

ADDENDUM NO. 4

DATED: JANUARY 10, 2018

NATICK, MASSACHUSETTS
BOARD OF SELECTMEN

CONTRACT NO. W-143

SPRINGVALE #4 WATER PUMP STATION

TO ALL BIDDERS OF RECORD:

This Addendum shall be part of the Contract Documents as provided in the Instructions to Bidders of Contract No. W-143. Acknowledgment of receipt of the Addendum shall be made by inserting its number on Page 1 of the General Bid Form. Failure to do so may subject the bidder to disqualification.

Insert: The attached Section 02605 Precast Concrete Oil Trap specifications to Division 2. Also insert section number in the Index and Table of contents.

Section 07530 Single Ply Membrane Roofing, Page 2 Par. 2.2 A.

Delete the word “non” in the term “non-reinforced EPDM”

Insert: The attached Section 08360 Sectional Overhead Door specifications to Division 8 for proposed door addition to the existing Springvale Pump Station No.4. Also insert section number in the Index and Table of contents.

Drawing G-2 Plan View and Profile: Add proposed oil separator in the proposed six (6) inch diameter gravity sewer outside proposed pump station per Section 02605 and Drawing M-1, including six 96) inch diameter cleanout pipe and tee on the outlet pipe.

Drawing G-2 Electrical Notes: Notes 1 and 2 refer to existing electrical duct banks and manholes. All new duct banks are to be encased in sand. General Contractor to excavate and backfill for new duct bank, Electrical Contractor to install duct in trench.

Summary of Filed Sub-Bids received on January 5, 2018

**DIVISION 4
MASONRY**

<u>BIDDER</u>	<u>BID AMOUNT</u>
1. <u>Costa Brothers Masonry</u>	<u>\$ 45,000.00</u>
2. <u>K. Walter Construction</u>	<u>\$ 57,300.00</u>
3. <u>Kenney Masonry</u>	<u>\$ 63,400.00</u>
4. <u>Folan Waterproofing & Construction</u>	<u>\$ 89,100.00</u>

**DIVISION 16
ELECTRICAL**

<u>BIDDER</u>	<u>BID AMOUNT</u>
1. <u>Watermark Electric</u>	<u>\$ 118,400.00</u>
2. <u>Jasco Electric</u>	<u>\$ 129,600.00</u>
3. <u>Annese Electrical Services</u> May be used by any General Bidder except Waterline Industries	<u>\$ 144,000.00</u>
4. <u>Metropolitan Corporation</u>	<u>\$ 157,000.00</u>
5. <u>Ewing Electrical</u>	<u>\$ 184,000.00</u>
6. <u>Waterline Industries</u> May only be used by Waterline Industries	<u>\$ 204,677.00</u>
7. <u>Fall River Electrical Associates</u> May be used by any General Bidder except Waterline Industries	<u>\$ 211,000.00</u>

SECTION 08360

SECTIONAL OVERHEAD DOOR

PART 1 - GENERAL

1.1 DESCRIPTION

- A. Work included: Provide sectional overhead door as required by the Contract Documents.
- B. Related work:
 - 1. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications .
 - 2. Section 05500 Metal Fabrications
 - 3. Section 09990 Painting

1.2 QUALITY ASSURANCE

- A. Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this Section.
- B. The Contractor shall conduct all work in a first-class workmanlike manner, and he/she shall use reasonable and appropriate care and skill in the performance of the work under this section.

1.3 SUBMITTALS

- A. Comply with pertinent provisions of Section 01340.
- B. Product data: Within 45 calendar days after the Contractor has received the Owner's Notice to Proceed, submit:
 - 1. Materials list of items proposed to be provided under this Section;
 - 2. Manufacturer's specifications and other data needed to prove compliance with the specified requirements.
 - 3. Shop Drawings in sufficient detail to show fabrication, installation, anchorage, and interface of the work of this Section with the work of adjacent trades;
 - 4. Manufacturer's recommended installation procedures which, when approved by the Engineer, will become the basis for accepting or rejecting actual installation procedures used on the Work.

