



# City of Richmond

## Report to Committee

**To:** Finance Committee **Date:** October 21, 2015  
**From:** Andrew Nazareth **File:** 03-0970-01/2015-Vol  
 General Manager, Finance & Corporate Services 01  
 Robert Gonzalez, P.Eng.  
 Deputy CAO and General Manager, Engineering  
 and Public Works

**Re:** **2016 Utility Budgets and Rates**

### Staff Recommendation

That the 2016 utility budgets, as outlined under Option 3 for Water and Sewer, Option 2 for Drainage and Diking, and Option 1 for Solid Waste and Recycling, as contained in the staff report dated October 21, 2015 from the General Manager of Finance & Corporate Services and General Manager of Engineering & Public Works, be approved as the basis for establishing the 2016 Utility Rates and preparing the 5 Year Financial Plan (2016-2020) Bylaw.

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<b>REPORT CONCURRENCE</b>	
<b>CONCURRENCE OF GENERAL MANAGER</b>	
<b>REVIEWED BY STAFF REPORT / AGENDA REVIEW SUBCOMMITTEE</b>	<b>INITIALS:</b> 
<b>APPROVED BY CAO</b>	

## Staff Report

### Origin

This report presents the recommended 2016 utility budgets and rates for Water, Sewer, Drainage & Diking and Solid Waste & Recycling. The utility rates need to be established by December 31, 2015, in order to facilitate charging from January 1, 2016.

### Analysis

The 2016 budget has been prepared in advance of Metro Vancouver (MV) finalizing their 2016 rates. The proposed 2016 MV rates, which will be presented to the MV Board on October 30, are used in developing the City's 2016 utility rates and are as follows:

- Greater Vancouver Water District (GVWD) rate increase is 1.9%.
- Greater Vancouver Sewerage and Drainage District (GVS&DD) sewer levy increase for Richmond is 3%.
- MV solid waste tipping fees for municipal customers will be \$100 per tonne for 2016, plus a transaction fee of \$5 per load. A tiered structure based on load size/weight will continue to be used for small vehicles and commercial customers.

Another component of the utility budget relates to replacement of ageing/deteriorating municipal infrastructure. The ageing infrastructure component is discussed in the water, sewer and drainage sections of this report.

Recognizing the challenges of cost increases outside of the City's control and those associated with maintaining City infrastructure, staff have presented various budget and rate options for 2016. Budgets and rates are presented under two or three different options for each of the City's utilities. Option 1 presents the minimum non-discretionary increases necessary to meet those demands placed on the City by external or other factors outside of the City's direct control (e.g. regional or other agency increases, contractual obligations, plant growth, fuel, insurance, etc.) based on the same level of service. Options 2 and 3 present various actions the City can take to either reduce or increase the budget and rates depending on the varying circumstances and needs within each budget area.

The various options are presented for each of the City utilities in the following sections, and a summary of proposed rates for 2016 is shown in Tables 14 and 15.

**Water Utility**

Key Budget Areas	2015 Base Level Budget	Option 1 Non-Discretionary Increases	Option 2 Non-Discretionary Increases with 50% Rate Stabilization	Option 3 (Recommended) Non-Discretionary Increases with 0% Rate Stabilization
Salary	\$4,943,400	\$144,700	\$144,700	\$144,700
PW Materials/Equipment/Power Costs	\$1,992,400	\$56,800	\$56,800	\$56,800
Vehicle Charges	\$721,400	\$2,000	\$2,000	\$2,000
Operating Expenditures	\$466,900	\$28,100	\$28,100	\$28,100
Water Meter Reading and Maintenance	\$426,100	\$0	\$0	\$0
Toilet Rebate Program	\$100,000	\$0	\$0	\$0
GVRD Water Purchases (MV)	\$24,642,900	-\$619,700	-\$619,700	-\$619,700
Capital Infrastructure Replacement Program	\$7,500,000	\$0	\$0	\$0
Asset Management System	\$50,000	\$0	\$0	\$0
Firm Price/Receivable	\$1,825,000	\$32,200	\$32,200	\$32,200
Residential Water Metering Program	\$1,320,000	\$0	\$0	\$0
Overhead Allocation	\$864,600	\$0	\$0	\$0
<b>Total Base Level Budget</b>	<b>\$44,852,700</b>	<b>\$44,496,800</b>	<b>\$44,496,800</b>	<b>\$44,496,800</b>
Revenues				
Provision (Rate Stabilization)	-\$750,000	\$0	\$375,000	\$750,000
Investment	-\$427,000	\$35,000	\$35,000	\$35,000
Firm Price/Receivable	-\$1,825,000	-\$32,200	-\$32,200	-\$32,200
Meter Rental	-\$1,874,500	\$112,000	\$112,000	\$112,000
YVR Maintenance	-\$29,500	-\$500	-\$500	-\$500
Provision (Toilet Rebate/Flushing)	-\$251,100	\$0	\$0	\$0
Provision (OBI Adjustment)	-\$77,000	\$77,000	\$77,000	\$77,000
Meter Re-Reads and Other Services	-\$50,000	-\$30,800	-\$30,800	-\$30,800
<b>Net Budget</b>	<b>\$39,568,600</b>	<b>\$39,373,200</b>	<b>\$39,748,200</b>	<b>\$40,123,200</b>
<b>Net Difference Over 2015 Base Level Budget</b>		<b>-\$195,400</b>	<b>\$179,600</b>	<b>\$554,600</b>

The following is an explanation of the budget reductions and increases outlined in Table 1.

### Operating Expenditures

Operating expenses have increased due to factors beyond the City's control including:

- Projected salary increases for union agreements and step increases;
- BC Hydro rate increases (4.9%);
- Material costs increases;
- Postage rate increases; and
- Vehicle cost increases, including insurance increases.

### GVWD Water Purchases – Metro Vancouver

In 2015, the estimated MV water rate increase was 5% and the actual increase was 1.6%; the City's Water Purchase budget was generated utilizing the estimated MV increase, and the lower actual increase created surplus capacity in the Water Purchase budget of 3.4% for 2015.

The proposed 2016 MV water rate increase of 1.9% will be presented to the MV Board on October 30, 2015. MV's proposed 2016 increase is smaller than the surplus capacity created in the 2015 Water Purchase budget. As such, the 2016 Water Purchase budget is lower than the 2015 Water Purchase budget.

