



Hazen and Sawyer
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EXHIBIT A
CITY OF COOPER CITY
WELL REHAB PLANNING AND OVERSIGHT
TASK ORDER No. 2025-02
SCOPE OF SERVICES

PROJECT BACKGROUND

Cooper CITY (CITY) operates six (6) Biscayne Aquifer water supply wells serving the George A. Haughney Water Treatment Plant (GAH WTP). The CITY's total water supply well capacity is approximately 8,700 gallons per minute (gpm) or 12.5 million gallons per day (mgd). The firm capacity with the largest well out of service is 7,100 gpm or 10.2 mgd. The wells are constructed with stainless steel well screens with a production interval between 30 feet and 35 feet below land surface (bls) to 70 feet bls. A visual inspection of the wellheads, well piping and valves, instrumentation and site electrical was performed by Hazen and Sawyer in May 2023. The CITY's existing well pumps are 22-27 years old, older than the approximate useful life of 20 years.

The Master Plan recommended that the CITY routinely assess the water supply wells to determine if there is a decline in capacity or water quality to inform of the development of a rehabilitation program. Under this project, the CITY requested that Hazen and Sawyer (CONSULTANT) develop a scope of services to assist with the investigation of current conditions of the water supply wells and prepare well-specific rehabilitation plans. CONSULTANT shall also assist the CITY in developing scope of work with a third-party water well driller to perform well rehabilitation activities, if rehabilitation efforts are recommended.

SCOPE OF SERVICES

This Scope of Services is intended to assist the CITY in evaluating current well performance and developing a rehabilitation plan, which will prioritize individual wells in the CITY's system. The CITY may piggyback an existing contract from another utility to procure a third-party water well driller, hereafter Contractor, to perform the investigation and rehabilitation efforts for the CITY's water supply wells.

As the number of wells requiring rehabilitation is currently undefined, Tasks 1 and 2 will provide a framework and professional field services during the investigation program for the basis of wellfield rehabilitation. If the CITY does not piggyback off an existing contract, Task 3 and Task 4 will provide design services to prepare technical specifications for rehabilitation specific to each well and provide procurement services during the bidding and contracting a water well driller.

Task 5 will provide professional field services during the rehabilitation program on a per well basis, giving the CITY the flexibility to increase the oversight task based on the number of wells included in the rehabilitation program. Upon completion of well rehabilitation and testing a brief technical memorandum evaluating and documenting activities during the entire rehabilitation program at the GAH WTP wellfield

will be submitted under Task 6. The CITY has requested the CONSULTANT to provide these services as detailed in the following tasks.

TASK 1 – PROJECT INITIATION AND SITE VISIT

1.1 – Project Initiation Meeting

CONSULTANT will coordinate and conduct one (1) kick-off meeting with the CITY to review the goals and scope of the investigation and rehabilitation of the existing production wells. CONSULTANT will prepare kick-off meeting agenda and summary to be submitted to the CITY in electronic format.

1.2 – Site Visit

CONSULTANT will tour the wellfield to evaluate site access, condition of existing wells and equipment, and modifications required for conducting testing planned for Task 2, including flowmeters, sample ports, pressure gauges, pressure transducers or manual water level access, discharge piping, and groundwater discharge locations.

Deliverables:

- Kick-off meeting summary

TASK 2 – CONDITION OF SERVICE TESTING AND EVALUATION

This task consists of an evaluation of the current conditions of service for each well in the CITY's raw water supply wellfield.

