaries of the facility.

There are no surface water impoundments, or drainage ditches within 500 feet of the facility. A freshwater, forested wetland is located adjacent to the facility, approximately 50 feet north and to the east. Areas of environmental concern within the facility boundary include a non-potential drinking water source area, and a high yield aquifer. The facility is located within Interim Well Protection Area (IWPA), and a FEMA 100 year floodplain. No local, state and/or federally protected open space, or threatened or endangered species, Areas of Priority Habitats of Rare Species, Habitats of Rare Wildlife, or Certified Vernal Pools are located within 500 feet of the disposal 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 disposal site.

2.3 National Pollutant Discharge Elimination System (NPDES) Status

A NPDES permit has not been previously applied for or granted for this discharge. Site redevelopment construction activities have not yet begun at the facility; however, they are planned for early summer 2017. 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 and soil samples collected at the facility, this site is not considered a new discharger.

3.0 DISCHARGE INFORMATION

This NOI for a 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 wetland area located adjacent to the property to the east, as depicted on **Figure 2**. This wetland discharges to tributary of Purgatory Brook (freshwater). The latitude and longitude of the discharge (outfall) point are:

Latitude: 42.21412
Longitude: -71.18112

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 7.32 (s.u.) and site activities are not anticipated to alter this pH. Discharge activities will only occur during site redevelopment, which is expected to occur between May to August 2018. The discharge point for these dewatering activities is within a wetland area located immediately adjacent to the facility to the east and north. 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 disposal 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 a wetland that drains to a tributary of Purgatory Brook (freshwater). StreamStats 4.0 was consulted and it was determined based on a location on East Branch Neponset River, that the 7Q10 is 4.6 cubic feet per second (cfs). The StreamStats Report is provided in **Attachment B**. Note, the basin delineated immediately east of the wetland adjacent to the facility did not have statistics to provide a 7Q10, therefore, the 7Q10 for the nearest tributary of Purgatory Brook with a 7Q10 was selected. Per the Waterbody Assessment and TMDL Status Map (**Figure 3**), Purgatory Brook was assigned a TMDL status of 4A – Impaired – TMDL is completed.

3.2.1 Receiving Water Classification

Based on the MassDEP Division of Water Pollution Control the discharge (outfall) point is a wetland which drains to a tributary of Purgatory Brook, which drains into the Neponset

River. Purgatory Brook is not classified; however, the Neponset River is classified as Class B:

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

4.0 CONATAMINANT INFORMATION

On April 4, 2018, groundwater samples were collected from on-site monitoring well RGP Well MW-13 and the outfall discharge location at the wetland located adjacent to the facility (Discharge Area). Groundwater samples collected from RGP Well MW-13 during April 2018 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 Area, during April 2018 were submitted to ESS for analysis of ammonia, hexavalent chromium, metals, iron, pH, hardness, and salinity.

Results from the groundwater sampling of MW-13 demonstrated concentrations 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 above technology-based effluent limitations (TBELs). No contaminants of concern were detected above Massachusetts Department of Environmental Protection (MassDEP) reportable concentrations for groundwater (RCGW-2). 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 Area) demonstrated concentrations of iron exceeding the TBEL. **Table 1** provides a summary of detected potential contaminants of concern (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 April 17, 2018 to confirm the 7Q10 flow and determine a dilution factor. Final correspondence confirming a 7Q10 flow of 4.2 cfs, and a dilution factor of zero (0) was received by MassDEP on April 18, 2018. 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. There is one threatened species, the Northern Long-eared Bat (*Myotis septentrionalis*), on the list for this facility. However, no critical habitat has been designated for this species. Per the U.S. Fish and Wildlife Services, the Northern Long-eared Bat hibernates in caves and mines, swarming in surrounded wooded areas in autumn, and foraging in upland forests in late spring and summer. Based on the location and scope of this work in a densely commercially developed area, it is unlikely that dewatering activities associated with the redevelopment of this facility will adversely affect the Northern Long-eared Bat. Therefore, this ESA determination is FWS Criterion C. 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 Canton 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 is provided on **Figures 7** and **7A**. No historic places are located within 500 feet of the facility. Based on the location of historic places relative to the facility and the scope of this work, it is unlikely that dewatering activities associated with the redevelopment of this facility will adversely affect any historic places.

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 May 2018 and are anticipated to be complete by August 2018.

FIGURES

LEGEND

★ SITE LOCATION

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

DATE: APRIL 14, 2018

0 1,000 2,000 4,000
Feet

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

FIGURE 1

SITE LOCUS MAP

394 PROVIDENCE HIGHWAY
WESTWOOD, MA

LEGEND

RGP SAMPLE LOCATION

NOTES:
1) NAD 83
2) ALL LOCATIONS ARE APPROXIMATE.
3) SITE OVERLAY PLAN TAKEN FROM MASS DEP.

DATE: APRIL 15, 2018

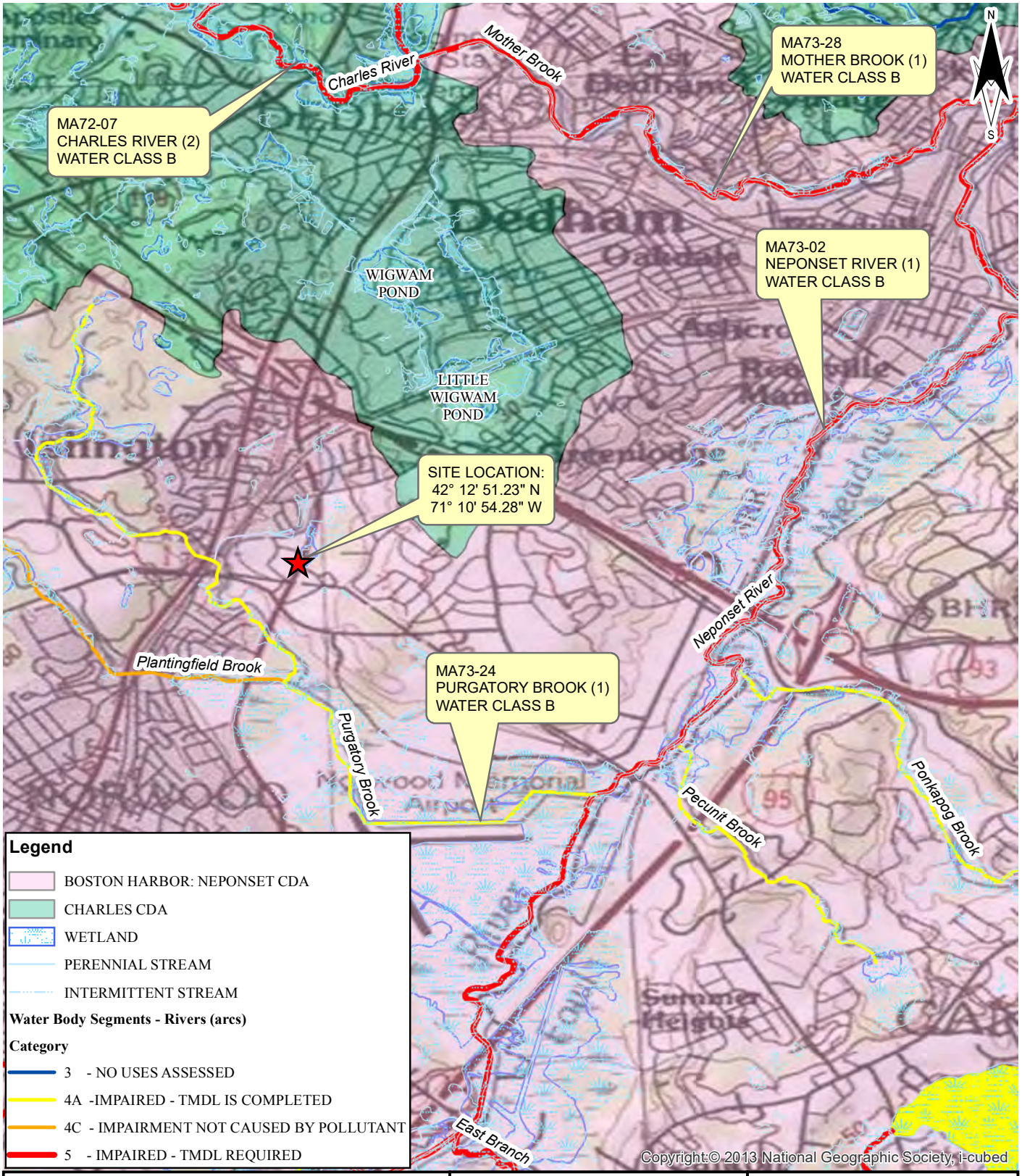
0 20 40 80
Feet

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

FIGURE 2

SITE PLAN

394 PROVIDENCE HIGHWAY
WESTWOOD, 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. MA53-18_2014: ASSESSMENT ID WITH REPORTING CYCLE YEAR
4. ROCKY RUN: 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 2,000 4,000 8,000
Feet

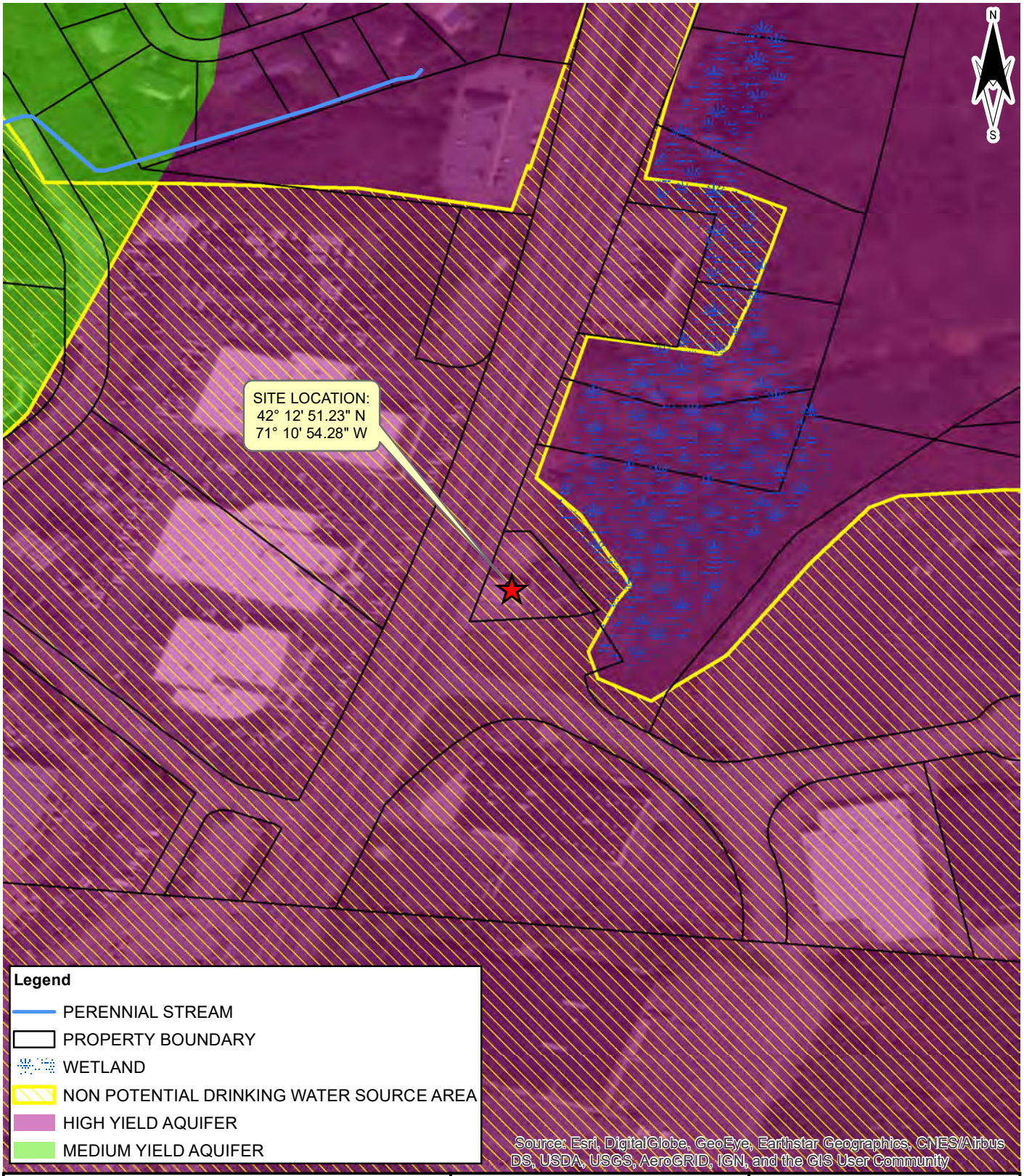
DATE: APRIL 14, 2018

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

FIGURE 3

WATERBODY ASSESSMENT & TMDL STATUS

394 PROVIDENCE HIGHWAY
WESTWOOD, MA



NOTES:
1) NAD 83
2) ALL DATA LAYERS TAKEN FROM MASSGIS.
3) ALL BOUNDARIES ARE APPROXIMATE.
4) PROPERTY BOUNDARIES ARE APPROXIMATE AND SHOULD NOT BE USED TO DETERMINE LEGAL OWNERSHIP.

