Section 1 – Introduction and Background

Introduction:

Denver Water invites qualified Consultants to submit a Statement of Qualifications (SOQ) to demonstrate their capacity and expertise in supporting the Marston Disinfection Improvements Preliminary Design. This solicitation marks the initial phase in the selection process, wherein Consultants will be evaluated based on their submitted qualifications. Selected firms will proceed to the subsequent Request for Proposals (RFP) phase.

The Marston Disinfection Improvements Project, scheduled for 2024 to 2028, includes the design and construction of a low-lift pump station (LLPS), ultraviolet (UV) treatment system, a new disinfection contact basin (DCB) to replace the existing DCB, and a bulk sodium hypochlorite system to replace the existing chlorine gas system. With an estimated project budget of $60 million, the primary focus in 2024 lies on the preliminary design.

The preliminary design will confirm the project's scope, schedule, budget, and execution strategy, setting the groundwork for subsequent phases of design and construction. Denver Water looks forward to partnering with qualified Consultants to advance the Marston Disinfection Improvements Project and ensure the continued reliability and efficiency of our water infrastructure.

Background:

The existing DCB exhibits signs of deterioration including spalling concrete, cracks, and exposed rebar, indicating it has surpassed its expected lifespan and necessitates replacement. The basin was constructed between 1924 and 1927, originally serving as clearwater storage, before being repurposed as the DCB in 1998. Denver Water’s South System Planning Program (SSPP) assessment in 2023 classified the DCB as an extreme risk due to its age and condition (likelihood of failure) and impact of failure, highlighting the critical need for its replacement to prevent potential lengthy unplanned outages.

Following a concept-level evaluation, the SSPP recommended a hybrid disinfection strategy comprising of a smaller DCB supplemented by UV treatment, with sodium hypochlorite identified as the preferred disinfectant. Additionally, a low-lift pump station was advised to maintain system hydraulics. The evaluation employed a triple bottom line plus approach, considering economic, environmental, social, and technical factors.
Section 2 – Role and Responsibility of Consultant

In undertaking the Marston Disinfection Improvements Preliminary Design, the Consultant will lead various efforts to ensure the project’s success, including but not limited to those listed below. A more detailed scope of services will be provided in the RFP following this RFQ.

1. **Project Management:**
   a. Provide general project management.
   b. Schedule project meetings in coordination with Denver Water’s Project Manager. Provide meeting agendas, pre-read materials, and meeting minutes for Consultant-led meetings.

2. **Raw Water Quality Design Basis and Sampling Plan:**
   a. Review existing draft Water Mass Balance (WMB) developed by Denver Water. The WMB includes raw water quality data, source of supply information, and blend scenarios identified by the SSPP to reflect current and anticipated future operation. Elaborate the WMB with additional scenarios that will dictate overall project approach and system sizing.
   b. Develop a sampling plan to address data gaps. Additional details around roles and responsibilities regarding execution of sampling and lab analysis (Denver Water versus Consultant) will be included in the RFP.

3. **Existing Conditions:**
   a. Review existing as-built drawings, survey data, 3D model data, and site history compiled by Denver Water.

4. **Concept Level Design Criteria:**
   a. Review and elaborate on draft concept level design criteria developed by Denver Water. Concept level design criteria provided by Denver Water are anticipated to include:
      i. Policy and regulatory requirements.
      ii. Project design criteria including facility sizing criteria, applicable service level standards, outage constraints and opportunities, water quality goals and targets, operational constraints, and sustainability considerations.
      iii. Disinfection alternatives triple bottom line evaluation performed by the SSPP.
      iv. Identification of areas designated for this project and future projects.
      v. Project-specific Design Guidance Documents (DGD’s).

5. **Finished Water Storage Capacity Evaluation:**
   a. Review and elaborate on draft finished water hydraulic grade line and storage capacity evaluation developed by Denver Water.
   b. Consider overall treatment and finished water system hydraulics to inform the LLPS design criteria.

