



CITY OF VANCOUVER

ADMINISTRATIVE REPORT

Date: November 7, 2007
Author: Christie Wong
Phone No.: 604.873.7086
RTS No.: 06927
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TO: Standing Committee on City Services and Budgets

FROM: General Manager of Engineering Services

SUBJECT: Annual Review of Sewer Rates for 2008 under the Sewer and Watercourse By-law

RECOMMENDATION

- A. *THAT Council approve the 2008 sanitary sewer user rates as detailed in this report, with metered rate increased by 6%, annual flat fees for single dwelling units increased by \$10 (from \$171 to \$181), and other sanitary sewer user rates as set out in Appendix A (Schedule A).*
- B. *THAT the 2008 public sewer connection fees included in the Sewer and Watercourse Bylaw as set out in Appendix A (Schedule A) be increased as follows:*
- *Public sewer connection fees for one or two family dwellings by 8%,*
 - *Public sewer connection fees for properties other than one and two family dwellings by 15%, and*
 - *Sewer connection inspection fees by 4%.*
- C. *THAT 2008 Biochemical Oxygen Demand/Total Suspended Solids / Flow (BOD/TSS/Flow) rates payable by waste discharge permit users ("permitted industrial users") be set as per Appendix A (Schedule B).*
- D. *THAT the Director of Legal Services be instructed to bring forward for enactment amendments to the Sewer and Watercourse By-law, substantially as set out in Appendix A, to give effect to the recommendations A, B and C of this Report.*

GENERAL MANAGER'S COMMENTS

The General Manager of Engineering Services RECOMMENDS approval of A through D.

COUNCIL POLICY

Sanitary sewer user fees, Sewer BOD/TSS/Flow rates for Permitted Industries and public sewer connection fees are reviewed annually by Council to establish the following year's rates.

Council policy is that fees for services are to be set at cost recovery level or at market level in circumstances where City Services compete with the private sector.

PURPOSE

The purpose of this report is to recommend revised sanitary sewer user fees, Sewer BOD/TSS/Flow rates and public sewer connection fees for 2008.

BACKGROUND

The sewer system of the City of Vancouver operates as a Utility. The sewer system has two main components: the sanitary system collects wastewater from homes and business, while the storm system handles surface run off from properties and streets in the City. The system delivers sanitary wastewater to the treatment facilities operated by Metro Vancouver.

The Utility recovers the costs of sewer system services, including regional treatment costs, through two vehicles. Operating and treatment costs of the sanitary sewer system are recovered through Sewer user fees using water consumption as the proxy for sewer discharge. Currently, 48.2% of sewer system costs are recovered on this basis, either in the form of flat fees (residential properties) or metered fees (properties with water meters). The remainder of the system costs, comprising infrastructure costs of the sanitary sewer system and the entire storm sewer component are more closely related to lot size and system maintenance rather than consumption. This portion of the system costs, which is about 51.8%, is recovered through a transfer of funds from the City General Revenues Fund to the Sewer Utility.

DISCUSSION

1. 2007 Sewer Utility Status

The sewer budget is dominated by the GVS&DD levy and by City debt charges (related to capital works) which account for 91% of total expenditures. The remainder of the expenditure budget is comprised of administrative operation and maintenance of the City's sewer system.

Table 1 summarizes the 2007 Sewer Operating Budget and the projected year-end results.

Table 1
2007 Budget and Projected Year End Results

	2007 Budget	2007 Year-end Projection	Over (Under)
<u>Expenditures</u>			
GVS&DD Levy	\$39,053,800	\$39,054,000	\$200
City Debt Charges	24,826,300	24,826,300	0
Operating and Maintenance	6,307,500	5,562,500	(745,000)
Total Expenditures	\$70,187,600	\$69,442,800	(\$744,800)
<u>Revenues</u>			
BOD/TSS/Flow Direct Charges	\$1,274,000	\$1,186,000	(\$88,000)
<u>Balance funded by:</u>			
Property Tax Supported	35,695,300	35,357,000	(338,300)
Sewer User Fees (net)	33,273,000	32,454,300	(818,700)
	\$70,242,300	\$68,997,300	(\$1,245,000)
Transfer from/(to) the Sewer Stabilization Reserve	(54,700)	445,500	500,200
Total Revenues	\$70,187,600	\$69,442,800	(\$744,800)
<u>Sewer User Fee Details:</u>			
<i>Flat Rate Revenues</i>	<i>\$14,283,000</i>	<i>\$14,305,300</i>	<i>\$22,300</i>
<i>Metered Rate Revenues</i>	<i>19,433,900</i>	<i>18,562,900</i>	<i>(871,000)</i>
Total Sewer Revenues	\$33,716,900	\$32,868,200	(\$848,700)
<u>Less:</u>			
<i>Sewer Billing/Administration Costs</i>	<i>443,900</i>	<i>413,900</i>	<i>30,000</i>
Sewer User Fees (net)	\$33,273,000	\$32,454,300	(\$818,700)

