ADDENDUM NO 2
TO
CONTRACT DOCUMENTS
FOR
SERWTP Influent Vault Rehabilitation

DISTRICT PROJECT NO.: 4367

02/18/2025

This addendum is hereby attached to and made part of the Contract Documents. The addendum consists of nine (9) pages of written text (including this cover sheet) and zero (0) pages of drawings. Each Bidder shall acknowledge receipt of this addendum on the bid (page C-1).

1. Changes to Specifications:

   A. Specification 15 10 00 – Valves and Actuators has been updated, and the full updated version is attached to this addendum. The following updates were made:
      i. 201.01.H.i, the requirement for dual stub shafts Duplex has been moved to 201.02.B to apply specifically to double offset butterfly valves.
      ii. 201.03.7 has been updated to say “NSF-61 Certified or NSF-61 Approved Materials”

JORDAN VALLEY WATER CONSERVANCY DISTRICT

Conor Tyson
Registered Engineer

SECTION 15 10 00 - VALVES AND ACTUATORS

PART 1 - GENERAL

101.01 THE REQUIREMENT

A. The Contractor shall provide all tools, supplies, materials, equipment, and all labor necessary for furnishing, coating, installing, adjusting, and testing of all valves, actuators, and appurtenant work, complete and operable, all in accordance with the requirements of the Contract Documents. This section includes butterfly valves with electronic mechanical actuators, butterfly valve with manual operation, and silent ball check valve.

B. All valves shall be furnished with pressure classes equal to or better than the pressure class of the pipe with which the valves are to be used. Unless otherwise specified, each valve body shall be tested under a test pressure equal to twice its design water-working pressure.

101.02 RELATED WORK SPECIFIED ELSEWHERE

A. Protective Coating: 09900

101.03 REFERENCE SPECIFICATIONS, CODES, AND STANDARDS

A. Codes

The Building Code, as referenced herein, shall be the Uniform Building Code (UBC), as specified in Section entitled, Reference Standards. 01071

ANSI/NFPA 70-1984 National Electric Code

B. Commercial Standards:

ANSI B16.7-75	Cast Iron Pipe Flanges and Flanged Fittings, Class 25, 125, 250, and 800.
ANSI B16.5-81	Pipe Flanges and Flanged Fittings, Steel Nickel Alloy and Other Special Alloys.
ASTM A 48-83	Specification for Gray Iron Castings

ASTM B 62-82a	Specification for Composition Bronze or Ounce Metal Castings.
ASTM A 536-84	Specification for Ductile Iron Castings.

101.04 CONTRACTOR SUBMITTALS

A. Shop drawings of all valves and actuators shall be furnished as specified in Section entitled, Contractor Submittals 01300

B. The Contractor shall submit a schedule of valves to be labeled indicating in each case the valve location and the proposed working for the label.

PART 2 - PRODUCTS

201.01 BUTTERFLY VALVES

A. General: The butterfly valve shall be designed expressly for waterworks applications. Valves shall meet or exceed the requirements of AWWA C504-15. Valves shall be of the size and class indicated in the Valve Schedule. All valves shall be of the AWWA C504-15 "B" Designation, bubble tight and sized for bi-directional water service, full rated pressure, and a line velocity of 16 feet per second. The valve build data shall be made available upon request by the Owner and shall be retained by the Valve Manufacturer for no less than 50 years unless noted longer. Actuators shall be sized for conditions given in Valve Schedule.

B. Pressure Class: Butterfly valves shall conform to ANSI/AWWA C504-15 Class 150B.

C. Flanges: Flanges shall be in conformance with ASME B16.1 Class 125. Flange faces shall be coated in accordance with Section 2.A.(18) Paint and Coatings. Flanges shall also have machined groves to improve gasket sealing.

D. Valve Lay Length: Flanged valve lay lengths shall be in accordance with AWWA C504-15, Table 1 short bodied valves.

E. Body: Valve bodies shall be ductile iron, ASTM A536 65-45-12. Carbon steel and Cast Iron are not acceptable material for the valve body.

a) The entire valve body, excluding shaft bores, shall be coated for corrosion protection.

F. Valve Tags: Valves shall be equipped with mechanically fastened stainless steel stamped or engraved tags as detailed in Section 2.A.(19) Marking. Painted lettering on tags will not be accepted.

G. Disc: The disc shall be ductile iron ASTM A536 65-45-12 or ASTM A536 60-40-18. Unless stainless steel, the entire disc and all its wetted surfaces shall be coated, without exception, in accordance with Section 2.A.(18) Paint

and Coatings. Disc pins shall extend completely through the valve and shall be mechanically fastened, and O-Ring sealed and shall be ASTM A240 Type 2205 Duplex Stainless Steel. Carbon steel is not an acceptable material for the valve disc.

