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EXHIBIT A
CITY OF COOPER CITY
Wastewater Treatment Facility Headworks Design Project
TASK ORDER NO. 2024-22
SCOPE OF SERVICES
NOVEMBER 22, 2024

Project Background

The George A. Haughney Wastewater Treatment Plant (WWTP), owned and operated by Cooper City (CITY), is located at 11791 SW 49th St, Cooper City, FL 33330. The WWTP is presently operated with three package treatment plants constructed between mid-1970s to mid-1990s and is permitted for a maximum three-month average daily flow (TMADF) of 4.27 MGD. The existing WWTP is not equipped with a headworks. The CITY plans to construct a new headworks at the existing WWTP site. This project includes the selection of the appropriate fine screen technology and odor control, design, permitting and bidding of the fine screen headworks with odor control.

This project will include the following:

- Fine screen selection
- Peaking factor calculation
- Review of options for odor control
- Hydraulic profile update for the WWTP with the proposed headworks and identify if additional booster pump station upstream of the proposed headworks is required
- Review of piping repair/replacement/redundancy needs including provisions to future grit removal system
- Instrumentation for the proposed headworks
- Maintenance of operations during construction plan
- Preliminary cost estimates for various alternatives
- Estimated construction schedule for alternatives implementation
- Final Design
- Permitting
- Bidding Services

The design of this headworks will include considerations for the future addition of a grit removal system. The scope herein does not include the detailed design of a booster pump station upstream of the headworks.

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Scope of Services

TASK 1 – Project Initiation, Management and Data Collection

CONSULTANT will complete the following subtasks:

Subtask 1.1 Project Kick-off Meeting

CONSULTANT will coordinate a meeting with the CITY to review the project's goals and scope, review the schedule, identify critical path issues, and establish project communications and protocols. CONSULTANT will prepare and distribute an agenda and notes of this meeting to all attendees.

Subtask 1.2 Project Coordination

CONSULTANT will provide the following services for the duration of the project.

- Project Coordination: Coordinate with the CITY via meetings, email, and phone conversations to respond to questions, provide regular project updates, and discuss planning activities and other program requirements.
- Schedule Coordination: Prepare a Microsoft Project schedule incorporating the major tasks. The schedule will identify key deliverables and milestones throughout the project.
- Manage Budget: Manage the budget, schedule, and invoicing throughout the project.
- Progress Meetings: Project status will be reviewed at the decision-making meetings/workshops listed in the Tasks below. Up to four (4) additional meetings are included with the team to coordinate activities and work efforts.

Subtask 1.3 Data Collection/Review

The CITY will provide the following information for use in subsequent project tasks:

- Record drawings of the influent force main to the surge tank and discharge piping to downstream package treatment plants
- Record drawings of the electrical building and associated single-line diagrams
- Florida Power & Light contact information and monthly electrical peak demand data for each electrical service associated with the plant
- Available historical data for influent flow and upstream pump stations (flows, pressures, run times for the past 2 years)
- Any other information that may be available such as a previous structural, geotechnical evaluation, etc.

CONSULTANT will review and summarize the data as necessary for the evaluation. CONSULTANT will identify if additional data is needed.

Subtask 1.4 Topographic Survey and Underground Utilities Locates

CONSULTANT will employ the services of a Certified Land Surveyor in the State of Florida (SURVEYOR SUBCONSULTANT) to perform a boundary survey and a topographic survey for the area where the headworks is proposed to be constructed. The Certified Land Surveyor will also locate utilities in portions of the site necessary to complete the design. The survey will meet all the current surveying requirements of the Board of Professional Surveyors and Mappers of the State of Florida, as defined in Chapter 5J-17.050 - .052, Florida Administrative Code.

SURVEYOR SUBCONSULTANT will coordinate with CITY, and integrate available information in CITY GIS databases for water, storm water, sewer and record available record drawings to mark the utilities.