Water is purchased from MV (GVWD) on a unit volume basis. The volume of water the City purchases from MV has a degree of variability, primarily due to weather impacts on summer irrigation demand and the level of water use restriction that is activated by MV. The total volume estimated for budget purposes is based on average City water demand over the last 5 years. The variability in the demand during this period has been approximately plus or minus 5%, and a similar variability can be anticipated in the 2016 water purchase.

Water conservation efforts, including water metering, toilet rebates, and pressure management have helped limit increases to bulk water purchases despite a rapidly growing population, and this has contributed to lower utility rate increases. The summer of 2015 was exceptionally dry, which lead to stage 3 water use restrictions. To date in 2015, water purchases are below the five-year average. While this is partially due to the water use restriction, a significant portion is due to residents improving their water use habits as an increasing number of homes are being metered.

### Water System Pressure Management

The City conducted pressure management trials in 2014 and 2015. In addition to reducing the volume of leakage, reducing system pressure can extend the life of water mains. During the trial period, night-time minimum flows decreased by 17%. This reduction in consumption has further allowed the City to minimize the impact of annual MV rate increases.

### Capital Infrastructure Replacement Program

There are no proposed increases for contribution to water capital infrastructure replacement under any of the proposed options, as this utility is at a sustainable funding level. The annual capital contribution for water-related infrastructure replacement has reached \$7.5 million. Per the “Ageing Infrastructure Planning – 2015 Update” report, dated June 26, 2015, the long-term annual water infrastructure replacement funding requirement is \$7.4 million. A reduction in the annual funding contribution is not recommended as inflation will reduce this \$100,000 difference in the medium term. Staff will continue to undertake further assessments to determine infrastructure replacement requirements going forward and identify any recommended changes to the annual contribution.

### Residential Water Meter Program

Residential water metering plays a significant role in the City’s Water Demand Management Program. Water meters help customers understand and improve their water use habits and help customers identify water leaks on their premises that would otherwise go undetected. Recommended funding for single- and multi-family water meter installations remains unchanged from 2015, with \$1.32 million allocated from water rates and \$600,000 allocated from the water capital program.

The Universal Single-Family Water Meter Program is in progress and is scheduled to be completed in 3 years. Approximately 2,000 single-family water meters are scheduled to be installed in 2016.

The Multi-Family Water Meter Program has been very successful. To date, the City has installed meters for 141 volunteer complexes (comprising 8,585 multi-family dwelling units), including 59 apartment complexes (6,152 units) and 82 townhouse complexes (2,433 units). These voluntary installations will continue to be funded through the water meter program funding allocation.

In 2014, 87% of metered single-family dwellings and 94% of metered multi-family dwellings have realized a utility cost reduction when compared to the flat rate as a result of the water meter programs.

### Water Rate Stabilization Contribution (Water Rate Options)

The water rate stabilization provision was established by Council as a funding source to offset anticipated spikes in regional water purchase costs. By the end of 2015, the water rate stabilization provision will have a balance of \$7.3 million plus any surplus that is appropriated to this provision at year-end.

Capital projects associated with the Capilano-Seymour Water Filtration Plant are complete and the forecasted spike in rate increases is being realized. The base level budget currently reflects a \$750,000 drawdown from the water rate stabilization fund. Option 1 maintains the \$750,000 drawdown of the rate stabilization fund, while Option 2 and Option 3 (recommended) reduce the drawdown to \$375,000 and \$0 respectively.

### Regional Issues

MV water rate increases support their drinking water treatment program and transmission improvement programs. MV last updated their regional water rate projections in 2013, as outlined in Table 2.

	2016	2017	2018
Projected MV Water Rate (per m <sup>3</sup> )	\$ .6518	\$ .7079	\$ .7425
% Increase Over Prior Year	1.9%	8.6%	4.9%

### Impact on 2016 Water Rates

The impact of the three budget options on water rates is shown in Tables 3 and 4. Table 3 shows the various options for metered rate customers; Table 4 shows the options for flat rate customers.

Option 1 results in the lowest rates as it includes the highest rate stabilization provision drawdown. Options 2 and 3 have increasingly higher rates as they include lower contributions from the rate stabilization provision. The percentage increase of the recommended Option 3 (approximately 0.9%) is lower than the projected MV increase, as efficiencies in City operations and well-managed budgets have allowed the City to mitigate cost impacts from MV.

Customer Class	2015 Rates	Option 1	Option 2	Option 3 (Recommended)
Single-Family Dwelling (based on 312 m <sup>3</sup> average)	\$392.92	\$389.40 <i>(\$3.52)</i>	\$392.86 <i>(\$ .06)</i>	\$396.29 <i>\$3.37</i>
Townhouse (based on 229 m <sup>3</sup> average)	\$292.69	\$290.10 <i>(\$2.59)</i>	\$292.64 <i>(\$ .05)</i>	\$295.16 <i>\$2.47</i>
Apartment (based on 179 m <sup>3</sup> average)	\$209.64	\$207.62 <i>(\$2.02)</i>	\$209.61 <i>(\$ .03)</i>	\$211.57 <i>\$1.93</i>
Metered Rate (\$/m <sup>3</sup> )	\$1.1209	\$1.1096 <i>(\$ .0113)</i>	\$1.1207 <i>(\$ .0002)</i>	\$1.1317 <i>\$ .0108</i>

The rates in Table 3 include base rates of \$43.20 for single-family dwellings, \$36 for townhouses, and \$9 for apartments.

Customer Class	2015 Rates	Option 1	Option 2	Option 3 (Recommended)
Single-Family Dwelling	\$595.17	\$589.19 <i>(\$5.98)</i>	\$595.07 <i>(\$ .10)</i>	\$600.94 <i>\$5.77</i>
Townhouse	\$487.21	\$482.31 <i>(\$4.90)</i>	\$487.12 <i>(\$ .09)</i>	\$491.93 <i>\$4.72</i>
Apartment	\$313.95	\$310.79 <i>(\$3.16)</i>	\$313.90 <i>(\$ .05)</i>	\$316.99 <i>\$3.04</i>

The rates outlined in Tables 3 and 4 are net rates. The Water Bylaw provides a 10% discount for utility bills paid prior to a deadline. The rates shown will be increased by 10% in the supporting bylaws to provide for the discount incentive while ensuring appropriate cost recovery.

The base rates included in Table 3 represents fixed costs for metering including meter reading, billing and maintenance.

#### Advantages/Disadvantages of Various Options

##### Option 1

- Represents the minimum increase necessary to maintain the current level of service.
- Maintains the \$750,000 subsidy from the water rate stabilization fund.

##### Option 2

- Represents the minimum increase necessary to maintain the current level of service.
- Reduces the subsidy from the water rate stabilization fund to \$375,000.

