

# TASK ORDER NO. 10650.e

Pursuant to the

## MASTER AGREEMENT FOR PROFESSIONAL SERVICES BETWEEN

### **CITY OF MERIDIAN (OWNER) AND JUB ENGINEERS, INC (ENGINEER)**

This Task Order is made this \_\_\_\_ day of November 2021 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 “City”, and accepted by J-U-B ENGINEERS, INC., hereinafter referred to as “Engineer” pursuant to the mutual promises, covenant and conditions contained in the Master Agreement (category 1d) between the above mentioned parties dated October 1, 2020. The Project Name for this Task Order is as follows:

### **WELL 31 WATER TREATMENT FACILITY**

#### **PROJECT UNDERSTANDING-SUMMARY**

The City of Meridian (City) domestic water system experiences water quality issues related to the precipitation of iron and manganese from groundwater resulting in brown water events, reduced chlorine residuals, extended system flushing, and customer complaints.

The purpose of this project is to design a feasible treatment option and implement the preferred water treatment technology at Well 31 located in the Kentucky Ridge Subdivision in its community park north of W. Riodosa Drive, approximately 775 feet south of W. Victory Road. The City intends to construct a filtration system for the Well 31. Expected flows will range from 500 to 660 GPM.

The project will consist of:

- (1) Establishing iron and manganese removal criteria at Well 31.
- (2) Completing final design and preparing specifications for the procurement of an iron and manganese removal system from an equipment supplier using a competitive procurement process.
- (3) Completing final design and preparing a construction document package for the City’s use in obtaining bids for the construction and installation of the water treatment facility—the previously procured equipment and a building to house the equipment.

## **SCOPE OF WORK**

### **Task 1 – Project Management and Administration**

Provide the overall project planning, management, scheduling, coordination of efforts and the day-to-day administrative tasks required for this Task Order. Specific tasks include:

- Project setup (electronic folders, financial system, design team).
- Coordinate quality assurance and quality control process.
- Attend kickoff, 30% (PER), 50%, and 90% design project review meetings.

#### Deliverables

- Prepare written monthly progress reports. The reports will include the following items:
  - A written description of the progress of the work accomplished to date.
  - A summary of project issues and concerns that need to be resolved.
  - A summary of changes in contract amount or time (if applicable).
  - Monthly invoices for work completed.
  - Monthly progress reports and detailed invoices.
  - Meeting notes.

### **Task 2 – Pilot Test Review**

Provide assistance to the City for review of others' pilot testing plan. J-U-B will review the results of the pilot test and provide a brief tech memo summarizing design criteria to be used as the basis of design. Scope of Work and/or task order cost revisions may be required at that time.

The final tech memo will be provided to IDEQ as an attachment to the Preliminary Engineering Report (Task 7).

#### Deliverables

- Draft and final Well 31 Pilot Study Review and Basis of Design

### **Task 3 - Entitlements & Public Involvement**

Assist the City in obtaining a certificate of zoning compliance. If the preferred layout of new facilities does not meet setback or other dimensional requirements, J-U-B will assist the City in obtaining a variance. J-U-B will specifically provide the following:

- Certificate of Zoning Compliance – J-U-B will prepare the submittal package per Community Development Department requirements for obtaining a certificate of zoning compliance.
- Public Involvement – If authorized by the City, J-U-B will provide public involvement services that may include mailers, door hangers, or limited door-to-door visits.
- Variance Application – If required by the final design layout, J-U-B will prepare a variance application for submittal to the City of Meridian Community and

Development Services (CDS). This will include one (1) pre-application meeting with the City CDS staff.

#### **TASK 4 - Iron and Manganese Removal Equipment Procurement Package**

Prepare technical specifications to solicit bids for water treatment equipment for the Well 31 treatment project through a competitive procurement process.

