

**Prepared by Hazen and Sawyer for
City of Delray Beach**

April 17, 2024

**Owner's Representative for Design-Build Construction Project for New Water Treatment
Plant and Related Improvements**

RFQ No. 2022-034

Scope of Services

Asset Management Assistance Phase I: Evaluate CMMS to Support New WTP Asset Data

Work Authorization No. 03

Project Understanding

The City of Delray Beach (City) is pursuing the construction of a new membrane WTP, six Surficial aquifer system (SAS) production wells, deep injection well with associated monitor well, and rehabilitation of portions of the existing SAS wells using a Progressive Design Bid Build delivery approach. The City awarded the design build contract to CDM Smith, Inc. (Design Builder) and has been approved to negotiate the Phase 1 of the design build project that includes preliminary design, detailed design, and pre-construction activities.

The City selected Hazen and Sawyer, PC (HAZEN) as the City's representative to assist with various engineering and owner's representative services tasks. The agreement with HAZEN for engineering and owner's representative services will be implemented in intentional phases, precedent to and coincidental with the Design Build services of a separate entity. Engineering and owner's representative services will be authorized in multiple work authorizations through the completion of the project. The specific scope of services included in Work Authorization No. 3 are described herein.

The City currently has established Cityworks computerized maintenance and management (CMMS) as the asset repository for its water and wastewater assets. The CMMS has not been fully implemented and currently no WTP assets exist in the repository. By the time the new WTP assets are installed, the City intends to have a fully functioning CMMS and capability of inputting the new assets into the CMMS.

This Work Authorization will include evaluation of current City practices related to the CMMS, and a recommendation as to whether the current CMMS best fits their asset management, maintenance, and business needs. This Work Authorization will also include development of requirements for format and content of new asset information to be delivered to the City by the Design-Builder of the new WTP.

The asset management-related assistance will be organized into three phases. The completion of Phases 2 and 3 are dependent on the results of Phase 1:

- **Phase 1 – Evaluate CMMS to Support New WTP Asset Data** (this Work Authorization). Phase I includes assessment of current Business Processes for maintenance management, assessment of institutional readiness, establishment of CMMS requirements, and Business Case development.
- **Phase 2 – CMMS Solution Improvement/Procurement** (future Work Authorization). Phase 2 will be dependent on the Vendor Evaluation completed in Phase 1. If Cityworks is selected as the best CMMS option, then Phase 2 will include development of the vertical asset hierarchy, geodatabase schema design, and service request/work order/inspection template requirements. If Cityworks is not selected as the best option, Phase 2 will include CMMS Request for Proposal (RFP) development, proposal review, and vendor interviews/selection.
- **Phase 3 – Implementation Support of CMMS Solution** (future Work Authorization). Phase 3 will include implementation support for the selected asset management system.

Phase 1 will support the City in maximizing the effectiveness of the overall asset management system, both from technical and organizational perspectives, with the goal of creating a system to support best

industry asset management practices. The program will be designed with the goal of establishing standard practices and appropriate, integrated technology platforms across the City.

Scope of Services

Task 1: Develop Requirements for Design-Builder Submittals

Under this task, HAZEN will prepare a specification to include the following items that will allow the City to integrate the Design-Builder data with the CMMS, GIS, and other systems as applicable. The specification will include the following:

- Directions for asset nomenclature
- Required content of the asset data submittals
- Format of the asset attribute and maintenance summary forms, containing asset information and preventative maintenance requirement

In a subsequent Phase of the asset management-related assistance tasks, HAZEN will review the submittals by the Design-Builder to confirm the information provided meets the requirements.

The meetings to be held under this subtask are as follows:

Hazen will conduct one project kick-off meeting and as-needed project progress meetings. A total of six (6) progress meetings are assumed for this work authorization, one (1) kick-off meeting and five (5) as-needed progress meeting. At a minimum, one HAZEN representative will attend the progress meetings and additional staff will be available based on the specific meeting needs.

Subtask 1 Deliverables (issued via electronic delivery in .pdf format):

- Meeting materials, agendas, summaries, and action items (up to 6)
- Draft Requirements for Design-Builder Submittals
- Final Requirements for Design-Builder Submittals

Task 2: Develop CMMS Requirements

The primary purpose of this task is to assess the City's current processes, systems, and asset hierarchies. HAZEN will submit a data request to the City and conduct workshops with key staff members to understand current practices. The information gathered will inform the development of formalized workflow processes, data standards, asset hierarchy, and CMMS requirements.

