



# City of Richmond

## Report to Committee

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**To:** Public Works and Transportation Committee      **Date:** April 23, 2021  
**From:** Milton Chan, P.Eng.      **File:** 10-6060-02-01/2021-  
Director, Engineering      Vol 01  
**Re:** Multi-Family Water Meter Program and Water Conservation Initiatives Update

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### Staff Recommendation

That staff bring forward options and recommendations for a mandatory Multi-Family Water Meter Program for consideration as part of the 2022 Utility Budgets and Rates report.

Milton Chan, P.Eng.  
Director, Engineering  
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REPORT CONCURRENCE		
<b>ROUTED To:</b> Finance Department Water Services	<b>CONCURRENCE</b> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	<b>CONCURRENCE OF GENERAL MANAGER</b> 
<b>SENIOR STAFF REPORT REVIEW</b>	<b>INITIALS:</b> 	<b>APPROVED BY CAO</b> 

## **Staff Report**

### **Origin**

Water metering in the City has been successfully implemented for 100% of single-family residential, industrial, commercial, and institutional (ICI) properties. Water metering provides Richmond residents with an equitable way to pay for drinking water and supports the Official Community Plan objective to pursue water demand management strategies and continue water conservation initiatives.

This report supports the following strategies within Council's Strategic Plan 2018-2022:

Strategy #1 A Safe and Resilient City:

*Enhance and protect the safety and well-being of Richmond.*

*1.2 Future-proof and maintain city infrastructure to keep the community safe.*

*1.3 Ensure Richmond is prepared for emergencies, both human-made and natural disasters.*

Strategy #2 A Sustainable and Environmentally Conscious City:

*Environmentally conscious decision-making that demonstrates leadership in implementing innovative, sustainable practices and supports the City's unique biodiversity and island ecology.*

*2.1 Continued leadership in addressing climate change and promoting circular economic principles.*

*2.2 Policies and practices support Richmond's sustainability goals.*

This report provides an update on the City's water meter program, water conservation initiatives and recommendations for advancing the multi-family water meter program.

### **Analysis**

#### Water Metering

The key benefits to water metering include equity, conservation, leak detection, improved information for analysis, and reduced load on the sanitary system.

The City currently meters 100% of ICI and single-family properties. Mandatory metering of new multi-family complexes began in 2005, and 316 complexes (16,930 dwelling units) have been metered under this program. Volunteer metering of existing multi-family complexes began in 2010, through which 148 complexes (9,234 dwelling units) have been metered. To date, 50% of multi-family dwellings have been metered through a combination of the volunteer program and mandatory program.

Universal deployment of the fixed base water meter reading network throughout the City was endorsed by Council through the 2017 Capital budget process. The fixed base network covers the entire urban area in Richmond and will ultimately read 97% of Richmond's water meter inventory. The network facilitates automated data collection, reduces costs and carbon emissions associated with reading water meters, allows staff to gather real-time consumption data, assists customers in identifying causes of leaks and water consumption habits, and enhances revenue forecasting to inform the utility budget process. The fixed base network has been deployed and is in the final stages of system optimization.

The population of Richmond has increased by 25% since metering started in 2003; however, total consumption in the City has decreased by approximately 12% (4,500,000 m<sup>3</sup>) over the same period. By reducing water consumption, the City achieved a cost reduction of over \$10M in Metro Vancouver water and sewer charges in 2020 alone. This is a strong indication that water metering efforts to date are having a positive impact on water conservation and minimizing the need for costly infrastructure upgrades by managing increases in demands.

#### Water Conservation Initiatives

To further promote reduced water use, the City provides metered customers with water conservation kits, which include low flow showerheads, faucet aerators, toilet fill cycle diverters, toilet leak detection tablets, and educational water conservation tools. In addition, the City has successful programs for toilet rebates, rain barrels, and clothes washer rebates. In 2020, 877 toilet rebates, 154 rain barrels, and 226 clothes washer rebates were provided to Richmond residents. These combined initiatives are estimated to save over 3,500,000 liters of water in 2021 alone.

