



City of Boynton Beach Agenda Item Request Form

Meeting Date: 02/ 4/2025

Proposed Resolution No. R25-041- Approve Task Order No. GESUT-3C-03-25 with Carollo Engineers, Inc. to update and calibrate the City's wastewater model and the City's potable water model and services to convert the wastewater model from Innovyze InfoSWMM to Bentley SewerGEMS and the potable water model from Innovyze InfoWater to Bentley WaterGEMS, for a not-to-exceed amount of \$400,000.

Requested Action: Staff recommends approval of Proposed Resolution No. R25-041.

Explanation of Request: The purpose of this task order is to engage a consultant to perform a comprehensive review and update of the City's existing hydraulic models. This work will provide the necessary data and insights to better manage and optimize our water system, specifically in terms of flow, pressure, and capacity. By enhancing these models, we will also be able to proactively address issues such as system vulnerabilities, identify bottlenecks, and prepare for future demands as our community grows.

The City of Boynton Beach owns and operates a wastewater collection system and a potable water distribution system. The City has not updated or calibrated their wastewater and potable water hydraulic models in 9 years and wants to continue using them as tools to evaluate performance of existing infrastructure and plan for redevelopment/development and future flow conditions. The City also wants to achieve a better understanding of the impact of wet weather on its master wastewater conveyance infrastructure to improve resiliency. As a result, the City wants to update the hydraulic models with the most current GIS database, and calibrate the models based on select field testing and SCADA information.

This service was procured through the City's Continuing services contract and assigned task order # GESUT-3C-03-25. The total construction cost will not exceed \$7.5M per FS 287.055. CCNA.

How will this affect city programs or services? 1. Improved Water and Wastewater Service Reliability

By updating the hydraulic models, the City will be able to accurately assess the performance of the water distribution and wastewater systems. This enables the identification of potential system deficiencies or areas that require attention. Early detection of issues will help prevent service disruptions or failures, leading to more reliable water and wastewater services for residents and businesses.

2. Enhanced Infrastructure Planning and Development

The updated hydraulic models will provide essential data to guide future infrastructure projects, including new developments, system upgrades, and expansions. This will ensure that the City's growth is supported by a robust and scalable infrastructure system, aligning with urban planning goals and improving the overall quality of life for residents.

3. Optimized Resource Allocation

Accurate models will allow the City to better allocate resources for maintenance, repairs, and system upgrades. By knowing which areas of the system are most critical, the City can prioritize investments in a way that maximizes return on investment and minimizes downtime, ensuring that essential services continue uninterrupted.

4. Support for Emergency Response and Risk Management

The task order will improve the City's ability to anticipate and manage emergencies related to water and wastewater systems. The hydraulic models can be used to simulate various emergency scenarios (e.g., equipment failure, natural disasters) and assess the system's ability to respond. This helps the City prepare for potential crises, minimizing response times and mitigating risks to public health and safety.

5. Compliance with Regulatory Requirements

Regular updates to the hydraulic models will ensure that the City remains in compliance with state and federal regulations governing water systems. Compliance is vital to maintaining public health standards and avoiding potential fines or penalties, as well as ensuring that the City's water system is capable of meeting both current and future regulatory demands.

6. Cost Savings and Fiscal Responsibility

By leveraging the updated hydraulic models for more informed decision-making, the City can reduce unnecessary expenditures on reactive repairs and inefficient system upgrades. Long-term cost savings can be achieved through better forecasting and more accurate planning, ultimately improving the City's fiscal health.

7. Public Confidence and Satisfaction

Residents will benefit from more reliable water and wastewater services, which directly enhances public satisfaction. Additionally, the City will be able to communicate to the public its commitment to investing in infrastructure improvements, further fostering trust and transparency in the City's leadership.

In summary, the task order proposal for the hydraulic models will directly enhance the efficiency and effectiveness of the City's water and wastewater systems, improve long-term infrastructure planning, and ensure the ongoing provision of essential services in a cost-effective and sustainable manner.

Budgeted Item: Yes

Account Line Item and Description: 403.5000.533-31.90 - US2403 - Water Distribution System Hydraulic Analysis/Modeling - \$200,000

403.5000.535-31.90 - US2403- Force Main System Hydraulic Analysis/Modeling -\$200,000.

Fiscal Impact: Utilities has \$400,000 budgeted and approved to complete the Hydraulic Modeling for Potable Water and Waste Water Hydraulic Modeling.

403.5000.533-31.90 - US2403 - Water Distribution System Hydraulic Analysis/Modeling - \$200,000
403.5000.535-31.90 - US2403- Force Main System Hydraulic Analysis/Modeling -\$200,000

Attachments:

[R25-041 Agenda_Item_2642-](#)

[2025_Resolution_to_approve_Task_Order_with_Carollo_Engineers.docx](#)

[Signed_Task_Order_FOrM.pdf](#)

[RFQ CW24-001 General Eng Consulting Svs - Contract -Carollo Engineers- signed.pdf](#)

[BBU Wastewater and Water Models Update and Calibration Exhibits A-C.pdf](#)