0 125 250 500
Feet

DATE: APRIL 14, 2018

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

FIGURE 4

AREAS OF ENVIRONMENTAL CONCERN

394 PROVIDENCE HIGHWAY
WESTWOOD, MA

MassDEP - Bureau of W aste Site Cleanup

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

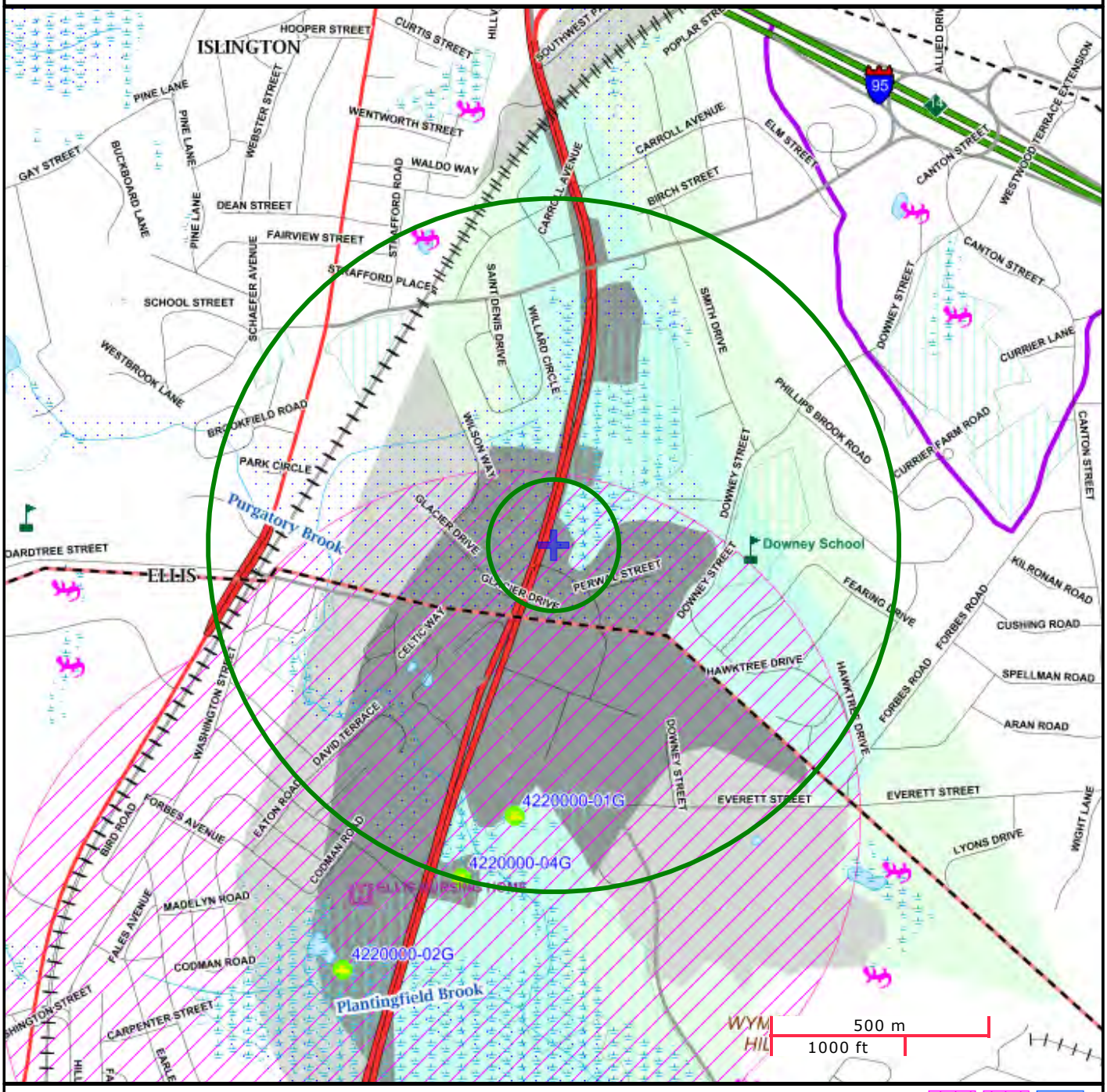
FIGURE 5

Site Information:
SHELL BRANDED SER VICE STATION
394 PROVIDENCE HIGHWAY WESTWOOD, MA

NAD83 UTM Meters:
4675865mN , 319913mE (Zone: 19)
April 14, 2018

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

MassDEP
Commonwealth of Massachusetts
Department of Environmental Protection



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

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

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

Aquifers: Medium Yield, High Yield, EPA Sole Source

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

PWS Protection Areas: Zone II, IWPA, Zone A

Hydrography: Open Water, PWS Reservoir, Tidal Flat

Wetlands: Freshwater, Saltwater, Cranberry Bog

FEMA 100yr Floodplain; Protected Open Space; ACEC

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

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

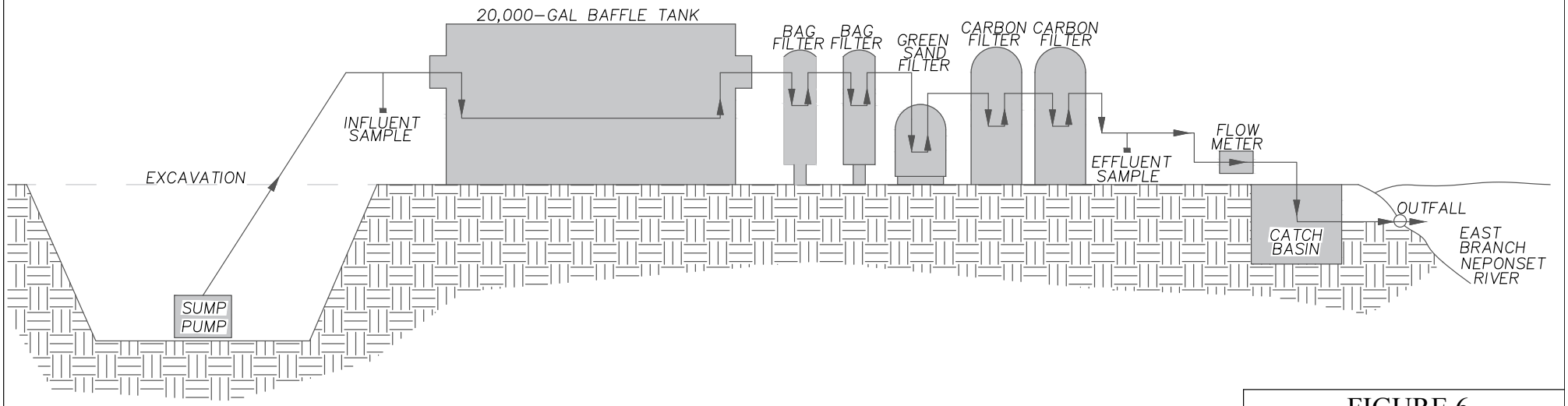


FIGURE 6

GROUNDWATER DEWATERING INSTALLATION DIAGRAM

SHELL-BRANDED SERVICE STATION
LOCATED AT
394 PROVIDENCE HIGHWAY
WESTWOOD, MA
PREPARED FOR
COLBEA ENTERPRISES LLC

TG2 SOLUTIONS, LLC
231 ELM STREET
BLACKSTONE, MA 0154

DATE: APRIL 14, 2018 REVISED:

NOTES:
1) NOT TO SCALE.
2) THE DISTANCE FROM THE CATCH BASIN/DISCHARGE LOCATION TO THE EAST BRANCH NEPONSET RIVER OUTFALL IS APPROXIMATELY 880 FEET.

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

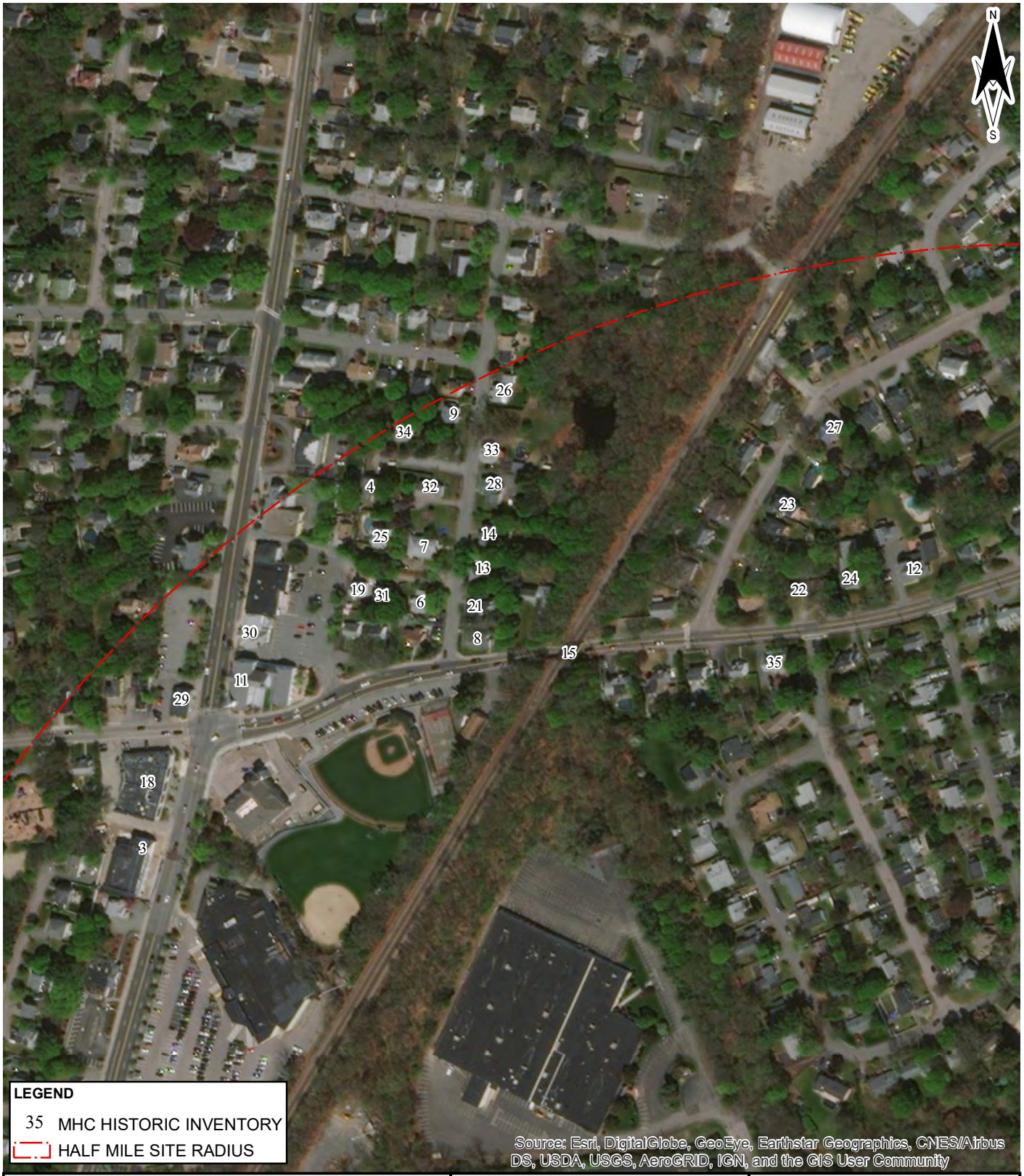
DATE: APRIL 14, 2018

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

FIGURE 7

EXTENDED AREA MAP
WITH MARCIS INVENTORY

394 PROVIDENCE HIGHWAY
WESTWOOD, MA



NOTES:
1) NAD 83 STATE PLANE MASSACHUSETTS (METERS)
2) MASSGIS - MHC HISTORIC INVENTORY (UPDATED CONTINUALLY, ACCESSED 3/21/2017). 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.

0 140 280 560
Feet

DATE: APRIL 14, 2018

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

FIGURE 7A

MAGNIFIED AREA MAP
WITH MARCIS INVENTORY

394 PROVIDENCE HIGHWAY
WESTWOOD, MA

TABLES

TABLE 1
SUMMARY OF GROUNDWATER ANALYTICAL DATA
Shell-Branded Station
394 Providence Highway
Westwood, MA

		Arsenic (µg/L)	Cadmium (µg/L)	Copper (µg/L)	Iron (µg/L)	Lead (µg/L)	Zinc (µg/L)	Benzo(a)-anthracene (µg/L)	Benzo(a)-pyrene (µg/L)	Benzo(b)-fluoranthene (µg/L)	Benzo(g,h,i)-perylene (µg/L)	Benzo(k)-fluoranthene (µg/L)	Chrysene (µg/L)	Dibenzo(a,h) Anthracene (µg/L)	Fluoran-thene (µg/L)	Indeno-(1,2,3-cd)-Pyrene (µg/L)	Phenan-threne (µg/L)	Pyrene (µg/L)	Ammonia (as N) (mg/L)	Chloride (mg/L)	Total Suspended Solids (mg/L)	Hardness (mg/L)	pH
MassDEP Reportable Concentrations (RCGW-2)		900	4	100,000	NA	10	900	1,000	1,000	400	20	100	70	40	200	100	10,000	20	NA	NA	NA	NA	NA
Effluent Limitations - TBEL		104	10.2	242	5,000	160	420	0.1[a]	0.1[a]	0.1[a]	100[b]	0.1[a]	0.1[a]	0.1[a]	100[b]	0.1[a]	100[b]	100[b]	Report	Report	30	NA	NA
Well ID	**Sample Date**																						
Discharge Area	04/04/18	**1.2**	**0.243**	**4.8**	**6,340**	**8.4**	**161**	--	--	--	--	--	--	--	--	--	--	--	**0.28**	--	--	**77,700**	**5.78**
RGP Well MW-13	04/04/18	**0.50**	**2.03**	**2.90**	**2,670**	<2.0	**32.5**	**0.18**	**0.42**	**1.05**	**0.78**	**0.30**	**0.55**	**0.12**	**0.79**	**0.77**	**0.19**	**0.58**	**0.16**	**250**	**10**	**82,000**	**7.32**

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>1. Name of site:

Future Seasons Corner Market
394 Providence Highway
Westwood, MA</td><td colspan="3">Site address:

Street: 394 Providence Highway</td></tr>
<tr><td rowspan="2"></td><td>City: Westwood</td><td>State: MA</td><td>Zip: 02090</td></tr>
<tr><td colspan="3"></td></tr>
<tr><td>2. Site owner

Colbea Enterprises, LLC
2050 Plainfield Pike
Cranston, RI 029210

Owner is (check one): ☐ Federal ☐ State/Tribal ☑ Private
☐ Other; if so, specify:</td><td colspan="3">Contact Person: Dennis Darveau</td></tr>
<tr><td rowspan="3"></td><td colspan="2">Telephone: 401-490-2209</td><td>Email: ddarveau@seasonscornermarket.com</td></tr>
<tr><td colspan="3">Mailing address: Text

Street: 7 Starline Way</td></tr>
<tr><td>City: Cranston</td><td>State: RI</td><td>Zip: 02921</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>4. NPDES permit number assigned by EPA:

NPDES permit is (check all that apply: ☑ RGP ☐ DGP ☐ CGP
☐ MSGP ☐ Individual NPDES permit ☐ Other; if so, specify:</td><td colspan="3">5. Other regulatory program(s) that apply to the site (check all that apply):

☑ MA Chapter 21e; list RTN(s): 3-0463

☐ 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):
Neponset River via Purgatory Brook	MA73-24	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: Wetlands adjacent to the site

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. Neponset River has one TMDL for bacteria

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.	4.6 ft^3/s
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.	zero (0)

6. Has the operator received confirmation from the appropriate State for the 7Q10and dilution factor indicated? (check one): ☑ Yes ☐ No
If yes, indicate date confirmation received:

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

C. Source water information:

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

☑ Contaminated groundwater Has the operator attached a summary of influent sampling results as required in Part 4.2 of the RGP in accordance with the instruction in Appendix VIII? (check one): ☑ Yes ☐ No	☐ Contaminated surface water Has the operator attached a summary of influent sampling results as required in Part 4.2 of the RGP in accordance with the instruction in Appendix VIII? (check one): ☐ Yes ☐ No	☐ The receiving water ☐ A surface water other than the receiving water; if so, indicate waterbody:	☐ Potable water; if so, indicate municipality or origin: ☐ 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 outfall/discharge location is into the wetlands located immediately adjacent to the facility (394 Providence Hwy, Westwood), which flows into a tributary of Purgatory Brook.	Outfall location(s): (Latitude, Longitude) 42.21412, -71.18112
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): May 2018 through August 2018 Indicate if the discharge is expected to occur over a duration of: ☑ less than 12 months ☐ 12 months or more ☐ is an emergency discharge	
Has the operator attached a site plan in accordance with the instructions in D, above? (check one): ☑ Yes ☐ No	

