



ADMINISTRATIVE REPORT

Report Date: November 21, 2017
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VanRIMS No.: 08-2000-20
Meeting Date: December 6, 2017

TO: Vancouver City Council
FROM: General Manager of Engineering Services
SUBJECT: 2018 Annual Review of Water Rates Under the Waterworks By-Law

RECOMMENDATION

- A. THAT Council approve amendments to the Waterworks By-law related to housekeeping and billing, generally as set out in Appendix B.
- B. THAT Council approve the 2018 rates and fees under the Waterworks By-law, with the following recommended increases: 6.0% increase in the per unit flat fee for Single Dwelling (from \$616 per unit in 2017 to \$653 per unit in 2018); 6.0% increase in per unit Metered Rate in off season (from \$2.688 in 2017 to \$2.849 in 2018) and peak season (from \$3.369 in 2017 to \$3.571 in 2018); 6.3% increase for Water Flat Rate Connection Fees for Single and Two Family dwellings; 2% for all other Water Flat Rate Connection Fees (as listed in Appendix A, Schedule A); and varied increases for all other Water Utility User Rates (as listed in Appendix A, Schedules B, C, E, F, G and H).
- C. THAT Council instruct the Director of Legal Services to bring forward the necessary amendments to the Waterworks By-law for consideration by Council, generally as set out in Appendix B.

REPORT SUMMARY

Each year, staff review all costs related to the Water Utility and recommend rates for the year to come. This is also an opportunity for staff to provide an update to Council and the public on the objectives of the Utility and what progress has been made towards those objectives.

In this report are updates on 2017 overall performance and some specific initiatives already underway such as seismic improvements, conservation efforts, and the Pay as You Go strategy for debt financing. Also included in this report is a look ahead to work planned in 2018.

This report seeks Council approval of the recommended 2018 rates and fees for water service, which incorporates a 6.0% increase for single family flat rates and consumption driven metered rates; 6.3% increase for Water Flat Rate Connection Fees for Single and Two Family dwellings; 2.0% increase for meter service charges; and 2.0% increase for other user rates. These increases achieve full cost recovery for water services as well as investing in a program that will reduce future financing costs.

COUNCIL AUTHORITY/PREVIOUS DECISIONS

Water rates for both metered and non-metered customers are specified in the Schedules of Rates and Charges included in the Water Works By-law. These schedules are updated annually by Council.

In 2001, Council endorsed the Greater Vancouver Regional District Board (Metro Vancouver) decision to construct the Capilano Seymour filtration plant.

On December 13, 2011, Council adopted the 2011-2014 Greenest City Clean Water Work Plan including By-law revisions requiring residential water metering for all new single family and duplex properties.

On December 13, 2011, Council approved transition from a uniform volumetric rate for commercial and residential metered customers to a seasonal rate consisting of two different rates for low and high seasons.

On November 27, 2012, Council approved the establishment of a peak and off-peak seasonal rate structure for all remaining metered properties.

On November 27, 2012, Council approved By-law revisions that changed billing frequency to 3 reads and 3 bills per year to better align with seasonal rates.

On November 4, 2015, Council adopted the 2016-2020 Greenest City Clean Water Work Plan to expand water conservation programs.

On November 1, 2017, Council adopted the recommendation to broaden the water conservation program to include non-potable water resources (rain water, ground water, and waste water) to address long term water demands.

CITY MANAGER'S/GENERAL MANAGER'S COMMENTS

The General Manager of Engineering Services RECOMMENDS approval of recommendations A, B and C above.

REPORT

Background/Context

The City's water system is comprised of approximately 1,470 km of water mains that distribute water to more than 100,000 service connections and 6,000 fire hydrants. All water supplied to the City is purchased from Metro Vancouver, which is responsible for supply reservoirs, treatment, and delivery of water to the City system.

The capital cost for timely replacement of these assets, the operating costs of maintaining the system and the cost to purchase water from Metro Vancouver make up the total costs of the water system. The City's water rates and fees are designed to fully recover all of these costs so that no costs related to the delivery of water are included in the general tax levy. In the City of Vancouver, all sectors are fully metered except for single and dual family homes. In 2012, Council implemented the policy to achieve a fully metered water system over time by requiring meters for all new single-family and duplex properties undergoing redevelopment or major renovations. Currently, 7% or 6,800 of single-family and duplex properties are metered.

Strategic Analysis

The Water Utility has a mandate to provide the best drinking water of any major city in the world by 2020, to use potable water efficiently to extend the life of our current water supplies, to ensure continued availability for consumption and fire suppression, and to ensure we are prepared for emergencies.

Maintaining and renewing the water system infrastructure is a key component of all of these critical goals. We have an ongoing program of replacement to ensure the City's investment is protected. Capital investments also work towards improving access to water and availability of water in emergencies.