##### Option 3 (recommended)

- Represents the minimum increase necessary to maintain the current level of service.
- Eliminates the \$750,000 subsidy from the rate stabilization fund (see below for a more detailed explanation).

#### Recommended Option

Staff recommend the budgets and rates outlined under Option 3 for Water Services. This option maintains infrastructure funding levels at the general target identified in the “Ageing Infrastructure Planning – 2015 Update” report to meet the community’s long term needs, includes the Universal Water Meter Program for single-family homes that will be completed by 2018, and allows for volunteer water metering of multi-family homes. It also includes an appropriate toilet rebate budget and eliminates the \$750,000 drawdown of the rate stabilization fund, as efficiencies in City operations and well-managed budgets have minimized rate increases.

Given that the Metro Vancouver major projects are nearing completion, the need to continue to subsidize the water rate is now diminishing. Thus, staff recommend that the rate stabilization contribution be removed from the water rate and can therefore accumulate again until such time as Metro Vancouver introduces additional projects requiring that the rate be subsidized to level water rate spikes.

**Sewer Utility**

Key Budget Areas	2015 Base Level Budget	Option 1 Non-Discretionary Increases	Option 2 Non-Discretionary Increases with \$670,000 for Additional Capital Infrastructure Replacement	Option 3 (Recommended) Non-Discretionary Increases with \$1,000,000 for Additional Capital Infrastructure Replacement
Salary	\$2,618,700	\$51,300	\$51,300	\$51,300
PW Materials/Equipment/Power Costs	\$1,478,900	\$115,000	\$115,000	\$115,000
Internal Shared Costs	\$276,800	-\$6,400	-\$6,400	-\$6,400
Operating Expenditures	\$502,200	\$2,300	\$2,300	\$2,300
GVS&DD O&M (MV)	\$20,000,000	-\$587,400	-\$587,400	-\$587,400
GVS&DD Debt (MV)	\$85,700	\$279,800	\$279,800	\$279,800
<b>Capital Infrastructure Replacement Program</b>	<b>\$4,256,400</b>	<b>\$0</b>	<b>\$670,000</b>	<b>\$1,000,000</b>
Asset Management System	\$50,000	\$0	\$0	\$0
Firm Price/Receivable	\$602,700	\$7,300	\$7,300	\$7,300
Overhead Allocation	\$498,200	\$0	\$0	\$0
<b>Total Base Level Budget</b>	<b>\$30,369,600</b>	<b>\$30,231,500</b>	<b>\$30,901,500</b>	<b>\$31,231,500</b>
Revenues				
Provision (Rate Stabilization)	-\$500,000	\$0	\$0	\$0
Provision (OBI Adjustment)	-\$49,200	\$49,200	\$49,200	\$49,200
Investment	-\$166,000	\$14,000	\$14,000	\$14,000
Firm Price/Receivable	-\$602,700	-\$7,300	-\$7,300	-\$7,300
Property Tax for DD Debt (MV)	-\$85,700	-\$279,800	-\$279,800	-\$279,800
<b>Net Budget</b>	<b>\$28,966,000</b>	<b>\$28,604,000</b>	<b>\$29,274,000</b>	<b>\$29,604,000</b>
<b>Net Difference Over 2015 Base Level Budget</b>		<b>-\$362,000</b>	<b>\$308,000</b>	<b>\$638,000</b>

The following is an explanation of the budget reductions and increases outlined in Table 5.

Operating Expenditures

Operating expenses have increased due to factors beyond the City's control, including:

- Projected salary increases for union agreements and step increases;
- BC Hydro rate increases (4.9%);
- Equipment cost increases; and
- Postage rate increases.



### GVS&DD Operating and Maintenance (O&M) Costs – Metro Vancouver

Richmond pays MV (GVS&DD) for bulk transmission and treatment of collected liquid waste on a flat rate basis through the MV GVS&DD O&M levy. The proposed 2016 MV GVS&DD O&M levy increase of 3% will be presented to the MV Board on October 30.

In 2015, the estimated MV GVS&DD O&M levy increase was 6% and the actual increase was -0.11%; the City's MV GVS&DD O&M levy budget was generated utilizing the estimated MV increase, and the lower actual increase created surplus capacity in the MV GVS&DD O&M levy budget of 6.11% for 2015. MV's proposed 2016 increase is smaller than the surplus capacity created in the 2015 MV GVS&DD O&M levy budget. As such, the 2016 MV GVS&DD O&M levy budget is lower than the 2015 MV GVS&DD O&M levy budget.

MV is projecting an overall sewer increase of 3.9% for Richmond. 3% is the MV GVS&DD O&M levy increase that is recovered through the City's sewer utility rate. The remaining 0.9% is due to MV sewer debt, which is recovered through Richmond's tax system.

### Capital Infrastructure Replacement Program

Option 1 maintains the annual contribution to the sewer infrastructure capital replacement program at \$4.25 million. The "Ageing Infrastructure Planning – 2015 Update" report noted that the annual funding contribution required to support long-term sustainability is \$6.8 million. To reduce this gap between current and required funding, Options 2 and 3 increase the capital replacement program by \$670,000 and \$1,000,000, respectively. Staff recommend Option 3, increasing the sewer capital replacement program by \$1 million, in order to reduce the gap between current and required funding. It is intended that their capital funding will be directed to sanitary sewer station upgrades, including generators, which were recently highlighted as a priority.

### Sewer Rate Stabilization Contribution (Sewer Rate Options)

The sewer rate stabilization provision was established by Council as a funding source to offset significant spikes in regional sewer treatment and capacity costs. The sewer rate stabilization provision is projected to have a \$7.6 million balance by the end of 2015. Any surplus in the sewer operating budget at the end of 2015 will be appropriated to add to this balance.

All options maintain the \$500,000 drawdown on the sewer rate stabilization fund to partially offset MV GVS&DD O&M increases.

### Regional Issues

Table 6 outlines MV's projected sewer charge increases for 2016 through 2018. The main budget drivers impacting the projected increase in MV costs include a variety of capital infrastructure projects, such as the Gilbert Trunk Sewer twinning project, and the Lions Gate and Iona wastewater treatment plant upgrades. The proposed 2016 MV sewer charge increase for Richmond is 3.9% (combined debt reduction and MV GVS&DD O&M levy cost increases). The MV GVS&DD O&M levy, supported by the City's utility rates, will increase by 3% in 2016.