Prepare draft performance specifications for the preferred equipment and review it with the City in a Workshop. It is anticipated that the specifications will likely include:

- A range of expected well water quality.
- The results of the Well 31 pilot testing.
- Well production and pressure information.
- Equipment performance requirements for removal of iron and manganese and other pertinent parameters.
- Requirements for identifying and defining treatment system operational and maintenance costs.
- Surface loading rates, number of cells, redundancy.
- Limitations on backwash flow and volume that are allowed.
- Requirements for a guaranty of treatment performance.
- Penalties for not meeting the treatment guarantee.
- Requirements for submittals, training, startup, and operations and maintenance manuals.

#### **Deliverables**

- Draft and final technical performance specification for treatment equipment in electronic (PDF & word) format.
- Process flow diagram and overall plan drawing of the equipment.

#### **Task 5: Equipment Procurement Bidding Assistance**

Assist the City during the procurement bidding process of the water treatment equipment in responding to technical questions from prospective bidders. J-U-B will assist the City's evaluation and selection of the proposed treatment equipment following the receipt of bids through the competitive bidding process. It is anticipated that the technical information to evaluate will likely include:

- Bidders' qualifications
- General product information
- General layout drawings
- Product performance information
- Treatment system operational and maintenance costs
- Example project installations
- References

The City will administer the equipment procurement process. J-U-B will assist the City in responding to technical questions that the City is unable to answer through the review of the Contract Documents.

## Deliverables

- Written responses to technical questions.
- Technical evaluation of treatment equipment submittals and concurrence of City's recommendation of award of procurement contract.

## Task 6: Survey and Mapping

Provide topographical survey and prepare base mapping for the design of the water treatment facility at the existing well site and for the drain line outfall alignment to the existing sanitary sewer trunk.

It is anticipated that the effort will include:

- **Research and Utility Request:** Research available land monuments, plats, records of survey, right-of-ways, and recorded easements on the project site. Contact utility companies prior to survey via Dig-line to request field locations of utilities and available utility mapping. Utilities will be shown to the extent they are visible in the field, or located by the utility or Owner. It is assumed that the City will provide Title Reports for all properties that will be encroached upon by the proposed project.
- **Survey Control:** Establish survey control at the site and along the outfall line alignment using: horizontal coordinate system, NAD 1983 translated to the Ada County G.I.S. system, and vertical control based on NAVD 1988. Right-of-ways (ROWs) will be established and shown on the base map using Ada County G.I.S. data. Any land monuments will be located and shown where found from visual observations during the field survey. Well 31 lot lines will be developed from field measurements and recorded plat information.
- **TBMs:** Establish temporary construction benchmarks (T.B.M.s) at two locations on the Well 31 lot.
- **Topographic Survey:** Complete topographic survey as previously described herein. For the purposes of this scope and fee proposal, it is assumed that survey will include existing observable features such as building corners, sidewalks, fences, edge of roadways, power poles, and utility boxes, manholes and inverts, water valves, well head, found property pins, and structures. Existing utilities shall be located to the extent that they are visibly marked by the utility companies.
- **Base Mapping:** Prepare topographic mapping in Civil 3D 2020 at a 1" = 20' scale, 11"x17". Topographic features will be depicted using accepted J-U-B standard symbols. Topographic features will be shown on the design plans to the extent that they are found or field located by the utility companies, such as fences, utility poles, surfacing, utilities, edge of pavement, face of curb, sidewalks, striped roadway centerline, guard rails, signal poles, signs, mail boxes, face of retaining walls, telephone risers, large trees, and include monuments of record and physical survey of monuments and property pins that are found. Provide locations (X & Y coordinates) and elevation of local temporary benchmarks to be used on Project. Property lines will be shown based on Ada County G.I.S. mapping. Contours at one-half foot (1/2') intervals will be

generated. Roadway will be cross-sectioned at 50' intervals on centerline, edge of pavement, gutter, top of curb and natural ground near ROW.

#### Deliverables

- Base mapping pdf with 0.5-foot contours intervals of the project site, including the drain line outfall to the existing sanitary sewer.
- Legal description for City's use in securing a temporary construction easement.

#### **Task 7: Preliminary Engineering Report**

Prepare a preliminary engineering report (PER) for the facility in compliance with IDEQ rules IDAPA 58.01.08, Section 503.

