RESOLUTION NO. 24-134

A RESOLUTION OF THE CITY OF PANAMA CITY BEACH, FLORIDA, APPROVING A TASK ORDER WITH MCKIM & CREED, INC. FOR ENGINEERING SERVICES REQUIRED FOR THE PREPARATION OF AN ASSET MANAGEMENT PLAN FOR THE CITY'S WASTEWATER COLLECTION AND TRANSMISSION SYSTEM IN THE AMOUNT OF $276,604.00.

BE IT RESOLVED by the City Council of the City of Panama City Beach that the appropriate officers of the City are authorized to execute and deliver on behalf of the City that certain Task Order No. 2022-06 to the Master Services Agreement with McKim & Creed, Inc., dated August 17, 2022, in the amount of Two Hundred Seventy-Six Thousand Six Hundred Four Dollars and No Cents ($276,604.00), in substantially the form **attached as Exhibit A** and presented to the Council today, with such changes, insertions, or omissions as may be approved by the City Manager.

THIS RESOLUTION shall be effective immediately upon passage.

PASSED in regular session this 23rd day of May, 2024.

CITY OF PANAMA CITY BEACH

By: _____
Stuart Tettemer, Mayor

ATTEST:

_____
Lynne Fasone, City Clerk

COMBINED TASK ORDER AND
NOTICE TO PROCEED

TASK ORDER NO. 2022-06 DATE 05/23/, 2024

Reference is made to that certain MASTER SERVICES AGREEMENT BETWEEN CITY OF PANAMA CITY BEACH AND MCKIM & CREED, RELATING TO PROFESSIONAL ENGINEERING SERVICES FOR PROFESSIONAL ENGINEERING SERVICES FOR WASTEWATER TREATMENT FACILITIES, RECLAIMED WATER STORAGE AND PUMPING FACILITIES; RECEIVING WETLAND FACILITIES; REGIONAL WASTEWATER PUMPING STATIONS (>300,000 GPD ADF); WASTEWATER AND RECLAIMED WATER TRANSMISSION MAINS OVER 12" IN DIAMETER, dated August 17,, 2022, (the "Agreement"), the terms, conditions and definitions of which are incorporated herein as if set forth in full. Neither party is in breach of the Agreement.

Pursuant to the Agreement, Engineer agrees to perform the specific professional engineering tasks set forth upon incorporated Attachment A, Scope of Services, relating to an Asset Management Plan for the City's Wastewater Collection and Transmission Systems.

Engineer's compensation shall be paid in monthly installments as specified in the Agreement. Engineer's total compensation for the services to be provided under this Task Order shall be determined as follows:
Pursuant to the Agreement, Engineer agrees to perform the specific tasks set forth upon incorporated Attachment A, Scope of Services, relating to _____
Engineer's total compensation shall be (check one):
X a stipulated sum of $276,604.00; or
_____ a stipulated sum of $_____ plus one or more specified allowances listed below which may be authorized in writing by the City Manager or his designee,
Allowance of $_____for Geotechnical Engineering, and
Allowance of $_____for Land Surveying ; or
____ a fee determined on a time-involved basis with a maximum cost of $_____;
As set forth upon incorporated Attachment B, Fee Breakdown.
If reimbursable expenses are to be paid hereunder, such expenses must be specifically AUTHORIZED AND IDENTIFIED in this section.
The parties agree that reimbursable expenses shall not exceed $ N/a .

Work shall begin on May 24, 2024, and shall be substantially completed by October 4, 2024. There are no additional rights and obligations related to this Task Order other than as specified in the Agreement.
Upon execution of this Task Order by both Engineer and City, Engineer is directed to proceed.

IN WITNESS WHEREOF the parties have caused these presents to be executed in their names on the date shown.

Witness:

_____

_____

MCKIM & CREED,

By: _____
Its: SENIOR PROJECT MANAGER
Date: 14 MAY 2024

CITY OF PANAMA CITY BEACH, FL

By: _____
City Manager
Date: 5-24-24

ATTEST:
_____
City Clerk

McKIM&CREED
ENGINEERS SURVEYORS PLANNERS

M&C No. 234029

May 10, 2024

Mr. Mark Shaeffer, PE
Utilities Director
City of Panama City Beach
116 South Arnold Road
Panama City Beach, FL 32413

RE: **Wastewater Collection/Transmission System Asset Management Program Support**
Scope of Services and Fee

Dear Mark,

Attached is McKim & Creed's scope of services and fee proposal for assisting Panama City Beach with their wastewater collection and transmission system asset management program as outlined.

