



22-0291

TITLE: Consider/Discuss/Act on a Resolution Authorizing the City Manager to Execute a Contract and Authorize Any Supplemental Agreements with Birkhoff, Hendricks & Carter, LLP for Professional Engineering Services for the Water and Wastewater System SCADA Upgrades Project

COUNCIL GOAL: Operational Excellence
(2B: Balance available resources to accommodate the growth and maintenance needs of the city)

MEETING DATE: April 5, 2022

DEPARTMENT: Development Services / Engineering

CONTACT: Ryan Gillingham, PE, Director of Public Works
Gabriel Bowden, Assistant Director of Public Works
Nick Ataie, PE, CIP Manager
Paul Tucker, PE, Senior Utility Engineer

RECOMMENDED CITY COUNCIL ACTION:

- Approval of Resolution.

ITEM SUMMARY:

- This Resolution authorizes the City Manager to execute a contract in the amount of \$163,050, as well as all required supplemental agreements thereto, with Birkhoff, Hendricks & Carter, LLP for professional consulting engineering services for the Water and Wastewater System Supervisory Control and Data Acquisition (SCADA) Upgrades Project (CIP Projects WA2108 and WW2108), for a total aggregate contract amount, inclusive of any supplemental agreements, not to exceed \$180,000.

BACKGROUND INFORMATION:

- The existing SCADA system requires various upgrades to allow for updating and improving communications from radio to cellular and fiber technologies, separation of various alarms for water and wastewater systems, and to improve functionality and expansion of capabilities.

- The Engineering Department and Public Works Department have developed a scope of work which necessary for implementation of these improvements including:
 - Assisting the City with the development of scope and technical specifications for the overall Citywide SCADA integration project for the Public Works Department (Water and Wastewater Division).
 - Inventory and evaluate existing SCADA system, equipment and components for both water (pump stations, ground storage tanks, and elevated storage tanks) and wastewater (public and private lift stations).
 - Assist the City with preparation of a Request For Competitive Cost Proposals for SCADA integration firms and future SCADA maintenance vendor.
 - Assist the City with the SCADA implementation with the selected future SCADA vendor.
 - Evaluate available SCADA software vendors and provide recommendation to City based on current equipment, cost and future needs
 - Develop existing network diagram and develop recommended network diagram
 - Provide general schematic design of new SCADA system based on selected software and identified scope of work.
 - Evaluate and make recommendations for IT security requirements consistent with the City's Risk and Resiliency Plan and IT Department requirements
 - Evaluate and make recommendations for system redundancy and data backup. This could include multiple server locations, cloud storage solutions or other best practices.
 - Develop plan for a cellular based communication system and convert the current radio system as a backup. Develop plan for eventual conversion to fiber optic cable as a backup.
 - Evaluate existing equipment including PLCs for integration into future SCADA systems.
 - Provide recommendations for updating existing SCADA servers.
 - Develop Request For Competitive Cost Proposals for SCADA vendor, which will include technical specifications identifying the scope of work for the SCADA integration firm. Incorporate City's standard language into Request for Competitive Proposals document.
 - Evaluate and make recommendations for SCADA callout software for both water and wastewater.

- Meet with City staff as needed to deliver above scope of work.
- The Opinion of Probable Construction Cost (OPCC) to make these improvements to the SCADA system is approximately \$1 million.
- Birkhoff, Hendricks & Carter, LLP (“BHC”) submitted a response to 21-42RFQ Category 2 for professional services associated with water and/or wastewater facilities such as pump stations, lift stations, and water storage tanks. They were one of five firms shortlisted by City Council on September 7, 2021.
- They were selected from this group based on their availability to perform the project and their experience with similar projects in the DFW metroplex.
- Pending award of this professional services contract, it is expected that a request for competitive cost proposals from SCADA vendors would occur in late Summer 2022 and a recommendation for award would be included on a future city council agenda.

FINANCIAL SUMMARY:

- This Resolution authorizes a contract with Birkhoff, Hendricks & Carter, LLP for an amount not to exceed \$180,000.
- Funds are available in the Capital Improvements Program WA2108 and WW2108 as follows:
 - WA2108 (\$150,000; Account 20 - Utilities)
 - WW2108 (\$30,000; Account 20 - Utilities)
- With the approval of this item, no funds will remain in WA2108 and WW2108. Additional funding necessary for the construction phase is included in the FY22 budget and FY22-26 Capital Improvement Program budget for WA2108 and WW2108 as proposed utility revenue bonds expected to be issued in late FY22.

BOARD OR COMMISSION RECOMMENDATION: N/A

SUPPORTING MATERIALS:

[Resolution](#)