



## Legislation Details (With Text)

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**On agenda:** 5/26/2021      **Final action:** 5/26/2021

**Title:** Contract No. 1902659  
Linear System Integrity Program  
CIP 170600 / O&M; BCE: N/A

**Sponsors:** Suzanne Coffey, Jody Caldwell

**Indexes:** Planning Services

**Code sections:**

**Attachments:** 1. Bidtab, 2. FSA\_PRO\_FOR\_0039 Procurement Board Report-RFP

Date	Ver.	Action By	Action	Result
5/26/2021	1	Board of Directors	Approved	Pass
5/12/2021	1	Operations and Resources Committee	Recommended for Approval	Pass

**Contract No. 1902659**  
**Linear System Integrity Program**  
**CIP 170600 / O&M; BCE: N/A**

**Agenda of:** May 26, 2021

**Item No.:** **2021-174**

**Amount:** \$29,012,865.00

**TO:** The Honorable  
Board of Directors  
Great Lakes Water Authority

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

**DATE:** May 1, 2021

**RE:** **Contract No. 1902659**  
**Linear System Integrity Program**  
**Vendor: HDR Michigan, Inc.**

### MOTION

Upon recommendation of Suzanne Coffey, Chief Planning Officer, the Board of Directors (Board) of the Great Lakes Water Authority (GLWA), authorizes the Chief Executive Officer (CEO) to **enter into Contract No. 1902659, "Linear System Integrity Program" with HDR Michigan, Inc., at a cost not to exceed \$29,012,865.00 for a duration of six**

**years**; and authorizes the CEO to take such other action as may be necessary to accomplish the intent of this vote.

### **BACKGROUND**

GLWA's water transmission system has an inventory of pipelines dating back to 1854 with the current average pipe age of approximately 70 years. Pipe materials mainly consist of prestressed concrete cylinder pipe (PCCP), cast iron pipe, ductile iron pipe, and steel pipes. GLWA operates and maintains over 800 miles of transmission mains, with over half being PCCP pipe, the largest inventory of PCCP pipe in the United States.

As the transmission mains near expected useful life, an increase in failures will occur unless proactive condition assessment is performed and identified pipe segment renewals are carried out. Because gaining access to the closed pipeline systems is challenging, in 2020, GLWA completed a risk model to prioritize transmission mains for assessment and renewal. Furthermore, these inspections are challenging because condition assessment of these critical mains may require construction of access points for equipment entry and retrieval. Many peer utilities with similar inventory of transmission mains have established assessment and renewal programs that are demonstrating success at reducing and avoiding failures at optimal lifecycle expenses.

GLWA's interceptor collection system has an inventory of over 200 miles of sewer pipes. Of these 203 miles, the majority are concrete pipes (102 miles) and brick pipes (51 miles), with the earliest install dates going back to 1852. The pipes range in size from 12 inches to 216 inches. Because accessing these non-pressurized interceptors has limited impact on sewer service and because technologies and standards for assessment have matured, GLWA has conducted several rounds of visual condition assessment within these interceptors and associated manholes. These condition assessments were performed using the National Association of Sewer Service Companies standards in performing Pipeline Assessment Certification Program and Manhole Assessment Certification Program inspections. Based on these inspections, GLWA has identified and performed renewal activities on many reaches of the interceptor system to date.

### **JUSTIFICATION**

As the responsible party for regional water and sewer linear systems, GLWA has identified crucial needs in asset management of both water and wastewater linear assets. The Linear System Integrity Program (LSIP) is the newest asset management program that was contemplated with the standup of the Asset Management Group. This long-term, cyclical program will address these asset management needs and build upon the work already completed by GLWA.

The LSIP program is intended to apply asset management principles to GLWA's infrastructure to proactively evaluate and manage GLWA's water transmission and sewer interceptor systems. This contract will further develop GLWA's Linear System Integrity Program, provide on-going decision support for water and sewer pipeline inspections, monitoring and renewals, conduct water transmission system inspections and condition assessments, and develop and update a sewer system risk model to support decision making.