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

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

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

4. Influent and Effluent Characteristics

Parameter	Known or believed absent	Known or believed present	# of samples	Test method (#)	Detection limit (µg/l)	Influent		Effluent Limitations	
						Daily maximum (µg/l)	Daily average (µg/l)	TBEL	WQBEL
A. Inorganics									
Ammonia		x	1	350.1	0.10 mg/L	0.16	0.16	Report mg/L	---
Chloride		x	1	300.0	50,000	250,000	250,000	Report µg/l	---
Total Residual Chlorine	x		1	4500C1D	0.02	< 0.02	0	0.2 mg/L	11 ug/L
Total Suspended Solids		x	1	2540D	5 mg/L	10	10	30 mg/L	–
Antimony	x		1	200.7	5.0	< 5.0	0	206 µg/L	–
Arsenic		x	1	3113B	0.5	0.5	0.5	104 µg/L	–
Cadmium		x	1	200.7	1.0	2.03	2.03	10.2 µg/L	–
Chromium III	x		1	200.7	2.0	< 2.0	0	323 µg/L	–
Chromium VI	x		1	3500Cr	10.0	< 10.0	0	323 µg/L	–
Copper		x	1	200.7	2.0	2.9	2.9	242 µg/L	–
Iron		x	1	200.7	10.0	2,670	2,670	5,000 µg/L	1,000
Lead	x		1	200.7	2.0	< 2.0	0	160 µg/L	–
Mercury	x		1	245.1	0.200	< 0.20	0	0.739 µg/L	–
Nickel	x		1	200.7	5.0	< 5.0	0	1,450 µg/L	–
Selenium	x		1	3113B	1.0	< 1.0	0	235.8 µg/L	–
Silver	x		1	200.7	0.5	< 0.5	0	35.1 µg/L	–
Zinc		x	1	200.7	5.0	32.5	32.5	420 µg/L	–
Cyanide	x		1	4500 CN	0.005	0.005	0	178 mg/L	–
B. Non-Halogenated VOCs									
Total BTEX	x		1	524.2	2.0 (total)	<0.5	0	100 µg/L	---
Benzene	x		1	524.2	0.5	<0.5	0	5.0 µg/L	---
1,4 Dioxane	x		1	8270D SIM	0.250	<0.250	0	200 µg/L	---
Acetone	x		1	524.2	0.005	< 0.005	0	7.97 mg/L	---
Phenol	x		1	420.1	100	< 100	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	4.4 µg/L	–
1,2 Dichlorobenzene	x		1	524.2	0.5	< 0.5	0	600 µg/L	---
1,3 Dichlorobenzene	x		1	524.2	0.5	< 0.5	0	320 µg/L	---
1,4 Dichlorobenzene	x		1	524.2	0.5	< 0.5	0	5.0 µg/L	---
Total dichlorobenzene	x		1	524.2	0.5	< 0.5	0	763 µg/L in NH	---
1,1 Dichloroethane	x		1	524.2	0.5	< 0.5	0	70 µg/L	---
1,2 Dichloroethane	x		1	524.2	0.5	< 0.5	0	5.0 µg/L	---
1,1 Dichloroethylene	x		1	524.2	0.5	< 0.5	0	3.2 µg/L	---
Ethylene Dibromide	x		1	504.1	0.015	< 0.015	0	0.05 µg/L	---
Methylene Chloride	x		1	524.2	0.5	< 0.5	0	4.6 µg/L	---
1,1,1 Trichloroethane	x		1	524.2	0.5	< 0.5	0	200 µg/L	---
1,1,2 Trichloroethane	x		1	524.2	0.5	< 0.5	0	5.0 µg/L	---
Trichloroethylene	x		1	524.2	0.5	< 0.5	0	5.0 µg/L	---
Tetrachloroethylene	x		1	524.2	0.5	< 0.5	0	5.0 µg/L	–
cis-1,2 Dichloroethylene	x		1	524.2	0.5	< 0.5	0	70 µg/L	---
Vinyl Chloride	x		1	524.2	0.2	< 0.2	0	2.0 µg/L	---
D. Non-Halogenated SVOCs									
Total Phthalates	x		1	625 SIM	2.40	< 2.40	0	190 µg/L	–
Diethylhexyl phthalate	x		1	625 SIM	1.92	< 1.92	0	101 µg/L	–
Total Group I PAHs		x	1	625 SIM	0.05	3.39	3.39	1.0 µg/L	---
Benzo(a)anthracene		x	1	625 SIM	0.05	0.18	0.18	As Total PAHs	0.0038
Benzo(a)pyrene		x	1	625 SIM	0.05	0.42	0.42		0.0038
Benzo(b)fluoranthene		x	1	625 SIM	0.05	1.05	1.05		0.0038
Benzo(k)fluoranthene		x	1	625 SIM	0.05	0.30	0.30		0.0038
Chrysene		x	1	625 SIM	0.05	0.55	0.55		0.0038
Dibenzo(a,h)anthracene		x	1	625 SIM	0.05	0.12	0.12		0.0038
Indeno(1,2,3-cd)pyrene		x	1	625 SIM	0.05	0.77	0.77		0.0038

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 SIM	0.19	2.34	2.34	100 µg/L	---
Naphthalene	X		1	625 SIM	0.19	< 0.19	0	20 µg/L	---
E. Halogenated SVOCs									
Total PCBs	X		1	608	0.10	< 0.10	0	0.000064 µg/L	---
Pentachlorophenol	X		1	625 SIM	0.87	< 0.87	0	1.0 µg/L	---
F. Fuels Parameters									
Total Petroleum Hydrocarbons	X		1	1664A	5	< 5	0	5.0 mg/L	---
Ethanol	X		1	D3695	10	< 10	0	Report mg/L	---
Methyl-tert-Butyl Ether	X		1	524.2	0.5	< 0.5	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	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	82,000 ug/L	82,000 ug/L		
pH		X	1	Field	--	7.32	7.32		

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: bag filters 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.

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

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

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

J. Certification requirement

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

BMPP certification statement: A BMPP meeting the requirements of the RGP + NOI will be developed and implemented upon initiation of discharge.	
Notification provided to the appropriate State, including a copy of this NOI, if required.	Check one: Yes ☑ No ☐
Notification provided to the municipality in which the discharge is located, including a copy of this NOI, if requested.	Check one: Yes ☑ No ☐
Notification provided to the owner of a private or municipal storm sewer system, if such system is used for site discharges, including a copy of this NOI, if requested.	Check one: Yes ☐ No ☐ NA ☑
Permission obtained from the owner of a private or municipal storm sewer system, if such system is used for site discharges. If yes, attach additional conditions. If no, attach explanation and timeframe for obtaining permission.	Check one: Yes ☐ No ☐ NA ☑
Notification provided to the owner/operator of the area associated with activities covered by an additional discharge permit(s). Additional discharge permit is (check one): ☑ RGP ☐ DGP ☐ CGP ☐ MSGP ☐ Individual NPDES permit ☐ Other; if so, specify:	Check one: Yes ☑ No ☐ NA ☐
Signature:	Date: 4-20-15
Print Name and Title: DENNIS DARVEAU DIR. OF CONSTRUCTION	

ATTACHMENT B

Subject: RE: 394 Providence Highway, Westwood - NOI RGP
Date: Wednesday, April 18, 2018 at 10:54:54 AM Eastern Daylight Time
From: Vakalopoulos, Catherine (DEP)
To: Leah Smith
Attachments: image001.png

Hi Leah,
You are correct in not requesting a dilution factor since this discharge will be to a wetland near the site located at 394 Providence Highway in Westwood. This wetland and the nearby tributary to Purgatory Brook do not have IDs and so on the NOI you would note that and list Purgatory Brook ID # MA73-24 as the nearest waterbody. Additional information you will need for the NOI is that this brook is Class B, not an Outstanding Resource Water, and is located in the Neponset watershed which has one TMDL for bacteria.

For the purposes of completing the NOI for coverage under the RGP, you are all set from MassDEP. The effluent limit calculations will be reviewed by EPA once submitted along with the NOI.

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: Tuesday, April 17, 2018 8:33 PM
To: Vakalopoulos, Catherine (DEP)
Cc: Jason Sherburne; Eric Simpson
Subject: 394 Providence Highway, Westwood - NOI RGP

Good evening,

I'm working on behalf of a client to complete a NOI for a RGP for redevelopment activities at 394 Providence Highway in Westwood, MA. This facility has historically been a gasoline station and will be redeveloped into another gasoline station. The RGP is for dewatering activities during redevelopment.

Attached please find the dilution factor spreadsheet and effluent limit calculations. There is no dilution factor requested for this RGP. Calculations are based on the groundwater concentrations at the facility (MW-13), the surface water samples collected from the wetlands located behind the facility, the 7Q10 from USGS, and the projected maximum daily flow.

Please note that the Streamstats data is attached, and is based on the basin delineated immediately east of wetland adjacent to the facility. The wetland adjacent to the facility did not have statics to provide a 7Q10, therefore, the 7Q10 for the nearest tributary of Purgatory Brook was selected. This provided a 7Q10 flow of 4.6 cubic feet per second (cfs). The maximum daily flow rate of the proposed treatment system is 57,600 gallons per day (gpd), which was converted to 0.0576 million gallons per day (mgd).

I've attached a table with the summary of contaminants detected in the influent sample (site groundwater) and the outfall surface water sample, and a site plan showing the proposed construction location for dewatering and outfall location.

Could you please check the 7Q10 and let me know if you require any additional information?

Enter number values in green boxes below

Enter values in the units specified

↓

0	Q_R = Enter upstream flow in **MGD**
0.0288	Q_P = Enter discharge flow in **MGD**
0	Downstream 7Q10

Enter a dilution factor, if other than zero

↓

0

Enter values in the units specified

↓

82000	C_d = Enter influent hardness in **mg/L** $CaCO_3$
77700	C_s = Enter receiving water hardness in **mg/L** $CaCO_3$

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

↓

5.78	pH in **Standard Units**
15.12	Temperature in **°C**
0.28	Ammonia in **mg/L**
77700	Hardness in **mg/L** $CaCO_3$
0.8	Salinity in **ppt**
0	Antimony in **µg/L**
1.2	Arsenic in **µg/L**
0.243	Cadmium in **µg/L**
0	Chromium III in **µg/L**
0	Chromium VI in **µg/L**
4.8	Copper in **µg/L**
6340	Iron in **µg/L**
8.4	Lead in **µg/L**
0	Mercury in **µg/L**
0	Nickel in **µg/L**
0	Selenium in **µg/L**
0	Silver in **µg/L**
161	Zinc in **µg/L**

Enter **influent** concentrations in the units specified

↓

0	TRC in **µg/L**
0.16	Ammonia in **mg/L**
0	Antimony in **µg/L**
0.5	Arsenic in **µg/L**
2.03	Cadmium in **µg/L**
0	Chromium III in **µg/L**
0	Chromium VI in **µg/L**
2.9	Copper in **µg/L**
2670	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**
32.5	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**
0.18	Benzo(a)anthracene in **µg/L**
0.42	Benzo(a)pyrene in **µg/L**
1.05	Benzo(b)fluoranthene in **µg/L**
0.3	Benzo(k)fluoranthene in **µg/L**
0.55	Chrysene in **µg/L**
0.12	Dibenzo(a,h)anthracene in **µg/L**
0.77	Indeno(1,2,3-cd)pyrene in **µg/L**
0	Methyl-tert butyl ether in **µg/L**

Notes:

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

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

Freshwater only

pH, temperature, and ammonia required for all discharges
Hardness required for freshwater
Salinity required for saltwater (estuarine and marine)
Metals required for all discharges if present and if dilution factor is > 1
Enter 0 if non-detect or testing not required

if >1 sample, enter maximum
if >10 samples, may enter 95th percentile
Enter 0 if non-detect or testing not required

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:

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

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:

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

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/L

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/L
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 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	640	µg/L		
Arsenic	**104**	µg/L	10	µg/L		
Cadmium	**10.2**	µg/L	39.0130	µg/L		
Chromium III	**323**	µg/L	20980.6	µg/L		
Chromium VI	**323**	µg/L	11.4	µg/L		
Copper	**242**	µg/L	2881.9	µg/L		
Iron	5000	µg/L	**1000**	µg/L		
Lead	**160**	µg/L	16290.32	µg/L		
Mercury	**0.739**	µg/L	0.91	µg/L		
Nickel	**1450**	µg/L	15221.2	µg/L		
Selenium	**235.8**	µg/L	5.0	µg/L		
Silver	**35.1**	µg/L	388829.5	µg/L		
Zinc	**420**	µg/L	35268.8	µg/L		
Cyanide	**178**	mg/L	5.2	µg/L	---	µg/L
B. Non-Halogenated VOCs						
Total BTEX	**100**	µg/L	---			
Benzene	**5.0**	µg/L	---			
1,4 Dioxane	**200**	µg/L	---			
Acetone	**7970**	µg/L	---			
Phenol	**1,080**	µg/L	300	µg/L		
C. Halogenated VOCs						
Carbon Tetrachloride	**4.4**	µg/L	1.6	µg/L		
1,2 Dichlorobenzene	**600**	µg/L	---			
1,3 Dichlorobenzene	**320**	µg/L	---			
1,4 Dichlorobenzene	**5.0**	µg/L	---			
Total dichlorobenzene	**---**	µg/L	---			
1,1 Dichloroethane	**70**	µg/L	---			
1,2 Dichloroethane	**5.0**	µg/L	---			
1,1 Dichloroethylene	**3.2**	µg/L	---			
Ethylene Dibromide	**0.05**	µg/L	---			
Methylene Chloride	**4.6**	µg/L	---			
1,1,1 Trichloroethane	**200**	µg/L	---			
1,1,2 Trichloroethane	**5.0**	µg/L	---			
Trichloroethylene	**5.0**	µg/L	---			
Tetrachloroethylene	**5.0**	µg/L	3.3	µg/L		
cis-1,2 Dichloroethylene	**70**	µg/L	---			
Vinyl Chloride	**2.0**	µg/L	---			
D. Non-Halogenated SVOCs						
Total Phthalates	**190**	µg/L	---	µg/L		
Diethylhexyl phthalate	**101**	µg/L	2.2	µg/L		
Total Group I Polycyclic Aromatic Hydrocarbons	**1.0**	µg/L	---			