Subtask 2.1: Evaluate Current Processes and Systems

The goal of this subtask is to review the current data systems, work processes, data standards, maintenance management metrics, and financial reporting templates. Initially, HAZEN will request documentation to identify gaps in these areas.

Following review of the materials provided by the City, HAZEN will facilitate four workshops with key stakeholders from both executive and operations functions to understand their current workflow processes. The information provided by the City from the data request and workshops will inform the development of workflow best practices and data standards.

A total of three workshops are assumed for this task, as follows:

- Workshop with the Water Utilities Division Teams
- Workshop with Information Technology (IT) Team
- Workshop with the Geographic Information Systems (GIS) Team

Subtask 2.1 Deliverables (issued via electronic delivery in .pdf format):

- Workshop materials, agendas, summaries, and action items (three total)
- Draft “as-is” and “to-be” workflow process and data standards documents for the three groups: Water Utilities, IT, and GIS
- Formalized “as-is” and “to-be” workflow process and data standards documents
- Identification of key performance indicators (KPIs)

Subtask 2.2: Review/Develop Asset Hierarchy

The goal of this subtask is to review the City’s current asset data structure and hierarchy. HAZEN will request available asset information and workflow processes. HAZEN will conduct a meeting with City staff to understand how asset data is currently used and managed across the various teams. Understanding the end user needs will inform the development of a clear, logical asset hierarchy.

The following documentation is needed from the City for this subtask:

- Current GIS mapping files
- Current Cityworks files and documentation
- Documented “as-is” process workflows related to geospatial asset data collection, verification, and publication, if available.

- Documented current and future maintenance management data standards (e.g., asset definition, work order types, asset types, asset hierarchical structure, desired asset attribute data, etc.), if available.

The meetings to be held under this subtask are as follows:

- Meeting to present the proposed asset hierarchy and review the asset information gap analysis

Subtask 2.2 Deliverables (issued via electronic delivery in .pdf format):

- Meeting materials, agenda, summary, and action items
- Draft asset hierarchy
- Formalized asset hierarchy
- Asset information gap analysis

Subtask 2.3: Develop and Document CMMS Requirements

The purpose of this subtask is to identify, develop, and prioritize CMMS requirements specific to City operations. HAZEN will facilitate up to four workshops/meetings with City staff to gather information, prioritize a comprehensive set of requirements for a CMMS solution, and identify areas of potential gains in business process efficiencies and alignment with existing asset management strategies.

HAZEN will solicit input on the intended goals and objectives for the solution, as well as discuss functional, data collection, reporting, and technical requirements for a CMMS solution. Additionally, during these workshops staff will be asked to outline their current interaction, familiarity, and concerns with the current CMMS (Cityworks). The deliverable will be a technical memorandum (TM) that compiles CMMS functionality, training, and customer service requirements. These requirements will be used in Task 3 to evaluate CMMS vendors. Functionality requirements may include, but are not limited to, the following major categories:

- Work Order Management
- Asset Management
- Workforce Management
- GIS Integration
- Customer Integrated System (CIS) Integration
- Enterprise Resource Planning (ERP) Integration
- Financial System Integration

- Inventory Management
- Reporting
- Mobile Application
- Offline Mode Operation

A total of four meetings/workshops are assumed for this task, as follows:

- Workshop with the Water Utilities Division Teams
- Workshop with Information Technology (IT) Team
- Workshop with the Geographic Information Systems (GIS) Team
- Meeting to review draft CMMS requirements

Subtask 2.3 Deliverables (issued via electronic delivery in .pdf format):

- Workshop materials, agendas, summaries, and action items (four total)
- Draft CMMS Requirements TM
- Final CMMS Requirements TM incorporating comments from the City

Task 3 CMMS Evaluation

Task 3 will focus on the screening of CMMS vendors. HAZEN will conduct an initial assessment of potential CMMS solutions to identify a prioritized list of vendors.

