City Council Report

Date: March 6, 2017

To: City Council

Through: Kari Kent, Assistant City Manager

From: Beth Huning, City Engineer
Marc Ahlstrom, Assistant City Engineer

Subject: Brown Road Water Treatment Plant Improvements Project
Pre-Construction Services Contract (CMAR)
City Project No. CP0034
District # 5

Purpose and Recommendation

The purpose of this report is to provide information to the Council concerning the selection of a Construction Manager at Risk (CMAR) for the Brown Road Water Treatment Plant Improvements Project (See Exhibit "A" for the project location).

Staff recommends that Council approved the selection of Garney Companies, Inc., as the CMAR for this project and award a Pre-Construction Services contract in the amount of $54,734.00.

Discussion

In September 2012, the City of Mesa commissioned a report to analyze the hydraulic pressure surge conditions that may develop at the Brown Road Water Treatment Plant (BRWTP) high pressure pump stations that feed the Desert Sage and Desert Wells water distribution piping (pressure zone). The study determined that Desert Sage and Desert Wells pressure zones are at risk of experiencing unacceptable water pressure fluctuations stemming from sudden changes in flow due to events such as a loss of power at the plant's pump stations. The report recommended the installation of surge mitigation equipment to reduce the chance of damage to the water distribution system during these events. This project will implement these recommendations.

The project includes the installation of a 20,000 gallon hydropneumatic tank on the discharge of the Desert Sage High Pressure Pump Station located at BRWTP. The hydropneumatic tank will provide an air cushion to dissipate high pressure surges in the Desert Sage pressure zone.

The project also includes the installation of an 80,000 gallon "feed" tank on the discharge of the Desert Wells High Pressure Pump Station located at BRWTP. The "feed" tank is designed to mitigate negative (vacuum) pressures that may develop in the Desert Wells pressure zone.

Additional improvements include installing non-reverse ratchets on the Desert Sage and Desert Wells pump motors to slow down the reverse flow in the system during a power failure and prolong the life of the pumping equipment.

In December 2016, Staff received six “Statements of Qualifications” (SOQ) from potential contractors to act as the CMAR for this project. Based on an evaluation of these SOQ’s, Garney Companies was recommended as the most qualified CMAR. Staff has prepared a contract and negotiated the fee for the Pre-Construction Services contract. During the Pre-Construction Phase, the CMAR will work closely with the project team to provide a constructability analysis including value engineering items, and to develop a “Guaranteed Maximum Price” (GMP) for the project. This GMP will then be brought back to the Council for review and approval.

Once underway, construction of this project is anticipated to last no more than 10 months.

Alternatives

An alternative to this project would be to not construct these improvements; however, this would put the reliability and safety of the water distribution system and customers at risk. Dynamic hydraulic pressure fluctuations can cause severe damage and failure to piping systems. These failures can happen anywhere in the distribution system and disrupt water service until these repairs are completed.

Fiscal Impact

The pre-construction services contract is in the amount of $54,734.00.

This project is funded by 2010 authorized Water bonds.

Coordinated With

The Water Resources Department concurs with this recommendation.