



Consulting
Engineers and
Scientists

December 19, 2019
Project 1900394

Via E-mail: GeneralPermit.Dewatering@epa.gov

US Environmental Protection Agency
Dewatering GP Processing
Industrial Permit Unit (OEP 06-4)
5 Post Office Square, Suite 100
Mail Code OEP06-4
Boston, MA 02109-3912

To Whom It May Concern:

**Re: Notice of Intent for Temporary Construction Dewatering Discharge
NPDES Dewatering General Permit MAG070000
425 Border Street
Boston, Massachusetts**

On behalf of Navem Partners, LLC, GEI Consultants, Inc. has prepared this Notice of Intent (NOI) for coverage under the National Pollutant Discharge Elimination System (NPDES) Dewatering General Permit (DGP), Massachusetts General Permit (MAG070000). This NOI was prepared in accordance with the general requirements of the NPDES DGP MAG070000 and related guidance documentation provided by the U.S. Environmental Protection Agency (EPA). The completed NOI form is provided in Appendix A.

Site Information

This NOI has been prepared for the discharge of dewatering effluent during construction of a proposed 5-story residential building that will occupy the entire footprint of the site located at 425 Border Street in Boston, Massachusetts (the Property; Figs. 1 and 2). A below-grade sprinkler/mechanical room with approximate plan dimensions of 19 feet by 25 feet and an elevator shaft will be located at the northwest corner of the building beneath the first-floor lobby.

The Property is located at the intersection of Border Street and Falcon Street and is bounded on the west by Border Street, on the north by Falcon Street, and on the east and south by private properties. The Property is rectangular in shape with an area of 0.123 acre. The Property is a former automobile body shop and repair garage. The project site is not a Massachusetts Department of Environmental Protection (MassDEP) disposal site.

Some construction dewatering will be necessary to keep excavations dry. The excavation footprint for the proposed residential building will occupy all the Property so recharge of groundwater on site will not be feasible. Therefore, discharge will be to the BWSC storm water drainage system which discharges to the Chelsea River (aka Chelsea Creek) at the confluence with the Boston Inner Harbor via an outfall beneath the Andrew McArdle Bridge ("BWSC Outfall CSO013;" Fig. 3), in accordance with the DGP permit.

Receiving Water Information

Receiving water quality data, collected by GEI on December 4, 2019 on behalf of Navem, was used to support this NOI. A sample from the Chelsea Creek, the receiving water (Class SB surface water body), was collected less than 25 feet north of the BWSC Outfall (CSO013) (Fig. 3). The sample was submitted to ESS Laboratory, Inc. (ESS) of Cranston, Rhode Island for analysis of metals, hardness, ammonia, and pH. The results are summarized in Table 1 and the associated laboratory data report is in Appendix B.

Source Water Information

We evaluated the proposed source water by collecting two groundwater samples from the Property. The groundwater samples were collected from monitoring wells B102MW and B104MW on November 19, 2019 (Fig. 2) and submitted to ESS for analysis of the parameters required under the NPDES DGP. The results are in Table 2 and the associated laboratory data report are provided in Appendix B.

The analytical results indicated the presence of low levels of arsenic and iron. The measured pH of the groundwater at the Property ranges from approximately 7.4 to 7.8 standard units (s.u.). The pH range detected is within the DGP effluent limit for Massachusetts waters (6.5 to 8.3 s.u.).

Treatment System Information

During construction, the collected water will be treated to remove suspended solids using a sedimentation tank and bag filters. The proposed conceptual treatment system is shown in the process flow diagram in Fig. 4.

Discharge Information

We anticipate treated effluent discharge rates to be about 15 to 25 gallons per minute (gpm) or less, with occasional peak flows of approximately 50 gpm during significant precipitation events. The treated water will be discharged to one or two storm drains immediately west of the Property at the corner of Border and Falcon Streets. The storm drains are identified in Fig. 2 and on the plan in Appendix C as Potential Discharge Points 1 and 2. According to project documents and plans we reviewed from the BWSC in November 2019, these storm drains are part of the BWSC storm water drainage system that discharge to the BWSC Outfall (CSO013) at Chelsea Creek at the confluence with the Boston Inner Harbor, approximately 500 feet from the Property. An aerial photo annotated with information from the BWSC plan showing the discharge path and ultimate discharge outfall at Chelsea Creek is in Fig. 3 and Appendix C. According to BWSC communications included in Appendix C, the discharge path from the catch basins are to a separate storm water line which leads to a combined sewer line on Meridian Street. However, this combined sewer line is downstream of a regulator so this drainage does not enter the combined sewer system but only to the combined sewer outfall (CSO013).

Endangered Species Act Eligibility

We reviewed the U.S. Fish and Wildlife Service (FWS) Information, Planning, and Conservation (IPAC) online database for the Property and receiving water ("project action area"). A copy of the database report is in Appendix D. Based on this report, there are no listed species or critical habitats are within the project action area.

Because the proposed effluent discharge is to nearshore marine waters in Massachusetts (i.e. Massachusetts Bay, inclusive of Boston Harbor), and there has been no previous consultation with National Marine Fisheries Services (NMFS) for this project, we reviewed EPA's determination made during their consultation with the NMFS, dated December 18, 2016. According to the determination, the endangered or protected species under jurisdiction of the NMFS that could potentially encounter DGP discharge in the project area are the shortnose sturgeon, Atlantic sturgeon, four species of sea turtles, and two species of whales. According to the determination, the turtles and

whales are transient species and highly unlikely to be present in the project action area (Chelsea Creek) where the proposed discharge effluent is transient and short-lived. Because discharge is not to the Connecticut, Merrimack, or Taunton Rivers, where the sturgeon spawn, both species of sturgeon are expected to be present only in adult life stages in the project action area.

Based on our review, the project area meets FWS Criterion A (i.e. no listed species or critical habitats are within the project area) and NMFS Criterion (i.e. the project will have either no effect on or are not likely to adversely affect listed species or critical habitats under jurisdiction of the NMFS).

National Historic Preservation Requirements

We reviewed online records from the U.S. National Register of Historic Places database and the Massachusetts Cultural Resource Information System (MACRIS). Maps of the Property and surrounding areas obtained from both databases are included in Appendix E. Based on the review, the Property is not listed as a National Historic Place.

The point where the discharge reaches the receiving water (i.e. BWSC Outfall CSO013 in the Chelsea Creek) is not listed as a National Historic Place. The inventory listing from the MACRIS database is included in Appendix E.

Coverage Under NPDES DGP

It is our opinion that the proposed discharge is eligible for coverage under the NPDES DGP based on the requirements of the NPDES DGP and our evaluation of the available site-specific information. On behalf of Navem Partners, LLC, we are requesting coverage under the NPDES DGP for the discharge of treated construction dewatering effluent to the surface waters of Chelsea Creek and the Boston Inner Harbor via the BWSC storm water drainage system.


The enclosed NOI form and supporting documentation provides required information on the general site conditions, discharge, treatment system, receiving water, and consultation with federal services (Appendices A through E). For this project, Navem Partners, LLC is the owner and has operational control over the construction plans and specifications, including the ability to make modifications to those plans and specifications. Rise Construction Management of Boston, Massachusetts, is the operator and will direct the personnel responsible for the implementation and day-to-day operations and activities that are necessary to ensure compliance with the NPDES DGP, including operation, inspection, monitoring, and reporting.

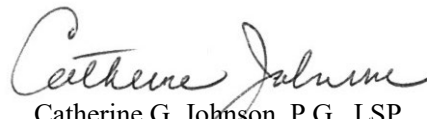
Discharge of treated water is scheduled to begin in January 2020.

Please contact Ryan Hoffman at 781.721.4091 or rhoffman@geiconsultants.com if you have any questions.

Sincerely,

GEI CONSULTANTS, INC.


Ryan S. Hoffman, P.G., LSP
Environmental Division Manager


Catherine G. Johnson, P.G., LSP
Senior Project Manager

BFM/RSJ:jam
Enclosures

c: James Heffernan, Navem Partners, LLC
Brian Regan, Rise Construction Management
Division of Watershed Management, MassDEP (for informational purposes only)

Tables

Table 1. Chemical Testing Results - Receiving Water (Chelsea Creek)
425 Border Street
East Boston, Massachusetts

Sample Location:			SW-1
Sample Date:			12/4/2019
Analyte	Method	Units	
Inorganic Compounds		mg/L	
Arsenic	200.7		< 0.025 EL
Barium	200.7		< 0.025 EL
Cadmium	200.7		<0.0010
Chromium (Total)	200.7		< 0.020 EL
Lead	200.7		< 0.010 EL
Mercury	245.1		< 0.00020
Selenium	200.7		< 0.025 EL
Silver	200.7		< 0.005 EL
Other			
Ammonia as Nitrogen	350.1	mg/L	0.21
Salinity	2520B	ppt	26.2
Hardness	200.7	mg/L	3,170
pH	4500	S.U.	7.71

General Notes:

1. "<" = Analyte not detected at a concentration above the laboratory reporting limit.
2. mg/l = milligrams per liter.
3. ppt = parts per thousand.

