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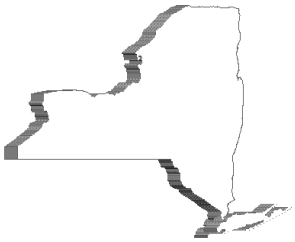

ADDENDUM NO. 1 TO PROJECT NO. 44236-C

CONSTRUCTION WORK
REPLACE WATER STORAGE TANK AND REPAIR DRIVEWAY
HIGHLAND RESIDENTIAL CENTER
629 NORTH CHODIKEE LAKE ROAD
HIGHLAND, NY

February 10, 2014

NOTE: This Addendum forms a part of the Contract Documents. Insert it in the Project Manual. Acknowledge receipt of this Addendum in the space provided on the Bid Form.

SPECIFICATIONS

1. SECTION 33613 STEEL WATER STOARGE TANK: Discard the Section bound in the Project Manual and substitute the attached Section (pages 331613-1 thru 331613-6) noted "Revised 02/07/14".

DRAWINGS

2. DRAWING C-103: Add the following Note to the Pump Replacement Notes Column:

   "5. The existing pumps have a speed of 3450 RPM, are 4" diameter, with a 4" impellar trim. The existing motors are equivalent to 3 phase, 15 horsepower, 3600 RPM and 220/440 Volts, 40/20 AMPS. The motor model is R-178-01-268 by US Electrical Motors."

END OF ADDENDUM

James Dirolf, P.E.
Director of Design

SECTION 331613

STEEL WATER STORAGE TANK
(REVISED 02/07/14)

PART 1 GENERAL

1.01 RELATED WORK SPECIFIED ELSEWHERE

A. Soil Boring Data: Document 003132.

B. Earthwork: Section 310000.

C. Disinfection of Potable Water Lines and Tanks: Section 331300.

D. Ductile Iron Water Pipe and Fittings: Section 331101.

1.02 REFERENCES

A. Comply with specification AWWA D103 for the Work of this Section. Maintain a copy of this reference standard on the job at all times.

1.04 DESIGN REQUIREMENTS

A. Design of the Tank Foundation, and Valve Pit: By the tank manufacturer.
   1. The Director reserves the right to consider tanks varying in minor respects from any specific requirements specified herein, but judged to meet the intent of this specification.
   2. The foundation details shown on the drawings show minimum configuration. Provide a foundation designed for the approved tank, utilizing concrete having a minimum compressive strength of 4000 psi. Design procedure and allowable stresses shall conform to American Concrete Institute's standard "Building Code Requirements for Reinforced Concrete (ACI 318)".

B. Type: Standpipe, Glass fused to steel.

C. Capacity: 28' wide by 47' high, approximate volume 215,000 gallons with approximately 24" of freeboard.

D. Critical Dimensions:
   1. Elevation of Top Overflow Level: 496.75 feet.
   2. Elevation of Tank Bottom: 452.0 feet.

E. Static Snow Load: 50 lbs per sq ft.

F. Lateral Wind Load: 90 mph.

G. Net allowable Bearing Pressure: 8000 psf.

H. Unit Weight of Insitu Soils and Backfill: 115 lbs. per cf.

I. Earthquake Design: Refer to geotechnical Notes on Drawing C-001.

1.05 SUBMITTALS

A. Waiver of Submittals: The "waiver of Certain Submittal Requirements" in Section 013300 does not apply to this Section.

B. Submittals Package: Submit the shop drawings, and quality control submittals (except manufacturer's field reports) at the same time as a package.
   1. The shop drawings, and the quality control design calculations shall bear the seal of a professional engineer licensed to practice in the State of New York.

