



Legislation Text

File #: 2022-334, Version: 1

Proposed Amendment No. 1

Contract No. GLWA-CS-102

WRRF Rehabilitation of Pump Station No. 1 Improvements

Vendor: Wade Trim Associates, Inc.

Agenda of: August 24, 2022

Item No.: **2022-334**

Amount:	Original Contract	\$4,986,249.00
	Proposed Amendment No. 1	\$7,565,327.00
	Total Revised Contract	\$12,551,576.00

TO: The Honorable
Board of Directors
Great Lakes Water Authority

FROM: Suzanne R. Coffey, P.E.
Chief Executive Officer
Great Lakes Water Authority

DATE: July 29, 2022

RE: Proposed Amendment No. 1
Contract No. GLWA-CS-102
WRRF Rehabilitation of Pump Station No.1 Improvements
Vendor: Wade Trim Associates, Inc.

MOTION

Upon recommendation of Navid Mehram, Chief Operating Officer - Wastewater Operating Services, the Board of Directors (Board) of the Great Lakes Water Authority (GLWA), authorizes the Chief Executive Officer (CEO) **to enter into Contract GLWA-CS-102, Amendment No.1, "WRRF Rehabilitation of Pump Station No. 1 Improvements" with Wade Trim Associates, Inc., at an increased cost of \$7,565,327.00 for a total cost not to exceed \$12,551,576.00 and an increased duration of 1,155 days for a total duration of 2,980 days;** and authorizes the CEO to take such other action as may be necessary to accomplish the intent of this vote.

BACKGROUND

GLWA operates and maintains the largest Water Resource Recovery Facility (WRRF) in North America with a treatment capacity of 1,700 million gallons per day (MGD). At the core of the treatment provided by the WRRF are the two main

wastewater pumping stations. Together these pump stations account for all flow that is lifted into the facility for treatment. The stations are referred to as Pump Station 1 (PS-1) and Pump Station 2 (PS-2). PS-1 was constructed in the late 1930s and has eight constant-speed pumps with various capacities, with a firm capacity defined as the single largest pump out of service. The total firm capacity of the facility is 1,025 MGD. This represents the majority of the 1,700 (MGD) conveyance capacity for the WRRF. The capacity for the facility is also regulated by GLWA's National Pollutant Discharge Elimination System (NPDES) permit. The pumps at PS-1 were partially rehabilitated in 2004 and 2005. Flow measurement from PS-1 is currently estimated using pump curves. As a part of the initial scope, it was anticipated that rehabilitation of WRRF PS-1 would include: the pumps & motors, electrical systems, mechanical systems, instrumentation and control systems, and common building defects. However, as the project developed, several items surfaced that required additional design services. Additionally, items were added to achieve the need to restore the design life of 20 years or more from the facility upon completion of the project.

JUSTIFICATION

Pump Stations 1 and 2 are the facilities that lift the wastewater received by the WRRF into the facility for treatment. The reliability and resiliency of these facilities are essential to maintain the conveyance in the regional system. Some of the key drivers for the cost increase to the original contract include the following:

The electrical systems at PS-1 were planned to be rehabilitated, but during the study phase of the project, a new electrical building was needed. This new building will provide the space for the new equipment to be installed first while leaving the existing equipment in place and operational to ensure proper continuity of operations during construction (this option presented the least operational risk to GLWA). After all the new electrical gear is in place, a changeover can occur which minimizes main lift pump downtime, minimizes risk to the system, and achieves requirements set forth by our NPDES permit. This will allow for a sequence of construction that allows for the facility to remain in service with no more than one pump out of service during construction modifications.

The existing access to the upper wet well of PS-1 is through a grate at the gatehouse. This space is used to remove and install stainless steel stop logs for wet well isolation using a monorail system. During the design phase and preliminary isolation of the wet well, it was determined that enlargement of the gatehouse through structural modifications are necessary. The improvement will allow for adequate access for the construction project to isolate the wet well and serve for future preventative maintenance needs after this project is complete.

