JORDAN VALLEY WATER CONSERVANCY DISTRICT

REQUEST FOR STATEMENTS OF QUALIFICATIONS TO PROVIDE PROFESSIONAL ENGINEERING SERVICES FOR THE

JVWTP SLUDGE COLLECTION EQUIPMENT REPLACEMENT

Project #4138

June 2021

Summary

Jordan Valley Water Conservancy District (JVWCD) invites you to submit a Statement of Qualifications (SOQ) as defined in this request. SOQs shall be submitted in a sealed envelope to JVWCD's project manager, David McLean, PE, at 8215 S. 1300 W., West Jordan, UT 84088, no later than 4:00 p.m. on June 25, 2021 for consideration. Emailed SOQs will also be accepted at ellisad@jvwcd.org by the specified due date and time.

Introduction

JVWCD was created under the Water Conservancy Act as a political subdivision of the State of Utah. JVWCD was organized as a regional water supply agency to develop a water supply for rapidly growing areas outside of the Salt Lake City service area. JVWCD currently serves as a wholesale supplier to 17 member agencies and also operates a retail distribution system in several parts of Salt Lake County. In 2019, JVWCD delivered approximately 100,000 acre-feet of municipal and industrial water to its wholesale and retail customers.

Project Background

JVWCD has been operating the Jordan Valley Water Treatment Plant (JVWTP) since 1971. The water treatment plant was constructed with an initial capacity of 40 MGD and has been expanded several times to its current capacity of 180 MGD. The plant utilizes conventional treatment (rapid mix, 4-stage flocculation, sedimentation, filtration, and post-chlorination). Pre-oxidation and partial disinfection is provided by Chlorine Dioxide. The primary coagulant is poly-aluminum sulfate with a cationic polymer. Gaseous chlorine is used in the production of the Chlorine Dioxide and for post-chlorination to achieve primary disinfection and residual enhancement.

The sedimentation process (focus of this effort) consists of six trains. The original two trains (basins 1 and 2) are rectangular with three circular sludge collectors each. The circular sludge collectors were installed with the original water treatment plant construction in 1971.

The remaining four trains (Basins 3-6) are rectangular basins equipped with chain and flight sludge collectors. Each basin has two chain and flight mechanisms along the

basin length in each of three longitudinal compartments that scrape sludge to a central sludge collection trough. These basins were purchased and installed in 1985.

At flow rates exceeding the original 1985 capacity of 138 MGD some carry-over floc is observed and captured on the filters. A planned year 2025 expansion will either add more open basins or upgrade the original basins to plate settler technology to avoid this carryover which has resulted in sub-optimal filter run lengths.

In October 2019, JVWCD commissioned Brown and Caldwell Engineers to complete a condition assessment of the sedimentation equipment (included as Appendix A). This evaluation concluded that both the original year 1971 circular sludge collector mechanisms and the 1985 chain and flight equipment were each due for immediate replacement. The equipment, now respectively 50 and 36 years old, was documented to have signs of advanced corrosion and age-related brittleness.

The District has budgeted for immediate replacement of the sludge collection equipment as part of this project.

The District desires to make required repairs to the existing circular clarifiers to enable three more years of service prior to full-replacement of this equipment during a panned year 2024-2025 plant expansion.

Although expansion plans may include significant modifications to Basins 1 and 2, it is the District's intent to keep Sedimentation Basins 3-6 relatively unchanged during the 2025 expansion process. Plate settlers, if added to these basins, would not be added until approximately 2035 with a future plant expansion.

Specific Project Information

Basins 1 & 2 (circular)

Rated Capacity = 23 MGD Maximum Operating Capacity= 30 MGD
Dimensions Width = 85 feet Length= 257 feet
Sludge Collection = 3 Circular clarifiers 85' diameter each

Basins 3-6 (rectangular)

Rated Capacity = 23 MGD Maximum Operating Capacity=30 MGD

Dimensions Width = 60 feet Length=3 60 feet
Sludge Collection- Center trough chain and flight, six units per basin (3 parallel upstream of collection trough, 3 parallel downstream of collection trough).

