



The Regional Municipality of Durham  
Report to: The Finance & Administration and Works  
Committee  
From: R.J. Clapp, Commissioner of Finance  
C. Curtis, Commissioner of Works  
Report No.: 2011-J-56  
Date: December 1, 2011

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**SUBJECT:**

Recommended 2012 Water and Sanitary Sewer User Rates

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**RECOMMENDATIONS:**

The Joint Finance and Administration and Works Committee recommends to Regional Council that:

- 1) The 2012 Regional combined water and sanitary sewer user rates be increased by 6.4% overall from the 2011 user rate levels, as set out in Schedule 1 and Schedule 2 (attached), effective January 1, 2012 (water rates represent an increase of 8.3%; sanitary sewer rates represent an increase of 4.6%);
- 2) The 2012 Regional Water and Sanitary Sewer Systems Miscellaneous Fees and Charges be as set out in Schedule 3 (attached), effective January 1, 2012;
- 3) The 2012 water charges to the Sun Valley Heights Homeowners Co-operative Water System be as set out in Schedule 4 (attached), effective January 1, 2012;
- 4) The 2012 Raw Water rates for the Whitby raw water customers be unchanged from the 2011 rates, as set out in Schedule 1 (attached), effective January 1, 2012;
- 5) The 2012 fee schedule for laboratory services at the Regional Environmental Laboratory located at the Duffin Creek Water Pollution Control Plant be as set out in Schedule 5 (attached), effective January 1, 2012; and
- 6) The Regional Solicitor be instructed to revise or prepare the necessary by-laws as required to implement the foregoing recommendations.

## **EXECUTIVE SUMMARY**

### **1.0 BACKGROUND**

- This report relates to the establishment of Water and Sanitary Sewer User Rates to be effective January 1, 2012. It is presented concurrently with and supports the proposed 2012 Water Supply and Sanitary Sewerage Budgets along with Report #2011-J-54: 2012 Water Supply and Sanitary Sewerage Servicing and Financing Study which describes the financing of proposed capital works in 2012 and future years.
- This printed Executive Summary is supplemented by a Detailed Report available on the attached CD.
- Public notification that the proposed 2012 water and sanitary sewer user fees and related charges will be considered by the Joint Finance and Administration and Works Committee on December 1<sup>st</sup>, and by Regional Council on December 14<sup>th</sup>, was provided twice in local newspapers throughout the Region on November 10<sup>th</sup> and 17<sup>th</sup>, 2011.

### **2.0 HIGHLIGHTS**

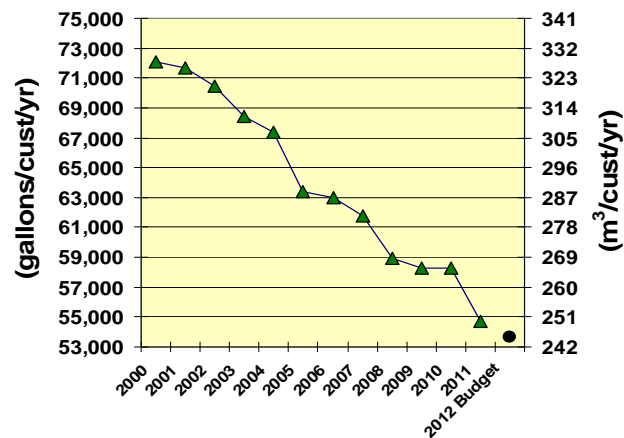
#### **2.1 2012 Proposed Water and Sanitary Sewer User Rate Increases**

- **The recommended 6.4% combined water and sanitary sewer user rate increase (8.3% water, 4.6% sewage) is a direct result of an increase in user rate supported expenditures of 7.2% for water and 2.4% for sewage. The current 2011 and proposed 2012 water and sewage rates are provided in Schedule 1 and Schedule 2, respectively (attached).**
- **For water, the user rate increase of 8.3% is required to finance the proposed preliminary 2012 user rate supported budgeted expenditure increase of \$5.03 million or 7.2%:**
  - **A net *Operating Cost* increase of \$2.11 million or 4.7%; and**
  - **A *Capital Program* increase of \$2.92 million (user rate) or 18.2%.**
- **For sanitary sewer, the user rate increase of 4.6% is required to finance the proposed preliminary 2012 user rate supported budgeted expenditure increase of \$1.72 million or 2.4%:**
  - **A net *Operating Cost* increase of \$1.74 million or 3.5%;**
  - **A *Capital Program* decrease of \$0.42 million (user rate) or 3.1%; and**
  - **A *Debt Repayment* increase of \$0.40 million or 5.4%.**

## 2.2 Customer and Consumption Projections

- **Customer growth** in 2012 is projected at 1.0% for water and 1.1% for sanitary sewage.
- **Water consumption and billed sewage flows budgeted for 2012 are less than in 2011 by 2.8% for water and 2.7% for sewage** due to lower usage per residential customer and declining usage by large non-residential water users. As a result, this decline in consumption more than offsets consumption increases related to growth. Reduced net consumption results in reduced user rate revenue, which must be recovered through user rate increases.

