

SECTION 00 91 13

ADDENDUM NO. 1

NOTICE is hereby given that the **Bidding Documents have been modified and replacement pages issued** herewith. Replacement pages have an **Issue Date of February 24, 2014** contain reference to "**Addendum 1**" in the footer, and text changes for additions identified by double underline and deletions identified by ~~Strikeout~~.

Specifications: Replacement pages include:

- Section 33 45 00, PRE-ASSEMBLED STORMWATER PUMP STATION – Pages 19-24.

NOTICE is hereby given of the following **additional information and clarifications** which do not cause change to the Bidding Documents. The answers below are provided in response to questions and comments submitted by Bidders.

1. *Section 01 11 00 - 1.03 (Summary of Work) indicates that "Plugging and/or temporary bypass of flows" is required. Section 01 51 42 (Temporary Storm Drain Bypass) requires a Bypass Pumping Plan for each bypass location stamped by a Massachusetts PE.*

Section 01 51 42 - 3.02 (Flow Data) does not provide any flow data or original design data. This section does indicate "visiting areas of the Site prior to Work to visually inspect flow conditions is encouraged".

Please provide any available flow data and the necessary contact person to access the existing precast tide gate chamber to observe flow.

Answer: Section 00 73 10, Section 01 51 42 are applicable as referenced.

Section 01 51 42-2 Paragraph 3.01-A addresses the requirement to "adequately bypass flow around the affected section of the Work, even instantaneous peak flows, without damage or overflow."

Drawing C-101 represents the size of the contributing drain as 42 inches in diameter with the up and down gradient elevations indicated.

Site location is readily accessible to visually observe from the Broad Street right of way. There is no pre-bid conference and no permission granted for any activity other than visual surface observation.

2. *Is the existing tide gate being replaced by a new gate?*

Answer: No

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B. MOUNTING

1. The probe shall be mounted as shown on the drawings, suspended by its own cable and connected to a 6mm stainless steel hook which would hang from a 30mm stainless steel angle containing a polyurethane squeegee pad positioned in the opening into the wet well, so that the probe can be removed without entering the wet well.
2. The squeegee shall have a 30mm hole and slot, enabling the probe to be pulled through and cleaned.
3. Probe cable shall be run in a separate conduit away from any high voltage cables.

C. SENSORS

1. 10 sensors shall be spaced along the length of the probe assembly, and each shall be individually connected to a correspondingly numbered PVC/PVC .75mm flexible cable.
2. The moulded sensor unit shall contain two sensors mounted on opposite sides of the sensor unit. Each sensor shall be 24mm high and no wider than 2mm, and shall protrude from the surface of the PVC.
3. The probe shall be pressure injected with an epoxy resin to encapsulate all internal components and connections to form a rigid, homogenous unit.
4. Each sensor unit containing the two sensors shall be rotated 90 degrees to the previous sensor unit to eliminate tracking between sensors.

D. FAIL SAFE

1. The probe shall have two additional wires that run the length of the probe that can be used to check for cable integrity. The wire shall be of black color on one end, red color on the other and be joined internal to the probe below all other sensors.

E. CABLE

1. The cable will be encoded with number and text along the entirety of the cable and at intervals not greater than 200mm, for identification. This cable will be dark blue in colour, with the cores light blue.
2. The flexible cables shall be capable of supporting the weight of the probe and cable, without the need for additional support.

3. The cable shall be secured to the top of the probe by a synthetic rubber compression fitting.
4. The cable shall be provided with sufficient length to extend, unspliced, back to associated control panel.

F. WARRANTY

1. The probe shall be covered by the Manufacturer's warranty for a period of ten (10) years.

2.04 PIPING, VALVES AND GUIDE RAIL SYSTEM

- A. Piping shall be of Class 53 DI cement lined with 125 lb. Flanges. Exterior and wet well piping shall be asphalt coated exterior. Piping within the vault shall be primed and painted exterior as specified in this Section. Fittings shall be 125 lb. cast iron, flanged. Base elbow shall be cast in accordance with ASTM Spec. No. A48-64, Class 30. All pipe flanges shall be faced and to the thickness required for compliance with 125 lb. American Standard. Bolt slots in the base shall be provided for mounting the elbow to the concrete floor. Base elbow shall be specifically situated to permit the slide mechanism to link up the pump with the base elbow. Final exterior pipe section shall be fitted with a pipe end flange.
- B. Each pump shall be supported by a non-sparking guide rail system. Guide rails shall be constructed from standard Sch. 40 Stainless Steel pipe to prevent corrosion and maintain a smooth surface for the guide shoes. The guide rails shall be attached to the existing vault by an attachment bracket of 304 Stainless Steel. A stainless steel lifting cable furnished with sufficient length with a minimum breaking strength of 1,500 pounds and stainless steel hook shall be provided for each pump for installation and removal of the pump. The slide shall have the pump discharge bolted to one side and guide shoes attached to the other side. The slide shall be guided in its decent and ascent by the rail and guide shoes.

2.05 AUDIBLE/VISUAL ALARMS

- A. The system shall have a local annunciator on front of control panel with alarm lights and horn for the following alarm conditions:
 1. High water
 2. Pump malfunction
 3. SPARE (unlabeled)

2.06 COATINGS

A. PUMP:

All pump system components ~~within the vault and~~ that will be in contact with the water shall be blasted and pretreated, primed with zinc rich epoxy and coated with one layer oxirane ester. After the system components have been assembled, a final layer of oxirane ester shall be sprayed on to seal all mating surfaces. Total film thickness shall be 350 - 500 μm . Coatings and installation methods shall be in accordance with Manufacturer specifications.

