



Legislation Text

File #: 2019-360, Version: 1

Proposed Amendment No. 2
GLWA-CS-039
Units of Service for Non-Master Metered Customers
of Great Lakes Water Authority and System Water Audit
CIP#: Not Applicable

Agenda of: October 9, 2019

Item No.: **2019-360**

Amount:	Original Contract	\$ 805,740.00
	Amendment No. 1	\$ 495,000.00
	Proposed Amendment No. 2	\$ 640,842.00
	Total Revised Contract	\$1,941,582.00

TO: The Honorable
Board of Directors
Great Lakes Water Authority

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

DATE: September 27, 2019

RE: **Proposed Amendment No. 2**
Contract No.: GLWA-CS-039
Units of Service for Non-Master Metered Customers of
Great Lakes Water Authority and System Water Audit
Vendor: Black & Veatch Ltd. Of Michigan

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. GLWA-CS-039 Amendment No. 2, "Units of Service for Non-Master Metered Customers of Great Lakes Water Authority and System Water Audit" with Black and Veatch Ltd. of Michigan (B&V), at an increased amount of \$640,842.00 for a total cost not to exceed \$1,941,582.00 and for an increased duration of 28 months for a total contract length of four (4) years and nine (9) 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 (GLWA) entered into a contract with B&V for “Units of Service for Non-Master Metered Customers of GLWA and System Water Audit” on January 31, 2017. The project had two (2) phases. Both Phase 1 and Phase 2 have been completed. The primary focus of the Phase 2 work was the completion of the four (4) District Metered Areas (DMAs), two (2) in Detroit and two (2) in Dearborn. This field work was very labor intensive and was sufficient to successfully update water demands for Detroit, Dearborn and Highland Park for Fiscal Year (FY) 2020. Additionally, Phase 2 included the completion of a long-term water audit for the regional water system. At the end of Phase 2, B&V prepared a report which included their conclusions and recommendations. Phase 2 was planned to accomplish several additional follow-on tasks from Phase 1 that were not completed due to the intensity of work needed to complete the DMAs in a manner which was acceptable to Dearborn, Detroit and our Member Partners in the Water Analytical Work Group (AWG). Among the work not fully completed is the finalization of master metering plans for Dearborn and Detroit. To ensure units of service would be completed by the date needed for charge setting for FY2020, it was determined that the report at the end of Phase 2 would exclude the master metering work. The Phase 2 report also contains many recommendations for future work to improve upon the non-master metered community demands and the GLWA System Water Audit.

JUSTIFICATION

To continue the important work started with this effort, GLWA Team Members propose working with the continued support of B&V moving forward. The major elements of a “Phase 3” of this initiative are detailed below. This scope was developed by a subgroup of the AWG and presented at the September 24, 2019 AWG meeting, where members expressed their support and approval of this scope.

- ***Review and Analysis of Water Treatment Plant (WTP) Pumping Data:*** GLWA is actively improving the measurement of finished water volumes at its WTPs. B&V will meet with Managers of the WTPs and the Director of Water Operations to identify and obtain available data for the purposes of improving or verifying estimates of finished water. B&V will review and analyze the data provided by GLWA. This work is expected to result in further improvements in the assessment of finished water measurement accuracy.
- ***Wholesale Master Meter Testing:***
 - ***Flow Testing Wholesale Meters:*** B&V and its subcontractor will work with GLWA and Member Partners, where necessary, to perform meter testing on up to 20 GLWA master meters. B&V will review Wholesale Automatic Meter Reading data and work with GLWA’s System Analytics and Meter Operations Group to identify meters for potential testing. This will provide validation of the flow measurement that is beyond the electronic signal calibration that is currently the testing practice for differential pressure

and magnetic meters.

- Wholesale vs. Retail Sales: The Member Outreach Team will conduct a survey of metered members partners that will collect annual retail sales/consumption for years 2016, 2017, and 2018. B&V will analyze and compare the data to wholesale volumes provided by GLWA with the purpose of flagging potential wholesale meter issues.

- ***Finalize Master Metering Plans:***

- Detroit - B&V will complete the master metering work identified in Phase 2 by developing a conceptual plan for master metering for the City Detroit identifying the number of metering points required. The plan will also identify pipe sizes at these locations, closed connection locations, and any meter math necessary to determine the volume of water supplied to the City of Detroit from the GLWA system. The progress of this activity will be coordinated with developments of an arbitration between GLWA and DWSD regarding ownership of certain pipes in the water system.
- Dearborn - B&V will refine the conceptual plan for master metering of Dearborn developed in Phase 2. As GLWA is currently in negotiation with Dearborn regarding a Model Water Contract, of which a Master Metering Plan is a part, finalization of the plan will be coordinated with the contract negotiations.

