



2025 Budget Request

Request: Water Meter Replacement

From: Samantha Buchanan, Treasurer

Department: Development & Infrastructure

Total Financial Ask: \$704,000

Type of Budget Request: Capital

This document and its attachments are public and available in an accessible format upon request.

Background and Strategic Priority

In 2013 the Township switched to Neptune Technology Group for all water systems water meters. These water meters are an important part for our water systems as it is the meters which collect and report the water consumption for each household which is then invoiced back to the home. When the switch was made in 2013 it included the installation of the meter base and R900i registers.

The current R900i register transmits a short-range radio frequency signal that requires a staff member to drive throughout each water system and collect the meters reading before any water bills can be generated, this takes both staff time and resources. When a property connected to the water systems is sold, staff must also visit the property on the closing date to capture a final reading to ensure that both owners are invoiced correctly.

There is currently only an opportunity for remote access to meter consumption therefore, if a household is experiencing a water leak, the property owners potentially are not aware of the leak until they receive their next bimonthly water bill. At the time of identifying a potential water leak staff are required to physically visit to perform a water data log, again taking staff time and resources.



Analysis

Since 2013, Neptune has released Neptune's cellular endpoint (R900 cellular) which is an advanced metering infrastructure this reader allows for all the benefits for an advanced meter reading solution without the operational burden of network infrastructure while allowing for the protection of our existing asset investments. The cellular endpoint units report data up to four times daily to Neptune and would provide access to all practically real time meter data from anywhere at any time with Neptune 360. This allows for near real-time, high-resolution data and advanced analytics by providing hourly water consumption reads and opportunity for residents to enroll in a citizen version of Neptune 360 where they can set up their own notifications on water consumption.

As this project would include the replacement of the register it is recommended that the brass base of each unit is also replaced at the same time, both of these units are expected to have a 20-year lifespan. By replacing both the base and register at the same time ensures that both units are on the same replacement schedule.

The proposed base unit is the MACH 10 Solid State Ultrasonic Water Meter, this base would have no moving parts to replace which would thereby guarantee accuracy for the life of the base. The current base does have moving parts which over the life of the base results in less accurate water flow readings (meaning that the water consumption becomes understated as physical components begin to wear and deteriorate). Additionally, the total consumption recorded by the water meters in each system can be compared against the treated water entering the distribution system to determine the significance and extent of leaks in the distribution system.

The switch of the base and reader would allow the Township to provide more proactive information to its users through their water consumption and ensure that all water consumption is accurate throughout the units' entire lifespan. Between the East Linton, Shallow Lake and Oxenden water systems there are currently 1,057 connected users approximately 30 of those users do have the R900 cellular endpoint installed. At this time staff are not recommending the switch of the Pottawatomie water system pending the discussions and decisions about this systems water supply, depending on decisions made this system could see an expanded number of users and it would be recommended that once water supply is complete to switch all users to the updated base and reader.

Financial Impact

Through discussions with Neptune and Evans Supply Ltd., the Township would be able to switch as water users to the new cellular meter at a cost of \$704,000, including a 10% contingency. There is also opportunity to have this project completed over two years, this option would result in an additional project cost of \$33,000 (2025 - \$360,250;



2026 - \$376,750). The cost would be funded proportionately by each water system, based on the number of connected users.



Report Approval Details

Document Title:	2025 Budget Request - Water Meter Replacement.docx
Attachments:	
Final Approval Date:	Sep 11, 2024

This report and all of its attachments were approved and signed as outlined below:

Niall Loble, Chief Administrative Officer