6. **Civil Evaluation:**
   a. Evaluate the routing and integration of disinfection alternatives with existing yard piping/valves and finished water structures.
7. **EI&C Evaluation:**
   a. Assess the integration of disinfection alternatives with existing Electrical, Instrumentation, and Control (EI&C) infrastructure.
   b. Provide a basis of design and list of deliverables for review.
   c. Conduct a load study evaluation of existing infrastructure, including transformer and switchgear sizing, and assess the need for improvements to support UV reliability.
   d. Evaluate medium voltage (MV) infrastructure, including thermography and insulation testing.
   e. Assess the need for additional sectionalizing cabinets for MV loop and identify process automation and integration approaches with existing PLC/SCADA networks.
   f. Evaluate existing network topology to determine upgrade scope.

8. **Geotechnical Evaluation:**
   a. Perform geotechnical data collection and analysis.
   b. Evaluate geotechnical considerations, foundation requirements, and dewatering needs for disinfection alternatives.

9. **Structural Evaluation:**
   a. Assess structural and foundation requirements for new structures.

10. **Building Code and Permits Evaluation:**
    a. Compile applicable building code and permitting requirements.
    b. Evaluate options for compliance with building codes.

11. **Hydraulics Analysis:**
    a. Evaluate the hydraulic grade line of the existing facility and disinfection alternatives.
    b. Quantify impacts to facility hydraulics and storage from integration of UV reactors and new DCB.
    c. Assess the need for a LLPS and determine sizing criteria.

12. **Chemical Systems Evaluation:**
    a. Evaluate existing chemical systems and required modifications.
    b. Perform dosing and sizing calculations for future systems.
    c. Assess integration of new sodium hypochlorite system.
    d. Evaluate chemical injection locations and chemical mixing considering the revised site layout.

13. **Alternatives Evaluation and Selection:**
    a. Identify disinfection alternatives, considering previous SSPP efforts.
    b. Evaluate sizing for water quality goals and redundancy/reliability requirements.
    c. Conduct concept-level evaluations of each alternative. Identify disinfection technology operational requirements. Collaborate with Denver Water to identify operational preferences.
d. Develop master site plans and process flow diagrams for each alternative.

e. Perform constructability/phasing assessment, in partnership with a Construction Contractor. Consider laydown areas and access needs.

f. Evaluate alternatives using a triple bottom line plus approach which considers net present value, environmental (greenhouse gas emissions), social (safety), and technical (O&M, supply chain, water quality) factors.

g. Develop Capital and Operational & Maintenance (O&M) costs (AACE Class V) for each alternative.

14. Project Delivery Evaluation:
   a. Evaluate advantages of various delivery methods in collaboration with Denver Water and a Construction Contractor.

15. Value Engineering:
   a. Identify opportunities for value engineering and facilitate their incorporation into the project.

16. Cost Estimate:
   a. Refine project cost estimate (AACE Class IV) for the selected alternative, in collaboration with a Construction Contractor.

17. Project Schedule:
   a. Determine construction sequencing and outage strategy, in collaboration with a Construction Contractor.
   
   b. Develop a design and construction project schedule.

18. Final PDR Deliverable:
   a. Develop a comprehensive Preliminary Design Report (PDR) incorporating technical memoranda from each task and evaluation, along with an executive summary of the overall effort.

If the Consultant possesses sufficient internal resources to effectively manage and execute the tasks outlined above without the need for additional support from a Construction Contractor, please indicate this capability within the SOQ response. Should the Consultant require assistance from a Construction Contractor, Denver Water will provide a recommendation for a prequalified firm to be subcontracted by the Consultant at a later stage.

The Consultant’s Scope of Service shall be initially developed for preliminary design and will be further detailed in the Request for Proposal. Contract amendments for additional scope (including design and services during construction) will be considered by Denver Water based on the Consultant’s performance and project progress.

Section 3 – Consultant Qualifications

The Consultant shall exemplify proficiency in managing and executing projects similar to the Marston Disinfection Improvements Preliminary Design. Specifically:

1. Project Experience (60% Evaluation Weight): The Consultant's SOQ must showcase relevant project experience of both the firm and proposed team members in managing projects of similar
complexity and scope within the water utility sector. Clearly define the role and responsibilities of proposed project team members in reference projects. Provide client contact information for each reference project. References may be contacted by Denver Water and requested to speak to overall project outcomes and individual team members’ performance.

