



To: Public Works and Transportation Committee
From: John Irving, P.Eng., MPA
Director, Engineering
Re: Residential Water Meter Program Update

Date: March 8, 2011
File: 10-6650-02/2011-Vol
01

Staff Recommendation

That the development of an enhanced leak detection program be endorsed as a measure for furthering water conservation.

John Irving, P.Eng., MPA
Director, Engineering
(4140)

Att. 1

FOR ORIGINATING DEPARTMENT USE ONLY			
ROUTED TO:	CONCURRENCE		CONCURRENCE OF GENERAL MANAGER
Water Services	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>		
REVIEWED BY TAG	YES <input checked="" type="checkbox"/>	NO <input type="checkbox"/>	REVIEWED BY CAO YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>

Staff Report

Origin

At the September 27, 2010 Regular Council Meeting, Council adopted the following motion:

“That the Multi-Family Water Metering Program be submitted in the 2011 utility budget for Council consideration.”

Subsequently, at the December 13, 2010 Regular Council Meeting, Council adopted the following motion:

“(2) staff be authorized to commence 2011 capital projects effective January 1, 2011.”

This report outlines the current status of the Residential Water Meter Programs.

Analysis

Single-Family Water Metering

The City currently has both volunteer and mandatory metering programs for single-family dwellings. Mandatory water meters are applied where:

- A building permit application has been submitted for works valued at more than \$75,000;
- The property requires water service maintenance or renewal; and
- The fronting watermain is being upgraded or replaced.

Water meters have been installed for 61% of single-family and duplex dwellings through the volunteer and mandatory programs. In 2010, approximately 87% of these customers saved money compared to the flat rate.

Multi-Family Water Metering

Water meters are mandatory for all new multi-family dwellings since 2005. To date, there have been 43 mandatory water meters installed in multi-family complexes, comprising 2,137 units. Based on 2010 meter records, 96% of these complexes have saved money and collectively realized a 54% savings compared to the flat rate. The significant savings may be partially attributed to new water-efficient fixtures (low-flow toilets, washing machines, shower heads, etc.) that are now either required or strongly encouraged by the City.

The volunteer metering program for existing multi-family dwellings has continued to receive significant interest. To date, the City has received formal requests from 107 strata complexes to initiate the water metering implementation process, including 28 apartment and 79 townhouse complexes, accounting for 6,399 multi-family dwelling units. 30 strata complexes have passed resolutions and provided final approvals to the City for installation of water meters. The City has completed the meter installation for 14 strata complexes, with the other 16 in the design development or pre-mobilization phase. The table below summarizes the statistics for the volunteer multi-family water meter applications.

	Multi-Family Complexes	Dwelling Units
In Process / Under Consideration	67	3,834
Strata Approved	30	1,993
Strata Considered and Declined	10	572
Total Applications Received	107	6,399

Sufficient meter readings have been obtained from four volunteer multi-family complexes (three apartments, one townhouse). On average, these four complexes are trending towards a cost savings of 44% compared to the flat rate.

Toilet Rebate Program

The City currently offers a \$100 rebate for homeowners who replace older, less efficient toilets with new 6-litre or dual flush toilets. The Toilet Rebate Program started in January 2010, through which a total of 623 rebates have been issued to date.

Water Consumption in Richmond

As part of a guiding principle in Richmond’s Official Community Plan (OCP) to expand waste reduction and water conservation initiatives, the City has implemented several programs to encourage water conservation. This includes the residential water meter programs, toilet rebate program, and rain barrel program.

Despite the population of Richmond increasing by 23% since 1997, the total water consumption in the City has remained steady, as shown in Attachment 1. By maintaining a constant level of water consumption, the City achieved a cost reduction of over \$7M in Metro Vancouver water and sewer charges in 2010 alone. This is a strong indication that water conservation efforts to date are having a positive impact.

Next Steps in Water Conservation

Water conservation initiatives implemented by the City have played a significant role in reducing the amount of drinking water consumed daily. Having greater control over water consumption extends the life of existing infrastructure and defers the need for new capacity-based capital infrastructure projects.

Metro Vancouver indicated in their 2010 Financial Projections Report rate increases of 62% for water and 31% for sewer over the next five years. In order to further expand the City’s water conservation initiatives and to minimize the impact on Richmond residents, staff will investigate water loss reduction methods as part of a high-level water audit and report back to Council.

Water metering of single-family and multi-family dwellings has provided the opportunity to develop an enhanced leak detection program that would further conservation management in the City. Staff are in the process of metering the water supply mains from Metro Vancouver which, in conjunction with residential and industrial, commercial and institutional (ICI) water metering, will provide the City with information that can be leveraged in the next phase of leak detection.

Public Presentations / Information Sessions

To further encourage water conservation and promote the City's water conservation programs, Staff are holding a series of five public presentations and information sessions at various community centres in March.

Staffing

Currently the water metering programs have one temporary full time engineer assigned to them funded from the water metering programs' budget. With the continued success of these programs and the potential for the addition of water demand management duties, there is a long term need to maintain an engineer in this position. As such, staff will review the long term duties of this position and will report back to Council on the merits of making this position regular full time.

Financial Impact

None at this time.

Conclusion

The volunteer residential water meter programs have had continued success, improving the City's sustainability while reducing costs for Richmond residents. Staff recommend that the development of an enhanced leak detection program be endorsed as a measure for furthering water conservation.



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