

**ADDENDUM NO. 3  
TO THE CONTRACT DOCUMENTS FOR  
Well Number 8 Pump Building**

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**To All Planholders and/or Prospective Bidders:**

The following clarifications, changes, additions, and/or deletions are hereby made a part of the Contract Documents for the construction of the Well Number 8 Pump Building as fully and completely as if the same were fully set forth therein:

**A. PART 1, BIDDING REQUIREMENTS**

1. None

**B. PART 2, CONTRACT FORMS**

1. None

**C. PART 3, CONDITIONS OF THE CONTRACT**

1. None

**D. PART 4, SPECIFICATIONS**

1. Section 08 10 00 Doors, Frames, and Hardware: Add paragraph 2.2(O): Security Card Access: Yamas Controls to furnish and install security card access hardware.
2. Section 31 23 23 Excavation and Backfill For Structures: Replace paragraph 3.2 with:
  - A. Limits of shallow site over-excavation and fill requirements extend to 4 feet beyond curb line, as indicated on Sheet C-1A Note 1 in Contract Drawings.
  - B. Refer to "Geotechnical Notes" on Sheet S-1B in Contract Drawings.
  - C. Compact subgrade to density requirements for subsequent backfill materials.
  - D. Cut out soft areas of subgrade not capable of compaction in place. Backfill with granular fill and compact to density equal to or greater than requirements for subsequent fill material.
  - E. Scarify subgrade surface to depth of 6 inches.
3. Section 32 31 33 Cantilever Slide Gate & Operators: Replace content within paragraph 2.2 Gate Controls with:
  - A. Slide Gate Operator and Motor
    1. Supplier: HySecurity
  - B. Slide Gate Security Access – card reader & pedestal
    1. Supplier: Yamas Controls
4. Replace Section 33 12 00 Mechanical Appurtenances in its entirety with Section 33 12 00 Mechanical Appurtenances \_Addendum 3.

#### E. DRAWINGS AND DETAILS

1. Sheet A-2: Revised spec reference.
2. Sheet C-2: Minor revisions to grading table.
3. Sheet C-7: Removed 24"x20" reducer.

#### F. GENERAL CLARIFICATIONS

1. After additional consultation with the electrical engineer on this project we are calling for a 200 hp motor. A 150 hp motor may be considered during submittal review, but for consistency in bidding, pump motor shall be 200 hp and generator shall be sized accordingly.

#### G. QUESTIONS

1. Q: On drawing C-7 Pump Details, I noticed that the Well Head Detail shows a 20" well casing with a 20" X 24" reducer on it. For the size of the pump and column that is being used, there should be plenty of room to fit the pump, column, and sounder tubes up the well and out through ports in the discharge head without needing a reducer. You are only calling for a 6" discharge on the head, and 6" column in the spec. The body size on the discharge head can easily be made with either 12" or 14" pipe. This would still leave ample clearance to fit a 1-1/2" sounder tube out through the baseplate of the discharge head without needing a reducer. You might want to reconsider the use of a reducer given the 20" well casing.

A: See Revised Sheet C-7.

2. Q: What are the dimensions of the (4) Light Poles around the perimeter of the building?

A: Light poles go on curves shown on Sheet C-1A and Sheet E101. Sheet C-1A provides dimensions to back of curb. Conduit trenches and light poles are offset from curb by 4 feet.

3. Q: Drawing (E-605) shows that CP-1 with the RTU is being provided by APCO but in Addendum 2, section F-General Clarifications # 7 states "APCO will program and integrate all SCADA functionality. Contractor to provide the RTU and connections to RTU from Control Panel." -Drawing E103-Sheet keynote #2 calls for contractor to "supply and install RTU radio enclosure and subpanel (by Atlas) to SCADA contractor for assembly of the RTU. RTU components provided and installed by APCO." However, there are no separate schematics or specs related to the RTU components by itself. I am assuming that General Clarification # 7 is referencing just the enclosure and subpanel provided by contractor, and the RTU components will still be provided by APCO.

A: West Jordan City uses two enclosures for their SCADA system. One, is the Main Control Panel (CP-1) with the PLC, terminals, power supply, etc. The second enclosure is for the SCADA radio. APCO will provide to the contractor the enclosure for CP-1 and the enclosure for the SCADA radio. They will retain the internal panels and assemble the components and wiring. Then, APCO will install the internal panel

in CP-1 and the internal panel in the SCADA radio enclosure. Contractor will install conduit and power to these enclosures. APCO will install the radio, coax, and antenna. Contractor will install the weatherhead (if required) and radio mast. APCO will provide and assemble the devices and wiring in both enclosures. Contractor shall install both enclosures as shown on the plans with conduit and conductors to the various field devices. Contractor will terminate all field wiring. APCO will terminate conductors in CP-1. APCO will terminate conductors in the radio enclosure.

