

COUNCIL ACTION FORM

SUBJECT: **DISTRIBUTION SYSTEM MONITORING NETWORK**

BACKGROUND:

Management of water pressure in distribution systems is fundamental to providing safe drinking water. A loss of pressure can potentially allow ground water to contaminate the system and pressure fluctuations within a distribution system can result in water main breaks. By installing and monitoring a network of pressure sensors, treatment plant operators and utility maintenance personnel will be able to detect and locate water main breaks easier and more quickly, resulting in faster response times to isolate and repair the break. Access to real-time data will also allow staff to better determine when a boil water advisory is needed.

Currently, pressure monitoring is performed only at a small number of locations that are connected to the Water Treatment Plant's Supervisory Control And Data Acquisition (SCADA) system. **The Distribution System Monitoring Network would increase the number of monitoring points to approximately two dozen locations. These locations include pump stations, elevated tanks, critical water crossings, pressure reducing valves, and the Water Treatment Plant. The Distribution System Monitoring Network would also work independent of the Water Treatment Plant's SCADA system. This would allow Public Works staff access to the data/information without compromising the security of the SCADA system.**

On September 3, 2021, staff issued a Request for Proposals for the purchase of equipment and necessary technical support for the Distribution System Monitoring Network. Proposals were received through October 1, 2021. Four proposals were received and scored by staff from the Water & Pollution Control and Public Works Departments. Scoring was based on Cost, Understanding of the Project, Experience/Qualifications, and Fulfillment of Technical Requirements. A summary of the scoring is included below.

Respondent	Cost Proposal	Technical Proposal Score
Clow Valve Co.	\$ 210,219	1,601
Electric Pump	\$ 210,660	2,130
Mueller Water Products	\$ 26,646	1,705
Utility Systems Science & Software, Inc.	\$ 109,285	1,305

Staff believes that the proposal from Electric Pump as the option that provided the best overall value to the City. Staff from both the Public Works and Water & Pollution Control Departments have had positive outcomes working with Electric Pump on past projects and expect similar results with this project. Negotiations of scope between Electric Pump

and the City resulted in the addition of one site to the network, changing six sites from battery to utility power, and inclusion of six pressure monitors that can be moved throughout the distribution system. These portable monitors would be used in areas that have water pressure/quality concerns and areas that have a potential for pressure concerns (i.e. large construction projects). These changes resulted in a cost increase of \$21,715 bringing the total cost to \$232,375.

The FY 2021/22 CIP includes \$985,000 for the Distribution System Monitoring Network. The four proposals received were below the budgeted cost. Staff is anticipating a cost of less than \$100,000 for installation of the Distribution System Monitoring Network equipment. This will likely be completed by a combination of City staff and contracted labor.

ALTERNATIVES:

1. Award a contract for purchase of the Distribution System Monitoring Network equipment and technical support to Electric Pump of Des Moines, IA. in the amount of \$232,375.
2. Do not award a contract at this time.

MANAGER'S RECOMMENDED ACTION:

The addition of a Distribution System Monitoring Network has been identified in the capital improvements plan and would provide critical data to the Water & Pollution Control and Public Works Departments. The small number of sites that currently provide pressure data limits the ability of staff to detect and locate water main breaks. Increasing the amount of available data will help protect both water quality and distribution system infrastructure.

Therefore, it is the recommendation of the City Manager that the City Council adopt Alternative No. 1, as stated above.