2. **Key Personnel Resumes (40% Evaluation Weight):** The SOQ shall highlight the pertinent experience of key personnel, each occupying crucial roles in the project's execution. Key personnel shall include the following:

   - **Project Manager:** The Project Manager should possess a minimum of ten years of relevant project management experience, including projects of similar scale and complexity. While PMP certification is preferred, its absence will not serve as a disqualifying factor.
   - **Lead Process Engineer:** The Lead Process Engineer should have experience leading multidisciplinary teams to execute projects of similar scale and complexity at drinking water plants.
   - **Lead Electrical Engineer**
   - **Lead Instrumentation and Control (I&C) Engineer**
   - **Lead Hydraulics Engineer**
   - **Lead Civil Infrastructure Engineer**
   - **Lead Mechanical Engineer**
   - **Lead Structural Engineer**
   - **Lead Geotechnical Engineer**

3. **Personnel Commitment:** Respondent acknowledges that Denver Water's selection process encompasses an evaluation of key personnel. The Consultant commits to utilizing the identified key personnel for the duration of the project. Any substitutions for key individuals between RFQ and RFP phases may be grounds for disqualification during RFP phase. After Contract award, any substitutions for key individuals must be pre-approved and documented in writing by Denver Water.

4. **Locality:** Denver Water prefers the Project Manager and Lead Process Engineer be based in the Front Range area throughout the project duration. However, other key and supporting personnel may be located outside Denver.

By satisfying these qualification criteria, the Consultant will demonstrate their capability to effectively manage and execute the Marston Disinfection Improvements Preliminary Design, ensuring alignment with Denver Water's objectives and standards.
Section 4 – Consultant Selection Process

The procurement process for professional services will adhere to a qualifications-based approach, comprising the following two stages:

1. **Request for Qualifications**: Interested respondents will participate in the initial RFQ stage by preparing and submitting a comprehensive SOQ package. This stage will focus on evaluating experience and qualifications. Interviews are not anticipated during this phase.

2. **Request for Proposals**: Prequalified respondents from the RFQ stage will advance to the subsequent RFP phase. An RFP with detailed instructions and additional Project information will be sent to the best-qualified firms based on Denver Water’s assessment of the SOQs. Respondents will be tasked with developing a detailed proposal encompassing their delivery approach, team organization chart, estimated fee, and other relevant project details. This phase aims to enable respondents to demonstrate their understanding of project goals, proposed project management approach, innovative methodologies, and a thorough yet efficient evaluation of alternatives. Interviews may be conducted during the proposal evaluation stage at the discretion of the Owner.

By adhering to this structured selection process, Denver Water aims to ensure the engagement of a qualified Consultant capable of delivering the Marston Disinfection Improvements Project to the highest standards of excellence and efficiency.

Section 5 – Schedule

5.1 **Consultant Selection Schedule**

The schedule for RFQs shall be as follows:

- Issue RFQ ___________________________ March 21, 2024
- Final Written Questions Due ___________ April 2, 2024
- SOQ Packages Due ____________________ April 11, 2024

Prequalified respondents from the RFQ stage will advance to the subsequent RFP phase. The anticipated schedule for proposals and award is summarized below:

- RFP sent to short-listed Consultants ________ June 20, 2024
- Final Written Questions Due ____________ July 9, 2024
- Proposals Due _________________________ July 18, 2024
- Final Selection ________________________ August 8, 2024
- Board Meeting / Notice of Award __________ August 28, 2024
- Notice to Proceed ______________________ September 11, 2024

Although interviews are not anticipated, if they are needed to aid selection, the Final Selection and subsequent milestones will be adjusted accordingly.
5.2 Overall Project Schedule

Denver Water has developed the following conceptual schedule for the Project delivery:

- Prelim Design Kickoff Meeting -----------------------------September 2024
- Draft Preliminary Design Report---------------------------June 2025
- Final Preliminary Design Report---------------------------July 2025
- Design Begins---------------------------------------------TBD
- Final for Construction--------------------------------------TBD
- Construction Begins----------------------------------------TBD
- Outage 1 Start ---------------------------------------------Fall 2026
- Outage 1 End ----------------------------------------------Spring 2027
- Outage 2 Start ---------------------------------------------Fall 2027
- Outage 2 End ----------------------------------------------Spring 2028
- Substantial Completion-------------------------------------Summer 2028
- Final Completion---------------------------------------------Fall 2028

1The design and construction schedule will be established via Consultant’s preliminary design project schedule evaluation.

2Outage dates must be substantiated via Consultant’s preliminary design project schedule evaluation and will be limited by Denver Water’s capacity to maintain service level standards.

Section 6 – SOQ Submittal Requirements and Instructions

Interested firms that meet the qualifications are to submit one electronic copy (PDF) of the SOQ package to https://www.dropbox.com/request/H8rakuEcw2DLcbeLQ2iE prior to the deadline 2:00 pm (MT), April 11, 2024. The SOQ package shall be limited to six single-sided pages in length, excluding the Cover Letter, References, and Resumes. The SOQ package shall include the following items:

- Cover Letter (one page maximum, not included in the page limit).
- Firm background information, including local and national capabilities (included in the page limit).
- Project Experience: Provide a minimum of three reference projects of a similar nature and scope to the Project. Include project overview, similarity or relevance to the Project, project budget statistics (original contract value, final contract value, change order description), project schedule statistics (substantial completion date, original schedule duration, final schedule duration, schedule change description), photos or renderings, and client contact information. Tie proposed personnel and responsibilities to reference projects (five pages maximum, not included in the page limit, 11-inch by 17-inch format acceptable).
- Key Personnel Resumes: resumes for key personnel assigned to project (two pages per resume maximum, not included in the page limit).
- Other information and other appendices respondent feel will aid Denver Water in evaluation (included in the page limit).
SOQ Assumptions:

- For joint ventures, a single SOQ shall be completed and submitted in a single package.
- Each SOQ will be reviewed to determine if it is complete prior to evaluation. Denver Water reserves the right to eliminate from further consideration any SOQ that is substantially or materially incomplete or non-responsive. Clarity, accuracy, succinctness, and completeness of SOQ will be valued over volume. Failure to provide all information required by this Request may result in disqualification. False information or misstatements within the SOQ may be grounds for rejection.
- Respondent is responsible for costs associated with responding to the RFQ. Denver Water is not liable for any cost incurred by any respondent associated with the preparation of an SOQ.
- Respondent acknowledges that Denver Water may be required to disclose any or all of the documents submitted to it pursuant to the Colorado Open Records Act, C.R.S. § 24-72-201.1, et seq. Under C.R.S. § 24-72-204(3)(a)(IV), Denver Water may deny inspection of any confidential commercial or financial information furnished to Denver Water by an outside party. Therefore, Respondent must clearly designate any documents submitted that Respondent deems proprietary or confidential, to aid Denver Water in determining what must be disclosed in response to a request for documents under the Colorado Open Records Act. The designation of material as confidential must be reasonable or it will not be honored. For example, a Respondent may not designate its entire submittal as confidential and proprietary.

Section 7 – Communication during Qualification Period

If it becomes necessary to revise any part of the RFQ, an addendum will be placed online at: https://www.denverwater.org/contractors/bid-and-contract-opportunities. It is the Respondent’s sole responsibility to check online prior to submission of their SOQ and acknowledge receipt of addendum(s) within their SOQ.

Any requests for clarification or additional information regarding submission of this SOQ shall be submitted in writing via e-mail to Lars Ellingson (lars.ellingson@denverwater.org). Written requests for interpretation, clarification, and/or additional information must be received no later than 12:00 pm, local time, April 2, 2024. Respondent communication regarding the qualification process or proposal with other Denver Water personnel is prohibited and shall be grounds for disqualification.