Qualifier Notes:

1. EL = Elevated Method Reporting Limits due to sample matrix.

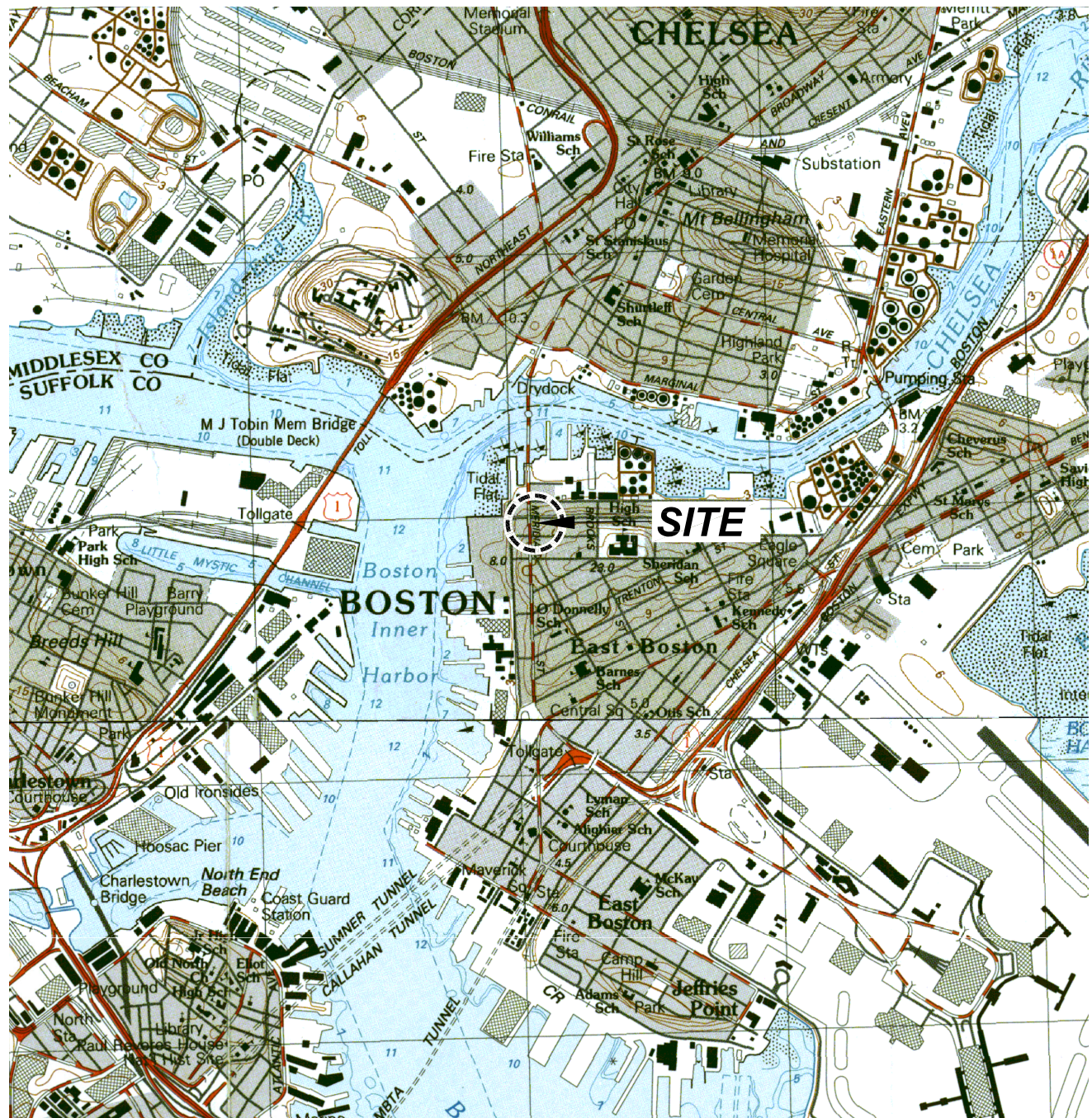
Table 2. Chemical Testing Results - Groundwater
425 Border Street
East Boston, Massachusetts

Sample Location:					B104MW	B102MW
Sample Date:					11/19/2019	11/19/2019
Analyte	Method	Units	MCP RCGW-2	RGP Effluent Limits		
Inorganic Compounds						
Ammonia as Nitrogen	350.1	mg/L	NS	Report	0.32	0.32
Chloride	300.0	mg/L	NS	Report	53.7	34.2
Total Residual Chloride	4500CL D	ug/l	NS	7.5	< 60	< 60
Total Suspended Solids	2540D	mg/l	NS	30	11	21
Antimony	6020A	ug/l	8,000	206	< 1.0	< 1.0
Arsenic	7010	ug/l	900	104	13.8	11.0
Cadmium	6010C	ug/l	4	10.2	< 2.5	< 2.5
Chromium, Total	6010C	ug/l	300	NS	<10.0	<10.0
Chromium VI	7196A	ug/l	300	323	< 10.0	< 10.0
Copper	6010C	ug/l	100,000	242	< 10.0	< 10.0
Iron	6010C	ug/l	NS	5,000	1,570	402
Lead	6010C	ug/l	10	160	<10.0	<10.0
Mercury	7470A	ug/l	20	0.739	< 0.20	< 0.20
Nickel	6010C	ug/l	200	1,450	< 25.0	< 25.0
Selenium	7010	ug/l	100	235.8	< 5.0	< 5.0
Silver	6010C	ug/l	7	35.1	< 5.0	< 5.0
Zinc	6010C	ug/l	900	420	< 25.0	< 25.0
Other						
Hardness	6010C	ug/l	NS	NS	392,000	390,000
pH	9040	S.U.	NS	6.5 to 8.3	7.36	7.80

General Notes:

1. For a complete list of analytes, see the laboratory data sheets.
2. "<" = Analyte not detected at a concentration above the laboratory reporting limit.
3. MCP = 310 CMR 40.0000 Massachusetts Contingency Plan with revisions effective April 25, 2014
4. RCGW-2 = Reportable Concentration for category GW-2 Groundwater
5. ug/l = micrograms per liter.
6. mg/l = milligram per liter
7. S.U. = standard units
8. Dilution Factor of 1 used to establish effluent limits.
9. Effluent limits calculated using NPDES RGP NOI Dilution Factor Spreadsheet.

Figures



This Image provided by MassGIS is from U.S.G.S. Topographic
7.5 X 15 Minute Series
Boston South, MA Quadrangle, 1987.
Datum is National Geodetic Vertical Datum of 1929 (NGVD29).
Contour Interval is 3 Meters.