C. Shop Drawings - Include the following:
   1. Tank foundation design.
   2. Structural Steel and Iron Work:
      a. Tank dimensions, plate thicknesses, and sizes of all members.
      b. Summary of actual or estimated scale weights for iron and steel.
      d. Erection identification numbers for all members.
      e. List of all accessories.
   3. Dome Roof:
      a. Roof dimensions, plate thicknesses, and sizes of all members.
      b. Summary of actual or estimated scale weights for aluminum structural supports.
      c. Erection identification numbers for all members.
      d. List of all accessories.
   4. Tank Coating and Dome Roof Coating Systems:
      a. Manufacturers' data sheets.
      b. Coating applicators' certifications.
   5. Cathodic Protection System:
      a. Water Analysis for Resistivity (meg-ohm/cm).
      b. Design Calculations.
      c. Anode Mounting Details.
      d. Rebar-Anode Connection Details.
   6. Tank Mixing System
   7. Tank Valve Pit

D. Quality Control Submittals:
   1. Design calculations for the tank, tank foundation, and valve pit.
   2. Name and address of inspecting engineer or laboratory selected by the Contractor.
   3. Manufacturer's Field Reports:
      a. Shop Report: Indicate fabrication in accordance with approved shop drawings. Submit after steel fabrication.
      b. Mill Report: Steel tensile and bending properties, and an analysis of each ladle. Submit after steel fabrication.
      c. Shop Welding: Indicate compliance with specifications.

E. Contract Closeout Submittals:
   1. Submit Field Inspection Reports as specified in Paragraph 3.03, at the conclusion of the Work.

1.06 QUALITY ASSURANCE

A. Qualifications: The tank manufacturer shall be a reputable firm in the business of designing, fabricating, and erecting steel water storage tanks of the type specified, for at least 10 years.
   1. The design, fabrications, and erection of the tank, tank foundation, and valve pit shall be provided by the tank manufacturer.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Aquastore, 6010 Drott Drive, East Syracuse, NY 13057 (315)433-2782.

B. United Tank Systems, 112 N Military Road, P.O. Box 266, Stockbridge WI 53088, (920) 439-1001.

C. Mid Atlantic Storage System, Inc., 1551 Robinson Rd, SE, Washington C.H., OH, 4310, Phone: (610) 681-6886

2.02 STEEL PLATES

A. Steel plates and sheets used in the construction of the tank sidewall, floor, or roof shall comply with the minimum standards of AWWA D 103.

B. Double steel sheeting shall not be permitted to achieve structural requirements.

2.03 GLASS COATING

A. The glass coating system shall be in full accordance with the requirements of AWWA D 103.
   1. Application: All sheets shall receive one coat of catalytic nickel-oxide glass pre-coat to both sides, followed by air-drying.
      a. The finished coating thickness shall not be less than 7.0 mils nor more than 11.0 mils.
      b. The finished inside color shall be creamed colored.
      c. The finished outside color shall be forest green..
   2. Sheet Edge Coating: All sheet edges of side walls and floor plates shall be mechanically chamfered and coated with a corrosion resistant material prior to the glass coating so as to insure glass coating of the sheet edges.
      3. Surface Preparation: Following the decoiling and sheaving process, sheets shall be steel grit blasted on both sides to the equivalent of SSPC-10. The surface anchor pattern shall be not

less than 1.0 mils. Sheets shall be evenly oiled for corrosion protection.

B. Provide a 10 year warranty on the glass coating system.

2.03 ACCESSORIES

A. Provide standard accessories in accordance with Section 5 of AWWA D-103-97 for standpipes and reservoirs ,OSHA and the Drawings:
   1. Shell Manhole:.
   2. Pipe connections.
   3. Overflow.
   4. Outside Tank Ladder.
   5. Roof Hatch.
   6. Roof Vent.
   7. Roof Handrail.
   8. Cathodic Protection System: Designed for protection of steel surfaces in the product zone including rebar within an uncoated floor.
      a. Anodes shall be floor mounted.
      b. Design Life: Ten (10) Years.