Total existing capacity
Rated Capacity = 138 MGD Maximum Operating Capacity=180 MGD

Project Objectives

1. Prepare purchase specifications for immediate owner direct purchase of sludge collection equipment for Basins 3-6 suitable for expected sludge loads. The equipment will be pre-purchased separately from the installation contract to accelerated schedule requirements allowing for installation during March – May 2022. The pre-purchased equipment will be assigned to the construction contractor for installation and warranty. The equipment should be (1) rated for summer/winter operation, and (2) allow for future plate settler installation above the new equipment.

2. Prepare design drawings for installation of the pre-purchased sludge collection equipment.

3. Prepare design drawings for upgrade of the basin ladders to meet current OSHA standards.

4. Prepare design drawings and specifications for high-priority structural repairs to the circular clarifies mechanisms in Basins 1 and 2 to reduce risk of immediate failure of this equipment (equipment to be replaced in year 2025).

Scope of Work

The project scope for the JVWTP sludge collection equipment replacement project includes the following:

1. Prepare pre-purchase specifications for sludge collection equipment for Basins 3-6.
2. Assist in the pre-purchase of this equipment including submittal review (required for schedule for operation summer 2022).
3. Prepare plans and specifications for equipment installation.

4. Prepare plans and specifications for required remediation repairs for existing circular clarifier equipment in Basins 1 and 2 to enable use of this equipment until Summer 2025.

The work includes---

1. Pre-Design Phase:

    A. Review the findings of the 2019 Brown and Caldwell equipment condition assement.

    B. Inspect existing equipment.

    C. Prepare a preliminary design report detailing recommended improvements. Include analysis of chain and flight clarifier equipment vs. hoseless collectors or other available and suitable sludge collection technologies.

    D. Prepare pre-purchase documents for sludge collection equipment for Basins 3-6.

3. Design Phase:

    A. Assist in the pre-purchase of sludge collection equipment for Basins 3-6 including submittal review.

    B. Prepare plans and specifications for required remediation repairs for existing circular clarifier equipment in Basins 1 and 2 to enable use of this equipment until Summer 2025.

    C. Prepare mechanical, civil, structural, electrical, and instrumentation drawings.

    D. Prepare plan, and detail drawings, technical specifications, and bid schedule(s). Drawings shall be 11 x 17 with a scale not to exceed 1" = 80'.

E. Attend and conduct design workshops with JVWCD at preliminary design, 60%, and 90% completion.

F. Provide an estimate of probable construction costs at the 60% and 100% submittal stage.

G. The Senior Reviewer shall attend the preliminary design and 90% design meetings with JVWCD (in person or virtually).

H. Review and become familiar with JVWCD's Division 0 Bidding Documents Template, General Conditions and Supplemental General Conditions (Appendix C).

I. Provide drawings and technical specifications to JVWCD for incorporation into the bidding documents. JVWCD will prepare the bidding documents using its standard front-end documents, General Conditions, and Supplemental General Conditions.

J. Meet with JVWCD personnel and Utah Division of Drinking Water (DDW) staff at the 90% design stage to verify compliance of the design with applicable water regulations. Respond as needed to comments from DDW staff and submit final drawings and specifications for plan approval.

K. Provide assistance during the bidding period including conducting a pre-bid side visit, responding to bidders' questions, issuing Addenda, as required, etc.

L. Assist in the bid opening, review the bids, and recommend an award of contract (within three working days).

M. Prepare a conformed set of drawings and specifications which will incorporate all addenda material into a conformed drawing set for use during construction.

4. Construction Management Phase:

A. Following an award of construction contract, fulfill the duties and responsibilities of the ENGINEER as defined in JVWCD's construction contract documents.

B. Administer the construction contract:

1) Schedule and conduct a pre-construction meeting.

2) Review and recommend contractor submittals to JVWCD.

3) Review and recommend contractor progress payments to JVWCD.

4) Review contractor's claims.

5) Recommend change orders, if any, to JVWCD.

6) Conduct project close-out at completion of the work.

7) Conduct a comprehensive inspection with the contractor and JVWCD at substantial completion, final completion, and just prior to warranty expiration. Prepare and deliver to JVWCD a written list of observed deficiencies.