Subsurface utility investigation will be performed by SURVEYOR SUBCONSULTANT to determine approximate location of existing underground utilities at potential utility crossings.

Subtask 1.5 – Geotechnical Investigation and Report

CONSULTANT will employ the services of a geotechnical engineering subconsultant (GEOTECHNICAL SUBCONSULTANT) to determine subsurface soil conditions of the area where the headworks is proposed to be constructed. The geotechnical investigation will include up to three (3) soil borings and field testing. GEOTECHNICAL SUBCONSULTANT will submit a report summarizing the findings of the geotechnical evaluation.

TASK 2 – Preliminary Design Report (PDR)

CONSULTANT will prepare and present conceptual treatment process arrangements and the basis of design for the headworks structure and screening system and for the odor control system. It is assumed that a workshop will be required for Task 2 to discuss:

- Site layout
- WWTP Hydraulic Profile
- Screening Selection
- Odor Control selection

CONSULTANT will complete the following subtasks:

Subtask 2.1 Treatment Process, Redundancy, and Conceptual Site Layout

CONSULTANT will prepare and present conceptual treatment process arrangements, including the headworks structure and the odor control system. Site layout options, orientation of the structures, including piping, and redundancy will also be evaluated. The proposed options will incorporate the proposed structures and include two-dimensional schematics that show the proposed overall layout. CONSULTANT will consider the potential layout of the future activated sludge facility at the existing WWTP premises when identifying the layout and configuration of the headworks. The final option will be selected based on a review of the various requirements, and feasibility of implementation.

Subtask 2.2 Hydraulic Analysis Review

CONSULTANT will conduct a hydraulic analysis to evaluate the impact of the new headworks on the plant hydraulic profile. The hydraulic analysis will include a review of the peaking factors to understand the influent wastewater flow and the design capacity for the proposed treatment structures. This work will utilize data collected from the CITY and historical pumping conditions. The hydraulic analysis will also identify if a booster pump station is required upstream of the proposed headworks.

It is assumed that flow and pressure data are available at the influent of the Cooper City WWTP upstream of the surge tank. If pressure data is currently not available, it is assumed that a pressure gauge will be installed by CITY staff to collect pressure data.

Subtask 2.3 Screening Options Evaluation

CONSULTANT will evaluate and recommend alternatives for the appropriate screening technologies to meet the CITY's goals, including capture rate, target characteristics of captured materials, and means to convey and dispose of captured materials. CONSULTANT will conduct a workshop with the CITY describing typical wastewater treatment screening options and a comparison of each with respect to the criteria below. The comparison of technologies will be relative to one another and not site specific.

- Capture rate
- Footprint
- Operations and maintenance requirements
- Competition
- Municipal wastewater experience
- Cost
- Capacity
- Headroom
- Means to convey and dispose of captured materials via the CITY's current disposal practices
- Constructability

CONSULTANT will assist in identifying a local installation of the selected screening technology that CITY staff can visit to examine specific equipment of particular interest that are in operation. CONSULTANT will also assist the CITY in identifying other utility staff contacts where the selected technology has been installed so CITY staff can contact to discuss other's experience.

CONSULTANT will evaluate one selected make and model of equipment to develop a preliminary layout in the PDR of equipment for the screens.

Subtask 2.4 Odor Control Evaluation

CONSULTANT will review applicable odor control technology alternatives based on calculations of required foul air flow from each process area odor source and available space. CONSULTANT will conduct a workshop with the CITY tailored to discuss up to two (2) wastewater treatment odor control technologies providing a comparison of each with respect to the criteria below. CONSULTANT will review applicable odor control technology alternatives, including:

- Identifying required system design criteria
- Describing feasible odor control technologies and advantages/disadvantages
- Developing life cycle cost comparisons of feasible treatment technologies

CONSULTANT will evaluate one make and model of equipment to develop a preliminary layout in the PDR of an odor control system for the preliminary treatment components at the WWTP. The assessment will include a simplified dispersion model and limited odor testing. CONSULTANT will summarize the Odor Control Strategy Evaluation in the draft PDR.

