Infrastructure Services

Prepared for: Council-in-Committee **Report: IS-15-2025**

Meeting Date: July 7, 2025

1. Title

Budget Amendment – WMET25 2025 Residential Water Meter Replacement Program.

2. Recommendations

That: Council amends the 2025 Capital Budget to increase the 2025 residential water meter replacement program (WMET25) capital project by $143,000 with funding from the Water Meter Reserve.

3. Relation to Council's Corporate Strategic Plan

Priority: Sustainable and managed growth

4. List of Stakeholders

Mayor and Council of the Town of Fort Erie
The Ratepayers of the Town of Fort Erie
Residents within the Project Area
Neptune Technology Group

5. Purpose of Report

The purpose of this report is to advise Council of the capital project budget amendment request for approval of additional funding from the Water Meter Reserve to complete a pilot project with new cellular metering technology to reduce Non-Revenue Water (NRW) in the amount of $143,000 (including non-rebatable HST).

6. Analysis

In 2025, a capital budget of $900,000 was allocated from the Water Meter Reserve for the Residential Water Meter Replacement Project in Ward 2. Earlier this year, a third-party Non-Revenue Water (NRW) audit was conducted, identifying several gaps in the Town's existing water meter program. In 2024, NRW losses were reported at $136,510 due to inaccuracies caused by aging meters.

Advancements in water metering technology now provide the Town of Fort Erie with an opportunity to reduce water loss by implementing more accurate meters, with the added benefit of remote and frequent data collection. The recommended Mach 10 meters offer several

advantages, including an extended low-flow detection range, integrated theft and leak alarms, and a 20-year, 100% accuracy guarantee, compared to the current five-year standard with declining performance thereafter. These meters have no moving parts, minimizing mechanical degradation, and their tamper-proof design significantly reduces the risk of theft.

When combined with cellular technology, the Town can receive accurate, real-time system input and output data through 15-minute read cycles—remotely accessible with the click of a button. This eliminates the need for manual data collection, resulting in approximately 44 hours of staff and vehicle time saved per month. While cellular service adds an annual cost of $10.58 per account, the long-term benefits—such as improved system control, reduced water losses, and operational efficiency—far outweigh the expense.

Table 1 and Table 2 compare the different technologies and accuracy warranty.

Table 1: WMET25 Baseline Encoder

Meter Type and Size	Accuracy Warranty
5/8"x3/4" T10 ECODER INSIDE	5 years or 500,000 gallons.
3/4" T10 ECODER INSIDE	5 years or 750,000 gallons.
1" T10 ECODER INSIDE	5 years or 1,000,000 gallons.
1-1/2" T10 ECODER INSIDE	2 years or 1,600,000 gallons.

Table 2: WMET25 Mach 10

Meter Type and Size	Accuracy Warranty
5/8x3/4 Mach 10	20 years from date of shipment.
3/4" MACH 10	20 years from date of shipment.
1” Mach 10	20 years from date of shipment.
1 ½ Mach 10	10 years from date of shipment.

It is therefore recommended that Council approve Option 3, as outlined in Table 3 below, to be implemented in Ward 2 as a pilot project under WMET25, with Option 1 preferred over the baseline approach. The average age of the existing meters in the system is approximately 15 to 20 years, contributing to systematic errors and increased NRW. If left on the current schedule, meters in Ward 6 will be 25 to 30 years old by their projected replacement in 2034.

Given these factors, Option 3—featuring cellular-enabled Mach 10 meters—is the most effective strategy to reduce NRW. As a result of the proposed technology upgrade, the water meter component of the project is currently showing a negative variance. In accordance with the Town’s Procurement Policy (By-law 123-2022), Council approval is required for any variance exceeding $100,000.

