



Legislation Text

File #: 2024-042, Version: 1

Contract No. 2102926
Design Build Contract Aeration Decks 1 and 2 Improvements
CIP #212008/BCE Score: 76.3

Agenda of: February 28, 2024
Item No.: **2024-042**
Amount: \$209,880,500.00

TO: The Honorable
Board of Directors
Great Lakes Water Authority

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

DATE: January 30, 2024

RE: **Contract No. 2102926**
Aeration Decks 1 and 2 Improvements
Vendor: Kokosing Industrial, 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 No. 2102926, "Aeration Decks 1 and 2 Improvements" with Kokosing Industrial, Inc., at a cost not to exceed \$209,880,500.00 for a duration of 2,730 days;** and authorizes the CEO to take such other action as may be necessary to accomplish the intent of this vote.

BACKGROUND

The Water Resource Recovery Facility (WRRF), as required by its National Pollutant Discharge Elimination System (NPDES) permit, has a primary treatment system capacity of 1,700 million gallons per day (MGD), and a secondary treatment system capacity of 930 MGD. Aeration Decks 1 and 2 are included in the secondary treatment system, which reduces the carbonaceous biochemical oxygen demand (CBOD) and some soluble phosphorus of the primary effluent. Microorganisms in the aeration tanks use the suspended and dissolved organic material present in the incoming flow as

food. Effluent from the aeration tanks flows to secondary clarifiers where the microorganisms form floc that settles to the bottom of the clarifiers as activated sludge. Most of the activated sludge is pumped back to the aeration tanks and mixes with primary effluent entering the aeration decks. Intermediate Lift Pumps (ILPs) are used to lift the primary effluent to the aeration tanks, from which the wastewater flows by gravity through the last half of the plant. In the aeration tanks, pure oxygen is injected into the wastewater stream to replenish the oxygen used by the microorganisms for respiration.

GLWA engaged construction engineering firm, AECOM, under existing Contract CS-272 to perform a condition assessment and process and hydraulic modeling and analysis for the aeration system. The final deliverable from AECOM was a draft Basis of Design Report for Aeration Decks 1 and 2 Improvements.

GLWA advertised a Request for Qualifications (RFQ) No. 2102926, to request statements of qualifications from firms and teams interested in providing proposals for this Design/Build (DB) contract. GLWA evaluated those statements of qualifications and developed a shortlist of qualified firms.

In September 2022, GLWA issued Request for Proposal (RFP) No. 2102926, from the prequalified firms to provide services under a fixed price DB contract to design and construct specified improvements for Aeration Decks 1 and 2.

Proposals were received from two prequalified firms in April 2023. Proposals were evaluated by the evaluation team, and GLWA engaged in negotiation with the firm that received the highest score. Cost proposals received were much higher than the Engineer's estimate of the project. Extensive review by GLWA and AECOM was held to review the possibility of deleting portions of the scope of work and reviewing the proposed value engineering items submitted to reduce the overall cost of the project. However, after extensive review, GLWA decided to keep the original scope of work and accepted limited value engineering proposals from the successful proposer that reduced the total contract price by approximately three million dollars while providing a completed project that will function effectively and reliably for the WRRF.

JUSTIFICATION

Condition assessment and process model and hydraulic analysis performed for the aeration system identified several needed improvements to the Aeration Decks 1 and 2. The improvements include the replacement of the Intermediate Lift Pumps (ILPs) that convey the primary effluent to the aeration decks. These pumps have reached the end of their useful life and are critical for moving wastewater through the Water Resource Recovery Facility.

The following are the main objectives for the project:

- Rehabilitate Aeration Decks 1 and 2 to replace the assets that have reached useful life. Rehabilitation improvements include civil, structural, architectural, mechanical, process, electrical and control related items.
- Increase the overall efficiency and wet weather treatment capacity of the secondary treatment process by providing step-feed and improving the performance efficiency of ILP Station No. 1 by replacing ILPs 1 and 2.
- Provide reliable hydraulic control of Aeration Decks 1 and 2.
- Improve the energy efficiency of the system by efficiently sizing the mixing and aeration equipment.

Additionally, the NPDES standards for the WRRF for phosphorus are being negotiated with the Michigan Department of Environment, Great Lakes, and Energy (EGLE), and this project will

improve GLWA's effort in ensuring reliability of our treatment capabilities into the future.

FINANCIAL PLAN IMPACT

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

Funding Source: Sewer Construction Fund

Cost Center: Wastewater Field Engineering

Expense Type: Construction (5421-892211.000-616900-212008)

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

Fiscal Year

FY 2024 Plan	\$00.00
FY 2025 Plan	10,263,000.00
FY 2026 Plan	25,311,000.00
FY 2027 Plan	25,311,000.00
FY 2028 Plan	25,380,000.00
FY 2029 Plan	25,311,000.00
FY 2030 Plan +	99,510,000.00
Financial Plan Estimate	\$211,086,000.00
Proposed Contract Award	209,880,500.00
Estimating Variance	\$1,205,500.00

COMMITTEE REVIEW

This item was presented to the Operations and Resources Committee at its meeting on February 14, 2024. 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.