

TASK ORDER AMENDMENT 04

This Task Order pertains to an Agreement by and between Union County, North Carolina (“OWNER”), and HDR Engineering, Inc. of the Carolinas (“ENGINEER”), dated December 21, 2020, (“the Agreement”), as modified by Task Order 2020-02 dated May 27, 2021, as such Task Order was modified by amendments dated August 4, 2022, July 20, 2023, and February 26, 2024. ENGINEER shall perform services on the project described below as provided herein and in the Agreement and the Task Order. This Task Order Amendment shall not be binding until it has been properly signed by both parties. Upon execution, this Task Order Amendment shall supplement the Agreement and the Task Order as it pertains to the project described below.

TASK ORDER NUMBER: 2020-02 Amendment 04

PROJECT NAME: VTScada Deployment

The parties agree to amend Task Order 2020-02 as specified below.

1. Modify Task 8 Crooked Creek Configuration and Update to also include:

Upon completion of work by others at the facility related to process control improvements, the ENGINEER has evaluated integration with VTScada and has determined that additional work is required to integrate additional data and operator interface for the Influent and RAS process areas. This additional work includes:

- a. Migrate PLC-11 communication from Modbus TCP to CIP.
- b. Integrate 275 additional tags from PLC-11.
- c. Migrate PLC-RAS communication from Modbus TCP to CIP.
- d. Integrate 880 additional tags from PLC-RAS.
- e. Create three new process area graphics and four control pop-ups for Influent Process area.
- f. Create five new process area graphics and five control pop-ups for PLC-RAS.
- g. Update test plan to include additional graphics and PLC tags.
- h. Perform unwitnessed field configuration and testing for additional screens and tag integration.
- i. Configure VOIP alarm setup, configuration and testing for additional alarms in each process area.
- j. Perform witnessed field testing for additional screens and tag integration.

Task 8 Deliverables:

- a. Graphics submittal (pdf)
- b. Test plan (pdf)
- c. Test report (pdf)

2. Modify PART 2.0 to add Task 9 Network Coordination.

ENGINEER has been requested by the OWNER to provide network coordination and troubleshooting support for the SCADA network at multiple facilities. This work includes the following:

- a. Assist with investigation of VOIP alarm setup and callout including configuration and testing. The results in coordination with OWNER's Automation Manager will be used to inform setup and configuration for OWNER's Telemetry, Crooked Creek, and 12-Mile projects.
- b. Investigate, troubleshoot, and test communication between VTScada and Modbus Gateways at Crooked Creek.
- c. Participate in OWNER IT and Automation Group collaboration meetings and follow-up support activities for outstanding system wide network coordination including data routing coordination, remote access coordination, VOIP, alarm notification, and network architecture topics at Yadkin WTP, 12-Mile WRF, Crooked Creek WWTP, water distribution sites, and wastewater collections sites.

Task 9 Assumptions:

- a. Collaboration meetings include preparation and participation in 20, two-hour sessions starting July 1, 2024 and ending by December 4, 2024 for one ENGINEER representative.

3. Modify PART 2.0 to add Task 10 Security Domain Migration.

Task 10: Security Domain Migration

ENGINEER will provide support to OWNER's Automation Team and representatives for migration of SCADA system to domain security.

ENGINEER will provide the following support for the security migration associated with Remote Sites, Crooked Creek, and Yadkin WTP:

- a. Verify critical data points are being collected and trended in local operator interface terminals (OITs) where applicable and assist with OIT configuration if necessary.
- b. Configure the test server to run VTScada as a 3rd partner server to server as non-domain connected backup.
- c. Configure VTScada security to allow no non-domain logins.
- d. Shutdown VT on DAS servers.
- e. Coordinate with OWNER for migration of servers to Union County domain by others.
- f. Restart VTScada on DAS servers.
- g. Reconfigure and test domain login for VTScada applications.
- h. Check for and address gaps in VTScada historical data.

Task 8 Deliverables:

- a. Test Plan (pdf).

Task 8 Assumptions:

- a. OWNER's Automation team will configure and test domain controller using active directory service.
- 4. Modify **PART 4.0** to extend period of service. Period of service to be extended to end by February 28, 2025 pending completion of OWNER activities.
- 5. Modify **PART 5.0** to increase total project costs to \$659,438 and replace table with the following.

Compensation by OWNER to ENGINEER will be on a lump sum basis.

Task	Project Costs
Task 1 Project Management and Meetings	\$56,764
Task 2 Develop Object Library	\$152,871
Task 3 DFS Data Connection and Database Configuration	\$51,145
Task 4 Develop and Deploy Collections, Distribution, and Wastewater Screens	\$154,885
Task 5 Training	\$21,825
Task 6 Object Updates	\$37,077
Task 7 Procurement Support	\$2,400
Task 8 Crooked Creek Configuration and Deployment	\$128,101
Task 9 Network Coordination	\$28,628
Task 10 Security Domain Migration	\$25,742
Total	\$659,438

This Task Order is executed this _____.

Union County, NC "OWNER"	BY: _____	HDR Engineering, Inc. of the Carolinas "ENGINEER"	BY: _____
NAME: Brian W. Matthews	NAME: Jonathan Henderson		
TITLE: County Manager	TITLE: Senior Vice President		
ADDRESS: 500 N. Main Street Monroe, NC 28112	ADDRESS: 440 South Church Street Charlotte, NC 28202		

Approved as to Legal Form: BTI

This instrument has been preaudited in the manner required by the Local Government Budget and Fiscal Control Act.