A preliminary design and report based on the City-selected equipment in Task 3 will be developed. The PER will address:

- Building and equipment layout and equipment selection
- New adjacent building versus building expansion
- Site layout
- 30% design drawings:
  - Title Sheet.
  - Site Civil Plan.
  - Design Criteria.
  - P&ID.
  - Building Layout & Concept Floor Plan.
  - Building Elevations.
- Verification of capacity in adjacent sanitary sewer to receive backwash water.
- Operation and maintenance considerations.
- Geotechnical evaluation (via subconsultant).
- An evaluation of the existing electrical service to the site to determine capability of existing service and transformer to accept the electrical loads associated with the demands for the planned new equipment, building, and associated appurtenances.
- Electrical standby power evaluation.

Based on the results of a review workshop with the City, a PER will be finalized for City and IDEQ approval. The PER will identify design criteria, site constraints, code requirements, permitting and entitlement requirements, a list of equipment to be provided in the facility along with their electrical requirements, and a description of the operation, maintenance, and control of the facility. A geotechnical report for use in footing/foundation and potential storm water facility design will be completed and included in the PER. Geotechnical field work will include two borings to a maximum depth of 20 feet at the site and installation of one groundwater observation well. A general building and equipment layout plan will be included. A conceptual level cost estimate will also be provided in the PER. Six (6) hardcopies of the PER will be submitted to the City for initial review. Following the City's review, the report will be updated and provided to the City for submission to the IDEQ as the Preliminary

Engineering Report for approval. J-U-B will incorporate applicable IDEQ comments and publish a final PER to IDEQ and the City.

#### Deliverables

- Draft PER for City Review.
- Final Draft PER for IDEQ Review.
- Final PER for City and IDEQ Approval.

#### **Task 8: Design (50%, 90% and 100% Submittals)**

Prepare civil, mechanical, electrical, architectural and structural design and prepare plans and specifications for the construction of a treatment facility for iron and manganese removal at Well 31. The facilities included in the design will be as described in the PER from Task 7. Major design elements will include the following:

1. Iron and manganese removal equipment including filters, media, backwash controller, backwash flow meter, backwash flow control, pressure relief valve, piping, and other related appurtenances such as instrumentation.
2. Electrical power and controls for the new treatment facility and building equipment.
3. Lighting, heating, and ventilation for the new building. J-U-B will consult with Idaho Power Company (IPCo) contacts to determine best energy efficiency practices to be used for the facility, what opportunities exist for incentives or rebates from IPCo, and whether the incentives or rebates are worth pursuing. Best practices for energy efficiency will be followed regardless of incentives.
4. On-site yard piping improvements needed for the new treatment equipment.
5. Drain line to the existing sanitary sewer main.

Drawings and specifications will be submitted to the City for review and approval at 50%, 90% and 100% bid-ready completion. Up to six (6) hard copies of the 50% and 90% submittals will be provided to the City, and six (6) sets of the 100% submittal, plus an electronic copy of the 100% submittal, will be provided to the City. The City will submit final drawings and specifications to the IDEQ for review and approval. An engineer's opinion of probable construction cost will be updated and submitted with the 90% documents. The City may require up to five days for review of the 90% submittal and the State will require up to 30 days for review of the 100% submittal.

#### **Subtask 8.1: 50% Design**

Develop preliminary design plans based on the approved PER. The preliminary design plans will include a site plan, building floor plan, preliminary pump sizing, piping and equipment plan, building elevations, and preliminary electrical and control plan. The 50% design package will include preliminary technical specifications (not including architectural, mechanical or electrical) and a preliminary Opinion of Probable Construction Cost.

Provide 50% plans to City for initial review.

## **Subtask 8.2: 90% Agency Review Design, Plans and Specifications**

Finalize the design of structures, equipment, major plant piping, process and site plan to allow final detailing of the same during the 100% design activities. Specific activities, and work products from 90% design include the following:

### **Project Management**

- Conduct constructability review.
- Conduct operability review.
- Update engineer's opinion of probable construction cost.
- Coordination with treatment equipment vendor.

