City of Adelanto Water Model

February 28, 2023

ADDENDUM #1

The attached constitutes additional information and serves to clarify issues considered to be part of the City of Adelanto **Water Model.**

This addendum forms a part of the contract documents for the identified project and modifies the original specifications and plans as noted below. All bidders shall acknowledge receipt of this addenda in the **ADDENDA ACKNOWLEDGEMENT** page of the project specifications and include with their bid. Those portions of the contract not specifically mentioned in this addendum remain in force. All trades affected shall be fully advised of these changes, deletions or additions.

Should you have any questions, please feel free to contact Saba Engineer, P.E., at (760) 246-2300 , or email: sengineer@adelantoca.gov

To all prospective bidders:

Substitute the following sections in the Scope of Work for the City of Adelanto Water Model.

I. PURPOSE

City of Adelanto (City) is seeking to retain the services of an experienced and professional engineering firm with expertise in hydraulic modeling and GIS, to assist the City in updating their Domestic Water Master Plan (DWMP). The City's water master plan was last updated in 2008, and development has occurred since then. In order to update the 2008 DWMP and identify projected improvements needed to support the next 20 years of growth the City needs a current hydraulic model. The City may be limited in having adequate record drawings; therefore, the City expects the consultant to have the ability to get much of the information by field walks and/or meetings with City staff.

One of the elements in the DWMP update will be the development of a calibrated InfoWater water model. That model will include all water facilities 12-inch and larger from the water model contained in the 2008 DWMP, and the 12-inch and larger facilities added to the water system since 2008.

II. BACKGROUND

The City of Adelanto (City), California, population 33,391 is located in the High Desert in the Victor Valley region of the Mojave Desert and is situated along the Highway 395 corridor, which was recently widened to help the with City's expected growth over the next few years.

The City is a Charter City that operates under a Council-Manager form of government. The Mayor and four City Council members are selected at large with overlapping four-year terms. The Mayor and City Council appoints the City Manager and City Attorney. The City is divided into departments that provide a full range of municipal services, including administration, public works, community safety, and community development. Information

regarding the City and its organization, such as governmental structure, services provided, the current Operating and Capital Budgets and Annual Financial Reports are available on the City's website at www.ci.adelanto.ca.us.

III. SCOPE OF SERVICES – DOMESTIC WATER SYSTEM HYDRAULIC MODEL

The following is a proposed scope of work for the development of the City of Adelanto's water system computer model.

Task 1 – Project Management

The objective of this task is to plan and execute the project as described above, in accordance with the schedule, budget, and quality expectations that are established. This task includes the following project management work activities:

a) Create and maintain a work plan and project instructions to include organization, roles, responsibilities, schedule, budget, and staff plan for execution of the project; the work plan and project instructions will include a QA/QC plan.
b) Attend regular monthly meetings with the City's project manager to discuss schedule, budget, the direction of the project and any needed information or data.
c) Monitor project progress including work completed, work remaining, budget expended, schedule, estimated cost of work remaining and estimated cost at completion; manage activities within total project budget.
d) Monitor project activities for potential changes, anticipate changes whenever possible, and with City approval, modify project tasks, task budgets, and approach to keep the overall project within budget and on schedule.
e) Manage the quality control review of all work activities and project deliverables; note that execution of the QA/QC program will be completed under the appropriate task.

Deliverables:

- Consultant shall submit to CITY staff the following for review:
- Prepare and submit monthly narrative report, invoice, and schedule.

Task 2 - Resource Documents and Data Review

Consultant shall review all existing water resources documents including GIS data and mapping, water supply information, previous hydraulic models if any, water supply and distribution information, and any other relevant data and documents provided by the City or obtained as a result of field walk and interviewing City staff.

*Note for Consultants, during the proposal phase, Consultants will be provided a copy of the water system data and mapping, water supply information, and any other relevant data and documents will be provided by the City after the Consultant is selected and approved by the City Council. The information provided by the City may be dated or missing some pipelines and infrastructure. Therefore, it is expected that the consultant is experienced, and has the working knowledge of, how a water distribution system works including storage reservoirs, pumping stations, water Wells, pressure reducing stations, and distribution/transmission pipelines.