C. Perform construction field services:

1) Coordinate all materials testing services to be completed by an independent testing firm.

2) Designate a representative to attend weekly progress meetings which are conducted by the Contractor, and document content of progress meetings with minutes.

3) Maintain a photograph history of the project and submit periodic photos to JVWCD during construction.

4) The Engineer shall commit a Project Representative to provide on-site inspection of construction activities to verify compliance with the drawings and specifications for an estimated eight (8) weeks of full-time and ten (10) weeks of part-time inspection.

D. Documentation and Project Close-out

1) Prepare and deliver final record drawings using the contractor's record drawings. Record drawings should be prepared according to JVWCD's Guidelines for Engineering Services (Attachment B).

2) Prepare and deliver a photographic history at the end of the project according to JVWCD's Guidelines for Engineering Services.

3) Prepare and deliver an Operation and Maintenance manual according to JVWCD's Guidelines for Engineering Services.

Sample Preliminary Schedule

Award of Consulting Contract:	July 15, 2021
Contract Preparation:	14 calendar days
Preliminary Design Phase:	30 calendar days
Preparation of pre-purchase documents	14 calendar days
Design Phase:	
60% Design:	60 calendar days
90% Design:	30 calendar days
100% Design:	30 calendar days
DDW Approval:	Concurrent with construction bidding
Construction Phase:	January 2022- May 2022
Warranty Inspection:	11 months after final completion

Proposers may revise this schedule as necessary to match their work plan.

Statement of Qualification Evaluation

SOQs shall not exceed eight (8) pages in length (excluding resumes, sample drawings, and references). Provide four (4) hard-copies and one digital copy of the SOQ for review by the evaluation committee.

The SOQ should include the following information:

- Qualifications: Identify the key members of the team listed by name including role and availability in the format of a Project Team Chart. Indicate the education, experience, expertise, and location of each team member (it is acceptable to provide this in resume format in the appendix). Sample drawing(s) from applicable previous projects may be included in the appendix. Include evidence demonstrating compliance with the Minimum Qualifications section of this Request for SOQ.

- Work Plan: Include a detailed work plan which addresses the scope of the work and identifies key issues. A final agreed upon work plan will be incorporated into Schedule A of the Agreement. Include a project schedule of the key tasks and note the availability of project team members with respect to current workload and project start and completion dates.

  Include with the work plan a table showing the number of hours planned for the key positions for each major work task. Include subtotals of all labor hours for the preliminary design, design, and construction management phase. This information will be used to evaluate the work plan and the level of effort in each phase by the team and the key team members. **Do not include any billing rate or cost information in this work plan table**.

- Past Performance: Provide information about past completed projects which satisfy the Minimum Qualifications requirements. Information about additional completed projects which the Proposer feels would be relevant may also be submitted. The past project performance information shall include:

  1. Brief description of project and scope of services performed,
  2. Name of owner,
  3. Owner contact information (direct phone number preferred),

4. Role which proposed Project Team member(s) fulfilled on past project,
5. Original engineering fee amount,
6. Final engineering fee amount,
7. Original construction or equipment purchase contract amount,
8. Final construction or equipment purchase contract amount,
9. Completion date established in the original construction or equipment purchase contract and actual final completion date.

Incomplete projects (on-going work) may be used but may result in a lower grade for this section in the evaluation phase.

Professional Consulting Services Agreement

Comment on the acceptability of the enclosed Professional Consulting Services Agreement (Agreement) (Attachment A) with attached Schedule B-Requirements for Engineering Services (Attachment B). Any suggested changes to the Agreement must be identified with the proposal (as an attachment), although JVWCD reserves the right to reject any suggestions. No changes will be considered after the proposal due date.

Selection Method

Selection of a consultant will be done in accordance with the State of Utah's Procurement Code for Design Professional Services (Utah Code Title 63G, Chapter 6a, Part 15).

