



Legislation Text

File #: 2019-368, Version: 1

Proposed Amendment No.1

Contract No. GLWA-CS-1747

Professional Engineering Services for Fairview Sewage Pumping Station Improvements

Agenda of: October 31, 2019

Item No.: **2019-368**

Amount:	Original Contract	\$2,686,898.00
	Proposed Amendment No. 1	\$4,591,200.00
	Total Contract Amount	\$7,278,098.00

TO: The Honorable
Board of Directors
Great Lakes Water Authority

FROM: Sue F. McCormick
Chief Executive Officer
Great Lakes Water Authority

DATE: October 2, 2019

RE: Proposed Amendment No. 1
Contract No. GLWA-CS-1747
Professional Engineering Services for Fairview Sewage Pumping
Station Improvements
Vendor: Brown & Caldwell, LLC

MOTION

Upon recommendation of Cheryl Porter, Chief Operating Officer - Water and Field Services, the Board of Directors (Board) of the Great Lakes Water Authority (GLWA), authorizes the Chief Executive Officer (CEO) to **enter into Contract No. CS-1747 Amendment No. 1 "Professional Engineering Services for Fairview Sewage Pumping Station Improvements" with Brown & Caldwell, LLC, at an increased cost of \$4,591,200.00 for a total cost not to exceed \$7,278,098.00, and an increased duration of 365 days for a total contract duration of 2,281 days;** and authorizes the CEO to take such other action as may be necessary to accomplish the intent of this vote.

BACKGROUND

Contract No. CS-1747 is a consulting engineering services contract involving design, construction administration and resident project representation (RPR) services related to capital improvements at the Fairview Sewage Pumping Station (Fairview Station). Fairview Station is located in Detroit in the Joseph Berry subdivision. The Fairview Station was constructed in 1913 with some upgrades in 1950 and 1998, and is a critical pumping station as it lifts raw sewage flows into the Detroit River Interceptor (DRI) from several major upstream sewer tributaries, including Fox Creek, East Jefferson, northeast Wayne County, and southwest Macomb County. The existing station equipment and structures are past their useful service life and need replacement to maintain pumping reliability.

Construction improvements to Fairview Station are being made under a separate construction contract - Contract No. CON-297. These improvements will upgrade the entire pumping station, including architectural, structural, process mechanical, building mechanical, electrical, and instrumentation and control systems. The project includes significant temporary sewage bypass pumping operations by the Contractor (temporary flow control) required to construct the permanent improvements to the Fairview Station. The temporary sewage bypass pump station will be operated 24 hours per day, 7 days per week (24/7) by the Contractor while critical improvements are made at the Fairview Station. These critical improvements principally relate to influent gates replacements, wetwell rehabilitation and influent valve replacements at the pumps. These improvements will take approximately 9 months and during this time GLWA needs full-time construction inspection using the RPR services. Additionally, full-time RPR inspection is needed to monitor the progress and quality of construction on the overall project improvements. The CS-1747 engineering services contract between GLWA and Brown and Caldwell, however, only include part-time RPR services instead of full-time. Therefore, this proposed amendment would increase the contract amount so that full-time RPR services can be provided by Brown and Caldwell.

Furthermore, water levels in the Great Lakes and the Detroit River are at near historic highs and have caused abnormally high dry weather flows in the sewer interceptor system. Normal dry weather flows seen at the Fairview Station average about 80 mgd with peak dry weather flows reaching about 120 mgd. Dry weather flows over the past 6 months, however, have been consistently above 150 mgd and are frequently reaching 200 mgd. These dry weather flows are unprecedented and have not been seen before. Construction of the improvements to the Fairview Station depend on a temporary bypass sewage pumping station to be constructed and operated by the construction contractor. The temporary bypass sewage pumping station, however, is specified to be a 120 mgd station based on historic dry weather flows. Until dry weather flows return to normal, substantial construction work at the Fairview Station cannot proceed.

An alternative to proceeding with the installation of new sewage pumping units under the abnormally high dry weather flows involves increasing the capacity of the temporary bypass sewage pumping station from 120 mgd to 200 mgd. This will allow the construction work to proceed as it will be able to bypass dry weather flows up to 200 mgd.

It should also be noted that due to the old age and poor condition of the existing station equipment, there is one pumping unit permanently out of service. This out-of-service unit is beyond repair. Consequently, the total capacity of the existing station is 200 mgd. If another pump is lost, then the total pumping capacity of the station will drop to about 120 mgd. The risk, therefore, of not being able to pump normal dry weather flows has increased due to the current poor condition of the station equipment.

This proposed amendment also increases the contract amount and contract time that will be associated with constructing and operating a larger temporary sewage bypass pumping station. The larger capacity temporary sewage bypass pump station is due to the differing site conditions related to abnormally high lake and river levels.

Lastly, this proposed amendment increases the contract amount to include additional effort associated with testing and commissioning of the station's control system, as well as adds a provisional allowance to the contract. The CS-1747

contract does not currently have a provisional allowance and including one will be useful to address smaller unforeseen conditions that will likely be encountered during the contract period.

In summary, the changes associated with this proposed amendment will affect the following budget items in the CS-1747 contract:

Task 2: Project Management - increase by \$33,746 to \$188,471

Task 6: Construction Administration - increase by \$1,363,793 to \$1,916,595

Task 7: RPR - increase by \$ 2,878,549 to \$3,364,149

Task 8: System O&M Manuals, SOPs and Training - increase by \$65,112 to \$183,428

Task 9: Provisional Allowance - increase from \$0 to \$250,000

JUSTIFICATION

Monitoring the progress and quality of construction on this project using full-time resident project representation is in GLWA's best interest to assure construction quality and to meet the requirements of the specifications. Likewise, operation of the temporary sewage bypass pumping station on a 24/7 basis and construction operations within the Joseph Berry subdivision make it more advantageous to have full-time GLWA representation on site to thoroughly observe and document the work and communicate on-site conditions to project stakeholders. Furthermore, the existing condition and reliability of the station's pumping system along with the abnormally high water levels present conditions that justify expanding the scope of the temporary sewage bypass pumping so that improvements to the Fairview Station may proceed without further delay.

PROJECT MANAGEMENT STATUS

Original Contract Time	1,916 Days
Proposed Amendment No.1	365 Days
New Contract Time	2,281 Days

PROJECT ESTIMATE

Original Contract Price	\$ 2,686,898.00
Proposed Amendment No. 1	\$ 4,591,200.00
New Contract Total	\$ 7,278,098.00

FINANCIAL PLAN IMPACT

Summary: Sufficient funds are provided in the financial plan for this project.

Funding Source: Wastewater Construction Bond

Cost Center: Field Services Engineering

Expense Type: Design (5421-892211.000-617950-232001)

Estimated Cost by Year and Related Estimating Variance: See table below.

Fiscal Year

FY 2019 Budget	\$ 480,000.00
FY 2020 Budget	480,000.00
FY 2021 Budget	<u>480,000.00</u>
Financial Plan Estimate	\$ 1,440,000.00
Proposed Contract Award	<u>7,278,098.00</u>
Negative Estimating Variance	\$ (5,838,098.00)

The negative estimating variance will be funded from capital reserves.

COMMITTEE REVIEW

This item was presented to the Operations and Resources Committee at its meeting on October 9, 2019. The Operations and Resources Committee unanimously recommended that the GLWA Board adopt the resolution as presented.

SHARED SERVICES IMPACT

This item does not impact the shared services agreement between GLWA and DWSD.