425 Border Street
East Boston, Massachusetts

Navem Partners, LLC
Boston, Massachusetts

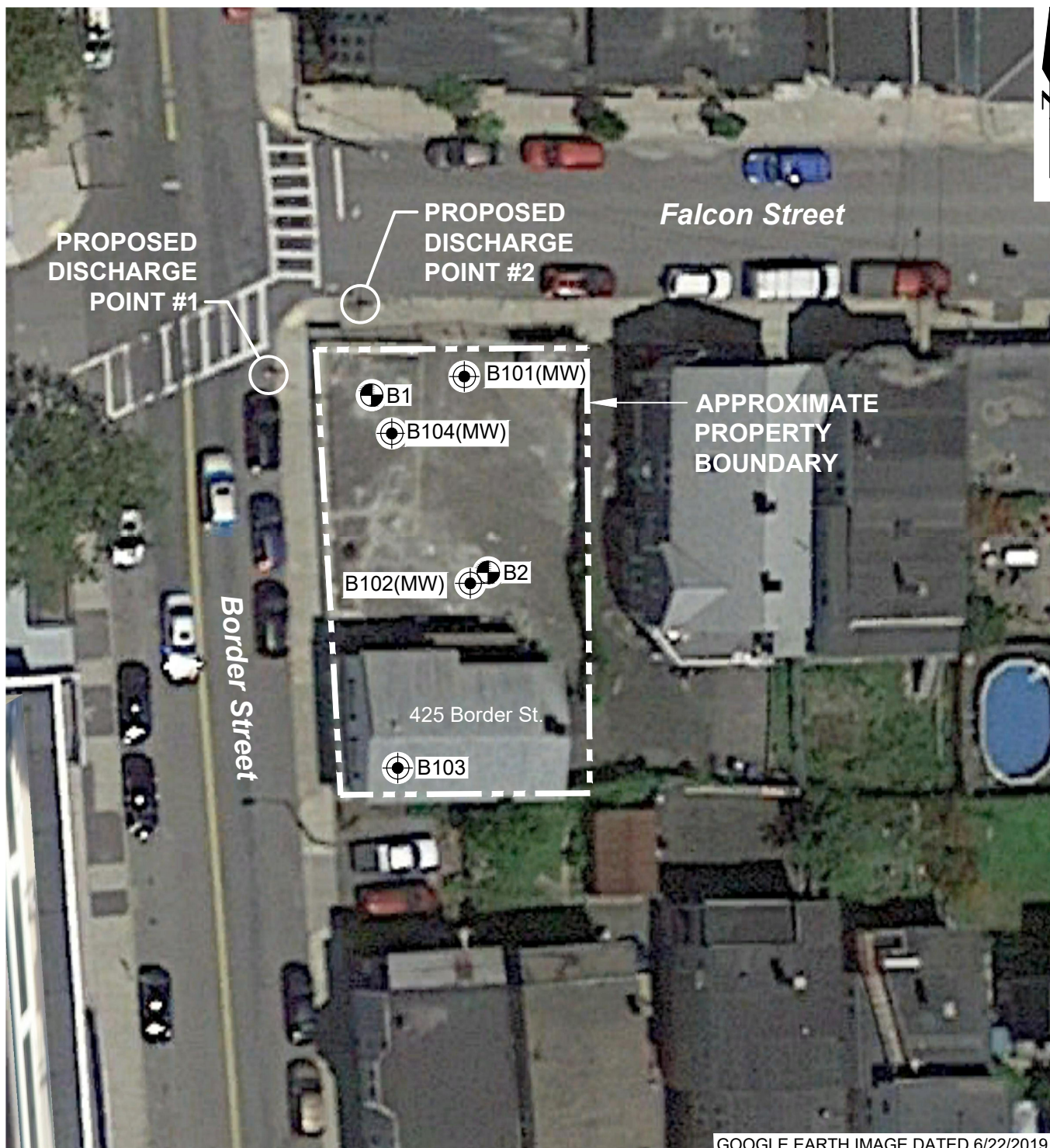


Project 1900394

SITE LOCATION MAP



December 2019

Fig. 1



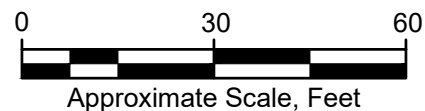
GOOGLE EARTH IMAGE DATED 6/22/2019.

LEGEND:

-  BORING, GEI 2019
-  BORING, GEI 2018

NOTES:

1. (MW) INDICATES MONITORING WELL INSTALLED.



425 Border Street
East Boston, Massachusetts

Navem Partners, LLC
Boston, Massachusetts

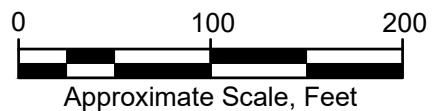


Project 1900394

BORING LOCATION PLAN

December 2019

Fig. 2



425 Border Street
East Boston, Massachusetts

Navem Partners, LLC
Boston, Massachusetts

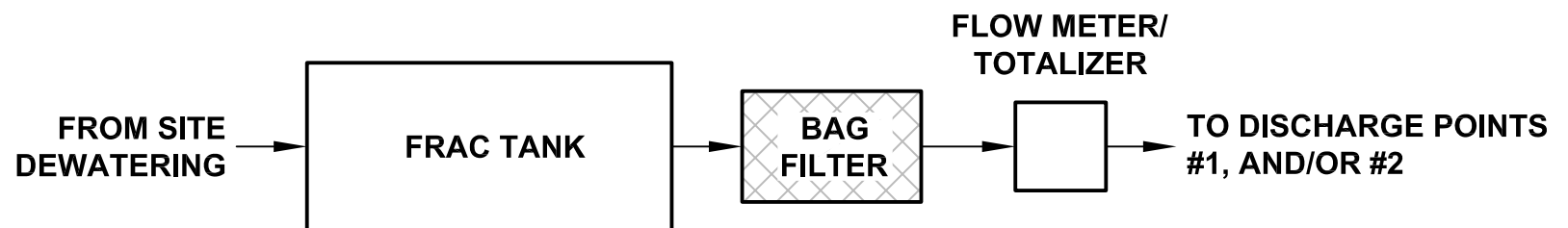


Project 1900394

RECEIVING WATER
SAMPLE LOCATION

December 2019

Fig. 3



PROCESS FLOW DIAGRAM

Not to Scale

NOTES:

1. SAMPLING PORTS ON ALL TREATMENT SYSTEM COMPONENTS.

425 Border Street
East Boston, Massachusetts

Navem Partners, LLC
Boston, Massachusetts



Project 1900394

PROCESS FLOW DIAGRAM

December 2019

Fig. 4

Appendix A

Dewatering General Permit Notice of Intent

II. Suggested Notice of Intent (NOI) Format

1. General facility information. Please provide the following information about the facility.

a) Name of facility: 425 Border Street		Mailing Address for the Facility: Navem Partners, LLC, 18 Newbury Street, Boston, MA 02116	
b) Location Address of the Facility (if different from mailing address): 425 Border Street, Boston, MA 02128		Facility Location longitude: <u>-71.040134</u> latitude: <u>42.381804</u>	Type of Business: Former auto shop Facility SIC codes: 236116
c) Name of facility owner: <u>Navem Partners, LLC</u> Owner's email: <u>jheffernan@navempartners.com</u> Owner's Tel #: <u>(617) 702-9416</u> Owner's Fax #: _____ Address of owner (if different from facility address) Owner is (check one): 1. Federal _____ 2. State _____ 3. Private <input checked="" type="checkbox"/> 4. Other _____ (Describe) _____			
Legal name of Operator, if not owner: <u>Rise Construction Management</u> Operator Contact Name: <u>Brian Regan</u> Operator Tel Number: <u>(617) 279-6121</u> Fax Number: _____ Operator's email: <u>bregan@rise.boston</u> Operator Address (if different from owner) 12 Ericsson Street, Boston, MA 02122			
d) Attach a topographic map indicating the location of the facility and the outfall(s) to the receiving water. Map attached? <input checked="" type="checkbox"/>			
e) Check Yes or No for the following: 1. Has a prior NPDES permit been granted for the discharge? Yes _____ No <input checked="" type="checkbox"/> If Yes, Permit Number: _____ 2. Is the discharge a "new discharger" as defined by 40 CFR Section 122.2? Yes <input checked="" type="checkbox"/> No _____ 3. Is the facility covered by an individual NPDES permit? Yes _____ No <input checked="" type="checkbox"/> If Yes, Permit Number _____ 4. Is there a pending application on file with EPA for this discharge? Yes _____ No <input checked="" type="checkbox"/> If Yes, date of submittal: _____			

2. Discharge information. Please provide information about the discharge, (attaching additional sheets as needed)

- a) Name of receiving water into which discharge will occur: Chelsea Creek
 State Water Quality Classification: SB Freshwater: No Marine Water: Yes
- b) Describe the discharge activities for which the owner/applicant is seeking coverage:
☒ 1. Construction dewatering of groundwater intrusion and/or storm water accumulation.
 2. Short-term or long-term dewatering of foundation sumps.
 3. Other.
- c) Number of outfalls 1
- For each outfall:
- d) Estimate the maximum daily and average monthly flow of the discharge (in gallons per day – GPD). Max Daily Flow 72000 GPD
 Average Monthly Flow 36000 GPD
- e.) What is the maximum and minimum monthly pH of the discharge (in s.u.)? Max pH 7.4 Min pH 7.8
- f.) Identify the source of the discharge (i.e. potable water, surface water, or groundwater). If groundwater, the facility shall submit effluent test results, as required in Section 4.4.5 of the General Permit.
- g.) What treatment does the wastewater receive prior to discharge?
- h.) Is the discharge continuous? Yes ☒ No ☐ If no, is the discharge periodic (P) (occurs regularly, i.e., monthly or seasonally, but is not continuous all year) or intermittent (I) (occurs sometimes but not regularly) or both (B) NA
 If (P), number of days or months per year of the discharge NA and the specific months of discharge NA ;
 If (I), number of days/year there is a discharge _____
 Is the discharge temporary? Yes ☒ No ☐
 If yes, approximate start date of dewatering January 2020 approximate end date of dewatering June 2020
- i.) Latitude and longitude of each discharge within 100 feet (See http://www.epa.gov/tri/report/siting_tool): Outfall 1: long. -71.039299 lat. 42.384016 ; Outfall 2: long. _____ lat. _____ ; Outfall 3: long. _____ lat. _____ .
- j.) If the source of the discharge is potable water, please provide the reported or calculated seven day-ten year low flow (7Q10) of the receiving water and attach any calculation sheets used to support stream flow and dilution calculations NA cfs
 (See Appendix VII for equations and additional information)

