

### October 10, 2024

# STEPHENS REGIONAL SUD WATER TREATMENT PLANT IMPROVEMENTS – HYDROPNEUMATIC TANK TEXAS WATER DEVELOPMENT BOARD (TWDB) DWSRF PROJECT NO. 62816

# Addendum No. 2

Attention is called to the following modifications to the referenced Plans, Specification and Contract Documents for the above referenced project. The Stephens Regional Special Utility District (SRSUD) will receive sealed Bids for the TWDB DWSRF #62816, Water Treatment Plant Improvements-Hydro-pneumatic Tank Project at the SRSUD Offices, located at 206 FM 3099, Breckenridge, Texas 76424, until <u>2:00 p.m.</u>, local time on <u>Wednesday, October 16, 2024</u>, at which time the sealed Bids received will be publicly opened and read. We hereby modify as follows:

## SPECIFICATIONS:

- 1. Specification Section 15291 Hydro-Pneumatic Tank; Part 2.4 Air-Water-Volume Controls shall be **REPLACED** with the following:
  - 2.4 AIR-WATER VOLUME CONTROLS:
    - A. There shall be one compressor installed. The existing high service pumps will be utilized to fill the hydro-pneumatic tank. The existing pumps will be controlled by the existing operating strategy.
    - B. The pressure transducer shall be used to only indicate pressure at the location shown on the drawings. The pressure transducer will not be used to control any equipment. The pressure transducer shall be an Endress + Hauser Cerabar T (Order Code: PMC131-A22F1Q4R) or an Engineer approved equal.
    - C. The PLC shall be programed to take 4-20mA inputs from the level transducer on the proposed hydro-pneumatic tank and provide logic outputs with appropriate time delays as follows:
      - 1. Low Liquid Level Compressor OFF(To match existing Hydro-pneumatic tank)
      - 2. High Liquid Level Compressor ON(To match existing Hydro-pneumatic tank)
    - D. The level transducer shall be an Endress + Hauser Liquicap M (Order Code: FMI51-A1HRCJA3D1A) or an Engineer approved equal. Length of probe to be 96 inches.

- E. Valves provided as part of the system shall be slow-closing in accordance with 30 TAC §290.43(d)(6).
- F. The Hydro-pneumatic Tank pressure relief valve (PRV) shall be set at 135 PSI and discharge to a safe location.
- G. Air injection lines shall be provided with a filter in accordance with 30 TAC §290.43.
- **2. REPLACE** Specification Section 11501 Air-Cooled Reciprocating Air Compressor in its entirety with the attached.

# DRAWINGS:

- 1. Drawing Sheet 01 shall be **REPLACED** in its entirety. See attached.
- 2. Drawing Sheet 03 shall be **REPLACED** in its entirety. See attached.
- 3. Drawing Sheet 05 shall be **REPLACED** in its entirety. See attached.
- 4. Drawing Sheet 08 shall be **REPLACED** in its entirety. See attached.
- 5. Drawing Sheet 09 shall be **ADDED** to the drawing set. See attached.

This addendum consists of <u>eleven (11)</u> pages and becomes a part of the referenced plans, specifications and contract documents and shall be acknowledged by the proposer and attached to the sealed proposal submitted.

By:

Leroy Arce, P.E. #114163 Project Manager



#### SECTION 11501

#### AIR-COOLED RECIPROCATING AIR COMPRESSOR

#### PART 1 GENERAL

- 1.1 SECTION INCLUDES:
  - A. Air-cooled reciprocating air compressor and accessories to operate a hydropneumatic system.
  - B. Receiver tank.
  - C. Motor starter
  - D. Pressure switch.

#### 1.2 REFERENCES:

- A. NEC--National Electrical Code 1993 Edition.
- B. NEMA--National Electrical Manufacturers Association.
- C. ASME--American Society of Mechanical Engineers.
- 1.3 DEFINITIONS:
  - A. PSIA Pounds per square inch absolute
  - B. PSIG Pounds per square inch gauge
  - C. SCF Standard cubic foot, a cubic foot of air at atmospheric pressure and 68 degrees Fahrenheit.
- 1.4 DESCRIPTION:

The air compressor shall be single or two stage, base mounted, electric motor, capable of 18.1 CFM air displacement at 90 psi. 1/2" high pressure hose shall be installed for connection of air compressor to air piping.

- 1.5 SUBMITTALS:
  - A. Shop drawings showing dimensions.
  - B. Parts list noting materials of construction.
  - C. Three copies of operation and maintenance information, containing as a minimum:
    - 1. Lubrication Information: Manufacturer's recommendations of lubricants to use and the lubrication schedule.

- 2. Control Diagrams: Show internal and connection wiring.
- 3. Operating Procedures: Instructions consisting of the recommended step-by-step procedures for starting, operating, and stopping the equipment.
- 4. Preventive Maintenance Procedures: Manufacturer's recommended steps and schedules for maintenance.
- 5. Overhaul Instructions. Manufacturer's directions for the disassembly, repair and reassembly of the equipment and any safety precautions that must be observed while performing the work.
- 6. Parts List: Provide the generic title and identification number of each component part of the equipment.
- 7. Exploded View: Exploded or cut views of equipment shall be provided if available as a standard item of the manufacturer's information. When exploded or cut views are not available, plan and section views shall be provided with detailed callouts.