Benzo(a)anthracene	1.0	µg/L	**0.0038**	µg/L	0.1	µg/L
Benzo(a)pyrene	1.0	µg/L	**0.0038**	µg/L	0.1	µg/L
Benzo(b)fluoranthene	1.0	µg/L	**0.0038**	µg/L	0.1	µg/L
Benzo(k)fluoranthene	1.0	µg/L	**0.0038**	µg/L	0.1	µg/L
Chrysene	1.0	µg/L	**0.0038**	µg/L	0.1	µg/L
Dibenzo(a,h)anthracene	1.0	µg/L	**0.0038**	µg/L	0.1	µg/L
Indeno(1,2,3-cd)pyrene	1.0	µg/L	**0.0038**	µg/L	0.1	µg/L
Total Group II Polycyclic Aromatic Hydrocarbons	**100**	µg/L	---			
Naphthalene	**20**	µg/L	---			
E. Halogenated SVOCs						
Total Polychlorinated Biphenyls	**0.000064**	µg/L	---		0.5	µg/L
Pentachlorophenol	**1.0**	µg/L	---			
F. Fuels Parameters						
Total Petroleum Hydrocarbons	**5.0**	mg/L	---			
Ethanol	**Report**	mg/L	---			
Methyl-tert-Butyl Ether	**70**	µg/L	20	µg/L		
tert-Butyl Alcohol	**120**	µg/L	---			
tert-Amyl Methyl Ether	**90**	µg/L	---			

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:

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

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/L
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/L
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

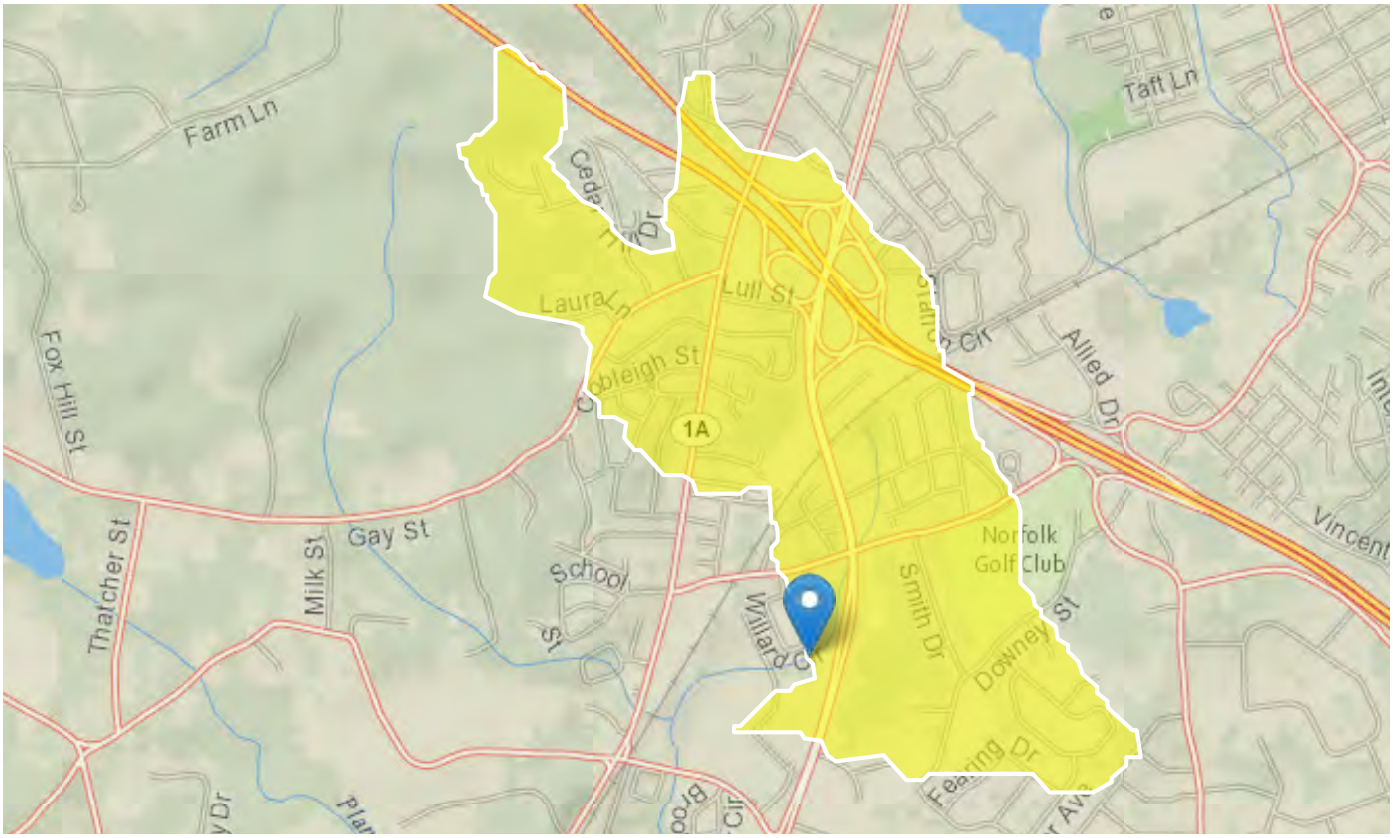
2) the WQBEL determined for that parameter in accordance with II.A or II.B, above is less than the TBEL in Part 2.1.1 of the RGP for that parameter. Otherwise, the TBEL in Part 2.1.1 of the RGP for that parameter applies.

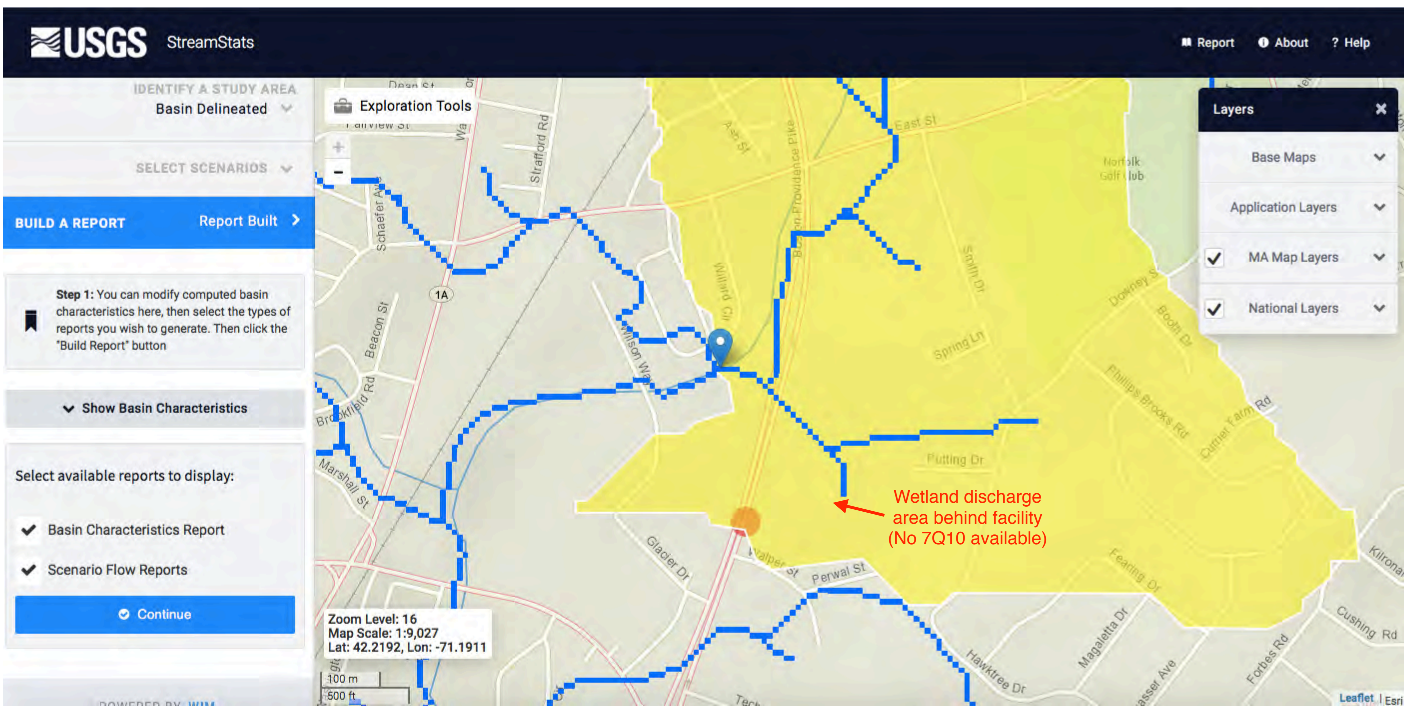
Dilution Factor	0.0					
A. Inorganics	TBEL applies if bolded		WQBEL applies if bolded		Compliance Level applies if shown	
Ammonia	**Report**	mg/L	---			
Chloride	**Report**	µg/L	---			
Total Residual Chlorine	0.2	mg/L	**7.5**	µg/L	50	µg/L
Total Suspended Solids	**30**	mg/L	---			
Antimony	**206**	µg/L	640	µg/L		
Arsenic	**104**	µg/L	36	µg/L		
Cadmium	**10.2**	µg/L	8.9	µg/L		
Chromium III	**323**	µg/L	100.0	µg/L		
Chromium VI	**323**	µg/L	50	µg/L		
Copper	**242**	µg/L	3.7	µg/L		
Iron	**5000**	µg/L	---	µg/L		
Lead	**160**	µg/L	8.5	µg/L		
Mercury	**0.739**	µg/L	1.11	µg/L		
Nickel	**1450**	µg/L	8.3	µg/L		
Selenium	**235.8**	µg/L	71	µg/L		
Silver	**35.1**	µg/L	2.2	µg/L		
Zinc	**420**	µg/L	86	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	300	µg/L		
C. Halogenated VOCs						
Carbon Tetrachloride	**4.4**		1.6	µg/L		
1,2 Dichlorobenzene	**600**	µg/L	---			
1,3 Dichlorobenzene	**320**	µg/L	---			
1,4 Dichlorobenzene	**5.0**	µg/L	---			
Total dichlorobenzene	**---**	µg/L	---			
1,1 Dichloroethane	**70**	µg/L	---			
1,2 Dichloroethane	**5.0**	µg/L	---			
1,1 Dichloroethylene	**3.2**	µg/L	---			
Ethylene Dibromide	**0.05**	µg/L	---			
Methylene Chloride	**4.6**	µg/L	---			
1,1,1 Trichloroethane	**200**	µg/L	---			
1,1,2 Trichloroethane	**5.0**	µg/L	---			
Trichloroethylene	**5.0**	µg/L	---			
Tetrachloroethylene	**5.0**	µg/L	3.3	µg/L		
cis-1,2 Dichloroethylene	**70**	µg/L	---			
Vinyl Chloride	**2.0**	µg/L	---			
D. Non-Halogenated SVOCs						
Total Phthalates	**190**	µg/L	---	µg/L		
Diethylhexyl phthalate	**101**	µg/L	2.2	µg/L		
Total Group I Polycyclic Aromatic Hydrocarbons	**1.0**	µg/L	---			

Benzo(a)anthracene	1.0	µg/L	**0.0038**	µg/L	0.1	µg/L
Benzo(a)pyrene	1.0	µg/L	**0.0038**	µg/L	0.1	µg/L
Benzo(b)fluoranthene	1.0	µg/L	**0.0038**	µg/L	0.1	µg/L
Benzo(k)fluoranthene	1.0	µg/L	**0.0038**	µg/L	0.1	µg/L
Chrysene	1.0	µg/L	**0.0038**	µg/L	0.1	µg/L
Dibenzo(a,h)anthracene	1.0	µg/L	**0.0038**	µg/L	0.1	µg/L
Indeno(1,2,3-cd)pyrene	1.0	µg/L	**0.0038**	µg/L	0.1	µg/L
Total Group II Polycyclic Aromatic Hydrocarbons	**100**	µg/L	---			
Naphthalene	**20**	µg/L	---			
E. Halogenated SVOCs						
Total Polychlorinated Biphenyls	**0.000064**	µg/L	---		0.5	µg/L
Pentachlorophenol	**1.0**	µg/L	---			
F. Fuels Parameters						
Total Petroleum Hydrocarbons	**5.0**	mg/L	---			
Ethanol	**Report**	mg/L	---			
Methyl-tert-Butyl Ether	**70**	µg/L	20	µg/L		
tert-Butyl Alcohol	**120**	µg/L	---			
tert-Amyl Methyl Ether	**90**	µg/L	---			

StreamStats Report

Region ID:
MA
Workspace ID:
MA20180415150608949000
Clicked Point (Latitude, Longitude):
42.21677, -71.18246
Time:
2018-04-15 11:06:24 -0400




USGS
StreamStats
Report
About
? Help
IDENTIFY A STUDY AREA
Basin Delineated
SELECT SCENARIOS
BUILD A REPORT
Report Built
Step 1: You can modify computed basin characteristics here, then select the types of reports you wish to generate. Then click the "Build Report" button
Show Basin Characteristics
Select available reports to display:
Basin Characteristics Report
Scenario Flow Reports
Continue
Exploration Tools
Layers
Base Maps
Application Layers
MA Map Layers
National Layers
Zoom Level: 16
Map Scale: 1:9,027
Lat: 42.2192, Lon: -71.1911
100 m
500 ft
East St
Stratford Rd
Beacon St
Marshall St
Glacier Dr
Perwal St
Spring Ln
Putting Dr
Phillips Brooks Rd
Hawktree Dr
Magaletta Dr
Cushing Rd
Forbes Rd
Wetland discharge
area behind facility
(No 7Q10 available)
Leaflet | Esri

Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	0.93	square miles
ELEV	Mean Basin Elevation	129	feet
LC06STOR	Percentage of water bodies and wetlands determined from the NLCD 2006	3.6	percent
DRFTPERSTR	Area of stratified drift per unit of stream length	25.5	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	1.828	percent

Peak-Flow Statistics Parameters [Peak Statewide 2016 5156]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.93	square miles	0.16	512
ELEV	Mean Basin Elevation	129	feet	80.6	1948
LC06STOR	Percent Storage from NLCD2006	3.6	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	38.7	ft^3/s	19.6	76.6	42.3
5 Year Peak Flood	64.7	ft^3/s	32.2	130	43.4
10 Year Peak Flood	85.2	ft^3/s	41.4	175	44.7
25 Year Peak Flood	115	ft^3/s	54.1	246	47.1
50 Year Peak Flood	140	ft^3/s	63.6	309	49.4
100 Year Peak Flood	167	ft^3/s	73.3	379	51.8
200 Year Peak Flood	196	ft^3/s	83.5	459	54.1
500 Year Peak Flood	238	ft^3/s	108	524	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)

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

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.93	square miles	1.61	149
DRFTPERSTR	Stratified Drift per Stream Length	25.5	square mile per mile	0	1.29
MAREGION	Massachusetts Region	0	dimensionless	0	1
BSLDEM250	Mean Basin Slope from 250K DEM	1.828	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	0.887	ft^3/s
60 Percent Duration	1.05	ft^3/s
70 Percent Duration	1.79	ft^3/s
75 Percent Duration	1.91	ft^3/s
80 Percent Duration	4.98	ft^3/s
85 Percent Duration	4.42	ft^3/s
90 Percent Duration	9.42	ft^3/s
95 Percent Duration	5.3	ft^3/s
98 Percent Duration	3.87	ft^3/s
99 Percent Duration	2.94	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	0.93	square miles	1.61	149
BSLDEM250	Mean Basin Slope from 250K DEM	1.828	percent	0.32	24.6
DRFTPERSTR	Stratified Drift per Stream Length	25.5	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	3.03	ft^3/s
7 Day 10 Year Low Flow	4.6	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/)

ATTACHMENT C

CERTIFICATE OF ANALYSIS

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

RE: Colbea - Westwood 394 - RGP (N/A)
ESS Laboratory Work Order Number: 1804099

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 6:40 pm, Apr 13, 2018

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: Colbea - Westwood 394 - RGP

ESS Laboratory Work Order: 1804099

SAMPLE RECEIPT

The following samples were received on April 04, 2018 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
1804099-01	Discharge Area	Surface Water	200.7, 200.8, 245.1, 2520B, 3113B, 350.1, 3500Cr B-2009, 9040

CERTIFICATE OF ANALYSIS

Client Name: Tg2 Solutions
Client Project ID: Colbea - Westwood 394 - RGP

ESS Laboratory Work Order: 1804099

PROJECT NARRATIVE

No unusual observations noted.