### **Civil**

- Finalize building and major site element horizontal locations.
- Finalize floor/control levels and finished grades.
- Define contractor staging, storage, and off-site access corridors.
- Prepare site grading, fencing, drainage, landscape and Temporary Erosion Sediment Control plans.
- Prepare yard piping and drain layouts.
- Prepare access road revisions to building.
- Prepare technical specifications.
- Senior staff will complete an internal QC review.

### **Architectural**

- Finalize building floor plan and elevations for building.
- Finalize the structural design concepts for the building.
- Review applicable codes for the building with City Building, Plumbing, and Electrical Officials and the Fire Marshal. Complete building and fire code analysis.
- Prepare technical specifications.
- Senior staff will complete an internal QC review.
- Architectural renderings are not included in this task. If, during the course of design, the City wishes to have architectural renderings done, those will be billed on a time and material basis.

### **Structural**

- Complete structural design for new building and selection of materials of construction.
- Prepare foundation, framing and roofing plan for building.
- Prepare final floor plan for building.
- Prepare sealed structural calculations.
- Prepare technical specifications.
- Senior staff will complete an internal QC review.

### **Process & Mechanical**

- Final major equipment sizing calculations.

- Final replacement pump selection and sizing.
- Coordinate with instrumentation and control system (I&CS) on completion of P&IDs.
- Coordinate with architectural and structural team on preparation of building layout
- Complete fire sprinkler design.
- Assemble catalog cut sheets for all major process equipment. Complete equipment data sheets or equipment list on all major equipment items.
- Coordinate with I&CS in the finalization of P&IDs.
- Finalize ancillary equipment sizing and line sizing calculations (chemical storage, feed and delivery systems, etc.).
- Finalize equipment selection (type, size, weight, and arrangement).
- Finalize selection of piping materials and sizes.
- Prepare technical specifications.
- Senior staff will complete an internal QC review.

### **HVAC/Plumbing**

- Energy compliance documents for the mechanical systems.
- Prepare mechanical specifications as required.
- HVAC load calculations and sizing of new HVAC systems as required.
- Ductwork sizing and layout.
- Subconsultant will coordinate with J-U-B and other subconsultants on applicable items for the City's SCADA integration.

### **Instrumentation and Control**

- Design to upgrade control system to current City standard.
- Develop P&ID.
- Develop design package to replace the existing control panel and reconnect existing instrumentation to the new control panel.
- Develop control panel drawings suitable for UL construction.
- Prepare instrumentation and control specifications as required.
- Subconsultant will coordinate with J-U-B and other subconsultants on applicable items.

### **Electrical**

- Service load and standby power calculations.
- Site lighting.
- Interior lighting.
- Power distribution.
- Variable frequency drive.
- Energy compliance documents for lighting systems.
- Coordinate with instrumentation and control system (I&CS) on completion of P&IDs.
- Prepare electrical specifications.



- Subconsultant will coordinate with J-U-B and other subconsultants on applicable items.

### **Asset Management Incorporation**

The new components will be identified and labeled on the plans per the nomenclature standards identified in the City's Asset Management policy. Assets involved will include pumps, valves, flowmeters, mechanical and electrical components, and other equipment as identified by the City. An inventory shall be prepared in a table and included with the technical specifications for use and implementation of tagging by the contractor.

### **Quality Control**

J-U-B and the subconsultants will perform quality control (QC) reviews by a senior engineer to provide an independent review of the 90% design prior to submittal to City.

### **90% Design Workshop**

J-U-B will conduct a design workshop to review the work products with the City's personnel and other key project staff. Workshop minutes, including the City's comments will be prepared and distributed to attendees. J-U-B will implement City and agency review comments from the 90% review as warranted. Completion of the final design will include plans, technical specifications, bid schedule and the Engineer's Opinion of Probable Construction Cost. These items will be submitted to the City for bidding purposes.