- ***Improve Quantification of Water Losses:***

- Planning and Implementation of District Metered Areas (DMAs): B&V will coordinate with Dearborn and Detroit to plan and implement one (1) DMA in Dearborn and two (2) DMAs in Detroit within Phase 3. These will be new areas relative to the DMAs completed in Phase 2 and will therefore require additional hydraulic modeling and planning discussions with Dearborn and Detroit. The one (1) DMA for Dearborn is noted as optional and will be determined if required if contract negotiations are unsuccessful.
- Review of Meter Test Data:
 - Phases 1 and 2 determined that very minimal meter testing is currently performed on Dearborn's meters and therefore very minimal data was available to assess the current level of meter inaccuracy and overall levels of apparent loss. Given the average age and volumetric usage of Dearborn's meters it is likely that the meters may be degrading. A annual testing program of at least 60 large meters (3" and above) will assist in determining this and will aid in the establishment of recommended timing of replacement. The meter testing will also provide reliable data to improve understanding of current metering accuracy and overall levels of apparent loss.

- Detroit has a meter test bench that is equipped to perform meter testing. The Phase 2 report presented a recommendation for customer meter testing. This Phase 3 scope item includes collaboration with DWSD to review meter testing protocols, including selection methodology for the meters to be tested.
- **Update Units of Service for FY2022 and Final Report:** B&V will incorporate the relevant findings associated with Phase 3 activities into updated Units of Service recommendations.
- **Description of Technologies and Approaches to Quantify Water Use Demands:** B&V will develop a general list of methods of quantification of water use demands, including, maximum day, peak hour and annual volume, and should include direct and indirect metering, as well as other approaches.
- **Miscellaneous Tasks**
 - Training for GLWA Staff: B&V and its sub-contractor will provide training to GLWA staff on a variety of meter best practices. These methods include flow testing, installation of ABB insertion meters, configuration and installation of Technolog Cello units, and the use of pitot rods for testing wholesale meters.
 - Non-Revenue Water Benchmarking Workshop for Water Management Best Practices Work Group: If desired by the Water Management Best Practices Work Group, B&V will help develop and present at a workshop for member partners to learn the methods and technologies needed to evaluate and control water loss.
- **Provisional Additional Services:** It is expected that additional support will be needed from B&V for the parties who are collaboratively working on the tasks in this scope. Any work in this category is to be specifically identified and authorized in advance of the commencement of the work.
- **Work Duration, Project Management, Coordination and Meetings:** Given the complexity and gravity of the work being conducted in Phase 3, GLWA anticipates the need for frequent coordination through regular planning, data review and progress update meetings. B&V should also plan to engage in several AWG meetings and a GLWA Board meeting.

PROJECT MANAGEMENT STATUS - Duration

Original Contract	Two (2) Years	01/31/17 to 01/31/19
Amendment No. 1	Five (5) Months	02/01/19 to 06/30/19
Amendment No. 2	Two (2) Years Four (4) Months	07/01/19 to 10/31/21
Total Contract	Four (4) Years Nine (9) months	01/31/17 to 10/31/21

PROJECT ESTIMATE

Original Contract Price	\$ 805,740.00
Amendment No. 1	\$ 495,000.00
Amendment No. 2	\$ <u>640,842.00</u>
New Contract Total	<u>\$1,941,582.00</u>

FINANCIAL PLAN IMPACT

Summary: The proposed Amendment No. 2 of this contract was not specifically included in the FY 2020 or FY 2021 budget. There are, however, sufficient funds in the existing Systems Analytics Operations & Maintenance (O&M) budget to cover this proposed amendment. A budget amendment will be required in FY 2020 to transfer resources in the financial plan from Contractual Operating Services (5910-886401.000-617900-WS7900) to fund this phase. Budget will be moved from the same GL String for FY 2021.

Funding Source: Operations and Maintenance Budget

Cost Center: Systems Analytics (Centralized Services Cost Center 886401)

Expense Type: Contractual Professional Services (Account 617903)

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

<u>Fiscal Year</u>	<u>Amount</u>
FY 2017 Budget (Prorated)	\$ 235,740.00
FY 2018 Budget	\$ 570,000.00
FY 2019 Budget	\$ 495,000.00
FY 2020 Budget	0.00
FY 2021 Budget	<u>0.00</u>
Total Financial Plan Estimate	\$ 1,300,740.00

Total Adjusted Contract	\$ <u>1,941,582.00</u>
Negative Estimated Variance	\$ (640,842.00)

COMMITTEE REVIEW

This item was presented to the Operations and Resources Committee at its meeting on April 11, 2019 and it was recommended to move on to the full board. The full Board considered the item on April 24, 2019. The motion to approve failed and the action was denied. The Operations and Resources Committee again considered this item as revised, on October 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.