MANAGEMENT REPORT

Date: June 25, 2025
To: Infrastructure, Transportation and Safety Sub-committee
From: Sean Beech, Manager of Environmental Services
Report Number: ITS25-014
Attachments: None

Title: Water Meter Transmitter Replacement Program

Objective: To seek Council approval to proceed with the Request for Proposal process to seek a supplier for transmitters to be included in the Water Meter Program.

Background: Currently, the City's 12,400 water meters are read manually by Festival Hydro who is contracted to read meters and issue water bills to City residents. Each water meter is read monthly by contracted personnel who physically visit each property to obtain a reading from a fixed transmitter. This process requires dealing with obstacles such as fencing, pets, and vegetation. This method, while effective, has significant limitations in terms of efficiency.

The 2025 Environmental Services Workplan outlined in the 2025 budget emphasized that ongoing enhancements in the City's service delivery can be realized by strategically leveraging technological innovations like AMR (Automated Meter Reading).

Recent advances in water metering technology include AMR which uses mobile or vehicle-mounted data collection devices and AMI (Advanced Metering Infrastructure), which offers a more integrated solution with smart-meters, communication networks, and data systems for direct utility communication without personnel. While AMI offers a more comprehensive, robust solution, it also comes with higher capital investment, increased replacement costs, and a shorter lifecycle due to battery wear from frequent data transmission.

Festival Hydro recently proceeded with replacing electricity meters with AMI technology and have been very receptive to assisting the City with moving similarly to smart metering. They've conveyed the capability for the City's water system to be included with their proposed AMI system. However, even with the efficiencies gained in joining Festival Hydro's AMI system, it would still entail higher capital investment, increased replacement costs, and a shorter lifecycle, compared to an AMR system. Based on these

considerations, Staff have determined that the benefits of an AMI system are not necessary and are therefore recommending proceeding exclusively with AMR proposals.

Analysis: The installation of new AMR water transmitters will allow for accurate data collection, additional information for the customer (especially in the case of unusually high consumption), reduced data collection costs and improved levels of customer service.

The Environmental Services division is seeking approval from Council to begin the transition to an AMR-based system. This will involve the installation of AMR transmitters on new and existing water meters, which will send usage data wirelessly to a central data collection system. This move is expected to deliver the following key benefits:

1. **Reduction in Operational Costs**:

   With automated data transmission, the need for the current retained contractor to visit every property to manually read meters will decrease significantly. This will result in fewer trips required to collect data and time spent on meter reading tasks.

2. **Improved Access to Meters**:

   A significant challenge with the current system is the difficulty in accessing meters located in buildings or areas where access is restricted. These include properties with locked gates, obstructed access points, or tenants unwilling to grant access for manual readings. AMR transmitters will eliminate the need for personnel to physically enter properties, thereby reducing the number of visits needed to obtain accurate readings and mitigating issues arising from restricted access.

3. **Enhanced Accuracy and Efficiency**:

   The AMR system will provide more accurate and timely readings, as it eliminates human error from the process of manual recording. The data transmitted by the AMR system will be automatically logged into the central system maintained at Festival Hydro currently, ensuring precise tracking of water consumption. The increased frequency of readings will also help to identify issues such as leaks or unusual consumption patterns more quickly, leading to improved customer service and better resource management.

4. **Environmental Benefits**:

   With fewer vehicles required for manual meter reading, the AMR system will also contribute to a reduction in the City's carbon footprint. Fewer trips will mean lower emissions and less wear and tear on the City's fleet, aligning with sustainability goals set by the City of Stratford.

This initiative is a multi-year commitment with the intention that the 2025 approved budget related to water meter projects ($95,000) would be substantially directed to this program.

Spending then would increase in future years to accelerate the installation and replacement of water transmitters, funded by user-pay water rates. Improved meter accuracy will boost revenue, while reduced reliance on contracted meter readers will help offset installation costs. Implementing AMR technology requires committing to a single manufacturer for over 20 years, at an estimated annual cost of $100,000 annually for a total estimated cost of $2 million. However, the more automated system is expected to generate long-term savings and operational efficiencies that fully offset these expenses.

Once the proposals have been received, staff will advise Council of the recommended supplier and seek approval to award at that time.

Financial Implications:

Financial impact to current year operating budget:
This report has no direct impact on the 2025 Council approved budget. Upon Council approval to proceed, it is anticipated that the existing $95,000 dedicated in the 2025 Budget for Water Meter Replacements, would be utilized to transition to the new system.

Financial impact on future year operating budget:
The water rate study included upgrading the technology and water rates that were approved in the study are expected to be sufficient to fund the annual investment.

Link to asset management plan and strategy:
The implementation of an AMR transmitter program aligns closely with the goals of the City's Asset Management Plan (AMP) and represents an investment in modernizing our water infrastructure. AMR technology significantly improves operational efficiency and service delivery. This initiative supports the AMP in the following ways:

- **Improved Data for Decision-Making:** The existing meter reading program has data limitations due to property access. There are many properties that have periods of estimated billing charges due to meter touch pads being out of service and difficult to access and replace. AMR will minimize the number of properties that will require estimated billing, which in turn gives better data that helps staff make informed decisions regarding maintenance, capital planning, and system performance.

- **Risk Metrics:** The transmitters will become part of the City's asset database and staff will be able to proactively plan for their replacement based on condition and risk metrics. Properties that are high consumers of water (typically commercial properties with large diameter meters) should have a higher risk rating and be

monitored because their meter and transmitter failure will result in the highest loss of water revenue to the City. The existing meter and transmitter program does not track this.

- **Financial Sustainability:** By reducing manual meter reading costs, AMR contributes to long-term cost savings.

An AMR program is a practical and forward-looking step that directly supports the City's broader asset management goals: ensuring safe, reliable, and cost-effective water service for the community now and into the future.

The AMR transmitters represent new assets not currently part of the City's Asset Management inventory and as such would become part of future planning for replacement.

Alignment with Strategic Priorities:

Enhance our Infrastructure

This report aligns with this priority as this technology will allow us to create efficiencies within our water infrastructure.

Alignment with One Planet Principles:

Sustainable Water
Using water efficiently, protecting local water resources and reducing flooding and drought.

Material and Products
Using materials from sustainable sources and promoting products which help people reduce consumption.

Staff Recommendation: THAT Council authorize Staff to proceed with issuing a Request for Proposal for new Automated Metering Reading (AMR) meter transmitters as part of the City of Stratford's Water Metering Program.

Prepared by:	Sean Beech, Manager of Environmental Services
Recommended by:	Taylor Crinklaw, Director of Infrastructure
	Adam Betteridge, Interim Chief Administrative Officer