October 2, 2019

STATE OF RHODE ISLAND AND PROVIDENCE PLANTATION
DEPARTMENT OF ADMINISTRATION

DIVISION OF PURCHASES BID NO. 7598948

RHODE ISLAND DEPARTMENT OF TRANSPORTATION

RHODE ISLAND CONTRACT NO.2019-CH-032

FEDERAL-AID PROJECT NO. FAP Nos: STP-RESF(406)

Rt 44 - Taunton Ave (Rt 1A/114 - Mass S/L)

East of Pawtucket Ave. to the Massachusetts State Line

CITY/TOWN OF East Providence

COUNTY OF PROVIDENCE

NOTICE TO PROSPECTIVE BIDDERS

ADDENDUM NO. 3 Prospective bidders and all concerned are hereby notified of the following changes in the Plans, Specifications, Proposal and Distribution of Quantities for this contract. These changes shall be incorporated in the Plans, Specifications, Proposal and Distribution of Quantities, and shall become an integral part of the Contract Documents.

A. Contract Dates

1. Bid-Opening Date

   Bid-Opening Date Updated To "10/25/2019" at 2:00 PM

B. Contract Documents

1. Specifications - Job Specific

   a. JS-ii – Job Specific Index

      Delete Page JS-ii in its entirety and replace with revised JS-ii (R-2), attached to this Addendum No. 3. The Index has been revised.

   b. Pages JS-60 to JS-72

      Include Pages JS-60 to JS-72 attached to this Addendum No. 3. Items 203.9901 and 203.9951 have been included in the contract.

C. Distribution of Quantities

1. Assembly Summary Page 18 (R-1)

   Delete Assembly Summary Page 18 (R-1) in its entirety and replace with revised Assembly Summary Page 18 (R-2), attached to this Addendum No. 3. Assembly RIPRP has been revised.

ADDENDUM NO. 3
ATTACHMENTS

2. Index Pages 1-4 (R-1)

   Delete Index Pages 1-4 (R-1) in their entirety and replace with revised Index Pages 1-4 (R-2), attached to this Addendum No. 3. The Index Pages have been revised.

3. Page 13 (R-1)

   Delete Page 13 (R-1) in its entirety and replace with revised Page 13 (R-2), attached to this Addendum No. 3. Item Code 203.0530 has been deleted.

4. Page 63

   Delete Page 63 in its entirety and replace with revised Page 63 (R-1), attached to this Addendum No. 3. Item Code 920.0070 has been revised.

5. Page 63a

   Insert Page 63a attached to this Addendum No.3. New page added for pagination.

6. Page 64

   Delete Page 64 in its entirety and replace with revised Page 64 (R-1), attached to this Addendum No. 3. Item Code 920.0150 has been revised.

7. Page 64a

   Insert Page 64a attached to this Addendum No.3. New page added for pagination.

8. Page 80

   Delete Page 80 in its entirety and replace with revised Page 80 (R-1), attached to this Addendum No. 3. Item Codes 203.9901 and 203.9951 have been added.

9. Page 81

   Insert new Page 81 attached to this Addendum No. 3. Item Codes 203.9951 and 920.0200 have been added.

RI Department of Transportation

Manager of Project Management

ATTACHMENTS

JOB SPECIFIC
ITEM CODE 203.9901 DEWATERING

DESCRIPTION:

A. The work includes but is not limited to all labor, materials, and equipment to:

1. Design, provide, install, operate, maintain, and remove a temporary dewatering system at all excavations as necessary to:

   a. Maintain a dry and stable subgrade.

   b. Control and remove water in all excavations from seepage, surface runoff, precipitation or from any other source.

   c. Provide sedimentation control to reduce total suspended solids in effluent prior to discharge in accordance with requirements of permits.

   e. Maintain construction-dewatering effluent in compliance with special provisions and RIPDES Permit requirements.

2. Design, provide, install, operate, maintain, and remove a temporary surface water control system which will divert surface water away from excavations, trenches, utilities, and all other work areas.

3. Maintain the construction dewatering operation to minimize impacts to the existing groundwater levels outside the limits of the site.

4. The Contractor shall be responsible to dewater as described and specified above, and as necessary, in excavations for temporary excavation support, drainage and utility construction, and all other excavations.

RELATED WORK SPECIFIED ELSEWHERE:

A. The Rhode Island Department of Transportation Standard Specifications for Road and Bridge Construction, 2018 Edition, is referred to as the State Standard Specifications. The Contractor shall comply with the referenced sections and all related sections exclusive of measurement and payment sections.

B. For handling and treating contaminated groundwater refer to Code 203.9951– Treatment of Contaminated Groundwater.

DESIGN AND PERFORMANCE CRITERIA:

A. General

1. The design and implementation of the systems used for controlling water, inside and outside the excavation, shall be provided by the Contractor who shall be solely responsible for the performance, location, arrangement, and depth of any system or systems selected to accomplish the work. These systems may include gravity wells, vacuum wellpoints, deep well pumps, or open pumping from sumps depending upon location on-site and soil conditions.

