

Scope of Work
AL-20-B61 SCADA SYSTEM
Santo Domingo Pueblo, NM

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SCOPE OF WORK
PUEBLO OF SANTO DOMINGO
PROJECT NO. AL-20-B61 SCADA SYSTEM
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I. EXECUTIVE SUMMARY

In this SOW, The Santo Domingo Tribal Utilities Authority is soliciting proposals for the design, furnishing, and installation of the SCADA system improvements for the municipal water system which spans approximately 6 miles with elevations ranging from 5,170' to 5,730' and includes:

1. I-25 Pump House, two production wells, and I-25 Storage Tank.
 - a. I-25 Pump House containing controls for the two water wells and chlorination dosing equipment.
 - b. I-25 Well #1 – 500 gpm with controls in the I-25 Pumphouse.
 - c. I-25 Well #2 – 500 gpm with controls in the I-25 Pumphouse.
 - d. I-25 Tank – 175,000 gallon water storage tank.
2. Domingo Tank, Altitude Valve and PRV Valve.
 - a. Domingo Tank & Altitude Valve (normally online).
 - b. Pressure Reducing Valve (normally off-line).
3. EDA Tank, Altitude Valve.
 - a. 39k gallon Tank & Altitude Valve (normally online).
4. Main Village Tank.
 - a. Two 200k gallon Tanks & Altitude Valve (normally online).
5. Pressure Reducing Valves (if selected as an additive)
 - a. Upper Area PRV
 - b. School Area PRV
 - c. Dirt Dam PRV
6. Existing Sewer Lift Station (if selected as an additive)
 - a. Lift Station with two submersible pumps.

Technical Provision IHS TP 24 SCADA Implementation and TP 55 Gallon Drum Scale are provided for reference. The proposed system shall be consistent with the Technical Provisions, or further clarified by the Contractor by the 'Clarifications' portion of the Proposal. The Technical Provision for the 55 Gallon Drum Scale is provided a commercially available product to provide guidance but not limited to this manufacturer or model.

Locations of the existing improvements are shown in Attachment C "Overview", and if requested, Tribal Utility Authority can provide a KMZ of the listed sites.

II. SCOPE OF WORK

PHASE I

1. Perform a site visit to the Santo Domingo Tribal Utilities Authority main office to review the proposed MTU installation. This site visit will include stops at the proposed installation locations.

PHASE II

2. Provide all SCADA design, scheduling, management, and coordination necessary for a complete and operable water SCADA system. Work with the Tribal IT Department to connect the system to the Pueblo's existing network.
 - a. Identify deficiencies in the existing control system and propose improvements that will result in a complete and operable SCADA system.
 - b. After review and concurrence by Santo Domingo and IHS, provide all SCADA design and scheduling so that the proposed improvements can be implemented.
3. Provide all electronic submittal for all SCADA and Radio Telemetry studies, drawings, diagrams, photos, catalog sheets, and display screen shots with a written report including background, evaluation and recommendations and architecture for proposed upgrades and any transitional systems, necessary for a complete and operable SCADA and radio system from each RTU to the MTU.

PHASE III

4. Provide and install PLC, HMI, display, cabinet, power supply, universal power supply, wiring, signals, controls and alarms at each water system RTU location. This work shall include all; mounting of RTUs with antennas, installation of exposed and buried conduit, installation of support features such as mounting poles and brackets, and core drilling of existing concrete.
5. Provide and install wiring to interface the existing equipment and controls to each new PLC.
6. Provide and install any mounting poles, if needed, equivalent to 4" diameter MCA Pole (micronized copper azole).
7. Provide all documentation of: design, as-built drawings, equipment data, testing, certification, and warranties.
8. Provide O&M training and start-up / commissioning services.
9. Provide all spare parts, special tools and maintenance products.
10. Provide 3 years of SCADA system maintenance warranty and support.



Figure 1: Simplified Diagram of the existing water system.

III. NM One-Call Utility Locate:

The contractor is responsible for contacting NM One-Call Utility Locate to have existing utilities marked prior to construction. The contractor is responsible for contacting Utilities outside of the NM One-Call Utility Locate system, if applicable.

IV. Existing Utilities:

The best available information from existing as-built drawings and the Santo Domingo Tribal Utility Authority was utilized to show existing water and sewer facilities. However, it is expected that some variation will be discovered in the field. The Contractor shall coordinate with the IHS Project Engineer and the Tribal Utility Authority on a regular basis to ensure that the best available information with regard to existing facility locations is shared.

Any damage caused by the Contractor to the existing facilities shall be repaired at the Contractor's expense. In regard to a water main breakage, all repair couplings must be approved by the Tribal Utility Authority prior to installation.

SCADA Proposal Requirements:

All proponents must submit:

Title	Description	Included? (yes/no)
Proposal Letter	Signed Letter stating the cost as outlined in the Proposal Cost Table.	
Contractor's License No & Contractor's NMDOL Registration	Registration Numbers & Expiration Dates.	
Clarifications	Deviations from the Scope of Work or items 'not included in proposal'.	
Annual Subscription Costs	A statement detailing costs for licensing or subscriptions on a yearly basis after the first year of service, based on current prices (if applicable). The Pueblo reserves the right to ask for clarifications before award of contract.	
Product Brochures, Technical Data, and/or Technical Specifications.	Items that will allow the Pueblo to evaluate the SCADA system as proposed. These items are intended to allow the Pueblo to evaluate the Proposal.	