	2016	2017	2018
Projected MV Sewer Charge per Household	\$191	\$205	\$222
% Increase Over Prior Year	3.9%	7.5%	8.0%

### Impact on 2016 Sewer Rates

The impact of the three budget options on the sewer rates is shown in Tables 7 and 8. Table 7 identifies the impact of each option on metered customers; Table 8 identifies the impact on flat rate customers.

Customer Class	2015 Rates	Option 1	Option 2	Option 3 (Recommended)
Single Family Dwelling (based on 312 m <sup>3</sup> average)	\$303.92	\$296.87 <i>(\$7.05)</i>	\$303.92 \$0	\$307.35 \$3.43
Townhouse (based on 229 m <sup>3</sup> average)	\$223.07	\$217.89 <i>(\$5.18)</i>	\$223.07 \$0	\$225.59 \$2.52
Apartment (based on 179 m <sup>3</sup> average)	\$174.36	\$170.32 <i>(\$4.04)</i>	\$174.36 \$0	\$176.33 \$1.97
Metered Rate (\$/m <sup>3</sup> )	\$0.9741	\$0.9515 <i>(\$0.0226)</i>	\$0.9741 \$0	\$0.9851 \$0.0110

Customer Class	2015 Rates	Option 1	Option 2	Option 3 (Recommended)
Single Family Dwelling	\$399.39	\$390.15 <i>(\$9.24)</i>	\$399.39 \$0	\$403.93 \$4.54
Townhouse	\$365.43	\$356.97 <i>(\$8.46)</i>	\$365.43 \$0	\$369.58 \$4.15
Apartment	\$304.35	\$297.31 <i>(\$7.04)</i>	\$304.35 \$0	\$307.81 \$3.46

The rates outlined in Tables 7 and 8 are net rates. The bylaw provides a 10% discount for utility bills paid prior to a deadline. The rates shown will be increased by 10% in the supporting bylaws to provide for the discount incentive while ensuring appropriate cost recovery.

### Advantages/Disadvantages of Various Options

#### Option 1

- Represents the minimum increase necessary to maintain the current level of service.
- Does not meet the City's long-term infrastructure plan to increase the capital program for replacement of ageing infrastructure. Capital replacement remains at \$4.25 million for 2016, which represents an annual \$2.55 million shortfall from the funding recommended in the "Ageing Infrastructure Planning – 2015 Update" report. The ultimate objective is to build the annual infrastructure replacement for sewer to \$6.8 million.
- Utilizes a \$500,000 drawdown from the sewer levy stabilization account to minimize the impact of regional increases on sewer rates.

Option 2

- Represents the minimum increase necessary to maintain the current level of service.
- Includes a \$670,000 increase to the capital infrastructure replacement program, in order to reduce the gap between the current funding level of approximately \$4.25 million and the long-term annual funding requirement of \$6.8 million, as recommended in the “Ageing Infrastructure Planning – 2015 Update” report.
- Utilizes a \$500,000 drawdown from the sewer levy stabilization account to minimize the impact of regional increases on sewer rates.

Option 3 (recommended)

- Represents the minimum increase necessary to maintain the current level of service.
- Includes a \$1,000,000 increase to the capital infrastructure replacement program, in order to reduce the gap between the current funding level and the long-term annual funding requirement of \$6.8 million, as recommended in the “Ageing Infrastructure Planning – 2015 Update” report.
- Utilizes a \$500,000 drawdown from the sewer levy stabilization account to minimize the impact of regional increases on sewer rates.

Recommended Option

In order to reduce the gap between the current funding level and long-term annual funding requirement, staff recommend the budgets and rates outlined under Option 3 for Sewer Services.

**Drainage and Diking Utility**

Drainage

In 2003, a drainage utility was created to develop a reserve fund for drainage infrastructure replacement costs. The objective, as outlined in the “Ageing Infrastructure Planning – 2015 Update” report, is to build the fund to an anticipated annual contribution of approximately \$10.4 million, subject to on-going review of the drainage infrastructure replacement requirements.

As adopted by Council in 2003, the rate started at \$10 (net) per property and is increased an additional \$10 each year until such time as the \$10.4 million annual reserve target is reached. While \$10.4 million is the optimum annual target, the Ageing Infrastructure Report identifies a target range that could be acceptable based on a sensitivity analysis of contributing variables. Funding for this utility provides for capital construction costs only and does not contribute funding to operating and maintenance.

Diking

An annual budget amount was established in 2006 to undertake structural upgrades at key locations along the dike, which equated to a net charge of \$10 per property. There have been no increases to this rate since it was first introduced. Continued annual funding is required to support studies and dike upgrades required to protect the City from long-term sea level rise due to climate change.

Impact on 2016 Drainage and Diking Rates

Utility	2015 Rates	Option 1 All Accounts	Option 2 (Recommended)	
			Non-Stratified ICI <sup>1</sup> Accounts Above 800 m <sup>2</sup>	All Other Accounts <sup>2</sup>
Drainage	\$130.31	\$132.40	\$270.00	\$130.31
Diking	\$10.00	\$10.50	\$20.00	\$10.00
Total Drainage & Diking	\$140.31	\$142.90	\$290.00	\$140.31
Increase Over 2015		\$2.59	\$149.69	\$0

<sup>1</sup> ICI includes industrial, commercial and institutional properties that are non-strata with lot areas above 800 m<sup>2</sup>.

<sup>2</sup> Includes residential properties. There is no increase proposed for residential properties.

The rates outlined in Table 9 are net rates. The bylaw provides a 10% discount for utility bills paid prior to a deadline. The net rates shown will be increased by 10% in the supporting bylaws to provide for the discount incentive while ensuring appropriate cost recovery.

Drainage Rate Equity

When the City’s Drainage and Diking Utility was first introduced, the utility rate model was simplified to facilitate ease of implementation. In previous years, when rates were lower, any inequity in the rates was marginal given the low cost to individual property owners. Today, the

rate has increased to the point that funds generated by the utility are within the long-term target range, and staff recommend that increases going forward improve equity to the rate payers. Option 2 represents the first step in a multi-year process to improve equity to the rate payers.

The size and capacity of the City's drainage system is directly related to the size of properties and the impervious area (paving, roofs, etc.) of those properties. ICI properties make up approximately 28% of Richmond's non-agricultural land area; however, they contribute less than 9% of the drainage and diking utility funding. Additionally, ICI properties generally have a high percentage of impermeable area. The largest inequities in the drainage rate system are represented by large, non-stratified ICI properties (shopping malls, warehouses, etc.) that currently pay the same drainage rate as a single family home.

