



City of Sunnyvale

Agenda Item-No Attachments (PDF)

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REPORT TO COUNCIL

SUBJECT

Award of Contract for Water Tank Mixing Systems (F16-63)

REPORT IN BRIEF

Approval is requested to award a contract to PAX Water Technologies of Richmond in an amount not to exceed \$332,439 for the purchase of seven (7) water mixers and eight (8) water quality stations to be installed in water tanks at the Hamilton, Mary-Carson, Wolfe-Evelyn, and Wright water plants. The total cost will be partially offset by a PG&E rebate in an estimated amount of \$21,474.

EXISTING POLICY

Pursuant to Chapter 2.08 of the Municipal Code, a contract for goods and/or services may be exempt from competitive bidding requirements when the goods or services are available from a sole source.

ENVIRONMENTAL REVIEW

N/A

BACKGROUND AND DISCUSSION

Tank mixing systems are used to circulate water within tanks in order to keep the quality of the stored water from deteriorating. Water that is not mixed can become thermally stratified and lose its disinfectant residual; water that is mixed remains at a constant quality, meeting State of California Title 22 requirements. The City currently uses large centrifugal pumps to mix the water, but they were not designed for this purpose and their use is energy-inefficient and costly.

The PAX mixer is an active, submersible system that mixes large volumes of water using a patented impeller, which establishes a stable flow structure throughout the storage volume. Installation of the PAX water mixers will reduce use of the centrifugal pumps by 50%. In February 2014, the City installed a PAX water mixer in one of the tanks at the Hamilton Water Plant. Due to the operational success of the installed mixer, Pacific Gas and Electric Company (PG&E) recommended that the City install mixers in all of its water tanks in order to reduce energy use.

Environmental Services Department (ESD) staff and PG&E engineering staff conducted field testing and analysis of potential energy savings at three of the City's pumping facilities: Mary-Carson Plant, Wolfe-Evelyn Plant, and Wright Plant. The final PG&E report confirmed that the City could realize an annual energy savings of 268,423 kilowatt hours (kWh), or nearly \$60,000, at the water pumping facilities by using PAX water mixers instead of the large, centrifugal pumps. This ongoing savings has qualified the City for an incentive rebate from PG&E in an estimated amount of \$21,474 to help offset the cost of the mixers. The actual rebate will be higher if additional energy savings can be obtained. Information regarding the energy savings analysis and rebate program can be found in Attachment 2.

PAX Water Technologies holds the license to market PAX Scientific's patented water mixers. The project includes the purchase of seven (7) mixers, two of which will go into the smaller, 500,000 gallon tanks at the Hamilton Plant and five of which will be placed in the 5,000,000 gallon tanks at the other locations. The project also includes the purchase of eight (8) Water Quality Stations (WQS), one for each tank. The WQS continuously samples and monitors water quality, including residual, pH, and temperature, and provides real-time alerts when there are unexpected changes in water quality.

FISCAL IMPACT

Funding for this project is available in capital project 830170, Refurbishment of Water Tanks. The total cost is \$332,439, which will be partially offset by a PG&E rebate under a Commercial Calculated Incentives retrofit program. The rebate is currently estimated to be \$21,474 but could be higher based upon the actual energy savings. PG&E's analysis indicates that the City will reduce its annual kWh usage by 268,423, which could translate into ongoing savings of nearly \$60,000. This savings assumes that 75% of the energy costs to operate the mixers will be incurred at off-peak hours, so the actual savings will fluctuate based on the mix of peak, part-peak and off-peak hours usage.

Funding Source

The Refurbishment of Water Tanks project is funded by the Water Supply and Distribution Fund.

PUBLIC CONTACT

Public contact was made by posting the Council agenda on the City's official-notice bulletin board outside City Hall, at the Sunnyvale Senior Center, Community Center and Department of Public Safety; and by making the agenda and report available at the Sunnyvale Public Library, the Office of the City Clerk and on the City's website.

RECOMMENDATION

Award a contract in the amount of \$332,439 to PAX Water Technologies for PAX water mixers and water quality stations in substantially the same form as the attached draft purchase order.

Prepared by: Pete Gonda, Purchasing Officer

Reviewed by: Grace K. Leung, Director, Finance

Reviewed by: John Stufflebean, Director, Environmental Services

Reviewed by: Kent Steffens, Assistant City Manager

Approved by: Deanna J. Santana, City Manager

ATTACHMENTS

1. Draft Purchase Order
2. PG&E Rebate Analysis