<p>MASSACHUSETTS FACILITIES: See Section 3.4 and Appendix 1 of the General Permit for more information on Areas of Critical Environmental Concern (ACEC):</p> <p>k.) Does the discharge occur in an ACEC? Yes _____ No <u>✓</u></p> <p>If yes, provide the name of the ACEC: _____</p>

3. Contaminant Information

a)	Are any pH neutralization and/or dechlorination chemicals used in the discharge? If so, include the chemical name and manufacturer; maximum and average daily quantity used as well as the maximum and average daily expected concentrations (mg/l) in the discharge, and the vendor's reported aquatic toxicity (NOAEL and/or LC ₅₀ in percent for aquatic organism(s)). No
b)	Please report any known remediation activities or water-quality issues in the vicinity of the discharge. No known water quality issues

4. Determination of Endangered Species Act Eligibility: Provide documentation of ESA eligibility as required at Part 3.4 and Appendix IV. In addition, respond to the following questions.

a)	Which of the three eligibility criteria listed in Appendix IV, Criterion (A, B, or C) have you met? <u>A</u>
b)	Please attach documentation with your NOI supporting your response. Please see Appendix IV for acceptable documentation

5. Documentation of National Historic Preservation Act requirements: Please respond to the following questions:

a)	See Screening Process in Appendix III and respond to questions regarding your site and any historic properties listed or eligible for listing on the National Register of Historic Places. Question 1: Yes _____ No <u>✓</u> ; Question 2: No <u>✓</u> Yes _____
b)	Have any State or Tribal historic preservation officers been consulted in this determination? Yes _____ or No <u>✓</u> If yes, attach the results of the consultation(s).
c)	Which of the three National Historic Preservation Act eligibility criterion listed in Appendix III, Criterion (A, B, or C) have you met? <u>A</u>
d)	Is the project located on property of religious or cultural significance to an Indian Tribe? Yes _____ or No <u>✓</u> If yes, provide that name of the Indian Tribe associated with the property. _____

6. Supplemental Information: Please provide any supplemental information. Attach any analytical data used to support the application. Attach any certification(s) required by the general permit

7. Signature Requirements: The Notice of Intent must be signed by the operator in accordance with the signatory requirements of 40 CFR Section 122.22 (see below) including the following certification:

I certify under penalty of law that (1) no biocides or other chemical additives except for those used for pH adjustment and/or dechlorination are used in the dewatering system; (2) the discharge consists solely of dewatering and authorized pH adjustment and/or dechlorination chemicals; (3) the discharge does not come in contact with any raw materials, intermediate product, water product or finished product; (4) if the discharge of dewatering subsequently mixes with other permitted wastewater (i.e. stormwater) prior to discharging to the receiving water, any monitoring provided under this permit will be only for dewatering discharge; (5) where applicable, the facility has complied with the requirements of this permit specific to the Endangered Species Act and National Historic Preservation Act; and (6) this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate 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, I certify that the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I certify that I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Facility Name: Rise Construction Management

Operator signature:

Print Full Name and Title: Brian Regan

Date:

12/18/19

Federal regulations require this application to be signed as follows:

1. For a corporation, by a principal executive officer of at least the level of vice president;
2. For partnership or sole proprietorship, by a general partner or the proprietor, respectively, or,
3. For a municipality, State, Federal or other public facility, by either a principal executive officer or ranking elected official.

Appendix B

Source Water and Receiving Water Laboratory Data Reports



CERTIFICATE OF ANALYSIS

Ryan Hoffman
GEI Consultants, Inc.
400 Unicorn Park Drive
Woburn, MA 01801

RE: 425 Border Street (1900394)
ESS Laboratory Work Order Number: 19L0127

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 3:44 pm, Dec 16, 2019

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: GEI Consultants, Inc.
Client Project ID: 425 Border Street

ESS Laboratory Work Order: 19L0127

SAMPLE RECEIPT

The following samples were received on December 05, 2019 for the analyses specified on the enclosed Chain of Custody Record.

To achieve CAM compliance for MCP data, ESS Laboratory has reviewed all QA/QC Requirements and Performance Standards listed in each method. Holding times and preservation have also been reviewed. All CAM requirements have been performed and achieved unless noted in the project narrative.

Each method has been set-up in the laboratory to reach required MCP standards. The methods for aqueous VOA and Soil Methanol VOA have known limitations for certain analytes. The regulatory standards may not be achieved due to these limitations. In addition, for all methods, matrix interferences, dilutions, and %Solids may elevate method reporting limits above regulatory standards. ESS Laboratory can provide, upon request, a Limit Checker (regulatory standard comparison spreadsheet) electronic deliverable which will highlight these exceedances.

Revision 1 December 16, 2019: This report has been revised to include Salinity per client's request.

Lab Number	Sample Name	Matrix	Analysis
19L0127-01	1900394-SW-1	Surface Water	200.7, 245.1, 2520B, 350.1, 4500 H+ B



CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: 425 Border Street

ESS Laboratory Work Order: 19L0127

PROJECT NARRATIVE

Classical Chemistry

19L0127-01 [The maximum holding time listed in 40 CFR Part 136 Table II for pH, Dissolved Oxygen, Sulfite and Residual Chlorine is fifteen minutes.](#)

Total Metals

19L0127-01 [Elevated Method Reporting Limits due to sample matrix \(EL\).](#)
Arsenic , Barium , Chromium , Lead , Selenium , Silver

No other observations noted.

End of Project Narrative.

DATA USABILITY LINKS

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

[Definitions of Quality Control Parameters](#)

[Semivolatile Organics Internal Standard Information](#)

[Semivolatile Organics Surrogate Information](#)

[Volatile Organics Internal Standard Information](#)

[Volatile Organics Surrogate Information](#)

[EPH and VPH Alkane Lists](#)



CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: 425 Border Street

ESS Laboratory Work Order: 19L0127

CURRENT SW-846 METHODOLOGY VERSIONS

Analytical Methods

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

Prep Methods

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

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



CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: 425 Border Street
Client Sample ID: 1900394-SW-1
Date Sampled: 12/04/19 12:25
Percent Solids: N/A

ESS Laboratory Work Order: 19L0127
ESS Laboratory Sample ID: 19L0127-01
Sample Matrix: Surface Water
Units: mg/L

Extraction Method: 3005A/200.7

Total Metals

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>I/V</u>	<u>F/V</u>	<u>Batch</u>
Arsenic	EL ND (0.025)		200.7		5	KJK	12/07/19 10:56	100	10	CL90549
Barium	EL ND (0.025)		200.7		5	KJK	12/07/19 10:56	100	10	CL90549
Cadmium	ND (0.0010)		200.7		1	KJK	12/07/19 10:04	100	10	CL90549
Chromium	EL ND (0.020)		200.7		10	KJK	12/07/19 11:19	100	10	CL90549
Hardness	3170 (8.24)		200.7		100	KJK	12/07/19 11:06	1	1	[CALC]
Lead	EL ND (0.010)		200.7		5	KJK	12/07/19 10:56	100	10	CL90549
Mercury	ND (0.00020)		245.1		1	MKS	12/09/19 10:50	20	40	CL90621
Selenium	EL ND (0.025)		200.7		5	KJK	12/07/19 10:56	100	10	CL90549
Silver	EL ND (0.005)		200.7		5	KJK	12/07/19 10:56	100	10	CL90549



CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: 425 Border Street
Client Sample ID: 1900394-SW-1
Date Sampled: 12/04/19 12:25
Percent Solids: N/A

ESS Laboratory Work Order: 19L0127
ESS Laboratory Sample ID: 19L0127-01
Sample Matrix: Surface Water

Classical Chemistry

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>Units</u>	<u>Batch</u>
Ammonia as N	0.21 (0.10)		350.1		1	EEM	12/10/19 12:08	mg/L	CL90940
pH	7.71 (N/A)		4500 H+ B		1	CCP	12/05/19 20:00	S.U.	CL90536
pH Sample Temp	Aqueous pH measured in water at 11.2 °C. (N/A)								
Salinity	26.2 (0.1)		2520B		1	EEM	12/13/19 13:45	ppt	CL91327



CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: 425 Border Street

ESS Laboratory Work Order: 19L0127

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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Total Metals