End of Project Narrative.

DATA USABILITY LINKS

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

Definitions of Quality Control Parameters

Semivolatile Organics Internal Standard Information

Semivolatile Organics Surrogate Information

Volatile Organics Internal Standard Information

Volatile Organics Surrogate Information

EPH and VPH Alkane Lists

CERTIFICATE OF ANALYSIS

Client Name: Tg2 Solutions
Client Project ID: Colbea - Westwood 394 - RGP

ESS Laboratory Work Order: 1804099

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 / 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
5035 - 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: Colbea - Westwood 394 - RGP
Client Sample ID: Discharge Area
Date Sampled: 04/04/18 13:00
Percent Solids: N/A

ESS Laboratory Work Order: 1804099
ESS Laboratory Sample ID: 1804099-01
Sample Matrix: Surface 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	04/06/18 15:50	100	10	CD80541
Arsenic	**1.2** (0.5)		3113B		1	KJK	04/11/18 8:46	100	10	CD80541
Beryllium	ND (0.100)		200.7		1	KJK	04/06/18 15:50	100	10	CD80541
Cadmium	**0.243** (0.200)		200.8		5	NAR	04/13/18 16:49	100	10	CD80541
Chromium	ND (2.0)		200.7		1	KJK	04/06/18 15:50	100	10	CD80541
Copper	**4.8** (2.0)		200.7		1	KJK	04/06/18 15:50	100	10	CD80541
Hardness	**77700** (82.4)		200.7		1	KJK	04/06/18 15:50	1	1	[CALC]
Iron	**6350** (10.0)		200.7		1	KJK	04/06/18 15:50	100	10	CD80541
Lead	**8.4** (2.0)		200.7		1	KJK	04/06/18 15:50	100	10	CD80541
Mercury	ND (0.200)		245.1		1	MJV	04/06/18 17:02	20	40	CD80546
Nickel	ND (5.0)		200.7		1	KJK	04/06/18 15:50	100	10	CD80541
Selenium	ND (1.0)		3113B		1	KJK	04/11/18 18:38	100	10	CD80541
Silver	ND (0.5)		200.7		1	KJK	04/06/18 15:50	100	10	CD80541
Thallium	ND (10.0)		200.7		1	KJK	04/06/18 15:50	100	10	CD80541
Zinc	**161** (5.0)		200.7		1	KJK	04/06/18 15:50	100	10	CD80541

CERTIFICATE OF ANALYSIS

Client Name: Tg2 Solutions
Client Project ID: Colbea - Westwood 394 - RGP
Client Sample ID: Discharge Area
Date Sampled: 04/04/18 13:00
Percent Solids: N/A

ESS Laboratory Work Order: 1804099
ESS Laboratory Sample ID: 1804099-01
Sample Matrix: Surface Water

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Ammonia as N	**0.28** (0.10)		350.1		1	EEM	04/06/18 12:13	mg/L	CD80508
Hexavalent Chromium	ND (10.0)		3500Cr B-2009		1	CCP	04/04/18 19:50	ug/L	CD80427
pH	**5.78** (N/A)		9040		1	CCP	04/04/18 21:14	S.U.	CD80428
pH Sample Temp	**Aqueous pH measured in water at 18.4 ºC.** (N/A)								
Salinity	**0.8** (0.1)		2520B		1	JLK	04/06/18 17:47	ppt	CD80637

CERTIFICATE OF ANALYSIS

Client Name: Tg2 Solutions
Client Project ID: Colbea - Westwood 394 - RGP

ESS Laboratory Work Order: 1804099

Quality Control Data

Total Metals

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Batch CD80541 - 3005A/200.7										
Blank										
Antimony	ND	5.0	ug/L							
Arsenic	ND	0.5	ug/L							
Beryllium	ND	0.100	ug/L							
Cadmium	ND	0.200	ug/L							
Chromium	ND	2.0	ug/L							
Copper	ND	2.0	ug/L							
Hardness	ND	82.4	ug/L							
Iron	12.6	10.0	ug/L							
Lead	ND	2.0	ug/L							
Nickel	ND	5.0	ug/L							
Selenium	ND	1.0	ug/L							
Silver	ND	0.5	ug/L							
Thallium	ND	10.0	ug/L							
Zinc	ND	5.0	ug/L							
LCS										
Antimony	46.6	5.0	ug/L	50.00		93	85-115			
Arsenic	54.8	12.5	ug/L	50.00		110	85-115			
Beryllium	4.80	0.100	ug/L	5.000		96	85-115			
Cadmium	25.3	1.00	ug/L	25.00		101	80-120			
Chromium	48.1	2.0	ug/L	50.00		96	85-115			
Copper	51.6	2.0	ug/L	50.00		103	85-115			
Hardness	3230	82.4	ug/L							
Iron	240	10.0	ug/L	250.0		96	85-115			
Lead	49.1	2.0	ug/L	50.00		98	85-115			
Nickel	47.0	5.0	ug/L	50.00		94	85-115			
Selenium	98.8	25.0	ug/L	100.0		99	85-115			
Silver	25.2	0.5	ug/L	25.00		101	85-115			
Thallium	49.5	10.0	ug/L	50.00		99	85-115			
Zinc	48.0	5.0	ug/L	50.00		96	85-115			
LCS Dup										
Antimony	46.0	5.0	ug/L	50.00		92	85-115	1	20	
Beryllium	4.70	0.100	ug/L	5.000		94	85-115	2	20	
Cadmium	26.0	1.00	ug/L	25.00		104	80-120	3	20	
Chromium	47.3	2.0	ug/L	50.00		95	85-115	2	20	
Copper	50.0	2.0	ug/L	50.00		100	85-115	3	20	
Hardness	3200	82.4	ug/L							
Iron	239	10.0	ug/L	250.0		96	85-115	0.4	20	
Lead	48.0	2.0	ug/L	50.00		96	85-115	2	20	
Nickel	46.2	5.0	ug/L	50.00		92	85-115	2	20	
Silver	24.7	0.5	ug/L	25.00		99	85-115	2	20	
Thallium	49.2	10.0	ug/L	50.00		98	85-115	0.7	20	
Zinc	46.9	5.0	ug/L	50.00		94	85-115	2	20	
Batch CD80546 - 245.1/7470A										

CERTIFICATE OF ANALYSIS

Client Name: Tg2 Solutions
Client Project ID: Colbea - Westwood 394 - RGP

ESS Laboratory Work Order: 1804099

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Total Metals										
Batch CD80546 - 245.1/7470A										
Blank										
Mercury	ND	0.200	ug/L							
LCS										
Mercury	5.70	0.200	ug/L	6.000		95	85-115			
LCS Dup										
Mercury	5.64	0.200	ug/L	6.000		94	85-115	1	20	
Classical Chemistry										
Batch CD80427 - General Preparation										
Blank										
Hexavalent Chromium	ND	10.0	ug/L							
LCS										
Hexavalent Chromium	0.491		mg/L	0.4998		98	90-110			
LCS Dup										
Hexavalent Chromium	0.516		mg/L	0.4998		103	90-110	5	20	
Batch CD80508 - NH4 Prep										
Blank										
Ammonia as N	ND	0.10	mg/L							
LCS										
Ammonia as N	0.10	0.10	mg/L	0.09994		99	80-120			
LCS										
Ammonia as N	0.99	0.10	mg/L	0.9994		99	80-120			
Batch CD80637 - General Preparation										
LCS										
Salinity	0.9		ppt	1.000		94	85-115			

CERTIFICATE OF ANALYSIS

Client Name: Tg2 Solutions
Client Project ID: Colbea - Westwood 394 - RGP ESS Laboratory Work Order: 1804099

Notes and Definitions

Z16	Aqueous pH measured in water at 18.4 ºC.
U	Analyte included in the analysis, but not detected
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

CERTIFICATE OF ANALYSIS

Client Name: Tg2 Solutions
Client Project ID: Colbea - Westwood 394 - RGP

ESS Laboratory Work Order: 1804099

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 TB/DS

Shipped/Delivered Via: ESS Courier

ESS Project ID: 1804099
Date Received: 4/4/2018
Project Due Date: 4/11/2018
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: 3.8 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)
01	214352	Yes	NA	Yes	500 mL Poly - H2SO4	H2SO4	
01	214353	Yes	NA	Yes	1L Poly - Unpres	NP	
01	214354	Yes	NA	Yes	1L Poly - Unpres	NP	
01	214355	Yes	NA	Yes	500 mL Poly - HNO3	HNO3	
01	214356	Yes	NA	Yes	500 mL Poly - HNO3	HNO3	

2nd Review
Are barcode labels on correct containers? (Yes) / No

Completed By: Date & Time: 4/4/18 1745
Reviewed By: Date & Time: 4/4/18 1806
Delivered By: 4/4/18 1806

1804099

231 Elm Street, Blackstone, MA 01504

CHAIN OF CUSTODY RECORD

Laboratory: ESS

Client	Tg2 Solutions
Address	231 Elm Street, Blackstone MA
Contact	Jason Sherburne
Phone #	617-947-7702
Project Name	Colbea - Westwood 394 - RGP
Address	394 Providence Highway, Westwood, MA
Contact	Jason Sherburne
Location ID #	
Description	

MATRIX
1. Wastewater
2. Groundwater
3. Drinking Water
4. Soil
5. Surface Water
6. Other _____

Lab to Invoice: Tg2 Solutions
Lab Report to: esimpson@tg2solutions.com; jsherburne@tg2solutions.com
Billing Reference:

Field ID / Point of Collection	Collection Date	Collection Time	Matrix	# of bottles Type Glass	Plastic	VOA's	Preservation HCL	NaOH	HNO3	H2So4	MEOH	Other	None	Analytical Information: Ammonia	Chromium 6	PP-13 Metals	Iron	pH	Hardness	Salinity	Comments:
Discharge Area	4/4/18	1:00	5		5								X	X	X	X	X	X	X	X	

Turnaround Information

- [X] Std. 10 Day Turnaround
- [ ] 7 Day *RUSH*
- [ ] 5 Day *RUSH (HIGH PRIORITY)*
- [ ] 3 Day *RUSH*
- [ ] 2 Day *RUSH*
- [ ] 1 Day *RUSH*

Approved By:

QA/QC

SPECIAL QA/QC or DATA Requirements:

Freshwater Discharge - See attached for detection limits and method requirements.

WILL EMAIL REQUIREMENTS TO DENNIS

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	[signature] 4/4 2:00		1 [signature]	4/4/18 1531
2	[signature] 4/4/18 1704		2 [signature]	4/4/18 1733
3			3	

Seal # ☐ Preserve where applicable ☐ On Ice ☑ Temp. 3.8 ICE RC

1 OF 1

CERTIFICATE OF ANALYSIS

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

RE: Colbea - Westwood 394 - RGP (N/A)
ESS Laboratory Work Order Number: 1804100

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 2:14 pm, Apr 16, 2018

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: Colbea - Westwood 394 - RGP

ESS Laboratory Work Order: 1804100

SAMPLE RECEIPT

The following samples were received on April 04, 2018 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
1804100-01	RGP Well MW-13	Ground Water	1664A, 200.7, 245.1, 2540D, 300.0, 3113B, 350.1, 3500Cr B-2009, 420.1, 4500 CN CE, 4500Cl D, 504.1, 524.2, 608, 625 SIM, 8270D SIM, ASTM D3695

CERTIFICATE OF ANALYSIS

Client Name: Tg2 Solutions
Client Project ID: Colbea - Westwood 394 - RGP ESS Laboratory Work Order: 1804100

PROJECT NARRATIVE

524.2 Volatile Organic Compounds

CD80625-BS1 **Blank Spike recovery is above upper control limit (B+).**
Tertiary-butyl Alcohol (131% @ 70-130%)

625(SIM) Semi-Volatile Organic Compounds

1804100-01 **Surrogate recovery(ies) above upper control limit (S+).**
2,4,6-Tribromophenol (118% @ 15-110%)

CD80407-BS1 **Surrogate recovery(ies) above upper control limit (S+).**
2,4,6-Tribromophenol (128% @ 15-110%)

CD80407-BSD1 **Relative percent difference for duplicate is outside of criteria (D+).**
Acenaphthene (23% @ 20%), Acenaphthylene (24% @ 20%), Fluorene (22% @ 20%), Naphthalene (26% @ 20%)

CD80407-BSD1 **Surrogate recovery(ies) above upper control limit (S+).**
2,4,6-Tribromophenol (133% @ 15-110%)

Classical Chemistry

1804100-01 **The maximum holding time listed in 40 CFR Part 136 Table II for pH, Dissolved Oxygen, Sulfite and Residual Chlorine is fifteen minutes.**

No other observations noted.

End of Project Narrative.

