



To: Finance Committee **Date:** October 22, 2021
From: John Irving, P.Eng., MPA **File:** 03-0970-01/2021-Vol
General Manager, Engineering and Public 01
Works
Jerry Chong, CPA, CA
Acting General Manager, Finance and Corporate
Services
Re: **2022 Utility Budgets and Rates**




Staff Recommendation

1. That the 2022 utility budgets, as presented in Option 2 for Water (page 6) including Option B for universal multi-family water metering, Option 3 for Sewer (page 14), Option 2 for Drainage and Diking (page 22), and Option 3 for Solid Waste and Recycling (page 24), as outlined in the staff report titled, “2022 Utility Budgets and Rates”, dated October 22, 2021, from the General Manager, Engineering and Public Works and the Acting General Manager, Finance and Corporate Services, be approved as the basis for establishing the 2022 utility rates and included in the Consolidated 5 Year Financial Plan (2022-2026) Bylaw.
2. That the General Manager, Engineering and Public Works be authorized to negotiate and execute on behalf of the City, the Municipal Recycling Depot Services Agreement with the Greater Vancouver Sewerage and Drainage District, as outlined in the staff report titled, “2022 Utility Budgets and Rates”, dated October 22, 2021, from the General Manager, Engineering and Public Works and the Acting General Manager, Finance and Corporate Services.

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Att. 1

REPORT CONCURRENCE	
CONCURRENCE OF GENERAL MANAGER 	
SENIOR STAFF REPORT REVIEW	INITIALS: 
APPROVED BY CAO 	

Staff Report

Origin

This report presents the recommended 2022 utility budgets and rates for Water, Sewer, Drainage and Diking, and Solid Waste and Recycling. The utility rates need to be established by December 31, 2021 in order to take effect January 1, 2022.

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.

Strategy #5 Sound Financial Management:

Accountable, transparent, and responsible financial management that supports the needs of the community into the future.

5.1 Maintain a strong and robust financial position.

5.2 Clear accountability through transparent budgeting practices and effective public communication.

5.3 Decision-making focuses on sustainability and considers circular economic principles.

5.4 Work cooperatively and respectfully with all levels of government and stakeholders while advocating for the best interests of Richmond.

Analysis

Throughout the COVID-19 pandemic, utility services, including water, sewer, flood protection, and solid waste and recycling continue to be provided by the City at a high level of service. The City's operating expenditures continue to be carefully managed and operational efficiencies pursued to minimize impacts on ratepayers.

Metro Vancouver's 2022 rate increases, as presented in their proposed 2022-2026 Financial Plan, are the primary drivers for the City's 2022 utility rates for the majority of these services. The 2022-2026 Financial Plan is expected to be reviewed by the Metro Vancouver Board on October 29, 2021. Staff will report back to Council for further consideration if the approved rates differ substantially from Metro Vancouver's proposed rates.

Metro Vancouver's proposed rate increases for 2022 are as follows:

Water

The 2022 Greater Vancouver Water District (GVWD) rate increase is 4.1%. The GVWD water purchase cost represents 56% of the City's Water Utility user fee budget.

Sewer

The 2022 Greater Vancouver Sewerage and Drainage District (GVS&DD) sewer levy increase is 4.4%. The operations and maintenance component of the GVS&DD sewer levy, which is funded through the Sewer Utility, represents 66% of the City's Sewer Utility user fee budget.

Solid Waste

The Metro Vancouver solid waste tipping fees are increasing by \$4 to \$121 per tonne for 2022, plus an unchanged 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 City's utility budget relates to the replacement of ageing municipal infrastructure. Based on the "Ageing Utility and Road Infrastructure Planning – 2019 Update" report dated August 16, 2019, there are additional annual funding requirements of \$1.7M for water infrastructure and \$2.6M for sanitary infrastructure. The ageing infrastructure component is analyzed in subsequent sections of this report.

Solid waste and recycling services include maintaining all services and programs, which are designed to advance broader waste reduction and recycling objectives. The City remains a leader in providing robust recycling programs, currently diverting 79% of single-family residential waste. Budget amounts presented within this report include additional costs and resources necessary to meet the City's contractual obligations and for processing increasing volumes of recycling materials being generated by residents. Various options are also presented for new pilot initiatives to review the feasibility of installing trash skimmers, which are designed to be installed at marinas or ports for capturing waste from water bodies. The options also include a proposed pilot program to collect waste grease from a select number of multi-family

complexes and to measure the impact such a program may have on addressing grease build-up in the sanitary system.

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 2022. This includes three different options for each of the City's utilities.

Option 1 presents the minimum non-discretionary increases necessary to meet demands placed on the City by factors outside of the City's direct control (e.g. regional or other government agency increases, contractual obligations, plant growth, electricity, etc.) based on currently approved levels of service. Options 2 and 3 present various actions the City can take to increase the 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 the proposed 2022 rates are summarized in Tables 14 and 15.

Water Utility

Table 1. Water Utility Budget

Key Budget Areas ¹	2021 Base Level Budget (Restated for Comparison ²)	Option 1 Non-Discretionary Increases	Option 2 (Recommended) Option 1 and Universal Multi-Family Water Metering Program, Zero Net Cost Public Works Operations Coordinator ³ , and Zero Net Cost Water Conservation Project Manager ⁴	Option 3 Option 2 with No Rate Stabilization
Expenditures				
Salary	\$6,573,500	\$173,400	\$325,900	\$325,900
Operating Expenditures	\$3,741,000	\$66,500	\$66,500	\$66,500
Water Meter Reading and Maintenance	\$182,400	\$0	\$0	\$0
Toilet Rebate Program	\$100,000	\$0	\$0	\$0
GVWD Water Purchases (Metro Vancouver)	\$27,694,200	\$1,206,700	\$1,206,700	\$1,206,700
Capital Infrastructure Replacement Program	\$7,500,000	\$0	\$0	\$0
Firm Price/Receivable	\$2,756,700	\$60,500	\$60,500	\$60,500
Residential Water Metering Program	\$1,285,900	\$0	\$1,800,000	\$1,800,000
Overhead Allocation	\$976,100	\$0	\$0	\$0
Total Base Level Expenditure Budget	\$50,809,800	\$52,316,900	\$54,269,400	\$54,269,400
Revenues				
Provision (Rate Stabilization)	-\$700,000	\$0	\$0	\$700,000
Investment Income	-\$196,000	\$0	\$0	\$0
Firm Price/Receivable	-\$2,756,700	-\$60,500	-\$60,500	-\$60,500
Meter Rental	-\$1,945,400	-\$24,400	-\$24,400	-\$24,400
YVR Maintenance	-\$30,000	\$0	\$0	\$0
Provision (Toilet Rebate/Flushing)	-\$267,400	-\$4,200	-\$4,200	-\$4,200
Provision (OBI and Fringe Adjustments)	-\$96,400	\$96,400	\$96,400	\$96,400
Meter Re-Reads and Other Services	-\$80,800	\$0	-\$152,500	-\$152,500
Reserve (Residential Water Metering Program)	\$0	\$0	-\$1,350,000	-\$1,350,000
Total Base Level Revenue Budget	-\$6,072,700	-\$6,065,400	-\$7,567,900	-\$6,867,900
Net Budget	\$44,737,100	\$46,251,500	\$46,701,500	\$47,401,500
Net Difference Over 2021 Base Level Budget		\$1,514,400	\$1,964,400	\$2,664,400

¹ Key budget areas in green denote the key budget areas with options. Refer to “Universal Multi-Family Water Metering Options (Water Rate Options)”, “Water Conservation Project Manager (Water Rate Options)”, “Public Works Operations Coordinator – Water Backflow Device Management (Water Rate Options)”, and “Water Levy Stabilization Provision Contribution (Water Rate Options)” discussion on pages 8, 11 and 12.

² The 2021 Base Level budget has been restated to include the Operating Budget Impacts and Fringe Adjustments approved with the 2021 Capital Budget and provided by the Finance Department respectively. Refer to “Provision (OBI and Fringe Adjustments)” discussion on page 10.

³ The salary (including fringe) for the Public Works Operations Coordinator is \$122,574.

⁴ The salary (including fringe) for the Water Conservation Project Manager is \$152,500.

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

Metro Vancouver GVWD Water Purchases

Bulk water is purchased from Metro Vancouver on a volumetric basis and accounts for 56% of Richmond’s water rate. Metro Vancouver’s water rate will increase by 4.1%. The corresponding increase in water purchase cost from Metro Vancouver is \$1.2M, which accounts for 83% of Richmond’s non-discretionary expenditure increases.

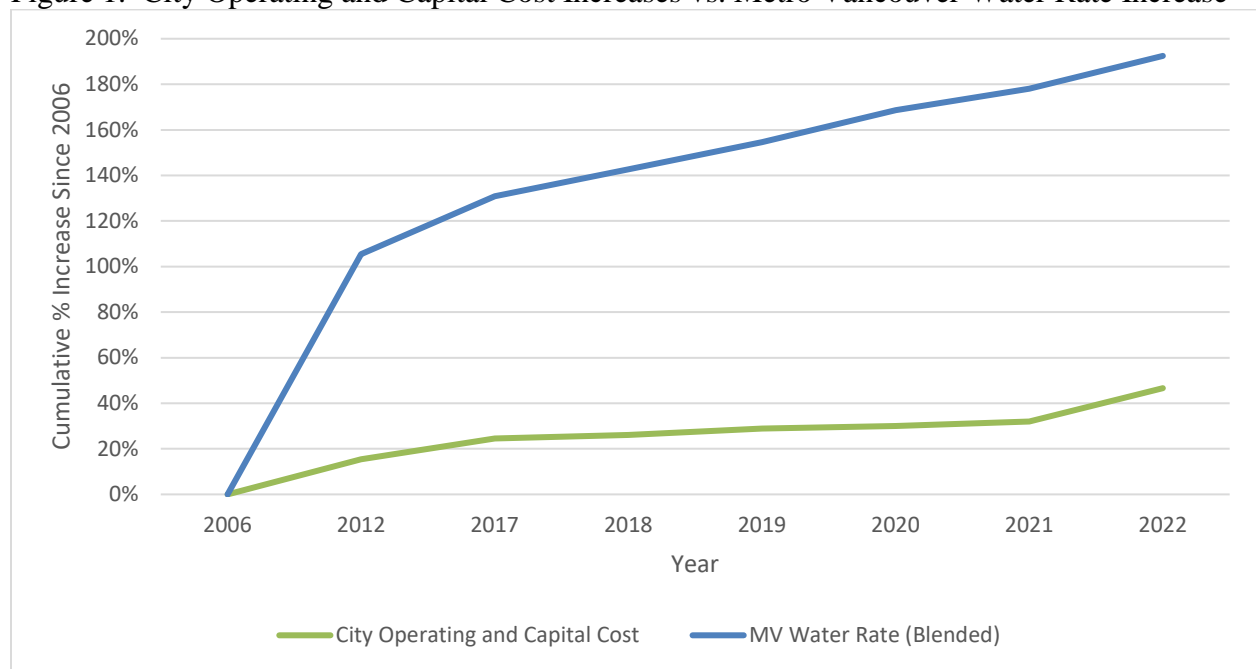
The City’s 2022 water rates are based on Metro Vancouver’s proposed 2022-2026 Financial Plan (Table 2). The 2022-2026 Financial Plan is expected to be reviewed by the Metro Vancouver Board on October 29, 2021. Staff will report back to Council for further consideration if the final approved rates are substantially different.