4. Q: The HM 6 Panel doors, which is being called out do not offer the opening size that is specified in the door schedule; therefore, these doors will not work. Can we bid Standard HM doors/frames? Also, the door schedule remarks "panel single door with Security Card Access Hardware per spec", unfortunately there is no Security Hardware notes. What would you like us to do?

A: Sheet A-1 shows D-1 as two (2) 3.5' x 7' doors to make up the 7' x 7' double door opening. D-2 are the single doors and they are to be 4' x 7'. The 3.5' x 7' and 4' x 7' door dimensions are standard door sizes. Install the necessary door frames and openings to accommodate these standard doors. Reference to the card access hardware in the spec has been modified per this addendum. Coordinate with Yamas to identify the necessary hardware.

Bidders shall acknowledge receipt and acceptance of this Addendum No. 3 in the Bid Form or by submitting the Addendum with the bid package. Bid Forms submitted without acknowledgment or without this Addendum will be considered in nonconformance.

City of West Jordan

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Appended hereto and part of Addendum No.3



**END OF ADDENDUM NO. 3**

**SECTION 33 12 00**  
**MECHANICAL APPURTENANCES\_ADDENDUM 3**

**PART 1 GENERAL**

**1.1 SUMMARY**

- A. CONTRACTOR shall furnish and install all valves, and equipment, complete and operable in accordance with the Specifications.
- B. Where 2 or more valves or equipment of the same type and size are required, the valves shall be furnished by the same manufacturer.
- C. CONTRACTOR shall verify that flanges on pipe match the bolt hole pattern of the flanges on the mechanical appurtenances.

**1.2 RELATED WORK**

- A. Related work specified in other sections:
  - 1. Section 01 33 00 Submittals
  - 2. Section 01 45 00 Quality Control & Materials Testing
  - 3. Section 01 50 00 Temporary Construction Utilities and Environmental Controls
  - 4. Section 31 23 15 Excavation and Backfill for Buried Pipelines
  - 5. Section 31 23 23 Excavation and Backfill for Structures
  - 6. Section 33 05 05 Ductile Iron Pipe and Fittings
  - 7. Section 33 05 07.1 Polyvinyl Chloride (PVC) Pressure Pipe (ASTM D 1785)
  - 8. Section 33 12 16 Gate Valves (Resilient Wedge Type)
  - 9. Section 33 92 10 Steel Pipe, Specials, and Fittings (AWWA C200, modified)

**1.3 REFERENCES**

- A. The latest edition of the following publications form a part of these specifications to the extent referenced. The publications are referred to in the text to by basic designation only.
- B. AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)
  - 1. A 126 Standard Specification for Gray Iron Castings for Valves, Flanges, and Pipe Fittings
  - 2. A 216 Standard Specification for Steel Castings, Carbon, Suitable for Fusion Welding, for High-Temperature Service
  - 3. B 584 Standard Specification for Copper Alloy Sand Castings for General Applications
- C. AMERICAN WATER WORKS ASSOCIATION (AWWA)
  - 1. C 504 Rubber-Seated Butterfly Valves, 3-inch through 72-inch
  - 2. C 509 Resilient-Seated Gate Valves for Water Supply Service
  - 3. C 512 Air-Release, Air/Vacuum, and Combination Air Valves for Waterworks Service
  - 4. C 515 Reduced-Wall, Resilient-Seated Gate Valves for Water Supply Service
  - 5. C 518 Dual-Disc Swing-Check Valves for Waterworks Service

6. C 550 Protective Interior Coatings for Valves and Hydrants

D. AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)

1. B 16.1 Gray Iron Pipe Flanges and Flanged Fittings
2. B 16.34 Valves – Flanged, Threaded, and Welding End

**1.4 SUBMITTALS**

- A. Provide submittals in accordance with Section 01 33 00 – Submittals.
- B. Submit catalog cut sheets on all mechanical appurtenances including: fittings, valves, or other items shown on the Drawings referencing each item by mark number. Information shall indicate manufacturer specification compliance, Cv factor, pressure rating, and dimensional data.

