

SECTION 011000

SUMMARY OF WORK

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 PROJECT INFORMATION

- A. Project Identification: Salem EX3 & EX4 Wells
 - 1. Project Location: Marshall, Virginia
- B. Engineer: Retaw Engineering, 2903 Sagecreek Circle, Midlothian Virginia 23112

1.3 WORK COVERED BY CONTRACT DOCUMENTS

- A. The Work of the Project is defined by the Contract Documents and consists of the portion(s) of following for which Contractor is awarded a Contract:
 - 1. General:
 - a. Contractor shall obtain all necessary local, county, state, and utility construction permits unless otherwise included with these contract documents.
 - b. Location of existing utilities is approximate. Contractor is responsible for verifying location and depth prior to construction. Contractor shall call 811 before work has begun to verify location of all underground utilities.
 - c. All construction shall conform to the requirements and specifications in the Fauquier County Water and Sanitation Authority's (FCWSA) Utility Standards Manual (USM), latest revision and the Virginia Department of Health Waterworks Regulations.
 - d. The Contractor shall attend a mandatory pre-construction meeting with the FCWSA and the Fauquier County Erosion and Sedimentation Control Inspector prior to the start of construction after receiving the land disturbing permit. The meeting must be scheduled beforehand with the FCWSA inspector. A copy of the Stormwater Prevention Plan (SWPP) is required to be provided at the pre-construction meeting for review.
 - e. Clearing and grading shall be limited to county properties, easements, and VDOT right-of-ways shown.
 - f. All work performed within existing or proposed state maintained rights-of-ways shall conform to the current Virginia Department of Transportation (VDOT) standards and specifications.
 - g. The sediment and erosion control inspector has the authority to add or delete sediment and erosion control measures as necessary in the field as site conditions change.

2. Waterline:
 - a. All waterline construction shall conform to the requirements and specifications in the FCWSA Utility Standards Manual (USM), latest revision.
 - b. All water construction materials shall be approved by FCWSA prior to installation and shall be in accordance with appendix d of the USM.
 - c. The contractor performing water line construction must attend a mandatory pre-construction meeting with FCWSA prior to the start of construction. The meeting must be scheduled beforehand with the FCWSA inspector.
 - d. Waterline inspections and testing must be scheduled a minimum of 48 hours (two business days) in advance with the FCWSA inspector.
 - e. All water lines shall be designed for 42 inches of cover. Water services shall be designed for 36 inches of cover.
 - f. Water service lines crossing underneath a public road and/or sidewalk must be installed in a HDPE or schedule 40 PVC casing pipe in accordance with FCWSA detail WS-01.
 - g. Water service lines are to be constructed of copper pipe or SDR-9, 200 psi, cross-linked polyethylene pipe as specified in the USM.
 - h. The water meter box and accessories therein necessary for meter installation and as shown in the details (appendix b) of the USM shall be furnished and installed by the developer or owner. Meters 5/8" by 3/4" will be installed by authority upon construction approval and payment of appropriate fees.
 - i. Private water service connections from the outlet of the meter to the building are regulated by the Virginia Uniform Statewide Building Code (USBC) and will be maintained by the property owner.
 - j. Compaction requirements for waterline construction are to be the same as those required for sewer construction.
 - k. Within street right-of-way, backfill compaction shall be in accordance with the latest edition of the VDOT road and bridge specifications.
 - l. Grading within easement areas shall comply with the lines and grades indicated on the plans. In general, all trenches and subgrade of easements shall be compacted to a density equal to the surrounding ground.
 - m. Valve boxes shall be set and adjusted such that covers shall be exposed 1" to 2" above finished grade with a concrete collar extended a minimum of 6" around the valve box. Where valve boxes are permitted to be placed in the pavement, the covers shall be flush with the pavement surface.
 - n. All new pipelines shall be disinfected by chlorination in accordance with the latest revision of AWWA specification C651-92 section 4.13 of the USM.
3. Well house and Site:
 - a. Contractor shall be responsible for providing appropriate pipe fittings.
 - b. Provide the following safety equipment:
 1. Nitrile gloves (one box each size - USA Bluebook 32832 and 32833).
 2. Wall-bracket mounted eyewash (USA Bluebook 42593) (mount to wall per plan)
 3. Chemical resistant face shield (USA Bluebook 41526) (provide hook on wall per plan)
 4. Chemical resistant bib apron (USA Bluebook 41790) (provide hook on wall per plan)
 5. Protective glass
 - c. Provide the following chemicals:

