

# **TASK ORDER NO. 11668**

**Pursuant to the**

## **MASTER AGREEMENT FOR PROFESSIONAL SERVICES BETWEEN**

**CITY OF MERIDIAN (OWNER) AND  
JACOBS ENGINEERING GROUP, INC. (SYSTEMS PROGRAMMER)**

This Task Order is made this 17th Day of March, 2026 and entered into by and between the City of Meridian, a municipal corporation organized under the laws of the State of Idaho, hereinafter referred to as “Owner”, and accepted by Jacobs Engineering Group, Inc., hereinafter referred to as “Systems Programmer” pursuant to the mutual promises, covenant and conditions contained in the Master Agreement (Category 7B) between the above-mentioned parties dated October 1, 2024. The Project Name for this Task Order is as follows:

## **WRRF SCADA STANDARDS SDGC5 DIGESTER PLC PROGRAMMING UPGRADES**

### **PROJECT UNDERSTANDING-SUMMARY**

The owner’s SCADA master plan identified several PLCs that are not up-to-date with the owner’s current programming standards. Due to this, the owner has prioritized a few PLCs to be updated. The following Scope of Work describes the services that will be provided by the System Programmer to complete the PLC and Wonderware programming upgrade to use the current SCADA Standards.

- Integration Services for updating the existing Digester PLC include updating the following:
  - Programming for (1) existing Programmable Logic Controllers (PLCs), associated Wonderware HMI objects:
  - Provision of import file for new alarm tags to be imported by Owner into Topview alarm notification software.

### **Work Approach**

System Programmer will complete the work in a phased approach.

Phase 1 Software Planning: Will include meetings with the Owner, to coordinate project schedule, loop descriptions, PLC code development, HMI graphics development, preliminary IO checkout, testing procedures, and testing coordination.

Phase 2 Software Development: Will include PLC, HMI and Wonderware development, unwitnessed software test, and witnessed software factory acceptance test.

Phase 3 Software Implementation: Will include onsite loop testing, process control strategy/functional testing, closed loop testing, and system acceptance test. This phase will also include training and final tuning.

## **SCOPE OF WORK**

### **Task 1 Project Management**

The purpose of this task is to manage, coordinate and lead System Programmer activities and perform administration of the project control system software execution and control system software quality reviews. System Programmer will provide the resources necessary for project initiation and management throughout the project.

Activities include contract administration, project accounting, Health & Safety Plan preparation, project documentation, monitoring progress, change management, periodic invoicing, and closeout and archiving. The estimated level of effort associated with these functions is based on a 26-week duration from Owner-issued notice-to-proceed to completion for the tasks described herein.

### **Change Management**

Request for Change (RFC): Changes made by the Owner that impact this scope of work and or schedule will be submitted as an RFC by the Owner to the System Programmer prior to implementing the change. The System Programmer shall review the RFC and submit a response including cost and schedule impacts. The System Programmer may begin working on the change once terms are agreed upon and authorization is received from the Owner.

System Programmer Change Proposal (CP): If the System Programmer wants to propose an alternate solution to the Conformed Contract Drawings and Specifications or to suggest a change to the Contract, it will be done using a CP form. The System Programmer will provide information describing the change and the cost or credit being proposed and the schedule impacts. If a CP is accepted or partially accepted by the Owner, the Owner will issue an RFC authorizing the change.

Request for Information (RFI): The System Programmer may request interpretation or clarification of the existing PLC program throughout the project. Either the Owner or System Programmer may request additional information from one of the other parties. The request section of the form will be filled out by the party initiating the request. It will be sent to the Owner or System Programmer. The written response will be returned to the Owner who will distribute copies. If the response to an RFI causes a change to this Contract, the Owner shall be notified. If the Systems Programmer and Owner concur, Owner will issue an RFC to the System Programmer.

## **1.1 - Kickoff Meeting**

- System Programmer Kickoff Meeting
  - Schedule and lead one 1-hour workshop at the project site.
- Review procedures for exchanging information with Owner, including:
- I/O Interface Summaries
- Test Plans
- Loop Descriptions
- Training Plans
- Review Programming Schedule and determine update frequency.

## **DELIVERABLES:**

- Completed RFC responses.
- Completed CP forms.
- Completed RFI forms.
- Monthly invoices and progress reports.
- Kickoff Meeting Minutes.

## **Task 2 - Software Planning (Phase 1)**

The purpose of this task is to coordinate planning activities with the Owner to define roles and responsibilities. Workshops are included to allow System Programmer and Owner to review the loop descriptions, and to further define the details of the loop descriptions prior to beginning software development.

### **2.1 Database setup**

- Populate Commissioning Database with PLC I/O tags, loop descriptions, and AOI assignments.

### **2.2 Existing IO Test Phase with Existing Program**

- Test each instrument loop as an integrated system from the field instrument to the PLC with existing PLC program.
- Issues discovered during this test phase will be added to a list and addressed by owner before the Software Implementation phase.

