

CITY OF FORT SASKATCHEWAN

Water Meter Reading System Infrastructure Enhancement for Monthly Billing

Motion:

1. That Council approve \$385,000 from the Utility Reserve for the installation of approximately 3,000 water meter transmitters.
2. That Council approve ongoing funding of \$80,000 from the utility rate to cover the Finance Department operating costs for achieving monthly billing by the end of 2018.

Purpose:

This report addresses enhancements to the water meter reading infrastructures for achieving utility monthly billing in 2018, and automation and lifecycle replacement by 2023. Additional financial resources from Reserve is required in 2016 to start this infrastructure enhancement program.

Background:

In May 2016, KPMG completed an independent external assessment of the City's water billing system and presented a report to Council with their findings and recommendations.

KPMG evaluated the City's water metering, processes, billing and consumption controls to determine whether there were any operational, financial and/or information technology issues affecting the accuracy and completeness of consumption information reflected in residential water bills. KPMG also performed data analytics to support their findings.

Based on their assessment, KPMG found no issues that would create a situation where the City had made an error resulting in a residential utility account being overbilled for consumption. Their report did contain several recommendations aimed at enhancing the City's customer service, water metering, and billing processes.

In the interest of enhancing customer service, KPMG recommended that the City consider increasing the frequency of its utility invoicing from bi-monthly to monthly and updating its current meter infrastructure to take advantage of the latest technology. Both of these recommendations are linked – to economically increase the reading and billing frequency, automation must be used. Therefore, the water meter infrastructure must be addressed.

A. Increasing the frequency of meter readings and billing from bi-monthly to monthly.

Customers may not be aware of leaks or changes in their consumption habits until their utility bill is received. More frequent meter reads could alert the City and/or the customer of unusual consumption patterns, so that an issue can be resolved or explained before the problem escalates.

B. Updating the infrastructure to reduce the use of manual processes and increase automation.

Automation streamlines data collection, improving access to the data so that trends can be monitored and alerts set.

Facts & Statistics (Rounded to 100):

- Currently, the City has just over 8,400 water meters in inventory.
- 3,000 water meters are read by operators walking house-to-house with a handheld device. This “walk-route” takes 2 weeks to complete.
- 5,400 water meters can be read remotely by radio mounted inside a City truck. This “drive-by” route take 2 days to complete. Of these meters, 2,200 have radio transmitters using the latest technology that would allow for fully automated reading from a tower and integration with new software. Data can be collected much more quickly and frequently by using a tower. New software would allow data to be seen in real time by residents or City staff.

Transmitter Inventory

Route	Total	Drive-by Only	Tower Compatible
Walk	3,000	-	-
Drive-By	5,400	3,200	2,200
Total	8,400	-	-

Getting to Monthly Billing Faster:

The move from bi-monthly to monthly utility billing depends on the City’s ability to collect data quickly. The current two-week period required to read meters on the walk-route prohibits our ability to provide timely data that is necessary for monthly billing.

Administration proposes to shift work priorities of our current water meter/transmitter replacement program. The City would install 3,000 transmitters over the old walk-route water meters, with startup in 2016 and equipment installation in 2017 and a portion of 2018 (if needed). As a result, infrastructures will be in place to collect water meter data over a 2-3 days, instead of the current 2 weeks required to complete the walking route. Monthly billing is technically achievable and could be in place during the year 2018.

The water meter lifecycle replacement program would resume in 2018 at a pace of 1,000 water meters per year using technologies to achieve automated tower reading in 2023.

This option should result in monthly billing in 2018 and enhanced real time data to customers in 2023.

Financial Implications:

In 2016, Council approved \$390,000 from the Utility Reserve to upgrade old water meters and associated radio transmitters. To date \$60,000 has been used or committed to this matter. The amount remaining \$330,000 can therefore be applied to the transmitters’ replacement project to achieve monthly billing earlier.

The need for additional funding in 2016 to start the replacement of 3,000 walk route transmitters is calculated as follows:

Transmitter (Equipment & Install & 10% contingency)	\$ 715,000
2016 approved funds available	(\$ 330,000)
Additional Funding Required in 2016	\$ 385,000

The water meter lifecycle replacement program would resume in 2018 at a pace of 1,000 water meters per year using technologies to achieve automated tower reading in 2023. During that period, yearly equipment cost will vary between \$200,000 and \$450,000, for a cost of \$1,650,000.

The total cost of the water meter reading system enhancement program is in the range of \$2.2 to \$2.3 million, spread out over an 8 year implementation plan.

Internal Impacts:

Staff resources used for meter reading could be reallocated, deferring the need for additional staff.

An additional Utility Clerk to support monthly billing would be required in 2018, with an operating impact of \$80,000. Customer portal software upgrades would have an additional operating impact of \$53,000 in 2023. These costs will result in a 2% overall increase in both fixed and variable water rates over the implementation period.

Recommendation:

That Council approve an additional transfer of \$385,000 from the Utility Reserve for the installation of water meter transmitters to achieving utility monthly billing by the end of 2018.

File No.:

Prepared by:	Richard Gagnon Interim Director, Infrastructure Management	Date: October 1, 2016
Approved by:	Troy Fleming General Manager, Infrastructure & Community Services	Date: October 5, 2016
Reviewed by:	Kelly Kloss City Manager	Date: October 5, 2016
Submitted to:	City Council	Date: October 11, 2016