Minimum Qualifications

Proposers are required to meet the following minimum experience requirements to be considered responsive to the Request for SOQs (experience exceeding these minimums will increase your scores):

- The Project Manager shall have successfully functioned as a Project Manager on at least:
  - Two projects evaluating sedimentation basin sludge collection equipment for municipal water/wastewater treatment. At least one of these projects must exceed 50 MGD.
  - One project including chain and flight sludge collection equipment.
  - One project including circular clarifier equipment.

  - The District's definition of a Project Manager is one who coordinated multiple disciplines on a project, IE civil, mechanical, electrical, structural, and instrumentation; one who managed legal and accounting efforts; and one who performed a quality control review of the project personally. The Project Manager shall have served as the engineer of record for the project, including stamping applicable drawings and specifications, unless this is not the policy of the engineering firm completing the project.

- The Project Engineer(s) shall have successfully functioned as a Project Engineer on at least:
  - One project including chain and flight sludge collection equipment.
  - One project including circular clarifier sludge collection equipment.
  - The District's definition of a Project Engineer is one who was directly responsible for one or more disciplines on a project, served as the engineer of record for those disciplines, and stamped applicable drawings and specifications for the project, unless this is not the policy of the engineering firm completing the project.

- The Senior Review Engineer(s) shall have successfully functioned as a Senior Review Engineer, a Project Manager, or a Project Engineer on at least:
  - Four projects including sludge collection equipment for municipal water/wastewater treatment.
  - At least one of these projects must exceed 50 MGD.

- The Project Manager, and Project Engineers shall be licensed as professional engineers in Utah. The Senior Engineer shall be licensed as a professional engineer.

- The Project Representative shall have functioned in this role for at least:
  - Two construction projects at municipal water/wastewater facilities.
  - The Project Representative is the representative of the Engineer who is assigned to observe and inspect the performance of the construction work. The Project Representative shall be the chief authorized representative of the Owner and the Engineer at the site of the work in all onsite relations with the Contractor.

- The project team and proposed work plan are responsive to the needs of the project and include all the disciplines required by the request for SOQ.

Any proposals not meeting the minimum qualifications may be deemed non-responsive and removed from further consideration.

Evaluation Criteria

An evaluation committee appointed by JVWCD's Chief Engineer including representatives from JVWCD will convene to consider all responsive SOQs submitted and to rank the SOQs based on each criterion stated in this section.

Evaluation criteria are assigned a maximum number of points for evaluation purposes with a cumulative total of 100 points. Each SOQ will be evaluated based on the following evaluation criteria:

Evaluation Criteria	**Grade**	**Weight**	**Maximum Points**
1. Demonstrated Qualifications to meet the scope of work:			
a. Firm Resources that satisfy the defined minimum qualifications. Demonstrated availability of firm resources to the project team.	0-5	2	10
b. Project Manager and key team members with the education, expertise, and experience necessary as required for the project.	0-5	5	25
2. Responsiveness of Work Plan:			
a. Clearly written work plan responding to the requirements of this request which indicates an understanding of the key issues and deliverables required for this project. Higher scores may be given to SOQs which show familiarity with District facilities related to this project or which note suggested revisions to the scope of work which would lead to an enhanced outcome.	0-5	5	25
b. Project schedule which identifies completion dates for key milestones and a final completion date.	0-5	2	10
3. Past Performance:			
a. Positive verified past references for the Proposing Firm indicating successful past performance on similar projects, including projects for JVWCD.	0-5	3	15
b. Positive verified past references for the Project Manager and other key team members indicating successful past performance on similar projects, including projects for JVWCD.	0-5	3	15
Total:			100

Each criterion will be graded on a scale of 0-5 with 5 being the highest grade. The

grades will be multiplied by the appropriate weight factor to determine the total score. SOQs shall have a level of effort appropriately matching the requirements, including efforts by key positions. SOQs falling short of an appropriate overall effort and/or effort by key positions may be considered non-responsive. JVWCD reserves the right to reject all SOQs.

Fee Proposal Instructions

A fee proposal will be requested from the firm receiving the highest score. The fee proposal will be due 3 days after it is requested by JVWCD. If JVWCD's procurement officer is unable to agree to a satisfactory contract with the highest scoring design professional, at a price the procurement officer determines to be fair and reasonable to the procurement unit, the procurement officer shall formally terminate discussions with that design professional, and undertake discussions with the second highest scoring, qualified design professional. For additional information, see Utah Code Title 63G, Chapter 6a, Part 15, Section 1505.

