



BUSINESS OF THE CITY COUNCIL CITY OF MERCER ISLAND

AB 5913
July 20, 2021
Consent Agenda

AGENDA BILL INFORMATION

TITLE:	AB 5913: Bid Award for the Booster Chlorination System Project	<input type="checkbox"/> Discussion Only
RECOMMENDED ACTION:	Award the Booster Chlorination System project to Harbor Pacific Contractors, Inc.	<input checked="" type="checkbox"/> Action Needed: <input checked="" type="checkbox"/> Motion <input type="checkbox"/> Ordinance <input type="checkbox"/> Resolution

DEPARTMENT:	Public Works
STAFF:	Jason Kintner, Chief of Operations Rona Lin, Utilities Engineer
COUNCIL LIAISON:	n/a
EXHIBITS:	1. Project Vicinity Map
CITY COUNCIL PRIORITY:	n/a

AMOUNT OF EXPENDITURE	\$ 3,284,770
AMOUNT BUDGETED	\$ 3,505,000
APPROPRIATION REQUIRED	\$ n/a

SUMMARY

The objective of the Booster Chlorination System project ("Project") is to maintain adequate levels of secondary disinfectant in the City's water storage tanks and distribution system to prevent coliform growth. In conjunction with the Supervisory Control and Data Acquisition ("SCADA") Water project, currently under construction, this project will strengthen the City's water supply system and improve system operations for water quality control.

This agenda bill provides an overview of the project development, design considerations, and key elements of the construction. It describes the bid results, successful bidder's qualifications, estimated project budget, and staff's recommendation for awarding the project.

BACKGROUND

In September 2014, the presence of E. coli and Total Coliform bacteria was detected in various locations of the City's water distribution system, which prompted a precautionary boil water notice (the "Water Advisory Event"). With assistance from Confluence Engineering Group LLC, the City worked to address many areas of contamination risk identified by the Department of Health in the City's distribution system and completed a Coliform Response Action Plan ("Action Plan"). A key remaining component of this Action Plan is the construction of a Booster Chlorination System. Due to the complexity of the City's water infrastructure and

the need to ensure the design could be used throughout the entire distribution system, additional time was needed to complete design work on the Project.

PROJECT DESCRIPTION

To boost residual chlorine levels throughout the distribution system, a number of piping modifications were identified and incorporated into the Project design. Adding these system improvements will ensure that adequate levels of chlorine can reach every segment in the water distribution system. The Department of Health approved the Project design on June 14, 2021.

Project construction work will occur at five separate locations. See Exhibit 1.

City Water Reservoir

Most of the work will be completed at the reservoir site, including the following components:

- Installation of a sodium hypochlorite generator system.
- Installation of a mixer in each of the reservoir tanks to prevent tank stratification and allow the chlorinated water to mix uniformly.
- Integration of electrical, instrumentation, and control equipment in coordination with the SCADA-Water Upgrade project.
- Piping modifications to redirect all flows from SPU pipelines into the reservoir tanks to maximize chlorinated water mixing and contact time and discharge reservoir water via the City's distribution system to all areas of the Island.

89th Ave. SE

- Interconnect the 30-inch water main with the parallel 24-inch water main to maintain redundant supply lines.

SPU Meter 68 (located at 9700 block of SE 40th Street)

- Remove two pressure reducing valve (PRV) vaults.
- Install a new PRV station and a flow meter station with SCADA connections.

Pipeline abandonment

- Decommission and abandon the existing 12-inch water main between Rotary Park and E Mercer Way, parallel to the 16-inch secondary supply line.
- Relocate and replace two fire hydrants.

BID RESULTS AND AWARD INFORMATION

Design of the Booster Chlorination System started in July 2020 and was finalized in mid-June 2021. The project was advertised for bids on June 14, 2021. The Project includes two bid schedules. "Schedule A" contains all critical and necessary components of the Project while "Additive Alternate – Schedule B" includes the replacement of a buried air vacuum release valve ("AVRV") assembly that connects to one of the two supply pipelines. Replacing the AVR assembly with current standard equipment eliminates a potential point of entry for contaminants.