Table 2. Metro Vancouver Water Rate Projection – Proposed 2022-2026 Financial Plan

	2022	2023	2024	2025	2026
Blended Rate (\$/m³)	\$0.8444	\$0.8958	\$0.9912	\$1.1072	\$1.2345
% Change	4.1%	6.1%	10.6%	11.7%	11.5%

Metro Vancouver’s water rate increases are significant, and are anticipated to continue increasing. Since 2006, the Metro Vancouver water rate has increased by 189%, or an average annual increase of 6.9%. These increases are notably higher than the City’s water utility rates, which increased by 47% during the same period. Figure 1 provides the City’s annual operating and capital cost increases compared to Metro Vancouver’s annual water rate increases.

Figure 1. City Operating and Capital Cost Increases vs. Metro Vancouver Water Rate Increase



As a result of these increases, Metro Vancouver costs have increased from accounting for 44% of Richmond’s water utility rate in 2006 (Figure 2) to 56% in 2022 (Figure 3). The increases in Metro Vancouver costs are a primary budget driver for the water utility.

Figure 2. 2006 Water Utility User Fee Breakdown

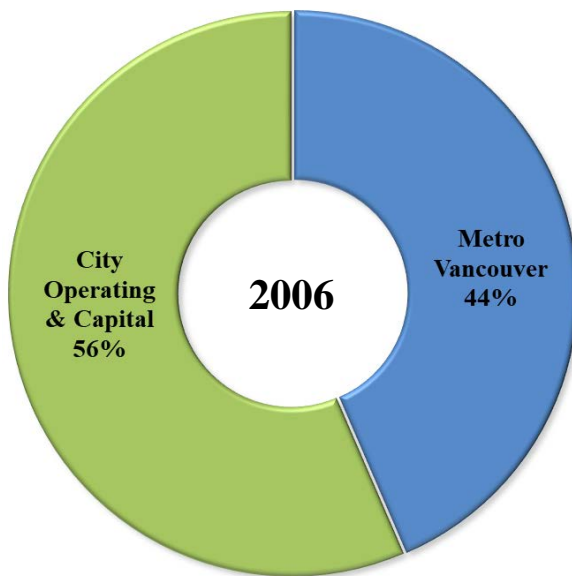
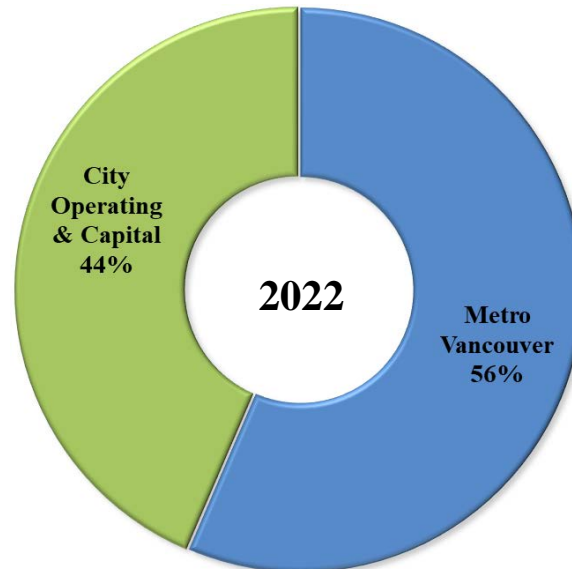


Figure 3. 2022 Water Utility User Fee Breakdown



Water Metering (Avoided Water Purchase Costs)

Water metering plays a significant role in the City’s water demand management program, which improves equity to ratepayers by providing volume-based user fees and reduces bulk water purchases costs by promoting water conservation and reducing private-side leakage. Since the inception of the program in 2003, the City’s total water use has decreased by 12% despite an increase in population of 26%. In 2019, this reduction in per capita water usage resulted in an annual savings of \$11.9M in avoided water purchase cost.

The City has made significant advances in water metering since the program was first introduced. Approximately 83% of the City’s water use is currently metered. All single-family and ICI properties are metered and 51% of multi-family units are metered.

Universal Multi-Family Water Metering Options (Water Rate Options)

At the May 25, 2021 Regular Council Meeting, the following motion was adopted:

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.

Table 3 is a tabulation of the multi-family residential inventory and their water metering status.

Table 3. Multi-Family Inventory (as of 2021 Mid-Year)

Type	Number of Complexes	Number of Units	Number of Unmetered Complexes	Number of Unmetered Units	% of Units Unmetered
Townhouse	626	18,091	336	11,482	63%
Apartment	312	35,500	123	14,798	42%
Total	938	53,591	459	26,280	49%

The total estimated cost of metering the remaining multi-family complexes is approximately \$50M. The following section presents options for Council’s consideration for achieving universal metering of multi-family complexes. In all options, the volunteer program could continue to be offered for complexes wishing to skip the queue for mandatory metering.

Option A: Maintain Current Level of Funding

At the current capital funding level of \$1.2M for water metering, it would take approximately 40 years for multi-family complexes to be fully metered. This would result in a longer timeframe to realize the benefits of water metering, which include equity, conservation, leak detection, improved information for analysis, and reduced load on the sanitary system.

Option B: Increase Annual Funding Level to \$3M (Recommended)

By increasing the annual capital funding amount from \$1.2M to \$3M, universal multi-family metering could largely be accomplished over approximately 17 years, starting in 2022.

Increased funding for this option could be achieved through a phased annual 1% increase to the water rate over the next four years, along with utilization of the Water Utility Reserve to make up the difference over that period. The recommended budgets outlined in Table 1 and the recommended rates presented in Tables 4 and 5 incorporate this option for universal metering for illustration purposes.

Option C: Increase Annual Funding Level to \$5M

By increasing the annual capital funding amount from \$1.2M to \$5M, universal multi-family metering could largely be accomplished over approximately 10 years, starting in 2022.

Increased funding for this option could be achieved through a higher annual rate increase or greater utilization of the Water Utility Reserve, neither of which are recommended. A higher rate impact would result in a greater burden to ratepayers on top of the projected

Metro Vancouver rate increases over the next four years (Table 2). Greater utilization of the Water Utility Reserve would reduce the funding available for unplanned emergency works and replacement of assets approaching end of life.

Should Option B be supported, the next steps for program implementation would include the following:

- Capital Project Submission. A Capital project submission will be included as part of the 2022 Capital Budget process.
- Communications. Unmetered multi-family complexes would receive pamphlets in multiple languages to inform them of the upcoming water meter installation, including educational content on water meters and water conservation.
- Utility Rate Development. The recommended water utility budget and rate options presented in this report incorporate Option B for universal metering. Budget and rate options incorporating this universal metering option would also be included in subsequent years for Council's consideration.
- Implementation Strategy. Sequencing of implementation would be determined based on several factors, such as ease of installation, cost, number of units in the complex, and building age. Complexes that involve a lower cost of installation, capture a greater number of units per meter, and have a longer expected remaining building life expectancy would be prioritized.

Operating Expenditures

The City's total operating expenditures (excluding Metro Vancouver costs and the increased funding to implement universal multi-family water metering) is below the Consumer Price Index (CPI). The main cost drivers for the operating expenditure increase include:

- Salary increase for union agreements;
- Equipment cost increases; and
- Vehicle cost increases.

The City's operating expenditures are carefully managed and considerable measures have been taken to minimize cost increases where possible. The average increase to the City's operating expenditures since 2017 has been 0.8%, which is below the CPI over the same period.

Provision (OBI and Fringe Adjustment)

Each year, the City's Capital Budget, including operating budget impacts (OBIs) associated with the capital projects, is approved subsequent to the approval of the utility budgets. Similarly, updates to the fringe rate were included after the approval of the utility budgets. OBIs and fringe amounts result in increases to the utility budget. Since the utility budget is already established, the impacts are included in the Consolidated 5 Year Financial Plan (2021-2025), funded by a one-time transfer from the Water Levy Stabilization Provision. In 2021, \$96,400 was transferred from the Water Levy Stabilization Provision and incorporated into the 2022 base level budget.

Construction Period Revenues

The City receives construction period revenues from development customers for water use during construction. This revenue is not budgeted due to its long-term variability. Any actual revenue will be transferred to the Water Levy Stabilization Provision for future rate stabilization funding.

Water Conservation Project Manager (Water Rate Options)

Options 2 and 3 include a request for a new Position Complement Control (PCC) for a Water Conservation Project Manager position. This position will manage water conservation measures, including outreach programs and education within the community. This will include monitoring regional water conservation developments, formulating the development of water conservation reduction strategies, and formulating an annual communications plan targeted at education and outreach strategies for proactive promotion of water conservation. Developing reporting metrics to measure overall community conservation performance and researching and implementing technological advancements relating to water conservation will also be a key aspect of this role. The position will administer and expand current initiatives, including Project WET, school outreach programs, rain barrel distribution, tap water stations, and public drinking fountains. This position will also serve as the key point of contact for annual water restrictions both internally and externally. The growing importance and focus on conservation supports the need for a dedicated role to allow operations staff to focus on core lines of business in delivery of safe drinking water to the community.

The funding for this position will be offset by increased hydrant permit revenue, and therefore does not impact the budget or rates.

Public Works Operations Coordinator – Water Backflow Device Management (Water Rate Options)

Options 2 and 3 include a request for a new, regular full time PCC for a Public Works Operations Coordinator responsible for cross-connection control and backflow prevention devices is requested as part of this report. This request does not impact the budget or rates since funding is provided for this work in the Water Operations budget. The role is currently assigned to temporary full-time employees; however, given the importance of ensuring the protection of potable water supplies from contamination or pollution due to backflow issues, a dedicated regular full-time position is recommended. This will ensure the area has a dedicated resource to coordinate control device installation, maintenance, tracking and reporting, as well as provide timely response to failure and repair issues, and overall management of customer service requests for these services.