On the expenditure side, staff projects a year-end under-expenditure of approximately \$834,800 (1.1% of the total sewer costs) mainly attributed to savings in the administration, operating and maintenance accounts related to labour disruption. Although the labour dispute did not impact the sewer services that the City provides, some 2007 work scheduled for the pump station maintenance program will need to carry out in 2008. Staff has identified that an additional \$90,000 will be required in the 2008 budget to complete the two years electrical "as built" project which started in 2007. This work must be completed in 2008 prior to implementation of the upgraded SCADA system for all the 27 pump stations in the City. A carry forward of \$90,000 from the 2007 unspent pump station maintenance program budget to 2008 will be arranged accordingly.

After accounting for the carry forward provision, staff projects the unspent budget of \$744,800 will be directed to offset the BOD/TSS/Flow direct charges under recovery (\$88,000) and the balance will be distributed to the tax supported accounts (51.8%) and the Sewer Utility accounts (48.2%) respectively.

On the revenue side, it is anticipated revenues from sewer user fees will be lower than the budget amount by approximately \$848,700 or 2.5% of total sewer user fees. This is primarily attributed to lower metered revenues due to lower than expected water usage. Revenues from BOD/TSS/Flow charges will be slightly less than the budget estimates due to lower discharge activities by the permitted operations compared to the original 2007 budget projection. It is expected that approximately \$445,500 will need to be transferred from the Sewer Stabilization Reserve at year-end to balance the 2007 Sewer Utility budget. This compares to the original budgeted transfer of \$54,700 to the Sewer Stabilization Reserve.

2. 2008 Sewer Budget and Rates

Table 2 summarizes the anticipated operating budget for the Sewer Utility for 2008 compared to 2007 budget.

Table 2
2008 Sewer Budget

	2007 Budget	2008 Proposed Budget	Inc (Dec)	%
(A) Expenditures				
GVS&DD Levy	\$39,053,800	\$42,566,100	\$3,512,300	9.0%
City Debt Charges	24,826,300	22,301,900	(2,524,400)	-10.2%
Operating and Maintenance	6,307,500	6,487,900	180,400	2.9%
Total Expenditures	\$70,187,600	\$71,355,900	\$1,168,300	1.7%
(B) Revenues				
BOD/TSS/Flow Direct Charges	\$1,274,000	\$1,250,000	(\$24,000)	-1.9%
Balance funded by:				
Property Tax Supported	35,695,300	36,314,900	619,600	1.7%
Sewer User Fees (net)	33,273,000	34,863,900	1,590,900	4.8%
	70,242,300	72,428,800	2,186,500	3.1%
Transfer from/(to) the Sewer Stabilization Reserve	(54,700)	(1,072,900)	(1,018,200)	
Total Revenues	\$70,187,600	\$71,355,900	\$1,168,300	1.7%
<i>Sewer User Fee Details:</i>				
<i>Flat Rate Revenues</i>	<i>\$14,283,000</i>	<i>\$15,205,700</i>	<i>\$922,700</i>	<i>6.5%</i>
<i>Metered Rate Revenues</i>	<i>19,433,900</i>	<i>20,107,000</i>	<i>673,100</i>	<i>3.5%</i>
Total Sewer Revenues	\$33,716,900	\$35,312,700	\$1,595,800	4.7%
<i>Less:</i>				
<i>Sewer Billing/Administration</i>	<i>443,900</i>	<i>448,800</i>	<i>4,900</i>	<i>1.1%</i>
Sewer User Fees (net)	\$33,273,000	\$34,863,900	\$1,590,900	4.8%