1.4 PRODUCT HANDLING

- A. Comply with pertinent provisions of Section 01610.

PART 2 - PRODUCTS

2.1 SECTIONAL OVERHEAD DOOR

- A. Provide a manually operated overhead coiling door equal to Duracoil Standard Door manufactured by Raynor Door, Dixon, Illinois, of the dimensions and arrangements shown on the Drawings with the following attributes.
1. All door sections shall be roll-formed from twenty (20) gauge pre-painted steel which has been galvanized and then treated for paint adhesion.
 2. Insulation: polystyrene (R = 6.24)
 3. Door section shall be finished with a white epoxy topcoat, all sides.
 4. Provided for lateral movement control of slats by means of zinc-plated malleable endlocks fastened with two zinc-plated steel rivets.
 5. Provide bottom bar and seal consisting of two roll-formed galvanized steel angles, minimum 1-1/2" by 1-1/2" by 1/8" with single-contact type bottom astragal. Structural angle bottom bar to receive one coat of rust inhibitive primer.
 6. Provide Guide assemblies consisting of three structural steel angles, minimum 3" by 2" by 3/16" and fitted with removable curtain stops. Steel guides to be provided with one coat of rust-inhibitive primer.
 7. Provide galvanized steel jambs.
 8. Roller brackets and hinges shall be galvanized steel.
 9. Rollers shall be ball bearing type with casehardened steel races.
 10. Counterbalance system shall consist of an oil-tempered, helical-wound tension spring mounted on a continuous steel torsion shaft. Headplates to be 3/16" steel attached to wall angle of guide assembly with 1/2" diameter class 5 hardened bolts. Inside of drive bracket fitted with sealed ball bearings. Provide head plates with one coat of rust inhibitive primer. Provide steel barrel that limits deflection of pipe under full load to less than 0.03 inches per foot of span.
 11. Provide 24 gauge Hood finish painted to match curtain. Provide hood baffle with EDPM rubber seal to inhibit air infiltration through hood cavity.
 12. Provide Raynor Power Hoist Standard Jackshift with manual chain hoist.
 13. Locking mechanism shall be inside side mount with spring release, set up to receive padlock.
 14. Shall be weather-stripped around its periphery; Jamb, Header and joint weather seals.

2.2 OTHER MATERIAL

- A. Provide other materials, not specifically described but required for a complete and proper installation, as selected by the Contractor subject to the approval of the Engineer.

PART 3 - EXECUTION

3.1 SURFACE CONDITIONS

- A. Examine the areas and conditions under which work of this Section will be performed. Correct conditions detrimental to timely and proper completion of the Work. Do not proceed until unsatisfactory conditions are corrected.

3.2 INSTALLATION

- A. Coordinate as required with other trades to assure proper and adequate provision in the work of those trades for interface with the work of this Section.
- B. Door shall be installed complete with all hardware by a manufacturer authorized installer.
- C. All weather stripping shall fit snugly against jamb, head and threshold sections so as to provide a weather tight seal.
- D. Install the work of this Section in strict accordance with the original design, the approved Shop Drawings, and the manufacturer's recommended installation procedures as approved by the Engineer, anchoring all components firmly into position.
- E. Upon completion of the installation, run the door through its operating cycle to insure proper operation and fit. Make required adjustments to ensure that the door is operating as designed.

3.3 ADJUSTING

- A. Lubricate bearings and sliding parts and adjust for proper operation, balance, clearance and similar requirements.

3.4 CLEANING

- A. Remove temporary coverings, repair or replace installed products damaged prior to or during installation.
- B. Clean installed products in accordance with manufacturer's instructions prior to Owner's acceptance. Remove and legally dispose of construction debris from project site.