**Santo Domingo Pueblo
AL-20-B61 SCADA System
Proposal Cost Table**

Item	Name	Quantity	Unit Cost	Unit	Cost
1	Mobilization/ Demobilization	1		LS	
2	Main Telemetry Panel & SCADA Computer	1		LS	
3	I-25 Pump House RTU	1		LS	
4	Residual Chlorine Monitor, Drum Scale & Chlorine Feed Status	1		LS	
5	Domingo Tank RTU & Solar Array	1		LS	
6	EDA Tank RTU & Solar Array	1		LS	
7	Main Village Tanks RTU & Solar Array	1		LS	
8	Core Penetrations	3		EA	
9	Operator Training, O&M Manuals, & Startup Commissioning	1		LS	
Santo Domingo 6.125% GRT :					
Total Cost :					
Additive Items					
10	Upper Area PRV - RTU	1		LS	
11	School Area PRV - RTU	1		LS	
12	Dirt Dam PRV - RTU	1		LS	
13	Lift Station - RTU	1		LS	
14	Core Penetrations	4		EA	
Santo Domingo 6.125% GRT :					
Additive Items Total Cost :					

Additive Items will be evaluated on available budget. System shall be expandable to include the additive items in the SCADA viewer program even if the items are not selected.

**Santo Domingo Pueblo
AL-20-B61 SCADA System
Cost Table Descriptions**

Santo Domingo Water System - SCADA		
Item	Name	Description
1	Mobilization/ Demobilization	Mobilization and demobilization of all materials, equipment and labor.
2	Main Telemetry Panel & SCADA Computer	Furnish and install a main telemetry panel and SCADA Computer with software. Includes materials, labor, supplies needed to complete the work. • Inspiron Dell, or equivalent ○ Processor: 12th Gen Intel Core i7-12700 processor ○ Operating System: Windows 11 ○ Video Card: Intel UHD Graphics 770 ○ Memory: 16 GB 1x16 GB DDR4, 3200 MHz ○ Hard Drive: 1 TB • VTScada Human-Machine Interface
3	I-25 Pump House RTU	Furnish and install a Remote Telemetry Unit integrating the main features at the site, and providing alarms as appropriate. Includes materials, labor, supplies needed to complete the work. • Tank Level – pressure in FT, low level & high level alarms • Production Flow Well 1 - GPM • Production Flow Well 2 - GPM • Well 1 - AMPs, ON/OFF/Fail to Run Status • Well 2 - AMPs, ON/OFF/Fail to Run Status Allen-Bradley Programmable Logic Controller. NEMA 1 Application Wall Mounted.
4	Chlorine Drum Scale	Furnish and install a Chlorine Drum Scale and integrate the signal to the SCADA system, and providing alarms as appropriate. Includes materials, labor, supplies needed to complete the work. • Drum Scale – Lbs., low weight alarm
5	Domingo Tank RTU & Solar Array	Furnish and install a Remote Telemetry Unit & Solar Array integrating the main features at the site. Includes materials, labor, supplies needed to complete the work. • Tank Level – pressure in FT, low level & high level alarms • Altitude Valve – PSI upstream pressure Allen-Bradley Programmable Logic Controller. NEMA 4x application with sun shield.
6	EDA Tank RTU & Solar Array	Furnish and install a Remote Telemetry Unit & Solar Array integrating the main features at the site. Includes materials, labor, supplies needed to complete the work. • Tank Level – pressure in FT, low level & high level alarms • Altitude Valve PSI - upstream pressure Allen-Bradley Programmable Logic Controller. NEMA 4x application with sun shield.

Santo Domingo Water System - SCADA		
Item	Name	Description
7	Main Village Tanks RTU & Solar Array	Furnish and install a Remote Telemetry Unit and Solar Array integrating the main features at the site. Includes materials, labor, supplies needed to complete the work. • Tank Level – pressure in FT, low level & high level alarms • Altitude Valve upstream pressure Allen-Bradley Programmable Logic Controller. NEMA 4x application with sun shield.
8	Core Penetrations	Core penetration of any existing concrete vault structure, excavation, conduit, signal cable, and backfill for a complete and functioning system.
9	Operator Training, O&M Manuals, & Start-up Commissioning	Provide 4 hours of successful start-up services. Provide 4 hours of Operator Training. Provide 4 hard copies and a PDF set of O&M Manuals. Provide start-up and commissioning for a fully functioning system.
10 ALT	Upper Area PRV - RTU	Furnish and install a Remote Telemetry Unit & Solar Array integrating the main features at the site. Includes materials, labor, supplies needed to complete the work. • Pressure Transducer #1 - Up Stream Pressure PSI • Pressure Transducer #2 - Down Stream Pressure PSI Allen-Bradley Programmable Logic Controller. NEMA 4x application with sun shield.
11 ALT	School Area PRV - RTU	Furnish and install a Remote Telemetry Unit & Solar Array integrating the main features at the site. Includes materials, labor, supplies needed to complete the work. • Pressure Transducer #1 - Up Stream Pressure PSI • Pressure Transducer #2 - Down Stream Pressure PSI Allen-Bradley Programmable Logic Controller. NEMA 4x application with sun shield.
12 ALT	Dirt Dam PRV - RTU	Furnish and install a Remote Telemetry Unit & Solar Array integrating the main features at the site. Includes materials, labor, supplies needed to complete the work. • Pressure Transducer #1 - Up Stream Pressure PSI • Pressure Transducer #2 - Down Stream Pressure PSI Allen-Bradley Programmable Logic Controller. NEMA 4x application with sun shield.
13 ALT	Lift Station RTU	Furnish and install a Remote Telemetry Unit & Solar Array integrating the main features at the site. Includes materials, labor, supplies needed to complete the work. • Pump 1 AMPs, ON/OFF/Fail to Run Status • Pump 2 AMPs, ON/OFF/Fail to Run Status • High Level Alarm Allen-Bradley Programmable Logic Controller. NEMA 4x application with sun shield.