



Legislation Details (With Text)

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Title: Proposed Change Order No. 2
Contract No. 1903598
Construction Manager at Risk for the Assessment and Rehabilitation of WRRF
Yard Piping and Underground Utilities
Vendor: The Christman Company

Sponsors: Navid Mehram

Indexes: Wastewater Operations

Code sections:

Attachments:

Date	Ver.	Action By	Action	Result
7/27/2022	1	Board of Directors	Approved	Pass
7/13/2022	1	Operations and Resources Committee	Recommended for Approval	Pass

Proposed Change Order No. 2

Contract No. 1903598

Construction Manager at Risk for the Assessment and Rehabilitation of WRRF

Yard Piping and Underground Utilities

Vendor: The Christman Company

Agenda of: July 27, 2022

Item No.: **2022-271**

Amount:	Original Contract	\$4,863,051.00
	Change Order No.1	685,450.00
	Proposed Change Order No. 2	596,779.00
	Total Revised Contract	\$6,145,280.00

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 1, 2022

RE: Proposed Change Order No. 2

Contract No. 1903598

**Construction Manager at Risk for the Assessment and Rehabilitation of WRRF
Yard Piping and Underground Utilities**

Vendor: The Christman Company

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 No. 1903598, Proposed Change Order No. 2, “Construction Manager at Risk for the Assessment and Rehabilitation of WRRF Yard Piping and Underground Utilities” with The Christman Company, at an increased cost of \$596,779.00 for a total cost not to exceed \$6,145,280.00 with no increase in duration for a total contract duration of 792 days;** and authorizes the CEO to take such other action as may be necessary to accomplish the intent of this vote.

BACKGROUND

GLWA awarded Contract No. 1903598 (Construction Manager at Risk for the Assessment and Rehabilitation of WRRF Yard Piping and Underground Utilities) to The Christman Company (Construction Manager) with a start work date of January 15, 2021. This Contract is divided into several phases: study, preliminary design, final design, and construction phase.

Contract No. 1903601 (Yard Piping Engineering services) is a companion contract that GLWA awarded to the Engineer/Consultant (CDM Smith), for the development of technical documents and modeling services that are to be constructed by this Contract.

Under the study phase of the contract, a condition assessment plan (CAP) was prepared by the Engineer and executed by this contract to evaluate the condition of the underground infrastructure and develop a prioritized list of needed improvements. The CAP effort identified 96 improvement opportunities. The Construction Manager provided a probable opinion construction cost (POCC) range of \$33 million to \$42 million for all the recommended improvements. The wide range of the POCC is because the list is highly conceptual, and the nature of the underground work is susceptible to unforeseen differing site conditions and eventual cost increases. GLWA is currently reviewing all the recommended repairs based on priority to ensure the resiliency of the facility while maximizing the value of the investment.

So far GLWA has reviewed 21 of the 96 recommendations and approved 8 repair items outlined in the table below:

System	Description
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SFE-3	Replace one 48-inch valve extension at location SF-L-40.
ST-2	Replace 220 feet of 4-inch steam and 220 feet of 2-inch condensate (buried 5 feet deep) coated carbon steel pipe between Pump Station No. 1 & Rectangular Primary Tanks Pipe Gallery.
ST-4	Replace approximately 700 feet of 6-inch steam and 1250 feet of 2-inch condensate carbon steel pipe, including supports, insulation, and steam traps in the Incineration Complexes I & II and in the tunnels between Incineration Complex I, Pump Station No. 1 & Admin Building.
NG-1	Install 32 valve, meter tags.
NG-2	Replace approximately 4500 feet 1-inch to 4-inch of pipe (buried ~4 feet deep) North of Circular Primary Tanks No. 13 to 16 & West of Pickled Liquor Building.
NG-3	Install 50 feet of 3-inch (buried ~6 feet deep) & 50 feet of new 3-inch exposed coated carbon steel pipe South of Incineration Complexes I & II.
CA-2	Install 200 feet of new 3-inch stainless steel pipe (Buried 4 feet deep) & 250 feet of new 3-inch SS exposed pipe between the primary tank pipe gallery and pump station no. 2.
CA-3	Replace 360 feet of 3-inch stainless steel pipe (buried 5 feet deep) between Pump Station No. 1 & Rectangular Primary Tanks Pipe Gallery.

The probable opinion construction costs for the 8 items listed above were estimated by the Construction Manager to be around \$3.8 million. The Construction Manager submitted a Lump sum budget for staffing for the preliminary and final design phases for a 10-month duration in the not-to-exceed (NTE) amount of \$596,779.00.

JUSTIFICATION

This Proposed Change Order No. 2 seeks to secure additional funds in the NTE amount of \$596,779.00. It should be noted that the original contract required the preliminary and final design phase to be completed on a time and material basis. GLWA requested the Construction Manager to submit a lump sum amount since the scope and responsibility for the proposed scope is clear and can be scoped into a lump sum delivery.

The scope of the preliminary design phase (with a tentative finish date of October 14, 2022), includes, but is not limited to the following:

- Provide an opinion of probable construction costs at thirty percent (30%) of design completion.
- Provide constructability reviews.
- Determine construction packaging. Construction shall be packaged so that multiple utilities in the same zone can be rehabilitated/replaced at the same time.
- Review manual of plant operations and schedule for each milestone.
- Attend meetings/workshops with the Engineer and GLWA throughout the preliminary design phase.
- Develop a CPM schedule, including shutdowns and times when WRRF operations could be

impacted. Manage the subcontractor's access to site and material delivery.

The Construction Manager's scope of work during the final design phase includes, but is not limited to, the following:

- Prepare opinion of probable construction cost at 75%, 90%, and 100% design.
- Provide constructability reviews to avoid issues and change orders during construction.
- Determine Construction packaging. Construction shall be packaged so the work is done most effectively with least disruption to Operations and Maintenance.
- Update the schedule for each milestone.
- Attend meetings/workshops with the Engineer and GLWA throughout the final design phase.

PROJECT MANAGEMENT STATUS

Original Contract time for Study/Design	792 days (1/15/2021-3/17/2023)
Change Order No.1	0 days
Proposed Change Order No. 2	0 days
New Contract Time	792 days (1/15/2021-3/17/2023)

PROJECT ESTIMATE

Original Contract Price	\$4,863,051.00
Change Order No. 1	685,450.00
Proposed Change Order No. 2	<u>596,779.00</u>
New Contract Price	\$6,145,280.00

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: Construction (5421-892211.000-616900-216006)

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

Original Contract Price:	\$4,863,051.00
Change Order No. 1:	<u>685,450.00</u>
Proposed Change Order No. 2:	<u>596,779.00</u>
New Contract Total:	\$6,145,280.00
Amended Financial Plan Estimate:	<u>19,401,000.00</u>
Balance reserved for construction:	\$13,255,720.00

This positive estimating variance will be reserve for the construction contract.

COMMITTEE REVIEW

This item was presented to the Operations and Resources Committee at its meeting on July 13, 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.