2. Discharge of groundwater shall be in accordance with all permits. No discharge of groundwater is allowed into the sanitary sewer system.

3. The Contractor shall manage on-site discharge of construction dewatering to prevent off-site surface runoff or damage to on-site construction.

4. Sedimentation basins shall be included in the system design and the Contractor shall be responsible for implementing appropriate measures and/or using appropriate equipment to capture, remove, and dispose of contaminants deemed unsuitable for discharge under the applicable Permit.

5. If evidence of contamination is suspected or detected (visual or olfactory evidence, or through chemical test data), dewatering activities shall be immediately modified per the special provisions for treatment of contaminated groundwater and the Engineer shall be notified.

6. Dewatering shall be performed such that soil particles are not removed from the ground with the dewatering effluent. Filters shall be provided around well points, deep wells and submersible pumps, and sump pumps, to prevent the migration of soil from the excavation being dewatered.

7. During backfilling operations, maintain the water level a minimum of 2 feet below the top of level compacted backfill at all times during placement and compaction.

8. Modify the system(s) at no additional cost to the State if, after installation and while in operation, it causes or threatens to lower groundwater levels outside of excavation limits and cause settlement or damage to existing buildings, structures, pavements, ground, utilities or new construction, or adversely affects groundwater aquifer, or otherwise does not perform as required.

9. Dewater such that all construction operations are conducted in-the-dry.

10. Repair damage, disruption or interference to any utility, structure, and/or facility resulting directly or indirectly from dewatering activities, including inadequate

performance of such systems, at no additional cost to the State. The proposed repairs and design shall be submitted to the Engineer for approval.

11. Comply with federal, state, and local codes, ordinances and regulations for disposal of discharge water and sediment control. The State shall not be responsible at any time for the Contractor's violation of pertinent State or Federal regulations or endangerment of on-site workers, the public, the environment, or any others.

12. Maintain continuous and complete effectiveness of dewatering systems and surface water control 24 hours per day, 7 days per week as specified herein. As necessary, provide backup power generation and dewatering system components and devise emergency procedures for maintaining continuous, uninterrupted dewatering operations as needed.

B. The methods of controlling water, inside and outside the excavation, shall be determined by the Contractor who shall be solely responsible for the performance, location, arrangement, and depth of any system or systems selected to accomplish the Work. These systems may include gravity wells, vacuum wellpoints, deep well pumps, or open pumping from sumps depending upon location on-site and soil conditions.

SUBMITTALS

A. Submit the following information to the Engineer:

1. Shop drawings showing proposed types and details of excavation dewatering systems, pre-dewatering systems, unwatering systems, sedimentation tanks, sedimentation and erosion control systems, and surface water control.

2. Shop drawings shall include the arrangements, sizes, capacities, locations and depths of the proposed systems, a complete description of equipment and materials to be used and the procedure to be followed in installation, operation, maintenance and removal. Submit the proposed sequence of excavation, foundation construction and backfilling; the standby equipment and standby power supply; and the proposed locations of points of discharge of water and their relationship to sediment control facilities.

3. Plan locations of proposed surface water control and discharge systems.

4. Design and details of the on-site sedimentation tanks and associated piping, with calculations and supporting technical information. Include a schedule for cleaning of sedimentation basin.

5. Location and size of dewatering systems and water discharge lines, including their relationship to water disposal points.

6. Anticipated peak and average rates of water discharge.

7. Management of settled sediments.

MATERIALS:

GENERAL

A. All materials and equipment shall be of appropriate type and maintained in proper operating condition.

B. Materials and equipment shall be of suitable size, capacity and type to dewater the site soils and excavations; maintain dry and stable working surfaces; to pump, store, manage, treat and discharge dewatering effluent.

C. Sedimentation tanks shall be of sufficient size and capacity to handle the dewatering flows, and to reduce suspended materials in the dewatering effluent in accordance with all permits obtained for the Project. The tank shall contain baffles to reduce velocities and allow sediment to settle inside the tank. At the discharge port, a filter cloth or bag assembly shall be installed to reduce the sediments in the discharge water.

D. Maintain and employ adequate back-up equipment in the case of equipment breakdown.

E. Provide calibrated flow meters to measure the discharge flow rate and the total volume of water discharged into storm drains where required by permits.

EXECUTION:

DEWATERING SYSTEM

A. The Contractor shall adapt and modify the dewatering and sedimentation treatment system(s) as required throughout the course of the Work to meet the requirements of the Work. The Contractor shall be responsible for determining dewatering requirements and designing, providing, installing, operating, monitoring and maintaining the dewatering systems(s).