The water distribution network, valued at \$2.5 billion, is made of 1,470 km of buried pipelines, including over 6,000 fire hydrants, 30,000 valves, and 18,000 water meters. The system is carefully managed using an asset management process.

Waterworks also operates a dedicated fire protection system for the downtown area valued at \$80 million consisting of 11 km of dedicated high pressure pipes and 2 pumping stations. In an emergency, salt water can be used to provide fire protection, if the potable water supply is interrupted.

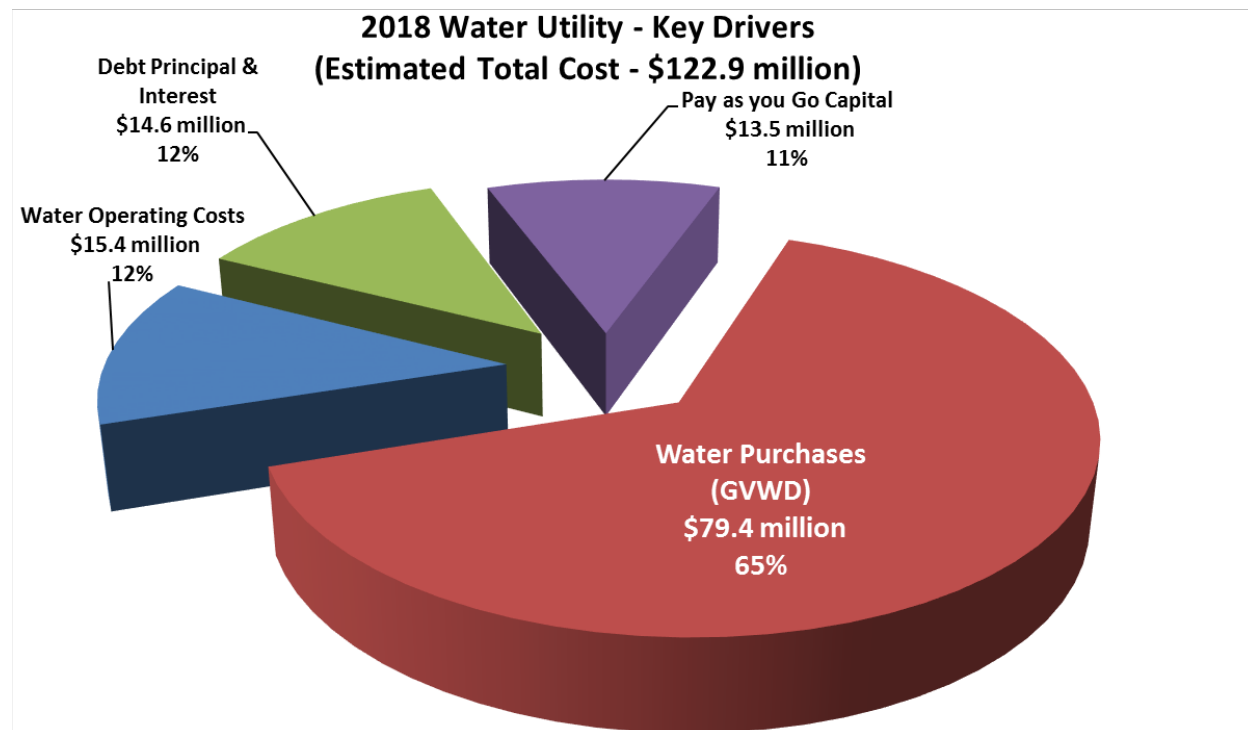
Key services delivered

- **Water distribution service** – Provide clean water to businesses, residents and communities and serving growth. Ensuring that water system assets are in good condition and well managed by replacing aging and deteriorating infrastructure
- **Emergency preparedness** - Supporting emergency preparedness through response planning and increasing resiliency by strategically strengthening infrastructure
- **Water conservation and resource management** - Enable the efficient use of water corporately and in the community

Financial Implications

Key Cost Drivers

The Water Utility expenditures consist of four key cost drivers: water purchased from Metro Vancouver which makes up 65% of the budget, City of Vancouver operating costs which make up about 12% of the total budget, and costs associated with Waterworks Capital Plan expenditures which make up about 23% of the budget as shown graphically in Figure 1 below. A description of each component and its related activities follows.

Figure 1 - Water Utility CostsWater Purchases

As discussed, the City of Vancouver and other Lower Mainland municipalities purchase water from Metro Vancouver based on consumption. The cost to purchase water is the largest cost driver in the Water Utility. The cost of water to the City of Vancouver is driven by the price per cubic meter that Metro charges all member municipalities, as well as the consumption within the City itself.