(A) Expenditures

The Sewer Utility expenditures consist of two major components: GVS&DD Vancouver levy and City costs. Metro Vancouver has recommended a 9% (\$3.5 million) increase in its 2008 sewer levy for the City of Vancouver. The main drivers for this increase continue to be the impacts of inflation and the increased costs associated with the maintenance of the aging Iona Treatment Plant. The most significant program cost increase in the Vancouver Sewerage Area (VSA) budget is Metro Vancouver's Engineering and Construction operating program account which has a 52% (or \$1.23 million) increase in 2008 over the 2007 level due to increase in number and scope of projects in the Vancouver Sewerage Area. The 15% (\$995,000) increase in contribution from the VSA operating budget to fund "pay as you go" capital work is another major budget item contributing to the increase in levy for Vancouver in 2008.

The proposed City costs budget includes a 2.9% increase in the City operating expenditures from the 2007 gross budget level to cover inflationary increases in employment and other costs. The 2008 debt charges which arise from the sewer capital program are expected to be \$2.52 million or 10.2% less than the 2007 budget. The reduction in debt charges reflects the timing of the City's debenture program and the maturing of higher cost debt issued in the 1990s. As the capital expenditure plans in the sewer area have increased in the current capital plan, it is anticipated these costs will increase in the future years. For 2008 however, the reduction in debt charges will help reduce the impact of the regional levy increase and brings the overall 2008 expenditures increase to 1.7% from the 2007 levels.

(B) Revenues

On the sewer user fees side, metered water consumption is declining both in volume and as a proportion of total consumption, while both the number of flat rate accounts and the overall non metered consumption is increasing slightly. These changes influence the proportion of the revenues being recovered from these two groups in 2008.

In addition to funding the 2008 sewer operation, the proposed 2008 sewer user fee budget has a provision for a transfer of \$1,072,900 to the Sewer Rate Stabilization Reserve, as explained below.

In order to balance the utility budget, the recommended sewer rates and fees for 2008 are shown in Table 3 below. A full listing of 2008 sewer rates and fees is detailed in Appendix A (Schedules A and B).

Table 3
 2008 Sewer Rates

Description	2007 Rates	2008 Rates	Inc (Dec)	% Change
<u>Metered rate per unit:</u>	\$1.053	\$1.115	\$0.062	5.9%
<u>Non metered (flat) fees:</u>				
Single Family Dwelling	\$171	\$181	\$10	5.8%
Extra Unit	\$60	\$64	\$4	6.7%
Duplex (each unit)	\$115	\$122	\$7	6.1%
Vacant Lot	\$97	\$103	\$6	6.2%

(C) Sewer Rates Stabilization Reserve

As with the Water and Solid Waste Utilities, the Sewer Utility maintains a rate stabilization reserve to mitigate the impact of fluctuating revenues and expenditures. The balance of the Sewer Stabilization Reserve is projected to be approximately \$2.99 million after a transfer of \$445,500 to cover the negative budget variance at the end of 2007 as noted above.

As the bulk of the sewer user fees are billed to customers based on water consumption, the Sewer Utility is faced with the same potential fluctuation in revenues as the Water Utility. As a result, in managing the reserve over the longer term, the objective is to maintain a reserve balance in the range of 7.5% of water purchase costs (currently \$3.6 million and rising in future years with water purchase costs) - similar to the objectives for the water utility. As the current balance of the reserve at \$2.99 million is slightly below the objective level, the proposed 2008 budget as described above recommends a transfer of \$1 million from the 2008 sewer user fees to the reserve. This will bring the Sewer Rate Stabilization Reserve balance in 2008 closer to the long term target.

3. Sewer BOD/TSS/Flow Rates for 2008

Based on projected treatment costs for BOD/TSS/Flow at the Iona Treatment Plant, Metro Vancouver staff has calculated Sewer BOD/TSS/Flow unit rates for 2008 as detailed in Appendix A (Schedule B). It is estimated that based on the proposed unit rates and the estimated industrial wastewater discharges and loading levels in 2008, approximately \$1.25 million will be recovered from permitted industrial users in 2008. This represents about a 2% decrease from the 2007 budget. The decrease is attributed to a lower discharge volume anticipated for several permitted industrial operations in the fishery sector and a reduction in the total number of permitted operations from 55 at the beginning of 2007 to 53 at the present time.

