BUSINESS OF THE CITY COUNCIL
CITY OF MERCER ISLAND

AB 6430
March 19, 2024
Consent Agenda

AGENDA BILL INFORMATION

TITLE:	AB 6430: Reservoir Booster Pump Station Upgrades Bid Award	☐ Discussion Only ☒ Action Needed: ☒ Motion ☐ Ordinance ☐ Resolution
RECOMMENDED ACTION:	Award the Reservoir Booster Pump Station Upgrades contract to Strider Construction Co., and appropriate $1,075,000 from the Water Fund balance for the additional cost to complete project implementation.	

DEPARTMENT:	Public Works
STAFF:	Jason Kintner, Chief of Operations Clint Morris, Capital Division Manager Christopher Marks, Utilities Engineer
COUNCIL LIAISON:	n/a
EXHIBITS:	1. Project Location Map
CITY COUNCIL PRIORITY:	3. Make once-in-a-generation investments to update and modernize aging infrastructure, capital facilities, and parks.

AMOUNT OF EXPENDITURE	$ 2,155,000
AMOUNT BUDGETED	$ 1,080,000
APPROPRIATION REQUIRED	$ 1,075,000

EXECUTIVE SUMMARY

The purpose of this agenda bill is to award a public works construction contract for the Reservoir Booster Pump Station Upgrades project (WU0128) and request an appropriation of $1,075,000 from the Water Fund balance to supplement the project's approved 2023-2024 budget.

- The City's reservoir booster pump station (BPS) provides water service and fire flow to the Island's largest pressure zone.
- Emergency repairs completed in 2021 to one of the five submersible pumps at the reservoir BPS, revealed the presence of mercury in the mechanical seal of the pump.
- RH2 Engineering, Inc. was contracted by the City in 2021 to perform engineering design for replacement of all five pumps. Design work was completed in late 2023.
- Project costs have increased beyond the approved budget for the construction phase due to increased material and labor costs, changes in piping configurations since initial project scoping, and the need for additional small pumps to meet varying service demand conditions.
- Five bids were received; the lowest responsive bid is $1,726,011.
- Construction is scheduled to begin in August 2024 and be completed in February 2025.

BACKGROUND

The City's water distribution system is comprised of two 4-million-gallon water storage tanks, two booster pump stations, 120 miles of water mains, and 85 pressure reducing valve stations. The reservoir BPS utilizes five submersible pumps to supply water service and fire flow to the largest pressure zone on the island (492 Pumped Zone), as well as numerous smaller pressure zones along the Island's perimeter (492 Sub-Zones).

Three of the pumps were installed almost 30 years ago, while the other two were installed within the last decade. When one of the five pumps was taken out of service in 2021 for emergency repairs, City staff discovered that the motors of the pumps contain mercury seals. These seals, while great for filling gaps within the motor enclosure, pose a risk of contamination to the water supply, especially during pump failure or pump disassembly. Staff contracted with RH2 Engineering (RH2) to perform engineering design for the replacement of all five pumps.

RH2 examined future system demands to properly determine suitable pump replacements. The demand revealed large variations in seasonal and daily flow demands that the BPS must accommodate. The design includes a system of smaller capacity pumps, referred to as "jockey pumps", to provide service for the lower demands, and a system of larger capacity pumps to provide service for the higher demands. The systems also include redundancy in the form of additional pumps should a pump fail or need to be taken offline.

RH2 finalized the engineering and design in December of 2023 and the project was advertised for bids. At completion of design, the engineer's estimated construction cost was $1,450,017.

ISSUE/DISCUSSION

PROJECT DESCRIPTION

The City of Mercer Island's Reservoir Booster Pump Station Upgrades project will replace the five existing vertical turbine pumps (Pumps 1-5) with new vertical centrifugal split case pumps and install two smaller-sized vertical turbine jockey pumps (Pumps 6-7) at the City's reservoir BPS site. The project replaces the existing mercury-containing pumps and increases the hydraulic efficiency across all demand service levels, thus reducing future energy costs and extending the service life of the reservoir BPS. In addition to the pump upgrades, the work includes associated piping, structural, electrical, and automated control improvements.

BID RESULTS

The project was advertised on January 29, 2024. Five construction bids were received and opened on February 29, 2024. The lowest responsive bid was received from Strider Construction Co. in the amount of $1,726,011, within the range of the engineer's construction cost estimate. The table below shows bid results.