Three construction bids were received and opened on July 6, 2021. Table 1 provides a summary of bid results:

TABLE 1: BID RESULTS

COMPANY NAME	SCHEDULE A	ADDITIVE ALTERNATE - SCHEDULE B	TOTAL BID AMOUNT SCHEDULE A + ADDITIVE ALTERNATE -SCHEDULE B
Harbor Pacific Contractors, Inc.	\$2,109,516	\$6,126	\$2,115,642
Award Construction	\$2,670,255	\$13,212	\$2,683,467
McClure & Sons, Inc.	\$2,910,300	\$24,222	\$2,934,522
Engineer's Estimate:	\$2,373,240	\$13,168	Range: \$2,300,000 - \$2,500,000

Note: all numbers shown above include Washington State Sales Tax of 10.1%

After evaluating bid submittals and determining bidders' qualifications, staff confirmed that Harbor Pacific Contractors, Inc. (Harbor Pacific) is a responsive low bidder. Harbor Pacific has constructed comparable water utility projects for other agencies including Clallam County PUD and the City of Bellevue. Review of the Labor and Industries (L&I) website confirms Harbor Pacific is a contractor in good standing, with no license violations, outstanding lawsuits, or L&I debt. Based on staff's review of the bid submittals, Harbor Pacific Contractors, Inc. is the lowest responsible bidder for the Project.

The total bid price, including both Schedules, from Harbor Pacific is within the approved Project budget. A contract in the amount of \$2,115,642 including both Schedule A and Schedule B will be awarded to Harbor Pacific Contractors, Inc.

PROJECT BUDGET

Adding costs for contingency, final design, construction support, project management, and inspection services brings the Project's total cost to \$3,284,770. Due to the complexity and unique nature of the Project and unpredictability of underground utility work, a 20% construction contingency is included in the project budget. Table 2 summarizes the overall project costs and available budget.

TABLE 2: TOTAL PROJECT COST/BUDGET

Booster Chlorination System Project (WU0101)	Total
Construction	\$1,921,564
Sales Tax @ 10.1%	\$194,078
Total Construction Contract	<u>\$2,115,642</u>
Contingency - (20%)	\$423,128
Final Design	\$238,000
Construction Support Services	\$128,000
Project Management/Utility Team	\$200,000
Inspection Services	\$180,000
Total Project Costs	\$3,284,770
Total Approved Budget (2021-2022)	\$3,505,000
Budget Appropriation Needed	\$0

SUSTAINABLE PRACTICES

CIP projects and the Public Works Department continue to move toward creating a more sustainable utility infrastructure aimed at saving time and money on capital projects and long-term operations while minimizing environmental impacts to the extent feasible. The range of approaches expected to be part of this Project include the following:

- Asphalt pavement grindings will be recycled at a regional asphalt plant for use in future construction projects.
- Local recycling of old metal infrastructure such as hydrants, cast iron pipe, valves, etc.
- Increased use of remote data-gathering and monitoring systems to minimize the need for site visits by staff and expedite troubleshooting.
- As the City's SCADA monitoring system expands in conjunction with this project, field crews will spend less time manually sampling and testing drinking water at various Island locations and will have early warning of any evolving water quality issues allowing swift intervention.
- A focus on equitable access to high-quality potable water for all Island residents and visitors. Automated booster chlorination implemented at the City's reservoirs will assure that even the most distant branches of the distribution system will receive the appropriate level of disinfectant. In addition, the City continues to focus on removing and replacing its oldest, unlined cast iron piping, due to the excessive demand for chlorination created by this material.
- Enhanced self-sufficiency and reliability in City Water Utility operations by relying less on Seattle Public Utilities' residual chlorine levels through the installation of locally controlled automated systems. Chlorine [supply chain shortages](#) can sometimes occur, as recently witnessed during an equipment failure at a major regional manufacturer this June that supplies SPU. The City's operating supplies for the booster system (such as salts) will be easy to procure locally and stockpile, improving the water system's overall resiliency.
- The pumps to be used by the new system are low-flow and not energy intensive, but energy efficiency opportunities were assessed during design.

Construction of the Booster Chlorination System project is scheduled to begin in October of 2021 and will be complete by August 2022. However, due to the ripple effect of the COVID-19 shutdown, long lead times on material supplies are expected which could extend the Project's completion date by an additional six months.

RECOMMENDATION

1. Award Bid No. 21-28 to Harbor Pacific Contractors, Inc., a Washington-based company, for the construction of a permanent booster disinfection system for the City's Reservoir and Main Pump Station; and
2. Authorize the City Manager to execute a contract with Harbor Pacific Contractors, Inc., in an amount not to exceed \$2,115,642.