Task 3 – Update Existing Backbone Water System GIS Map

The purpose of this task is to provide the relevant background information for the water system analysis and planning. The Consultant will update the water system description to include any

updates in:

- Existing and future water pressure zones and boundaries
- Existing and future wall supplies (i.e. new wells, inter-agency connections)

For Task 3 the Consultant shall:

- Catalog the existing water facilities 12-inch and larger.
- Review GIS database and as-built drawings for existing water facilities 12-inch and larger.
- Consultant will perform data conversion/update of the City's water distribution system into ESRI's geodatabase format. This will involve collecting all source documents (e.g., as-built drawings, field notes, system maps), performing data conversion/update for all of the water pipelines 12-inch and larger (Backbone System) in the water distribution system. The GIS attributes that will be required for the Backbone System should integrate both tabular database attributes (e.g., pipe size, material, and date of installation) with the geographical or spatial component.
- The GIS should be structured in such a way to provide seamless and efficient integration to support the update of the City's hydraulic model using Innovyze's InfoWater software.
- Develop and provide a testing and training plan for use and operation of the new GIS-based hydraulic modeling application system. (Assuming 2-4 personnel staff to be trained to use modeling application and two full day training sessions).

Consultant to assume 100 hours for reviewing all documents, meeting, and discussing existing water system and reviewing GIS database and software, and update the City's GIS database for the Backbone System only.

Deliverable: *Technical Memorandum describing data reviewed and update relevant GIS data to conduct Task 5.*

Task 4 - Review Water Demand Estimates and Forecast

The Consultant shall review the water demands occurring at present time, and at buildout of City's service area through 2040, provided by the City's Project Manager. These demands will be used in evaluating the Backbone System to determine if there any current hydraulic deficiencies. The Consultant will be provided with demands under ultimate build out conditions, and will use that information to identify additional facilities, 12-inch and larger needed to accommodate the future build out condition. This would also include identifying additional water supply (i.e., wells, or interagency connections), reservoirs, pump stations, and other appurtenances.

Task 5 - Update and Calibrate Water System Hydraulic Model

The Consultant will utilize InfoWater for the hydraulic modeling task. A similar modeling software may be proposed, so long as it is fully compatible and integrable with City's Esri ArcGIS environment. Ultimate acceptance of proposed software rests with City staff. Consultant will update sewer system utilizing the proposed software.

Sufficient detail should be added to identify hydraulic constants and predict pipe flows, fire flow, system pressures, and storage water levels. Model verification and calibration shall be performed for summer and winter scenarios. This will include review and verification of current demands provided by the City, water system operational conditions, and calibration of the model under steady state conditions using measured flow and residual pressures measured during fire hydrant testing.

Model testing and calibration will be done in accordance with the American Water Works

Association M32 manual. Further detail and specific model capabilities will be developed between the Consultant and City once the contract has been awarded. Following calibration and validation of the hydraulic model, one day of training, or more as needed, will be administered to City staff so that sufficient understanding of model parameters, assumptions, outputs, etc. is achieved.

Deliverables: *One full InfoWater license, fully updated and calibrated InfoWater model, eight hours or more of training for City staff on modifying and using the InfoWater model.*

Task 6 – Water Distribution System Analysis

Consultant, working City staff and the City's Project Manager, will develop a series of system performance criteria to analyze existing and future water system infrastructure using the InfoWater model.

Specific scenarios of analysis will be defined during the scoping exercise *(assume up to 8 modelling scenarios*).

Task 7 – Water System Graphics

The Consultant shall provide pdf maps of the existing water distribution system, distribution system at build-out, and a pressure zone map. These will be used by the City in developing a new Domestic Water Master Plan as report graphics. *Assume a total of five maps.*

Task 8 – Ongoing Modeling Support

Consultant shall include in their budget proposal a total of 40 hours to be used for on-going modeling support. This support may include, but be limited to, assisting with software updates, running simulations to determine impacts of new developments, training, and other support as needed.

ATTACHMENTS:

1) CITY Sample Agreement for Professional Services
2) 2008 Domestic Water Master Plan

Saba Engineer

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Saba Engineer, P.E., City Engineer

Receipt acknowledged and conditions agreed to this _____ day of _____2023.

Bidder: _____

By: _____