Batch CL90549 - 3005A/200.7

Blank

Arsenic	ND	0.005	mg/L
Barium	ND	0.005	mg/L
Cadmium	ND	0.0010	mg/L
Calcium	ND	0.020	mg/L
Chromium	ND	0.002	mg/L
Lead	ND	0.002	mg/L
Magnesium	ND	0.020	mg/L
Selenium	ND	0.005	mg/L
Silver	ND	0.001	mg/L

LCS

Arsenic	0.045	0.005	mg/L	0.05000	90	85-115
Barium	0.048	0.005	mg/L	0.05000	96	85-115
Cadmium	0.0223	0.0010	mg/L	0.02500	89	85-115
Calcium	0.488	0.020	mg/L	0.5000	98	85-115
Chromium	0.047	0.002	mg/L	0.05000	94	85-115
Lead	0.049	0.002	mg/L	0.05000	98	85-115
Magnesium	0.476	0.020	mg/L	0.5000	95	85-115
Selenium	0.094	0.005	mg/L	0.1000	94	85-115
Silver	0.024	0.001	mg/L	0.02500	98	85-115

Batch CL90621 - 245.1/7470A

Blank

Mercury	ND	0.00020	mg/L
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LCS

Mercury	0.00516	0.00020	mg/L	0.006042	85	85-115
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LCS Dup

Mercury	0.00515	0.00020	mg/L	0.006042	85	85-115	0.2	20
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Classical Chemistry

Batch CL90940 - NH4 Prep

Blank

Ammonia as N	ND	0.10	mg/L
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LCS

Ammonia as N	0.11	0.10	mg/L	0.09994	112	80-120
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LCS

Ammonia as N	0.92	0.10	mg/L	0.9994	92	80-120
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Batch CL91327 - General Preparation

LCS

Salinity	1.0		ppt	1.000	96	85-115
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CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: 425 Border Street

ESS Laboratory Work Order: 19L0127

Notes and Definitions

Z16	Aqueous pH measured in water at 11.2 °C.
U	Analyte included in the analysis, but not detected
HT	The maximum holding time listed in 40 CFR Part 136 Table II for pH, Dissolved Oxygen, Sulfite and Residual Chlorine is fifteen minutes.
EL	Elevated Method Reporting Limits due to sample matrix (EL).
D	Diluted.
ND	Analyte NOT DETECTED at or above the MRL (LOQ), LOD for DoD Reports, MDL for J-Flagged Analytes
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
MDL	Method Detection Limit
MRL	Method Reporting Limit
LOD	Limit of Detection
LOQ	Limit of Quantitation
DL	Detection Limit
I/V	Initial Volume
F/V	Final Volume
§	Subcontracted analysis; see attached report
1	Range result excludes concentrations of surrogates and/or internal standards eluting in that range.
2	Range result excludes concentrations of target analytes eluting in that range.
3	Range result excludes the concentration of the C9-C10 aromatic range.
Avg	Results reported as a mathematical average.
NR	No Recovery
[CALC]	Calculated Analyte
SUB	Subcontracted analysis; see attached report
RL	Reporting Limit
EDL	Estimated Detection Limit
MF	Membrane Filtration
MPN	Most Probably Number
TNTC	Too numerous to Count
CFU	Colony Forming Units



CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: 425 Border Street

ESS Laboratory Work Order: 19L0127

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: GEI Consultants, Inc. - TB/MM

ESS Project ID: 19L0127

Date Received: 12/5/2019

Project Due Date: 12/12/2019

Days for Project: 5 Day

Shipped/Delivered Via: ESS Courier

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: 1.4 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: _____

b. Low Level VOA vials frozen: Date: _____

Time: _____

Time: _____

By: _____

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)
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01	418383	Yes	NA	Yes	250 mL Poly - HNO3	HNO3	
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01	418384	Yes	NA	Yes	1L Poly - H2SO4	H2SO4	
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01	418385	Yes	NA	Yes	250 mL Poly - Unpres	NP	
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2nd Review

Were all containers scanned into storage/lab?

Are barcode labels on correct containers?

Are all Flashpoint stickers attached/container ID # circled?

Are all Hex Chrome stickers attached?

Are all QC stickers attached?

Are VOA stickers attached if bubbles noted?

Initials: [Signature]

Yes / No ☒

Yes / No / NA ☒

Yes / No / NA ☒

Yes / No / NA ☒

Yes / No / NA ☒

Completed

By: [Signature]

Date & Time: 12/2/19 1909

Reviewed

By: [Signature]

Date & Time: 12/2/19 1928

Delivered

By: [Signature]

Date & Time: 12/2/19 1928



CERTIFICATE OF ANALYSIS

Ryan Hoffman
GEI Consultants, Inc.
400 Unicorn Park Drive
Woburn, MA 01801

RE: 425 Border Street (1900394)
ESS Laboratory Work Order Number: 19K0615

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 1:47 pm, Nov 27, 2019

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: GEI Consultants, Inc.
Client Project ID: 425 Border Street

ESS Laboratory Work Order: 19K0615

SAMPLE RECEIPT

The following samples were received on November 20, 2019 for the analyses specified on the enclosed Chain of Custody Record.

To achieve CAM compliance for MCP data, ESS Laboratory has reviewed all QA/QC Requirements and Performance Standards listed in each method. Holding times and preservation have also been reviewed. All CAM requirements have been performed and achieved unless noted in the project narrative.

Each method has been set-up in the laboratory to reach required MCP standards. The methods for aqueous VOA and Soil Methanol VOA have known limitations for certain analytes. The regulatory standards may not be achieved due to these limitations. In addition, for all methods, matrix interferences, dilutions, and %Solids may elevate method reporting limits above regulatory standards. ESS Laboratory can provide, upon request, a Limit Checker (regulatory standard comparison spreadsheet) electronic deliverable which will highlight these exceedances.

Question I: All samples for Metals were analyzed for a subset of the required MCP list per the client's request.

Lab Number	Sample Name	Matrix	Analysis
19K0615-01	1900394-B104MW	Ground Water	2540D, 300.0, 350.1, 4500Cl G, 6010C, 6020A, 7010, 7196A, 7470A, 9040
19K0615-02	1900394-B102MW	Ground Water	2540D, 300.0, 350.1, 4500Cl G, 6010C, 6020A, 7010, 7196A, 7470A, 9040



CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: 425 Border Street

ESS Laboratory Work Order: 19K0615

PROJECT NARRATIVE

Classical Chemistry

19K0615-01 Estimated value. Sample hold times were exceeded (H).
Hexavalent Chromium

19K0615-01 The maximum holding time listed in 40 CFR Part 136 Table II for pH, Dissolved Oxygen, Sulfite and Residual Chlorine is fifteen minutes.

19K0615-02 Estimated value. Sample hold times were exceeded (H).
Hexavalent Chromium

19K0615-02 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: GEI Consultants, Inc.
Client Project ID: 425 Border Street

ESS Laboratory Work Order: 19K0615

CURRENT SW-846 METHODOLOGY VERSIONS

Analytical Methods

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

Prep Methods

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

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



CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: 425 Border Street

ESS Laboratory Work Order: 19K0615

MassDEP Analytical Protocol Certification Form

MADEP RTN: _____

This form provides certification for the following data set: **19K0615-01 through 19K0615-02**

Matrices: (X) Ground Water/Surface Water () Soil/Sediment () Drinking Water () Air () Other: _____

CAM Protocol (check all that apply below):

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

Affirmative responses to questions A through F are required for "Presumptive Certainty" status

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

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

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocols(s)? <i>Data User Note: Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.</i>	Yes (X) No ()*
H	Were all QC performance standards specified in the CAM protocol(s) achieved?	Yes (X) No ()*
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	Yes () No (X)*

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

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

Signature: Laurel Stoddard

Printed Name: Laurel Stoddard

Date: November 27, 2019

Position: Laboratory Director



CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: 425 Border Street
Client Sample ID: 1900394-B104MW
Date Sampled: 11/19/19 13:15
Percent Solids: N/A

ESS Laboratory Work Order: 19K0615
ESS Laboratory Sample ID: 19K0615-01
Sample Matrix: Ground Water
Units: ug/L