### **Subtask 8.3: 100% Contract Document Preparation**

Complete final technical contract drawings and specifications for competitive bidding. Key activities during this phase will include:

#### **Design Management**

- Conduct final reviews and incorporate 90% design review comments.

#### **Contract Document Completion**

- Prepare final construction drawings.
- Prepare final technical specifications.
- Prepare final calculations.
- Complete final checking and coordination review, agency permitting compliance reviews.

#### **Incorporation of Final Review Comments**

J-U-B will modify the contract documents to reflect all agreed upon 90% review comments from the City, IDEQ, ACHD and J-U-B's quality control review. The final documents will then be provided to the City for submission to the IDEQ for review and approval. These plans will be incorporated into the building permit package in Task 10.

#### **Deliverables**

- 50% Complete preliminary design Plans, six (6) copies at scale TBD to City.

- Preliminary Opinion of Probable Construction Cost.
- 90% complete design plans, specifications, and special provisions, six (6) hardcopies and one electronic copy at scale TBD to the City.
- Opinion of Probable Construction Cost.
- 100% complete bid-ready plans, specifications, and special provisions, six (6) hardcopies and one electronic copy at scale TBD to the City.
- Bid Schedule.
- Opinion of Probable Construction Cost.

### **Task 9: Bidding Assistance - Water Treatment Facility**

Assist the City during the bidding process for the construction of the new water treatment facility in responding to technical questions from prospective bidders.

The City will facilitate the bidding process. J-U-B will assist the City in responding to technical questions that the City is unable to answer through review of the Contract Documents for the City's use in preparation of addenda.

#### **Deliverables**

- Written responses to technical questions submitted during the bidding phase.

### **Task 10: Agency Coordination and Permitting**

Assist the City with the agency approval process. J-U-B will submit the plans, on behalf of the City, specifically limited to the following:

- DEQ Plan Approval. Complete the DEQ Checklist and submit copies of the design for review. J-U-B will make required changes to the plans and specifications based on their review.
- Ada County Highway District Plan Approval. Submit copies of the design to ACHD for review and approval.
- City of Meridian Building Permit. Complete the Building Permit application and submit copies of the design for review. J-U-B will meet with the Building Department to discuss their review of the plans, if necessary. Required comments will be integrated into the plans and resubmitted for review and approval. This process is estimated to take one (1) month. This excludes revisions that require modification to the base design.
- Kentucky Ridge Subdivision Homeowners Association. Coordinate with the HOA on building siting and architectural treatments. Three meetings are anticipated with HOA: one prior to design initiation, one upon completion of the PER, and one prior to 90% design completion.

## **ASSUMPTIONS**

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

1. The City will provide to J-U-B the following for Well 31:
  - a. Updated water quality information for Well 31.
  - b. Standard City PLC specifications for incorporation into the project.
  
2. The City will provide the following during any bidding or procurement process:
  - a. All bidding and contract documents including, but not limited to: advertisement for bids, bid forms, contacts/agreements, condition of the contract, award, bonding and insurance requirements.
  - b. Incorporate J-U-B's technical specifications and drawings into Bidding and Contract Documents using the City's contracting boiler plate to bid procurement of the treatment equipment.
  - c. Provide all administration to bid and procure the iron and manganese removal water treatment equipment.
  - d. Incorporate J-U-B's technical specifications and drawings into Bidding and Contract Document using the City's contracting boiler plate to bid the construction and startup of the water treatment facility.
  - e. The City will distribute the Bidding and Contract Documents for the construction of the iron and manganese removal water treatment facility.
  - f. Following a review of the bids received for the construction of the water treatment facility, the City will award and execute a contract with the successful bidder.
  
3. The City will:
  - a. provide on-going review of J-U-B's work and timely consideration of design issues within a time acceptable to the City and J-U-B.
  - b. pay for all permits and fees needed for the project.
  - c. provide project manager to serve as a liaison with other City departments and divisions to facilitate the project reviews and approval process.
  