Capital Infrastructure Replacement Program Contribution

The Capital Infrastructure Replacement Program facilitates proactive management of the City's water assets, allowing the City to maintain a high level of service by minimizing watermain breaks and service disruptions. Through proactive management of ageing infrastructure and implementation of the City's water pressure management program, the City has also successfully

reduced water losses due to pipe leakage in the water distribution system. This has resulted in additional cost savings from avoided Metro Vancouver water purchase costs.

The annual capital contribution for water-related infrastructure replacement is currently \$7.5M. The “Ageing Utility and Road Infrastructure Planning – 2019 Update” report identified a long-term annual funding requirement of \$9.2M, with a target funding range of \$8.6M to \$10.4M. All options include maintaining the current contribution to the Capital Infrastructure Replacement Program at this time, as it is relatively close to the target funding range. Current funding levels are adequate for short- to medium-term water infrastructure replacement needs; however, the funding gap defers the financial obligation to future years and bridging the funding gap will be an important consideration in future utility budgets.

Water Levy Stabilization Provision Contribution (Water Rate Options)

The Water Levy Stabilization Provision was established by Council as a funding source for water rate stabilization. The Provision has a balance of \$15.4M as of August 31, 2021, and is intended to offset significant increases in regional water purchase costs. Options 1 and 2 maintain a \$700,000 drawdown from the Provision, Option 3 reduces the drawdown to \$0.

Impact on 2022 Water Rates

The impact of the three budget options on water rates is shown in Tables 4 and 5. Table 4 shows the various options for metered customers; Table 5 shows the options for flat rate customers. The rates presented include fixed costs for metering, such as meter reading, billing, and maintenance. Italicized numbers represent the difference between 2021 rates and the 2022 optional rates.

Option 1 includes non-discretionary increases necessary to meet demands placed on the City by factors outside of the City’s direct control; Option 2 results in higher rates as it includes universal multi-family water metering; Option 3 results in the highest rates as it eliminates the drawdown from Provision and includes universal multi-family metering.

Table 4. 2022 Metered Rate Water Options (net of discount)

Customer Class	2021 Rates	Option 1	Option 2 (Recommended)	Option 3
Single-Family Dwelling (based on 325 m ³ average consumption)	\$466.22	\$479.90 <i>\$13.68</i>	\$484.36 <i>\$18.14</i>	\$491.31 <i>\$25.09</i>
Townhouse (based on 218 m ³ average consumption)	\$319.75	\$328.93 <i>\$9.18</i>	\$331.91 <i>\$12.16</i>	\$336.58 <i>\$16.83</i>
Apartment (based on 157 m ³ average consumption)	\$213.35	\$219.96 <i>\$6.61</i>	\$222.11 <i>\$8.76</i>	\$225.47 <i>\$12.12</i>
Metered Rate (\$/m ³)	\$1.3016	\$1.3437 <i>\$0.0421</i>	\$1.3574 <i>\$0.0558</i>	\$1.3788 <i>\$0.0772</i>

Table 5. 2022 Flat Rate Water Options (net of discount)

Customer Class	2021 Rates	Option 1	Option 2 (Recommended)	Option 3
Single-Family Dwelling	\$691.17	\$713.55 \$22.38	\$720.83 \$29.66	\$732.16 \$40.99
Townhouse	\$565.78	\$584.09 \$18.31	\$590.05 \$24.27	\$599.33 \$33.55
Apartment	\$364.58	\$376.39 \$11.81	\$380.23 \$15.65	\$386.20 \$21.62

The rates outlined in Tables 4 and 5 are net rates. The Waterworks and Water Rates Bylaw provides a 10% discount for utility bills paid prior to the due date. The rates shown in the bylaw will be before the 10% discount is applied, in order to achieve full cost recovery.

Options Summary

Option 1

- Represents the minimum increase necessary to maintain the current level of service.
- Maintains a drawdown of \$700,000 from the Water Levy Stabilization Provision.

Option 2 (Recommended)

- Maintains a drawdown of \$700,000 from the Water Levy Stabilization Provision.
- Includes Option B for universal multi-family water metering.
- Includes a new PCC for a Public Works Operations Coordinator position (no rate or budget impact).
- Includes a new PCC for a Water Conservation Project Manager position (no rate or budget impact).

Option 3

- Reduces the drawdown from the Water Levy Stabilization Provision to \$0.
- Includes Option B for universal multi-family water metering.
- Includes a new PCC for a Public Works Operations Coordinator position (no rate or budget impact).
- Includes a new PCC for a Water Conservation Project Manager position (no rate or budget impact).

Recommended Option

Staff recommend the budgets and rates identified in Option 2 for the Water Utility. This option includes Option B for universal multi-family water metering in order to implement the program within a reasonable timeframe while minimizing rate impacts. In addition, new PCCs are recommended for a Public Works Operations Coordinator position (no rate or budget impact) to manage cross-connection control and backflow prevention devices, and a Water Conservation Project Manager position (no rate or budget impact) to advance water conservation education within the community. This option maintains the existing \$700,000 drawdown from the Water Levy Stabilization Provision.

Sewer Utility

Table 6. Sewer Utility Budget

Key Budget Areas ¹	2021 Base Level Budget (Restated for Comparison ²)	Option 1 Non Discretionary Increases	Option 2 Option 1 and SCADA Project Manager Position ⁴	Option 3 (Recommended) Option 2 with No Rate Stabilization
<u>Expenditures</u>				
Salary	\$3,576,200	\$94,900	\$247,400	\$247,400
Operating Expenditures	\$2,559,600	\$1,900	\$1,900	\$1,900
GVS&DD O&M (Metro Vancouver)	\$24,078,800	\$807,700	\$807,700	\$807,700
GVS&DD Debt (Metro Vancouver) ³	\$3,412,300	\$405,400	\$405,400	\$405,400
Capital Infrastructure Replacement Program	\$5,806,400	\$0	\$0	\$0
Firm Price/Receivable	\$660,700	\$13,400	\$13,400	\$13,400
Overhead Allocation	\$585,400	\$0	\$0	\$0
Total Base Level Expenditure Budget	\$40,679,400	\$42,002,700	\$42,155,200	\$42,155,200
<u>Revenues</u>				
Provision (Rate Stabilization)	-\$600,000	\$0	\$0	\$600,000
Provision (OBI and Fringe Adjustments)	-\$69,600	\$69,600	\$69,600	\$69,600
Investment Income	-\$76,000	\$0	\$0	\$0
Firm Price/Receivable	-\$660,700	-\$13,400	-\$13,400	-\$13,400
Property Tax for GVS&DD Debt ³	-\$3,412,300	-\$405,400	-\$405,400	-\$405,400
Total Base Level Revenue Budget	-\$4,818,600	-\$5,167,800	-\$5,167,800	-\$4,567,800
Net Budgets	\$35,860,800	\$36,834,900	\$36,987,400	\$37,587,400
Net Difference Over 2021 Base Level Budget		\$974,100	\$1,126,600	\$1,726,600

¹ Key budget areas in green denote the key budget areas with options. Refer to “Project Manager (Sewer Rate Options)”, “Sewer Levy Stabilization Provision Contribution (Sewer Rate Options)” discussion on pages 17 and 18.

² The 2021 Base Level budget has been restated to include the approved Operating Budget Impacts and Fringe Adjustments approved with the 2021 Capital Budget and provided by the Finance Department respectively. Refer to “Provision (OBI and Fringe Adjustment)” discussion on page 17.

³ GVS&DD Debt (Metro Vancouver) charges levied through taxes based on property assessment value.

⁴ The salary (including fringe) for the SCADA Project Manager is \$152,500.

The following is an explanation of the budget reductions and increases in Table 6.

Metro Vancouver GVS&DD Sewer Levy

Richmond pays Metro Vancouver for bulk transmission and treatment of liquid waste on a flat rate basis. Metro Vancouver’s Sewer Levy comprises of an operations and maintenance (O&M) component as well as a debt component. The debt component, which is mainly due to the Gilbert Road Sewer Project, has historically been levied through taxes as a sewer debt levy and charged to property owners who are in sewer areas and based on property assessment values. Metro Vancouver’s GVS&DD O&M sewer levy is increasing by \$0.8M in 2022. This increase accounts for 89% of the non-discretionary expenditure increases proposed for the 2022 sewer rates.

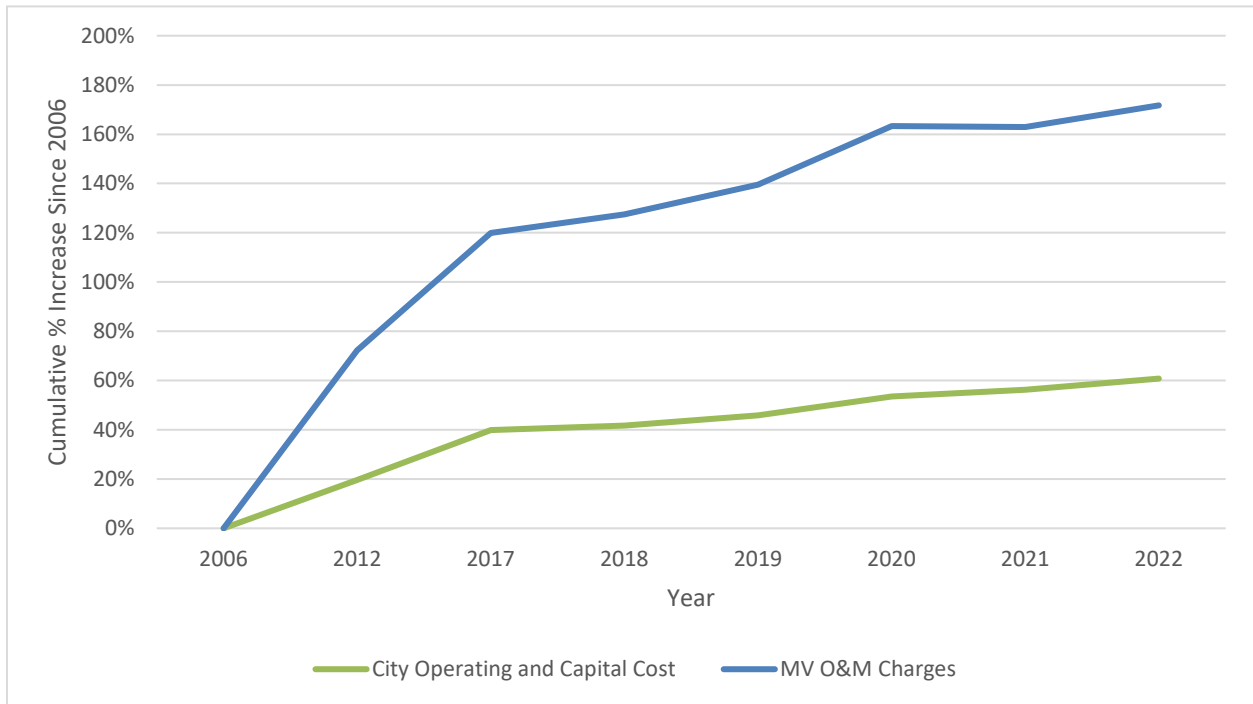
Richmond’s 2022 sanitary sewer rates are based on Metro Vancouver’s proposed 2022-2026 Financial Plan (Table 7). The 2022-2026 Financial Plan is expected to be reviewed by the Metro Vancouver Board on October 29, 2021. Staff will report back to Council for further consideration if the final approved rates are substantially different.