7. Financial, Staffing and Accessibility (AODA) Implications

Table 3: MET25 4 Costing Options Provided by Neptune

Fort Erie SMCO 2025						
Item No.	Description	Est Qty	Baseline ECODER / V4 Wall	Option 1 ($25 Adder) MACH10 / V4 Wall	Option 2 ($25 Adder) MACH10 V4 Integrated	Option 3 ($65 Adder) MACH10 / Cellular Wall
1	Supply and Replace 5/8' meter with desired option	1688	$ 541.00	$ 566.00	$ 566.00	$ 606.00
2	Supply and Replace 3/4' meter with desired option	1	$ 621.00	$ 646.00	$ 646.00	$ 686.00
3	Supply and Replace 1' meter with desired option	1	$ 765.00	$ 790.00	$ 790.00	$ 830.00
	Total		**$ 914,594.00**	**$ 956,844.00**	**$ 956,844.00**	**$ 1,024,440.00**
PROVISIONAL ITEMS TO BE CHARGED ON ACTUAL QUANTITIES USED (INCLUDES SUPPLY & INSTALLATION)						
Item No.	Description	Est Qty	Unit	Unit Price	Amount	
a	Supply & Installation of Building Control Valve (BCV) up to 3/4 inch valve	1	Each	$ 77.00	$ 77.00	
b	Supply and Installation of Plumbing Compression Fitting	1	Each	$ 77.00	$ 77.00	
c	Line Freezing using Freeze Kit	1	Each	$ 160.00	$ 160.00	
d	Site Visit	1	Each	$ 68.00	$ 68.00	
e	Crawl Space	1	Each	$ 78.00	$ 78.00	
f	Minor Plumbing Modifications - Moving a valve or similar fixture or a singe branch line. 1-2 fittings (beyond initial 1-2 fittings) up to 3/4 inch fittings.	1	Each	$ 52.00	$ 52.00	
g	Semi Major Plumbing Modifications - Relocate single branch line or 3-5 fittings (beyond initial 1-2 fittings) and length of pipe (up to 300mm) where necessary up to 3/4 inch fittings	1	Each	$ 78.00	$ 78.00	
h	Major Plumbing Modifications - Hourly for relocating branch line or greater than 5 fittings and length of pipe (up to 300mm) where necessary and all plumbing. Materials are extra (as approved by the town) up to 3/4 inch fittings	1	Each	$ 125.00	$ 125.00	
i	Wire Run	1	Each	$ 42.00	$ 42.00	
j	Cellular Data Plan Annual Subscription (Option 3 only, billed through Evans Supply)	1688	Each	$ 10.58	$ 17,859.04	

Table 4: WMET25 Baseline (Ecoder)

Residential Meter Replacement Ward 2				
Project ID	**Water meter Reserve**	**Costing**	**Over Budget**	**Accuracy Warranty**
WMET25	$900,000	$914,994	$14,594	5 Years
Total Cost $1,024,440				

All amounts include non-rebatable HST.

Table 5: WMET25 Option 1 (Preferred Over Baseline)

Residential Meter Replacement Ward 2				
Project ID	**Water meter Reserve**	**Costing**	**Over Budget**	**Accuracy Warranty**
WMET25	$900,000	$956,844	$56,844	20 Years
Total Cost $956,844				

All amounts include non-rebatable HST.

Table 6: WMET25 Option 3 (Recommended Pilot)

Residential Meter Replacement Ward 2				
Project ID	**Water meter Reserve**	**Costing**	**Over Budget**	**Accuracy Warranty**
WMET25	$900,000	$1,024,440	$124,440	20 Years
Total Cost $1,024,440				

All amounts include non-rebatable HST.

As outlined in Table 6, a projected negative variance of $124,440 is anticipated in the Residential Meter Replacement budget. The annual cellular service cost for Ward 2 is estimated at $17,859. To support the implementation of cellular technology in conjunction with the Mach 10 meters, staff are requesting a transfer of $143,000 from the Water Meter Reserve. These funds are necessary to complete the project and to cover the cellular fees for the 2025 pilot year. Ongoing cellular costs beginning in 2026 will be incorporated into the annual operating budget.

8. Policies Affecting Proposal

By-law 136-2023 adopted Council's 2023-2026 Corporate Strategic Plan for sustainable and managed growth.

9. Comments from Departments, Community and Corporate Partners

Relevant comments from relevant departments have been incorporated into this report.

10. Alternatives

The alternative to proceeding with this project is to maintain the current metering program, which has a significantly lower accuracy rating and contributes to higher levels of Non-Revenue Water (NRW). The existing ECODER meters offer an accuracy guarantee for only one-quarter of the lifespan provided by the proposed Mach 10 meters. Under Option 1, accurate meter readings would still be achieved over a 20-year period; however, staff and vehicles would be required to manually collect data, resulting in approximately 44 hours of additional labour and travel each month.

11. Communicating Results

Updates have been communicated through the Infrastructure Business Sub-Committee meetings, non-revenue water discussions and reports.

12. Conclusion

It is recommended that Council amend the 2025 Capital Budget with funding from the Water Meter Reserve for the contract WMET25 Residential Water Meter Replacement 2025 by an increase of $143,000.

13. Report Approval

Prepared by:
Tommy Peazel
Manager of Water/Wastewater Division

Reviewed and submitted by:
Jordan Frost, P.Eng., PTOE
Acting Director of Infrastructure Services

Approved by:
Chris McQueen, MBA
Chief Administrative Officer

14. Attachments

N/A