#### 1.6 OPERATING REQUIREMENTS:

A. Performance and Design Requirements:

The air cooled compressor and accessories shall be suitable for continuous operation up to 5 hours duration at 100 psi discharge pressure.

B. Operating Requirements:

Operating requirements shall be as follows:

- 1. Max Discharge Pressure 135 psi
- 2. Normal Operating Pressure 100 psi
- 3. Capacity at 100 psi discharge pressure 17.5 cfm
- 4. Maximum compressor rotational speed 950 rpm
- 5. Installed motor horsepower 5
- 6. Number of compression stages with intercooler

#### 1.7 QUALITY CONTROL:

A. Factory Tests:

The compressor shall be subjected to factory tests to verify satisfactory operation at the specified conditions.

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#### 1.8 NEC AND NEMA STANDARDS:

Electrical components shall be selected, designed, and manufactured in compliance with NEMA and NEC requirements.

#### PART 2 PRODUCTS

#### 2.1 NAMED MANUFACTURERS AND EQUIPMENT:

The equipment identified above is intended to establish a standard; and, any material, article, or equipment of other manufacturers and vendors which will perform adequately the duties imposed by the specifications will be considered equally acceptable, provided the material, article, or equipment so proposed is, in the opinion of the Owner, of equal substance and function.

#### 2.2 ACCEPTABLE PRODUCTS:

A. The equipment provided under this Specification shall be furnished by one supplier as a complete operating unit.

Acceptable equipment are the following: Ingersoll Rand SS5L5 or approved equal.

#### 2.3 MOTORS:

Motors shall have drip-proof enclosures, 208-230 volt, 1-phase motors, with insulation Class B, 60 Hertz, for 40 degree Centigrade temperature rise. Service factor shall be 1.15. Each motor shall meet NEMA standards and operate within the nameplate horsepower at any discharge pressure from 0 to 135 psi and ambient air temperature from 0 to 115 degrees Fahrenheit.

#### 2.4 COMPRESSOR CONTROLS:

#### A. General

Provide a self-contained combination motor starter (minimum NEMA Size 1) and receiver-mounted pressure switch. The combination motor starter shall be suitable for motor operation at 230 volts, 1-phase with fused transformer for 120-volt control power. Disconnect switch shall be fused and lockable. Starter shall be in a NEMA 4 enclosure and meet NEC requirements in all respects.

#### 2.5 COMPRESSOR CONSTRUCTION:

#### A. General:

The compressor shall be single-stage type. The compressor shall be mounted on a vertical ASME-approved receiver thank. Receiver capacity shall be between 60 and 100 gallons. Provide belt drive and guards complying with OSHA requirements.

B. Features:

Finish Crankcase and Cylinder Piston Pin Bearings Unloader Lubrication Manufacturer's standard Cast iron Needle type Head unloader for start-stop operation Splash or pressure type

#### 2.6 RECEIVER:

Furnish receiver with 60 to 100-gallon capacity. Receiver to be an ASME tank equipped with: safety valve, tank drain, pressure gauge, and tank shut-off valve.

- 2.7 ACCESSORIES:
  - A. Condensate Drain Valve:
  - B. Intake Filter Silencer:

Provide intake air filter-silencer with replaceable elements.

#### 2.8 FILTER/REGULATOR:

Provide a 1/2-inch pipe size filter regulator unit with upstream and downstream pressure gauges. Filter regulators shall be Wilkerson CB6-04-000 (Grainger 6ZC78) or approved equivalent.

#### 2.9 SPARE PARTS:

Furnish the following:

- A. One set of valve units.
- B. Two inlet silencer elements.
- C. Four 1-quart containers of compressor lubricant.

#### PART 3 EXECUTION

#### 3.1 INSTALLATION:

Equipment specified in this Section shall be aligned, connected and installed by others as shown, specified, and in accordance with the manufacturer's recommendations.

3.2 FIELD TEST:

Demonstrate proper operation of the compressor unit by venting compressed air to allow the air compressor to cycle 10 times minimum.

END OF SECTION



# **STEPHENS REGIONAL SPECIAL UTILITY DISTRICT HYDROPNEUMATIC TANK IMPROVEMENTS STEPHENS COUNTY, TEXAS**

**PRESIDENT** DANNY STEPHENS

VICE PRESIDENT DONNIE LOCKHART

**SECRETARY / TREASURER** MARK DEMPSEY

DIRECTORS

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CONTRACT No. 6825 SHEET No. **1** OF 8



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# NOTES INDICATED BY $\stackrel{\not}{\longleftarrow}$ :

1. EXISTING ELECTRICAL DUCT BANK (4-1"C, 1- 1/2"C) AND PULL BOX TO BE UTILIZED FOR HYDROPNUEMATIC PROJECT 2. VERIFY NO OBSTRUCTION WITH UNDERGROUND LINES.

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3. CONTRACTOR TO EXTEND SPACE CONDUITS FROM OUTSIDE OF BUILDING AND PULL BOX. REFER TO AIR COMPRESSOR LAYOUT DETAIL SHEET 08.

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