If you have any questions, or require additional information, please give me a call.

Sincerely,

David M. Eike, PE
Senior Project Manager

Attachment

cc: Glenn Halstead, PE
D. Patrick Jehle, Jr., PE
Nicholas Dierkes, PE

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McKIM&CREED
ENGINEERS SURVEYORS PLANNERS

McKim & Creed, Inc.

Exhibit A – Scope of Services
Project: Wastewater Collection and Transmission System Asset Management Program Support
Panama City Beach, FL
May 10, 2024

Project Background

Panama City Beach (PCB) is currently required by Consent Order (OGC No. 22-1926) to develop a Capacity, Management, Operations and Maintenance (CMOM) and Asset Management (AM) Program designed to maintain the continued operation of the wastewater collection and conveyance system. The PCB wastewater collection system has approximately 170 sanitary sewer lift stations to be addressed in this work. Of these stations, approximately 150 are modern duplex style stations that are fairly new and in good condition; 10 are regional stations with critical roles; and 6 are older stations that are currently planned for replacement. To support the AM Program, PCB will develop an Asset Replacement Plan (ARP) to identify future Rehabilitation and Replacement (R&R) activities and associated funding requirements for the continued operation of the lift stations in the future.

Project Objectives

This scope of work is intended to meet PCB's regulatory requirements of maintaining operation of the lift stations through the generation of an ARP. The ARP will document the current operating conditions, provide recommendations for R&R and forecast funding needs for future budget planning. Work will be consistent with the EPA's *Guide for Evaluating Capacity, Management, Operation, and Maintenance (CMOM) Programs at Sanitary Sewer Collection Systems* and EPA's *Asset Management: A Best Practices Guide*.

Project Scope

1. Project Administration

   A. Coordination and completion of a project kickoff meeting with PCB staff.

   B. Correspondence with PCB for coordination of schedules, work products, and activities of the project team.

   C. Preparation of monthly invoices for services in a format acceptable to PCB.

   D. Monthly progress meetings for status updates and coordination of project activities.

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2. Data Collection

A. **Existing Data Review.** A request for available historical data will be submitted to PCB and will include the following:

1) A completed EPA CMOM Program Self-Assessment Checklist.

2) Existing asset inventory including spreadsheets, databases, and CityWorks Computerized Maintenance Management System (CMMS) export, as available.

3) GIS spatial data containing asset locations and attributes such as size, material, and year of installation.

4) SCADA data export for station alarms and tracking of lift station run times.

5) Flow information (as available) to help understand peak flows at lift stations.

6) Operations and maintenance (O&M) manuals and standard operating procedures (SOPs). This should include any general practices and procedures related to repairs or regular maintenance.

7) Historical financial data including past project budgets and depreciated values of capitalized assets. Unit costs for equipment and typical refurbishment activities (e.g. impeller replacements on submersible pumps) will be useful as well.

8) Work order histories as available.

B. **Create Asset Hierarchy.** An asset hierarchy will be created to organize pump station assets into appropriate categories for development of an asset inventory. This hierarchy will be designed to be imported into the CityWorks CMMS at a later date.

C. **Populate Lift Station Asset Inventory.** A preliminary asset inventory will be developed based on the provided asset information and hierarchy. The inventory will be populated with available attribute information and any relevant operations and condition data. The asset inventory will be used as the basis for future asset inventory and condition information gathering.

D. **Collection System and Force Main Asset Inventory.** A GIS inventory will be developed for the gravity and force main pipes based on the City's existing CAD database. The GIS inventory will include key attribute information such as pipe size, pipe material, and installation year. Where attribute data is not available, asset information will be based on record drawings and historical development trends to estimate attributes.

3. Facility Inspection

A. **Lift Station R&R Workshop.** A one-day workshop will be held with PCB operations staff to gather input on typical operations and known issues at lift stations. McKim & Creed will provide a team of electrical, mechanical, and structural engineers to attend the meeting and document relevant information. Data collected during this workshop will be used to inform R&R schedules and identify areas of focus for the condition assessment.