B. Maintain site, construction dewatering equipment, and subsurface drainage in an acceptable manner during the course of the Work. Collect and discharge surface water, seepage, precipitation, groundwater and other water that may enter excavations. Control the inflow of water at all times during construction, to prevent adverse (as previously defined) groundwater lowering outside the site limits and to permit all work to be performed in-the-dry.

C. Provide, install, maintain, and operate pumps, wells, sumps and related equipment, including standby equipment, of sufficient capacity to adequately dewater excavations until the required construction, installation, and backfilling of underground structures are completed to a level at least 2 feet above prevailing static or piezometric ambient groundwater elevation. When installing tank vaults, sewer manholes, or other structures that may be subject to buoyant forces, maintain dewatering operations until sufficient structure dead weight or backfill is placed to resist uplift forces.

D. Install the dewatering system(s) for temporary excavation support, utility, and all other excavations.

F. Maintain site grades to direct surface runoff to collection points. Prevent surface water from running or collecting over prepared subgrades or fill surfaces. Do not permit standing water to accumulate in excavations.

G. All dewatering system(s) shall include methods to remove sediment and suspended particles from the dewatering effluent to comply with permit requirements.

H. If sediment or other materials discharged from the dewatering system accumulates in the storm drains or other utilities, the Contractor shall completely clean and remove all sediment from impacted utilities to the satisfaction of the State and the Owner of the utility, at no additional cost to the State nor the Utility Owner.

I. Permanent utilities and piping shall not be used as part of dewatering system(s).

J. Remove and backfill dewatering elements when no longer required, using methods acceptable to the Engineer. Backfill any voids resulting from dewatering system removal with cement grout, concrete, or other material as directed by the Engineer to prevent potential loss of ground.

ON-SITE DISCHARGE OF EFFLUENT

A. The Contractor may manage construction dewatering effluent on-site provided that the on-site discharge of the effluent does not result in off-site surface runoff or damage to on-site construction.

B. On-site discharge of the construction dewatering effluent shall be performed in accordance with requirements of applicable permits, and be in accordance with Federal, State, and local codes, ordinances, and regulations.

PERMIT COMPLIANCE

A. The Contractor shall notify the Engineer a minimum of one week prior to any discharge.

B. All pumped water shall be collected and treated to remove suspended fine material, in accordance with the Permit.

C. Do not discharge oil or hazardous materials sufficient to cause a sheen in the receiving discharge system. If a sheen occurs in the receiving system due to discharge from the Site, immediately discontinue discharge and notify the Engineer.

D. The Contractor shall adapt and modify the dewatering and treatment systems as required throughout the course of the Work to meet the requirements herein. If results of analyses indicate water quality does not comply with applicable Permit criteria, the Contractor shall take immediate action to meet the requirements, including but not limited to continuing to store pumped water on-site until an adequate treatment system can be implemented by the Contractor at no additional cost to the State.

METHOD OF MEASUREMENT: Item Code 203.9901, Dewatering, shall be measured for payment as a Contract Lump Sum Price as listed in the proposal.

BASIS OF PAYMENT: Item Code 203.9901, Dewatering, shall be paid for at the Contract price listed in the proposal per Lump Sum. The price so stated shall include all labor; materials; equipment to mobilize; demobilize; design; install; operate; maintain; submittals; perform construction dewatering and drainage control at all excavations; perform modifications, adjustments, and corrections; on-site stormwater management; sedimentation control; wellpoints; discharge in accordance with the discharge Permit and other regulatory criteria; and removal of systems. The price shall include the costs for mobilization and operation of the system(s) regardless of the number of times the system is turned on and off at all excavations. The price shall include all dewatering at all locations in this contract to satisfactorily complete the other items of work to the satisfaction of the Engineer.

Dewatering basins and erosion control measures will be paid for separately.

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ITEM CODE 203.9951
TREATMENT OF CONTAMINATED GROUNDWATER

DESCRIPTION

The work for this item includes furnishing, installing, operating, maintaining, and removing a system(s) for treating contaminated groundwater at each location where dewatering takes place. During the course of the project construction, dewatering shall be as required by the special provisions. Groundwater has been documented to be contaminated with the following Contaminants of Concern (COCs), total petroleum hydrocarbons (TPH) and detectable levels of naphthalene. Available analytical data for the groundwater is attached in appendix H of the CS pages in the Soil Management Plan. Any groundwater pumping required within the project limits shall require temporary storage and treatment prior to discharge in accordance with the RIPDES RGP. The Rhode Island Department of Transportation (RIDOT) will obtain a conceptually approved RIPDES RGP for this project which does not include details of the groundwater treatment system, nor details of the operator. Work under this item shall also include the preparation and submittal of a revised Notice of Intent (NOI) form to the Rhode Island Department of Environmental Management (RIDEM) for Discharge Category G – Contaminated Construction Dewatering Sites. The revised NOI should include, at a minimum, details of the contractor's proposed groundwater treatment system.