1. NSF 61 approved liquid chlorine (12.5%) sodium hypochlorite - 55 gallon drums (qty as shown on drawings). NSF 61 approved liquid chlorine (sodium hypochlorite 12.5%) may be obtained from Univar Inc.
 2. Caustic soda (25%) - 55 gallon drums (qty as shown on drawings)
 3. Orthophosphate – 55 gallon drums (qty as shown on drawings)
- d. Provide Hach Chlorine Colorimeter II and 100 DPD free chlorine pillows for 10 ml sample size.
 - e. Provide Hach Phosphate Colorimeter II 6 and 100 pillows of Phosver® 3 phosphate reagent powder pillows - USA Bluebook item #32489
 - f. Provide Hach ph meter and unexpired pH 4.00, pH 7.00 and pH 10.00 buffers (minimum 500 ml, each)
 - g. The chemical feed pumps shall be activated when the flow meter senses flow in the waterline.
 - h. Chemical feed pumps shall have 4-way function anti-syphon valve.
 - i. Chlorine feed solution shall be prepared by dilution the 12.5% stock solution per the chemical feed calculation. FCWSA shall provide appropriate measuring graduated equipment.
 - j. Sequestering agent: a dose of 2.76 gallons of aquamag is required to achieve an orthophosphate residual of 0.60 mg/l. Make solution per chemical feed calculations this solution will then be dosed at a rate 0.775 gpd when the well pump is running. FCWSA shall provide appropriate graduated cylinder.
 - k. Makeup water: a 20 ft. hose will be used to transfer finished water from the distribution supply line sample tap to the chemical feed tank. This hose shall not be left inside the chemical solution tanks. The hose will be rolled up and stored within the building to prevent cross connection.

1.4 PROJECT COVERED BY CONTRACT DOCUMENTS

- A. The Project is defined by the Contract Documents and consists of the portion(s) of following for which Contractor is awarded a Contract:
 1. Salem Wells EX3 well and waterline.
 - a. This project includes the installation of well and treatment system components and waterline as follows:
 1. Well house (12 ft. x 16 ft.). The new well house consists of the following:
 - i. New SCADA system
 - ii. New static mixer.
 - iii. New strainer/flowmeter.
 - iv. New surge anticipator/relief
 - v. New chlorine (CL2) feed pump.
 - vi. New caustic (NaOH) feed pump.
 - vii. New orthophosphate (Ortho) feed pump.
 - viii. New spill pallets.
 - ix. New exhaust fan.
 - x. New flow control valve.
 - xi. All associated piping, fittings, and appurtenances required for the new well system.
 2. Well site (100 ft. x 100 ft.). The site work consists of the following:
 - i. Grading adjustments as necessary to drain around the new well house and structures.

- ii. New 10 ft. high chain-link fence.
 - iii. New 15 ft. wide double swing access gate.
 - iv. Gravel drive.
 - v. New 4" Sch. 80 PVC floor drain line with VDOT EW-12 endwall at the outlet
 - vi. New 50 kW generator and fuel tank.
 - vii. New transformer.
 - viii. New well pump and pitless adapter installed in the existing well head.
 - ix. New 4" waterline from the wellhead to the well house.
 - x. New 4" waterline from the well house to the 4-inch well waterline at the edge of well site.
3. Waterline which consists of the following:
- i. Installation and testing of approximately 1,415 linear feet of 12-inch distribution system waterline.
 - ii. Installation and testing of approximately 1,705 linear feet of 4-inch well waterline.
 - iii. All associated piping, fittings, and appurtenances required for both waterlines.
2. Salem Wells EX4 well and waterline.
- a. This project includes the installation of well and treatment system components and waterline as follows:
 - 1. Well house (12 ft. x 16 ft.). The new well house consists of the following:
 - i. New SCADA system
 - ii. New static mixer.
 - iii. New strainer/flowmeter.
 - iv. New surge anticipator/relief
 - v. New chlorine (CL2) feed pump.
 - vi. New caustic (NaOH) feed pump.
 - vii. New orthophosphate (Ortho) feed pump.
 - viii. New spill pallets.
 - ix. New exhaust fan.
 - x. New flow control valve.
 - xi. All associated piping, fittings, and appurtenances required for the new well system.
 - 2. Well site (100 ft. x 100 ft.). The site work consists of the following:
 - i. Grading adjustments as necessary to drain around the new well house and structures.
 - ii. New 10 ft. high chain-link fence.
 - iii. New 15 ft. wide double swing access gate.
 - iv. Gravel drive.
 - v. New 4" Sch. 80 PVC floor drain line with VDOT EW-12 endwall at the outlet.
 - vi. New French drain system.
 - vii. New 40 kW generator and fuel tank.
 - viii. New transformer.
 - ix. New well pump and pitless adapter installed in the existing well head.
 - x. New 3" waterline from the well head to the well house.
 - xi. New 4" waterline from the well house to the well waterline at the edge of the well site.

3. Waterline which consists of the following:
 - i. Installation and testing of approximately 2,151 linear feet of 4-inch well waterline.
 - ii. All associated piping, fittings, and appurtenances required for both waterlines.

B. Type of Contract

1. The Project will be constructed under a Lump Sum Basis.

PART 2 - EXECUTION (Not Used)

END OF SECTION