	COMPANY NAME	BID AMOUNT + 10.1% WA SALES TAX
[1]	Gary Harper Construction Inc.	$1,672,138
*	Strider Construction Co., Inc.	$1,726,011
	Award Construction, Inc.	$1,745,802
	McClure and Sons, Inc.	$1,814,796
[1]	Redpoint Contracting	$2,445,684
	Engineer's Estimate (range)	$1,450,000 - $1,750,000

*Lowest responsive bidder

[1]Bid rejected due to failure to comply with RCW 39.30.060

The lowest responsive bidder, Strider Construction Co. (Strider) from Bellingham, Washington, has completed numerous water and wastewater pump station projects for public agencies across the Pacific Northwest. These include projects of similar scopes of work within the last two years for the City of Bellevue, the City of Seattle, and Lake Stevens Sewer District, in the amounts of $1.2M, $2.8M, and $4.3M respectively. Review of the Labor and Industries (L&I) website confirms Strider is a contractor in good standing with no license violations, outstanding lawsuits, or L&I tax debt.

Based on the review of the Strider bid submittal and reference checks, staff has determined that Strider is the lowest responsive bidder for this project and staff recommends awarding the project to Strider.

PROJECT BUDGET

RH2 will provide construction support and inspection services. Brown and Caldwell will provide Supervisory Control And Data Acquisition (SCADA) software configuration services to integrate the new pumps, valves, and control panels with the water SCADA system. City staff will provide project management and perform the remainder of inspection services.

Adding costs for this supporting work brings the total estimated cost of the project to $2,155,000, which exceeds the approved 2023-2024 budget. Factors that increased cost include higher material and labor costs, changes to piping configurations as a result of the Booster Chlorination System project, and the need for two additional pumps to meet the varying demands of the 492 Pumped Zone. Project costs are summarized in the following table.

BOOSTER PUMP STATION UPGRADES (WU0128) PROJECT BUDGET	
DESCRIPTION	**TOTAL**
Construction	$1,567,676
Washington State Sales Tax @ 10.1%	$158,335
Total Construction Contract Award To Strider Construction Co.	**1,726,011**
Construction Contingency - 10%	$172,601
Construction Support Services (RH2)	$79,938
Project Management/Utility Team	$20,400
Inspection Services	$70,050
SCADA Software Configuration (Brown and Caldwell)	$86,000
Total Estimated Project Cost	**$2,155,000**
Total 2023-2024 Budget Available for Project WU0128	$1,080,000
Budget Appropriation Needed	**$1,075,000**

Staff proposes allocating the additional $1,075,000 needed to complete this critically important project from the existing Water Fund balance. At completion of the contract, any funds not used on this project will remain in the Water Fund.

NEXT STEPS

Staff recommends awarding the bid to Strider Construction Co., authorizing the City Manager to execute a contract with Strider Construction for construction of the Reservoir Booster Pump Station Upgrades project, and setting the total project budget to $2,155,000.

Work on this project will begin as soon as feasible; however, due to operational priorities, long equipment lead-times, and other projects currently under construction at the reservoir BPS site, this project will be divided into two separate milestones. Work to replace the five primary pumps (Phase 1) will take precedence over the work needed to install the two new jockey pumps (Phase 2).

Phase 1 will begin in April; however, due to the current pump delivery lead times of 16 to 20 weeks, contractor mobilization may not occur until August of 2024. Phase 2 shares the same pump lead times as Phase 1 but cannot begin until the Reservoir Standby Generator Replacement project is substantially complete, since the old emergency generator currently occupies the floor space where the new jockey pumps will be installed. Completion of the entire Reservoir Booster Pump Station Upgrade project is anticipated in February of 2025.

The reservoir BPS will remain fully operational during construction of this project. Sequencing of the pump replacements will ensure that there are no service interruptions, even during high water demand season (May-October).

RECOMMENDED ACTION

1. Award the Reservoir Booster Pump Station Upgrades project to Strider Construction Co., a Washington-based company, in the amount of $1,726,011, authorize the City Manager to execute a contract with Strider Construction Co. for the construction of the Reservoir Booster Pump Station Upgrades project, and set the project's total budget at $2,155,000.
2. Authorize a $1,075,000 appropriation from the Water Fund balance for the additional project costs over the existing 2023-2024 budget of $1,080,000.