### **2.3 I/O List Development**

- System Programmer to develop IO lists for one Digester (SDGC5) PLC.

## **2.4 Loop Description Development**

- Develop preliminary loop descriptions based on existing PLC code.
- Lead two 4-hour Software Function Definition Workshop at the project site with Owner staff to review the details of the preliminary loop descriptions necessary for programming all equipment in the Digester (SDGC5) PLC.
- Preliminary Loop Descriptions to be approved by the Owner. Once Preliminary Loop Descriptions are developed, the System Programmer will assess and submit Change Proposal forms if needed prior to developing preliminary code.
- All Loop Description document edits to be completed by the System Programmer and approved by the Owner.

## **DELIVERABLES:**

- Meeting minutes from System Programmer Kickoff meeting.
- Function definition workshop notes.
- Revised loop descriptions.
- IO list.
- Existing IO Test Phase with Existing Program Test Results

## **Task 3 - Software Development (Phase 2)**

The purpose of this task is to complete the programming of the plant control system software, and to demonstrate the software functions to the Owner. Refer to enclosed Table 2, Subsystem Details, for a description of the systems included in this scope of work.

### **3.1 Preliminary PLC and Wonderware Programming**

- PLC, HMI, and Wonderware programming based on the results of the Software Function Definition Workshop.
- Up to 15 process graphics.
- Up to 5 custom control pop-up graphics.
- Modify Navigation graphic and site plan graphic in Wonderware.
- Maintain electronic copies of Loop Descriptions and throughout the development and implementation phases of the project.

## **System Test Plan Development:**

- Develop system test plans for new systems for remote-control functionality based on

Loop Descriptions developing in Task 2 in the project. System Test Plans to be reviewed by City staff and Engineer for approval prior to Software Implementation.

- System Test Plans will be developed within the System Programmer Commissioning Database and will be exported into PDF format.

#### **Task 4 - Software Implementation (Phase 3)**

The purpose of this task is to install the control system software additions, provide required field testing, provide Owner training, and to complete the system startup and tuning. Digester PLC Software Implementation. System Programmer will provide the following for software implementation tasks:

- Upgrade PLC Firmware to V36.
- PLC software installation and configuration
- Wonderware software installation and configuration
- TopView Alarm Import file based on final loop descriptions for Owner import into system (up to 400 alarms).
- Testing
  - Component Test Phase

Test each instrument loop as an integrated system from the field instrument to the HMI. I/O counts based on preliminary IO quantity developed during scope development for the project. See Table 2 for I/O counts.
  - 1 person, 80 hours for the equipment controlled by Digester 5 (SDGC5) PLC.
    - Operational Test Phase
  - Perform System Acceptance Test (SAT):
  - Each component of the system operates correctly with all other components of the system.
  - Software equipment interlocks perform correctly.
  - Process loop descriptions perform correctly.
  - Analog control loops operate in a stable manner.
  - PLC application program performs monitoring and control functions correctly.
  - Operator interface graphics represent the monitoring and control functions correctly.
  - 1 person, 120 hours for the equipment controlled by Digester 5 (SDGC5) PLC.

- Operational Test Phase is considered complete when the software performs the functions as described in the loop descriptions modified in Task 2.
- Training
  - Live control room training using Wonderware and functional PLCs, after Operational Test Phase. One 2-hour session.

## **DELIVERABLES:**

- Software test documentation forms for signature by an Owner representative authorized to witness and approve successful test completion.
  - Component test results
  - System test results
  - Final electronic copy of IO list
  - Final System Platform Galaxy Backup
  - Final PLC programs.
  - Final TopView Import.
  - Final Updated Loop Description Document with screenshots.

## **ASSUMPTIONS:**

While preparing our scope of services and fee schedule, we have made the following assumptions:

- Any software licenses required for this project are supplied by others and are not included in this scope of work.
- PLC, HMI, and Wonderware programming for this project will be done remotely from the site, primarily in the Jacobs Boise office.
- PLC I/O to be programmed and tested is based on the preliminary IO quantity developed during scope development for the project. Owner changes to the I/O list shall be issued as an RFC. System Programmer shall have no less than 30 working days prior to loop testing to implement each change or as agreed to in the RFC response.
- System Programmer to use the Owner standard Allen Bradley ControlLogix version 36 and Wonderware ArchestrA system platform version 2023 R2.
- PanelView and/or local HMI programming not included in this scope.