H. Shaft: Shafts shall meet or exceed the requirements of AWWA C504-15.

I. Elastomeric Seat: Valve seats shall be field replaceable and shall be secured to the valve disc by a 316-stainless steel seat retainer ring and secured by 316 stainless steel fasteners. Bronze and carbon steel seat retainer rings are not acceptable. Elastomeric valve seats shall be field replaceable in-line without having to remove the valves from service. The elastomeric seat material shall be EPDM. The valve shall be bi-directionally leak free in accordance with AWWA C504-15. The field replaceable seat shall not require special skills or tools to replace the seal. Elastomeric seat methods which use either irreplaceable vulcanized seats or which use hardened epoxy or grout in a dovetailed groove are not acceptable. Elastomeric seats with seams are not allowed.

J. Metallic Seating Surface: The metallic seating surface shall be located in the valve body. Seating surfaces shall be a highly wear resistant, double overlay welded 316 Stainless Steel in accordance with AWWA C504-15. The seat shall be applied through a high alloy weld overlay process and shall have a final surface minimum thickness of no less than 7 mils (0.18mm) in accordance with AWWA C504-10. Replaceable metallic seating surfaces in the body are not acceptable.

K. Shaft Seals: Shaft seals shall be appropriate for service specified. Shaft seals shall be composed of a minimum of 8 O-ring seals protecting both the OD and ID of the shaft bearings Elastomer packing material shall be EPDM. Shaft Seals shall be clearly shown on submittal drawings. Packing will not be allowed.

L. Shaft Bearings: Valve shaft bearings or radial shaft bushings shall meet or exceed the requirements of AWWA C504-15 and be corrosion resistant, self- lubricating sleeve type made of lead-free bronze.

M. Thrust Bearings: Valve thrust bearings shall be provided and shall meet or exceed the requirements of AWWA C504-15.

N. Hardware:

a. All fasteners and hardware shall be type 316 stainless steel.

b. Bolt sizes for all tapped holes shall be identified.

O. Paint and Coatings:

a. All valves shall be NSF/ANSI 61 certified.

b. All sharp edges to be coated shall have the necessary beveling or long radius to assure consistent coating thickness.

c. Any damage found after shipping to Owners warehouse shall be noted to the carrier and the Valve Supplier. Coating damaged in shipping shall be noted and properly field repaired by the Valve Manufacturer's Representative to the satisfaction of the Owner.

d. The Valve Manufacturer is required to have and follow a system of valve preparation and coating which assures a quality holiday free application and shall comply with the requirements of AWWA C550. The coating system shall be submitted for approval.

e. Coatings shall be either of the following:

i. An Owner approved 390-degree F plus, heat bonded fusion coated to a final dry film thickness no less than 12 mils.

ii. An Owner approved two-part liquid epoxy. A minimum of two separate 6 mill coats to a final dry film thickness DFT of no less than 12 mils.

P. Marking:

a. All parts subject to disassembly prior to shipment shall be marked for identification and match marked. Match marking information shall be submitted in the O&M manual.

b. Casting markings shall conform to the appropriate section of MSS-SP-25. Each valve shall be marked with the Valve Manufacturer's name, valve size, body material, and pressure rating cast into the body of the valve. Lettering shall be a minimum of ½ inch tall and project a minimum of 1/10 inch from the body.

c. Each individual piece of equipment shall bear a stainless-steel nameplate attached with stainless steel screws or rivets, upon which there shall be engraved or stamped the following minimal information. Painted lettering on tags shall not be accepted.

i. Valve Manufacturer's name or trademark

ii. Valve Manufacturer's serial number

iii. Valve Size

iv. Valve Pressure Rating

Q. Approved Valve Manufacturers

a. Av-Tek Inc.

b. Pratt

c. Bray

d. VAG

e. or approved equal

R. Valve Manufacturer Warranty:

a. The Valve Manufacturer shall warrant all valves against material and workmanship defects for a period not less than 12 months. The warranty period shall start at installation or at no more than two months from delivery; whichever comes first. Any valve component failure during the warranty period shall be corrected by the Valve Manufacturer.

b. The Valve Manufacturer shall have an authorized warranty service center within the continental United States of America.

201.02 DOUBLE OFFSET BUTTERFLY VALVES

A. General: The butterfly valve shall meet all requirements for butterfly valves and shall be of the double offset design. Zero and single offset butterfly valve designs are not acceptable.