4. Public Sewer Connection Rates for 2008

Connections to the City's sewer system (public sewer connections) are provided by the City through a cost-recovery program. Under the City Building By-law, new developments are required to pay for the renewal of the sewer and water connections servicing their property. Fees for this program are adjusted annually to reflect costs required to provide the services. On average, fees have been increased between 2% and 5% per year over the last four years with the exception of an additional 5% increase that was approved in 2007 to cover the City's street cut degradation fees. The actual cost increases however have been greater than the rate increases incorporated in the annual fees for the connection program during this period.

A recent detailed review shows the connection program has been operating in an imbalance position with a deficit of 10% (comparing revenues from fees to actual costs) accumulated in the commercial and multi-family group and about 4% in the single and two family group. The review leads to the conclusion that fee adjustments are required for 2008.

(i) Commercial and Multi-family Connection Fees

There has been a significant increase in the proportion of connections on arterial streets in recent years compared to the historical average. The latest review shows a 45% increase in the number of connections installed on arterial streets in 2006 than during the prior capital plan (2003-2005).

Furthermore, the cost to install connections on arterial streets has increased significantly over the last three years. Arterial street construction typically is more expensive due to issues such as wider right-of-ways, higher street repair costs because of thicker asphalt/concrete required and wider sidewalks, additional traffic control requirements and slower progress rates because of the need to keep traffic flowing around work sites. Increasing traffic volume and new traffic control procedures over time have put upward pressure on the cost to install these types of connections.

Procedures which have been gradually introduced over the last few years prohibit work on arterial streets during rush hours and require that a higher level of traffic control measures (warning signage, additional flag personnel, delineators, etc.) be implemented. More pre-construction planning and consultation with parties that might be affected by the work are also now employed. These measures improve public service, but also increase the cost of connection installations.

The greater proportion of installations on arterial streets, combined with the increase of time required to install a connection on an arterial street, have caused the under-recovery of the overall permit fees by about 6%. This is one of the two main reasons that the commercial and multi-family connection group is now in an imbalance position.

The other main reason for the under-recovery is that the inflationary fee increases approved for this program in the last four years were much lower than the actual increases in the material and equipment costs that the program utilized. The inflationary allowance of 4%, 2%, 5% and 5% made in the fees for 2004, 2005, 2006 and 2007 respectively are notably lower than the 9%, 7%, 11.7% and 9% for the comparable years that were documented by Statistics Canada and other publications, for similar types of construction work in metropolitan areas of British Columbia. The cumulative impact of the understated inflationary allowance is about 5% of the overall program cost.

In addition, staff estimates that an inflation allowance of 4% will be needed for next year. This allowance is to cover projected increase in wages, materials and equipment rental costs. This projection is at the low end compared to the range of inflationary increase for 2008 of 4% to 6% projected by industry sources for services similar to connection installation. Therefore, staff recommends that 2008 commercial sewer connection fees be increased by a total of 15%.

Finally, staff recommends that the deficit accumulated in this program be addressed in the capital budget and close-out reporting process.

(ii) Single-Family and Two-Family Connection Fees for 2008

The evolving rush hour work procedures, the increased proportion of connections on arterial streets, and the understated inflationary allowance in the fees over the last four years have

had similar cost impacts on the connection program for single family and two family dwellings. The overall cost impact, however, has been about 4% rather than 11%, because of a lower proportion of residential connections on arterial streets and efficiency benefits that are achievable for these smaller services such as being able to install the water and sewer connections in the same trench.

Also the recent review shows that the residential connection group has less outstanding connection from permits issued in previous years than the commercial and multi-family connection group. This is because the lead time between application and installation of a connection (while the building is being constructed) for the residential connection group is significantly shorter than the commercial and multi-family group. The cost impact of having to install connections for permits issued several years ago at an old/lower rate is less severe compared to the commercial and multi-family group especially in a period that has significant annual inflation.

Taking all of the above into consideration, staff recommends that the 2008 residential connection rate for single and two family dwellings increase be held at 8%, consisting of 4% to bring the understated fees to the current level and 4% for inflation anticipated for 2008.

