



## Legislation Details (With Text)

**File #:** 2019-178      **Version:** 1      **Name:**  
**Type:** Resolution      **Status:** Passed  
**File created:** 4/26/2019      **In control:** Board of Directors  
**On agenda:** 5/22/2019      **Final action:** 5/22/2019

**Title:** GLWA-CS-299  
GLWA-CSO Facilities Needs Assessment  
CIP# 260600 /BCE Score: 90.6

**Sponsors:** Navid Mehram

**Indexes:** Water Operations

**Code sections:**

**Attachments:** 1. GLWA-CS-299 Costing Summary, 2. GLWA-CS-299 Procurement Report, 3. CS-299 Cost Allocations CIP Vs OM\_ra

Date	Ver.	Action By	Action	Result
5/22/2019	1	Board of Directors	Approved	Pass
5/8/2019	1	Operations and Resources Committee	Recommended for Approval	Pass

**GLWA-CS-299**  
**GLWA-CSO Facilities Needs Assessment**  
**CIP# 260600 /BCE Score: 90.6**

Agenda of: May 22, 2019  
Item No.: **2019-178**  
Amount: \$5,415,953.00

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

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

**DATE:** April 23, 2019

**RE:** **Contract No. GLWA-CS-299**  
**GLWA-CSO Facilities Needs Assessment**  
**Vendor: Jacobs Consultants, Inc.**

**MOTION**

Upon recommendation of Navid Mehram, Chief Operating Officer - Wastewater Operations, the Board of Directors (Board) of the Great Lakes Water Authority (GLWA), authorizes the Chief Executive Officer (CEO) to enter into **Contract No. GLWA-CS-299, "GLWA-CSO Facilities Needs Assessment" with Jacobs Consultants, Inc., at a cost not to exceed \$5,415,953.00 for a duration of twenty four (24) Months;** and authorizes the CEO to take such other action as may be necessary to accomplish the intent of this vote.

### **BACKGROUND**

The Great Lakes Water Authority operates and maintains nine (9) Combined Sewer Overflow (CSO) Facilities. GLWA leases, operates, and maintains eight of the nine CSO facilities from the Detroit Water and Sewerage Department as identified in a "Water and Sewer System Lease Document" which is not included as a reference document because it is publicly available on GLWA's website. The one CSO Facility which is not leased but is operated and maintained by GLWA through the Shared Service Agreement is the Belle Isle CSO Facility.

The average age of the CSO Facilities is over 16 years old. These facilities were all essentially demonstration facilities as a part of the Long Term CSO Control Plan. Therefore, each facility has slightly different equipment and technology for which it utilizes to treat combined sewer overflow. This creates more difficult maintenance and operations because each facility is different. Additionally, the facilities have not had a detail needs assessment performed against them since their inception. Needs defined along the years were periodically addressed with small capital projects or O & M.

Over the time of operating these facilities operational difficulties in utilizing basin equipment systems, including power, generators, flushing, pumping, gates, and screening have yielded lessons learned about which technologies work best and which do not. Furthermore, as GLWA executes the Wastewater Masterplan, major initiatives are being planned to maximize the use of existing CSO infrastructure in meeting requirements of eliminating or controlling untreated CSO outfalls. Maximizing the existing infrastructure cannot happen unless the existing infrastructure is in proper operational condition needed to accept additional flows and meet GLWA NPDES permit requirements.

GLWA's ability to meet current NPDES permit requirements lies in the efficiency and reliability of our infrastructure. Unreliable equipment, or equipment in poor condition requires a holistic assessment. Examination of whether the equipment is still needed, and if it is needed, what a future state would look like taking lessons learned, NPDES permit requirements, and other organizational requirements into account. To be the best, we must carefully examine the needs of our existing infrastructure and ensure we have a roadmap laid out necessary to meet future requirements.

This project is intended to be complimentary of the GLWA-CS-198, Asset Management Planning, and GLWA-CS-271, Enterprise Asset Management projects. GLWA-CS-198 will identify strategies for the organization in auditing assets or assessing condition, and this contract will incorporate those standards as the CSO Assets are assessed. GLWA-CS-299 will work to execute strategies identified in GLWA-CS-198 for the CSO Facilities. The GLWA-CS-271 contract will define requirements of a new Enterprise Asset Management System (EAMS), and this contract will ensure the deliverables which go into the EAMS, currently Oracle Work and Asset Management (WAM) are set up and structured to meet requirements defined under GLWA-CS-271 for GLWA's next EAMS.

This project was originally planned and budgeted for under the CSO CIP Program, 260600. This CIP program was approved in June of 2018. The project scope was developed and subsequently advertised in September 2018. Responses were received in December 2018, and evaluated and scored by mid-February, with selection taking place in March and subsequent negotiations concluding in early April, 2019. In early March, the scope of the project was further evaluated internally and determined that given the projects major objective was for condition assessment and planning purposes, that it was more appropriately funded under O & M as opposed to CIP.