The program is designed to develop a consistent framework for long-term management of both the water transmission and sewer interceptor systems utilizing multiple inspection and assessment techniques and technologies best suited for each pipe material, age, and size. Physical pipeline

condition assessments will be performed based upon the pipelines overall risk and will result in a strategic, surgical approach to pipeline renewal at the pipe segment level. This approach allows for optimizing pipe renewal at the lowest or optimal lifecycle cost.

The program approach is a continuous phased approach. For the transmission system, condition assessments will be planned, designed, and inspections will be conducted. As the design of the initial condition assessment is underway, planning for the next condition assessment will commence. This phased approach ensures that GLWA is using resources appropriately, while reducing time between condition assessment inspections. The interceptor system will use existing data, which includes closed circuit television inspections, for risk modeling and project planning in GLWA's asset management model.

This contract will ensure that GLWA provides scientifically defensible approaches to pipeline management. The purpose of this contract is to ensure that GLWA is on a path to round out an effective linear system pipeline management program, while allocating resources at the right place and time. The LSIP will use data to drive decision making to manage pipeline risk and optimize maintenance and renewal budgets.

### **FINANCIAL PLAN IMPACT**

**Summary:** The proposed contract with HDR, Inc. encompasses Capital Improvement Plan and Operations & Maintenance expenses. Sufficient funds are provided in the financial plan for this project.

**Funding Source:** Operations & Maintenance (O&M) Budget, CIP 170600

**Cost Center(s):** Asset Management, Centralized Services Cost Center 886201

Water Engineering Cost Center 882411

**Expense Types:** Contractual Professional Services - Water (617904); Contractual Professional Services - Sewer (617905); CIP Construction (616900)

### **Estimated Cost by Year and Related Estimating Variance:**

<b><u>Fiscal Year</u></b>	<b><u>CIP</u></b>	<b><u>O&amp;M</u></b>	<b><u>Total</u></b>
FY 2021 Budget	\$ 0.00	\$ 1,291,800.00	\$ 1,291,800.00
FY 2022 Budget	\$ 0.00	\$ 2,770,400.00	\$ 2,770,400.00
FY 2023 Financial Plan	\$ 501,000.00	\$ 2,993,400.00	\$ 3,494,400.00

FY 2024 Financial Plan	\$ 501,000.00	\$ 2,970,600.00	\$ 3,471,600.00
FY 2025 Financial Plan	\$ 2,001,000.00	\$ 2,970,600.00	\$ 4,971,600.00
FY 2026 Financial Plan	\$ 2,501,000.00	\$ 3,317,500.00	\$ 5,818,500.00
FY 2027 Financial Plan	<u>\$ 2,501,000.00</u>	<u>\$ 3,600,000.00</u>	<u>\$ 6,101,000.00</u>
Total Financial Plan	\$ 8,005,000.00	\$ 19,914,300.00	\$ 27,919,300.00
Total Proposed Contract	<u>\$ 9,081,825.00</u>	<u>\$ 19,931,040.00</u>	<u>\$ 29,012,865.00</u>
Variance	(\$ 1,076,825.00)	(\$ 16,740.00)	(\$ 1,093,565.00)

This award of this contract provides an estimated O&M variance of (\$16,740) (\$19,914,300 financial plan estimate less \$19,931,040 proposed contract amount) and an estimated CIP variance of (\$1,076,825) (\$8,005,000 financial plan estimate less \$9,081,825 proposed contract amount). Proposed CIP & O&M amounts are estimates. Budget amendments may be prepared to account for any variance between the CIP & O&M estimates noted above with any CIP variance funded from Capital Reserves. In addition, these amounts will be worked into future operating budgets and Capital Improvement Plans.

**SAVINGS, COST OPTIMIZATION, AND REVENUE ENHANCEMENT IMPACT**

The cost savings are not determinable at the time of award.

**COMMITTEE REVIEW**

This item was presented to the Operations and Resources Committee at its meeting on May 12, 2021. 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.