B. **Lift Station Visual Condition Assessment.** Following the staff interview workshop, McKim & Creed staff will conduct visual condition assessments of the 10 regional lift station assets identified by PCB. Conditions for the following asset types will be captured for each of the lift station components during this assessment:

- Pumps/Motors
- Wet Well, Valve Vaults
- Valving/Piping
- Electrical/Instrumentation
- SCADA
- Structural
- Site Improvements (fencing, driveway, signage, etc.)
- Generators
- Screening
- Grinders
- Flowmeters

For pumps and motors, asset-specific information collected from nameplate data will be documented as well.

Tablet-based survey forms will be used to collect all observation data and store the information in a centralized location. McKim & Creed will develop this form with the intent that it may be transferred to PCB staff for future asset data collection. Assets will be photographed and given a condition rating (1-5 scale) consistent with the International Infrastructure Management Manual (IIMM).

A technical memo will be provided documenting the observations and recommended improvements resulting from this assessment.

4. Pipes Risk-Based Evaluation

A. **Pipes R&R Workshop.** A workshop will be held with PCB operations staff to gather input on typical operations and known issues within the gravity and force main systems. This workshop will address typical maintenance activities, asset life duration, preferred rehabilitation methods, areas with known issues and available resources. Data collected during this workshop will be used to inform R&R schedules and identify areas of focus for the condition assessment.

B. **Criticality Models for Collection System Pipes.** McKim & Creed will develop criticality models for collection system pipes that will identify the most critical pipe assets and can be used to focus resources on assets that have the highest risk

of failure. Two separate models will be developed: one for force mains and one for gravity sewer pipes.

1) Gravity Sewer Pipe Criticality Model.

The gravity sewer pipe criticality model will be developed as follows:

- Develop consequence and likelihood of failure criteria for collection system pipes collaboratively with City staff in a workshop.
- Determine criticality for each pipe asset based on consequence and likelihood of failure criteria. The criteria will be applied using a GIS-based analytical tool.
- Based on the results of the criticality model, develop a prioritized list of candidate capital projects necessary to mitigate risk at the most critical assets.
- Verify that the criticality framework is compatible with CMMS to allow for future use of the asset criticality ratings within the CMMS.

2) Sewer Force Main Criticality Model

The force main criticality model will be developed as follows:

- Develop consequence and likelihood of failure criteria for force mains collaboratively with City staff in a workshop.
- Determine criticality for each pipe asset based on consequence and likelihood of failure criteria. The criteria will be applied using a GIS-based analytical tool.
- Based on the results of the criticality model, develop a prioritized list of candidate capital projects necessary to mitigate risk at the most critical assets
- Verify that the criticality framework is compatible with CMMS to allow for future use of the asset criticality ratings within the CMMS

The outcome of this process is a risk-ranking of assets that can be used to prioritize condition assessment activities, operations and maintenance activities and risk-reduction capital projects (such as rehabilitation or capacity enhancements). Criticality ratings can also be used to determine the timeframe of corrective actions. McKim & Creed will prepare and submit a Technical Memorandum documenting the criticality models and deliver the models in a workgroup meeting.

5. Rehabilitation and Replacement Planning

A. **Lift Station Risk Prioritization.** A risk-based criticality evaluation will be performed for PCB's inventory of 170 lift stations and used to inform specific management strategies. To facilitate the prioritization of these stations, a risk-based approach will be used to rank stations by how critical they are to the continued operation of the system. At a minimum, criteria to be considered in this evaluation include:

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- Work order history
- Lift station loading (i.e. run times)
- Asset condition
- Service to critical customers
- Tributary lift stations

The criteria will be used to calculate a Likelihood of Failure score (i.e. how likely the station is to fail), Consequence of Failure score (i.e. what happens when the station fails), and a Total Risk score. These scores will then be used to group lift stations into categories with similar management strategies. For example, an aggressive strategy with accelerated maintenance schedules and contingency response plans may be needed for lift stations with a higher Consequence of Failure score.

B. **Useful life estimates and replacement costs.** Planning level estimates of expected useful lives and replacement costs will be developed by McKim & Creed for asset types described in Task 3. Useful life estimates will be based on guidance provided by American Water Works Association (AWWA) and the Institute of Asset Management (IAM).