B. Valve shafts shall be dual stub shafts of stainless steel ASTM A240 Type 2205 Duplex.

C. Approved Valve Manufacturers

f. Av-Tek Inc. – DEX 2504

g. VAG - EKN

h. or approved equal

201.03 WEDGE GATE VALVES

A. General: Knife-gate valves shall be supplied as follows:

1. Seat: Metal seated with raised face for positive seating
2. Flow Direction: Unidirectional
3. Body style: Wafer or flanged
4. Body Material: cast stainless steel (2- to 12-inch valves), semi-steel bodies with stainless steel linings (14-inch valves and larger)
5. Gate and Wetted Parts Material: 316 Stainless, gate to be finish-ground on both sides to prevent packing or seat damage
6. Stem: Rising stem with valve nut
7. NSF-61 Certified or NSF-61 Approved Materials
8. Pressure rated: 10 to 60 psi

201.04 ELECTRIC MOTOR VALVE ACTUATORS

A. The actuator for the flow control valve shall be suitable for inching/positioning service. The actuator for the new valves shall be suitable for operation of a quarter turn valve and be rated for 60 starts per hour, as a minimum. The actuator is required to drive the valve to any position (fully open, intermediate, and fully closed).

B. The actuators shall be self-contained units consisting of electric motor, integral reversing contractor starter, gearbox, limit switches, torque switches, manual override handwheel with declutching level, and other devices as specified.

C. The actuator for the flow control valve shall be furnished and sized by the valve supplier and shall be factory mounted. The actuator for the existing butterfly valve shall be sized assuming the torque requirements of the existing valve are two times a standard AWWA butterfly valve.

D. The actuators shall be sized to produce at least 1.8 times the operating torque required. Stall torque of motor shall not exceed the torque capacity of the valve.

E. The actuators shall comply with AWWA C540. Manufacturer shall provide certified drawings and affidavit of compliance as specified in AWWA C540.

F. Operating time for both actuators shall be a minimum of two (2) minutes, maximum five (5) minutes from FULLY OPEN to FULLY CLOSED, or the reverse.

G. The actuator motor and all electrical enclosures shall be NEMA 4X, as a minimum. The control enclosure shall include a space heater.

H. Motor:

1. Motors shall be specifically designed for valve actuator service and shall be high starting torque, totally enclosed, nonventilated construction.

2. Motors shall operate on 480-volt, 3-phase, 60-Hz power.

3. Motor insulation shall be NEMA Class F, as a minimum.

4. Motors shall be equipped with internal temperature relay to protect against motor overheating.

I. Gearing:

1. All gearings shall be of steel construction.

2. Actuators shall be permanently lubricated at the factory. Lubrication shall be suitable for operation at any angle and in ambient temperatures of -20 degrees F to 140 degrees F.

J. The drive shall include a lost motion device with hammer blow effect to allow the motor to reach full speed before engaging the valve load.

K. The actuators shall include a LOCAL/OFF/REMOTE weatherproof selector switch or pushbutton and an OPEN/STOP/CLOSE weatherproof selector switch or pushbutton.

1. In the LOCAL position, the actuator shall be controlled by the OPEN/ STOP/CLOSE switch. Motor shall drive the valve to its fully OPEN or

CLOSED position when the pushbutton is momentarily depressed. Motor shall stop in mid-travel when the stop button is depressed.

2. In the REMOTE position, the actuator shall accept a momentary contact OPEN/CLOSE control signal and drive the valve to its fully OPEN or CLOSED position.

L. Provide a Form C dry contact for remote indication of the REMOTE status of the selector switch.

M. Provide Form C dry contacts to remotely indicate if the valve is in either the FULLY OPENED or FULLY CLOSED position, for the existing 30-inch valve actuator.

N. Provide a 4-20mA analogue signal corresponding to valve travel and position.

O. The actuators shall be equipped with automatic double-acting limit switches capable of being field adjusted to trip at any point between FULLY OPENED and FULLY CLOSED valve positions.

P. The actuators shall be equipped with automatic double-acting torque switches. Torque switches shall operate during the complete valve cycle to protect the valve and actuator from excessive loads caused by obstructions in either direction of travel.

Q. The actuators shall be equipped with handwheels for manual operation and shall include an automatic clutch to positively disengage the handwheel at any time the drive motor control is energized. Handwheel operator shall be designed in such a way that failure of the motorized gearing shall not prevent hand operation of the valves.

R. Actuators shall include a mechanical indicator that will provide continuous visual indication of valve position. In addition, actuators shall be equipped with replaceable LED indicating lights that will indicate if the valve is in either the FULLY OPENED or FULLY CLOSED position.

S. Actuators shall be supplied with a control power transformer.

T. Failure Position: Valve actuators shall fail in the last position on loss of power or control signal.

U. Manufacturer:

1. AUMA

2. Rotork

3. Limitorque.

PART 3 - EXECUTION

301.01 VALVE INSTALLATION

A. All valves, gates, operating units, stem extensions, valve boxes, and accessories shall be installed as shown and specified. Valves shall be firmly supported to avoid undue stresses on the pipe.

B. All valves shall be installed to provide easy access for operation and maintenance and to avoid conflicts between valve operators and structural members or handrails.

C. Where combinations of valves, sensors, switches, and controls are specified, it shall be the responsibility of the Contractor to properly assemble and install these various items so that all systems are compatible and operating properly. The relationship between interrelated items shall be clearly noted on shop drawing submittal.

- END OF SECTION -