Table 7. Metro Vancouver 5-Year Overall Sewer Cost – Proposed 2022-2026 Financial Plan (Lulu Island Sewerage Area)

	2022	2023	2024	2025	2026
Sewer Levy – LSA (\$ Millions)	\$28.7	\$32.4	\$40.1	\$46.5	\$51.3
% Change	4.4%	13.0%	23.7%	15.9%	10.3%

Metro Vancouver rate increases for the Lulu Island Sewerage Area are significant, and are anticipated to continue rising over the next four years and beyond. Since 2006, Metro Vancouver’s O&M sewer levy has increased by 172%, or an average annual increase of 6.4%. This is notably higher than the City’s sewer utility rate increases, which have increased by 61% over the same period. Figure 4 provides a comparison of the City’s annual operating and capital cost increases compared to Metro Vancouver operations and maintenance sewer levy.

Figure 4. City Operating and Capital Cost Increases vs. Metro Vancouver Operations and Maintenance Sewer Levy Increase



As a result of these increases, Metro Vancouver costs have increased from accounting for 53% of Richmond’s sewer utility rate in 2006 (Figure 5) to 66% in 2022 (Figure 6). The increases in Metro Vancouver costs are a primary budget driver for the sewer utility.

Figure 5. 2006 Sewer Utility User Fee Breakdown

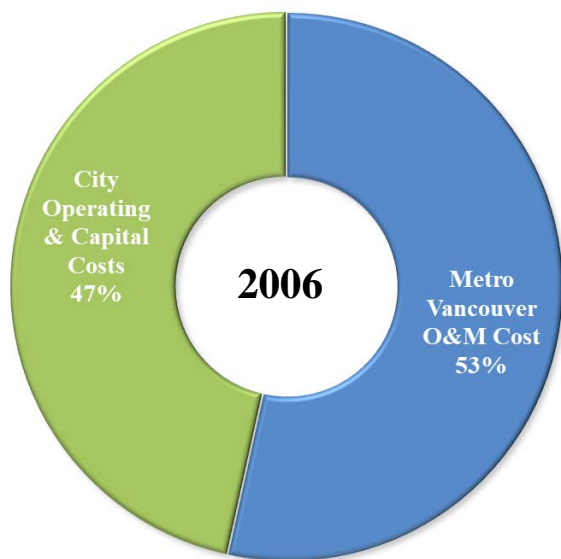
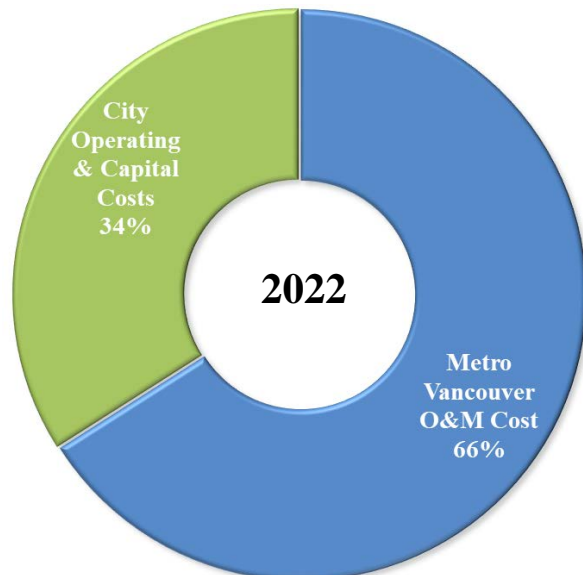


Figure 6. 2022 Sewer Utility User Fee Breakdown



Operating Expenditures

The City's operating budget expenditures have increased due to factors beyond the City's control, including:

- Salary increase for union agreements; and
- Electricity and natural gas increases.

The City's operating expenditures are carefully managed and considerable measures have been taken to minimize cost increases where possible. The average increase to the City's operating expenditures (excluding Metro Vancouver costs) since 2017 has been 1.8%, which is significantly below CPI over the same period.

Provision (OBI and Fringe Adjustment)

Each year, the City's Capital Budget, including operating budget impacts (OBIs) associated with the capital projects, is approved subsequent to the approval of the utility budgets. Similarly, updates to the fringe rate were provided by the City's Finance Department after the approval of the utility budgets. OBIs and fringe amounts result in increases to the utility budget. Since the utility budget is already established, the impacts are included in the Consolidated 5 Year Financial Plan (2021-2025), funded by a one-time transfer from the Sewer Levy Stabilization Provision. In 2021, \$69,600 was transferred from the Sewer Levy Stabilization Provision and incorporated into the 2022 base level budget.

Construction Period Revenues

The City receives construction period revenues from development customers for sewer use during construction. This revenue is not budgeted due to its long-term variability. Any actual revenue will be transferred to the Sewer Levy Stabilization Provision for future rate stabilization funding.

Project Manager - SCADA (Sewer Rate Options)

The City's supervisory control and data acquisition (SCADA) system is an essential operations tool used to remotely monitor and control critical infrastructure, such as the City's 39 drainage and 153 sanitary pump stations, for early identification of issues in order to avoid drainage and sanitary sewer failures. Operations staff monitor system performance, levels, and alarms on a 24/7 basis, not only to provide the community with protection from flooding and other associated hazards, but also to allow for timely maintenance and repairs in order to avoid costly infrastructure repairs, replacement and service disruptions.

As the use of SCADA has significantly expanded with additional data collection and analysis within drainage, sanitary, water and road networks, additional resources are needed in this area. To support this growing area, provide the necessary oversight, and allow for collection of data for analytics, Options 2 and 3 include the addition of a new PCC for a Project Manager position. This position will ensure the necessary oversight and future advancements in this area to manage growth and demand, incorporate business intelligence components, and ensure strategic alignment with future infrastructure planning and forecasting.

Capital Infrastructure Replacement Program

The annual capital contribution for sewer-related infrastructure replacement is currently \$5.8M. The “Ageing Utility and Road Infrastructure Planning – 2019 Update” report identified a long-term annual funding requirement of \$8.4M, with a target funding range of \$7.8M to \$9.1M. Due to significant Metro Vancouver Sewer Levy increases, all options maintain the current \$5.8M contribution to the Capital Infrastructure Replacement Program to limit increases to sewer rates. Current funding levels are adequate for short- to medium-term sanitary infrastructure replacement needs; however, the funding gap defers the financial obligation to future years and bridging the funding gap will be an important consideration in future utility budgets.

Sewer Levy Stabilization Provision (Sewer Rate Options)

The Sewer Levy Stabilization was established by Council as a funding source for sewer rate stabilization. The Provision has a balance of \$8.7M as of August 31, 2021 and is intended to offset increases in regional sewer collection and treatment costs.

The sewer utility currently has a \$600,000 drawdown to partially offset rate increases. Options 1 and 2 maintain the drawdown at \$600,000 and Option 3 reduces the drawdown from the Provision to \$0.

Impact on 2022 Sewer Rates

The impact of the three budget options on sewer rates is shown in Tables 8 and 9. Table 8 shows the various options for metered customers. Table 9 shows the options for flat rate customers. Italicized numbers represent the difference between 2021 and the 2022 optional rates.

Option 1 includes only the non-discretionary increases necessary to meet demands placed on the City by factors outside of the City’s direct control. Option 2 includes a new PCC for a Project Manager position to manage the expanding SCADA program. Option 3 includes the new position as well as reducing the Provision drawdown to \$0.

Table 8. 2022 Metered Rate Sewer Options (net of discount)

Customer Class	2021 Rates	Option 1	Option 2	Option 3 (Recommended)
Single-Family Dwelling (based on 325 m ³ average consumption)	\$407.06	\$413.43 \$6.37	\$415.19 \$8.13	\$422.05 \$14.99
Townhouse (based on 218 m ³ average consumption)	\$273.05	\$277.32 \$4.27	\$278.50 \$5.45	\$283.09 \$10.04
Apartment (based on 157 m ³ average consumption)	\$196.64	\$199.72 \$3.08	\$200.57 \$3.93	\$203.88 \$7.24
Metered Rate (\$/m ³)	\$1.2525	\$1.2721 \$0.0196	\$1.2775 \$0.0250	\$1.2986 \$0.0461

Table 9. 2022 Flat Rate Sewer Options (net of discount)

Customer Class	2021 Rates	Option 1	Option 2	Option 3 (Recommended)
Single-Family Dwelling	\$513.53	\$521.55 \$8.02	\$523.76 \$10.23	\$532.43 \$18.90
Townhouse	\$469.86	\$477.20 \$7.34	\$479.22 \$9.36	\$487.16 \$17.30
Apartment	\$391.33	\$397.44 \$6.11	\$399.12 \$7.79	\$405.73 \$14.40

The rates outlined in Tables 8 and 9 are net rates. The Drainage, Dyke and Sanitary Sewer System Bylaw provides a 10% discount for utility bills paid prior to the due date. The rates shown will be increased by 10% in the supporting bylaws to provide for a discount incentive while ensuring appropriate cost recovery.

Options Summary

Option 1

- Represents the minimum increase necessary to maintain the current level of service.
- Maintains \$600,000 impact on the Sewer Levy Stabilization Provision.

Option 2

- Includes a new PCC for a Project Manager position.
- Maintains \$600,000 impact on the Sewer Levy Stabilization Provision.

Option 3 (Recommended)

- Includes a new PCC for a Project Manager position.
- Reduces the drawdown from the Sewer Levy Stabilization Provision to \$0.

