

## COUNCIL REPORT

M&C No.	2019-102
Report Date	April 16, 2019
Meeting Date	May 06, 2019
Service Area	Saint John Water

His Worship Mayor Don Darling and Members of Common Council

***SUBJECT: 2019 Unidirectional Water System Flushing***

***OPEN OR CLOSED SESSION***

This matter is to be discussed in open session of Common Council.

***AUTHORIZATION***

Primary Author	Commissioner/Dept. Head	City Manager
<b><i>Pierre LeBlanc</i></b>	<b><i>Brent McGovern</i></b>	<b><i>John Collin</i></b>

***RECOMMENDATION***

Notwithstanding the City's Procurement Policy for Engagement of Professional Services, it is recommended that Common Council authorize staff to extend the agreement with Aqua Data Atlantic for an additional year (2019) at the same cost as 2018.

***EXECUTIVE SUMMARY***

The purpose of this report is to request that Common Council authorize staff to extend the Unidirectional Flushing agreement with Aqua Data Atlantic for an additional year (2019) at the same rate as 2018 (\$203,500.00 + \$21,600.00 (traffic control) for a total of \$225,100.00) .

***PREVIOUS RESOLUTION***

April 09, 2018 M&C 2018-99 Unidirectional Water System Flushing  
June 25, 2013; M&C 2013-141 Unidirectional Flushing  
2019 Saint John Water Operational Budget

***STRATEGIC ALIGNMENT***

This report aligns with Council's Priority for Valued Service Delivery, specifically as it relates to investing in sustainable City services and municipal infrastructure.

## **REPORT**

### **BACKGROUND**

Unidirectional flushing is a systematic method of flushing drinking water piping by strategically closing valves and opening hydrants to direct water at high velocities through targeted segments of pipe. The purpose of unidirectional flushing is to improve water quality by removing sediment. The key benefit of the unidirectional method is an efficient and effective use of water in comparison with the traditional flushing method.

Since 2005 Saint John Water has contracted Aqua Data Atlantic to design and execute a unidirectional flushing program for portions of the City's water distribution system. The 2012 unidirectional flushing program was the first year the entire water distribution system was flushed utilizing the unidirectional method. Since 2012, Aqua Data Atlantic has designed and executed a yearly unidirectional flushing program of the City's water distribution system, similar to how other utilities in Atlantic Canada (Ex. Moncton, Fredericton, Dieppe, Miramichi, Bathurst, Rothesay, etc.) perform their water system flushing.

The City of Saint John is required to flush water mains annually as per the Approval to Operate issued to the City by the New Brunswick Department of Environment and Local Government. Unidirectional flushing is the maintenance method of choice for the regular cleaning of water pipes and is fully endorsed by the New Brunswick Department of Environment and Local Government. The unidirectional flushing program supports the goal of providing customers safe, clean drinking water.

Unidirectional flushing utilizes specialized software to optimize flow velocities for cleaning distribution piping; yielding quantifiable results. Data is collected by Aqua Data Atlantic throughout the program and a detailed report is submitted to the City upon the completion of the program. The data collected helps to reveal the condition of the water distribution infrastructure and supports decisions made on other programs such as pipe cleaning and lining.

### **ANALYSIS**

During late 2018 and early 2019, staff undertook a continuous improvement project to look at the opportunities associated with insourcing the work associated with unidirectional flushing and while there are opportunities, the value comes if Saint John Water is able to reallocate resources to perform this work during summer months without temporarily backfilling the resources. At this time, with the Safe, Clean Drinking Water Project still underway, Saint John Water does not have the ability to reallocate resources without backfilling.

It should be noted that there is a significant knowledge set that has been developed over the past 14 years by Aqua Data Atlantic and any change in service delivery will need to be gradual and transitional. As well, the city does not own the proprietary software used for the flushing sequences and the City would need to undertake the exercise of establishing all of the various sequences.

In 2019, Saint John Water, while balancing the demands of the SCDWP, will engage staff in the process to begin learning the sequencing and procedures from Aqua Data in preparation for the future consideration of performing this work in-house. Saint John Water intends to have city staff work alongside Aqua Data while they undertake unidirectional flushing in certain areas of the city. If city staff can be made available they would also be tasked with performing the unidirectional flushing of a smaller zone under the direction of Aqua Data staff. This would allow city staff to become familiarized with the flushing process and for Saint John Water to collect additional data for the ongoing continuous improvement project.

Please note Aqua Data Atlantic is the only provider of this specialty service in the Maritime Provinces. Staff has considered work previously completed by Aqua data Atlantic and is confident in their ability to successfully carry out the work on this critical project at a cost effective rate (2018 prices).

### ***SERVICE AND FINANCIAL OUTCOMES***

The 2019 Saint John Water Operating Budget includes funding for the engagement of a contractor to execute the 2019 Unidirectional Flushing Program. Funds are budgeted and available for this expenditure.

Aqua Data Atlantic has proposed to extend the Unidirectional Flushing Program for an additional year (2019) at the same cost as the previous year (2018). The price proposed by Aqua Data Atlantic is summarized below:

2019 UDF program \$203,500.00  
2019 Traffic Control \$21,600.00  
Total cost excluding HST \$225,100.00

This total cost can be broken down by area which will give Saint John Water the flexibility to cancel an area if it is deemed necessary to issue water conservation measures. Please find below breakdown per area:

1. New West - \$38,913.71
2. Sand Cove - \$14,709.01
3. Carleton - \$20,853.28
4. Lakewood - \$9,123.31
5. Cottage Hill - \$23,087.56

6. Central Low - \$10,426.64
  7. East Gravity - \$23,273.75
  8. City Center - \$33,141.82
  9. North End - \$21,222.24
  10. Rockwood - \$4,096.18
  11. Millidgeville - \$26,252.50
- Total cost (excluding HST) \$225,100.00

***INPUT FROM OTHER SERVICE AREAS AND STAKEHOLDERS***

Staff with Materials Management have reviewed this report and support the recommendations being put forth.

***ATTACHMENTS***

N/A