### **JUSTIFICATION**

The GLWA-CS-299 CSO Facilities Needs Assessment project will complete several tasks aimed at improving the CSO Facilities in the near term and assessing needs over a 20 year horizon. These tasks and a brief description of the task

are as follows:

- Task A - Asset Audit - to ensure all assets are in Maintenance System.
- Task B - Criticality & Condition Assessment - to assign a condition and consequence of failure (risk) to all CSO Assets.
- Task C - Scheduled Replacement Plan - to layout a replacement plan for all CSO Assets over a 20 year time period (asset life, condition, replacement costs).
- Task D - Capital Improvements Plan - Developed to lay out budget and resources required to execute projects to meet facility capital needs.
- Task E - Multi-disciplinary needs assessment - to assess all needs of CSO Facilities with respect to Masterplan, NPDES Permit, O&M, and other drivers.
- Task F - Reporting Tools - to have a systematic way of reporting progress on the CSO Program with high-level and low-level reports.

Having all assets in the Maintenance System will ensure that we are not missing maintenance on them. Knowing the condition of all of our assets, and the consequences of failure will ensure that we are spending money on our highest risk assets to protect GLWA and our customers. Knowing the approximate life span of our assets and the associated replacement costs will allow us to systematically budget for those asset replacements long in advance. This will also allow for us to plan capital projects needed to consolidate these into larger projects, if necessary. Assessing our facilities and identifying all needs with respect to meeting future permit requirements, or masterplan driven projects, or equipment standardization (to improve maintenance efforts & training on less equipment), or most importantly resolving operational and maintenance related equipment issues will enable GLWA to better treat combined sewer overflow and avoid risks to the community and environment. Having a way of reporting on this with integration into our maintenance systems, asset systems, and other databases will allow a quick way of rolling up information and reporting out progress being made in an easy format and way to understand for different levels within the organization.

During the course of this project, it is possible that high-risk assets or issues will require an immediate replacement to mitigate operation impacts. For these critical instances, a provisional allowance in this contract will allow GLWA to expeditiously address these needs. This allowance will fund design, and CA/CE services that may be needed and agreed to on a lump sum basis per task.

#### **FINANCIAL PLAN IMPACT**

**Summary:** This project is eligible for funding from both Operations & Maintenance (O&M) for the Sewer Fund (#5960) resources and Improvement & Extension Fund (I&E) Sewer Fund (#5404) resources. See attached analysis for estimated allocation by funding source and fiscal year.

**Cost Centers:** As noted above this assessment will be utilized at each of the nine CSO facilities.

Puritan / Fenkell CSO (892271)	7 Mile CSO (892272)
Hubbell / Southfield CSO (892273)	Lieb CSO (892274)
St Aubin CSO (892275)	Conner Creek CSO (892276)
Baby Creek CSO (892277)	Oakwood CSO (892278)
Belle Isle CSO (892279).	

Of the cost centers noted above, all are allocated to the 83/17 cost pool for purposes of cost allocation among member partners except for the Belle Isle CSO. That cost center is specifically assigned to the Detroit Water and Sewerage Department (DWSD) as a shared service (see Shared Services Impact below). The estimated costs for the Belle Isle CSO are \$592,882, excluding any potential contingency allocation after the project commences.

**Expense Type (depending on task):** As noted in the Justification section, this proposed contract will have tasks that will encompass asset identification and assessment, proposal development, and reporting each of which will fall under Contractual Operating Services (617900). Certain tasks may move from the assessment phase to the proposal state in which case these tasks may be charged directly to Capital Outlay (901100) or Contractual Engineering Services (617950).

*The contingency allowance* portion of this proposed contract may be utilized for additional OEM testing of equipment, or project alternatives analysis required for SRF Project Plans. The additional alternatives analysis is not currently defined since those alternatives will not be understood until the project is underway and those needs are being identified. Additionally, this contingency allowance may be used for services managing consulting contracts for high-risk CSO CIP projects that would utilize the CIP CSO 260600 allowance. These construction tasks would be controlled through the utilization of Consultant Change Directives (CCD).

**Estimated O&M Cost by Year and Related Forecast Variance:** See the attached schedule.

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

This project is a proactive review of the CSO and Screening and Disinfection facilities to provide the information and long-term planning tools for future protection and cost avoidance.

### **COMMITTEE REVIEW**

This item was presented to the Operations and Resources Committee at its meeting on May 8, 2019. The Operations and Resources Committee unanimously recommended that the GLWA Board adopt the resolution as presented.

### **SHARED SERVICES IMPACT**

As noted above, the Belle Isle CSO costs are allocated to DWSD based upon a shared services agreement (#OPS-008, Systems Control Center, Detroit Only Sewer Pump Stations and Belle Isle CSO Facility).