The evaluation is intended to establish the condition of each well by utilizing the CITY's pump, wellhead valving, flowmeters, pressure gauges, and access ports to complete the evaluation. The CONSULTANT's evaluation will include:

- Specific capacity testing to determine the present specific capacity and to establish a baseline of pre-rehabilitation operating conditions.
- CONSULTANT will perform step drawdown tests at up to 2 wells per day, consisting of 4 to 5 steps at 60 minutes each step. The tests are anticipated to be completed in 6 days (approximately one well per day). This assumes that CITY staff will coordinate well pumping such that static water levels will be obtained after approximately 12 hours of no pumping.
- CONSULTANT will obtain static water levels after approximately 12 hours of no pumping at each well prior to starting the capacity test.
- During the capacity testing, the CONSULTANT will measure water quality parameters including, sand, silt density index (SDI), and field chemistry at 15-minute intervals throughout each step: temperature, pH, specific conductivity, salinity, chloride, total dissolved solids (TDS), dissolved oxygen, ferrous iron, turbidity, oxygen reduction potential (ORP), and alkalinity.
- CONSULTANT will collect two samples for specialty laboratory analysis at up to two (2) wells. The first sample will be collected at pump start up to characterize water quality in the wellbore, while a second, collected near the end of the design rate step, will typify water chemistry from the Biscayne Aquifer. Samples will be shipped to Water Systems Engineering of Ottawa, Kansas immediately upon collection.
- CONSULTANT will prepare Technical Memorandum summarizing results of the hydraulic conditions, water quality results, including a well-specific rehabilitation and monitoring program.

- The results from the above testing will be documented in a technical memorandum. CONSULTANT will draw conclusions from the data collected. The data will be used to recommend a program of well rehabilitation. This memorandum shall be the basis for developing the rehabilitation bidding documents described in Task 3.

CITY's responsibilities during bidding include the following:

- Providing access to and operating wells;
- Accessing ports for well water level measurements (if none is available, the pumping/step drawdown testing may be omitted for specific wells);
- Providing access to operational sampling ports;
- Coordinating well shut downs and start ups with CONSULTANT during testing.

Deliverables:

- Draft technical memorandum including:
 - Recommendations on rehabbing individual wells and ranking the sequence of rehabilitation
 - Summary of hydraulic and water quality results from step drawdown testing
 - Annotated wellhead photos for each well
 - Estimated rehab cost for each well based on itemization in the third-party water well contractor's agreement

TASK 3 – PREPARE BIDDING DOCUMENTS

If the CITY does not piggyback off an existing contract, CONSULTANT will prepare detailed bidding documents for the rehabilitation of existing supply wells. Bidding documents shall include the following:

- Detailed technical specifications addressing mechanical and chemical well rehabilitation.
- Detailed technical specifications addressing specific capacity testing, video survey logging, water quality testing, development, and aquifer performance testing.
- Fluid handling and disposal requirements.
- Temporary facilities required during rehabilitation such as water, disposal, electrical power, and traffic controls.
- Preliminary implementation schedule through completion of bidding.

CONSULTANT will meet with the CITY to review the bidding documents, bidder qualifications, and bid form, and receive input. The draft technical specifications will be revised to incorporate CITY review comments. Final documents, not including front ends, will be provided electronically for bidding.

Deliverables:

- Draft Technical Specifications
- Final Technical Specifications for Bid

TASK 4 – PROCUREMENT ASSISTANCE

If the CITY does not piggyback off an existing contract, CONSULTANT shall provide the following services during bidding of the rehabilitation wells on an as-requested basis by the CITY:

- Pre-Bid Meeting and Site Visit – Attend one (1) pre-bid meeting and site visit with prospective bidders;
- Addenda – Prepare addenda as appropriate to provide responses to technical inquiries regarding the Bidding Documents. The CONSULTANT will provide the CITY with an electronic copy of addenda with responses to bidder questions for distribution to prospective bidders. The CONSULTANT will coordinate with the CITY during the bidding process and be available to assist the CITY in addressing bidders' questions and inquiries during the bidding process. Non-technical inquiries will be addressed by the CITY.
- Bid Opening – CONSULTANT will prepare the bid tabulation and assist the CITY in evaluating bids. CONSULTANT will provide a recommendation for award of the Contract. CONSULTANT presumes the CITY will review non-technical elements to determine bidder is responsible and responsive.
- Preparation of Conformed Documents for Contract Execution and Construction – CONSULTANT will revise technical specifications and contract drawings to reflect the changes and revisions incorporated by Addenda for Contract execution and use during well rehabilitation.