DATA USABILITY LINKS

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

Definitions of Quality Control Parameters

Semivolatile Organics Internal Standard Information

Semivolatile Organics Surrogate Information

Volatile Organics Internal Standard Information

Volatile Organics Surrogate Information

EPH and VPH Alkane Lists

CERTIFICATE OF ANALYSIS

Client Name: Tg2 Solutions
Client Project ID: Colbea - Westwood 394 - RGP

ESS Laboratory Work Order: 1804100

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 / 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
5035 - 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: Colbea - Westwood 394 - RGP
Client Sample ID: RGP Well MW-13
Date Sampled: 04/04/18 11:35
Percent Solids: N/A

ESS Laboratory Work Order: 1804100
ESS Laboratory Sample ID: 1804100-01
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	04/06/18 16:20	100	10	CD80541
Arsenic	ND (0.5)		3113B		1	KJK	04/11/18 8:52	100	10	CD80541
Cadmium	**1.78** (1.00)		200.7		1	KJK	04/06/18 16:20	100	10	CD80541
Chromium	ND (2.0)		200.7		1	KJK	04/06/18 16:20	100	10	CD80541
Copper	ND (2.0)		200.7		1	KJK	04/06/18 16:20	100	10	CD80541
Iron	**2040** (10.0)		200.7		1	KJK	04/06/18 16:20	100	10	CD80541
Lead	ND (2.0)		200.7		1	KJK	04/06/18 16:20	100	10	CD80541
Mercury	ND (0.20)		245.1		1	MJV	04/06/18 17:12	20	40	CD80546
Nickel	ND (5.0)		200.7		1	KJK	04/06/18 16:20	100	10	CD80541
Selenium	ND (1.0)		3113B		1	KJK	04/11/18 19:11	100	10	CD80541
Silver	ND (1.0)		200.7		1	KJK	04/06/18 16:20	100	10	CD80541
Zinc	**30.5** (5.0)		200.7		1	KJK	04/06/18 16:20	100	10	CD80541

CERTIFICATE OF ANALYSIS

Client Name: Tg2 Solutions
Client Project ID: Colbea - Westwood 394 - RGP
Client Sample ID: RGP Well MW-13
Date Sampled: 04/04/18 11:35
Percent Solids: N/A

ESS Laboratory Work Order: 1804100
ESS Laboratory Sample ID: 1804100-01
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	04/06/18 15:56	100	10	CD80541
Arsenic	**0.5** (0.5)		3113B		1	KJK	04/11/18 9:15	100	10	CD80541
Beryllium	ND (0.100)		200.7		1	KJK	04/06/18 15:56	100	10	CD80541
Cadmium	**2.03** (1.00)		200.7		1	KJK	04/06/18 15:56	100	10	CD80541
Chromium	ND (2.0)		200.7		1	KJK	04/06/18 15:56	100	10	CD80541
Chromium III	ND (10.0)		200.7		1	CCP	04/06/18 15:56	1	1	[CALC]
Copper	**2.9** (2.0)		200.7		1	KJK	04/06/18 15:56	100	10	CD80541
Hardness	**82000** (82.4)		200.7		1	KJK	04/06/18 15:56	1	1	[CALC]
Iron	**2670** (10.0)		200.7		1	KJK	04/06/18 15:56	100	10	CD80541
Lead	ND (2.0)		200.7		1	KJK	04/06/18 15:56	100	10	CD80541
Mercury	ND (0.200)		245.1		1	MJV	04/06/18 17:05	20	40	CD80546
Nickel	ND (5.0)		200.7		1	KJK	04/06/18 15:56	100	10	CD80541
Selenium	ND (1.0)		3113B		1	KJK	04/11/18 19:17	100	10	CD80541
Silver	ND (0.5)		200.7		1	KJK	04/06/18 15:56	100	10	CD80541
Thallium	ND (10.0)		200.7		1	KJK	04/06/18 15:56	100	10	CD80541
Zinc	**32.5** (5.0)		200.7		1	KJK	04/06/18 15:56	100	10	CD80541

CERTIFICATE OF ANALYSIS

Client Name: Tg2 Solutions
Client Project ID: Colbea - Westwood 394 - RGP
Client Sample ID: RGP Well MW-13
Date Sampled: 04/04/18 11:35
Percent Solids: N/A
Initial Volume: 25
Final Volume: 25
Extraction Method: 524.2

ESS Laboratory Work Order: 1804100
ESS Laboratory Sample ID: 1804100-01
Sample Matrix: Ground Water
Units: ug/L
Analyst: DMC

524.2 Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1,1-Trichloroethane	ND (0.5)		524.2		1	04/06/18 17:00	C8D0104	CD80625
1,1,2-Trichloroethane	ND (0.5)		524.2		1	04/06/18 17:00	C8D0104	CD80625
1,1-Dichloroethane	ND (0.5)		524.2		1	04/06/18 17:00	C8D0104	CD80625
1,1-Dichloroethene	ND (0.5)		524.2		1	04/06/18 17:00	C8D0104	CD80625
1,2-Dichlorobenzene	ND (0.5)		524.2		1	04/06/18 17:00	C8D0104	CD80625
1,2-Dichloroethane	ND (0.5)		524.2		1	04/06/18 17:00	C8D0104	CD80625
1,3-Dichlorobenzene	ND (0.5)		524.2		1	04/06/18 17:00	C8D0104	CD80625
1,4-Dichlorobenzene	ND (0.5)		524.2		1	04/06/18 17:00	C8D0104	CD80625
Acetone	ND (5.0)		524.2		1	04/06/18 17:00	C8D0104	CD80625
Benzene	ND (0.5)		524.2		1	04/06/18 17:00	C8D0104	CD80625
Carbon Tetrachloride	ND (0.3)		524.2		1	04/06/18 17:00	C8D0104	CD80625
cis-1,2-Dichloroethene	ND (0.5)		524.2		1	04/06/18 17:00	C8D0104	CD80625
Ethylbenzene	ND (0.5)		524.2		1	04/06/18 17:00	C8D0104	CD80625
Methyl tert-Butyl Ether	ND (0.5)		524.2		1	04/06/18 17:00	C8D0104	CD80625
Methylene Chloride	ND (0.5)		524.2		1	04/06/18 17:00	C8D0104	CD80625
Naphthalene	ND (0.5)		524.2		1	04/06/18 17:00	C8D0104	CD80625
Tertiary-amyl methyl ether	ND (1.0)		524.2		1	04/06/18 17:00	C8D0104	CD80625
Tertiary-butyl Alcohol	ND (25.0)		524.2		1	04/06/18 17:00	C8D0104	CD80625
Tetrachloroethene	ND (0.5)		524.2		1	04/06/18 17:00	C8D0104	CD80625
Toluene	ND (0.5)		524.2		1	04/06/18 17:00	C8D0104	CD80625
Trichloroethene	ND (0.5)		524.2		1	04/06/18 17:00	C8D0104	CD80625
Vinyl Chloride	ND (0.2)		524.2		1	04/06/18 17:00	C8D0104	CD80625
Xylene O	ND (0.5)		524.2		1	04/06/18 17:00	C8D0104	CD80625
Xylene P,M	ND (0.5)		524.2		1	04/06/18 17:00	C8D0104	CD80625

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*103 %*		*80-120*
Surrogate: 4-Bromofluorobenzene	*102 %*		*80-120*

CERTIFICATE OF ANALYSIS

Client Name: Tg2 Solutions
Client Project ID: Colbea - Westwood 394 - RGP
Client Sample ID: RGP Well MW-13
Date Sampled: 04/04/18 11:35
Percent Solids: N/A
Initial Volume: 1000
Final Volume: 1
Extraction Method: 3510C

ESS Laboratory Work Order: 1804100
ESS Laboratory Sample ID: 1804100-01
Sample Matrix: Ground Water
Units: ug/L
Analyst: SMR
Prepared: 4/5/18 8:56

608 Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.10)		608		1	04/05/18 12:14		CD80405
Aroclor 1221	ND (0.10)		608		1	04/05/18 12:14		CD80405
Aroclor 1232	ND (0.10)		608		1	04/05/18 12:14		CD80405
Aroclor 1242	ND (0.10)		608		1	04/05/18 12:14		CD80405
Aroclor 1248	ND (0.10)		608		1	04/05/18 12:14		CD80405
Aroclor 1254	ND (0.10)		608		1	04/05/18 12:14		CD80405
Aroclor 1260	ND (0.10)		608		1	04/05/18 12:14		CD80405
Aroclor 1262	ND (0.10)		608		1	04/05/18 12:14		CD80405
Aroclor 1268	ND (0.10)		608		1	04/05/18 12:14		CD80405

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*84 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*85 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*93 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*96 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: Tg2 Solutions
Client Project ID: Colbea - Westwood 394 - RGP
Client Sample ID: RGP Well MW-13
Date Sampled: 04/04/18 11:35
Percent Solids: N/A
Initial Volume: 1040
Final Volume: 0.25
Extraction Method: 3510C

ESS Laboratory Work Order: 1804100
ESS Laboratory Sample ID: 1804100-01
Sample Matrix: Ground Water
Units: ug/L
Analyst: IBM
Prepared: 4/5/18 10:22

625(SIM) Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Acenaphthene	ND (0.19)		625 SIM		1	04/06/18 23:26	C8D0112	CD80407
Acenaphthylene	ND (0.19)		625 SIM		1	04/06/18 23:26	C8D0112	CD80407
Anthracene	ND (0.19)		625 SIM		1	04/06/18 23:26	C8D0112	CD80407
Benzo(a)anthracene	**0.18** (0.05)		625 SIM		1	04/06/18 23:26	C8D0112	CD80407
Benzo(a)pyrene	**0.42** (0.05)		625 SIM		1	04/06/18 23:26	C8D0112	CD80407
Benzo(b)fluoranthene	**1.05** (0.05)		625 SIM		1	04/06/18 23:26	C8D0112	CD80407
Benzo(g,h,i)perylene	**0.78** (0.19)		625 SIM		1	04/06/18 23:26	C8D0112	CD80407
Benzo(k)fluoranthene	**0.30** (0.05)		625 SIM		1	04/06/18 23:26	C8D0112	CD80407
bis(2-Ethylhexyl)phthalate	ND (1.92)		625 SIM		1	04/06/18 23:26	C8D0112	CD80407
Butylbenzylphthalate	ND (2.40)		625 SIM		1	04/06/18 23:26	C8D0112	CD80407
Chrysene	**0.55** (0.05)		625 SIM		1	04/06/18 23:26	C8D0112	CD80407
Dibenzo(a,h)Anthracene	**0.12** (0.05)		625 SIM		1	04/06/18 23:26	C8D0112	CD80407
Diethylphthalate	ND (2.40)		625 SIM		1	04/06/18 23:26	C8D0112	CD80407
Dimethylphthalate	ND (2.40)		625 SIM		1	04/06/18 23:26	C8D0112	CD80407
Di-n-butylphthalate	ND (2.40)		625 SIM		1	04/06/18 23:26	C8D0112	CD80407
Di-n-octylphthalate	ND (2.40)		625 SIM		1	04/06/18 23:26	C8D0112	CD80407
Fluoranthene	**0.79** (0.19)		625 SIM		1	04/06/18 23:26	C8D0112	CD80407
Fluorene	ND (0.19)		625 SIM		1	04/06/18 23:26	C8D0112	CD80407
Indeno(1,2,3-cd)Pyrene	**0.77** (0.05)		625 SIM		1	04/06/18 23:26	C8D0112	CD80407
Naphthalene	ND (0.19)		625 SIM		1	04/06/18 23:26	C8D0112	CD80407
Pentachlorophenol	ND (0.87)		625 SIM		1	04/06/18 23:26	C8D0112	CD80407
Phenanthrene	**0.19** (0.19)		625 SIM		1	04/06/18 23:26	C8D0112	CD80407
Pyrene	**0.58** (0.19)		625 SIM		1	04/06/18 23:26	C8D0112	CD80407

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*58 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*118 %*	*S+*	*15-110*
Surrogate: 2-Fluorobiphenyl	*71 %*		*30-130*
Surrogate: Nitrobenzene-d5	*91 %*		*30-130*
Surrogate: p-Terphenyl-d14	*88 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: Tg2 Solutions
Client Project ID: Colbea - Westwood 394 - RGP
Client Sample ID: RGP Well MW-13
Date Sampled: 04/04/18 11:35
Percent Solids: N/A
Initial Volume: 500
Final Volume: 0.5
Extraction Method: 3535A

ESS Laboratory Work Order: 1804100
ESS Laboratory Sample ID: 1804100-01
Sample Matrix: Ground Water
Units: ug/L
Analyst: VSC
Prepared: 4/9/18 19:40

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	04/10/18 14:43	C8D0158	CD80925

	%Recovery	Qualifier	Limits
Surrogate: 1,4-Dioxane-d8	44 %		15-115

CERTIFICATE OF ANALYSIS

Client Name: Tg2 Solutions
Client Project ID: Colbea - Westwood 394 - RGP
Client Sample ID: RGP Well MW-13
Date Sampled: 04/04/18 11:35
Percent Solids: N/A

ESS Laboratory Work Order: 1804100
ESS Laboratory Sample ID: 1804100-01
Sample Matrix: Ground Water

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Ammonia as N	**0.16** (0.10)		350.1		1	EEM	04/06/18 12:14	mg/L	CD80508
Chloride	**250** (50.0)		300.0		100	EEM	04/09/18 19:16	mg/L	CD80940
Hexavalent Chromium	ND (10.0)		3500Cr B-2009		1	CCP	04/04/18 19:50	ug/L	CD80427
Phenols	ND (100)		420.1		1	JLK	04/09/18 17:33	ug/L	CD80936
Total Cyanide (LL)	ND (5.00)		4500 CN CE		1	EEM	04/06/18 12:00	ug/L	CD80603
Total Petroleum Hydrocarbon	ND (5)		1664A		1	LAB	04/10/18 16:28	mg/L	CD80907
Total Residual Chlorine	ND (20.0)		4500Cl D		1	JLK	04/04/18 21:47	ug/L	CD80442
Total Suspended Solids	**10** (5)		2540D		1	EEM	04/05/18 13:40	mg/L	CD80415

CERTIFICATE OF ANALYSIS

Client Name: Tg2 Solutions
Client Project ID: Colbea - Westwood 394 - RGP
Client Sample ID: RGP Well MW-13
Date Sampled: 04/04/18 11:35
Percent Solids: N/A
Initial Volume: 35
Final Volume: 2
Extraction Method: 504/8011

ESS Laboratory Work Order: 1804100
ESS Laboratory Sample ID: 1804100-01
Sample Matrix: Ground Water
Units: ug/L
Analyst: SMR
Prepared: 4/9/18 9:20

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

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2-Dibromoethane	ND (0.015)		504.1		1	04/09/18 10:23		CD80820

	%Recovery	Qualifier	Limits
Surrogate: Pentachloroethane	*110 %*		*30-150*
Surrogate: Pentachloroethane [2C]	*123 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: Tg2 Solutions
Client Project ID: Colbea - Westwood 394 - RGP
Client Sample ID: RGP Well MW-13
Date Sampled: 04/04/18 11:35
Percent Solids: N/A
Initial Volume: 1
Final Volume: 1
Extraction Method: No Prep

ESS Laboratory Work Order: 1804100
ESS Laboratory Sample ID: 1804100-01
Sample Matrix: Ground Water
Units: mg/L
Analyst: ZLC
Prepared: 4/9/18 9:33

Alcohol Scan by GC/FID

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
Ethanol	ND (10)		ASTM D3695		1	ZLC	04/09/18 11:59		CD80911