Subtask 2.5 Workshop for Subtasks 2.1 to 2.4

CONSULTANT will conduct a workshop with the CITY to discuss the results and alternatives evaluated in Subtasks 2.1 to 2.4. The discussions and decisions taken in this workshop will be summarized by CCONSULTANT in the meeting minutes.

Subtask 2.6 Preliminary Design Report (PDR)

CONSULTANT will produce a draft PDR to document the findings of previous Tasks/Subtasks/Workshop and provide preliminary equipment layout drawings, along with a general narrative of the design. CONSULTANT will develop the proposed electrical loads associated with the project. CONSULTANT will develop the control strategies and P&IDs to depict the design and control concept for the proposed components.

CONSULTANT will review permitting requirements with the local permitting agencies and summarize the findings in the PDR.

Subtask 2.7 PDR Review Meeting and Final Report

CONSULTANT will attend a PDR review meeting with CITY staff to review the submitted draft report. In the meeting notes produced, CONSULTANT will document the comments received during the meeting and provide resolutions to those comments prior to finalizing the report. Following the review meeting, CONSULTANT will furnish one electronic PDF copy of the final PDR.

TASK 3 – Final Design

Based on the PDR, and other available information, CONSULTANT will prepare 60%, 90%, and 100% design drawings and specifications. The final design will consist of the fine screen and odor control facilities. At each design milestone as identified in Subtasks 3.1, 3.2, and 3.3 CONSULTANT will provide CITY with an electronic copy (PDF format) of the design deliverable.

CONSULTANT will meet with CITY to receive and discuss CITY's review comments. CONSULTANT will incorporate the review comments into the construction contract documents as required. Meeting notes will be prepared by CONSULTANT and distributed electronically to attendees.

CONSULTANT will perform the following activities to complete the final design of the project:

Subtask 3.1 60% Design Submittal

CONSULTANT will provide a 60% design submittal based on the finalized PDR. The 60% submittal package will include drawings for general, civil, structural, mechanical, electrical, and instrumentation design. Drawings will include site plans for construction staging, final site layout, plan views of the fine screen structure, major sections and details, electrical one-line diagrams, and P&IDs. The 60% design submittal will include draft technical specifications and opinion of probable construction cost (OPCC).

CONSULTANT will provide quality assurance and quality control (QA/QC) review prior to submittal to the CITY and will conduct a review meeting with the CITY.

Subtask 3.2 90% Design Submittal

CONSULTANT will provide a 90% design submittal based on the approved meeting minutes from the 60% submittal review meeting. The 90% submittal package will consist of the entire contract document set including draft technical specifications and construction drawings for all work proposed. CONSULTANT will update the OPCC prepared at the previous submittal stage as required.

CONSULTANT will provide quality assurance and quality control (QA/QC) review prior to submittal to the CITY and will conduct a review meeting with the CITY.

Subtask 3.3 Final Design Submittal

CONSULTANT will prepare a 100% final design submittal based on the comments received at the 90% review meeting with the CITY and any revisions made during bidding for a conformed set. The technical specifications and drawings will then be submitted electronically to the CITY in PDF format. CONSULTANT will update the OPCC prepared at the previous submittal stage as required.

Subtask 3.4 Review Meetings

CONSULTANT will prepare final design submittals and attend review meetings at the 60% and 90% milestones in the design process. CONSULTANT will keep the notes of review meetings and will prepare and distribute a written summary of the meeting notes and all decisions rendered after the meeting. The approved written summary will serve as the basis for proceeding with the next design milestone.

TASK 4 - Permitting Services

CONSULTANT will prepare and submit permit applications required for this project to the responsible regulatory agency for review and approval. The following permits are anticipated to be required:

- A Florida Department of Environmental Protection (FDEP) construction permit using a Major Revision to a Wastewater Facility or Activity Permit, Form 62-620.910(1)
- Broward County Environmental Permitting Division (EPD) for an Environmental Resource Permit (Stormwater) and to Construct/Modify a Wastewater Treatment Plant
- Site Development Permit through the CITY's Building Department
- Update of the City's Surface Water Management license with Broward County

- Update the Environmental Resource Permit (ERP) with the SFWMD.