Subtask 3.1: Screen Vendor Solutions

The primary purpose of this subtask is to conduct a preliminary assessment of multiple CMMS solutions and provide a screened list of recommended vendors. This subtask includes an assessment of up to five (5) CMMS solutions currently in the marketplace, including the current application (Cityworks), and any solutions that may be of particular interest to the City. All vendors will be evaluated based on the CMMS requirements developed as part of Subtask 2.3. The top three to five screened vendors that meet these requirements may be recommended for RFP solicitation in Phase 2 of the asset management assistance.

The meetings to be held under this subtask are as follows:

- Meeting to review draft CMMS vendor screening and recommendations

Subtask 3.1 Deliverables (issued via electronic delivery in .pdf format):

- Meeting materials, agenda, summary, and action items

- Draft CMMS Vendor Evaluation TM illustrating the initial vendor evaluations based on the City's CMMS requirements and the screened list of three to five vendors recommended for solicitation of proposals and demonstrations
- Updated CMMS Vendor Evaluation TM incorporating comments from the City

Assumptions

The following assumptions were used to develop the scope and fee for this Work Authorization.

1. All deliverables will be electronic unless otherwise noted.
2. The City will respond to data requests within two weeks of submittal.
3. The City will review draft deliverables and provide comments within two weeks of submittal.
4. HAZEN will not perform asset data digitization, updates, or compilation as part of this scope of work.
5. Up to five (5) vendors will be evaluated as part of Subtask 3.1.
6. Phase 2 and Phase 3 of the asset management-related assistance is dependent on the results of Phase 1, and will be included as part of a future Work Authorization.

Schedule

HAZEN will perform the services identified in this Work Authorization along the 6 months presented in the project schedule.

Task	Duration
1: Develop Requirements for Design-Builder Submittals	3 months
2: Develop CMMS Requirements	4 months
2.1: Evaluate Current Processes and Systems	10 weeks
2.2: Review Asset Hierarchy	10 weeks
2.3: Develop and Document CMMS Requirements	10 weeks
3: CMMS Vendor Evaluation	2 months
3.1: Screen Vendor Solutions	8 weeks

Compensation

Compensation for Tasks 1 – 3 will be for a lump sum amount of \$119,989.92 as each task from 1 to 3 will be paid as a percent complete from its associated lump sum dollar amount regardless of number of hours or any other expenses incurred by HAZEN.

Attachment A presents a detailed breakdown of the estimated hours and compensation for the Scope of Services. HAZEN will submit invoices based on percent complete activities for each lump sum task.

Task	Description	Method of Payment	Amount
1	Develop Requirements for Design-Builder Submittals	Lump Sum	\$17,595.12
2	Develop CMMS Requirements	Lump Sum	\$81,114.24
3	CMMS Vendor Evaluation	Lump Sum	\$21,280.56
Total Work Authorization No. 3			\$119,989.92

Authorization



Orlando J. Castro, PE
Associate Vice President

ATTACHMENT A
CITY OF DELRAY BEACH
OWNER'S REPRESENTATIVE FOR DESIGN-BUILD CONSTRUCTION PROJECT FOR NEW WATER TREATMENT PLANT AND RELATED IMPROVEMENTS
WORK AUTHORIZATION NO. 3 - ASSET MANAGEMENT ASSISTANCE PHASE I: EVALUATE CMMS TO SUPPORT NEW WTP ASSET DATA

Labor Category		Vice President/ Associate Vice President/ Senior Consultant		Senior Associate		Senior Principal Engineer/Scientist		Assistant Engineer			
Labor Rate (/hr)		\$279		\$258		\$201		\$127			
Sub-Task No	Task Title	Hours								Total Hours	Labor Cost
1	Develop Requirements for Design-Builder Submittals	12	\$3,348.00	23	\$5,934.00	30	\$6,030.00	18	\$ 2,283.12	83	\$17,595.12
2	Develop CMMS Requirements	16	\$4,464.00	90	\$23,220.00	180	\$36,180.00	136	\$ 17,250.24	422	\$81,114.24
3	CMMS Evaluation	2	\$558.00	34	\$8,772.00	38	\$7,638.00	34	\$ 4,312.56	108	\$21,280.56
	Subtotal Costs Lump Sum	18	\$5,022.00	124	\$31,992.00	218	\$43,818.00	170	\$21,562.80	613	\$119,989.92
TOTAL COSTS											\$ 119,989.92