➤ **Residential** – Basic water consumption per residential unit has been steadily decreasing since 2000. Factors include the water efficient fixtures required in new construction by the Provincial Building Code and the popularity of more water efficient appliances. Per customer consumption can be expected to continue to decline over time. General customer awareness of water conservation programs, such as the Region’s program to reduce seasonal demand also continue to have an impact on consumption growth and related revenues.



- **Non-Residential Consumption Share Decreasing** – Industrial, Commercial and Institutional (ICI) consumption is decreasing at a faster pace than residential. In the early 1980’s ICI represented 58% of all water usage. It now represents 25.5% of total consumption.
- **Small to Medium Size ICI Water Users** – 1<sup>st</sup> and 2<sup>nd</sup> block ICI consumption has remained fairly level for a number of years and only a minor adjustment is made for 2012.
- **Large Water Users** – 3<sup>rd</sup> block water usage has been declining every year due to conservation, water recycling and scaling back or closing of large manufacturing operations. The 2011 water consumption is now projected to be lower than budgeted. However, an examination of individual customer trends indicates that this segment may have stabilized. As a result, the 2012 water consumption in the 3<sup>rd</sup> block is projected to remain at the projected 2011 levels.

### 2.3 Impacts on Water and Sewer Customers

- **Average Residential Customers** - The recommendation that the 2012 water and sanitary sewer user rates be increased over 2011 rate levels results in an increase of \$11.78 in the quarterly charge (\$47.12 per annum or \$3.93 per month) to a residential customer using 60,000 gallons per year (273 m<sup>3</sup>).

<b>PROPOSED 2012 REGIONAL USER RATE CHARGES</b>				
<b>CUSTOMER USING 60,000 GALLONS /YEAR</b>				
<b>(273 m<sup>3</sup>/year)</b>				
<b>(Based on Quarterly Billings)</b>				
	<b>Billings (\$/quarter)</b>		<b>Increase</b>	
	<u>2011 Actual</u>	<u>2012 Proposed</u>	<u>\$</u>	<u>%</u>
<b>Water</b>	<b>87.00</b>	<b>94.22</b>	<b>7.22</b>	<b>8.3</b>
<b>Sewage</b>	<b>99.50</b>	<b>104.06</b>	<b>4.56</b>	<b>4.6</b>
<b>Quarterly Total</b>	<b>186.50</b>	<b>198.28</b>	<b>11.78</b>	<b>6.4</b>
<b>Annual Total</b>	<b>746.00</b>	<b>793.12</b>	<b>47.12</b>	<b>6.4</b>

- **Industry** - The proposed 2012 water and sanitary sewer user rates result in a bi-monthly increase of \$3,581 for a customer using 50,000,000 gallons (227,272 m<sup>3</sup>) annually (a customer in the top 25 users) as indicated below:

<b>PROPOSED 2012 REGIONAL USER RATE CHARGES</b>				
<b>CUSTOMER USING 50,000,000 GALLONS /YEAR</b>				
<b>(227,272 m<sup>3</sup>/year)</b>				
<b>(Based on Bimonthly Billings)</b>				
	<b>Billings (\$/bimonthly)</b>		<b>Increase</b>	
	<u>2011 Actual</u>	<u>2012 Proposed</u>	<u>\$</u>	<u>%</u>
<b>Water</b>	<b>22,971</b>	<b>24,876</b>	<b>1,905</b>	<b>8.3</b>
<b>Sewage</b>	<b>36,478</b>	<b>38,154</b>	<b>1,676</b>	<b>4.6</b>
<b>Bimonthly Total</b>	<b>59,449</b>	<b>63,030</b>	<b>3,581</b>	<b>6.0</b>
<b>Annual Total</b>	<b>356,694</b>	<b>378,180</b>	<b>21,486</b>	<b>6.0</b>

**Note:** The total percentage increase of 6.0% is lower than the overall average of 6.4% because the lower sewer rate increase has more impact on large volume users than does the water rate. As a result, the sewer rate increase has relatively more impact on a large volume user than does the water rate increase.