Similar to the commercial and multi-family connection program, staff recommends that the deficit accumulated in this program be addressed in the capital budget and close-out reporting process.

(iii) Sewer Connection Inspection Fees for 2008

The sewer connection inspection program provides inspection on private properties to ensure pipes are installed correctly in order to minimize inflow/infiltration into the pipes and cross connection. This program has been operating very close to breakeven and staff recommends these fees be increased by 4% in 2008 to cover projected increases in wages, materials and equipment rental costs.

The applicable fees are detailed in Schedule A, Part I of the by-law.

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Sewers and Watercourse By-Law No. 8093
Schedules of Rates for 2008
(with comparable rates for 2007)

Schedule A

Part I		Sewer Connection Flat Rates	
		2007	Proposed 2008
1.	Public Sewer Connection, for One-Family or Two-Family Dwellings	\$ 6,442	\$ 6,958
2.	Public Sewer Connection, other than One-Family or Two-Family Dwellings		
a)	4 inch/100 mm diameter	\$ 8,416	\$ 9,678
b)	6 inch/150 mm diameter	\$10,157	\$11,681
c)	8 inch/200 mm diameter	\$11,490	\$13,214
d)	10 inch/250 mm diameter	\$13,257	\$15,245
e)	12 inch/300 mm diameter	\$15,063	\$17,322
f)	15 inch/375 mm diameter	\$16,843	\$19,370
g)	Greater than 15 inch/375 mm diameter pursuant to Sentence 2.7 of Sewer and Watercourse By-law	\$16,843	\$19,370
h)	Manhole installation in conjunction with a public sewer connection pursuant to Sentence 2.7 (3) of Sewer and Watercourse By-law	At Cost pursuant to Sentence 2.7 (3)	
3.	Where a public sewer connection will be placed more than 5 feet below the ground elevation, taken to the nearest foot and measured at the centre line of the street or lane as determined by the City Engineer, the fees payable shall be an amount equivalent to an increase of 10%, for each additional foot below 5 feet, of the fee otherwise payable by section 1 or 2 above.		
4.	New fitting on a twin sewer pursuant to Sentence 2.7 (4)	\$ 3,139	\$ 3,610
5.	New fitting on a single sewer pursuant to Sentence 2.7 (4)	\$ 1,383	\$ 1,591
6.	Inspection of a plumbing system, subsoil drainage pipes and a building sewer	\$ 218	\$ 227

Part III		Flat Rates for Unmetered Property	
	Single Family Dwelling	\$ 171	\$ 181
	Single Family Dwelling with Suite	\$ 231	\$ 245
	Strata Duplex (per dwelling unit)	\$ 115	\$ 122
	2 Services, 1 Lot	\$ 342	\$ 362
	3 Services, 1 Lot	\$ 513	\$ 543
	4 Services, 1 Lot	\$ 684	\$ 724
	Parking Lot/Garden	\$ 97	\$ 103

Part IV		Flat Rates for Other Property or Shut Off Water Service	
Other Property		\$ 97	\$ 103
Turned Off, 1 Service		\$ 97	\$ 103
Turned Off, 2 Services		\$ 97	\$ 103
Turned Off, 3 Services		\$ 97	\$ 103
Part V		Unit-Based Rates for Metered Property	
Minimum Charge		\$ 7.16	\$ 7.58
Metered Property Rate		\$ 1.053	\$ 1.115
Waste Discharge Permit User Rate		\$ 0.09776	\$ 0.10270

Schedule B

Part II		BOD/TSS/Flow Rates	
		2007	Proposed 2008
A.	<u>Usage-Based Rate:</u>		
	BOD Load Rate (per kilogram of BOD Load)	\$ 0.035	0.040
	TSS Load Rate (per kilogram of TSS Load)	\$ 0.327	0.360
	Flow Rate (per cubic metre of Flow)	\$ 0.041	0.048
B.	<u>GVS&DD Sewage Facility – Capacity Utilization Rate:</u>		
	BOD Load Capacity Utilization Rate (per Average BOD Load/Operating Day/ per year)	\$ 3.194	3.280
	TSS Load Capacity Utilization Rate (per Average TSS Load/Operating Day/ per year)	\$ 23.179	23.805
	Flow Load Capacity Utilization Rate (per Average Flow/Operating Day/ per year)	\$ 29.496	28.047

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