Significant increases to the regional cost of water since 2004 are a result of regional capital water quality initiatives - primarily the Seymour-Capilano Filtration project and the associated twin tunnel project between Capilano and Seymour Lakes. These initiatives have resulted in greatly improved water quality in the region. We are now seeing stabilized rate increases from Metro as all of the costs for the treatment plant have now been built into their wholesale rates.

Although water consumption is higher than expected this year, the success of water conservation programs in the city has led to a trend of declining water consumption over time. Since most of the costs associated with the delivery of water are fixed costs, over time there will be an upward trend in the price per unit of water as consumption continues to decline, but this will be offset to some extent by the avoided cost of deferrals in capacity expansion in the Metro system.

Capital Program

The water capital program is funded partially by debentures and partially on a pay-as-you-go basis. The current debt charges represent past borrowing, so the reduction of debt charges from moving to pay-as-you-go will be realized gradually.

Operating and Maintenance

These are the costs associated with cleaning, repairing, inspecting and managing the infrastructure, as well as, emergency response for main breaks and other trouble calls. This also includes customer billing and general administration.

2017 Budget Performance

Table 2 summarizes the operating budget and current forecast for the Water Utility in 2017.

Table 2 - 2017 Budget Performance

Water Utility (\$ millions)	2017 Forecast	2017 Budget	\$ Variance	% Variance
Water Consumption Volume	115,108,702	112,620,359		
Revenues				
Metered Rate Revenues	\$ 61.8	\$ 60.9	\$ 1.0	1.6%
Flat Rate Revenues	48.8	48.0	0.7	1.5%
Meter Service Charges	4.1	3.8	0.2	6.0%
Flat Rate Fire Line Charges	3.1	2.8	0.3	9.5%
Other Revenues	0.7	0.6	0.1	20.8%
Total Revenues	\$ 118.4	\$ 116.1	\$ 2.3	2.0%
Expenses				
Water Purchases (GVWD)	\$ 77.5	\$ 75.4	\$ (2.0)	-2.7%
Total Waterworks Operations	14.2	13.9	(0.3)	-2.2%
Debt Interest	5.0	5.0	-	0.0%
Total Expenses	96.7	94.3	(2.3)	-2.5%
Transfers				
Debt Principal	10.0	10.0	-	0.0%
Pay As you Go Capital	11.3	11.3	-	0.0%
Transfer to/(from) Stabilization Reserve	0.4	0.5	0.1	11.1%
Total Transfers	21.8	21.8	0.1	0.3%
Total Expenses & Transfers	\$ 118.4	\$ 116.1	\$ (2.3)	-2.0%
Surplus/(Deficit)	\$ -	\$ -	\$ -	0.0%

*Tables may not sum due to rounding

2017 Revenues

The current forecast for metered revenues is about \$1.0 Million more than budgeted. Metered rate revenues are estimated as a percentage of total water consumption, which is

higher than anticipated this year. The 2017 budget was based on a forecast that total per capita use would decrease from the previous year by about 1.5%; but instead water consumption in 2017 has been higher than expected due to increased outdoor water use driven by a record breaking dry June and July and population growth. Flat rate revenues are higher than budgeted due to additional revenue generated from the flat rate units that have a laneway or suite and as a result are charged the higher unit rate.

Meter service charges and fire line charges, which apply only to multi-family and commercial accounts, are also higher than anticipated due to an increase in the number of these accounts in recent years.

Other revenues include administrative fees for cross connection control, permit fees for high water use air conditioning units and various other cost recovery fees as set out in the Waterworks By-law. These were comparable to budget in 2017.

2017 Expenditures

As previously stated, the largest driver of expenses in the Water Utility is the purchase of bulk water from Metro Vancouver. This expense is also based on water consumption, which is forecast to be 2.2% higher than estimated in the 2017 budget.

2017 Transfers

The Water Utility uses the Water Rates Stabilization Reserve to mitigate year-over-year increases in water rates and balance year-end differences between budgeted and actual revenues.

In 2017, there was a budgeted transfer to the Reserve of \$0.5 million to fund water conservation efforts. For the year, \$0.1 million less is expected to be contributed to the reserve. This variance is due to higher than budgeted water purchases of \$2.0 million and higher operating costs of \$0.3 million due to maintenance costs related to the aging infrastructure, which are partially offset by higher than budgeted revenues.