Extraction Method: 3005A/200.7

Total Metals

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>I/V</u>	<u>F/V</u>	<u>Batch</u>
Antimony	ND (1.0)		6020A		1	KJK	11/22/19 10:53	50	25	CK92044
Arsenic	13.8 (2.5)		7010		1	KJK	11/22/19 13:37	50	25	CK92044
Cadmium	ND (2.5)		6010C		1	KJK	11/21/19 18:36	50	25	CK92044
Chromium	ND (10.0)		6010C		1	KJK	11/21/19 18:36	50	25	CK92044
Copper	ND (10.0)		6010C		1	KJK	11/21/19 18:36	50	25	CK92044
Hardness	392000 (412)		6010C		1	KJK	11/21/19 18:36	1	1	[CALC]
Iron	1570 (50.0)		6010C		1	KJK	11/21/19 18:36	50	25	CK92044
Lead	ND (10.0)		6010C		1	KJK	11/21/19 18:36	50	25	CK92044
Mercury	ND (0.20)		7470A		1	MKS	11/25/19 9:42	20	40	CK92045
Nickel	ND (25.0)		6010C		1	KJK	11/21/19 18:36	50	25	CK92044
Selenium	ND (5.0)		7010		1	KJK	11/22/19 16:38	50	25	CK92044
Silver	ND (5.0)		6010C		1	KJK	11/21/19 18:36	50	25	CK92044
Zinc	ND (25.0)		6010C		1	KJK	11/21/19 18:36	50	25	CK92044



CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: 425 Border Street
Client Sample ID: 1900394-B104MW
Date Sampled: 11/19/19 13:15
Percent Solids: N/A

ESS Laboratory Work Order: 19K0615
ESS Laboratory Sample ID: 19K0615-01
Sample Matrix: Ground Water

Classical Chemistry

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>Units</u>	<u>Batch</u>
Ammonia as N	0.32 (0.10)		350.1		1	JLK	11/25/19 16:39	mg/L	CK92240
Chloride	53.7 (50.0)		300.0		100	EEM	11/25/19 17:14	mg/L	CK92514
Hexavalent Chromium	H ND (10)		7196A		1	CCP	11/20/19 19:48	ug/L	CK92030
pH	7.36 (N/A)		9040		1	CCP	11/20/19 20:24	S.U.	CK92021
pH Sample Temp	Aqueous pH measured in water at 14.0 °C. (N/A)								
Total Residual Chlorine	ND (0.06)		4500Cl G		1	CCP	11/20/19 19:58	mg/L	CK92029
Total Suspended Solids	11 (5)		2540D		1	CCP	11/21/19 16:00	mg/L	CK92042



CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: 425 Border Street
Client Sample ID: 1900394-B102MW
Date Sampled: 11/19/19 15:45
Percent Solids: N/A

ESS Laboratory Work Order: 19K0615
ESS Laboratory Sample ID: 19K0615-02
Sample Matrix: Ground Water
Units: ug/L

Extraction Method: 3005A/200.7

Total Metals

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>I/V</u>	<u>F/V</u>	<u>Batch</u>
Antimony	ND (1.0)		6020A		1	KJK	11/22/19 10:58	50	25	CK92044
Arsenic	11.0 (2.5)		7010		1	KJK	11/22/19 13:43	50	25	CK92044
Cadmium	ND (2.5)		6010C		1	KJK	11/21/19 18:40	50	25	CK92044
Chromium	ND (10.0)		6010C		1	KJK	11/21/19 18:40	50	25	CK92044
Copper	ND (10.0)		6010C		1	KJK	11/21/19 18:40	50	25	CK92044
Hardness	390000 (412)		6010C		1	KJK	11/21/19 18:40	1	1	[CALC]
Iron	402 (50.0)		6010C		1	KJK	11/21/19 18:40	50	25	CK92044
Lead	ND (10.0)		6010C		1	KJK	11/21/19 18:40	50	25	CK92044
Mercury	ND (0.20)		7470A		1	MKS	11/25/19 9:44	20	40	CK92045
Nickel	ND (25.0)		6010C		1	KJK	11/21/19 18:40	50	25	CK92044
Selenium	ND (5.0)		7010		1	KJK	11/22/19 16:44	50	25	CK92044
Silver	ND (5.0)		6010C		1	KJK	11/21/19 18:40	50	25	CK92044
Zinc	ND (25.0)		6010C		1	KJK	11/21/19 18:40	50	25	CK92044



CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: 425 Border Street
Client Sample ID: 1900394-B102MW
Date Sampled: 11/19/19 15:45
Percent Solids: N/A

ESS Laboratory Work Order: 19K0615
ESS Laboratory Sample ID: 19K0615-02
Sample Matrix: Ground Water

Classical Chemistry

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>Units</u>	<u>Batch</u>
Ammonia as N	0.32 (0.10)		350.1		1	JLK	11/25/19 16:47	mg/L	CK92240
Chloride	34.2 (5.0)		300.0		10	EEM	11/25/19 22:55	mg/L	CK92514
Hexavalent Chromium	H ND (10)		7196A		1	CCP	11/20/19 19:48	ug/L	CK92030
pH	7.80 (N/A)		9040		1	CCP	11/20/19 20:24	S.U.	CK92021
pH Sample Temp	Aqueous pH measured in water at 13.6 °C. (N/A)								
Total Residual Chlorine	ND (0.06)		4500Cl G		1	CCP	11/20/19 19:58	mg/L	CK92029
Total Suspended Solids	21 (5)		2540D		1	CCP	11/21/19 16:00	mg/L	CK92042



CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: 425 Border Street

ESS Laboratory Work Order: 19K0615

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
---------	--------	-----	-------	-------------	---------------	------	-------------	-----	-----------	-----------

Total Metals

Batch CK92044 - 3005A/200.7

Blank

Cadmium	ND	2.5	ug/L
Calcium	ND	0.100	mg/L
Chromium	ND	10.0	ug/L
Copper	ND	10.0	ug/L
Iron	ND	50.0	ug/L
Lead	ND	10.0	ug/L
Magnesium	ND	0.100	mg/L
Nickel	ND	25.0	ug/L
Silver	ND	5.0	ug/L
Zinc	ND	25.0	ug/L

Blank

Antimony	ND	1.0	ug/L
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Blank

Arsenic	ND	2.5	ug/L
Selenium	ND	5.0	ug/L

LCS

Cadmium	224	2.5	ug/L	250.0	90	80-120
Calcium	4.93	0.100	mg/L	5.000	99	80-120
Chromium	491	10.0	ug/L	500.0	98	80-120
Copper	508	10.0	ug/L	500.0	102	80-120
Iron	2420	50.0	ug/L	2500	97	80-120
Lead	489	10.0	ug/L	500.0	98	80-120
Magnesium	4.81	0.100	mg/L	5.000	96	80-120
Nickel	492	25.0	ug/L	500.0	98	80-120
Silver	251	5.0	ug/L	250.0	100	80-120
Zinc	485	25.0	ug/L	500.0	97	80-120

LCS

Antimony	502	5.0	ug/L	500.0	100	80-120
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LCS

Arsenic	476	62.5	ug/L	500.0	95	80-120
Selenium	1050	125	ug/L	1000	105	80-120

LCS Dup

Cadmium	211	2.5	ug/L	250.0	84	80-120	6	20
Calcium	4.73	0.100	mg/L	5.000	95	80-120	4	20
Chromium	465	10.0	ug/L	500.0	93	80-120	5	20
Copper	466	10.0	ug/L	500.0	93	80-120	9	20
Iron	2310	50.0	ug/L	2500	93	80-120	4	20
Lead	469	10.0	ug/L	500.0	94	80-120	4	20
Magnesium	4.63	0.100	mg/L	5.000	93	80-120	4	20
Nickel	464	25.0	ug/L	500.0	93	80-120	6	20
Silver	237	5.0	ug/L	250.0	95	80-120	5	20
Zinc	462	25.0	ug/L	500.0	92	80-120	5	20

LCS Dup



CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: 425 Border Street

ESS Laboratory Work Order: 19K0615

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
---------	--------	-----	-------	-------------	---------------	------	-------------	-----	-----------	-----------

Total Metals

Batch CK92044 - 3005A/200.7

Antimony	483	5.0	ug/L	500.0		97	80-120	4	20	
LCS Dup										
Arsenic	465	62.5	ug/L	500.0		93	80-120	2	20	
Selenium	988	125	ug/L	1000		99	80-120	6	20	

Batch CK92045 - 245.1/7470A

Blank										
Mercury	ND	0.20	ug/L							
LCS										
Mercury	6.11	0.20	ug/L	6.042		101	80-120			
LCS Dup										
Mercury	6.07	0.20	ug/L	6.042		101	80-120	0.6	20	

Classical Chemistry

Batch CK92029 - General Preparation

Blank										
Total Residual Chlorine	ND	0.06	mg/L							
LCS										
Total Residual Chlorine	0.42		mg/L	0.3999		105	80-120			