4. Assumptions:
  - a. The bidding of the iron and manganese removal water treatment equipment will be open to adsorptive types of water treatment systems that meet specified performance requirements.
  - b. The backwash water from the facility will be discharged to the existing sanitary sewer main in W. Riodosa Drive. There will be no backwash storage tank. It is assumed that the existing sanitary sewer trunk has adequate capacity to receive and convey the process backwash water. This will be verified in Task 7 by J-U-B.
  - c. Space is available on the existing lot for on-site storm water disposal.
  - d. Design of a contact chamber or detention tank is not included.
  - e. It is assumed that a fire suppression (sprinkler) system will be required.
  - f. The existing electrical service to the site is capable of accepting the electrical loads associated with the demands for this new equipment, building, and associated appurtenances. An evaluation to verify this assumption is included in Task 7 (preliminary engineering report).

- g. No design of offsite sewer, other than a segment from the treatment facility to the existing gravity immediately adjacent to the site, will be necessary.
  - h. Permanent easement acquisition is not required. A temporary construction easement (TCE) from the Kentucky Ridge HOA will be required. J-U-B will prepare TCE legal description for City's use in negotiating and acquiring the TCE from the HOA.
  - i. A SWPPP plan will not be required.
  - j. Three meetings will be held between the City and J-U-B's electrical/instrumentation/control subconsultant during the design phase, either concurrently with project review meetings or separately.
  - k. The filter panel, programming and startup will be provided by the manufacturer.
  - l. It is assumed that invoices from J-U-B to the City will be submitted by email or hard copy (mail).
5. Construction and Post-Construction Phase Services:
- a. Services during construction of the water treatment facility and post-construction phase services are not included in this Scope of Work. A separate scope of work and associated budget will be prepared after the bidding of the construction contract for the water treatment facility.
6. submit the 90% design plans and specifications to the following agencies for review: The City, IDEQ, ACHD and the Kentucky Ridge Subdivision HOA (see Task 10).
7. Services during construction of the water treatment facility and startup are not included in this scope of work. J-U-B will submit a separate scope and budget for these services prior to the start of construction activities.

**TIME OF COMPLETION and COMPENSATION SCHEDULE**

The following schedule is based on a Notice to Proceed (NTP) from the City by November 2021 and resulting in Final Design being completed by December 2022. An NTP issued on a different date will change the schedule accordingly.

<b>COMPENSATION AND COMPLETION SCHEDULE</b>			
<b>Task</b>	<b>Description</b>	<b>Estimated Completion Date</b>	<b>Compensation</b>
1	Project Management and Administration	Ongoing throughout project	\$13,300
2	Pilot Test Review	14 days after NTP for this task	\$1,700
3	Entitlements & Public Involvement (if necessary)	Ongoing throughout project	\$2,350
4	Iron and Manganese Removal Equipment Procurement Package	21 days after NTP for this task	\$8,300
5	Bidding Assistance - Equipment Procurement	Dependent on City's Scheduling	\$4,000
6	Survey and Mapping	21 after NTP for this task	\$5,700
7	Preliminary Engineering Report	42 days after NTP for this task	\$50,300

<b>8</b>	Final Design for 90% and 100% Submittal	120 days after NTP for this task	\$150,300
<b>9</b>	Bidding Assistance - Construction of the Water Treatment Facility	Dependent on City's Scheduling	\$10,900
<b>10</b>	Agency Coordination, Meetings and Permitting	Ongoing through Tasks 7 through 9	\$10,200
<b>TASK ORDER TOTAL:</b>			<b>\$257,050.00</b>

The Not-To-Exceed amount to complete all services listed above for this Task Order No. 10650.e is two hundred fifty-seven thousand fifty dollars (\$257,050.00). 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. No travel or expenses will be reimbursed through this agreement. All costs must be incorporated in the individual tasks within the Compensation and Completion Schedule above.

**CITY OF MERIDIAN**

**J-U-B ENGINEERS, INC.**

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

BY:   
 LISA BACHMAN, Area Manager

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

Dated: 11/09/21

Council approved date: \_\_\_\_\_

City Project Manager:  
Kristina Keith