HEALTH AND SAFETY PLAN

The Contractor shall maintain a health and safety plan (HASP) in compliance with the Occupational Safety and Health Administration (OSHA) Standards defined in 29 CFR 1910.120.

The CONTRACTOR'S employees or Subcontractor's employees who will be potentially exposed to the contaminated groundwater shall be required to have OSHA 40-hour health and safety training and the 8 hour refresher training, if applicable. The CONTRACTOR shall provide training certificates to the ENGINEER for the employees that will be performing the work.

The level of dermal and respiratory protection shall be determined based upon periodic air monitoring to be performed by the CONTRACTOR and the requirements of the Site-specific HASP. The ENGINEER may conduct duplicate air monitoring for quality control purposes. Level D protection shall be the minimum personal protective level for all on-site personnel.

APPLICABLE LAWS AND REGULATIONS

The treatment and discharge of contaminated groundwater, including backwash wastewater, shall be conducted in accordance with the requirements and conditions of the Rhode Island Department of Environmental Management (RIDEM) Rhode Island Pollutant Discharge Elimination System (RIPDES) Remediation General Permit (Permit), the Narragansett Bay Commission, and City of East Providence regulations. The RIPDES RGP discharge limitations applicable to treated effluent for a Category G – Contaminated Dewatering Site Discharging to Non-Class AA receiving waters are attached for reference.

The Contractor shall install, operate and maintain the components of the groundwater treatment systems in accordance with the requirements of the RIPDES RGP issued for the project. The Contractor shall sample, test and monitor the discharge(s), for the contaminants of concern (COCs) at the frequency requirements of the RIPDES RGP. The Contractor shall prepare and submit the monitoring results on a Discharge Monitoring Report (DMR) Form in accordance with the permit requirements. The Contractor shall submit copies of the analytical results and DMRs to all parties specified in the permit requirements and to the Engineer. The Contractor shall also prepare and submit the Notice of Termination (NOT) to RIDEM upon termination of the discharge(s) authorized under the general permit.

SUBMITTALS

The Contractor shall submit a written description of their proposed dewatering, storage and treatment systems to handle contaminated groundwater to the Engineer for approval. The description shall include a list of all equipment, including sizes and capacities, and the layout, piping, operation and monitoring schedule of the systems. Multiple systems may be required based on anticipated flow rates. The Contractor shall provide calculations for treatment capacities based on coordination with the Contractor supplied dewatering pumping systems, Contractor's anticipated flow rates, and RIPDES regulations and permit requirements. Contractor shall provide a shop drawing (sketch) of the complete, proposed dewatering, pumping, storage and treatment systems.

The contractor shall submit a revised NOI to RIDEM, at least 60 days prior to beginning discharge, in order to obtain the RIPDES RGP for Category G – Contaminated Dewatering Site Discharging to Non-Class AA receiving waters. The revised NOI must include a complete description of the treatment system including: a flow schematic depicting all major control points (i.e., alarms, sensors, valves) and treatment units; design calculations on the expected treatment performance (i.e., removal efficiency, carbon consumption calculations) including unit height and surface area; and manufacturers' specifications on major components of the treatment system. Also provide a basis for all design calculations and properly reference all design assumptions in order for calculations to be replicated. Plans and specifications on all treatment systems must be signed and certified by a professional engineer registered in the State of Rhode Island.

The Contractor shall prepare, submit and/or maintain copies of all federal, state, and local permits, including applicable fees, and monitoring status reports required to perform the contaminated groundwater treatment and discharge in accordance with the permit requirements. The final dewatering summary report, including analytical data and discharge monitoring reports, shall be prepared by the Contractor and submitted to the Engineer.

EQUIPMENT/MATERIALS

The Contractor shall install temporary dewatering well points or dewater open excavations where necessary to maintain a dry and stable excavation. At a minimum all pumped contaminated groundwater shall be pumped into fractionation tanks and filtered to remove particulate matter, shall be treated through granular activated carbon canisters (GACs) in series to removed TPH and naphthalene. The system shall have the capacity to treat all of the pumped contaminated groundwater

to meet the required RGP discharge limits at the dewatering discharge rate required for excavation operations. The treatment vessels shall be sized by qualified professionals to achieve the required removal of VOCs and TPH, while maintaining the required flow rate to achieve dewatering. As required by the RIDEM RIPDES RGP issued for the project, the groundwater treatment system(s) must be capable of achieving Discharge Category G – Contaminated Construction Dewatering Discharge Limits.

The Contractor shall supply all required pumps and equipment to adequately dewater the work area. Pumps shall be adequately sized for the work specified. The Contractor shall supply its own power for pumping and other purposes.

