
TO: GENERAL COMMITTEE

SUBJECT: WATER METER REPLACEMENT PROGRAM

WARDS: ALL

PREPARED BY AND KEY CONTACT: D. MOREAU, MANAGER OF WATER OPERATIONS, EXT 6158

SUBMITTED BY: S. DIEMERT, P. ENG., DIRECTOR OF INFRASTRUCTURE

GENERAL MANAGER APPROVAL: B. ARANIYASUNDARAN, P. ENG., PMP, GENERAL MANAGER OF INFRASTRUCTURE AND GROWTH MANAGEMENT

CHIEF ADMINISTRATIVE OFFICER APPROVAL: M. PROWSE, CHIEF ADMINISTRATIVE OFFICER

RECOMMENDED MOTION

1. That the Water Operations Branch be authorized to hire a full-time permanent Water Meter Installer with an annual cost of \$85,770.38.

PURPOSE & BACKGROUND

2. The purpose of this report is to seek approval for an additional full-time employee (FTE) in the Water Operations Branch ('Branch').
3. The City of Barrie ('City') has over 47,000 water meters and their associated smart points installed in each residential dwelling and industrial, commercial or institutional (ICI) building for the purpose of fair and accurate billing. These assets have a design life cycle of twenty (20) years for residential water meters and between four (4) and ten (10) years for ICI water meters.
4. The Water Meter Installer position is responsible for maintaining 47,000 water meters, 47,000 smart points, City's capital Water Meter Replacement Program ('Program'), inspection of new water meter installation by developers, high water consumption investigations, turning water on and off as required by other City staff, contractors or homeowners, and other fee for service work as identified in the City's Fees By-law.
5. Over the last five (5) years, the number of new water meters and smart points has also seen significant increases due to growth within the City (see analysis section).
6. There are currently three (3) full-time Water Meter Installers dedicated to this program. The position of Water Meter Installer was created in late 2023, by the conversion of three (3) Water Distribution Operator Class 2 positions. This conversion at the time resulted in annual savings of \$98,574. A fourth position is required to keep up with the Program workload.

ANALYSIS

7. As water meters reach and surpass their design life cycle, their internal components become laden with minerals causing an increase in friction resulting in the water meter components slowing down and under registering the water passing through it (water usage). As water bills are generated based on the water consumption readings from our water meters this directly results in a loss in revenue.

8. The city currently owns 24,084 water meters that have reached or are beyond their design life cycle.
9. Older Meters that are beyond their design life cycle had fewer functions and lower resolution compared to newer models. New water meters offer the following additional features:
 - Internal data storage - older meters are analog and have no internal data storage. With the newer meters, should there be a loss of communication with the smart point, the water meter will retain 90 days of hourly meter readings that can be recovered and analyzed.
 - Rate of flow function – in addition to a leak indicator, new meters have a rate of flow function. This can assist homeowners to better understand the water consumption within a home when investigating for leaks or sizing to install new equipment.
 - Higher resolution – new water meters can report water consumed in smaller volume increments, making consumption information for our customers more accurate and useful.
10. The increased functionality and resolution can help our customers better understand their water consumption and further promote water conservation, as well as provide accurate consumption volumes for water billing purposes.
11. Due to the varying ages of the 24,084 water meters that are beyond their design lifecycle, an estimated 5% to 30% under registration of water consumption can be expected.
12. To achieve the desired result of maintaining all City water meters within their design life cycle, at least 2,500 water meters must be replaced each year.
14. Water meter asset increases:

Calendar Year	Increase in City owned meter assets
2020	427
2021	221
2022	670
2023	1067
2024	1600 (forecasted)

15. An additional Water Meter Installer position is required to expedite the capital Water Meter Replacement Program, support future growth and maintain current levels of service to our customers. Hiring a water meter installer as soon as possible would reduce the amount of lost revenues due to ageing meters.

ENVIRONMENTAL AND CLIMATE CHANGE IMPACT MATTERS

17. Accurate water metering promotes conservation, encourages the responsible use of water, assists with identifying leaks and sustains the City’s water resources.

ALTERNATIVES

18. The following alternatives are available for consideration by General Committee:

Alternative #1

General Committee could choose not to authorize the funding for the new position.

This alternative is not recommended as it would result in loss of revenue as more meters reach and surpass their design life cycle.

Alternative #2

General Committee could choose to direct staff to use third party contractors to complete the water meter replacements.

This alternative is not recommended as it would result in increased costs for meter replacements. Additionally, the use of city staff enables responsive and consistent customer service.

FINANCIAL

19. In 2023, total water and wastewater billings amounted to \$72,788,989 based on water meter readings. Assuming 51% of our meters are under registering (estimated at 5-30% of usage) lost revenues would amount to a minimum of \$1.86 million annually.
20. Total cost of one (1) additional Water Meter Installer would be \$85,770.38.
21. Funding for the requested additional Water Meter Installer position would come from the water user rates.
22. It is noted that the Council approved Capital Water Meter Replacement Program is also funded from water user rates.

LINKAGE TO 2022–2026 STRATEGIC PLAN

23. The recommendation(s) included in this Staff Report support the following goals identified in the 2022-2026 Strategic Plan:
 - Infrastructure Investments – Update and improve infrastructure
 - Responsible Governance – Financial stewardship which includes finding efficiencies and innovation.