The pumps' discharge gate valves which serve to isolate the eight main lift pumps are being replaced due to their age and condition. These valves are connected to the pump station wall by an increaser pipe that is sealed with a lead and oakum joint leading out to the pump discharge flumes. Lead and oakum is very old technology that would not ensure an additional 20-year design life for PS-1. Likewise, the eight increaser pipes that convey flows to the discharge flumes also were determined to need a replacement for extended design life which was not conceived during the original scope development.

Additionally, it was GLWA's intention when the scope was drafted in 2017 to provide construction administration and construction inspection services with our wastewater construction group (WWCG). In 2017, there were very few initiatives ongoing at the WRRF and CSO Facilities. Since then, however, the wastewater construction group has over 40 active construction projects being managed with extremely limited resources. The WWCG is only able to provide extremely limited part-time inspection and engineering services for this particularly important project due to the very heavy workload. Therefore, GLWA requested the consultant to provide construction management services for this project which includes onsite engineering and inspection oversight. These services provide assurance that the work is done in accordance with contract requirements. This service is a not-to-exceed amount of \$4,732,872 based on the assumption of 21,060 hours of inspection and construction management.

Finally, with the anticipated duration of this project, it is the opinion of the design team to replenish the provisional allowance of the contract to ensure sufficient funding for services that may surface during the final design and construction of the project. If funds are not utilized in the course of the project, those remaining funds will be refunded back to GLWA.

The Table below outlines an itemized change to the original contract based on task breakdown:

Description	Original Budget	Change Order	Revised Budget
Task 1 Kick Off	\$14,265	\$ 0	\$14,265
Task 2 Project Management	\$230,497	\$145,213	\$375,710
Task 3 - Study Phase	\$1,697,065	442,000	\$2,139,065
Task 3 - Wet Well Credit	(\$131,500)	\$ 0	(\$131,500)
Task 4/5 Preliminary Final Design	\$1,476,784	\$1,088,854	\$2,565,638
Task 6 Bid/Negotiation Phase	\$36,986	\$36,986	\$73,972
Task 7 Construction Assistance	\$687,392	\$343,696	\$1,031,088
Task 8 Engineering Representation During Construction	\$60,151	\$33,609	\$93,760
Task 9 System O&M Updating, SOPs & Training	\$101,609	\$32,097	\$133,706
Task 11A Prov. Allow Project Unforeseen	-	\$650,000	\$650,000
Task 11 CCD-A Wet Well Inspection	\$453,975	-	\$453,975
Task 11B - CCD-B Monorail Changes and Extra Stop Logs	\$140,626	-	\$140,626
Task 12 - Vibration Study	\$31,500	-	\$31,500
Task 13 - Venturi Vaults and SRF Funding	\$186,899	-	\$186,899
Task 14 - SRF Project Plan for SFE and Aeration Decks 1 and 2	-	\$60,000	\$60,000
Task 15 - Construction Administration/Management Services	-	\$3,205,425	\$3,205,425
Task 16 - Field Observation	-	\$1,527,447	\$1,527,447
Total Contract	\$4,986,249	\$7,565,327	\$12,551,576

PROJECT MANAGEMENT STATUS

Original Contract Time	1,825 days (5/6/19 - 5/4/24)
Proposed Amendment 1	1,155 days (5/5/24 - 6/4/27)
New Contract Time	2,980 days (5/6/19 - 6/4/27)

PROJECT ESTIMATE

Original Contract Price	\$4,986,249.00
Proposed Amendment No. 1	7,565,327.00

New Contract Total \$12,551,576.00

FINANCIAL PLAN IMPACT

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

Funding Source: Sewer Construction Fund

Cost Center: Wastewater

Expense Type: Design (5421-892211.000-617950-211006)

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

Original Contract Price:	\$4,986,249.00
Proposed Amendment No. 1:	7,565,327.00
New Contract Total:	\$12,551,576.00
Amended Financial Plan Estimate:	<u>\$4,418,000.00</u>
Estimating Variance:	(\$8,133,576.00)

The award of this amendment creates a negative estimating variance of (\$8,133,576.00). This variance will be adjusted in the new upcoming CIP Plan for FY2024-2028.

COMMITTEE REVIEW

This item was presented to the Operations and Resources Committee at its meeting on August 10, 2022. 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.