Recommended Option

Staff recommend the budgets and rates identified in Option 3 for the Sewer Utility. This option includes a new Project Manager position to manage the expanding SCADA program and eliminates the drawdown from Sewer Levy Stabilization Provision, in order to preserve the Provision for utilization in the future when larger Metro Vancouver sewer levy increases are anticipated.

Drainage and Diking Utility

The Drainage and Diking Utility was created to develop a reserve fund to operate, maintain, and upgrade Richmond's flood protection infrastructure. Since 2003, Council has approved increasing annual funding levels for the Drainage and Diking Utility from \$0.6M to its current level of \$13.4M.

At the April 12, 2021 Regular Council Meeting, Council adopted a 50-Year Implementation Period for an accelerated flood protection program with the objective of achieving \$30M in annual revenue by 2031, with implementation of the new rates to start in 2023. Staff will provide options for Council's consideration as part of the 2023 Utility Budgets and Rates report to commence acceleration of the program.

Drainage Operations and Maintenance

The drainage operating cost has been included in the City's operating budget since inception in 2001. It is appropriate for the Drainage and Diking Utility to fund both capital and operating, consistent with the Water Utility and Sewer Utility. As part of the 2021 budget, \$2M of drainage operations and maintenance was relocated from the operating budget to the Drainage and Diking Utility, as part of a multi-year phased approach. The flood protection budget and rate options continue phasing this funding source. Option 2 includes an additional \$1M transfer of drainage operations and maintenance from the operating budget to the Drainage and Diking Utility. The total drainage operating cost for 2022 is approximately \$5.6M.

Impact on Flood Protection Rates

Table 10 provides a summary of the proposed flood protection rates for each rate class and the impact on the net utility budget. The rates outlined in Table 10 are net rates. The bylaw provides a 10% discount for utility bills paid prior to the due date. The net rates shown will be increased by 10% in the supporting bylaws to provide for the discount incentive while ensuring appropriate cost recovery. Numbers in italics represent the difference between 2021 and 2022 optional rates.

Table 10. 2022 Flood Protection Rate Options (net of discount)

Rate Class	2021 Rates	Option 1 Non-Discretionary Increases and Growth	Option 2 (Recommended) Includes an Additional \$1M Transfer for Drainage Operations and Maintenance	Option 3 Recommended Increases to Achieve 2031 Target Rates, No Increase in Transfer of Operations and Maintenance to Drainage and Diking Utility
Multi-Family Residential	\$145.31	\$145.31 \$0.00	\$153.71 \$8.40	\$155.01 \$9.70
Single-Family Residential and Agricultural	\$154.55	\$156.33 \$1.78	\$172.51 \$17.96	\$175.29 \$20.74
Small or Stratified ICI (less than 800m ²)	\$154.55	\$156.33 \$1.78	\$172.51 \$17.96	\$175.29 \$20.74
Medium Non-Stratified ICI (between 800m ² and 10,000m ²)	\$488.60	\$489.54 \$0.94	\$498.04 \$9.44	\$499.51 \$10.91
Large Non-Stratified ICI, above 10,000m ²	\$977.18	\$988.46 \$11.28	\$1,090.71 \$113.53	\$1,108.31 \$131.13
Net Budget	\$13,391,600	\$13,628,600	\$14,628,600	\$14,793,252
Capital Infrastructure Replacement Program	\$10,862,600	\$10,862,600	\$10,862,600	\$12,264,252
Drainage Operations and Maintenance	\$2,000,000	\$2,237,000	\$3,237,000	\$2,000,000
Box Culvert Preventative Maintenance Program	\$380,000	\$380,000	\$380,000	\$380,000
Dyke Repair Program	\$149,000	\$149,000	\$149,000	\$149,000
Net Difference Over 2021 Base Level Budget		\$237,000	\$1,237,000	\$1,401,652

Options Summary

Option 1

- Includes non-discretionary increases and revenue increase due to growth.
- Maintains funding for the Capital Infrastructure Replacement Program at \$10.9M.
- Maintains existing funding for the Box Culvert Preventative Maintenance Program and the Dike Repair Program.

Option 2 (Recommended)

- Includes non-discretionary increases and revenue increase due to growth.
- Includes an additional \$1M transfer of drainage operations and maintenance from the operating budget to the Drainage and Diking Utility.
- Maintains funding for the Capital Infrastructure Replacement Program at \$10.9M.
- Maintains existing funding for the Box Culvert Preventative Maintenance Program and the Dike Repair Program.

Option 3

- Maintains \$2M of the existing drainage operations and maintenance funded by the Drainage and Diking Utility.
- Includes the average annual rate increase required to achieve the target annual revenue of \$30M by 2031 to support the accelerated flood protection program adopted at the April 12, 2021 Regular Council Meeting as part of the 50-Year Implementation Period.
- Increases funding for the Capital Infrastructure Replacement Program to \$12,264,252.

Recommended Option

Staff recommend the budgets and rates identified in Option 2 for the Drainage and Diking Utility. This option includes a \$1M additional transfer of drainage operations and maintenance from the operating budget to the Drainage and Diking Utility, along with non-discretionary increases and revenue increase due to growth. This option makes progress towards relocating the drainage operations and maintenance funding from the operating budget to the Drainage and Diking Utility, and postpones more significant rate increases for the accelerated program until 2023, per Council direction.

Solid Waste and Recycling

Table 11. 2022 Solid Waste and Recycling Budget

Key Budget Areas ¹	2021 Base Level Budget	Option 1 Base Level Services	Option 2 Zero Net Cost Mosquito/Rodent Environmental Coordinator ² Plus \$150,000 for Rate Stabilization	Option 3 (Recommended) Option 2 plus Addition of Two Seabins, a Multi-Family Grease Collection Pilot and \$300,000 for Rate Stabilization
Expenditures				
Salaries	\$4,303,200	\$46,900	\$196,500	\$201,400
Contracts	\$10,278,900	\$341,600	\$341,600	\$402,200
Equipment/Materials	\$991,600	\$138,700	\$138,700	\$204,100
Disposal Costs	\$1,614,600	\$175,600	\$175,600	\$175,600
Recycling Materials Processing	\$3,950,900	\$187,100	\$187,100	\$211,100
Container Rental/Collection	\$370,500	\$105,200	\$105,200	\$105,200
Operating Expenditures	\$337,600	\$8,600	\$8,600	\$23,600
Agreements	\$197,700	\$67,000	-\$72,700	-\$72,700
Rate Stabilization	\$368,400	\$0	\$150,000	\$300,000
Base Level Expenditure Budget	\$22,413,400	\$23,484,100	\$23,644,000	\$23,963,900
Revenues				
General Application Fees	-\$100,000	-\$12,600	-\$12,600	-\$12,600
Recycling Materials	-\$287,100	-\$43,000	-\$43,000	-\$43,000
Garbage Tags	-\$17,500	-\$2,500	-\$2,500	-\$2,500
Unrealized Discounts	-\$108,000	\$0	\$0	\$0
Revenue Sharing Grant/Other	-\$9,100	-\$5,000	-\$5,000	-\$5,000
Recycling Commission	\$0	-\$100,000	-\$100,000	-\$100,000
Recycle BC Incentive	-\$2,067,200	-\$328,800	-\$328,800	-\$328,800
Provision (OBI Adjustment)	-\$1,061,200	\$136,900	\$136,900	-\$33,000
Base Level Revenue Budget	-\$3,650,100	-\$4,005,100	-\$4,005,100	-\$4,175,000
Net Budget	\$18,763,300	\$19,479,000	\$19,638,900	\$19,788,900
Net Difference Over 2021 Base Level Budget		\$715,700	\$875,600	\$1,025,600

¹ Key budget areas in green denote the key budget areas with options.

² The salary (including fringe) for the Mosquito/Rodent Environmental Coordinator is \$112,541.

The following is an explanation of the budget reductions and increases outlined in Table 11.

Salaries

Salary increase estimates relating to union agreements are the primary utility budget increases.

Costs under Options 2 and 3 include the addition of a new PCC for an Environmental Coordinator to manage rodent and mosquito control. These functions transferred to the City's responsibility when the Vancouver Coastal Health Authority stopped providing this service under a long-standing arrangement with the City effective March 30, 2021. This was outlined in a report presented at the March 8, 2021 Council meeting entitled, "Vancouver Coastal Health - Termination of Service Agreement". The scope of the work and duties required to manage this program are not able to be absorbed within the current staff complement. This salary cost increase is predominantly offset by reallocating agreement funding previously used to pay Vancouver Coastal Health for performing these services on behalf of the City. Salary costs are further increased under Option 3 for servicing costs associated with the proposed Seabin project, discussed in more detail later in this report. There is no resulting rate impact as these costs are offset by provision funding.

Contracts

Contract costs are increased in accordance with overall growth in the number of units serviced and escalation clauses as stipulated in the City's solid waste and recycling services contract, which commenced January 1, 2019 for a maximum 10-year term. Contract costs are increased under Option 3 to undertake an exploratory multi-family grease collection pilot initiative for collection of waste grease from a limited number of multi-family households. The purpose of this pilot program is to determine the feasibility of collecting waste grease from multi-family households and the impact such a program would have on minimizing grease build-up which can lead to blockages and breaks in the sanitary sewer system. This proposed initiative is discussed in more detail later in this report.

Equipment/Material Costs

Equipment and material costs increases are associated with demand replacement of recycling receptacles for residents. There has also been a notable increase in the cost of equipment, materials and supplies in general, principally associated with inflationary cost factors. The various items and equipment needs to support litter collection and recycling depot operations has also increased to maintain service levels and meet demand growth.

Equipment and material costs are increased under Option 3 for the purchase and installation of waste Seabins under a pilot program. These 'waste' bins would be installed in two strategic locations in the water along the Steveston waterfront to test the capability of the bins to collect floating debris. If approved, this initiative would be undertaken and evaluated during 2022 with the results reported to Council. This proposed initiative is discussed in more detail later in this report.

Equipment and material costs are further increased under Option 3 associated with the multi-family grease collection pilot initiative.

Disposal Costs

The Metro Vancouver regional tipping fee for local governments will increase by \$4 from \$117/tonne in 2021 to \$121/tonne for 2022. The \$5 per load transaction fee remains in effect and is unchanged. Cost increases are also driven by additional volumes of materials received from residential waste drop off at the Vancouver Landfill from the City's garbage disposal voucher program and from that collected through the large item service program.