The fee proposal shall be provided in a spreadsheet format similar to the sample fee proposal template in Attachment C. If the required information is not present, the fee proposal may be considered non-responsive. The hourly billing rate for each position, number of hours per task by position, and any fees for reimbursable expenses and overhead factors shall be clearly indicated. Proposed hourly billing rate increases, if applicable for multi-year projects, should likewise be clearly indicated.

The total proposed fee for the preliminary design and design phases of the project will be considered a maximum not-to-exceed fee amount. The fees submitted for the construction management phase shall be subject to increase/decrease based upon the actual level of effort needed during construction. It has been JVWCD's experience that more detailed designs result in fewer change orders and issues during construction and thus fewer construction management hours.

Upon execution of the Agreement by both parties, the Engineer will receive authorization to proceed with only those services identified in the Agreement. The Engineer must receive prior written authorization before performing any services outside the scope and fee amount identified in the Agreement.

For purposes of preparing the fee proposal make the following assumptions:

1. Design Contingency Budget

a. Increase by 15% the number of hours to be spent on the Pre-design and Design Phases for the purpose of establishing a Design Contingency. The increase shall be proportional for each position.

b. This increase shall be included as a separate task and released only with written authorization of the District's Engineering Department Manager in accordance with Schedule B – Requirements for Engineering Services.

2. Construction Phase Level of Effort

a. See Scope of Work, C. Construction Management Phase, Sections B & D.

CONFIDENTIALITY: All information, documents, records and paperwork, including but not limited to SOQs, bids, exhibits, or brochures (collectively, the "Paperwork") submitted to the District shall not be regarded by the District as secret or submitted in confidence, except as otherwise provided in a writing signed by the District. Please do not mark your Paperwork with legends such as "confidential," or "proprietary," or "not to be disclosed to third parties." The District is a Utah local district and is subject to the provisions of the Utah Government Records and Management Act ("GRAMA," Utah Code Ann. (1953) §§63-2-101 et seq.). Paperwork submitted to the District may be subject to disclosure to third parties under the District's interpretation of the provisions of GRAMA.

Questions or Suggestions

Proposers may ask questions or make suggestions to JVWCD on any element of this Request for SOQs. Questions or suggestions should be submitted to JVWCD's Project Manager, David McLean, at 801-680-6334 or dmclean@jvwcd.org

ATTACHMENT A

TEMPLETE PROFESSIONAL CONSULTING SERVICES AGREEMENT

ATTACHMENT B

SCHEDULE B - GUIDELINES FOR ENGINEERING SERVICES

ATTACHMENT C

SAMPLE FEE PROPOSAL

Project Name
Fee Proposal Template Example
Client: Jordan Valley Water Conservancy District ***Firm Name:***
Date:

Tasks	Project Manager (Name)	Project Engineer (Name)	Project Rep. (Name)				Total Hours	Cost By Task
Team Member	$_____/ hr	$_____/ hr	$_____hr	$_____/ hr	$_____/ hr	$_____/ hr		
Pre-Design Phase								
1.								
2.								
Subtotal:								
Design Phase								
1.								
2.								
Subtotal:								
Total Hours by Team Member								
TOTAL PRE-DESIGN/DESIGN COST								$
20% CONTINGENCY								$
Construction Phase								
1. Bidding Support								
2. Construction Management								
3. Documentation								
Subtotal:								
Total Hours by Team Member								
TOTAL CONSTRUCTION MANAGEMENT COST								$
Direct Charges:								
TOTAL DIRECT CHARGES								$

TOTAL FEE	$

_____

Principal's Name

_____

Principal's Signature

_____

Date

APPENDIX A

Brown and Caldwell
JVWTP Solids Removal Equipment Condition Assessment
February 2020

APPENDIX B
Template JVWCD Division 0 Bidding Documents,
General Conditions and Supplemental General Conditions