B. PIPE:

All pipe system components that will be in contact with the water shall be blasted and pretreated, primed with zinc rich epoxy and coated with one of the following corrosive resistant products:

1. Oxirane ester
2. Denso Protal 7200
3. Approved equivalent 2 part epoxy coating system to provide pipe corrosion resistance in saltwater environment and compatible to pump coating specified.

Coatings and installation methods shall be in accordance with Manufacturer specifications.

2.07 ZINC ANODES

- A. A cathodic protection arrangement by means of sacrificial zinc anodes shall be installed on each pump. Installation shall be in accordance with Manufacturer specifications.
- B. Zinc anodes may not to be mounted on the motors of FM approved explosion proof pumps.

PART 3 – EXECUTION

3.01 GENERAL

- A. All materials shall be carefully inspected by the Contractor for defects before installation, and all defects, unsound, or damaged materials shall be rejected.
- B. The Owner will make such additional inspections as he deems necessary, and the Contractor shall furnish all necessary assistance for such inspection.
- C. Proper implements, tools, and facilities satisfactory to the Owner shall be provided by the Contractor for the proper and satisfactory execution of the work.

3.02 PUMP STATION TEST

- A. Pump Station Test - The pump station shall be completely assembled at the Manufacturer's facility, conforming to the eventual finished product installed in the field. The entire unit shall be lowered into a factory test stand and connected to a water holding tank where it shall be subjected to a complete mechanical and hydraulic test. Performance tests shall be conducted at the Manufacturer's facility. The Manufacturer shall provide the owner with a test report including but not limited to the following items:
1. Performance test of pumps verifying specific flow and head conditions.
 2. Complete electrical control panel test. The level sensors shall be lowered into the holding tank and shall be factory set in close proximity to the job conditions. The control panel shall be tested in completeness in wiring, single pump operation, automatic operation, alternating pump operation, manual operation and duplex operation.
- B. Installation
1. The pumps, discharge connection, slide rail assembly, level sensor probes and all appurtenances shall be factory tested by the Manufacturer. The control panel shall be shipped fully assembled and factory tested by the Manufacturer. All equipment shall be installed by the Contractor in accordance with the Manufacturer's recommendations.
 2. The Contractor shall provide all necessary materials and install conduit and wiring for service connections between the control panel, pumps, and back-up generator transfer switch. The Contractor shall connect the control panel to the pumps and level sensor probes.
 3. The Contractor shall provide all necessary materials and install conduit and wiring for electric service from the utility pole riser to the control panel. The Contractor shall connect the control panel to the electric service.
 4. The Contractor shall coordinate with the Owner and the local utility providers on the schedule for the installation of the aerial primary cables, pole mounted transformer and replacement of utility pole to be paid for separately by Owner.
 5. All discharge piping and fittings shall be installed as shown on the Drawings by the Contractor and in accordance with Manufacturer's specifications.
 6. All electrical work shall comply with the applicable provisions of State of Massachusetts Electric Code.

7. All plumbing work shall comply with the applicable provisions of the State of Massachusetts Plumbing Code.

C. Field Testing

1. Upon completion of the installation of the pump station, the Manufacturer's representative shall test, adjust and place the pump station in operation. All piping shall be tested and made water tight under a pressure 50% greater than the working pressure. All controls shall be adjusted under actual operation so as to function in an approved manner. All equipment shall be tested to check for excessive vibration, alignment, faulty equipment, and proper operation.
2. Operation tests shall be conducted for such lengths of time as required to determine conformance of the pump station with Specification requirements. Any alterations or additions necessary to rectify defects and/or required to fulfill the requirements of the Specifications shall be made by the Contractor in a manner so as to provide the pump station in satisfactory operating condition at no additional expense to the Owner. All labor, equipment, apparatus, fuel, water and electricity for testing shall be provided by the Contractor.

3.03 START-UP SERVICE

- A. The Contractor shall provide as part of his bid price, the services of a knowledgeable representative from the pump Manufacturer for a period of eight hours at the pump station to perform initial start-up of the pump station and to instruct operating personnel in the operation and maintenance of the equipment, and to demonstrate satisfactory performance of each piece of equipment. The pumps and appurtenances shall be modified as necessary by the contractor and the tests rerun until satisfactory results are obtained. The contractor shall submit to the Engineer, a copy of the final start-up report for approval.
- B. The Pump Manufacturer shall certify, in writing, that the system has been installed in accordance with the Manufacturer's specifications at no additional cost to the Owner.
- C. The Pump Manufacturer shall be responsible for providing an Operations, Inspection, and Maintenance (O&M) Manual to the Owner. The O&M Manual shall cover operations, inspections and maintenance requirements for all system components at no additional cost to the Owner.
- D. The System O&M manual shall include inspection and maintenance requirements for pump coatings and zinc anode protection.

3.04 GUARANTEE

- A. The pump Manufacturer, through the Contractor, shall guarantee for one year from the date of field acceptance that all equipment shall be free from design defects, materials and workmanship. The station Manufacturer shall furnish replacement parts proved defective, whether of his or other Manufacturer during the warrantee period, excepting only those items which are normally consumed in service, such as light bulbs, fuel, oil grease, etc.

3.05 CLOSEOUT ACTIVITIES

- A. Provide in accordance with Division 01 General Requirements.

END OF SECTION