Batch CK92030 - General Preparation

Blank										
Hexavalent Chromium	ND	10	ug/L							
LCS										
Hexavalent Chromium	519	10	ug/L	499.8		104	90-110			
LCS Dup										
Hexavalent Chromium	518	10	ug/L	499.8		104	90-110	0.1	20	

Batch CK92042 - General Preparation

Blank										
Total Suspended Solids	ND	5	mg/L							
LCS										
Total Suspended Solids	36		mg/L	34.60		104	80-120			

Batch CK92240 - NH4 Prep

Blank										
Ammonia as N	ND	0.10	mg/L							
LCS										
Ammonia as N	0.11	0.10	mg/L	0.09994		108	80-120			
LCS										
Ammonia as N	1.07	0.10	mg/L	0.9994		107	80-120			

Batch CK92514 - General Preparation

Blank										
Chloride	ND	0.5	mg/L							



CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: 425 Border Street

ESS Laboratory Work Order: 19K0615

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
---------	--------	-----	-------	----------------	------------------	------	----------------	-----	--------------	-----------

Classical Chemistry

Batch CK92514 - General Preparation

LCS

Chloride	2.4		mg/L	2.500		98	90-110			
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CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: 425 Border Street

ESS Laboratory Work Order: 19K0615

Notes and Definitions

Z16a	Aqueous pH measured in water at 14.0 °C.
Z16	Aqueous pH measured in water at 13.6 °C.
U	Analyte included in the analysis, but not detected
HT	The maximum holding time listed in 40 CFR Part 136 Table II for pH, Dissolved Oxygen, Sulfite and Residual Chlorine is fifteen minutes.
H	Estimated value. Sample hold times were exceeded (H).
D	Diluted.
ND	Analyte NOT DETECTED at or above the MRL (LOQ), LOD for DoD Reports, MDL for J-Flagged Analytes
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
MDL	Method Detection Limit
MRL	Method Reporting Limit
LOD	Limit of Detection
LOQ	Limit of Quantitation
DL	Detection Limit
I/V	Initial Volume
F/V	Final Volume
§	Subcontracted analysis; see attached report
1	Range result excludes concentrations of surrogates and/or internal standards eluting in that range.
2	Range result excludes concentrations of target analytes eluting in that range.
3	Range result excludes the concentration of the C9-C10 aromatic range.
Avg	Results reported as a mathematical average.
NR	No Recovery
[CALC]	Calculated Analyte
SUB	Subcontracted analysis; see attached report
RL	Reporting Limit
EDL	Estimated Detection Limit
MF	Membrane Filtration
MPN	Most Probably Number
TNTC	Too numerous to Count
CFU	Colony Forming Units



CERTIFICATE OF ANALYSIS

Client Name: GEI Consultants, Inc.
Client Project ID: 425 Border Street

ESS Laboratory Work Order: 19K0615

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/meedc/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: GEI Consultants, Inc. - TB/MM

ESS Project ID: 19K0615

Shipped/Delivered Via: ESS Courier

Date Received: 11/20/2019

Project Due Date: 11/27/2019

Days for Project: 5 Day

1. Air bill manifest present? ☐ No
Air No.: NA
2. Were custody seals present? ☐ No
3. Is radiation count <100 CPM? ☐ Yes
4. Is a Cooler Present? ☐ Yes
Temp: 0.1 Iced with: Ice
5. Was COC signed and dated by client? ☐ Yes

6. Does COC match bottles? ☐ Yes
7. Is COC complete and correct? ☐ Yes
8. Were samples received intact? ☐ Yes
9. Were labs informed about short holds & rushes? ☒ Yes / No / NA
10. Were any analyses received outside of hold time? Yes / ☒ No

11. Any Subcontracting needed? Yes / ☒ No
ESS Sample IDs: _____
Analysis: _____
TAT: _____

12. Were VOAs received? Yes / ☒ No
a. Air bubbles in aqueous VOAs? Yes / No
b. Does methanol cover soil completely? Yes / No / NA

13. Are the samples properly preserved? ☒ Yes / No
a. If metals preserved upon receipt: Date: _____ Time: _____ By: _____
b. Low Level VOA vials frozen: Date: _____ Time: _____ By: _____

Sample Receiving Notes:

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

Sample Number	Container ID	Proper Container	Air Bubbles Present	Sufficient Volume	Container Type	Preservative	Record pH (Cyanide and 608 Pesticides)
01	414342	Yes	NA	Yes	1L Poly - Unpres	NP	
01	414344	Yes	NA	Yes	250 mL Poly - Unpres	NP	
01	414346	Yes	NA	Yes	500 mL Poly - H2SO4	H2SO4	
01	414349	Yes	NA	Yes	250 mL Poly - HNO3	HNO3	
01	414350	Yes	NA	Yes	250 mL Poly - HNO3	HNO3	
01	414577	Yes	NA	Yes	250 mL Poly - Unpres	NP	
02	414341	Yes	NA	Yes	1L Poly - Unpres	NP	
02	414343	Yes	NA	Yes	250 mL Poly - Unpres	NP	
02	414345	Yes	NA	Yes	500 mL Poly - H2SO4	H2SO4	
02	414347	Yes	NA	Yes	250 mL Poly - HNO3	HNO3	
02	414348	Yes	NA	Yes	250 mL Poly - HNO3	HNO3	
02	414576	Yes	NA	Yes	250 mL Poly - Unpres	NP	

2nd Review

Were all containers scanned into storage/lab?

Are barcode labels on correct containers?

Are all Flashpoint stickers attached/container ID # circled?

Are all Hex Chrome stickers attached?

Are all QC stickers attached?

Are VOA stickers attached if bubbles noted?

Initials W
☒ Yes / No
 Yes / No / NA
 Yes / No / NA
 Yes / No / NA
 Yes / No / NA

ESS Laboratory Sample and Cooler Receipt Checklist

Client: GEI Consultants, Inc. - TB/MM

ESS Project ID: 19K0615

Date Received: 11/20/2019

Completed

By: [Signature]

Date & Time: 11/22/19 1841

Reviewed

By: [Signature]

Date & Time: 11/20/19 1928

Delivered

By: [Signature]

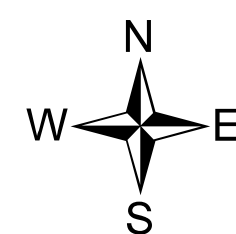
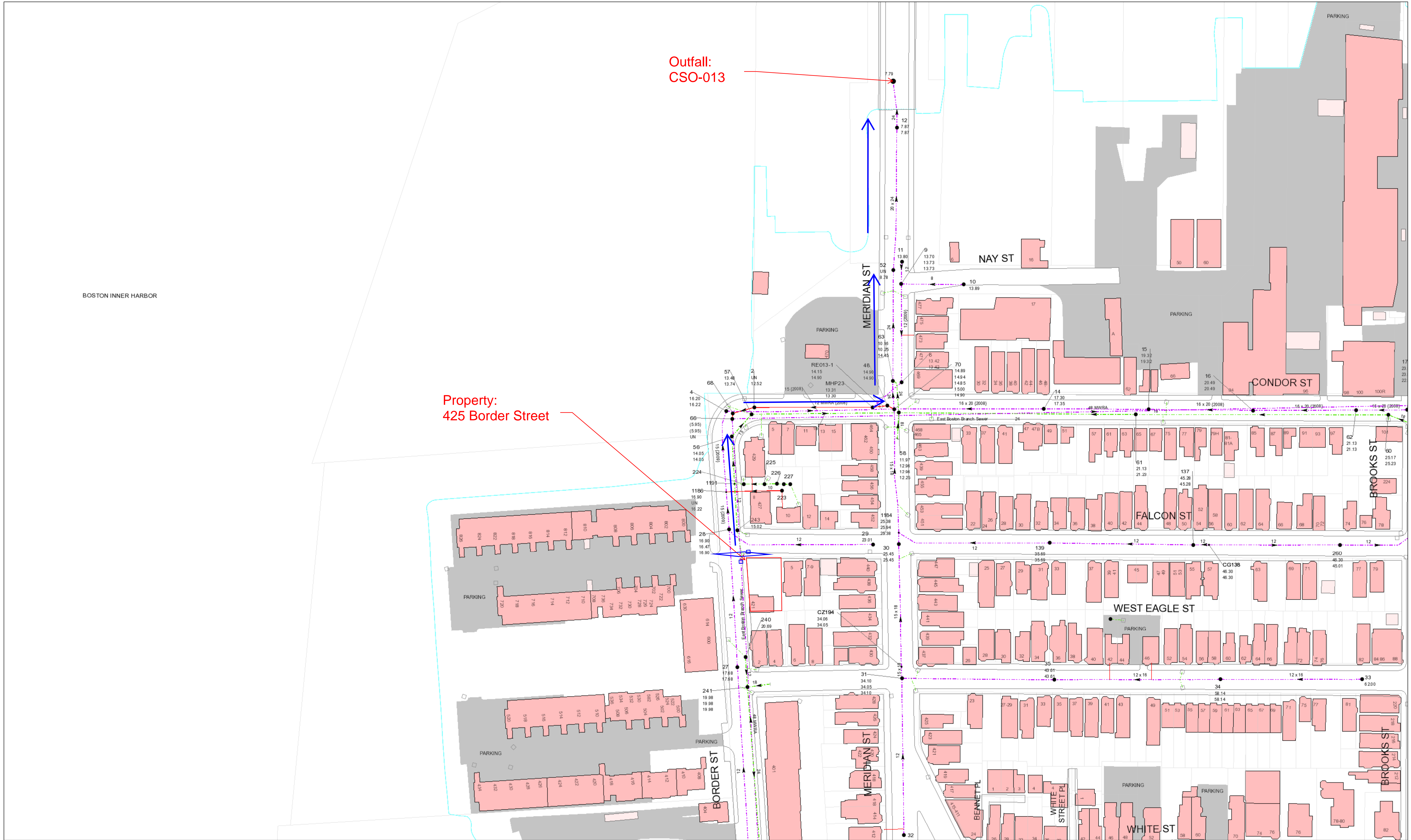
Date & Time: 11/20/19 1928