2018 Proposed Budget and Rates

Water utility rates will increase by 6.0% or \$37 per year for a single-family residence. This increase is necessary because of:

- An increase of 3.9% in Metro Vancouver water rates that fund infrastructure improvements throughout the region, including improvements to reservoirs and filtration to provide a high-quality water supply as Vancouver grows
- An increase in funding for water capital projects to deal with the increasing level of service breaks
- Cost increases to deal with maintenance of the aging infrastructure and an investment in a One Water Strategy
- Realignment of the flat-fee rate to the actual distribution of flat-fee and metered customer
- An increase in water volume estimates for 2018 resulting from actual trends of water consumption

While water consumption is higher than anticipated in 2017, the longer term trend demonstrates an overall reduction in per capita use. The enhanced strategic water conservation activities and additional investment in water conservation programs planned over the next few years are expected to contribute to a continued downward trend. Based on the estimated consumption in 2017, the 2018 budget incorporates a 1.5% decrease in the volume of water purchased based on per capita use, as shown in Table 3. Continuing with this adjustment, staff are using an estimated 1.5% reduction in per capita use per year for budgeting purposes (as shown in Table 4 in the next section).

The 2018 proposed budget is summarized in Table 3 with the restated 2017 budget and forecast for comparison.

Table 3 - Proposed 2018 Budget

Water Utility (\$ millions)	2017 Forecast	2017 Budget	2018 Proposed	\$ Change from 2017 Budget	% Change
Water Consumption Volume	115,108,702	112,620,359	114,260,458		
Revenues					
Metered Rate Revenues	\$ 61.8	\$ 60.9	\$ 65.4	\$ 4.5	7.4%
Flat Rate Revenues	48.8	48.0	49.9	1.9	3.9%
Meter Service Charges	4.1	3.8	4.0	0.2	4.6%
Flat Rate Fire Line Charges	3.1	2.8	2.9	0.1	2.0%
Other Revenues	0.7	0.6	0.7	0.1	17.3%
Total Revenues	\$ 118.4	\$ 116.1	\$ 122.9	\$ 6.8	5.8%
Expenses					
Water Purchases (GVWD)	\$ 77.5	\$ 75.4	\$ 79.4	\$ 4.0	5.3%
Total Waterworks Operations	14.2	13.9	15.4	1.4	10.3%
Debt Interest	5.0	5.0	4.1	(0.8)	-16.7%
Total Expenses	96.7	94.3	98.9	4.6	4.9%
Transfers					
Debt Principal	10.0	10.0	10.5	0.5	4.6%
Pay As you Go Capital	11.3	11.3	13.5	2.2	19.5%
Transfer to/(from) Stabilization Reserve	0.4	0.5	-	(0.5)	-100.0%
Total Transfers	21.8	21.8	24.0	2.2	9.9%
Total Expenses & Transfers	\$ 118.4	\$ 116.1	\$ 122.9	\$ 6.8	5.8%
Surplus/(Deficit)	\$ -	\$ -	\$ -	\$ -	0.0%

* Tables may not sum due to rounding - some of the revenues are grouped in Cost recoveries, grants & donations and Other revenue in the budget book

2018 Revenues & Proposed Rates

For both metered customers and flat-fee single-family dwellings, a 6.0% increase is recommended for 2018. Since 2012, all new single-family dwellings must be metered and no longer pay the flat fee. The 2018 budget for flat-rate revenues reflects the 6.0% rate increase and accounts for customers who transition from flat fee to metered accounts. As a result of these changes, water rates for single-family dwellings are projected to be \$653 versus \$616 in 2017.

Also recommended are inflationary increases of 2% for fire line charges and meter service charges. Both the revenue and expense changes for meter service charges and fire line charges reflect an increase in the number of accounts over the last several years.

2018 Expenditures

The increase for the 2018 water purchase budget is \$4.0 million, of which a \$3.0 million increase is due to a Metro Vancouver price increase of 3.9% and a \$1.0 million increase due to increased volume. Waterworks operational costs have increased by 10% due largely to increased costs to deal with the aging infrastructure. The increased funding will be directed toward reactive and proactive maintenance work. There is also an investment to develop a One Water Strategy to optimize common goals around water conservation, storm sewer infrastructure, green infrastructure and shoreline protection to achieve conservation, resiliency and Greenest City Actions.

2018 Transfers

In 2012, the Waterworks utility began paying a portion of its annual capital program from utility fees; as a result, debt service charges are decreasing. The plan is to increase the pay-as-you-go contribution until all new capital expenditures are covered through current revenues; ultimately, this will eliminate the debt interest expense. In 2018, City staff recommend a \$2.2 million increase in the pay-as-you-go contribution from \$11.3 million to \$13.5 million to expand the capital work and address the increasing level of service breaks and costs of aging infrastructure.

The current debt charges represent past borrowing and will continue to decrease over time as current borrowing is gradually eliminated. 2017 included a transfer of \$0.5 million to help achieve a target water rate stabilization reserve balance of 5-10% of water purchases to ensure the continued financial stability of the utility. As a healthy level is forecasted to be achieved by the end of 2017, there is no proposed transfer to the reserve for 2018.