### 2.4 Basis for the Proposed 2012 User Rates

- The projected data used to develop the 2012 user rates includes the following:

	WATER	SANITARY SEWER
<u>Customers</u> - Number	162,755	158,604
- Growth from 2011 Actual	+1.0%	+1.1%
<u>Consumption/Flow</u> - Gallons (billions)	11.60	11.16
- Cubic metres (millions)	52.74	50.73
- Change from 2011 Budget	-2.8%	-2.7%
<u>Projected Net Expenditures – User Rate Supported</u>		
- Total	\$75,086,700	\$73,853,700
- Change from 2011 Budget	+7.2%	+2.4%
<b>User Rate Change Required</b>	<b>+8.3%</b>	<b>+4.6%</b>

- **Impact of a 1% Rate Change** - Any change in either expenditures or other revenues by \$693,000 for water or \$706,000 for sanitary sewer is equivalent to a 1% change in the respective user rate.

## 2.5 Competitiveness of Durham's Water and Sewer Rates

- **Residential customers** - Of 14 municipalities surveyed locally and across Ontario, Durham's 2011 Regional water and sewage charges are below average and are 4<sup>th</sup> lowest.
- **Large users** - The Region's 2011 water and sewer rates were the 5<sup>th</sup> lowest of the 14 municipalities surveyed. The Region's declining block rates reflect the Region's reduced unit cost of servicing large customers.
- **Other Utilities** - Regional water and sewer charges for an average residential customer are each substantially less than other utilities such as gas, hydro, telephone and cable.

## 3.0 FUTURE ISSUES

### 3.1 Projected Combined Water and Sewer User Rate Increases to 2016

- Based upon future projections to 2016, it is estimated that the combined water and sewer **user rate increase** will be approximately **7% to 9% or higher per year** over the forecast period. The cost factors behind these significant increases include the following:
  - Customer growth has recently been lower than experienced for a number of years and is projected to remain at low levels;
  - Water consumption has trended downwards in the past few years and this is expected to continue. Residential customer water usage is expected to be fairly level with consumption growth due to increases in the number of customers offset by reduced day-to-day individual customer use, due to more efficient plumbing fixtures and appliances and awareness of water conservation practices. Small to medium-sized customers are expected to also remain fairly constant. The long-term usage trend by large industrial customers is projected to stabilize;

- Operating costs are expected to increase at an annual rate of 3% to 4% or more due to economic and inflationary increases in utilities, chemicals, supplies, etc.;
- The user rate share of sanitary sewerage capital costs for 2012 to 2016 related to Water Pollution Control Plants (WPCP) is forecast to place a heavy funding obligation on the sewage user rates, in particular York Durham Duffin Creek WPCP projects, including incinerator replacement (\$16.5 million), plant rehabilitation (\$26.5 million) and work on a new outfall (\$18.9 million); as well as upgrades at Harmony Creek #2 WPCP (\$9.0 million); improvements at the Nonquon WPCP (\$10.4 million); and a new lagoon at the Sunderland WPCP (\$2.1 million);
- The user rate share of water capital project costs over the forecast period (2012-2016) includes expansions of the Newcastle Water Supply Plant (WSP) (\$3.7 million) and the Whitby WSP (\$19.6 million) and an alternative water supply source for Scugog (\$11.0 million) and plant SCADA (supervisory control and data acquisition) system projects (\$8.8 million);
- Debt issuance will be required to finance a share of the capital program over the forecast period resulting in higher debt servicing costs which will require future user rate increases; and
- As linear water and sewage system assets age and deteriorate, increased levels of funding will be required to meet investment needs for rehabilitation and replacement as identified in the Region's Report #2011-J-46: 2011 Asset Management Update.

### 3.2 Risk Factors

- **The water and sewer user rate forecasts to 2016 include preliminary cost estimates for known projects and in some cases only allowances have been made until detailed designs are complete. However, there are other factors that will have cost implications that are unknown at this time and have not been quantified. The factors that will put additional pressures on future user rates include:**
  - Potential for further economic decline, particularly in the manufacturing sector, which could result in further reductions in usage and thus related usage revenues without resulting in corresponding cost reductions;
  - Market price impacts and volatility, including energy input prices and related equipment and supplies; and
  - There also may be unknown cost implications as a result of new legislation and current regulations as well as future amendments, related to Bill 72, the *Water Opportunities and Water Conservation Act*, the *Clean Water Act* (Source Protection Plans) and the *Lake Simcoe Protection Act*.

#### **4.0 SCHEDULES OF RATES & FEES**

- The recommended Durham Region 2012 water and sewage rates, fees and charges are set out in the attached schedules, following:
  - The recommended 2012 Water User Rates are 8.3% higher than 2011 rates and are set out in Schedule 1.
  - The recommended 2012 Raw Water rate for the Whitby Water Supply Plant raw water customers is unchanged from the 2011 rate (due to increased consumption, revenues will also increase, allowing the rate to remain unchanged) and are set out in Schedule 1.
  - The recommended 2012 Sewage User Rates are 4.6% higher than 2011 rates and are set out in Schedule 2.
  - The recommended 2012 Water & Sanitary Sewer Systems Miscellaneous Fees & Charges (adjusted to reflect changes in cost structures and inflation) are set out in Schedule 3 (adjusted rates bolded).
  - The recommended 2012 Water Rate for the Sun Valley Heights Homeowners Co-operative Water System is set out in Schedule 4.
  - The recommended 2012 Fee Schedule for Laboratory Services at the Regional Environmental Laboratory Located at the Duffin Creek WPCP be as set out in Schedule 5 (proposed new fees **bolded**).