END OF SECTION

SECTION 02605

PRECAST CONCRETE OIL TRAP

PART 1 - GENERAL

1.1 DESCRIPTION

- A. Work included: Provide precast concrete oil trap manhole as required by the Contract Documents.
- B. Related work:
 - 1. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.
 - 2. Section 02221 Trenching, Backfilling and Compacting
 - 3. Section 02726 Frames and Covers/Grates
 - 4. Section 02730 New Sanitary Sewer Piping

1.2 SUBMITTALS

- A. Comply with pertinent provisions of Section 01340.
- B. Product data: Within 30 calendar days after the Contractor has received the Owner's Notice to Proceed, submit:
 - 1. Materials list of items proposed to be provided under this Section;
 - 2. Manufacturer's specifications and other data needed to prove compliance with the specified requirements.

1.3 QUALITY ASSURANCE

- A. Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this Section.
- B. The Contractor shall conduct all work in a first-class workmanlike manner, and he/she shall use reasonable and appropriate care and skill in the performance of the work under this Section.

1.4 PRODUCT HANDLING

- A. Comply with pertinent provisions of Section 01610.
- B. Delivery, storage, and handling:
 - 1. Deliver the work of this Section to the job site in such quantities and at such times as to assure the continuity of construction.

2. Store units at the job site in a manner to prevent physical damage, and in a manner to keep markings visible.
3. Lift and support the units only at designated lifting points or supporting points.

PART 2 - PRODUCTS

2.1 DESIGN

- A. Precast concrete manhole sections shall conform to:
 1. ASTM-C478 Specification for Precast Reinforced Concrete Manhole Sections.
 2. PCI 116
 3. CRSI "Manual of Standard Practice"
 4. In the event of conflict between or among standards, the more stringent provision shall govern unless directed otherwise by the Engineer.

2.2 PRECAST CONCRETE SECTIONS

- A. General
 1. Trap shall have four (4) foot inside diameter or three (3) foot by two (2) foot inside dimension if rectangular unit is selected.
 2. Unit shall have a minimum water capacity of 125 gallons below inlet pipe invert.
 3. Wall thickness shall be six (6) inches reinforced section.
 4. All sections shall have tongue and grove joints.
 5. Concrete compressive strength shall be 5000 psi after 28 days.
 6. Precast concrete wall sections with precast top slabs sections shall be designed for a minimum of H-20 loading plus the weight of the soil above.
- B. Pipe Connections
 1. Inlet and outlet pipe to be six (6) inch diameter pipe.
 2. Inlet pipe invert connection to trap structure shall be installed eighteen inches (18") above top of outlet pipe connection to trap.
 3. Outlet pipe connection invert to be twelve (12) inches above trap floor.
 4. Outlet pipe, exterior of trap structure, to include six (6") PVC riser pipe with cleanout cap six (6) inches below grade and a 6" PVC tee connection to gravity sewer. Proposed tee invert at connection to proposed six (6) inch diameter gravity sewer pipe to be same invert elevation as inlet pipe invert to trap.
 5. Vent pipe invert to be installed 6" above top of inlet pipe connection.

2.3 JOINTS

- A. Precast Sections
 1. Tongue and groove joints of precast sections, if required shall be sealed with an "O"-ring conforming to ASTM C443 or a flexible joint sealant such as Kent Seal No. 2 or equal.

2.4 MORTAR

- A. For use in the frame and cover adjusting brickwork
 - 1. Composed of one (1) part Type II Portland cement conforming to ASTM C150 to two (2) parts sand.
 - 2. For each bag of cement, a small amount (not to exceed 10% by weight) of hydrated lime may be added. Lime shall conform with ASTM C207, Type N.

2.5 MASONRY SAND

- A. Shall comply with ASTM C144.2.

2.6 MANHOLE FRAMES AND COVERS

- A. Shall be as specified in Section 02726.

2.7 CONNECTIONS TO MANHOLE

- A. Connections to the precast structures shall be accomplished by the following:
 - 1. "Kor-N-Seal" joint with stainless steel clamp.
 - 2. "Lock Joint Flexible Manhole Sleeve" shall be cast into the manhole base section. Strap shall be stainless steel.
 - 3. A fixed connection at the precast structure shall not be allowed.