Temporary groundwater storage facilities (dewatering basins or fractionation tanks) shall be compatible with contaminated water existing at the Site and shall be vandal and weather resistant. The system is required to be mobile. Temporary tanks shall be equipped with site glasses or other devices to allow for gauging of tank contents. Contractor shall be responsible for final cleaning of fractionation tank and disposal of "tank bottoms" generated from cleaning. The contractor is responsible for disposal/recycling of spent carbon, and other treatment media.

Treatment equipment shall be sized to treat all of the pumped contaminated groundwater and equipped to achieve the dewatering requirements and remove the contaminants to the levels required by the RIPDES regulations and permits. The system(s) shall include settling vessel(s), if appropriate, filtration to remove particulate matter, granular activated carbon canisters and any fractional tank will also be fitted with an automatic high-water system shut-off. All equipment shall be free of contamination from other sites and shall be decontaminated between different discharge locations within the project limits. The system(s) shall include readily accessible, standard sampling ports at the influent, mid-point, and effluent of the treatment system, and shall include a flow totalizing meter.

The systems shall include all pumps, hoses and appurtenances required to convey stored water to the treatment systems and treated water to the discharge point.

CONSTRUCTION METHODS

Dewatering, treatment, discharge and monitoring of contaminated groundwater encountered within the project limits shall be in accordance with this specification and the RIDEM RIPDES RGP obtained for the project.

The Contractor shall supply all temporary storage tanks, hoses, sumps, pumps, valves and appurtenances required to meet this specification and the discharge limits of the RIPDES RGP. Contractor will operate and maintain the system and collect all necessary water samples as required by the RIPDES permit. In addition, upon treatment system start up the contractor shall collect influent and effluent samples at the frequency and location as specified in the RIPDES RGP. Water samples shall be analyzed for contaminants including volatile organic compounds (VOC's) by EPA Method 8260, and total petroleum hydrocarbons (TPH) by EPA 8100 with expedited turnaround time, and in accordance with the RIPDES permit requirements.

The Contractor shall replace treatment vessels and or treatment media whenever concentrations of contaminants exceed applicable discharge standards. When change outs are necessary additional granular activated carbon will be supplied by the Contractor at no additional cost to RIDOT. In addition, should on site regeneration occur, the contractor shall obtain approval from RIDEM, at no additional cost to RIDOT. Contractor shall prepare and submit the status reports, as required, and a construction dewatering summary report to the Engineer at the project's completion, as required by RIPDES RGP.

METHOD OF MEASUREMENT

Item Code 203.9951, Treatment of Contaminated Groundwater will be measured for payment per Lump Sum bid price for all groundwater treatment system locations for the treatment and discharge of contaminated groundwater that is required for work in accordance with the Plans and Specifications and/or as directed by the ENGINEER.

BASIS OF PAYMENT

Item Code 203.9951, Treatment of Contaminated Groundwater will be paid for at the contract lump sum price for the entire contract. The price so-stated shall constitute full and complete compensation for all labor, materials, RIDEM RGP or other permits, East Providence permits, all permit fees, and equipment required for pumping of contaminated groundwater, temporary storage of pumped contaminated groundwater, fractionation tanks, on-site treatment, calculations, sampling and analysis as required by the permits, recycling/disposal of used granular activated carbon and change-out of granular activated carbon and replacements as necessary throughout the project, cleaning of temporary storage tanks, preparation of summary report and discharge monitoring reports, and for all other incidentals required to finish the work, complete and accepted by the ENGINEER. Treatment of contaminated groundwater, in accordance with these specifications, generated from roadway construction/reconstruction, installation of storm water drainage systems, and utility installations shall be considered part of the costs for this item. No separate measurement or payment shall be made. The costs for multiple treatment systems, if needed to meet these requirements, shall be included in this lump sum item.

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20. Category G – Contaminated Construction Dewatering Sites Discharging to Non- Class AA receiving waters. During the period beginning the date of authorization to discharge and lasting until either the expiration of this general permit or termination of coverage, permittee(s) are authorized to discharge from an approved groundwater treatment system. Such discharges shall be limited and monitored by the permittee as specified below:

Effluent Characteristic	Discharge Limitations Concentration - Specify Units		Monitoring Requirement	
	Average Monthly	Maximum Daily	Measurement Frequency[1,2]	Sample Type
Flow	--- GPM	xxx GPM	Continuous[3]	Totalizer
Ammonia	---	---	2/Month	Grab
Ethanol[5]	---	---	2/Month	Grab
Total Suspended Solids	---	30,000 ug/l	2/Month	Grab
Total Residual Chlorine	11 ug/l	19 ug/l	2/Month	Grab
Total Petroleum Hydrocarbons	---	1,000 ug/l	2/Month	Grab
Cyanide	4.16 ug/l[4]	17.6 ug/l	2/Month	Grab
Benzene	4.72 ug/l	5 ug/l	2/Month	Grab
Toluene	11.2 ug/l	508 ug/l	2/Month	Grab
Ethylbenzene	28.8 ug/l	1,280 ug/l	2/Month	Grab
Total Xylenes (m,p,o)	2.4 ug/l	106.4 ug/l	2/Month	Grab
Total BTEX	---	100 ug/l	2/Month	Grab
Ethylene dibromide	---	0.05 ug/l	2/Month	Grab
Methyl- t- Butyl Ether	---	70 ug/l	2/Month	Grab
tert-Amyl Methyl Ether	---	---	2/Month	Grab
Carbon Tetrachloride	4.4 ug/l	4.4 ug/l	2/Month	Grab
1,4 Dichlorobenzene	0.96 ug/l	5 ug/l	2/Month	Grab
1,2 Dichlorobenzene	1.44 ug/l	63.2 ug/l	2/Month	Grab
1,3 Dichlorobenzene	6.96 ug/l	312 ug/l	2/Month	Grab
Total Dichlorobenzene	---	763 ug/l	2/Month	Grab
1,1 Dichloroethane	---	70 ug/l	2/Month	Grab
1,2 Dichloroethane	5 ug/l	5 ug/l	2/Month	Grab
1,1 Dichloroethylene	3.2 ug/l	3.2 ug/l	2/Month	Grab
Cis - 1,2 Dichloroethylene	---	70 ug/l	2/Month	Grab
Dichloromethane	---	4.6 ug/l	2/Month	Grab
Tetrachloroethylene	4.24 ug/l	5 ug/l	2/Month	Grab
1,1,1 Trichloroethane	---	200 ug/l	2/Month	Grab
1,1,2 Trichloroethane	5 ug/l	5 ug/l	2/Month	Grab
Trichloroethylene	5 ug/l	5 ug/l	2/Month	Grab
Vinyl Chloride	1.92 ug/l	2 ug/l	2/Month	Grab

Acetone	---	7,970 ug/l	2/Month	Grab
1,4 Dioxane	---	200 ug/l	2/Month	Grab
Total Phenols	4.48 ug/l	200.8 ug/l	2/Month	Grab
Pentachlorophenol	0.04 ug/l[4]	0.05 ug/l[4]	2/Month	Grab
Total Phthalates	3 ug/l	190 ug/l	2/Month	Grab
Bis (2-Ethylhexyl) Phthalate	6 ug/l	6 ug/l	2/Month	Grab
Total Group I Polycyclic Aromatic Hydrocarbons	0.14 ug/l[4]	1 ug/l	2/Month	Grab
Benzo (a) Anthracene	---	0.0038 ug/l[4]	2/Month	Grab
Benzo (a) Pyrene	---	0.0038 ug/l[4]	2/Month	Grab
Benzo (b) Fluoranthene	---	0.0038 ug/l[4]	2/Month	Grab
Benzo (k) Fluoranthene	---	0.0038 ug/l[4]	2/Month	Grab
Chrysene	---	0.0038 ug/l[4]	2/Month	Grab
Dibenzo (a,h) anthracene	---	0.0038 ug/l[4]	2/Month	Grab
Indeno (1,2,3-cd) Pyrene	---	0.0038 ug/l[4]	2/Month	Grab
Total Group II Polycyclic Aromatic Hydrocarbons	0.14 ug/l[4]	100 ug/l	2/Month	Grab
Acenaphthene	1.52 ug/l	1.9 ug/l	2/Month	Grab
Acenaphthylene	---	---	2/Month	Grab
Anthracene	32,000 ug/l	---	2/Month	Grab
Benzo (ghi) Perylene	---	---	2/Month	Grab
Fluoranthene	3.52 ug/l	159.2 ug/l	2/Month	Grab
Fluorene	4,240 ug/l	---	2/Month	Grab
Naphthalene	2.08 ug/l	20 ug/l	2/Month	Grab
Phenanthrene	---	---	2/Month	Grab
Pyrene	3,200 ug/l	---	2/Month	Grab
Total Polychlorinated Biphenyls (PCBs)	0.000064 ug/l[4]	0.000064 ug/l[4]	2/Month	Grab
Antimony (total recoverable)	See Part II.E	See Part II.E	2/Month	Grab
Arsenic (total recoverable)	See Part II.E	See Part II.E	2/Month	Grab
Cadmium (total recoverable)	See Part II.E	See Part II.E	2/Month	Grab
Chromium III (trivalent, total recoverable)	See Part II.E	See Part II.E	2/Month	Grab
Chromium VI (hexavalent, total recoverable)	See Part II.E	See Part II.E	2/Month	Grab
Copper (total recoverable)	See Part II.E	See Part II.E	2/Month	Grab
Lead (total recoverable)	See Part II.E	See Part II.E	2/Month	Grab
Mercury (total recoverable)	See Part II.E	See Part II.E	2/Month	Grab
Nickel (total recoverable)	See Part II.E	See Part II.E	2/Month	Grab
Selenium (total recoverable)	See Part II.E	See Part II.E	2/Month	Grab