B. Tank Mixing System: The mixing system shall consist of a riser with filling valves and a manifold with drain valves. The valves shall be passive with no mechanical or moving parts, requiring only differential head to operate. Valves shall be designed so that they will not rust, corrode, warp or freeze open or shut.
   a. Filling Valve: Constructed of NSF-61 approved elastomer, integral flange that can be drilled to ANSI specifications, and come with stainless steel bands to secure to manifold pipe. The head required to open the valves shall not exceed 3 feet. The number, size and orientation of the valves shall be as shown on the Drawings. Acceptable Model and Manufacturer: Tideflex Series 35 Check Valve as manufactured by Red Valve Company, Inc., 700 North Bell Ave., P.O. Box 548, Carnegie, PA 15106-0548, (412) 279-0044.
   b. Drain Valve: Constructed of NSF-61 approved elastomer with NSF approved epoxy coated body. The minimum differential pressure required to open the valves shall not exceed 3.5 feet at 2000 gpm draw down rate. The number, size and orientation of the valves shall be as shown on the Drawings. Acceptable Model and Manufacturer: Tideflex Series 39 Check Valve as manufactured by Red Valve Company, Inc., 700 North Bell Ave., P.O. Box 548, Carnegie, PA 15106-0548, (412) 279-0044.
   c. The valves shall be by the same manufacturer.
   d. Install the valves where shown on the drawings and in accordance with the manufacturer's written instructions and recommendations.

2.04 MISCELLANEOUS MATERIALS

A. Grout: Non-shrink, cementitious, non-ferrous and aluminum-free mixture; ASTM C827-95a.

1. One of the following factory-packaged grouting compounds as selected by the tank manufacturer for the particular application:
    a. Masterflow 713 or 928 by Master Builders, Inc., 379 Princeton-Hightstown Rd., Cranbury, NJ 08512, (800) 843-2125.
    b. Sonogrout 14K (Sonneborn Building Products) by ChemRex Incorporated, 57-46 Flushing Ave., Maspeth, NY 11378, (800) 433-9517.
    c. Five Star Grout (U. S. Grout Corporation) by Five Star Products, Inc., 425 Stillson Rd., Fairfield, CT 06430, (203) 336-7900.
    d. Crystex by L & M Construction Chemicals, Inc., 14851 Calhoun Rd., Omaha, NE 68152, (402) 453-6600.

PART 3 EXECUTION

3.01 ERECTION

A. Erect tank in accordance with AWWA D 103.

B. Tank Foundation:
1. The tank foundation shall be built in accordance with the approved shop drawings.
2. Leveling of the starter ring shall be required and the maximum differential elevation with the ring shall not exceed 1/8 inch, nor exceed 1/16 inch within any 10 feet of circumference.

C. Tank Structure:
1. Field erection of the glass coated, bolted steel structure and components shall be in accordance with the procedures established by the manufacturer and performed by an authorized dealer.
2. Care shall be taken in the handling and bolting of the glass coated steel tank panels and members to avoid abrasions of the coating system. Prior to liquid test, all surface areas shall be visually inspected.
3. Placement of the sealant on each panel may be inspected prior to placement of adjacent panels. However, the inspection shall not relieve any responsibility for liquid tightness.
4. No backfill is to be placed against the tank sidewall without prior written approval and design review of the tank manufacturer.

D. Perform any work required to repair any leaks found.
1. If the tank is contaminated by work necessary to repair leaks found, the Contractor shall disinfect the tank again at the Contractor's expense.
2. Any removal and refilling of water from the tank in order to repair leaks found, shall be at the Contractor's expense.

E. Furnish the State with three copies of a test report identifying leaks found, corrective work performed, and indicating successful retest of the tank.

3.02 FIELD QUALITY CONTROL

A. Following completion of erection and cleaning of the tank, the structure shall be tested for liquid tightness by filling to its overflow elevation. Any leaks shall be corrected by the erector in accordance with the manufacturer's recommendations.

B. Provide all equipment, labor and materials as required to perform inspection and testing work.

C. Disinfect the tank in accordance with Specification Section 331300.

D. Test tank in accordance with AWWA D 103.
   1. Water for tests will be furnished by the Facility, including all necessary pumping to place water in tank.
   2. Provide necessary connections to tank and means for the disposal of the water.

E. On or before the on-year anniversary date of initial tank use (but not more than 14 months from delivery date of tank materials to site), the manufacturer's authorized field representative shall make a visual inspection of the tank interior coating and appurtenances (tank empty), tank exterior and appurtenances, and the immediate area surrounding the tank. Any defects or holidays in the coating system shall be repaired and a written inspection report shall be submitted to the Director's Representative.

END OF SECTION