2.8 OTHER MATERIALS

- A. Provide other materials, not specifically described but required for a complete and proper installation, as selected by the Contractor subject to the approval of the Engineer.

PART 3 - EXECUTION

3.1 CONDITIONS

- A. Examine the areas and conditions under which work of this Section will be performed. Correct conditions detrimental to timely and proper completion of the Work. Do not proceed until unsatisfactory conditions are corrected.

3.2 PRECAST INSTALLATION

- A. Work shall be protected against flooding and flotation.
 - 1. Precast base of the structure to be placed on a compacted six (6) inch layer of screened gravel.
 - 2. Precast barrel sections shall be set vertical with all sections in true alignment and joints sealed watertight.

3. Grade at the top of the precast manhole shall be such to allow a maximum of twelve (12) inches of brickwork to bring the frame and cover to finish work.
4. Grout all lifting holes with non-shrink grout.

3.3 MANHOLE PIPE CONNECTIONS

- A. Shall be as stated in Paragraph 2.7 of this Section.

3.4 MANHOLE FRAME AND COVER

- A. Shall be set in a full bed of mortar on the grade adjusting brick course.
1. Shall be set to the finish grade.
 2. Frames and covers which are not on the same plane as the final grade are to be reset.

3.5 TESTING

- A. Vacuum Test
1. Brace all pipes with wood braces to prevent pipes from being sucked into manhole during vacuum testing.
 2. Plug all openings with non-shrink grout and pipes plugged with suitable plugs.
 3. An initial vacuum of ten (10) inches Hg shall be drawn.
 4. Test time shall be determined by the time required for the pressure to drop from ten (10) inches Hg to nine (9) inches Hg.
 - a. Allowable test times are listed below:

<u>Manhole Depth</u>	<u>Minimum Test Time</u>
0 to 10 feet	1 minute
10 to 15 feet	1 1/4 minutes
15 to 25 feet	1 1/2 minutes

5. Manholes which fail to meet the above minimum test times shall be repaired using methods approved by the Engineer. Manholes shall then be retested using the vacuum test. Following a second vacuum test failure, the manhole shall be repaired and tested using the water exfiltration method.

- B. Exfiltration Test
1. All pipes and openings shall be suitably plugged and braced to prevent blow-outs.
 2. Fill manhole to the top of the cone section or the opening in the flat top section if a cone section is not used.
 3. Seal all visible leaks.
 4. Allow a period of time for absorption by the concrete and refill as required.
 5. The test period shall be 8-hours.

6. At the end of the test period, the manhole shall be refilled to the top of the cone, measuring the volume of water added. This amount shall be extrapolated to a 24-hour rate and the leakage determined on the basis of depth. The leakage for each manhole shall not exceed 1 gallon per vertical foot for a 24-hour period. If the manhole fails this requirement, the leakage does not exceed 3 gallons per vertical foot per day, repairs by approved methods may be made as directed by the Engineer to bring the leakage within the allowable rate of 1 gallon per foot per day. Leakage due to a defective section or joint or exceeding the 3 gallon per vertical foot per day, shall be the cause for the rejection of the manhole. It shall be the Contractor's responsibility to uncover the manhole as necessary and to disassemble, reconstruct or replace it as directed by the Engineer. The manhole shall then be retested by the vacuum test of water exfiltration test, at the discretion of the Engineer.
7. If the groundwater table is above the highest joint in the manhole, and if there is no leakage into the manhole as determined by the Engineer, such a test can be used to evaluate the water-tightness of the manhole. However, if the Engineer is not satisfied, the Contractor shall lower the water table and carry out the test as described hereinbefore.

3.6 CLEANING

- A. All new manholes shall be thoroughly cleaned of all silt, debris and foreign matter of any kind, prior to final inspection.

END OF SECTION