CONSULTANT will provide engineering services to support permitting the proposed fine screens and odor control facility at the WWTP with the anticipated agencies described above. CONSULTANT will prepare the draft applications and will provide the draft application to the CITY for review. CONSULTANT will receive any feedback from the CITY on the draft application and edit as necessary, and will proceed to submit the required forms. CONSULTANT will respond to up to two (2) Request for Additional Information (RAI) per permit application, as needed in support of obtaining the permit.

TASK 5 – Bidding and Award

The purpose of this task is to provide bidding and award services as follows:

Subtask 5.1 – Preparation of Final Bid Documents

CONSULTANT will make final revisions to the documents based on review comments received by permitting agencies and the CITY Purchasing Department. CONSULTANT will provide construction contract documents electronically to the CITY.

Subtask 5.2 – Pre-Bid Conference and Job Walk Through

CONSULTANT will attend one pre-bid conference and job walk-through prior to the advertised bid date.

Subtask 5.3 – Issue Bid Documents and Addenda

CONSULTANT will provide timely responses to the inquiries of the potential bidders through addenda when requested by the CITY. CONSULTANT's compensation has been based on issuing up to two addenda.

Subtask 5.4 – Preparation of Contract Documents for Execution

CONSULTANT will deliver an electronic set of bid documents and addenda for execution by CITY and Construction Contractor. CONSULTANT will prepare the contract documents as a conformed set, to include addenda items.

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SCHEDULE

The estimated 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, Management and Data Collection	30	30
2	Preliminary Design Report (PDR)	60	90
3	Final Design	240	285
4	Permitting Services	45	330
5	Bidding and Award	30	360

* Assumes 30 days for bid and award.

COMPENSATION

Compensation shall be made to CONSULTANT for a total amount of $798,209 as summarized below.

Task	Description	Compensation Type	Estimated Fee
1	Project Initiation, Management and Data Collection	Lump Sum	$20,059
2	Preliminary Design Report (PDR)	Lump Sum	$85,897
3	Final Design	Lump Sum	$573,069
4	Permitting Services	Lump Sum	$35,438
5	Bidding and Award	Lump Sum	$31,746
		Reimbursables / Survey Services	$20,000
		Reimbursables / Geotechnical Services	$22,000
		Reimbursables / Odor Testing	$10,000
	TOTAL		**$798,209**

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SUBMITTED BY:	APPROVED BY:
Hazen and Sawyer	**City of Cooper City**
BY: _____	BY: _____
Janeen M. Wietgrefe, Vice President	Alex Rey, City Manager
Dated this ___day of ____, 2024	Dated this __ day of _____, 2024

Assumptions

Certain assumptions were made in the development of the scope of services described above. To the extent possible, they are stated within the Scope of Services described above. In addition, this Scope of Service is based also upon the following:

1. The design of grit removal and booster pumps is not included. It is assumed these systems will be designed and constructed in the future. These systems will be conceptualized during the PDR for planning purposes only.
2. The CITY will sign permit applications as the Permittee.
3. The CITY will bear all permit application fees.
4. Consolidated written client comments to be received within 14 calendar days of each milestone submittal.
5. CONSULTANT is not responsible for public relations; the CITY will address neighborhood concerns or provide additional funding to CONSULTANT to assist with public relations if needed.
6. LIMITATION OF LIABILITY OF INDIVIDUALS. PURSUANT TO FLORIDA STATUTE SECTION 558.0035, AN INDIVIDUAL EMPLOYEE OR AGENT OF HAZEN AND SAWYER MAY NOT BE HELD INDIVIDUALLY LIABLE FOR NEGLIGENCE.