CERTIFICATE OF ANALYSIS

Client Name: Tg2 Solutions
Client Project ID: Colbea - Westwood 394 - RGP

ESS Laboratory Work Order: 1804100

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Dissolved Metals										
Batch CD80541 - 3005A/200.7										
Blank										
Antimony	ND	5.0	ug/L							
Arsenic	ND	0.5	ug/L							
Cadmium	ND	1.00	ug/L							
Chromium	ND	2.0	ug/L							
Copper	ND	2.0	ug/L							
Iron	12.6	10.0	ug/L							
Lead	ND	2.0	ug/L							
Nickel	ND	5.0	ug/L							
Selenium	ND	1.0	ug/L							
Silver	ND	1.0	ug/L							
Zinc	ND	5.0	ug/L							
LCS										
Antimony	46.6	5.0	ug/L	50.00		93	85-115			
Arsenic	54.8	12.5	ug/L	50.00		110	85-115			
Cadmium	23.6	1.00	ug/L	25.00		94	85-115			
Chromium	48.1	2.0	ug/L	50.00		96	85-115			
Copper	51.6	2.0	ug/L	50.00		103	85-115			
Iron	240	10.0	ug/L	250.0		96	85-115			
Lead	49.1	2.0	ug/L	50.00		98	80-120			
Nickel	47.0	5.0	ug/L	50.00		94	85-115			
Selenium	98.8	25.0	ug/L	100.0		99	85-115			
Silver	25.2	1.0	ug/L	25.00		101	85-115			
Zinc	48.0	5.0	ug/L	50.00		96	85-115			
LCS Dup										
Cadmium	23.1	1.00	ug/L	25.00		93	85-115	2	20	
Batch CD80546 - 245.1/7470A										
Blank										
Mercury	ND	0.20	ug/L							
LCS										
Mercury	5.70	0.20	ug/L	6.000		95	85-115			
LCS Dup										
Mercury	5.64	0.20	ug/L	6.000		94	85-115	1	20	
Total Metals										
Batch CD80427 - [CALC]										
Blank										
Chromium III	ND	10.0	ug/L							
LCS										
Chromium III	ND		ug/L							
LCS Dup										
Chromium III	ND		ug/L							

CERTIFICATE OF ANALYSIS

Client Name: Tg2 Solutions
Client Project ID: Colbea - Westwood 394 - RGP

ESS Laboratory Work Order: 1804100

Quality Control Data

Total Metals

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Batch CD80541 - 3005A/200.7										
Blank										
Antimony	ND	5.0	ug/L							
Arsenic	ND	0.5	ug/L							
Beryllium	ND	0.100	ug/L							
Cadmium	ND	1.00	ug/L							
Chromium	ND	2.0	ug/L							
Chromium III	ND	2.00	ug/L							
Copper	ND	2.0	ug/L							
Hardness	ND	82.4	ug/L							
Iron	12.6	10.0	ug/L							
Lead	ND	2.0	ug/L							
Nickel	ND	5.0	ug/L							
Selenium	ND	1.0	ug/L							
Silver	ND	0.5	ug/L							
Thallium	ND	10.0	ug/L							
Zinc	ND	5.0	ug/L							
LCS										
Antimony	46.6	5.0	ug/L	50.00		93	85-115			
Arsenic	54.8	12.5	ug/L	50.00		110	85-115			
Beryllium	4.80	0.100	ug/L	5.000		96	85-115			
Cadmium	23.6	1.00	ug/L	25.00		94	85-115			
Chromium	48.1	2.0	ug/L	50.00		96	85-115			
Chromium III	48.1	2.00	ug/L							
Copper	51.6	2.0	ug/L	50.00		103	85-115			
Hardness	3230	82.4	ug/L							
Iron	240	10.0	ug/L	250.0		96	85-115			
Lead	49.1	2.0	ug/L	50.00		98	85-115			
Nickel	47.0	5.0	ug/L	50.00		94	85-115			
Selenium	98.8	25.0	ug/L	100.0		99	85-115			
Silver	25.2	0.5	ug/L	25.00		101	85-115			
Thallium	49.5	10.0	ug/L	50.00		99	85-115			
Zinc	48.0	5.0	ug/L	50.00		96	85-115			
LCS Dup										
Antimony	46.0	5.0	ug/L	50.00		92	85-115	1	20	
Beryllium	4.70	0.100	ug/L	5.000		94	85-115	2	20	
Cadmium	23.1	1.00	ug/L	25.00		93	85-115	2	20	
Chromium	47.3	2.0	ug/L	50.00		95	85-115	2	20	
Chromium III	47.3	2.00	ug/L							
Copper	50.0	2.0	ug/L	50.00		100	85-115	3	20	
Hardness	3200	82.4	ug/L							
Iron	239	10.0	ug/L	250.0		96	85-115	0.4	20	
Lead	48.0	2.0	ug/L	50.00		96	85-115	2	20	
Nickel	46.2	5.0	ug/L	50.00		92	85-115	2	20	
Silver	24.7	0.5	ug/L	25.00		99	85-115	2	20	
Thallium	49.2	10.0	ug/L	50.00		98	85-115	0.7	20	

CERTIFICATE OF ANALYSIS

Client Name: Tg2 Solutions
Client Project ID: Colbea - Westwood 394 - RGP

ESS Laboratory Work Order: 1804100

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Total Metals										
Batch CD80541 - 3005A/200.7										
Zinc	46.9	5.0	ug/L	50.00		94	85-115	2	20	
Batch CD80546 - 245.1/7470A										
Blank										
Mercury	ND	0.200	ug/L							
LCS										
Mercury	5.70	0.200	ug/L	6.000		95	85-115			
LCS Dup										
Mercury	5.64	0.200	ug/L	6.000		94	85-115	1	20	
524.2 Volatile Organic Compounds										
Batch CD80625 - 524.2										
Blank										
1,1,1-Trichloroethane	ND	0.5	ug/L							
1,1,2-Trichloroethane	ND	0.5	ug/L							
1,1-Dichloroethane	ND	0.5	ug/L							
1,1-Dichloroethene	ND	0.5	ug/L							
1,2-Dichlorobenzene	ND	0.5	ug/L							
1,2-Dichloroethane	ND	0.5	ug/L							
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	*4.85*		ug/L	*5.000*		*97*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*5.04*		ug/L	*5.000*		*101*	*80-120*			
LCS										
1,1,1-Trichloroethane	11.2		ug/L	10.00		112	70-130			
1,1,2-Trichloroethane	11.0		ug/L	10.00		110	70-130			
1,1-Dichloroethane	10.9		ug/L	10.00		109	70-130			
1,1-Dichloroethene	11.6		ug/L	10.00		116	70-130			
1,2-Dichlorobenzene	11.0		ug/L	10.00		110	70-130			

CERTIFICATE OF ANALYSIS

Client Name: Tg2 Solutions
Client Project ID: Colbea - Westwood 394 - RGP

ESS Laboratory Work Order: 1804100

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
524.2 Volatile Organic Compounds										
Batch CD80625 - 524.2										
1,2-Dichloroethane	10.8		ug/L	10.00		108	70-130			
1,3-Dichlorobenzene	11.1		ug/L	10.00		111	70-130			
1,4-Dichlorobenzene	11.2		ug/L	10.00		112	70-130			
Acetone	53.4		ug/L	50.00		107	70-130			
Benzene	11.1		ug/L	10.00		111	70-130			
Carbon Tetrachloride	11.5		ug/L	10.00		115	70-130			
cis-1,2-Dichloroethene	11.0		ug/L	10.00		110	70-130			
Ethylbenzene	10.8		ug/L	10.00		108	70-130			
Methyl tert-Butyl Ether	10.7		ug/L	10.00		107	70-130			
Methylene Chloride	10.6		ug/L	10.00		106	70-130			
Naphthalene	10.7		ug/L	10.00		107	70-130			
Tertiary-amyl methyl ether	10.5		ug/L	10.00		105	70-130			
Tertiary-butyl Alcohol	65.5		ug/L	50.00		131	70-130			B+
Tetrachloroethene	10.5		ug/L	10.00		105	70-130			
Toluene	10.8		ug/L	10.00		108	70-130			
Trichloroethene	11.1		ug/L	10.00		111	70-130			
Vinyl Chloride	10.8		ug/L	10.00		108	70-130			
Xylene O	10.9		ug/L	10.00		109	70-130			
Xylene P,M	21.4		ug/L	20.00		107	70-130			
Surrogate: 1,2-Dichlorobenzene-d4	*4.93*		ug/L	*5.000*		*99*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*4.79*		ug/L	*5.000*		*96*	*80-120*			
LCS Dup										
1,1,1-Trichloroethane	10.4		ug/L	10.00		104	70-130	7	20	
1,1,2-Trichloroethane	10.6		ug/L	10.00		106	70-130	3	20	
1,1-Dichloroethane	10.2		ug/L	10.00		102	70-130	6	20	
1,1-Dichloroethene	9.9		ug/L	10.00		99	70-130	16	20	
1,2-Dichlorobenzene	10.5		ug/L	10.00		105	70-130	4	20	
1,2-Dichloroethane	10.5		ug/L	10.00		105	70-130	3	20	
1,3-Dichlorobenzene	10.6		ug/L	10.00		106	70-130	5	20	
1,4-Dichlorobenzene	10.7		ug/L	10.00		107	70-130	5	20	
Acetone	52.9		ug/L	50.00		106	70-130	1	20	
Benzene	10.4		ug/L	10.00		104	70-130	6	20	
Carbon Tetrachloride	10.6		ug/L	10.00		106	70-130	8	20	
cis-1,2-Dichloroethene	10.4		ug/L	10.00		104	70-130	6	20	
Ethylbenzene	10.4		ug/L	10.00		104	70-130	4	20	
Methyl tert-Butyl Ether	10.6		ug/L	10.00		106	70-130	1	20	
Methylene Chloride	9.7		ug/L	10.00		97	70-130	8	20	
Naphthalene	10.8		ug/L	10.00		108	70-130	0.5	20	
Tertiary-amyl methyl ether	10.2		ug/L	10.00		102	70-130	2	20	
Tertiary-butyl Alcohol	54.3		ug/L	50.00		109	70-130	19	25	
Tetrachloroethene	9.9		ug/L	10.00		99	70-130	6	20	
Toluene	10.2		ug/L	10.00		102	70-130	6	20	
Trichloroethene	10.5		ug/L	10.00		105	70-130	6	20	
Vinyl Chloride	10.1		ug/L	10.00		101	70-130	7	20	
Xylene O	10.5		ug/L	10.00		105	70-130	3	20	

CERTIFICATE OF ANALYSIS

Client Name: Tg2 Solutions
Client Project ID: Colbea - Westwood 394 - RGP

ESS Laboratory Work Order: 1804100

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
524.2 Volatile Organic Compounds										
Batch CD80625 - 524.2										
Xylene P,M	20.2		ug/L	20.00		101	70-130	6	20	
Surrogate: 1,2-Dichlorobenzene-d4	*5.04*		ug/L	*5.000*		*101*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*4.97*		ug/L	*5.000*		*99*	*80-120*			
608 Polychlorinated Biphenyls (PCB)										
Batch CD80405 - 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							
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	*0.0458*		ug/L	*0.05000*		*92*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0457*		ug/L	*0.05000*		*91*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0261*		ug/L	*0.05000*		*52*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0281*		ug/L	*0.05000*		*56*	*30-150*			
LCS										
Aroclor 1016	0.72	0.10	ug/L	1.000		72	40-140			
Aroclor 1016 [2C]	0.74	0.10	ug/L	1.000		74	40-140			
Aroclor 1260	0.78	0.10	ug/L	1.000		78	40-140			
Aroclor 1260 [2C]	0.81	0.10	ug/L	1.000		81	40-140			
Surrogate: Decachlorobiphenyl	*0.0452*		ug/L	*0.05000*		*90*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0447*		ug/L	*0.05000*		*89*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0298*		ug/L	*0.05000*		*60*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0294*		ug/L	*0.05000*		*59*	*30-150*			
LCS Dup										
Aroclor 1016	0.83	0.10	ug/L	1.000		83	40-140	15	20	
Aroclor 1016 [2C]	0.86	0.10	ug/L	1.000		86	40-140	15	20	
Aroclor 1260	0.88	0.10	ug/L	1.000		88	40-140	12	20	
Aroclor 1260 [2C]	0.90	0.10	ug/L	1.000		90	40-140	11	20	

CERTIFICATE OF ANALYSIS

Client Name: Tg2 Solutions
Client Project ID: Colbea - Westwood 394 - RGP

ESS Laboratory Work Order: 1804100

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
608 Polychlorinated Biphenyls (PCB)										
Batch CD80405 - 3510C										
Surrogate: Decachlorobiphenyl	*0.0432*		ug/L	*0.05000*		*86*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0427*		ug/L	*0.05000*		*85*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0300*		ug/L	*0.05000*		*60*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0291*		ug/L	*0.05000*		*58*	*30-150*			
625(SIM) Semi-Volatile Organic Compounds										
Batch CD80407 - 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							
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	2.00	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	*1.56*		ug/L	*2.500*		*62*	*30-130*			
Surrogate: 2,4,6-Tribromophenol	*4.07*		ug/L	*3.750*		*108*	*15-110*			
Surrogate: 2-Fluorobiphenyl	*1.72*		ug/L	*2.500*		*69*	*30-130*			
Surrogate: Nitrobenzene-d5	*2.10*		ug/L	*2.500*		*84*	*30-130*			
Surrogate: p-Terphenyl-d14	*2.07*		ug/L	*2.500*		*83*	*30-130*			
LCS										
Acenaphthene	2.34	0.20	ug/L	4.000		59	40-140			
Acenaphthylene	2.57	0.20	ug/L	4.000		64	40-140			
Anthracene	2.85	0.20	ug/L	4.000		71	40-140			
Benzo(a)anthracene	2.89	0.05	ug/L	4.000		72	40-140			
Benzo(a)pyrene	3.16	0.05	ug/L	4.000		79	40-140			
Benzo(b)fluoranthene	3.25	0.05	ug/L	4.000		81	40-140			
Benzo(g,h,i)perylene	3.69	0.20	ug/L	4.000		92	40-140			