Option 2 doubles the rate (from \$130.31 to \$270 annually) paid by non-stratified ICI properties with areas above 800 m<sup>2</sup>. This group of rate payers represents significant inequity and Option 2 is a first step to improve equity. Future rate improvements will review the largest of the properties in this sector and may identify further increases for properties on the larger end of the spectrum.

#### Advantages/Disadvantages of Various Options

##### Option 1

- Maintains the same flat rate structure as in previous years (all accounts pay the same rate).
- Includes an adjustment to account for inflation.

##### Option 2 (recommended)

- Introduces a new rate for non-stratified industrial, commercial and institutional (ICI) properties with lot areas above 800 m<sup>2</sup>.
- New rate reflects the fact that the properties in this category are typically much larger and, therefore, contribute a greater demand on the drainage and diking system.
- This new rate will not apply to stratified ICI properties, as the individual strata lots are more similar in size to non-ICI properties.
- All residential, agricultural and stratified ICI properties will pay the same rate as in 2015, with no increase in rates.

#### Recommended Option

Option 2 is recommended because it improves equity by introducing a rate that requires larger ICI properties to contribute a larger amount to the utility. Stratified ICI, which most small businesses are, and all forms of residential properties would not see an increase to the drainage utility rate.

Both options deliver a similar increase to the fund that will account for both inflationary costs and meet the funding required by the Ageing Infrastructure Report for a sustainable utility. As a result, funding for the drainage account is expected to be \$10.2 million in 2016 while the diking portion is expected to be \$785,000.

**Solid Waste and Recycling**

Key Budget Areas	2015 Base Level Budget (Amended)	Option 1 (Recommended) Non-Discretionary Increases	Option 2 (with Annual Green Cart Cleaning Service Provided)	Option 3 (with Annual Green Cart and Garbage Cart Cleaning Service Provided)
Salaries	\$2,438,500	\$58,941	\$58,941	\$58,941
Contracts	\$8,002,600	\$169,200	\$616,300	\$874,600
Equipment/Materials	\$505,700	\$18,460	\$18,460	\$18,460
MV Disposal Costs	\$2,008,300	-\$478,901	-\$478,901	-\$478,901
Recycling Materials Processing	\$1,281,500	\$28,400	\$28,400	\$28,400
Container Rental/Collection	\$150,600	\$500	\$500	\$500
Operating Expenditures	\$320,900	\$2,200	\$2,200	\$2,200
Internal Shared Costs	\$172,800	\$20,500	\$20,500	\$20,500
Agreements	\$176,000	\$3,900	\$3,900	\$3,900
Rate Stabilization	\$77,000	\$10,500	\$10,500	\$10,500
<b>Base Level Budget</b>	<b>\$15,133,900</b>	<b>\$14,967,600</b>	<b>\$15,414,700</b>	<b>\$15,673,000</b>
Revenues				
Apply General Solid Waste and Recycling Provision	-\$865,900	\$865,900	\$865,900	\$865,900
Recycling Material	-\$257,000	-\$44,000	-\$44,000	-\$44,000
Garbage Tags	-\$17,500	\$0	\$0	\$0
Revenue Sharing Grant	-\$2,100	\$0	\$0	\$0
MMBC Incentive	-\$1,352,600	-\$73,500	-\$73,500	-\$73,500
<b>Net Budget</b>	<b>\$12,638,800</b>	<b>\$13,220,900</b>	<b>\$13,668,000</b>	<b>\$13,926,300</b>
<b>Net Difference Over 2015 Base Level Budget</b>		<b>\$582,100</b>	<b>\$1,029,200</b>	<b>\$1,287,500</b>

The following is an explanation of the budget reductions and increases outlined in Table 10.

Salaries

Salary cost increases under all options correspond with collective agreements and step increases.

Contracts

Contract cost increases relate to non-discretionary increases for solid waste and recycling collection services as outlined in Council-approved agreements and a small amount for growth in the number of units serviced. Option 2 includes an additional level of service for cleaning Green

Carts once per year for all residents with this service. Option 3 includes annual cart cleaning services for both Green Carts and Garbage Carts.

Equipment/Materials

Equipment and material costs are increased principally for anticipated garbage cart replacement costs associated with the new bi-weekly garbage cart collection program (scheduled to commence in the first quarter of 2016).

Metro Vancouver Disposal Costs

The regional tipping fee for local governments will be \$100/tonne in 2016, plus a \$5 per load transaction fee. The reduction in disposal costs noted in Table 10 is due in part to adjustments in expected participation in optional garbage service by residents in multi-family developments. Further, a substantial reduction is expected in single-family waste disposal due to the implementation of bi-weekly garbage collection service in 2016. The transition to bi-weekly garbage collection was approved at the May 25, 2015 Regular Council meeting.

The five-year tipping fee projection per Metro Vancouver estimates is outlined in the following table. The municipal tipping fee is projected to be a flat fee per tonne, whereas the fees for commercial and other users will be at variable rates depending on load size. In general, increases in tipping fees are designed, in part, to help drive additional recycling (create greater financial incentive to recycle) as well as to manage existing and planned added infrastructure. The variable rate for commercial users is designed to help deter losses in system revenues from waste export. This helps retain funding within the regional system for maintaining the waste disposal network.

Table 11. Metro Vancouver Tipping Fee Projections					
	2016	2017	2018	2019	2020
Projected Municipal MV Tipping Fee/Tonne	\$100	\$109	\$113	\$117	\$125
% Change from Prior Year		9%	4%	4%	7%
Other MV Tipping Fee/Tonne Charges					
Small Vehicles (0-1t)	\$133	\$137	\$141	\$145	\$150
Medium Vehicles (1-8t)	\$112	\$116	\$120	\$124	\$130
Large Vehicles (>9t)	\$80	\$83	\$85	\$87	\$89
Transaction Fee	\$5	\$5	\$6	\$6	\$7
Small Vehicle Minimum Fee	\$10	\$10	\$10	\$10	\$10

Recycling Materials Processing

Recycling materials processing costs are increased associated with anticipated added volumes of organic materials which are expected to be diverted from garbage as a result of implementation of bi-weekly garbage collection service in the first quarter of 2016.

### Container Rental/Collection and Operating Expenditures

Container rental/collection costs are increased slightly associated with Recycling Depot service costs. Minor adjustments in operating expenditures are associated with the transition to bi-weekly garbage service in 2016.

