

ADDENDUM NO. 2
CONTRACT 17-01 WASTEWATER TREATMENT PLANT IMPROVEMENTS
SRF CW& 2019-432 & SRF 2019-433
FEDERAL EDA – 04-01-07217-01
DRA GRANT – TN-53991
FIDP – EDISON 59595
HUMBOLDT, TENNESSEE
WAUFORD PROJECT NO. 3626

Date of Addendum: Thursday, February 28, 2019
Mandatory Pre-Bid Meeting Date: 10:00 AM Local Time, Thursday, March 7, 2019
Construction Bid Date: 2:00 PM Local Time, Thursday, March 21, 2019

1. Detailed Specifications, Section 5. Piping, Fittings, Valves, Manholes and Accessories, Paragraph 19. Rubber Seated Butterfly Valves for Wastewater Service, Page DS 5-22:

Modify the paragraph as follows:

“The maximum flow rate through any valve will be as follows:

- Normal Conditions: **4,200 GPM**
- Opening: **0 GPM**
- Closing: **0 GPM”**

2. Detailed Specifications, Section 5. Piping, Fittings, Valves, Manholes and Accessories, Paragraph 29. Check Valves for Wastewater Service, Page DS 5-26:

Add the following paragraph:

“29. Swing Flex Check Valves

Check valves on the influent and effluent pump discharges shall be of the swing-flex type and shall have a cast iron body ASTM A126 Class B and shall be suitable for operation in horizontal wastewater lines. The valve shall achieve a tight closure by means of a short stroke flexible flapper – not more than 35 degrees.

Swing-flex check valves shall be flanged with flanges drilled per ANSI Class 125 and shall be manufactured by Val-Matic or pre-approved equal.”

3. Detailed Specifications, Section 9. Miscellaneous Metals, Paragraph 8. Open-Channel, Fabricated-Metal Slide Gates and Open-Channel Fabricated-Metal Weir Gates, Page DS 9-5:

Delete this Paragraph in its entirety and replace with the following:

“8. Fabricated Stainless Steel Slide Gates and Open-Channel Fabricated-Metal Weir Gates

a. Fabricated Stainless Steel Slide Gates

Stainless steel fabricated slide gates shall be manufactured to comply with the requirements at ANSI/AWWA Standard C561-04, as modified in this paragraph, for service in municipal wastewater.

The closure on all stainless steel fabricated slide gates shall be conventional with an integral seat-seal system.

The supplier and the manufacturer of the fabricated stainless steel slide gates shall provide all data stipulated at Section 4.1 and 4.2, respectively, of ANSI/AWWA Standard C561-04. Installation-requirement drawings showing clearances, wall thicknesses, details of frame installations and locations of actuators shall be provided by the Vendor.

The test records described at Section 4.3.2 of ANSI/AWWA Standard C561-04 will not be required.

The operating stems for all stainless steel fabricated slide gate assemblies shall be the rising type and shall be furnished with clear plastic stem covers. The stem guides depicted on the attached Drawings are for reference only. The Vendor shall determine the number, size and location of all stem guides and shall reflect these characteristics on the submittals. Stem guide bushings shall be fabricated from cast or extruded UHMW-PE or stainless steel. Bronze stem guide bushings shall not be utilized. All stem couplings shall be fabricated from stainless steel. Bronze stem couplings shall not be utilized.

The fabricated stainless steel slide gate assemblies will not be subject to any weld inspections other than visual, will not be inspected at the place of manufacture, and will not be subject to a shop leakage test.

All pedestals for mounting actuators shall be furnished by the Vendor ready for bolting to the operating floor.

The fabricated stainless steel slide gates are estimated to be operated four times or less per year.

The Vendor shall provide an affidavit of compliance meeting the stipulations at Section 6.3 of ANSI/AWWA Standard C561-04.

The fabricated stainless steel slide gate assemblies shall prevent leakage at rates above the rates established at Section 5.2.2.1 of ANSI/AWWA Standard C561-04 as determined by a field test as described at Section 5.2.2 of ANSI/AWWA Standard C561-04.

Fabricated stainless steel slide gates shall be manufactured by Whipps, Ross, Waterman or approved equal.

b. Open-Channel Fabricated-Metal Weir Gates

Open-channel fabricated-metal weir gates shall be manufactured to comply with the requirements of ANSI/AWWA Standard C513-05, as modified in this paragraph, for service in municipal wastewater.