Silver (total recoverable)	See Part II.E	See Part II.E	2/Month	Grab
Zinc (total recoverable)	See Part II.E	See Part II.E	2/Month	Grab
Iron (total recoverable)	See Part II.E	See Part II.E	2/Month	Grab

10/2/2019

R-2

Assembly Summary

Project Name:

Estimate Name:

R.I. Contract No.:

FAP Nos.:

Item Code	Description	Depth	Factor	Qty
	80+50 - 80+60 LT (RHHGC)			10.00
	81+16 - 81+29 LT (RHHGC)			13.00
	83+32 - 83+38 LT (RHHGC)			6.00
Assembly: RIP RAP BEDDING STD 8.3.0 (RIPRP) (Unit: SY Default Quantity: 46.93)				
920.0070	DUMPED STONE RIPRAP R-3, R-4, 4-5 STANDARD 8.3.0	12 INCHES	0.33333	
920.0150	BEDDING FOR RIPRAP FS-2 STANDARD 8.3.0	8 INCHES	0.22222	
	TAUNTON AVE (RIPRP)			
	94+40 - 94+44 LT (RIPRP)			2.19
	96+00 - 96+18 LT (RIPRP)			16.90
	96+11 - 96+15 LT (RIPRP)			2.19
	96+46 - 96+51 LT (RIPRP)			2.19
	96+87 - 96+93 LT (RIPRP)			2.19
	97+43 - 97+50 LT (RIPRP)			2.19
	97+79 - 97+84 LT (RIPRP)			2.19
	201+40 - 201+48 (RIPRP)			16.89

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Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
031	202.9919 Cont.	PROJECT WIDE		4.00	0004	01
		Item 202.9919 Total:		**4.00**		
032	203.0330	DEMATTERING	SY			
		TAUNTON AVE				
		PROJECT LIMITS			0004	01
		Item 203.0330 Total:				
033	204.0100	**TRIMMING AND FINE GRADING**	**SY**			
		TAUNTON AVE				
		ROUND UP		0.70	0004	01
		TAUNTON AVE (2GRCC)				
		200+40 LT (2GRCC)		0.27	0004	01
		97+10 RT (2GRCC)		0.27	0004	01
		97+79 RT (2GRCC)		0.27	0004	01
		TAUNTON AVE (3GRTC)				
		101+87 RT (3GRTC)		0.17	0004	01
		102+17 RT (3GRTC)		0.17	0004	01
		102+33 RT (3GRTC)		0.17	0004	01
		102+40 LT (3GRTC)		0.17	0004	01
		102+60 RT (3GRTC)		0.17	0004	01
		102+77 LT (3GRTC)		0.17	0004	01
		84+59 LT (3GRTC)		0.17	0004	01
		84+87 LT (3GRTC)		0.17	0004	01
		85+30 LT (3GRTC)		0.17	0004	01
		85+58 LT (3GRTC)		0.17	0004	01
		87+10 RT (3GRTC)		0.17	0004	01
		87+33 RT (3GRTC)		0.17	0004	01
		88+40 RT (3GRTC)		0.17	0004	01
		88+64 RT (3GRTC)		0.17	0004	01
		89+08 RT (3GRTC)		0.17	0004	01
		89+30 LT (3GRTC)		0.17	0004	01
		89+48 RT (3GRTC)		0.17	0004	01

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Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
113	907.0200 Cont.	TAUNTON AVE				
		PROJECT WIDE		25.00	0004	01
		Item 907.0200 Total:		**25.00**		
114	914.5010	**FLAGPERSONS**	**MHRS**			
		TAUNTON AVE				
		PROJECT LIMITS		1,440.00	0004	01
		Item 914.5010 Total:		**1,440.00**		
115	914.5020	**FLAGPERSONS - OVERTIME**	**MHRS**			
		TAUNTON AVE				
		TAUNTON AVE		300.00	0004	01
		Item 914.5020 Total:		**300.00**		
116	919.0101	**TEST PITS**	**EACH**			
		PROJECT LIMITS				
		PROJECT LIMITS		10.00	0004	01
		Item 919.0101 Total:		**10.00**		
117	919.9901	**TEST PITS - EXCAVATION**	**EACH**			
		PROJECT LIMITS				
		PROJECT LIMITS		10.00	0004	01
		Item 919.9901 Total:		**10.00**		
118	920.0070	**DUMPED STONE RIPRAP R-3, R-4, 4-5**	**CY**			
		STANDARD 8.3.0				
		TAUNTON AVE				
		ROUND UP		0.99	0004	01
		TAUNTON AVE (RIPRP)				
		201+40 - 201+48 (RIPRP)		5.63	0004	01
		94+40 - 94+44 LT (RIPRP)		0.73	0004	01
		96+00 - 96+18 LT (RIPRP)		5.63	0004	01
		96+11 - 96+15 LT (RIPRP)		0.73	0004	01