### Internal Shared/Agreements/Rate Stabilization

Internal shared costs are increased for the Patroller program salary and operational increases, and align with the Collective Agreement. Agreement costs are increased slightly based on the consumer price index and contractual increase with Vancouver Coastal Health Authority for the City's public health protection service agreement. Rate stabilization costs are adjusted slightly as part of balancing rates charged to residents.

### Revenues – General Solid Waste and Recycling Provision

The contribution from provision is reduced due to the fact the multi-family food scraps pilot program (costs for which were funded from provision – approximately \$757,500) transitioned to a full-scale program. The total costs associated with this program are now being recovered via charges to those multi-family residents on the City's food scraps recycling program. Similarly, the garbage cart pilot program costs (also funded from provision – approximately \$100,000) are phased out associated with the full-scale implementation of bi-weekly garbage collection in the first quarter of 2016.

### Recycling Material Revenues

Recycling material revenues are increased associated with MMBC payments for separate collection of glass as well as expected increases in the volumes of recycling materials received at the City's Recycling Depot.

### MMBC Revenue Incentive

The incentive funding is increased in 2016 to absorb the additional costs associated with annual program increases under approved service collection contracts.

### Impact on 2016 Rates

The impact of the budget options to ratepayers is provided in the tables which follow. In light of the implementation of bi-weekly garbage collection service in the first quarter of 2016, a variable rate structure will be introduced. This will allow residents the opportunity to subscribe to their desired size of garbage cart/container and the associated fee. If bi-weekly service was not introduced, the garbage portion of the rate would have increased by an estimated 5%.

Table 12 provides total costs based on standard garbage cart sizes for single-family (240L) and townhouse (120L), and assumes an apartment on City weekly organics collection service, but not on City garbage collection service. The transition to bi-weekly garbage collection service in 2016 results in a rate decrease for the average resident on City garbage service. The rate increase for apartments is reflective of a full year charge for weekly organics service in 2016. In 2015,



the amount charged for apartments was pro-rated based on 6 months service in light of implementation timeframes.

Customer Class	2015 Rates	Option 1 (Recommended)	Option 2 (Annual Green Cart Cleaning)	Option 3 (Annual Green Cart and Garbage Cart Cleaning)
Single Family Dwelling (Standard 240L Cart)	\$277.50	\$276.25 (\$1.25)	\$287.25 \$9.75	\$296.75 \$19.25
Townhouse (Standard 120L Cart)	\$232.50	\$217.25 (\$15.25)	\$228.25 (\$4.25)	\$237.75 \$5.25
Apartment	\$71.58	\$86.85 \$15.27	\$86.85 \$15.27	\$86.85 \$15.27
Business Rate	\$27.70	\$27.95 \$0.25	\$27.95 \$0.25	\$27.95 \$0.25

Table 13 provides a more detailed breakdown of Option 1 rates based on the four different garbage cart size options that will be available to residents in single-family and townhouse units. Residents will be able to reduce or increase the amount they pay for the service based on the cart size they select for garbage collection service.

Cart Size	Garbage Portion Only	Single-Family Full Service Rate (Including Recycling, Organics, Other Services)	Townhomes Full Service Rate (Including Recycling, Organics, Other Services)
80L	\$83.00	\$253.25	\$206.75
120L	\$93.50	\$263.75	\$217.25
240L	\$106.00	\$276.25	\$229.75
360L	\$196.00	\$366.25	\$319.75

A comparison to rates in Vancouver and Surrey is provided in Attachment 3 for information.

Staff note that early feedback from townhouse units has highlighted their concerns that these residents may not have the storage space necessary for appropriately sized garbage carts for bi-weekly service. As a result, requests have been received to make garbage cart collection service available to townhouses on weekly service. To address this, staff propose that when the bylaw and rates are brought forward, weekly garbage collection service be available to townhouses (only and for the entire complex only) at a premium rate. This would result in a charge that is approximately 2.5% above current rates.

As noted previously within the water and sewer sections, the above rates are net rates and will be increased by 10% in the rate amending bylaws in accordance with the bylaw early payment discount provisions.

### Regional Issues

At their September 18, 2015 meeting, the Greater Vancouver Sewerage and Drainage District Board approved a solid waste system funding strategy which establishes the rates as outlined in Table 13. In addition, the regional services fee (charged to those communities that have alternative agreements relating to waste disposal) was set at 6% of the municipal tipping fee. This fee is used to fund regional costs for Zero Waste education, planning and administration, regulation and enforcement and other activities that benefit the entire region.

With regard to disposal bans, Metro Vancouver will maintain the thresholds for organics and clean wood at 25% and 10% respectively in light of early successes as well as industry concerns about added fees. This will help to decrease the potential for waste export.

In relation to the issue of equity relating to funding of Eco Centres/Recycling Depots, the GVS&DD Board addressed this by approving a transfer station strategy with the following key elements:

- a) provision of dedicated recycling services at Metro Vancouver transfer stations only when requested and funded by communities served by the transfer station;
- b) continued development of options for replacement of the Coquitlam Transfer Station and collaboration with tri-cities municipalities to ensure that there is continuity of service between the closure of the existing transfer station and the development of a new facility;
- c) reconfiguration of the North Shore Transfer Station; and
- d) development of the Surrey Small Vehicle/Residential Drop-Off facility with the next steps being the City of Surrey to finalize a site, and Metro Vancouver to enter into an agreement with the City of Surrey where Metro Vancouver pays for the garbage component and the City of Surrey pays for the dedicated recycling component of the facility.

### Recommended Option

Staff recommend the budgets and rates as outlined under Option 1 for Solid Waste and Recycling. This option provides full funding for all existing programs as well as the new Bi-Weekly Garbage Cart Collection Program.

**Total Recommended 2016 Utility Rate Option**

In light of the significant challenges associated with the impacts of regional costs and new programs in the City, staff recommend the budget and rates options as follows:

- Option 3 is recommended for Water and Sewer
- Option 2 is recommended for Drainage and Diking
- Option 1 is recommended for Solid Waste and Recycling

Table 14 summarizes the estimated total metered rate utility charge, based on average water and sewer consumption. Table 15 summarizes the total flat rate utility charge.