Five Year Outlook

Table 4 summarizes the five year outlook for the Water Utility and the following paragraphs discuss the assumptions used.

Table 4 - Water Utility Five-year Outlook

Water Utility (\$ millions)	2018	2019	2020	2021	2022
Assumptions:					
Water Consumption Volume	114,260,458	113,411,761	112,562,817	111,713,823	110,864,973
Metro Price Increase	3.9%	5.8%	7.7%	7.8%	7.9%
City Rate Increase	6.0%	5.5%	5.7%	5.5%	5.5%
Revenues					
Metered Rate Revenues	\$ 65.4	\$ 68.4	\$ 71.8	\$ 75.2	\$ 78.7
Flat Rate Revenues	49.9	51.8	53.9	55.9	58.0
Meter Service Charges	4.0	4.1	4.2	4.3	4.4
Flat Rate Fire Line Charges	2.9	2.9	3.0	3.1	3.1
Other Revenues	0.7	0.7	0.7	0.7	0.7
Total Revenues	122.9	128.0	133.6	139.2	144.9
Expenses					
Water Purchases (GVWD)	79.4	83.4	89.1	95.4	102.1
Total Waterworks Operations	15.4	15.7	16.0	16.4	16.7
Debt Interest	4.1	4.2	3.7	2.7	1.9
Total Expenses	98.9	103.3	108.9	114.4	120.8
Transfers	24.0	24.7	24.7	24.7	24.2
Total Expenses & Transfers	122.9	128.0	133.6	139.2	144.9
Surplus/(Deficit)	\$ -	\$ -	\$ -	\$ -	\$ -

*Tables may not sum due to rounding - some of the revenues are grouped in Cost recoveries, grants & donations and Other revenue in the budget book

*2019-2022 numbers were developed based on current levels in advance of the 2019-2022 Capital Plan

Table 4 assumes a moderate decline in consumption of 1.5% per capita use per year. This is a conservative approach for financial planning purposes, which will be reviewed annually as water consumption results are realized.

The price of water purchases from the GVWD (Metro Vancouver) is increasing 3.9% in 2018. The following four years are forecasted to increase between 5.8-7.9%. These increases are based on projected operating and capital costs for supply reservoirs, treatment, and delivery of water to the City system. However, the actual rate increases in recent years have been well below the forecasted rate increases.

Debt charges will continue to decrease due to the pay-as-you-go strategy, because we have reduced our debenture borrowing since the program started in 2012. By increasing the Pay as You Go contribution per year, all new routine capital spending for the transmission and distribution main work will be from current revenues sooner than anticipated, eliminating the need to borrow for ongoing capital programs.

While City operating costs are showing inflationary increases for the purpose of this forecast, staff will continue to look for ways to provide the same service at a lower cost.

An increase to the budget to repair main breaks and impacted roadways has been incorporated into the outlook. Since 2012, the number of main breaks has increased over 30%, a strong indication of an aging water system. This budget increase does not include unanticipated needs that may emerge as a result of a spike in leaks or breaks beyond the multi-year trend. Pipe breaks tend to fluctuate year to year and is dependent on weather conditions, system pressures and pipe age. Single year anomalies will require an offset from reserve funding, whereas an increased trend beyond what is currently anticipated would require additional program funding as an appropriate response.

By-law Amendments to Clarify Customer Responsibilities and Support Utility

Further to fee increases, a number of minor housekeeping amendments are proposed to clarify customer responsibilities to prevent water meters from damage and to clarify customer account administration relating to bills and account adjustments.

Connection Fees

All new development and major renovation projects in the City are required to install water and combined water and sewer connections on private property and pay connection fees for the corresponding connections on City property. These fees are updated regularly to ensure cost recovery.

Connection fees are collected prior to the timing of the actual work and are based on an average price model and the underlying complexities can vary by job and by job type. Fee increases are required to cover annual inflationary increases for construction costs, as well as to account for the timing of work being performed.

To maintain full cost recovery, it is recommended that a 6.3% increase be approved for Water Flat Rate Connection Fees for Single-Family and Two Family Dwellings, while a 2.0% increase is recommended for approval for all other Water Flat Rate Connection and Removal fees.

Legal Implications

The amendments to the Waterworks By-law are contained in Appendix B.

In addition to the annual rate and fee changes, a number of minor updates are recommended to the By-law wording to clarify customer responsibilities and to support billing and account administration. The Director of Legal Services has also taken the opportunity to make some editorial changes to the By-law to modernize language, improve consistency and readability.

