



Detroit Water and Sewerage Department

735 Randolph Street
Detroit, Michigan 48226
(313) 224-4704 Office
dwsd.legistar.com

Legislation Text

File #: 18-0163, **Version:** 1

The Board of Water Commissioners for the City of Detroit, Water and Sewerage Department authorizes the Director to **secure a one-time purchase and installation of a water meter test bench upgrade from Mars Company for a total amount of \$346,962.00** and also authorizes the Director to take such other action as may be necessary to accomplish the intent of this vote.

Agenda of July 10, 2018

Item No. 18-0163

Purchase Order No. 3024028

Amount: \$346,962.00

TO: The Honorable
Board of Water Commissioners
City of Detroit, Michigan

FROM: Gary Brown, Director
Water and Sewerage Department

RE: **Proposed DWSD One-Time Purchase PO# 3024028**
“(Test Bench Upgrade)”

MOTION

Upon recommendation of Palencia Mobley, the Board of Water Commissioners for the City of Detroit, Water and Sewerage Department authorizes the Director to **secure a one-time purchase and installation from Mars Company for Meter Test Benches for three (3) meter test benches, two (2) 2000 series and one (1) 8000 series, for a total amount not to exceed \$ 346,962.00** and also authorizes the Director to take such other action as may be necessary to accomplish the intent of this vote.

BACKGROUND

The Meter Operations Division is responsible for the installation, maintenance, and operation of water meters throughout the DWSD local retail system to measure our customers' water consumption. Accuracy of these meters is essential to ensure accurate billing, fair allocation of costs in alignment with cost causation, stability of revenues for DWSD, and reduction of non-revenue water losses. DWSD will be using two (2) 2000 series test bench and one (1) 8000 series the difference in the benches are the sizes. The 8000 series, for example, is of a higher HP than the 2000 series.

Water meters require testing to ensure they are sufficiently accurate both in time of installation, and also throughout their lifecycle. This validation and verification is accomplished through testing meters on a test bench, which is an apparatus configured to send a precisely measured amount of water through a meter to compare the meter's reading versus the known amount. Through this process, the accuracy of the meter can be obtained or verified, and can be repeated for a variety of flow rates.

The meter staff may test individual customer water meters at several key points through the lifecycle of a meter:

- Upon delivery from manufacturer to ensure compliance with specifications
- At customer request in case of consumption or billing dispute
- Upon removal from service to determine loss of accuracy over time
- Verification of new technology or new metering systems proposed by vendors

Based on recommendations from Veolia, our operational effectiveness consultant, DWSD Meter Operations has made some business practice changes to adopt industry best practices as it relates to meter management and have increased the number and frequency of meter testing on our test bench. We are now testing a sample population of all new meters received prior to installation to ensure they meet DWSD and American Water Works Association (AWWA) requirements. Meters that are tested and found to not meet accuracy requirements are returned to the manufacturer under warranty for replacement.

From time to time, customers may question the accuracy of their reported water consumption. Accurate and certified test bench are needed to perform this validation. There are third party testing facilities located throughout the US, but a large metropolitan utility typically maintains this capability internally.

Metering technology is constantly evolving, and it is prudent to verify vendor claims prior to wide scale deployment throughout our system. It is important to identify metering issues in advance of installation to reduce impacts and inconvenience to our customers.

As meters age, they typically under-report consumption. The useful life of a meter depends on the quality of water, the consumption pattern of the customer, and the environmental conditions the meter is located in. Accurate testing of meters is the process by which data is collected and then analyzed to help guide operational and capital decisions.

The existing reference, Siemens magnetic flow meters, on the existing test benches are tested and their electronic calibration is checked by Great Lakes Water Authority instrument technicians. The last date of calibration was November 2017. AWWA meter and operating standards recommend that testing equipment be sufficiently accurate to measure the actual quantity that runs through it to specific tolerances and tanks and scales used for meter accuracy testing are calibrated at least annually. DWSD will be able to calibrate and certify the new test benches annually as recommended by the AWWA standards.

JUSTIFICATION

The existing test benches located at Central Services Facility were relocated from another DWSD facility in 1988, and are well beyond their originally anticipated lifecycle. A sample of DWSD previously tested water meters were and again tested for accuracy. The Veolia test results for the same set of meters indicated generally higher consumption than the DWSD test results, indicating a need for upgrade and replacement of the existing DWSD testing equipment.

The existing test benches are only able to record low flow conditions down to 0.5 gallons per minute. AWWA standards recommend testing meters to 0.25 gallons per minute. DWSD is unable to test the accuracy of our meters at this lower flow rate with the existing test benches due to their age.

The aim of the improvements is to replace the existing test benches, supporting equipment, and infrastructures so that they meet AWWA meter standards at flow rates noted in AWWA specification M6, thereby increasing customer confidence in meter testing results, facilitating improved asset management practices, providing a mechanism to defend test results from third party scrutiny, and promoting more efficient operations. Meter Operations also intends that the new test bench equipment will enable them to meet the future challenges of meter testing as new measurement technologies enter the market.

PROCUREMENT METHOD

This was an open competitively offered RFP. The RFP 450995 was advertised on BidNet Direct (formerly MITN) website on April 6, 2018 and due on April 23, 2018. This solicitation went to ten (10) companies in BidNet Direct which yielded one (1) responsive, responsible bid from Mars Company.

There are only two companies that supply these test benches in the United States, Mars Company and Ford Meter Box. Ford Meter Box initially stated they needed more time so the due date was extended to April 23, 2018. However, Ford Meter Box Inc. decided to respond with a no bid because our requirements such as demolition, plumbing, electrical work, removal of the old benches, etc. were outside of their scope of work. They stated that they are a material supplier, in this case the test benches. They sell benches to the utilities through their distribution network and the benches get installed by the owner's contractors, or in some cases, the owner installs the meters themselves. Ford Meter Box suggested that we should break the benches out as a material cost and have the other work separate. The evaluation committee determined that Ford Meter Box's suggestion was not a good fit for this project. Therefore Ford Meter Box was deemed non responsive and Mars is considered a single source.

DETAILS

- | | |
|------------------|---|
| • Funding Source | Operation & Maintenance |
| • GL String(s) | 5720-20167-482432-622300-000209-10830-0000-000000 |

5820-20178-492432-622300-000230-15948-0000-000000

- Total Price **\$346,962.00**