Recycling Materials Processing

Recycling materials processing costs are increased to meet the City's obligations under the current organics processing contract in accordance with stipulated escalation clauses. Processing costs to manage increasing volumes of materials dropped off at Ecowaste by residents have also escalated, with residential drop-off quantities increasing by greater than 15%. Costs for handling materials at the recycling depot have also increased due to higher volumes of furniture, tires, fire extinguishers and similar items being dropped off by residents.

Costs under Option 3 are increased for processing waste grease under the proposed multi-family grease collection pilot initiative.

Container Collection Costs

Container collection costs are increased primarily associated with handling increased quantities of various items dropped off at the Recycling Depot by residents, including yard trimmings, furniture and general recycling materials.

Operating Expenditures

The marginal increases in operating expenditures under Options 1 and 2 are associated with safety attire for litter and recycling depot operations staff. Option 3 also includes costs for residential outreach associated with the proposed multi-family grease collection pilot program.

Agreements

Option 1 costs include rodent control management associated with banning rodenticides on City-owned properties as outlined in a staff report presented at the January 25, 2021 Council meeting. These costs were funded from provision in 2021. Future year's costs (starting in 2022) will need to be funded from the rates charged to residents to avoid continuing to draw the funding for these costs from the provision. Agreement costs under Options 2 and 3 are reallocated from the previous vendor-based arrangement (e.g. Vancouver Coastal Health Authority) to fund the new Environmental Coordinator position requested to administer both the rodent and mosquito control programs by City staff.

General Solid Waste & Recycling Rate Stabilization provision (Rate Options)

The General Solid Waste and Recycling Provision was established by Council as a funding source for rate stabilization. The provision has a balance of \$4 million as of August 31, 2021. Option 2 includes a rate stabilization contribution increase of \$150,000 to fund future recycling programs or infrastructure initiatives, such as Recycling Depot upgrades. Under Option 3, the rate stabilization contribution is increased by \$300,000.

Single-Use Plastic and Other Items

Council adopted *Single-Use Plastic and Other Items Bylaw No. 10000* at their September 27, 2021 meeting. Implementation of the bylaw is now underway, as outlined in the staff memorandum to Mayor and Councilors dated September 21, 2021 entitled “Update on the Single-Use Plastic and Other Items Bylaw No. 10000”. Within the budget amounts in Table 11, all options include implementation costs of \$560,000 as per prior Council approvals. This allows for the bylaw implementation to proceed. There is no impact to rates associated with this expenditure as there is a corresponding transfer from provision funding to offset these costs. Staff will review and evaluate ongoing requirements for support and enforcement of the bylaw as implementation proceeds and report to Council accordingly.

Commercial Recycling Services Review

This project has experienced delays due to the impacts to business caused by the COVID-19 pandemic. The purpose of this initiative is to undertake a detailed review and scoping exercise to establish opportunities for enhanced recycling for the commercial sector. Recycling rates in the commercial sector are among the lowest in accordance with Metro Vancouver’s waste composition audits, at 43%. The activities for this project include consultation with business, a review of current practices, limitations, challenges, etc., as well as a review of the waste collection industry’s current practices and capacity as it relates to commercial recycling services. The outcome would be an approach and strategy, with recommendations, to present to Council for further review and consideration.

The costs and temporary resources needed to undertake this project are included under all options at a cost of approximately \$370,000. Staff are currently in the process of retaining the resources needed to undertake this initiative, to commence in the fourth quarter, 2021. As the suggested review involves a scoping study to identify potential options for the commercial sector, the associated costs are offset by a contribution from provision in order that there is no impact to rates. Only after the results of the study are completed and reported back to Council would a recommended approach for City supported solutions be identified (with budget and rates identified).

Service Level Enhancements Discussion

Multi-Family Grease Collection Pilot

The purpose of this proposed initiative is to collect waste grease from up to ten multi-family sites, or approximately 500-800 units for a one-year period. Residents would be provided with containers which they would fill with their used household cooking grease (such as from deep

frying or from that generated by frying food (meats, vegetables, etc.)). These sealed containers would be placed in City provided carts and collected weekly from each complex. A replacement supply of containers would be made available for residents to use.

The collected grease will be taken to a processing facility where it will be de-packaged and put through an anaerobic digester (in the Fraser Valley area). The grease materials will be used to produce renewable natural gas (RNG) through a direct connection to a natural gas pipeline. The empty containers will be recycled.

The estimated cost for the one-year pilot is \$115,000 inclusive of processing and collection costs, collection carts and outreach. The City's current solid waste and recycling services contractor, Sierra Waste Services, will undertake the collection process and otherwise support delivery of this initiative since they have existing collection equipment they can use for this work and have familiarity with collection methods and routes at these complexes.

Staff will evaluate the feasibility of this type of collection program for residents as well as any noted reductions or other impacts in the sanitary system. In anticipation of this pilot, Sewer Operations has established a program to measure the baseline amounts of grease in the sewer system in the proposed pilot location/s. This will provide the ability to determine if this type of collection program results in reduced accumulations of grease in the City's sanitary system.

This type of program could prove beneficial by reducing maintenance and repair costs associated with grease accumulations in the City's sewer infrastructure. There is also incentive for homeowners to participate, since they can experience sewer backups and blockages in their internal sewer systems, resulting in costly repairs. These are costs which may impact individual homeowners' insurance.

As noted through staff's research, grease build-up in municipal sanitary sewer systems is a common challenge in every major city both nationally and internationally. Research into initiatives undertaken by other cities has included resident education and awareness of the issue, coupled with residential drop-off sites for household grease (similar to that provided at the City's recycling depot). Some cities have encouraged residents to use foil-based bags or containers to capture grease and dispose in the garbage. Residents are also encouraged to deposit small amounts of household grease into their green bins. Despite this, grease build-up remains an ongoing and difficult challenge to address. There are approximately 30 complete or partial sewer blockages each year in Richmond, which can average approximately \$1,000 per incident to address. A broken sanitary forcemain as a result of grease accumulations can cost upwards of \$1.5 million or more to repair. Annual preventative maintenance programs to reduce grease accumulations in sanitary sewer mains costs approximately \$200,000. If approved, this pilot initiative will be a unique approach undertaken by the City to help evaluate strategies to address this challenging issue.

If approved, staff will evaluate and report to Council with findings and recommendations from this pilot initiative. As the nature of this initiative is an exploratory pilot, it is recommended that the costs under Option 3 be offset from provision funding, resulting in no increase in the rates charged to residents.

Seabin Pilot Project

The purpose of this proposed initiative is to reduce plastic litter floating in the waters within Steveston Harbour, and to further increase overall awareness of the issue of marine plastic pollution. The Seabin is a floating debris interception device that is designed to be installed in any water body with a calm environment. A floating structure with electrical service is required to attach to the Seabin. The Seabin moves up and down with the tide collecting all floating materials as water is sucked in from the surface and passed through a catch bag inside, leaving litter and debris trapped for disposal. It is estimated that one Seabin can collect 3.9 kilograms of debris in one day, filtering as much as 1.4 metric tonnes of trash in one year. Staff are in discussions with the Steveston Harbour Authority to determine their interest in working with the City, whereby the City would install two Seabins along the Fisherman’s Wharf located at 3800 Bayview Street and maintain all aspects of the bin using City staff resources.

The City will work to conduct a waste characterization study to identify the types of materials being collected by the Seabins. This will help inform what the most common items are, and identify potential gaps within City programs and communication on proper disposal options. Educational signage that will spur community conversation and bring awareness to the greater issue of plastic pollution within our local waterways will be installed. This initiative further supports the City’s actions around the *Single-Use Plastic and Other Items Bylaw No. 10000* to reduce unnecessary waste and pollution.

The estimated annual cost for two Seabins is approximately \$55,000, inclusive of installation, maintenance, collection, communication and contractor costs. Litter collections operations staff will undertake the collection, processing and day-to-day maintenance of the Seabins. As the nature of this initiative is a pilot, it is recommended that the costs under Option 3 be offset from provision funding, resulting in no increase in the rates charged to residents associated with this program.

If approved, staff will evaluate and report to Council with findings and recommendations from this pilot initiative.

Construction Period Revenues

The City receives construction period revenues from development customers for solid waste and recycling during construction. This revenue is not budgeted due to the long term variability in these revenues. Any actual revenues will be transferred to the General Solid Waste and Recycling provision for future rate stabilization funding.

Revenues – General Solid Waste and Recycling Provision

Recycling Material Revenues

Recycling material revenues are increased associated with producer responsibility payments for increased quantities of materials received at the recycling depot. These represent payments from industry stewards based on overall quantities received. There have been notable increases in volumes of lights, appliances, power tools, electronics, motor oil, lead acid batteries, and paint dropped by residents at the recycling depot.

Recycling Commission

Metro Vancouver will introduce a recycling depot funding strategy in 2022 which recognizes the contribution that municipally operated recycling depots provide to the regional system. The strategy, which was approved by the GVS&DD Board on April 30, 2021, serves to create equity by providing annual funding to those cities which operate their own recycling depots, such as Richmond. The amount represents a tipping fee credit calculated based on population. The tipping fee credit commences in partial form in 2022, and increases to a maximum amount as regional recycling depots are constructed, expected in 2024. The costs, which will be paid to approximately five communities including Richmond, will be recovered by the region as part of the overall tipping fee assessed to all system users. The 2022 payment to Richmond is not yet determined. An estimated amount of \$100,000 is reflected in the budget and rates.

To qualify for the funding, the City would enter into an agreement with Metro Vancouver. The key terms are continuing to be discussed and negotiated. Preliminary expected terms are as follows:

- Agree to operate as part of the regional recycling system under agreement with GVS&DD which would permit non-Richmond residents to use the City's recycling depot.
- Allow any resident or business within the GVS&DD area to use the recycling depot, unless prohibited under extended producer responsibility agreements.
- Accept for free the base materials defined under the agreement and as expanded by Metro Vancouver. Base materials include items such as batteries, Styrofoam, paper, beverage containers, pesticides, books, film packaging, plastics, cellular phones, glass packaging, propane tanks, cooking oil, gasoline, small appliances and power tools, lamps and light fixtures, smoke and carbon monoxide alarms, cardboard, scrap metal (including appliances and outdoor power equipment), electronics, paint products and solvents, used oil and antifreeze.
- Operate the depot seven days per week, a minimum of eight hours per day, excluding statutory holidays.
- Annual payments by GVS&DD are subject to increases based on the consumer price index.
- Retain the ability to terminate the agreement with six months' notice provided.
- The City maintains its autonomy and discretion with respect to its ownership and operation of the recycling depot.

This report seeks approval for the General Manager of Engineering and Public Works to enter into the agreement with GVS&DD, per the key terms outlined above.