The manufacturer of the open-channel fabricated-metal weir gates shall provide all data stipulated at Section 4.1 of ANSI/AWWA Standard C513.05. Installation-requirement drawings showing clearances, wall thicknesses and locations of actuators shall be provided by the Vendor.

Test records described at Section 4.2.2 of ANSI/AWWA Standard C513-05 will not be required.

Open-channel weir gates may be fabricated from either aluminum or stainless steel.

All open-channel fabricated-metal weir gates shall be designed to incorporate self-contained gate frames. The lift mechanisms shall be mounted on the gate yoke.

The operator stems for all open-channel fabricated-metal weir gates are estimated to be operated two times per year or less.

The Vendor shall provide an affidavit of compliance meeting the stipulations at Section 6.3 of ANSI/AWWA Standard C513-05; however, the certification of design stipulated at Section 6.3 of ANSI/AWWA Standard C513-05 will not be required.

Open-channel fabricated-metal weir gates shall be manufactured by Whipps, Ross, Waterman, or approved equal.”

4. Detailed Specification, Sub-Section 11A, Submersible Pumps, Paragraph 4. Performance Requirements, Subparagraph b. Operation Criteria, Page DS 11A-2:

Delete the first table in this subparagraph and replace with the following:

	Influent Pumping Station	Effluent Pumping Station
Performance Requirement With Three Pumps Operating	15 MGD	N/A
Number of New Pumps	4	2
Minimum Shutoff Head (ft.) – 60 Hz	134 Feet	48 Feet
Pump Rating (GPM/Ft/Hydraulic Efficiency) – at 60 Hz	3,600 GPM /69'/80% Each Pump	4,200 GPM @ 14' TDH/55% and 3,350 GPM @ 23' TDH/67% Each Pump
Maximum Allowable Specific Energy at Rating (KWHr/MG)	245 KWH/MG	58 KWH/MG
Maximum NPSH _{Re} at Rating (Ft.)	23'	22'
Motor Rating (HP) at 40 degrees C	85 Hp	25 Hp
Voltage/Cycle/Phase -	460v/60Hz/3	460v/60Hz/3

5. Detailed Specification, Sub-Section 11A, Submersible Pumps, Paragraph 7. Submersible Type Wastewater Pumps and Motors, Subparagraph I. Control and Monitoring System, Page DS 11A-13:

Add the following as a new subordinate paragraph to Subparagraph I. Control and Monitoring System at the bottom of Page DS 11A-13:

“a. Pump Operation Control Protocol

Effluent Pumping Station

The Control and Monitoring Panel for the four identical pumps in the Effluent Pumping Station shall be fabricated and programmed to cause the four pumps to operate as described hereinafter.

- Regardless which pump(s) are operating, when the water surface elevation in the effluent pumping station wetwell falls to elevation 332.5, all pump motors shall stop.
- When all pumps are stopped, the pump control system shall assign a starting order (lead pump, second pump, third pump, fourth pump) for the four pumps for the next pump operation cycle. During pump operation, when the lead pump is stopped, each successively “called-for” pump shall be re-assigned a “called-for” position. For example, if the lead pump stops, the second pump shall become the lead pump, the third pump shall become the second pump, the fourth pump shall become the third pump, and the lead pump shall become the fourth pump.
- When the water surface elevation in the effluent pumping station wetwell rises to elevation 334.25, the lead pump shall start at 45 Hz and modulate speed between 45 Hz and 60 Hz as appropriate to maintain the wetwell water surface elevation at 334.25.
- If, with the lead pump operating at 60 Hz, the wetwell water surface elevation rises to 335.0, the second pump shall start at 45 Hz and ramp up to 60 Hz. With the lead and second pump both operating at 60 Hz, if the wetwell water surface elevation falls below 335.0, the two operating pumps shall simultaneously modulate speed between 45 Hz and 60 Hz as appropriate to maintain the wetwell water surface elevation of 335.0. If, with the two operating pumps simultaneously operating at 45 Hz, the wetwell water surface elevation falls to elevation 334.25, the lead pump shall stop. The second pump shall continue to operate, modulating speed between 45 Hz and 60 Hz as appropriate to maintain the wetwell water surface elevation at 334.25.
- If, with the lead pump and second pump operating at 60 Hz, the wetwell water surface elevation rises to 341.5, the third pump shall start at 45 Hz and ramp up to 60 Hz. With the lead, second and third pump all operating at 60 Hz, if the wetwell water surface elevation falls below 341.5, the three operating pumps shall simultaneously modulate speed between 45 Hz and 60 Hz as appropriate to maintain the wetwell water surface elevation at 341.5. If, with the three operating pumps simultaneously operating at 45 Hz, the wetwell water surface elevation falls to elevation 335.0, the lead pump shall stop. The second and third pumps shall continue to operate simultaneously, modulating speed between 45 Hz and 60 Hz as appropriate to maintain the wetwell water surface elevation at 335.0.

