



## Legislation Details (With Text)

**File #:** 2018-992      **Version:** 1      **Name:**  
**Type:** Resolution      **Status:** Passed  
**File created:** 11/6/2018      **In control:** Board of Directors  
**On agenda:** 1/23/2019      **Final action:** 1/23/2019  
**Title:** Proposed Change Order No. 1  
Contract No. DWS-891  
Pressure Reducing Valve Vault Improvements  
**Sponsors:** Cheryl Porter  
**Indexes:** Water Operations  
**Code sections:**  
**Attachments:** 1. Overview of Water & Field Services Change Orders

Date	Ver.	Action By	Action	Result
1/23/2019	1	Board of Directors	Approved	Pass
1/9/2019	1	Operations and Resources Committee	Recommended for Approval	Pass
11/28/2018	1	Board of Directors	Postponed	
11/14/2018	1	Operations and Resources Committee	Recommended for Approval	Pass

### Proposed Change Order No. 1

### Contract No. DWS-891

### Pressure Reducing Valve Vault Improvements

Agenda of: November 28, 2018, January 23, 2019

Item No.: **2018-992**

Amount:	Original Contract:	\$ 1,849,500.00
	Proposed Change Order No. 1	641,494.28
	Total Revised Contract	\$ 2,490,994.28

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

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

**DATE:** November 1, 2018

**RE: Proposed Change Order No. 1**  
**Contract No. DWS-891**  
**Pressure Regulating Valve Vault Improvements**  
**Vendor: Lakeshore Global Corporation**

### **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. DWS-891, Change Order No. 1 “Pressure Regulating Valve Vault Improvements” with Lakeshore Global Corporation, with an increase of \$641,494.28 for a total contract value of \$2,490,994.28 and an extension of 878 calendar days for a total contract duration of 1,328 calendar days;** and authorizes the CEO to take such other action as may be necessary to accomplish the intent of this vote.

### **BACKGROUND**

GLWA operates and maintains 12 pressure reducing valve (PRV) stations at various locations in the water transmission system. The PRV stations are positioned at strategic locations between different pressure zones to protect downstream distribution piping from higher pressures. Contract No. DWS-891 involved rehabilitation of 5 of the 12 PRV stations. The rehabilitation work included mechanical, electrical and instrumentation improvements inside the buried valve vaults. These improvements included new pressure reducing valves, piping, select isolation valves, sump pumps, electrical power, lighting, and instrumentation.

Replacement of the existing pressure reducing valves and related mechanical piping inside the vaults, normally, only requires closing isolation valves just upstream and downstream of the PRV stations. The existing isolation valves that were needed to isolate 2 of the 5 PRV stations did not isolate flows. Therefore, line stops were used to isolate these stations to allow for the replacement of the pressure reducing valves and related mechanical improvements.

### **JUSTIFICATION**

New pressure reducing valves and the associated mechanical, electrical and instrumentation improvements were needed at 5 of the 12 GLWA pressure reducing stations to improve system reliability and protect downstream transmission and distribution systems. The pressure reducing valves at these stations were not operable. This change order is necessary to compensate the construction contractor for providing line stops at 2 of the 5 stations. The line stops were necessary to adequately isolate the stations from up-and down-stream water pressures while the existing PRVs and piping were replaced with new. The existing pressure reducing valves at these 2 PRV stations were not operable and had failed - one in an open position and one in a closed position. The one that failed in the open position created a situation where downstream distribution and transmission

system piping was not protected from potential pressure surges. The other one that failed in the closed position created a situation where customers served downstream of this PRV were being served from another part of the transmission system. This latter situation created a single point of failure and potential loss of service to a large number of customers if a transmission main break were to occur on the single feed to the affected area. The line stops were, therefore, used to remove these two system vulnerabilities as soon as possible. Furthermore, the new pressure reducing valves were already ordered and were ready for installation. The use of the line stops at the 2 PRV stations allowed for the remedy of the system vulnerabilities.

The existing system water transmission main valves that were found to be inoperable have been scheduled for repair or replacement as conditions dictate. In the meantime, new main valves were added at the pressure reducing valve (PRV) vault locations that provide some additional main isolation capabilities that did not exist prior to the completion of Contract No. DWS-891.

Another challenge encountered during this contract was that a major break occurred on GLWA's 84-inch water transmission main just west of the North Service Center (NSC). One of the five PRV stations in the scope of this contract is located in the vicinity of the NSC. Coincidentally, this was the last PRV station to be completed under Contract No. DWS-891. The work at the PRV station by the NSC was delayed by about 1 year because the break and subsequent repair on the 84-inch transmission main occurred during the low-demand season when the PRV replacement work has to be performed. Improvement of the final PRV station had to wait until the next low-demand season.

### **PROJECT MANAGEMENT STATUS**

Original Contract Duration	450 Calendar Days
Change Order 1	878 Calendar Days
New Contract Duration	1,328 Calendar Days
Contract Start Date	May 14, 2015
Original Contract Completion	August 6, 2016
Change Order No. 1 Final Completion	December 31, 2018

### **PROJECT ESTIMATE**

Original Contract Price	\$1,849,500.00
Change Order No. 1	641,494.28
New Contract Total	\$2,490,994.28

### **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 (5519-882111.000-616900-122002)

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

Original Contract Price	\$ 1,849,500.00
Change Order No. 1	<u>641,494.28</u>
New Contract Total	2,490,994.28
Financial Plan Estimate	\$ <u>1,849,500.00</u>
Negative Estimating Variance	\$ (641,494.28)

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

This project provides Pressure Regulating Valve Vault Improvements at various water system locations. Cost savings are not determinable at the time of this award.

The authorization of this change order to the vendor creates a negative estimating variance of \$641,494.28. This variance will be funded from capital reserves.

Project estimate	\$ 1,849,500.00
Proposed award	<u>2,490,994.28</u>
Capital reserve adjustment	\$ (641,494.28)

### **COMMITTEE REVIEW**

This item was presented to the Operations and Resources Committee at its meetings on November 14, 2018 and January 9, 2019. On January 9, 2019, 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.