#### Multi-Family Water Meter Program

The City subsidizes water meter installations for multi-family complexes by \$100,000 or \$1,200 per unit, whichever is greater.

In 2017, Council endorsed an advanced volunteer multi-family water meter program to encourage a higher rate of adoption. As a part of this advanced program, staff hosted presentations and information sessions to provide more engagement opportunities for residents. The advanced program also included a 5-year guarantee (increased from two years), which ensures that complexes will not pay more than the flat rate during that period. This allows residents time to fix any leaks in their system and adjust their consumption habits without the risk of incurring a higher utility bill.

As of January 2021, 50% of the multi-family dwellings have been metered, 97% of which saved money in 2020, averaging a 46% savings compared to the flat rate.

Table 1 is a tabulation of the multi-family residential inventory and their water metering status as of January 2021.

Table 1. Multi-Family Inventory

Type	Number of Complexes	Number of Units	Number of Complexes Metered	Number of Units Metered	% of Units Metered
Townhouse	618	17,978	282	6,496	36%
Apartment	305	34,466	182	19,668	57%
<b>Total</b>	<b>923</b>	<b>52,444</b>	<b>464</b>	<b>26,164</b>	<b>50%</b>

While the advanced volunteer program has been successful in providing residents with more information and incentives, the rate of adoption has remained low. An annual average of 2.6 multi-family complexes volunteered for meters since the advanced program started in 2017. At the current rate, it would take over 175 years to meter all multi-family dwellings.

Considering the significant benefits of water metering, it would be prudent to give further consideration to advancing the Multi-Family Water Meter Program towards universal metering. Staff recommend that options to implement a universal multi-family meter program be investigated and that a recommended implementation strategy be brought forward for consideration as a part of the 2022 Budgets and Rates report.

### Financial Impact

None at this time. If Council endorses the recommendation, staff will bring forward options along with a recommended implementation strategy for Council consideration as a part of the 2022 Utility Budgets and Rates report.

### Conclusion

The City of Richmond continues to be a leader in water conservation through the water meter program, fixed base meter readings, and water conservation initiatives. The ICI and single-family residential sectors are fully metered as well as 50% of the multi-family properties. While the remaining multi-family properties can participate in the volunteer water meter program, the adoption rate has been low. Staff recommend that options and recommendations for a mandatory Multi-Family Water Meter Program be brought forward for consideration as a part of the 2022 Budgets and Rates report.



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JH:cc



# City of Richmond

## Memorandum

Engineering and Public Works  
Sustainability

**To:** Mayor and Councillors

**Date:** May 12, 2021

**From:** Peter Russell  
Director, Sustainability and District Energy

**File:** 10-6000-00/Vol 01

**Re:** **Cancellation of the Climate Action Rebate Incentive Program (CARIP)**

The purpose of this memorandum is to advise that the Ministry of Municipal Affairs has announced this week that the Climate Action Revenue Incentive Program (CARIP) will be ending effective this year. The City can expect to receive its final grant in the coming months.

The Climate Action Revenue Incentive Program (CARIP) is a program that provides local governments that have signed the B.C. Climate Action Charter an annual grant equal to 100 percent of the carbon taxes the municipality has paid to support operations. The program encourages investment in community climate action. On average, the City receives \$220,000 annually through CARIP.

The announcement also noted that local governments will be required to complete and submit the 2020 Carbon Tax Calculation Form only for 2021 and that the form must be submitted by August 6, 2021.

Given the unexpected and late timing of this announcement, the “2020 Climate Action Revenue Incentive Program and Corporate Carbon Neutral Progress Report” has been removed from the May 18, 2021 Public Works and Transportation Committee agenda. Staff will assess and analyze the new information and bring forward a revised report prior to the August 6 submission deadline.

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pc: SMT  
Suzanne Bycraft, Manager, Environmental Programs and Fleet Services