CONCLUSION

Rates for water services are adjusted annually to offset cost increases in the water utility, including operating and debt costs and water purchases from Metro Vancouver. Based on a review of the proposed water costs for 2018, it is recommended that flat and metered water fees be increased by 6.0%, service and connection fees be increased by 2.0%-6.3% and Fire Line Charges and Meter Service Charges be increased by 2.0% as described in this report.

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Appendix A
Water Works By-Law No. 4848
2018 Rate Changes

Schedule A Flat Rate Connection Fees

	2017	Proposed 2018	% Increase
<u>Single-Family & Two-Family Dwellings</u>			
20 mm (3/4")	\$5,551	\$5,901	6.3%
25 mm (1")	\$5,748	\$6,110	6.3%
40 mm (1 1/2")	\$6,911	\$7,346	6.3%
50 mm (2")	\$7,663	\$8,146	6.3%
<u>Other Connections</u>			
20 mm (3/4")	\$9,713	\$9,907	2.0%
25 mm (1")	\$10,105	\$10,307	2.0%
40 mm (1 1/2")	\$11,661	\$11,894	2.0%
50 mm (2")	\$11,661	\$11,894	2.0%
100 mm (4")	\$16,860	\$17,197	2.0%
150 mm (6")	\$20,853	\$21,270	2.0%
200 mm (8")	\$22,772	\$23,227	2.0%
300 mm (12")	\$32,047	\$32,688	2.0%

Schedule A.1 Removal Fees

	2017	Proposed 2018	% Increase
20mm (3/4") to 50mm (2") inclusive	\$1,130	\$1,153	2.0%
100mm (4") to 300mm (12") inclusive	\$3,389	\$3,457	2.0%

Schedule B Flat Service Charges for Residential Properties

	2017	Proposed 2018	% Increase
Single dwelling unit	\$616	\$653	6.0%
Single-Family with suite or laneway house	\$835	\$885	6.0%
Single-Family with suite and laneway house	\$1,055	\$1,118	6.0%
For each strata title duplex	\$417	\$442	6.0%
Parking Lot/Community Garden	\$190	\$201	6.0%
Water Service - Turned Off	\$140	\$148	6.0%
Other Property	\$140	\$148	6.0%

Schedule C Flat Service Charges for Unmetered Fire Service Pipes

	2017	Proposed 2018	% Increase
50 mm (2") or smaller	\$222	\$226	2.0%
75 mm (3")	\$333	\$340	2.0%
100 mm (4")	\$460	\$469	2.0%
150 mm (6")	\$530	\$541	2.0%
200 mm (8")	\$622	\$634	2.0%
250 mm (10")	\$661	\$674	2.0%
300 mm (12")	\$708	\$722	2.0%

Schedule D		Charges for Metered Water Service		
		2017	Proposed 2018	% Increase

Four Month Period		Rate in Dollars per Unit (2,831.6 litres)		
Rate for all metered uses				
October 1 - May 31	Per Unit	\$2.688	\$2.849	6.0%
June 1 - September 30	Per Unit	\$3.369	\$3.571	6.0%

Schedule E		Meter Service Charge		
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The following schedule shows the meter charge based on the size and type of meter, payable on each service, in addition to water consumption charges.

Per Four Monthly Period	2017	Proposed 2018	% Increase
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Services with Standard Type Meters

17 mm (1/2") and 20 mm (3/4")	\$31	\$32	2.0%
25 mm (1")	\$31	\$32	2.0%
40 mm (1 1/2")	\$68	\$69	2.0%
50 mm (2")	\$94	\$96	2.0%
75 mm (3")	\$211	\$215	2.0%
100 mm (4")	\$257	\$262	2.0%
150 mm (6")	\$334	\$341	2.0%
200 mm (8")	\$518	\$528	2.0%
250 mm (10")	\$634	\$647	2.0%
300 mm (12")	\$752	\$767	2.0%

Services with Low Head Loss Meters / Detector Check Valves

100 mm (4")	\$297	\$303	2.0%
150 mm (6")	\$434	\$443	2.0%
200 mm (8")	\$582	\$594	2.0%
250 mm (10")	\$726	\$741	2.0%
300 mm (12")	\$867	\$884	2.0%

Schedule F		Charges for Temporary Water Service during Construction		
		2017	Proposed 2018	% Increase

Building Size in Square Meters of Gross Floor Area	Rate in Dollars of Gross Floor Area Per Building		
Up to an including 500 sq.m	\$272	\$288	6.0%
Over 500 but not exceeding 2,000	\$532	\$564	6.0%
Over 2,000 but not exceeding 9,000	\$800	\$848	6.0%
Over 9,000 but not exceeding 24,000	\$1,345	\$1,426	6.0%
Over 24,000 but not exceeding 45,000	\$2,012	\$2,133	6.0%
Over 45,000	\$2,670	\$2,830	6.0%