**PART 2 PRODUCTS**

**2.1 GATE VALVES**

- A. See specification Section 33 12 16 – Gate Valves (Resilient Wedge Type).

**2.2 BALL VALVES**

- A. Valves shall be rated for the working pressure of the system.
- B. **Stainless Steel Ball Valves** shall be full port opening stainless steel and have adjustable stem packing gland. Body and ball shall be stainless steel in accordance with ASTM A351. Seats shall be reinforced PTFE and packing stem shall be PTFE. The handle shall be Type 304 stainless steel with vinyl insulator. The valves shall conform to MSS-SP-100 and be **Apollo 76F-100, NIBCO T-585-S6-R-66-LL, Watts Series S-FBV-1**, or approved equal.
- C. **Bronze Ball Valves** shall be full port opening bronze body, hard chrome plated brass ball and have adjustable stem packing gland. Seat and seals shall be PTFE. Handle shall be heavy, duty, zinc-plated steel with vinyl insulator. They shall be **Watts Series B6080, NIBCO T585-70, Apollo 70-100 Series**, or approved equal.
- D. **PVC Ball Valves** shall be full port opening with all wetted materials composed of Schedule 80 PVC. Valve shall have true union ends or flanged ends to mate with ANSI B16.5 Class 150 flanges. PVC ball valves shall be **NIBCO Chemtrol Series, Spears Mfg. Co. TU-2-2025**, or approved equal. PVC Ball valves are not allowed to be connected to any pump discharge piping.

**2.3 SERVICE SADDLES**

- A. See City of West Jordan Standard Detail CW-105.

**2.4 WATER SERVICE CONNECTIONS AND FITTINGS**

- A. Water service pipe shall be polyethylene tubing (PE 3408 IPS, 200 psi) for buried service lines. Poly piping shall be 3/4-inch, 1-inch or 2-inch minimum as indicated on the Contract Drawings. Replacement service pipes shall be the same diameter as existing pipes.

- B. All water service connections, except 2-inch, shall be made using **Mueller Insta-Tite Connections, Ford Ultra-Tite**, or approved equal, fittings and shall conform to AWWA C800. All 2-inch water service connections shall be made using **Mueller Pack Joint, Ford Pack Joint**, or approved equal.
- C. If the existing service is poly pipe, a coupling can be used to extend the poly service to the new waterline.
- D. New water service lines shall be bored, jacked or augered under the existing pavement, gutters or sidewalks.
- E. Where the new service line will pass under an existing gas line, in order to prevent damage, the gas line shall be potholed and shall remain exposed until the service line is installed.

## 2.5 CORP STOPS

- A. Corp Stops shall be Brass Alloy 85-5-5-5 ASTM B62 and conform to the requirements of AWWA C800.
- B. Corp Stops for 3/4-inch and 1-inch sizes shall be **Mueller H-15026, Ford F1100 Ultra-Tite joint**, or approved equal.
- C. Corp Stops for 2-inch size shall be **Mueller E-25029, Ford F1100 Pack Joint**, or approved equal.

## 2.6 FIRE HYDRANTS

- A. Fire hydrants shall be the dry-barrel type that meet or exceed ANSI/AWWA C502, latest revision. Rated working pressure shall be 250 psig, test pressure shall be 500 psig.
- B. The nozzle section, upper and lower stand pipes and hydrant base shall be ductile iron.
- C. External surfaces above grade shall be factory coated with an epoxy primer and a two-part polyurethane top coating.
- D. The main valve closure shall be of the compression type, opening against the pressure and closing with the pressure. Nozzle section to be designed for easy 360° rotation by the loosening of no more than four bolts.
- E. The valve opening diameter shall be 5-1/4". Hydrant must be designed so that removal of all working parts can be accomplished without excavating. The bronze seat shall be threaded into mating threads of bronze for easy field repair.
- F. Bolting below-grade shall be stainless steel.
- G. The draining system of the hydrant shall be bronze and be positively activated by the main operating rod. Hydrant to be furnished with a sliding bronze drain valve. Sliding drain valves made of rubber, plastic or leather will not be allowed.
- H. Hydrant must have an internal travel stop nut located in the top housing of the hydrant.

- I. Hydrant operating threads to be factory lubricated. O-rings shall be furnished to help keep operating threads lubricated and protected from line fluid and from the weather.
- J. Hydrant must have a traffic flange design allowing for quick and economical repair of damage resulting from a vehicle's impact. Hydrants shall be **AMERICAN Flow Control's Waterous Pacer Model WB67-250** (NO EQUAL ALLOWED).