Staff will evaluate the impacts of the City's recycling depot serving as a regional facility for these base materials and will propose operating criteria and conditions for incorporation into Richmond's Solid Waste and Recycling Regulation Bylaw 6803.

Recycle BC Incentive

The net Recycle BC revenue incentive is adjusted to offset inflationary cost increases in order to maintain no net impact in the Blue Box/Multi-Family Recycling Rate. Overall, the Recycle BC program is expected to generate net revenues of approximately \$360,000 for 2022 and can be deposited into the General Solid Waste and Recycling provision account subject to Council approval. This is in alignment with previous Council direction (November 25, 2013) when the decision to join Recycle BC was made.

Impact on 2022 Rates

The impact of the budget options to ratepayers is provided in the tables which follow. The principal reason for the increase in 2022 relates to inflationary contract costs stipulated in existing contracts, disposal cost increases, and costs associated with handling increasing quantities of materials collected from residents. Numbers in italics represent the difference between 2021 rates and 2022 optional rates.

Table 12 provides total costs based on standard garbage cart sizes for single-family (240L) and townhouse (120L). Table 13 provides a more detailed breakdown of Option 3 rates based on the four different garbage cart size options that are available to residents in single-family and townhouse units. The percentage of container sizes subscribed by each customer class is also presented for reference. Residents are able to reduce or increase the amount they pay based on the cart size they select for garbage collection services.

Table 12. 2022 Solid Waste and Recycling Rate Options (net of discount)

Customer Class	2021 Rates	Option 1	Option 2	Option 3 (Recommended)
Single-Family Dwelling (Standard 240L Cart)	\$387.65	\$397.40 <i>\$9.75</i>	\$399.20 <i>\$11.55</i>	\$401.00 <i>\$13.35</i>
Townhouse (Standard 120L Cart)	\$267.65	\$275.90 <i>\$8.25</i>	\$277.70 <i>\$10.05</i>	\$279.50 <i>\$11.85</i>
Apartment	\$126.10	\$129.55 <i>\$3.45</i>	\$131.35 <i>\$5.25</i>	\$133.15 <i>\$7.05</i>
Business Rate	\$37.60	\$40.89 <i>\$3.29</i>	\$41.25 <i>\$3.65</i>	\$41.61 <i>\$4.01</i>

Table 13. 2022 Single-Family and Townhouse Net Rates by Garbage Cart Size (Per Recommended Option 3)

Cart Size	Single Family		Townhomes	
	Full Service Rate (Including Recycling, Organics, Other Services)	Approximate Percent - Subscribed Size	Full Service Rate (Including Recycling, Organics, Other Services)	Approximate Percent - Subscribed Size
80L	\$349.50	4%	\$254.25	16%
120L	\$374.75	11%	\$279.50	75%
240L	\$401.00	79%	\$305.75	8%
360L	\$508.75	6%	\$413.50	1%

The rates outlined in Tables 12 and 13 are net rates. The Solid Waste & Recycling Regulation bylaw provides a 10% discount for utility bills paid prior to the due date. The rates shown in the bylaw will be before the 10% discount is applied.

Regional Issues

In 2022, garbage tipping fees for municipal loads will increase by \$4 per tonne or to \$121 per tonne. Tipping fees are projected to increase to \$128 per tonne in 2023; \$135 per tonne in 2024; \$142 per tonne in 2025; and \$149 per tonne in 2026.

In addition to standard operating programs, Metro Vancouver intends to pursue an update to the region’s solid waste management plan to advance zero waste and incorporate circular economy principles. Other key activities to target in 2022 include completion and opening of the United Boulevard and Central Surrey Recycling and Waste Centres; focus on support for various campaigns including textiles, single-use items, food waste, illegal dumping, the annual Zero Waste Conference, and related initiatives. Metro Vancouver will also continue to support the National Zero Waste Council to advance waste prevention and circularity within Metro Vancouver and across Canada.

Options Summary

Option 1

- Represents full recovery via rates of all program costs, including costs associated with managing increasing volumes of recycling materials collected from residents.
- Meets the City’s contractual obligations related to inflationary aspects of agreements and contracts.
- Maintains the rodent control management associated with banning rodenticides on City-owned properties as approved by Council.
- Includes funding to implement the City’s *Single-Use Plastic and Other Items Bylaw No. 10000* and undertake a Commercial Recycling Services Review, offset by provision funding.
- Includes entering into an agreement with the Greater Vancouver Sewerage and Drainage District for the recycling depot funding strategy as described in “Recycling Commission” on page 30.

Option 2

- Represents full recovery via rates of all program costs, including costs associated with managing increasing volumes of recycling materials collected from residents.
- Meets the City's contractual obligations related to inflationary aspects of agreements and contracts.
- Maintains the rodent control management associated with banning rodenticides on City-owned properties as approved by Council.
- Adds \$150,000 of rate stabilization funding to set aside for future recycling programs and infrastructure initiatives.
- Includes funding to implement the City's *Single-Use Plastic and Other Items Bylaw No. 10000* and undertake a Commercial Recycling Services Review, offset by provision funding.
- Includes a new PCC request for a full time Environmental Coordinator position to coordinate and administer the rodent and mosquito control programs. Vancouver Coastal Health Authority terminated their agreement with the City to provide these services effective March 30, 2021.
- Includes entering into an agreement with the Greater Vancouver Sewerage and Drainage District for the recycling depot funding strategy as described in "Recycling Commission" on page 30.

Option 3 (Recommended)

- Represents full recovery via rates of all program costs, including costs associated with managing increasing volumes of recycling materials collected from residents.
- Meets the City's contractual obligations related to inflationary aspects of agreements and contracts.
- Maintains the rodent control management associated with banning rodenticides on City-owned properties as approved by Council.
- Adds \$300,000 of rate stabilization funding to set aside for future recycling programs and infrastructure initiatives.
- Includes funding to implement the City's *Single-Use Plastic and Other Items Bylaw No. 10000* and undertake a Commercial Recycling Services Review, offset by provision funding.
- Includes a new PCC request for a full time Environmental Coordinator position to coordinate and administer the rodent and mosquito control programs. Vancouver Coastal Health Authority terminated their agreement with the City to provide these services effective March 30, 2021.
- Includes a Seabin pilot program, where two water collection bins are installed along the Steveston Waterfront in cooperation with the Steveston Harbour Authority.
- Includes funding to undertake a multi-family grease collection pilot program, where waste grease collected is de-packaged and converted into renewable natural gas and the impacts of grease build up in sanitary sewer system is monitored. It is recommended that the cost of this program be funded from provision, resulting in no increase to the rates charged to residents associated with this initiative.
- Includes entering into an agreement with the Greater Vancouver Sewerage and Drainage District for the recycling depot funding strategy as described in "Recycling Commission" on page 30.

Recommended Option

Staff recommend the budget and rates identified in Option 3 for Solid Waste and Recycling. This option provides full funding for all existing programs in 2022 and ensures appropriate resources are in place to support these programs. Additionally, this option allows for a Seabin collection pilot and multi-family grease collection pilot program to be undertaken in 2022 and adds rate stabilization funding to put toward future recycling programs and initiatives.

Total Recommended 2022 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 rate options as follows:

- Option 2 is recommended for Water
- Option 3 is recommended for Sewer
- Option 2 is recommended for Drainage and Diking
- Option 3 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. Numbers in italics represent the difference between 2021 rates and 2022 proposed rates.

Table 14. 2022 Estimated Total Net Rates to Metered Customers

Customer Class	2021 Estimated Net Metered Rates	2022 Estimated Net Metered Rates (Recommended)
Single-Family Dwelling	\$1,415.48	\$1,479.92 <i>\$64.44</i>
Townhouse (on City garbage service)	\$1,005.76	\$1,048.21 <i>\$42.45</i>
Townhouse (not on City garbage service)	\$910.26	\$947.66 <i>\$37.40</i>
Apartment	\$681.40	\$712.85 <i>\$31.45</i>
Commercial/Industrial		
Metered Water (\$/m ³)	\$1.3016	\$1.3574 <i>\$0.0558</i>
Metered Sewer (\$/m ³)	\$1.2525	\$1.2986 <i>\$0.0461</i>
Business: Garbage	\$37.60	\$41.61 <i>\$4.01</i>
Business: Drainage & Diking (800 m ² to 10,000 m ²)	\$488.60	\$498.04 <i>\$9.44</i>
Business: Drainage & Diking (above 10,000 m ²)	\$977.18	\$1,090.71 <i>\$113.53</i>
Business: Drainage & Diking (Others)	\$154.55	\$172.51 <i>\$17.96</i>

Table 15. 2022 Total Net Rates to Flat Rate Customers

Customer Class	2021 Net Flat Rates	2022 Net Flat Rates (Recommended)
Single-Family Dwelling	\$1,746.90	\$1,826.77 \$79.87
Townhouse (on City garbage service)	\$1,448.60	\$1,510.42 \$61.82
Townhouse (not on City garbage service)	\$1,353.10	\$1,409.88 \$56.78
Apartment	\$1,027.32	\$1,072.82 \$45.50

The rates outlined in Tables 14 and 15 are net rates. The bylaws provide a 10% discount for utility bills paid prior to the 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 recommended rates outlined above result in gross rate charges to residents as outlined in Attachment 1. These rates would be reflected in the amending bylaws for each utility area, should they be approved by Council.

Flat Rate and Metered Customers

All single-family and ICI properties in the City are metered. The single-family residential flat rate will continue to apply to duplex units that share one water service. These units require significant internal plumbing separation work to facilitate metering and were not included in the universal metering program. 49% of townhouses and apartments are still on flat rate utility services; however, the number of units with meters will continue to increase with on-going volunteer and mandatory water meter programs for multi-family dwellings. The number of units by customer class is presented in Table 16.