Schedule G Fees for Installation of Residential Water Meters

<u>Single-Family & Two-Family Dwellings</u>			
20 mm (3/4") meter assembly and box	\$1,122	\$1,144	2.0%
<u>Other Connections</u>			
25 mm (1") meter assembly and box	\$1,224	\$1,248	2.0%

Fees for Installation of Water Meters

Size of Standard Meter	Meter on City Property	2017	Proposed 2018	% Increase
20 mm (3/4")		\$3,259	\$3,324	2.0%
25 mm (1")		\$3,407	\$3,475	2.0%
40 mm (1 1/2")		\$3,713	\$3,787	2.0%
50 mm (2")		\$3,838	\$3,915	2.0%
75 mm (3")		\$13,395	\$13,663	2.0%
100 mm (4")		\$14,648	\$14,941	2.0%
150 mm (6")		\$47,840	\$48,797	2.0%
200 mm (8")		\$49,204	\$50,188	2.0%
250 mm (10")		\$66,476	\$67,806	2.0%
300 mm (12")		\$73,503	\$74,973	2.0%

Size of Standard Meter	Meter on Private Property	2017	Proposed 2018	% Increase
20 mm (3/4")		\$515	\$525	2.0%
25 mm (1")		\$594	\$606	2.0%
40 mm (1 1/2")		\$793	\$809	2.0%
50 mm (2")		\$1,094	\$1,116	2.0%
75 mm (3")		\$2,416	\$2,464	2.0%
100 mm (4")		\$3,671	\$3,744	2.0%
150 mm (6")		\$7,783	\$7,939	2.0%
200 mm (8")		\$9,310	\$9,496	2.0%
250 mm (10")		\$18,764	\$19,139	2.0%
300 mm (12")		\$25,792	\$26,308	2.0%

Schedule H Miscellaneous Fees and Charges

	2017	Proposed 2018	% Increase
Cross Connection Control Administration Fees			
First Assembly	\$29	\$30	2.0%
Additional Assembly	\$13	\$13	2.0%
Extra charge for inaccessible meter (per incident)	\$75	\$75	0.0%
Special meter reading (per occurrence)	\$100	\$100	0.0%
Customer requested meter test (deposit)	\$200	\$200	0.0%
Charges for Returned Cheques	\$35	\$35	0.0%
Residual Water Pressure Estimate Fee			
Original calculation	\$36	\$36	0.0%
Additional copies for same location	\$10	\$10	0.0%
Miscellaneous water information requests (per hour)	\$44	\$45	2.0%
City Crew call out fee (normal working hours) (per hour or portion thereof)	\$100	\$100	0.0%
City Crew call out fee (outside normal working hours) (per hour or portion thereof)	\$200	\$200	0.0%
Frozen pipe thawing	at cost	at cost	

BY-LAW NO. _____

**A By-law to amend Water Works By-law No. 4848
Regarding 2018 Water Rates and Fees and Housekeeping Amendments**

THE COUNCIL OF THE CITY OF VANCOUVER, in public meeting, enacts as follows:

1. Council amends the indicated provisions of Waterworks By-law 4848 and amends the index to reflect the changes to section names contained in this by-law.

2. In Part III, Council:

(a) strikes out Section 3.3 and substitutes:

"3.3 Requirement to Protect Meter

A customer must protect any meter on the customer's property from damage caused by rainfall, irrigation water, storm water, snow, ice, or freezing." ;

(b) changes the title of Section 3.6 to **"Prohibition Against Sale and Certain Uses"**; and

(c) in Section 3.9(a), strikes out the word "mobile" wherever it appears.

3. In Part VI, Council strikes out Sections 6.21 and 6.22 and substitutes:

"6.21 Adjustment to Fees or Charges Previously Billed

In the case of an adjustment to fees or other related charges that have previously been billed, the Collector:

(a) must adjust for the current year;

(b) may also adjust for up to two calendar years prior to the current year;
and

(c) must not pay interest on any overpayment.

6.22 Billing For Fees or Charges Not Previously Billed

In the case of billing a fee or other charge that has not previously been billed, the Collector:

(a) must issue a bill to the customer for the fees or charges not previously billed from the date that it was discovered that the fee or charge ought to have been billed, as determined by the Collector, and

(b) must not back bill for a period greater than the current year plus the previous calendar year, except as provided in section 6.19."