Table 14. 2016 Estimated Total Net Rates to Metered Customers		
Customer Class	2015 Estimated Net Metered Rates	2016 Estimated Net Metered Rates (Recommended)
Single-Family Dwelling (based on 312 m <sup>3</sup> average)	\$1,114.65	\$1,120.20 \$5.55
Townhouse (on City garbage service) (based on 229 m <sup>3</sup> average)	\$888.57	\$878.31 (\$10.26)
Townhouse (not on City garbage service) (based on 229 m <sup>3</sup> average)	\$779.07	\$777.31 (\$1.76)
Apartment (based on 179 m <sup>3</sup> average)	\$595.89	\$615.07 \$19.17
<b>Commercial/Industrial</b>		
Metered Water (\$/m <sup>3</sup> )	\$1.1209	\$1.1317 \$.0108
Metered Sewer (\$/m <sup>3</sup> )	\$.9741	\$.9851 \$.0110
Business: Garbage	\$27.70	\$27.95 \$0.25
Business: Drainage & Diking	\$140.31	\$290.00 \$149.69

As 83% of single-family dwellings are on meters, the metered charges in Table 14 are representative of what the majority of residents in single-family dwellings would pay versus the flat rate charges outlined in Table 15.

Customer Class	2015 Net Flat Rates	2016 Net Flat Rates (Recommended)
Single-Family Dwelling	\$1,412.37	\$1,421.43 \$9.06
Townhouse (on City garbage service)	\$1,225.45	\$1,219.07 (\$6.38)
Townhouse (not on City garbage service)	\$1,115.95	\$1,118.07 \$2.12
Apartment	\$830.19	\$851.96 \$21.77

As noted previously, the rates highlighted in this report reflect the net rates. This is the actual cost that property owners pay after the 10% discount incentive is applied, as outlined in the rate bylaws. The discount incentive provided in the bylaws is a very effective strategy in securing utility payments in a timely manner. To ensure full cost recovery while maintaining the payment incentive, the bylaw rates are adjusted by the discount amount. The recommended rates outlined above result in gross rate charges to residents as outlined in Attachment 2. These rates would be reflected in the amending bylaws for each utility area, should they be approved by Council.

**Flat Rate and Metered Customers**

The residential metering program has been successful in transitioning the majority of single-family households from flat rates. Approximately 83% of single-family homes are now on meters. The majority of townhouses and apartments are still on flat rate; however, the number with meters will continue to increase with the volunteer and mandatory water meter programs for multi-family dwellings. The number of units by customer class, including those on meters, is shown below:

		2015 Counts	2016 Counts (Estimated)	Difference
Single-Family Residential	Flat Rate (17%)	4,766	2,718	(2,048)
	Metered (83%)	23,998	26,560	2,562
Townhouse	Flat Rate (72%)	11,815	11,565	(250)
	Metered (28%)	4,637	5,034	397
Apartment	Flat Rate (58%)	15,470	15,070	(400)
	Metered (42%)	11,079	13,590	2,511
Total Residential Units		71,765	74,537	2,772
Commercial Units	Metered	4,014	4,114	100
Farms	Metered	45	45	0

Comparison of 2015 City Utility Rates to Other Major Household Expenses

In relation to other common household expenses, City utility expenses represent good value when compared with other daily major household expenses, such as telephone, cable, internet, electricity, transit and others. Water, sewer, garbage and drainage utility services are fundamental to a quality lifestyle for residents as well as necessary infrastructure to support the local economy. The following Figure 1 illustrates the value of these services when compared to other common household expenses.

Figure 1. Cost Comparison of Main Household Expenses for a Single-Family Dwelling

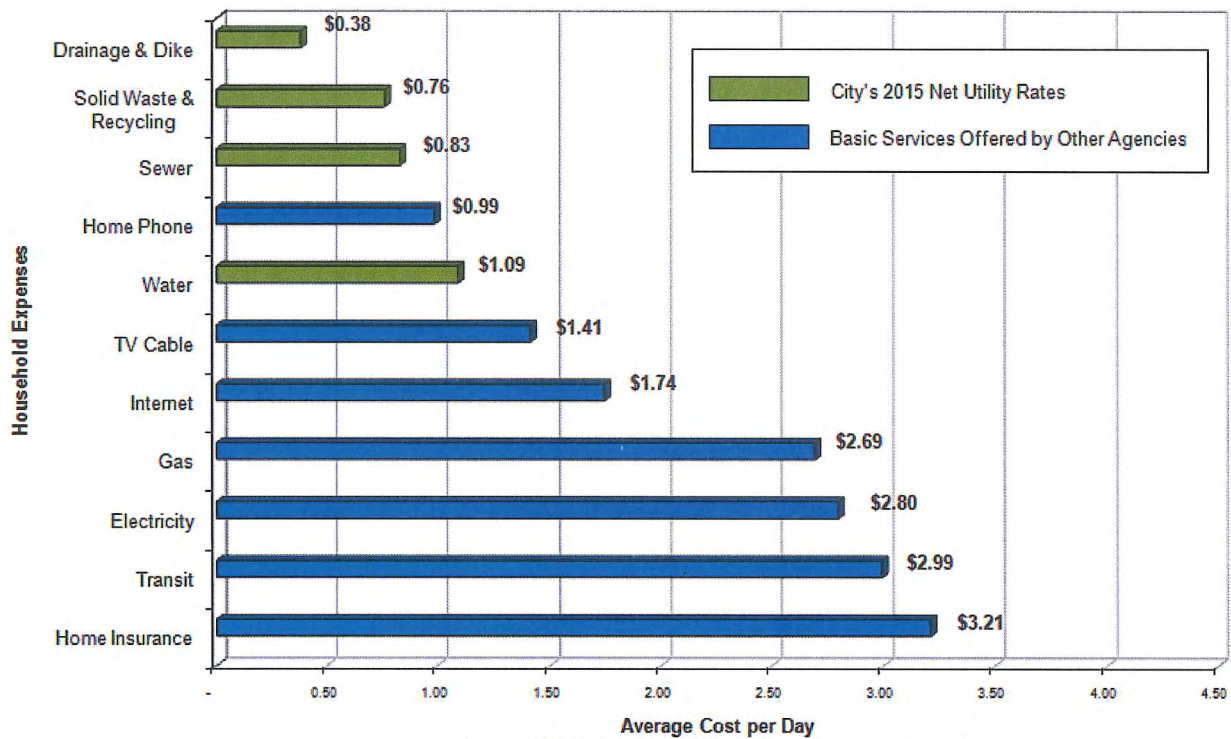


Figure 1 Reference REDMS 4717112

**Financial Impact**

The budgetary and rate impacts associated with each option are outlined in detail in this report. In all options, the budgets and rates represent full cost recovery for each City service.