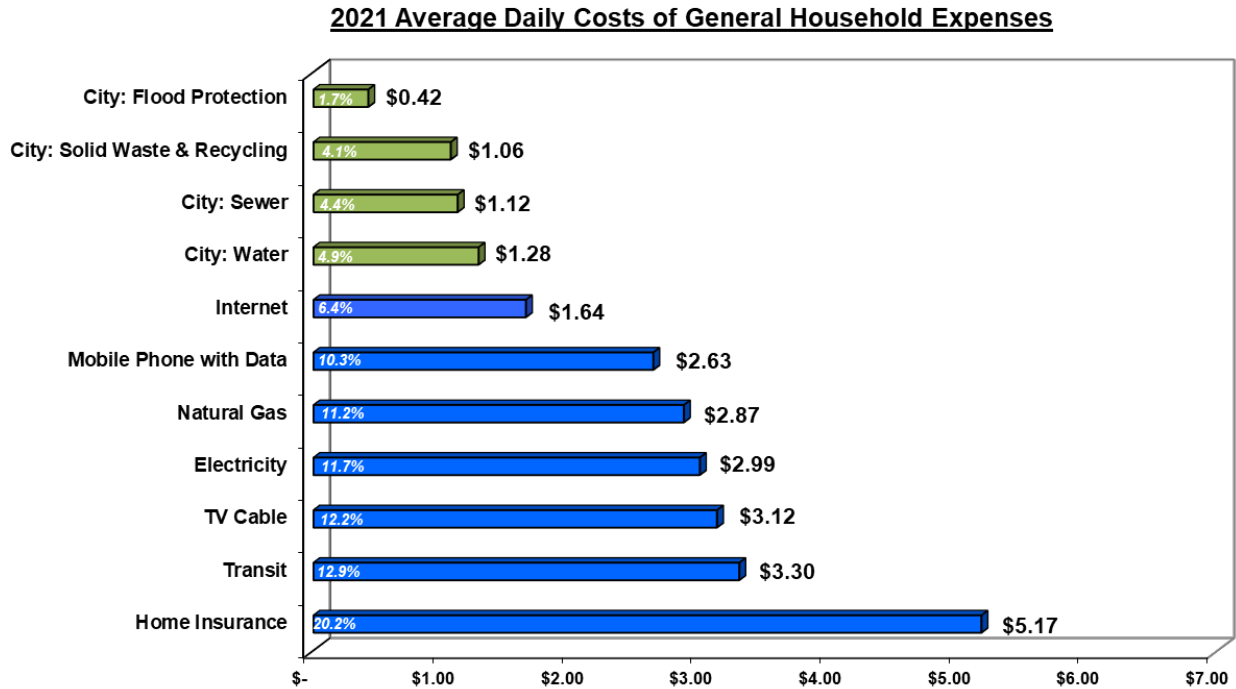
Table 16. Flat Rate and Metered Property Unit Counts

	2021 percentages (Mid-Year)	2021 Counts (Mid-Year)	2022 Counts (Mid-Year Estimated)	Difference
Single-Family Residential	Flat Rate (3%)	786	786	0
	Metered (97%)	27,899	27,943	44
Townhouse	Flat Rate (63%)	11,482	11,158	-324
	Metered (37%)	6,609	6,991	382
Apartment	Flat Rate (42%)	14,798	14,412	-386
	Metered (58%)	20,702	22,219	1,517
Total Residential Units		82,276	83,509	1,233
Commercial Units	Metered	3,630	3,630	0
Farms	Metered	49	49	0

Comparison of 2021 City Utility Rates to Other Major Household Expenses

City utility fees represent approximately 15% of total average daily household expenses and are of good value when compared with common household expenses. Water, sewer, solid waste and recycling, and flood protection services are fundamental to the quality of life for residents and necessary infrastructure to support the local economy. Figure 7 illustrates the value of these services when compared to other common daily household expenses.

Figure 7. Cost Comparison of Main Household Expenses for a Single-Family Dwelling

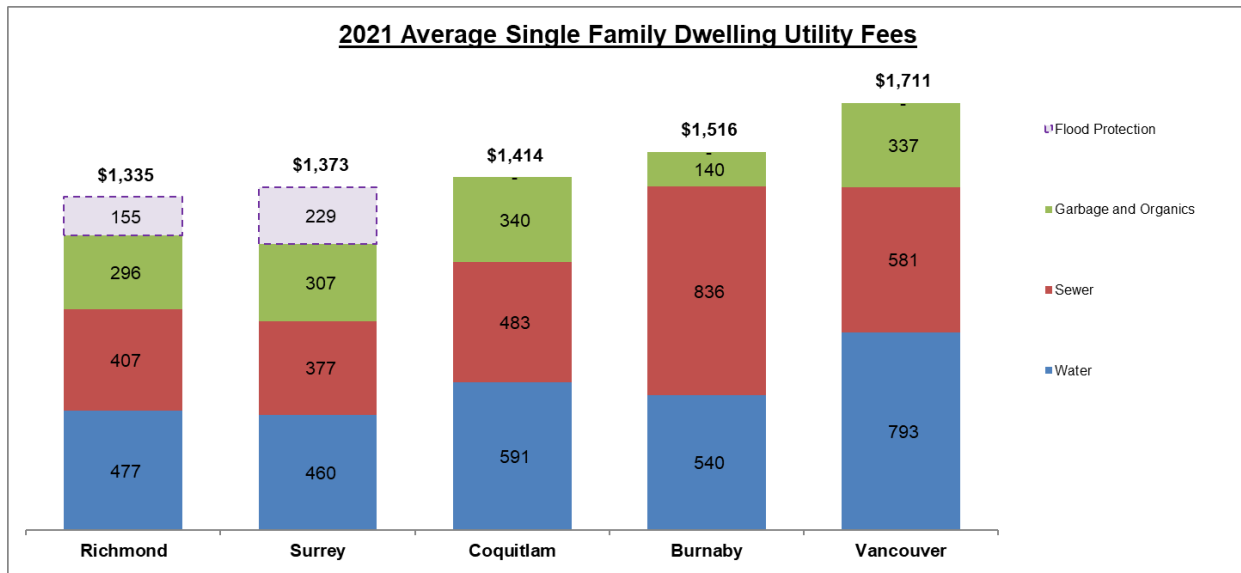


Source: BC Hydro, Fortis BC, Rogers, Shaw, TD Insurance, and Translink

Comparison of 2021 Comparator Municipality Utility Fees

Figure 8 provides a comparison between the City's 2021 average single-family dwelling utility fees with comparator municipalities. All utility fees presented below are net of applicable discounts. Richmond and Surrey water and sewer rates include applicable metering costs and are based on an average annual consumption of 325m³ and 345m³ respectively, as single-family dwellings in these cities are 100% and 70% metered respectively; all other comparator municipalities are predominately charging a flat rate for water and sewer services. Blue box, general recycling and waste management fees have been excluded in the garbage and organics fee presented for comparison purposes, as not all municipalities offer the same services. Coquitlam, Burnaby and Vancouver do not have applicable rates for drainage and flood protection services. The City of Richmond offers this additional and critical service while still maintaining the lowest combined fee for utility services.

Figure 8. Comparison of 2021 Average Single-Family Dwelling Utility Fees



Sources:

- City of Richmond - Based on metered rate
 - Waterworks and Water Rates Bylaw No. 5637; Amendment Bylaw No. 10220
 - Drainage, Dyke and Sanitary Sewer System Bylaw No. 7551; Amendment Bylaw No. 10221
 - Solid Waste & Recycling Regulation Bylaw No. 6803; Amendment Bylaw No. 10222
- City of Surrey - Based on metered rate
 - Waterworks Regulation and Charges By-law 2007, No 16337; Amendment By-law No. 20212
 - Sanitary Sewer Regulation and Charges By-law 2008, No. 16611; Amendment By-law No. 20210
 - Waste Management Regulations and Charges Bylaw 2015, No. 18412; Amendment Bylaw No. 20211
 - Drainage Parcel Tax By-law 2001, No. 14593; Amendment By-law No. 20209
- City of Coquitlam - Based on flat rate
 - Water Distribution Bylaw No. 4428; Amendment Bylaw No. 5087
 - Sewer and Drainage Bylaw No. 4429; Amendment Bylaw No. 5088
 - Solid Waste Management Bylaw No. 4679; Amendment Bylaw No. 5089
- City of Burnaby - Based on metered rate
 - Waterworks Regulation Bylaw No 1953; Amendment Bylaw No. 14264
 - Sewer Charge Bylaw No. 1961; Amendment Bylaw No. 14263
 - Solid Waste & Recycling Bylaw No. 2010; Amendment Bylaw No. 14242
 - Sewer Parcel Tax Bylaw No. 1994; Amendment Bylaw No. 14110
- City of Vancouver - Based on flat rate
 - Water Works By-law No. 4848; Amendment Bylaw No. 12848
 - Sewer & Watercourse By-law No. 8093; Amendment Bylaw No. 12850
 - Solid Waste By-law No. 8417; Amendment Bylaw No. 12849

Financial Impact

The budget 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.

Staff recommend the following budgets by utility:

- Option 2 is recommended for Water, for a net budget of \$46.7 million;
- Option 3 is recommended for Sewer, for a net budget of \$37.6 million;
- Option 2 is recommended for Drainage and Diking, for a net budget of \$14.6 million;
- Option 3 is recommended for Solid Waste and Recycling, for a net budget of \$19.8 million; and
- An overall net utility budget of \$118.7 million.

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 2022 proposed utility budgets and rates for City services relating to the provision of water, sewer, flood protection, as well as solid waste and recycling. Considerable measures have been 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 and contract cost impacts. Regional costs are expected to continue increasing to meet demands for high quality drinking water and sewer treatment. 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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Att. 1: 2022 Annual Utility Charges – Recommended Gross Rates per Bylaw

Attachment 1

2022 Annual Utility Charges – Recommended Gross Rates per Bylaw (Estimated Metered and Actual Flat Rates)

	Water	Sewer	Drainage/ Diking	Garbage/ Recycling	Total
Metered (Based on Average Consumption)					
Single-Family Dwelling	\$538.18	\$468.94	\$191.68	\$445.56	\$1,644.36
Townhouse (with City garbage)	\$368.79	\$314.54	\$170.79	\$310.56	\$1,164.68
Townhouse (no City garbage)	\$368.79	\$314.54	\$170.79	\$198.84	\$1,052.96
Apartment	\$246.79	\$226.53	\$170.79	\$147.94	\$792.05
Flat Rate (Actual)					
Single-Family Dwelling	\$800.92	\$591.59	\$191.68	\$445.56	\$2,029.75
Townhouse (with City garbage)	\$655.61	\$541.29	\$170.79	\$310.56	\$1,678.25
Townhouse (no City garbage)	\$655.61	\$541.29	\$170.79	\$198.84	\$1,566.53
Apartment	\$422.48	\$450.81	\$170.79	\$147.94	\$1,192.02
General – Other/Business					
Metered Water (\$/m ³)	\$1.5082				
Metered Sewer (\$/m ³)		\$1.4429			
Business: Garbage				\$46.23	
Non-Stratified ICI: Drainage & Diking (800 m ² to 10,000 m ²)			\$553.38		
Non-Stratified ICI: Drainage & Diking (above 10,000 m ²)			\$1,211.90		
ICI: Drainage & Diking (Others)			\$191.68		