

City of Brisbane

Agenda Report

TO: Honorable Mayor and City Council

FROM: Director of Public Works/City Engineer via City Manager

SUBJECT: Crystal Springs Aqueduct Flow Control Vault Stations (Project No. 9508)

DATE: Meeting of March 15, 2010

City Council Goals:

To design infrastructure and public facilities to be efficient, cost effective and to contribute to the cohesion and character of the community. (#2)

To maintain and improve infrastructure. (#3)

Purpose:

To obtain bids for a project that will provide the design and construction of flow regulating valve stations at 5 water supply turnout locations distributed across the city's water systems, including associated future telemetry control equipment. The ability to finely regulate water flow from our connections with SFPUC will assist in achieving the community's value of ensuring the highest level of water quality.

Recommendation:

Authorize publication of the Notice Inviting Bids for Request for Proposal for Design and Construction of the Crystal Springs Aqueduct Flow Control Vault Stations.

Background:

In the 2003 Water Master Plan, Brown & Caldwell identified the need to add flow control valves on the supply turnouts for the future control and operation of the lower elevation pressure zones in order to function as a single pressure zone and not draw peak demands from the SFPUC aqueducts. The flow control valves will operate in concurrence with new storage facilities planned for the lower pressure zones and a future interconnected water distribution system. In addition, the new flow control valves will assist in directing the water demand through specific water supply turnouts.

Council funded the design and construction of the Crystal Springs Aqueduct Flow Regulators (Project No. 9508) and the Supervisory Control And Data Acquisition

(SCADA) Upgrade in FY 2004-2005. The SCADA Upgrade was identified to add a backup master computer to the existing telemetry system, and to upgrade the current system to allow telemetry control of the new flow control valves. City staff evaluated combining the Crystal Springs Aqueduct Flow Regulators (Project No. 9508) with the SCADA Upgrade Project (Project No. 9509) to form one project titled Crystal Springs Aqueduct Flow Control Vault Stations (Project No. 9508). By combining the scope and available funds for both projects into one, staff felt it could obtain the most innovative and cost-effective means of successfully completing the design and construction of the desired upgrades with available funds.

Staff proceeded to solicit proposals in October 2006 for design engineering services for the Crystal Springs Aqueduct Flow Control Vault Stations (Project No. 9508). The city received one proposal that exceeded the available engineering budget. Staff determined that a design/build contract would be more cost effective in successfully completing the project. Staff then developed the technical specifications for the Crystal Springs Aqueduct Flow Control Vault Stations project.

This project is partially funded through a U.S. Environmental Protection Agency (EPA) Appropriation Grant, which was received by the city in April 2006. U.S. EPA directed staff to obtain environmental clearance for the project before beginning any work related to construction. Numerous environmental studies were then performed, reviewed and finalized, and a National Environmental Policy Act (NEPA) Categorical Exclusion (CATEX) was obtained from U.S. EPA on August 20, 2009. No further action on this environmental determination is required.

In compliance with the California Environmental Quality Act (CEQA), an Initial Study has been prepared by staff. and on the basis of the initial evaluation, the project is categorically exempt from CEQA per Section 15301(b) of the State CEQA Guidelines as it pertains to the minor alterations of existing publicly-owned utilities. A notice of exemption will be filed by the City when the project is approved by the Council.

The design and construction project is now complete and ready for bidding. The Notice Inviting Bids requires interested bidders attend a mandatory prebid meeting

Discussion:

Flow control at the source water turnouts has multiple benefits; including the ability to isolate the City's water distribution system from the SFPUC supply in case of emergency, and to allow the lower elevation pressure zone to function as a single interconnected pressure zone, thus maximizing circulation and turnover of the distribution system and minimizing the peak water demand draw off the SFPUC supply system.

The sudden loss of the City's consulting telemetry engineer has forced staff to slightly alter the final project. The existing proprietary citywide telemetry system is not compatible with the modern telemetry equipment that has been specified for this project and the future SCADA system. This project will install programmable logic controllers

(PLC) at the control vault stations, but the flow control valves will operate manually until an upgraded SCADA master control system is installed.

Fiscal Impact:

The engineer's estimate for this project is: \$429,000

Funding is programmed for this project as follows:

Crystal Springs Aqueduct Flow Regulators (9508)	\$336,224
SCADA Upgrade (9509)	<u>\$67,200</u>
Combined Project (545-9508)	\$403,424
U.S. EPA Appropriation Grant	<u>\$217,723</u>
TOTAL	\$621,147


The anticipated "excess" funds available on this project will be partially reserved to install a new, upgraded SCADA master control system (completion of Project 9509) and to install the connecting power, telemetry, and radio frequency equipment needed for the flow regulators to communicate with the SCADA system, with the balance of the excess being returned to the utility fund.

Measure of Success:

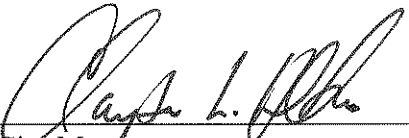
Completion of five manually operated flow control valve vaults at each of the five existing water supply turnouts with built-in capability to link the operation of the valves to the future SCADA upgrade.

Attachments:

A – Request for Proposal – Crystal Springs Aqueduct Flow Control Vault Stations



Director of Public Works/City Engineer



City Manager

A copy of supporting materials provided to the City Manager and Council Persons in connection with this agenda item is available for public inspection and copying at 50 Park Place, City of Brisbane Department of Public Works, Brisbane, CA, 94005, Telephone: (415) 508-2130.