CITY's responsibilities during bidding include the following:

- Prepare front end documents;
- Reproduce, advertise and distribute bid documents;
- Maintain a list of bidders;
- Issue addenda to bidders; and
- Verify references for apparent low bidder.

TASK 5 – WELL REHABILITATION OVERSIGHT

CONSULTANT will provide professional services during rehabilitation activities being performed by a third-party water well contractor. Rehabilitation activities based on the piggyback contract or Bid documents prepared under Task 3 may include casing brushing, airlift development, and low strength acidization. CONSULTANT oversight includes:

- Attend and lead one preconstruction meeting at the CITY with the selected contractor and CITY staff to coordinate scheduling and site logistics;
- Contractor coordination during rehabilitation activities;
- Provide technical review of contractor submittals required by the Contract Documents;
- Documentation of rehabilitation progress, daily field reports and photographs;
- Review Contractor invoices to determine conformance with the technical work performed;
- Provide on-site observation services, as needed, during testing.

CONSULTANT oversight of well rehabilitation is expected to involve some level of field coverage during the following steps, being performed by a third-party water well contractor:

- Acidization or other chemical treatment;
- Mechanical re-development, typified by airlift pumping, swabbing, and/or jetting;
- Over-pumping development;
- Post rehabilitation video logging;
- Post rehabilitation specific capacity testing;
- During the post rehab capacity testing, the CONSULTANT will measure water quality parameters including, sand, silt density index (SDI), and field chemistry at 15-minute intervals throughout each step: temperature, pH, specific conductivity, salinity, chloride, total dissolved solids (TDS), dissolved oxygen, ferrous iron, turbidity, oxygen reduction potential (ORP), and alkalinity.

Deliverables:

- Construction Kickff Meeting Summary
- Daily Engineer Reports

TASK 6 – WELL REHABILITATION TECHNICAL MEMORANDUM

CONSULTANT will update the technical memorandum prepared under Task 2. The update shall summarize the rehabilitation activities and the post-rehabilitation testing performed by the Contractor and observed by CONSULTANT under Task 5. The memorandum will present the results of the pre- and post-rehab video surveys, include a table with casing and updated total depths for each well, and restored specific capacity. CONSULTANT will recommend operational and monitoring measures that focus on maintaining the CITY's wellfield near-peak hydraulic performance.

If repair or replacement of the supply well is recommended a repair or replacement plan and engineering opinions of probable construction cost (OPCC) will be provided. The OPCC will be a Class 5 conceptual level cost estimate (-50% to +100%) that includes costs for well drilling.

Deliverables:

- Draft Technical Memorandum for CITY review
- Final Technical Memorandum for CITY
- If requested by the CITY, CONSULTANT will attend a post rehabilitation and draft memorandum meeting to address CITY's comments.

REIMBURSABLES

The following services are noted as allowances on the fee schedule. Unused amounts in these allowances, if any, will be credited back, or remain unbilled, to the CITY at the completion of the project.

- Laboratory Services and Shipping: \$10,000

ASSUMPTIONS

The following assumptions were made in preparation of the level of effort associated with the described scope:

1. CONSULTANT shall not be responsible for the acts or omissions of any Construction Contractor, any construction subcontractor, or any other person (except CONSULTANT's own employees, subconsultants or other agents) at the project site.
2. CONSULTANT shall not be responsible for Construction Contractor's means, methods, techniques, sequences or procedures of construction, or the safety precautions and programs incident thereto.
3. CONSULTANT shall issue all technical instructions to the Construction Contractor and shall interpret all technical requirements of the Construction Contract documents.
4. If CONSULTANT's "WELL REHABILITATION OVERSIGHT" budget is expended, CITY will either 1) continue overseeing project with CITY staff or 2) provide additional funding for CONSULTANT to continue providing oversight services.
5. CITY will prepare front end contract language for incorporation into the bid package.
6. CITY will perform all bid review and award services.
7. The CITY will contract directly with a Florida licensed water well contractor.
8. CONSULTANT will provide instruments to measure field chemistry during the pre- and post-rehab specific capacity tests.
9. To obtain the best viewing conditions practical, CITY personnel will flush each well continuously for 48-hours prior to conducting pre- and post-rehab video surveys.
10. Additional services outside the scope of this Work Authorization may be requested, including evaluating the condition of pumping equipment, reviewing the third-party water well contractor's evaluation of the pump, pump assembly, and recommendations for repairs, and conducting a pump-performance test on a new or repaired pump.
11. The CITY will provide areas to discharge specific capacity test effluent.
12. The CITY will provide discharge locations for neutralizing chemical development effluent.

SCHEDULE

The schedule for the major work tasks is summarized below.

Task	Description	Duration for task/subtask (days)	Calendar Days From Notice To Proceed
1	Project Initiation and Site Visit	45	45
2	Condition of Service Testing and Evaluation	45	90
3	Prepare Rehabilitation Bidding Documents – As Requested	60	150
4	Procurement Assistance – As Requested	120 ¹	270

5	Well Rehabilitation Oversight	180	450
6	Well Rehabilitation Technical Memorandum	45	495

¹ Assumes 120 days for bid and award.

COMPENSATION

Compensation shall be made to CONSULTANT for a total amount of \$154,931 as summarized below.

Task	Description	Compensation Type	Estimated Fee
1	Project Initiation and Site Visit	Lump Sum	\$9,325
2	Condition of Service Testing and Evaluation	Time and Materials	\$27,063
3	Prepare Rehabilitation Bidding Documents – As Requested	Lump Sum	\$18,068
4	Procurement Assistance – As Requested	Lump Sum	\$7,078
5	Well Rehabilitation Oversight	Time and Materials	\$72,923
6	Well Rehabilitation Technical Memorandum	Lump Sum	\$14,474
Reimbursables			\$6,000
TOTAL			\$154,931

SUBMITTED BY:

Hazen and Sawyer

BY: _____

Janeen M. Wietgreffe, Vice President

Dated this 20th day of June, 2025

APPROVED BY:

CITY of Cooper CITY

BY: _____

Akin Ozaydin, Utilities Director

Dated this __ day of _____, 2025



EXHIBIT No. 1

FEE ESTIMATE

City of Cooper City

Task Order No. 2025-02

Well Rehab Planning and Oversight

Task	Description	Associate Vice President/ Senior Consultant	Senior Associate	Associate	Senior Principal Engineer/ Scientist	Principal Engineer	Assistant Engineer	Senior Principal Designer	Senior Designer	Total H&S Hours	Hazen Labor Cost
1	PROJECT INITIATION AND SITE VISIT	12	2		20		8			42	\$9,325
2	CONDITION OF SERVICE TESTING AND EVALUATION	8	2		60		80			150	\$27,063
3	REHABILITATION TECHNICAL SPECIFICATIONS	8	2		40		40		8	98	\$18,068
4	PROCUREMENT ASSISTANCE	8			24					32	\$7,078
5	WELL REHABILITATION OVERSIGHT	24	16		50		330			420	\$72,923
6	WELL REHABILITATION TECHNICAL MEMORANDUM	4	2		40		32			78	\$14,474
	SUBTOTAL LABOR	64	24	0	234	0	490	0	8	820	\$148,931
	Reimbursables										\$6,000
	TOTAL FEE										\$154,931
	2025 FEE SCHEDULE Billing Rate (\$/hr)										
		Associate Vice President/ Senior Consultant	Senior Associate	Associate	Senior Principal Engineer/ Scientist	Principal Engineer	Assistant Engineer	Senior Principal Designer	Senior Designer		
		307.04	268.66	220.54	192.56	191.90	156.45	189.18	139.25		