## 2.7 VALVE BOXES AND LIDS

- A. All buried valves shall be installed complete with 6-inch diameter slide type, two-piece cast iron valve box. Manufacturer be **Tyler 562 Series**, or approved equal. The valve box lid shall be designated "WATER" unless noted otherwise on the Contract Drawings.
- B. Concrete Collars shall be 10" thick x 2'- 6" in diameter centered on the valve box. They shall have two circumscribing #4 bars, one at three inches from the outside edge and a second bar nine inches from the outside edge each centered in the concrete. Concrete shall be 3000 psi.

## 2.8 PRESSURE GAUGES

- A. Pressure gauges shall be provided where shown on the drawings. Gauges shall meet the requirements of ASME B40.1 Grade 2A and be industrial type with stainless steel movement, liquid filled, and stainless steel, Polypropylene, or Phenolic case. Gauges shall have a rear blowout disc or panel. Unless noted otherwise on the drawings, pressure gauges shall have a 4-1/2-inch dial with white face and black lettering, a 1/2-inch threaded connection, and shut-off valve. Measuring element shall be a stainless steel Bourdon Tube. Gauges shall be calibrated to read in applicable units, with an accuracy of ± 0.5 percent to 150 percent of the working pressure. Gauges shall be manufactured by **Ashcroft Model 1279 Duragauge, 1900 Series SOLFRUNT by Ametek (U.S. Gauge), Process Gauge by Marsh Bellofram**, or approved equal.
- B. Pressure gauges that connect to lines other than potable water shall have gauge guards to prevent corrosion and clogging. Gauge guards shall have a durable flexible diaphragm which serves as a protective barrier between the process fluid and instrument. The diaphragm shall be either elastomer or Teflon and rated for the pressure of the gauge.
- C. Pressure gauges for chemical service lines shall be 2-1/2-inch diameter with integral diaphragm seal. These gauges shall be manufactured by **Plast-o-matic**, or approved equal.

## 2.9 BOOSTER PUMP CONTROL VALVES

- A. Booster Pump Control Valves shall be designed to eliminate starting and stopping surges caused by the pump. The valve shall be equipped with a built in check valve. The valve shall be hydraulically operated, single diaphragm actuated, globe type valve. Valve stem shall be stainless steel and the valve body shall be steel conforming to ASTM A 216, Grade WCB. Flanges shall be Class 150 and shall be rated for a working pressure of 350 psi. The valve manufacturer shall provide a 3 year warranty on the valve and 1 year warranty on the electrical components. The booster pump control valves shall be **Model 61-02 by Cla-Val Company**, or approved equal.

- B. The booster pump control valve shall be controlled by an externally mounted pilot control system with a four-way solenoid operated pilot. The solenoid shall be designed to operate on 120 Volt AC current and have a manual operator installed. The pilot system shall include a four-way solenoid pilot valve, opening and closing speed controls, shut off valves, strainers, and CVS-1 shuttle valve to provide the highest available operating pressure to the pilot system.
- C. The booster pump control valve shall have an adjustable limit switch assembly mounted on the main valve and connected to the main valve stem. It shall be actuated by opening or closing of the valve and easily adjusted to operate at any point of the valve's travel. The limit switch shall be used to complete the pump off cycle. The actuating point of the limit switch shall be adjustable.
- D. A direct factory representative shall provide start-up assistance, inspection and adjustments. The representative shall provide 2 to 4 hours of assistance for each valve installed on the project.

## 2.10 PRESSURE REDUCING VALVES

- A. Pressure reducing valves 1/2-inch to 2-1/2-inch shall have a bronze ASTM B62 body and cover with stainless steel trim. Diaphragm shall be reinforced EPDM and the disc EPDM. Valves shall be balanced, direct acting type **Model 990 by Cla-Val Co.**, or approved equal. Valves shall be installed at the location(s) shown on the drawings. The pressure class shall be 150 lb, and the valve shall be set to operate at the pressure indicated on the drawings.
- B. Pressure reducing valves 1/8-inch to 1/4-inch shall be brass with stainless steel stem and spring. Valves shall be provided with a gauge and be **Model #560G by Watts**, or approved equal. Valves shall be installed at the location shown on the drawings. The valve shall be set to operate at the pressure indicated on the drawings.