- Owner will provide PLC programs within 2 weeks of Notice to Proceed.
- Owner will provide CAB backup of Wonderware within 2 weeks of Notice to Proceed.
- PLC programming effort is based on using the Owner's existing add on instructions (AOIs) as listed in Table 3.
- Wonderware programming effort is based on using the Owner's existing ArchestrA object templates as listed in Table 3.
- PLC and HMI tagging format will be based on tags developed during the IO List Development portion of the project.
- Owner will use tags from the IO list development portion of this scope for entering and assigning tags within the Plant Maintenance Management System. Owner modification of tags to be completed prior to the software development phase of the project.
- Existing IO Test Phase with Existing Programs to be completed prior to Software Development.
- TopView modifications will add up to 400 new alarms based on new PLC programs. Base setup, development, and conversion of TopView is being performed by others and therefore is not covered in this scope. System Programmer to provide Excel import file of alarms for Owner to implement.
- Issues discovered during the Existing IO Test Phase with Existing Programs step will be addressed by Owner or through the change management procedures.
- No Factory Acceptance Test is required.
- Test results signed by Owner are confirmation that testing has been completed successfully. Repeat of tests following sign off or additional testing beyond what is described in this scope are not included and will be resolved using contract modification procedures described in Task 1.
- Test delays or interruptions due to Owner are not included and will be resolved using contract modification procedures described in Task 1.
- Failed tests resulting from existing PLC program IO assignment, equipment problems or issues outside the control of the System Programmer will be submitted by the System Programmer to the Owner for resolution. Impacts to programming will be resolved using contract modification procedures described in Task 1.
- Owner staff will be available for coordination and assistance with field equipment during software testing.

- System Programmer will use software test documentation forms for signature by an authorized Owner representative (similar to those used for previous work executed at the WWRF by System Programmer).
- Milestone schedule is based on Owner provided start date of March 30 2026 and 30-week project duration.
- Installation, testing and configuration of radio or cell modem systems is not included in this scope of work.
- Configuration of VFD's and smart overload devices is not required and will not be changed.

***TABLE 2: Subsystem Details***

|                    | Hardwired I/O |    |    |    | Ethernet I/O |     |     |     |
|--------------------|---------------|----|----|----|--------------|-----|-----|-----|
|                    | DI            | DO | AI | AO | DIE          | DOE | AIE | AOE |
| Digester PLC SDGC5 | 186           | 75 | 53 | 5  | 48           | 12  | 30  | 6   |
|                    |               |    |    |    |              |     |     |     |

***TABLE 3: AOI and Archestra Template Standard Versions***

| <b>AOI</b>                       | <b>Archestra Template</b> |
|----------------------------------|---------------------------|
| Analog_Input_Scaling_V1          | \$AI_v1                   |
| Cycle_Timer_v1                   | \$CycleTimer              |
| Discrete_Alarm                   | \$Alarm                   |
| CoM_LeadLag_v1                   | \$LeadSelect_v1           |
| LeadStandby (selection)          | \$LeadSelect              |
| CoM_Interlock_v1                 | \$Interlocks              |
| Motor_Fixed_Speed_v2             | \$MotorFVNR_v2            |
| Motor_VariableSpeed_v2           | \$MotorASD_v2             |
| PIDE_Control_v1                  | \$PIDE_v1                 |
| Totalizer1                       | \$Total                   |
| Valve_Modulating_v1_2            | \$ValveMOD_v1             |
| Valve_Open_Stop_Close_v1         | \$ValveOC_v1              |
| Valve_Solenoid_v1                | \$ValveSOL_v1             |
| CoM_Sequencer_Start_Immediate_v2 | \$CoM_Seq_v2*             |
| DayOfWeek                        | N/A                       |



## TIME OF COMPLETION AND COMPENSATION SCHEDULE

| COMPENSATION AND COMPLETION SCHEDULE  |                                   |                     |              |
|---------------------------------------|-----------------------------------|---------------------|--------------|
| Task                                  | Description                       | Estimated Due Date  | Compensation |
| 1                                     | Project Management                | ▪ 4/1/26 - 9/30/26  | \$20,061.00  |
| 2                                     | Software Planning (Phase 1)       | ▪ 4/1/26 - 6/15/26  | \$89,626.00  |
| 3                                     | Software Development (Phase 2)    | ▪ 6/15/26 - 8/31/26 | \$128,380.00 |
| 4                                     | Software Implementation (Phase 3) | ▪ 8/31/26 - 9/30/26 | \$88,433.00  |
| <b>TASK ORDER TOTAL: \$326,500.00</b> |                                   |                     |              |

The Not-To-Exceed amount to complete all services listed above for this Task Order is Three Hundred Twenty-Six Thousand, Five Hundred Dollars and 00/100 (\$326,500.00). No compensation will be paid over the Not-to-Exceed amount without prior written approval by the City in the form of a Change Order. Any travel from outside the Treasure Valley and meals purchased for workshops identified in the scope of work will be reimbursed at cost per the Master Agreement. No other expenses are anticipated for this agreement. All costs must be incorporated in the individual tasks within the Compensation and Completion Schedule above.

**CITY OF MERIDIAN:**

BY: \_\_\_\_\_  
KEITH WATTS, Procurement Manager

Dated: \_\_\_\_\_

**Project Manager:**  
Marshal Latham

**JACOBS ENGINEERING GROUP, INC.:**

BY:  \_\_\_\_\_  
ALYCE TOLMAN, Principle

Dated: 3/24/2026