



Legislation Text

File #: 2020-304, Version: 1

Contract No. 1803990

Lake Huron Water Treatment Plant, High Lift Pumping Metering and Yard Piping Improvements

CIP# 111009 / BCE Score: 62.2

Agenda of: September 23, 2020

Item No.: **2020-304**

Amount: \$30,022,636.79

TO: The Honorable
Board of Directors
Great Lakes Water Authority

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

DATE: August 31, 2020

RE: Contract No. 1803990
Lake Huron Water Treatment Plant, High Lift Pumping Metering and Yard Piping
Improvements
Vendor: Weiss Construction Co., 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. 1803990 “Lake Huron Water Treatment Plant, High Lift Pumping Metering and Yard Piping Improvements” with Weiss Construction Co., LLC, at a cost not to exceed \$30,022,636.79 for a duration of 1,393 days;** and authorizes the CEO to take such other action as may be necessary to accomplish the intent of this vote.

BACKGROUND

The GLWA Lake Huron Water Treatment Plant (LHWTP) serves the northern and northwestern portions of the transmission system and satisfies approximately one-third of GLWA's total daily water demand. Construction of the LHWTP started in the late 1960s and was placed into service on September 11, 1974. The original treatment capacity was 200 million gallons per day (MGD). During the 1990s, the plant was expanded to 400

MGD treatment capacity.

The plant has eight high-lift pumps with each pump capable of providing 60 MGD for a firm pumping capacity of 420 MGD. Three of the existing high lift pumps have variable frequency drives (VFDs). The plant was constructed with an Annubar differential pressure style flow meter for measuring finished water production; however, this meter was abandoned because of its extensive leaking and was beyond repair. As a result, finished water flows pumped from the plant are estimated using flow readings from individual filters and varies with reservoir levels.

Proposed Contract No. 1803990 is a design-build contract to design and construct improvements to the LHWTP's high-lift pumping systems, finished water flow metering and related yard piping. The yard piping improvements are limited to that required to replace the existing buried water production flow meter. The principle construction work to be performed under this contract includes installing three new 20 MGD high-lift pumps, a new 72-inch diameter magnetic-style flow meter to measure water production flows from LHWTP, new permanent 36" bypass piping to provide plant operations during construction, and a new 108-inch diameter butterfly valve for isolation. The work of this contract also includes detailed design, project management, supervision, construction administration, and construction inspection services.

JUSTIFICATION

The current method of estimating water production flow rates from the LHWTP needs to be replaced with a dedicated water flow meter to attain more accurate flow measurements similar to flow metering improvements being performed at GLWA's other water treatment plants. LHWTP's water production rates are currently determined by using individual filter flow rates. The existing high-lift pumps are all 60 MGD capacity units that do not afford efficient turndown of plant pumping to match lower demand flows. The smaller capacity 20 MGD high-lift pumps to be installed under this proposed contract are needed to meet low demand flows. It should also be noted that the installation of the three new 20 MGD high-lift pumps under this contract are being coordinated with the design work currently underway under CIP 111001 to improve the entire high-lift pump station at the LHWTP. Lastly, the new permanent 36-inch bypass will allow isolation of the northwest high-lift header. Once the new 36-inch bypass is installed, it will allow GLWA to replace several high-lift pump discharge gate valves that have known leaks.

FINANCIAL PLAN IMPACT

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

Funding Source: Water Construction Bond

Cost Center: Water Engineering

Expense Type: Construction (5519-882111.000-616900-111009)

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

Fiscal Year

FY 2020 Budget	\$ 479,000.00
FY 2021 Budget	1,788,000.00
FY 2022 Budget	3,481,000.00
FY 2023 Budget	8,918,000.00
FY 2024 Budget	10,489,000.00
FY 2025 Budget	<u>3,614,000.00</u>

Financial Plan Estimate	\$ 28,769,000.00
Proposed Contract Award	<u>30,022,636.79</u>
Negative Estimating Variance	\$ (1,253,636.79)

SAVINGS, COST OPTIMIZATION, AND REVENUE ENHANCEMENT IMPACT

The proposed contract is for the High Lift Pumping Metering and Yard Piping Improvements at Lake Huron Water Treatment Plant. Cost savings are not determinable at the time of this award.

COMMITTEE REVIEW

This item was presented to the Operations and Resources Committee at its meeting on September 9, 2020. 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.