## 2.11 SURGE SUPPRESSION SWING CHECK VALVE

- A. The check valve shall be of the full flow body type, with a domed access cover and only two moving parts, the flexible disc and the Disc Accelerator. Valves 2" through 12" diameter shall be suitable for pressures up to 250 psi water service and valves 14" through 66" shall be suitable for up to 500 psi water service.
- B. The valve shall be designed, manufactured, and tested in accordance with AWWA C 508. Valves used in potable water service shall be certified to NSF/ANSI 61 Drinking Water System Components – Health Effects, and certified to be Lead-Free in accordance with NSF/ANSI 372.
- C. The valve shall be certified to be lead free in accordance with NSF 61, Annex G.
- D. Joints: Provide the type of joint as specified on the Contract Drawings. Unless noted otherwise, provide wafer style valves for installation between ANSI B16.1 Class 125 flanges. Grooved end valves shall be provided in 2" through 12" diameters for installation on pipe with cut grooves per AWWA C606 for steel IPS pipe.
- E. Materials: The valve body and cover shall be constructed of ASTM A536 Grade 65-45-12 ductile iron or ASTM A126 class B gray iron for 30 in. (800mm) and larger. Optional



body materials include ASTM A-351 Grade CF8M, stainless steel for sizes 3" (80 mm) through 12" (300 mm). The disc shall be precision molded Buna-N (NBR), ASTM D2000-BG. Optional disc material includes Viton, EPDM, Hypalon. The disc accelerator shall be Type 302 stainless steel.

- F. Valve interior and exterior shall be coated with an NSF 61 certified fusion bonded epoxy in accordance with AWWA C 550.
- G. Swing check valves shall be **SURGEBUSTER by Val-Matic**, or approved equal.

## 2.12 DRAIN LINE CHECK VALVE

- A. Drain line check valves shall be the low-head "duck bill" type installed at the locations shown on the drawings. Valves shall be constructed of pure gum rubber and be **Tideflex Model TF-1 by Red Valve**, (no approved equal).

## 2.13 CHECK VALVES

- A. The globe style check valves shall be **APCO Globe Style Series 600 Silent Check Valves**, or approved equal, and shall be rated at 150 psi.
- B. The 1-inch and 2-inch brass check valves shall be **Watts CVY Series**, or approved equal, with rating 125 WSP/200 WOG.
- C. The 1-inch PVC check valves shall be **Spears Industrial Ball Check Valve Model 4521**, or approved equal, with a pressure rating of 235 psi.

## 2.14 HOSE BIBBS and SAMPLING TAPS

- A. Hose bibbs shall be as-manufactured by Watts, or approved equal, and shall include an integral vacuum breaker or built-in backflow protection devices and cast iron wheel handle. Sampling Taps shall be smooth nose type. Valves shall be stainless steel.

## 2.15 COMBINATION AIR/VACUUM VALVES

- A. Combination Air/Vacuum valves shall be single body, double orifice valves conforming to the requirements of AWWA C 512. Valve float shall be stainless steel. Valves shall be the size indicated on the drawings and shall be **Series 140C by APCO (DeZURIK)**, or approved equal.

## 2.16 DEEP WELL AIR RELEASE VALVES

- A. Well Service Air Valves shall be fully automatic float operated valves designed to exhaust air which is present in the pump column on pump startup and allow air to re-enter the column on pump shutdown or should a negative pressure occur. Valve shall be equipped with a dual port throttling device shall provide adjustable control of the exhaust rate and allow free flow into the valve through a separate inlet port. Valve shall be equipped with a air release valve (5/32" orifice) which shall be connected externally via the main valve body. All valve floats shall be Type 316 stainless steel and valves shall be NSF 61 listed. Valves shall be the size indicated on the drawings and shall be **Series 140 (Model 144DAT) by APCO (DeZURIK)**, or approved equal.

## **2.17 FLOW METER**

- A. See Section 40 91 23 – Miscellaneous Properties Measurement Devices.

## **2.18 PRESSURE TRANSMITTERS**

- A. See Section 40 91 23 – Miscellaneous Properties Measurement Devices.

## **PART 3 EXECUTION**

### **3.1 INSTALLATION**

- A. Valves, valve-operating units, stem extensions and other accessories shall be installed by CONTRACTOR where shown, or where required in the opinion of ENGINEER, to provide for convenience in operation. Where buried valves are indicated, CONTRACTOR shall furnish and install valve boxes at grade with concrete collars. All valves and boxes shall be new and recently manufactured.
- B. Install mechanical appurtenances as indicated on the plans and in accordance with the manufacturer's written instructions.

- END OF SECTION -