4. Council repeals Schedules A to H and substitutes:

**"SCHEDULE A
Flat Rate Connection Fees
And Service Pipe Removal Fees**

Flat Rate Connection Fees

Service Pipe Size *Single-Family and Two-Family Dwelling with or without a Laneway House*

20 mm (3/4")	\$5,901.00
25 mm (1")	6,110.00
40 mm (1 1/2")	7,346.00
50 mm (2")	8,146.00

Service Pipe Size *Other Connections*

20 mm (3/4")	\$9,907.00
25 mm (1")	10,307.00
40 mm (1 1/2")	11,894.00
50 mm (2")	11,894.00
100 mm (4")	17,197.00
150 mm (6")	21,270.00
200 mm (8")	23,227.00
300 mm (12")	32,688.00

Service Pipe Removal Fees

Service Pipe Size

20 mm (3/4") to 50 mm (2") inclusive	\$1,153.00
100 mm (4") to 300 mm (12") inclusive	3,457.00

**SCHEDULE B
Annual Flat Rate Service Charges for Residential Properties**

The following charges apply to unmetered single family dwellings and dwellings comprising not more than two separate dwelling units:

Single Dwelling Unit	\$653.00
Single-Family with suite or laneway house	885.00
Single-Family with suite and laneway house	1,118.00

For each strata title duplex	442.00
Parking Lot/Community Garden	\$201.00
Water Service -- Turned Off	148.00
Other Property	148.00

SCHEDULE C
Annual Flat Rate Service Charges for Unmetered Fire Service Pipes

Fire Service Pipe Size

50 mm (2") or smaller	\$226.00
75 mm (3")	340.00
100 mm (4")	469.00
150 mm (6")	541.00
200 mm (8")	634.00
250 mm (10")	674.00
300 mm (12")	722.00

SCHEDULE D
Charges for Metered Water Service

<i>Four Month Period</i>	<i>Rate In Dollars per Unit (2,831.6 Litres)</i>
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Rate for all metered uses

October 1 - May 31	Per unit	\$2.849
June 1 - September 30	Per unit	\$3.571

SCHEDULE E
Meter Service Charge

The following schedule shows the meter charge based on the size and type of meter, payable on each service, in addition to water consumption charges:

Per Four Month Period

Services with Standard Type Meters

17 mm (1/2") and 20 mm (3/4")	\$ 32.00
25 mm (1")	32.00
40 mm (1 1/2")	69.00
50 mm (2")	96.00
75 mm (3")	215.00
100 mm (4")	262.00

150 mm (6")	341.00
200 mm (8")	528.00
250 mm (10")	647.00
300 mm (12")	767.00

Services with Low Head Loss Meters/Detector Check Valves

100 mm (4")	\$303.00
150 mm (6")	443.00
200 mm (8")	594.00
250 mm (10")	741.00
300 mm (12")	884.00

SCHEDULE F
Charges for Temporary Water Service During Construction

<i>Building Size in Square Meters of Gross Floor Area</i>	<i>Rate in Dollars of Gross Floor Area Per Building</i>
Up to and including 500	\$288.00
Over 500 but not exceeding 2,000	564.00
Over 2,000 but not exceeding 9,000	848.00
Over 9,000 but not exceeding 24,000	1,426.00
Over 24,000 but not exceeding 45,000	2,133.00
Over 45,000	2,830.00

SCHEDULE G
Fees for Installation of Water Meters

Fees for Installation of Water Meters for Single and Two Family Dwellings with or without a Laneway House

Size of Standard Meter

20 mm (3/4") meter assembly and box	\$1,144
25 mm (1") meter assembly and box	\$1,248

Fees for Installation of Water Meters on Other Connections

<i>Size of Standard Meter</i>	<i>Meter on City Property</i>	<i>Meter on Private Property</i>
20 mm (3/4")	\$ 3,324.00	\$ 525.00
25 mm (1")	3,475.00	606.00
40 mm (1 1/2")	3,787.00	809.00
50 mm (2")	3,915.00	1,116.00

75 mm (3")	13,663.00	2,464.00
100 mm (4")	14,941.00	3,744.00
150 mm (6")	48,797.00	7,939.00
200 mm (8")	50,188.00	9,496.00
250 mm (10")	67,806.00	19,139.00
300 mm (12")	74,973.00	26,308.00

SCHEDULE H
Miscellaneous Fees and Charges

Cross Connection Control Administration Fees	
First Assembly	\$ 30.00
Additional Assembly	13.00
Extra charge for inaccessible meter (per incident)	75.00
Special Meter Reading (per occurrence)	100.00
Customer Requested Meter Test (deposit)	\$200.00
Charges for Returned Cheques	35.00
Residual Water Pressure Estimate Fee	
Original calculation	36.00
Additional copies for same location	10.00
Miscellaneous water information requests (per hour)	45.00
City Crew call out fee (normal working hours) (per hour or portion thereof)	100.00
City Crew call out fee (outside normal working hours) (per hour or portion thereof)	200.00
Frozen pipe thawing	At cost (Section 5.4)"