- If, with the lead pump, second pump and third pump operating at 60 Hz, the wetwell water surface elevation rises to 343.9, the fourth pump shall start at 45 Hz and ramp up to 60 Hz. With the lead, second, third and fourth pump simultaneously operating at 60 Hz, if the wetwell water surface elevation falls to 341.5, the lead pump shall stop, and the three operating pumps shall simultaneously modulate speed between 45 Hz and 60 Hz as appropriate to maintain the water surface elevation at 341.5.”

6. Detailed Specification, Sub-Section 11C, Sequencing Batch Reactor (SBR) System, Paragraph 3. Performance Requirements, Subparagraph c.(1)(a) Functional Performance of PLC-Based Control System Enhanced Biological Phosphorus Removal Protocol Four Basin “Normal” Operation, Page DS 11C-5:

Delete the fifth “bullet-point” under this subparagraph and replace with the following:

- The Basin 1 “Settle” cycle phase will begin when the Basin 1 pre-react zone mixer motor and the four Basin 1 main reactor compartment mixer motors stop. After a delay that shall be controlled through the operator interface ranging between 30 minutes and 60 minutes after the process control panel generates a discrete output signal to cause the Basin 4 influent control valve actuator to open, the Basin 1 waste sludge pump shall start. The run time for the Basin 1 waste sludge pump shall be controlled through the operator interface between zero and 30 minutes (Note that this control configuration will allow the operator to start the waste sludge pump at any time between 50 percent completion of the “Settle” phase of a cycle and the beginning of the “Fill-Decant” phase of a cycle and operate the pump for up to 30 minutes thereafter). Sixty minutes after the process control panel generates a discrete output signal to the Basin 4 influent control valve actuator to open, the Basin 1 influent control valve actuator will be activated to open. When the Basin 1 influent control valve is confirmed open, the Basin 4 influent control valve actuator will be activated to close and the Basin 1 “Fill-Decant” cycle component repeats.”

7. Detailed Specification, Sub-Section 11C, Sequencing Batch Reactor (SBR) System, Paragraph 5. Equipment, Subparagraph c.(12) Hoist, Page DS 11C-36:

Add the following sentence:

“The hoist shall be capable of removing the mixers, RAS, and WAS pumps over the handrail and onto the walkways.”

8. Detailed Specification, Sub-Section 11E, Coarse Bubble Digester Aeration System, Paragraph 2. Vendors, Page DS 11E-1:

Evoqua Water Technologies is approved manufacturer for the coarse bubble diffusers.

9. Plans Sheet 2, "Existing Site Plan":

Below is a table with the top and bottom elevations that were requested for the major structures that are to be demolished.

Existing Major Structures to be Demolished		
Structure	Top of Structure	Top of Bottom Slab
Grit Removal Structure	362.1	346.4+
Primary Clarifier No. 1	348.7	337.7+
Primary Clarifier No. 2	348.7	337.7+
Trickling Filter No. 1	342.3	333.3+
Trickling Filter No. 2	342.3	333.3+
Aeration Basin No. 1	335.5	317.0
Aeration Basin No. 2	335.5	317.0
Clarifier No. 1	336.0	321.8+
Clarifier No. 2	336.0	321.8+
Clarifier No. 3	336.0	315.6+
Return Sludge Pumping Station	336.0	320.8
Effluent Pumping Station	337.0	315.0
Chlorine Contact Basin	361.8	344.3
Anaerobic Digester No. 1	353.7	337.7+
Anaerobic Digester No. 2	353.7	337.7+

* All elevations taken from existing plans and not guaranteed to be accurate.

+ Elevation of the top of a sloped bottom slab.

10. Plan Sheet 23, "Digester, Plans, Sections and Details"; Section B-23:

The travel on the telescopic valves shall be **8 feet**.



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