Future funding estimates will incorporate feedback from the staff interview and historical costs from financial data. Where gaps in financial data exist, McKim & Creed staff will provide planning-level costs for replacement of in-kind equipment. The output of this task will be a table documenting the cost and timing for all major significant R&R activities associated with the lift stations. Incidental R&R activities may be captured as a small percentage of the overall asset replacement value.

Costs will be provided in current dollars and are intended to represent the total cost of a replacement project, including indirect costs. McKim & Creed will coordinate with PCB staff to determine how escalating costs should be incorporated into the future funding evaluation.

C. **R&R Project Identification.** R&R projects will be identified and grouped using the results of the lift station risk prioritization, condition assessment, and useful life estimates. Generally, projects will be defined as replacement in-kind of existing assets that are at the end of their useful lives. For lift stations with more aggressive management strategies, separate projects may be generated to mitigate specific risks. Project recommendations resulting from the condition assessment task will be incorporated as well. Where system-wide projects with high capital costs are anticipated, such as with replacement of an obsolete technology, stations will be prioritized in the rehabilitation schedule according to their respective management strategies.

A table of projects, planning budgets, and schedule will be developed under this task and used as an input to forecast funding needs.

D. **Provide R&R funding needs forecasts.** Future R&R funding needs forecasts will be provided for a 40-year planning horizon. Future funding forecasts will be based on expected R&R costs (in current dollars) for each asset. Specific R&R

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projects will be added to the forecast and supersede asset specific costs (e.g. pump does not need to be replaced if whole lift station is replaced).

E. **Review potential funding scenarios.** McKim & Creed will review up to three potential funding scenarios to address needs during the 40-year planning horizon. This will include a combination of funding sources such as PAYGO, bond issuances, and grant funding.

6. Asset Replacement Plan (ARP) Documentation

A. **ARP and Workshop**. An ARP will be developed to capture the conditions, useful life calculations, R&R costs, and improvements recommendations for the lift stations. Future funding needs and financing scenarios to meet those needs will be provided for budget planning. Following the draft submittal of the ARP, a workshop will be conducted with PCB staff to review the recommendations and financing scenarios.

B. **Data deliverable.** Asset data collected during this project will be provided to PCB in an acceptable format for import into CityWorks CMMS (or other if desired).

PCB Responsibilities

It is agreed that PCB will have the following responsibilities under this project:

1. PCB to provide access to lift station facilities for condition assessments. Attendance by Operations and Maintenance staff during condition assessments will be needed to better understand how equipment is typically operated.

Project Schedule

Task	Task Duration (Calendar Days)	Total Contract (Calendar Days)
Notice to Proceed	1	1
Project Administration	Ongoing	Ongoing
Data Collection	14	15
Facility Inspection	14	29
Risk Evaluation/Rehabilitation and Replacement Planning	77	106
Asset Replacement Plan Documentation	27	133

Assumptions/Exclusions

- PCB will complete the EPA CMOM Program Self-Assessment Checklist prior to Notice to Proceed.
- The Lift Station R&R Workshop and the Pipes R&R Workshop will be held on the same day (morning/afternoon, back-to-back, or concurrently).
- Field condition assessments are limited to the 10 lift station sites and their appurtenances mentioned previously.

- Inspections of assets are expected to be performed without the need of special equipment or confined space permits.
- PCB staff are to operate the assets as needed; McKim and Creed will not operate any PCB assets.
- PCB will provide access to the assets to be evaluated.
- In cases where original installation attributes (such as install year) are not available, assumed values will be developed based on consultation with PCB.
- Deliverable review comments to be provided by PCB within 2 weeks of submittal. Two rounds of comment review are assumed for scope.
- Schedule assumes availability of applicable PCB staff.
- Design services are not included in scope.

Budget

A breakdown of fees is provided in Attachment A.

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Attachment A - Project Cost Summary:

Phase 1 – Project Administration		$25,014
Phase 2 – Data Collection		$35,456
Phase 3 – Facility Inspection		$19,632
Phase 4 – Pipes Risk-Based Evaluation		$55,860
Phase 5 – Rehabilitation & Replacement Planning		$100,740
Phase 6 – Asset Replacement Plan Documentation		$39,902
	Project Total	$276,604

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