The key impacts to the recommended 2016 utility budgets and rates stem from estimated Metro Vancouver increases for bulk water and the sewer levy. Cost impacts have been largely offset through efficiencies in City operations and well-managed budgets. Staff recommend the budget and rates options as follows:

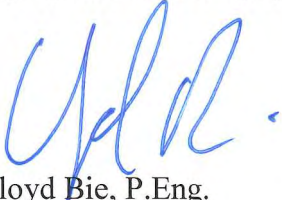
- Option 3 is recommended for Water and Sewer
- Option 2 is recommended for Drainage and Diking
- Option 1 is recommended for Solid Waste & Recycling

Considerable effort has been made to minimize City costs and other costs within our ability in order to minimize the impact to property owners.

## Conclusion

This report presents the 2016 proposed utility budgets and rates for City services relating to the provision of water, the connection of wastewater, flood protection, as well as the provision of solid waste and recycling services. Considerable measures are taken to reduce costs where possible in order to minimize rate increases. A significant portion of the City's costs relate to impacts from influences outside of the City's direct control, such as regional cost impacts, power and postage increases, etc. Regional costs are expected to continue increasing to meet demands for high quality drinking water and sewer treatment. The percentage increase of the recommended options is lower than the MV increase, as efficiencies in City operations and well-managed budgets have allowed the City to mitigate cost impacts from MV.

Staff recommend that the budgets and rates as outlined in this report be approved and that the appropriate amending bylaws be brought forward to Council to bring these rates into effect.



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LB:lb

## Attachment 1

## 2016 Estimated Total Net Rates to Metered Customers

2016 Estimated Total Net Rates to Metered Customers		
Customer Class	2015 Estimated Net Metered Rates	2016 Estimated Net Metered Rates (Recommended)
Single-Family Dwelling (based on 312 m <sup>3</sup> average)	\$1,114.65	\$1,120.20 \$5.55
Townhouse (on City garbage service) (based on 229 m <sup>3</sup> average)	\$888.57	\$878.31 (\$10.26)
Townhouse (not on City garbage service) (based on 229 m <sup>3</sup> average)	\$779.07	\$777.31 (\$1.76)
Apartment (based on 179 m <sup>3</sup> average)	\$595.89	\$615.07 \$19.17
<b>Commercial/Industrial</b>		
Metered Water (\$/m <sup>3</sup> )	\$1.1209	\$1.1317 \$.0108
Metered Sewer (\$/m <sup>3</sup> )	\$.9741	\$.9851 \$.0110
Business: Garbage	\$27.70	\$27.95 \$.025
Business: Drainage & Diking	\$140.31	\$290.00 \$149.69

**Attachment 2**

**2016 Annual Utility Charges – Recommended Gross Rates per Bylaw (Estimated Metered and Actual Flat Rates)**

	<b>Water</b>	<b>Sewer</b>	<b>Drainage/ Diking</b>	<b>Garbage/ Recycling</b>	<b>Total</b>
<b>Metered (Based on Average Consumption)</b>					
Single-Family Dwelling	\$440.32	\$341.50	\$155.90	\$306.94	\$1,244.66
Townhouse (with City garbage)	\$327.95	\$250.65	\$155.90	\$241.39	\$975.89
Townhouse (no City garbage)	\$327.95	\$250.65	\$155.90	\$129.17	\$863.67
Apartment	\$235.08	\$195.93	\$155.90	\$96.50	\$683.41
<b>Flat Rate (Actual)</b>					
Single-Family Dwelling	\$667.72	\$448.81	\$155.90	\$306.94	\$1,579.37
Townhouse (with City garbage)	\$546.59	\$410.64	\$155.90	\$241.39	\$1,354.52
Townhouse (no City garbage)	\$546.59	\$410.64	\$155.90	\$129.17	\$1,242.30
Apartment	\$352.21	\$342.01	\$155.90	\$96.50	\$946.62
<b>General – Other/Business</b>					
Metered Water (\$/m <sup>3</sup> )	\$1.2575				
Metered Sewer (\$/m <sup>3</sup> )		\$1.0946			
Business: Garbage				\$31.06	
Non-Stratified ICI: Drainage & Diking			\$322.23		



**2016 Annual Utility Charges – Comparison to 2015 Rates in the Cities of Vancouver and Surrey**

<b>City of Vancouver</b>				
2015 Single-Family and Townhome Rates by Garbage Cart Size				
Residents may have 1 or 2 garbage carts and pay the additional garbage rate for the 2 <sup>nd</sup> cart				
<b>Cart Size</b>	<b>Garbage Portion Only (Bi-Weekly)</b>	<b>Single-Family &amp; Townhome Full Service Rate Bi-weekly Garbage (Including Recycling, Organics)</b>	<b>Garbage Portion Only (Weekly)</b>	<b>Townhome Full Service Rate Weekly Garbage Option (Including Recycling, Organics)</b>
75L	\$75.00	120L Organics \$197.00 180L Organics \$215.00 240L Organics \$233.00 360L Organics \$269.00	\$97.00	120L Organics \$219.00 180L Organics \$237.00 240L Organics \$255.00 360L Organics \$291.00
120L	\$87.00	120L Organics \$209.00 180L Organics \$227.00 240L Organics \$245.00 360L Organics \$281.00	\$110.00	120L Organics \$232.00 180L Organics \$250.00 240L Organics \$268.00 360L Organics \$304.00
180L	\$103.00	120L Organics \$225.00 180L Organics \$243.00 240L Organics \$261.00 360L Organics \$297.00	\$128.00	120L Organics \$250.00 180L Organics \$268.00 240L Organics \$286.00 360L Organics \$322.00
240L	\$119.00	120L Organics \$241.00 180L Organics \$259.00 240L Organics \$277.00 360L Organics \$313.00	\$146.00	120L Organics \$268.00 180L Organics \$286.00 240L Organics \$304.00 360L Organics \$340.00
360L	\$151.00	120L Organics \$273.00 180L Organics \$291.00 240L Organics \$309.00 360L Organics \$345.00	\$182.00	120L Organics \$304.00 180L Organics \$322.00 240L Organics \$340.00 360L Organics \$376.00
Note: Additional fees apply if carts are stored on streets or lanes (\$74.29 per cart)				

<b>City of Surrey</b>		
2015 Single-Family and Townhome Rates by Garbage Cart Size		
<b>Cart Size</b>	<b>Single-Family &amp; Townhome All Inclusive Full Service Rate (One Cart) (Including Recycling, Organics, Other Services)</b>	<b>Additional Fees for Each Additional Garbage Collection Cart</b>
80L	\$283.00	\$142.00
120L	\$283.00	\$142.00
180L	\$283.00	\$283.00
240L	\$283.00	\$283.00
360L	\$425.00	\$425.00