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Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
118	920.0070 Cont.	96+46 - 96+51 LT (RIPRP)		0.73	0004	01

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Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
118	920.0070 Cont.	96+87 - 96+93 LT (RIPRP)		0.73	0004	01
		97+43 - 97+50 LT (RIPRP)		0.73	0004	01
		97+79 - 97+84 LT (RIPRP)		0.73	0004	01
		Item 920.0070 Total:		**16.63**		
119	920.0150	**BEDDING FOR RIPRAP FS-2 STANDARD 8.3.0**	CY			
		TAUNTON AVE				
		ROUND UP		0.30	0004	01
		TAUNTON AVE (RIPRP)				
		201+40 - 201+48 (RIPRP)		3.75	0004	01
		94+40 - 94+44 LT (RIPRP)		0.49	0004	01
		96+00 - 96+18 LT (RIPRP)		3.76	0004	01
		96+11 - 96+15 LT (RIPRP)		0.49	0004	01
		96+46 - 96+51 LT (RIPRP)		0.49	0004	01
		96+87 - 96+93 LT (RIPRP)		0.49	0004	01
		97+43 - 97+50 LT (RIPRP)		0.49	0004	01
		97+79 - 97+84 LT (RIPRP)		0.49	0004	01
		Item 920.0150 Total:		**10.75**		
120	920.9901	**FILTER STRIP**	SY			
		TAUNTON AVE				
		94+48 LT		7.00	0004	01
		Item 920.9901 Total:		**7.00**		
121	922.0100	**TEMPORARY CONSTRUCTION SIGNS STANDARD 29.1.0 AND 27.1.1**	SF			
		TAUNTON AVE				
		G20-2 (8)		36.00	0004	01
		R3-7R (1)		9.00	0004	01
		RI STD 27.1.1 (6)		36.00	0004	01
		W1-4 (2)		18.00	0004	01
		W20-1 (8)		72.00	0004	01

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Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
121	922.0100 Cont.	W20-5L (2)		18.00	0004	01

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Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
163	906.0116 Cont.	TAUNTON AVE (2GRCC)				
		200+40 LT (2GRCC)		1.00	0004	01
		97+10 RT (2GRCC)		1.00	0004	01
		97+79 RT (2GRCC)		1.00	0004	01
		Item 906.0116 Total:		**3.00**		
164	906.0120	**GRANITE WHEELCHAIR RAMP CURB**	**EACH**			
		STANDARDS 7.3.3, 43.3.0 AND 43.3.1				
		TAUNTON AVE				
		101+23 - 101+27 RT		1.00	0004	01
		101+69 - 101+72 RT		1.00	0004	01
		91+39 - 91+45 RT		1.00	0004	01
		92+07 - 92+10 RT		1.00	0004	01
		93+71 - 93+75 LT		1.00	0004	01
		93+71 -93+75 RT		1.00	0004	01
		97+00 - 97+03 RT		1.00	0004	01
		97+90 - 97+96 RT		1.00	0004	01
		Item 906.0120 Total:		**8.00**		
165	T09.9901	**SERVICE PEDESTAL AND LIGHTING**	**LS**			
		SYSTEM MODIFICATIONS				
		TAUNTON AVE				
		PARK AND RIDE		1.00	0004	01
		Item T09.9901 Total:		**1.00**		
166	203.9901	**DEWATERING**	**LS**			
		TAUNTON AVE				
		PROJECT LIMITS		1.00	0004	01
		Item 203.9901 Total:		**1.00**		
167	203.9951	**TREATMENT OF CONTAMINATED**	**LS**			
		GROUNDWATER				
		TAUNTON AVE				

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Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
167	203.9951 Cont.	PROJECT LIMITS		1.00	0004	01
		Item 203.9951 Total:		**1.00**		
168	920.0200	**FILTER FABRIC FOR RIP-RAP**	**SY**			
		TAUNTON AVE				
		201+40 - 201+48		16.89	0004	01
		94+40 - 94+44 LT		2.19	0004	01
		96+00 - 96+18 LT		16.90	0004	01
		96+11 - 96+15 LT		2.19	0004	01
		96+46 - 96+51 LT		2.19	0004	01
		96+87 - 96+93 LT		2.19	0004	01
		97+43 - 97+50 LT		2.19	0004	01
		97+79 - 97+84 LT		2.19	0004	01
		Item 920.0200 Total:		**46.93**		