CERTIFICATE OF ANALYSIS

Client Name: Tg2 Solutions
Client Project ID: Colbea - Westwood 394 - RGP

ESS Laboratory Work Order: 1804100

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
625(SIM) Semi-Volatile Organic Compounds										
Batch CD80407 - 3510C										
Benzo(k)fluoranthene	2.83	0.05	ug/L	4.000		71	40-140			
bis(2-Ethylhexyl)phthalate	3.50	2.00	ug/L	4.000		88	40-140			
Butylbenzylphthalate	3.88	2.50	ug/L	4.000		97	40-140			
Chrysene	2.98	0.05	ug/L	4.000		75	40-140			
Dibenzo(a,h)Anthracene	3.32	0.05	ug/L	4.000		83	40-140			
Diethylphthalate	3.32	2.50	ug/L	4.000		83	40-140			
Dimethylphthalate	3.04	2.50	ug/L	4.000		76	40-140			
Di-n-butylphthalate	3.70	2.50	ug/L	4.000		92	40-140			
Di-n-octylphthalate	3.70	2.50	ug/L	4.000		93	40-140			
Fluoranthene	3.27	0.20	ug/L	4.000		82	40-140			
Fluorene	2.76	0.20	ug/L	4.000		69	40-140			
Indeno(1,2,3-cd)Pyrene	3.74	0.05	ug/L	4.000		94	40-140			
Naphthalene	1.96	0.20	ug/L	4.000		49	40-140			
Pentachlorophenol	3.48	0.90	ug/L	4.000		87	30-130			
Phenanthrene	2.93	0.20	ug/L	4.000		73	40-140			
Pyrene	3.27	0.20	ug/L	4.000		82	40-140			
Surrogate: 1,2-Dichlorobenzene-d4	*1.33*		ug/L	*2.500*		*53*	*30-130*			
Surrogate: 2,4,6-Tribromophenol	*4.81*		ug/L	*3.750*		*128*	*15-110*			*S+*
Surrogate: 2-Fluorobiphenyl	*1.62*		ug/L	*2.500*		*65*	*30-130*			
Surrogate: Nitrobenzene-d5	*1.87*		ug/L	*2.500*		*75*	*30-130*			
Surrogate: p-Terphenyl-d14	*2.33*		ug/L	*2.500*		*93*	*30-130*			
LCS Dup										
Acenaphthene	2.96	0.20	ug/L	4.000		74	40-140	23	20	D+
Acenaphthylene	3.26	0.20	ug/L	4.000		82	40-140	24	20	D+
Anthracene	3.32	0.20	ug/L	4.000		83	40-140	15	20	
Benzo(a)anthracene	3.15	0.05	ug/L	4.000		79	40-140	9	20	
Benzo(a)pyrene	3.55	0.05	ug/L	4.000		89	40-140	12	20	
Benzo(b)fluoranthene	3.63	0.05	ug/L	4.000		91	40-140	11	20	
Benzo(g,h,i)perylene	4.25	0.20	ug/L	4.000		106	40-140	14	20	
Benzo(k)fluoranthene	3.26	0.05	ug/L	4.000		82	40-140	14	20	
bis(2-Ethylhexyl)phthalate	3.86	2.00	ug/L	4.000		96	40-140	10	20	
Butylbenzylphthalate	4.31	2.50	ug/L	4.000		108	40-140	11	20	
Chrysene	3.25	0.05	ug/L	4.000		81	40-140	9	20	
Dibenzo(a,h)Anthracene	3.80	0.05	ug/L	4.000		95	40-140	13	20	
Diethylphthalate	3.85	2.50	ug/L	4.000		96	40-140	15	20	
Dimethylphthalate	3.65	2.50	ug/L	4.000		91	40-140	18	20	
Di-n-butylphthalate	4.15	2.50	ug/L	4.000		104	40-140	11	20	
Di-n-octylphthalate	4.24	2.50	ug/L	4.000		106	40-140	14	20	
Fluoranthene	3.67	0.20	ug/L	4.000		92	40-140	12	20	
Fluorene	3.45	0.20	ug/L	4.000		86	40-140	22	20	D+
Indeno(1,2,3-cd)Pyrene	4.25	0.05	ug/L	4.000		106	40-140	13	20	
Naphthalene	2.55	0.20	ug/L	4.000		64	40-140	26	20	D+
Pentachlorophenol	4.10	0.90	ug/L	4.000		102	30-130	16	20	
Phenanthrene	3.41	0.20	ug/L	4.000		85	40-140	15	20	
Pyrene	3.53	0.20	ug/L	4.000		88	40-140	8	20	

CERTIFICATE OF ANALYSIS

Client Name: Tg2 Solutions
Client Project ID: Colbea - Westwood 394 - RGP

ESS Laboratory Work Order: 1804100

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
625(SIM) Semi-Volatile Organic Compounds										
Batch CD80407 - 3510C										
Surrogate: 1,2-Dichlorobenzene-d4	*1.26*		ug/L	*2.500*		*50*	*30-130*			
Surrogate: 2,4,6-Tribromophenol	*4.99*		ug/L	*3.750*		*133*	*15-110*			*S+*
Surrogate: 2-Fluorobiphenyl	*1.71*		ug/L	*2.500*		*68*	*30-130*			
Surrogate: Nitrobenzene-d5	*2.27*		ug/L	*2.500*		*91*	*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 CD80925 - 3535A										
Blank										
1,4-Dioxane	ND	0.250	ug/L							
Surrogate: 1,4-Dioxane-d8	*ND*		ug/L	*5.000*		*38*	*15-115*			
LCS										
1,4-Dioxane	11.0	0.250	ug/L	10.00		110	40-140			
Surrogate: 1,4-Dioxane-d8	*1.65*		ug/L	*5.000*		*33*	*15-115*			
LCS Dup										
1,4-Dioxane	11.1	0.250	ug/L	10.00		111	40-140	1	20	
Surrogate: 1,4-Dioxane-d8	*1.76*		ug/L	*5.000*		*35*	*15-115*			
Classical Chemistry										
Batch CD80415 - General Preparation										
Blank										
Total Suspended Solids	ND	5	mg/L							
LCS										
Total Suspended Solids	34		mg/L	34.10		100	80-120			
Batch CD80427 - General Preparation										
Blank										
Hexavalent Chromium	ND	10.0	ug/L							
LCS										
Hexavalent Chromium	0.491		mg/L	0.4998		98	90-110			
LCS Dup										
Hexavalent Chromium	0.516		mg/L	0.4998		103	90-110	5	20	
Batch CD80442 - General Preparation										
Blank										
Total Residual Chlorine	ND	20.0	ug/L							
LCS										
Total Residual Chlorine	0.96		mg/L	0.9790		98	85-115			
Batch CD80508 - NH4 Prep										
Blank										
Ammonia as N	ND	0.10	mg/L							
LCS										

CERTIFICATE OF ANALYSIS

Client Name: Tg2 Solutions
Client Project ID: Colbea - Westwood 394 - RGP

ESS Laboratory Work Order: 1804100

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Classical Chemistry										
Batch CD80508 - NH4 Prep										
Ammonia as N	0.10	0.10	mg/L	0.09994		99	80-120			
LCS										
Ammonia as N	0.99	0.10	mg/L	0.9994		99	80-120			
Batch CD80603 - TCN Prep										
Blank										
Total Cyanide (LL)	ND	5.00	ug/L							
LCS										
Total Cyanide (LL)	20.2	5.00	ug/L	20.06		101	90-110			
LCS										
Total Cyanide (LL)	149	5.00	ug/L	150.4		99	90-110			
LCS Dup										
Total Cyanide (LL)	148	5.00	ug/L	150.4		98	90-110	0.7	20	
Batch CD80907 - General Preparation										
Blank										
Total Petroleum Hydrocarbon	ND	5	mg/L							
LCS										
Total Petroleum Hydrocarbon	19	5	mg/L	19.38		98	66-114			
Batch CD80936 - General Preparation										
Blank										
Phenols	ND	100	ug/L							
LCS										
Phenols	98	100	ug/L	100.0		98	80-120			
LCS										
Phenols	1010	100	ug/L	1000		101	80-120			
Batch CD80940 - General Preparation										
Blank										
Chloride	ND	0.5	mg/L							
LCS										
Chloride	2.5		mg/L	2.500		99	90-110			
504.1 1,2-Dibromoethane / 1,2-Dibromo-3-chloropropane										
Batch CD80820 - 504/8011										
Blank										
1,2-Dibromoethane	ND	0.015	ug/L							
1,2-Dibromoethane [2C]	ND	0.015	ug/L							
Surrogate: Pentachloroethane	*0.230*		ug/L	*0.2000*		*115*	*30-150*			
Surrogate: Pentachloroethane [2C]	*0.229*		ug/L	*0.2000*		*114*	*30-150*			
LCS										
1,2-Dibromoethane	0.088	0.015	ug/L	0.08000		110	70-130			
1,2-Dibromoethane [2C]	0.079	0.015	ug/L	0.08000		99	70-130			

CERTIFICATE OF ANALYSIS

Client Name: Tg2 Solutions
Client Project ID: Colbea - Westwood 394 - RGP

ESS Laboratory Work Order: 1804100

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
504.1 1,2-Dibromoethane / 1,2-Dibromo-3-chloropropane										
Batch CD80820 - 504/8011										
Surrogate: Pentachloroethane	*0.0913*		ug/L	*0.2000*		*46*	*30-150*			
Surrogate: Pentachloroethane [2C]	*0.0915*		ug/L	*0.2000*		*46*	*30-150*			
LCS										
1,2-Dibromoethane	0.200	0.015	ug/L	0.2000		100	70-130			
1,2-Dibromoethane [2C]	0.206	0.015	ug/L	0.2000		103	70-130			
Surrogate: Pentachloroethane	*0.226*		ug/L	*0.2000*		*113*	*30-150*			
Surrogate: Pentachloroethane [2C]	*0.224*		ug/L	*0.2000*		*112*	*30-150*			
Alcohol Scan by GC/FID										
Batch CD80911 - No Prep										
Blank										
Ethanol	ND	10	mg/L							
LCS										
Ethanol	1090	10	mg/L	1007		109	60-140			
LCS Dup										
Ethanol	1120	10	mg/L	1007		111	60-140	2	30	

CERTIFICATE OF ANALYSIS

Client Name: Tg2 Solutions
Client Project ID: Colbea - Westwood 394 - RGP ESS Laboratory Work Order: 1804100

Notes and Definitions

U	Analyte included in the analysis, but not detected
S+	Surrogate recovery(ies) above upper control limit (S+).
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.
B+	Blank Spike recovery is above upper 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

CERTIFICATE OF ANALYSIS

Client Name: Tg2 Solutions
Client Project ID: Colbea - Westwood 394 - RGP

ESS Laboratory Work Order: 1804100

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

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www.esslaboratory.com

CHAIN OF CUSTODY

ESS LAB PROJECT ID: 1804100

Turn Time: X Standard Rush _____ Approved By: _____

Reporting Limits - Discharge into: Fresh Water ☒ Salt Water ☐

State where samples were collected: (MA) NH

Is this project for: **RGP**

Electonic Deliverable Yes ___ No ___
Format: Excel ___ Access ___ PDF ___ Other ___

Project Manager: JASON SMERBURE
Company: TyZ SOLUTIONS
Address: COLONY WESTWOOD 394
394 & PROVIDENCE HWY
WESTWOOD MA

Project #
Project Name:
PO #

ESS Lab Sample ID	Date	Collection Time	Grab -G Composite-C	Matrix	Sample Identification	# of Containers	RGP Metals Total PP-13 +IRON	RGP Metals Dissolved	Hardness (Calculation)	Ethanol ASTM D3695	Chloride 300.0*	Total Cyanide 4500 LL	TPH 1664	TSS 2540D*	TRC 4500-CL D*	Ammonia 350.1	Tri Cr (Calc. MUST run T. Cr)	Hex Cr 3500	Phenol 420.1	RGP VOC Long List 524	1,4-Dioxane 8270-SIM	EDB 504.1	RGP SVOC Log List 625-SIM	PCB 608	Comment #
1	4/4	11:35	G	GW	RGP WELL MW-13	22	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	1,2
Preservation Code: 1-NP, 2-HCl, 3-H2SO4, 4-HNO3, 5-NaOH, 6-MeOH, 7-Asorbic Acid, 8-ZnAct, 9-_____							4	4	4	1	1	5	3	1	1	3	-	1	3	2	1	2	1	1	
Container Type: P-Poly G-Glass AG-Amber Glass S-Sterile V-VOA							P	P	P	V	P	P	AG	P	P	P	-	P	AG	V	AG	V	AG	AG	

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: 3.8 ICE RC

Sampled by: JASON SMERBURE

Comments: 1) RGP Metals include Sb, As, Cd, Cu, Fe, Pb, Ni, Se, Ag and Zn by 200.7/3113B and Hg by 245.1
2) Parameters in **BOLD** have Short hold-time **PERMIT ATTACHED** WILL EMAIL RGP REQUIREMENT TO DENNIS
* **TSS, TRC and Cl taken from the same container**

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
	4/4 2:00	4/4/18 1531	4/4/18 1704		4/4/18 1733
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)

Please E-mail all changes to Chain of Custody in writi

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1804100

231 Elm Street, Blackstone, MA 01504

CHAIN OF CUSTODY RECORD

Laboratory: ESS

Client	Tg2 Solutions
Address	231 Elm Street, Blackstone MA
Contact	Jason Sherburne
Phone #	617-947-7702

Project Name	Colbea - Westwood 394 - RGP
Address	394 Providence Highway, Westwood, MA
Contact	Jason Sherburne
Location ID #	
Description	

MATRIX
1. Wastewater
2. Groundwater
3. Drinking Water
4. Soil
5. Surface Water
6. Other _____

Lab to Invoice: **Tg2 Solutions**
Lab Report to: esimpson@tg2solutions.com; jsherburne@tg2solutions.com
Billing Reference:

Field ID / Point of Collection	Collection Date	Collection Time	Matrix	# of bottles Type Glass	Plastic	VOA's	Preservation HCL	NaOH	HNO3	H2So4	MEOH	Other	None	Analytical Information TAME	TBA	Comments:
RGP Well MW-13	4/4/18	11:35	2			6	X							X	X	

Turnaround Information

- [X] Std. 10 Day Turnaround — Approved By:
- [ ] 7 Day *RUSH*
- [ ] 5 Day *RUSH (HIGH PRIORITY)*
- [ ] 3 Day *RUSH*
- [ ] 2 Day *RUSH*
- [ ] 1 Day *RUSH*

QA/QC

SPECIAL QA/QC or DATA Requirements:

See attached for detection limits and method requirements.

WILL EMAIL REQUIREMENTS TO DENIS)

Additional Information

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

	Date Time		Date Time
Relinquished by Sampler:	4/4 2:00	Received By: 1	Date Time: 4/4/18 1531
Relinquished by Sampler: 2	Date Time: 4/4/18 1704	Received By: 2	Date Time: 4/4/18 1733
Relinquished by Sampler: 3	Date Time:	Received By: 3	Date Time:

Seal # ☐ Preserve where applicable ☐ On Ice ☑ Temp. 3.8 ICE RC

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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:
Consultation Code: 05E1NE00-2018-SLI-1583
Event Code: 05E1NE00-2018-E-03610
Project Name: Shell-branded service station

April 15, 2018

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

To Whom It May Concern:

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

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

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

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

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

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

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

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

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

Attachment(s):

- Official Species List

Official Species List

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

This species list is provided by:

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

Project Summary

Consultation Code: 05E1NE00-2018-SLI-1583

Event Code: 05E1NE00-2018-E-03610

Project Name: Shell-branded service station

Project Type: OIL OR GAS

Project Description: This facility has historically been an active gasoline station with underground storage tanks (USTs) and dispenser islands. Plans to upgrade the facility, including the USTs and dispenser islands 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/42.214235711658404N71.18167915548906W

Counties: Norfolk, MA

Endangered Species Act Species

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

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

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

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

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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.

Mammals

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

Critical habitats

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