[illegible]

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Appendix C

Detailed Plans of Proposed Discharge Points



Fong-Murdock, Brian

From: Tuttle Matthew P. <tuttlemp@BWSC.ORG>
Sent: Wednesday, November 27, 2019 3:16 PM
To: Fong-Murdock, Brian
Subject: [EXT] 421 Border Street discharge

The discharge path from the catch basins at the intersection of Border and Falcon go a storm drain, which leads to what looks like a combined sewer line in meridian street. This line is downstream of a regulator however, so this drainage does not go the combined sewer system but to the combined sewer outfall (CSO013) and the Boston Harbor.

Thanks,

Matt Tuttle, EIT
Construction Site Engineer
Boston Water and Sewer Commission
980 Harrison Avenue, Boston, MA 02119
617-989-7204

Appendix D

Endangered Species Act Eligibility Documentation



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:

December 09, 2019

Consultation Code: 05E1NE00-2020-SLI-0679

Event Code: 05E1NE00-2020-E-01819

Project Name: 425 Border Street

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

To Whom It May Concern:

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

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

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

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

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

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

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

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

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

Attachment(s):

- Official Species List
-

Official Species List

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

This species list is provided by:

New England Ecological Services Field Office

70 Commercial Street, Suite 300

Concord, NH 03301-5094

(603) 223-2541

Project Summary

Consultation Code: 05E1NE00-2020-SLI-0679

Event Code: 05E1NE00-2020-E-01819

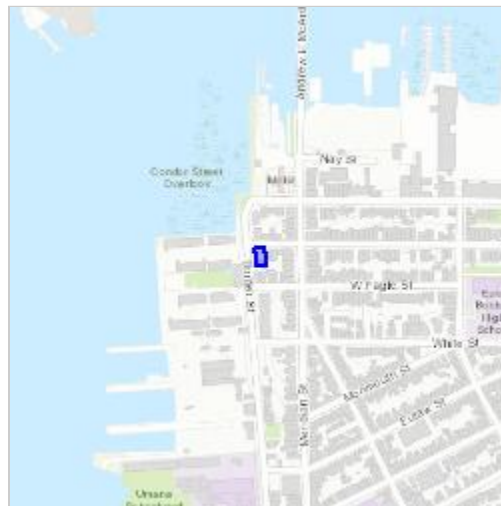
Project Name: 425 Border Street

Project Type: DEVELOPMENT

Project Description: 425 Border Street, Boston, Massachusetts 02128, 0.123 acre, redevelopment.

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/place/42.381796625509686N71.04011389763325W>



Counties: Suffolk, MA

Endangered Species Act Species

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

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

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

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

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

Critical habitats

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

Appendix E

Historic Preservation Documentation

Property:
425 Border Street

Contributing 43

Address or MHC#



Available Layers

Legend

MHC Inventory Points

- Nat'l Register of Historic Places
- ★ Preservation Restriction
- ▲ Local Historic District
- ▲ NRHP and LHD
- Inventoried Property

MHC Inventory Areas

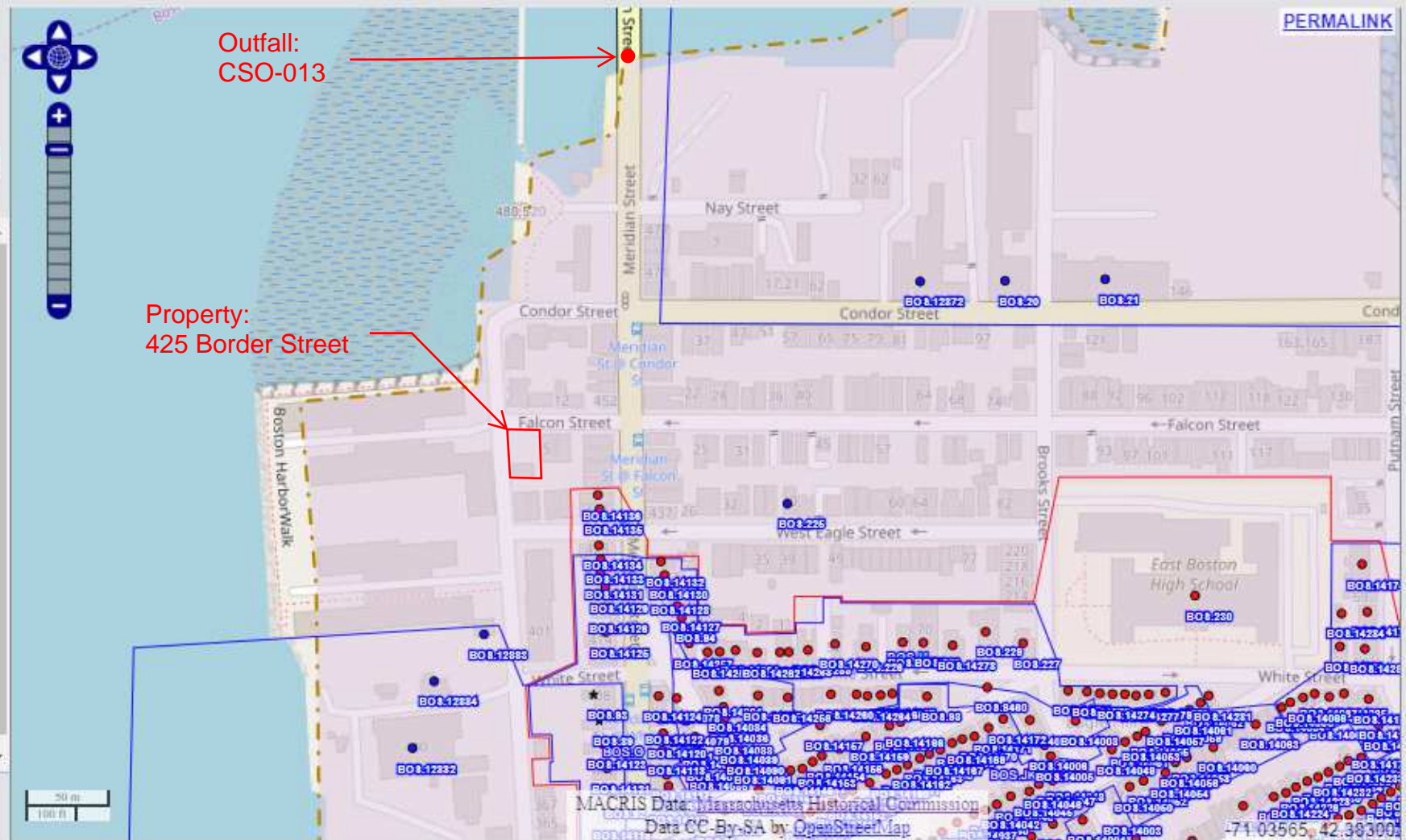
- Nat'l Register of Historic Places
- Preservation Restriction
- Local Historic District
- NRHP and LHD
- Inventoried Area

MHC Towns Completed

- Updates Pending
- Completed
- Not Completed

Archaeology Login

Username:
Password:



Massachusetts Cultural Resource Information System

MACRIS

MACRIS Search Results

Search Criteria: Town(s): Boston; Street No: 425; Street Name: Border; Resource Type(s): Area, Building, Burial Ground, Object, Structure;

Inv. No.	Property Name	Street	Town	Year
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