R.J. Clapp, CA  
Commissioner of Finance

C. R. Curtis, P. Eng., MBA  
Commissioner of Works

Recommended for Presentation to Committee:

G. H. Cubitt, M.S.W.  
Chief Administrative Officer

#### **Attachments:**

Schedule 1 – Recommended 2012 Water User Rates  
Schedule 2 – Recommended 2012 Sewage User Rates  
Schedule 3 – Recommended 2012 Water & Sanitary Sewer Systems  
Miscellaneous Fees & Charges

Schedule 4 – Recommended 2012 Water Rate for the Sun Valley Heights  
Homeowners Co-operative Water System

Schedule 5 – Recommended 2012 Fee Schedule for Laboratory Services at the  
Regional Environmental Laboratory Located at the Duffin Creek  
WPCP

**Detailed Report and Appendices found on attached CD**

# Schedule 1 Recommended 2012 Water User Rates

## REGIONAL MUNICIPALITY OF DURHAM Water User Rate Schedule Monthly Effective January 1, 2012

**2012 Rate Increase = 8.3%**

**\* Raw Water Rate Unchanged**

### Volumetric Charges

Block	Consumption Range			Current 2011	Proposed 2012
	From	To	Units		
First Block	0	to 45	cubic metres/month	\$0.733 /cubic metre	\$0.794 /cubic metre
	0	to 10,000	gallons/month	\$3.334 /1,000 gallons	\$3.611 /1,000 gallons
	0	to 1,600	cubic feet/month	\$2.077 /100 cubic feet	\$2.250 /100 cubic feet
Second Block	46	to 4,500	cubic metres/month	\$0.624 /cubic metre	\$0.675 /cubic metre
	10,001	to 1,000,000	gallons/month	\$2.835 /1,000 gallons	\$3.070 /1,000 gallons
	1,601	to 160,000	cubic feet/month	\$1.766 /100 cubic feet	\$1.913 /100 cubic feet
Third Block		Over 4,500	cubic metres/month	\$0.573 /cubic metre	\$0.620 /cubic metre
		Over 1,000,000	gallons/month	\$2.603 /1,000 gallons	\$2.819 /1,000 gallons
		Over 160,000	cubic feet/month	\$1.622 /100 cubic feet	\$1.756 /100 cubic feet
Raw Water*	All Volumes		cubic metres	\$0.236 /cubic metre	\$0.236 /cubic metre
			gallons	\$1.072 /1,000 gallons	\$1.072 /1,000 gallons

### Basic Charges (\$/month)

Meter/Fire Line Size Inches mm		Service Charge		Minimum Charge		Unmetered Fire Line Charge	
		Current 2011	Proposed 2012	Current 2011	Proposed 2012	Current 2011	Proposed 2012
Standard	Standard	\$12.33	\$13.35	n/a	n/a	n/a	n/a
1-inch	25-mm	\$25.05	\$27.13	\$42.00	\$45.00	\$9.51	\$10.30
1 ½-inch	38-mm	\$53.32	\$57.75	\$80.00	\$87.00	\$12.79	\$13.85
2-inch	51-mm	\$115.14	\$124.70	\$154.00	\$167.00	\$24.76	\$26.82
2 ½-inch	64-mm	n/a	n/a	n/a	n/a	\$32.82	\$35.54
3-inch	76-mm	\$202.42	\$219.22	\$264.00	\$286.00	\$43.50	\$47.11
4-inch	102-mm	\$402.50	\$435.91	\$521.00	\$564.00	\$87.02	\$94.24
5-inch	127-mm	n/a	n/a	n/a	n/a	\$116.82	\$126.52
6-inch	152-mm	\$748.05	\$810.14	\$951.00	\$1,030.00	\$160.67	\$174.01
8-inch	203-mm	\$1,275.28	\$1,381.13	\$1,564.00	\$1,694.00	\$267.72	\$289.94
10-inch	254-mm	\$2,075.23	\$2,247.47	\$2,477.00	\$2,683.00	\$427.20	\$462.66
12-inch	305-mm	n/a	n/a	n/a	n/a	\$602.33	\$652.32

### Flat Rate (includes consumption)

	Current 2011	Proposed 2012
Monthly/unit	\$29.00	\$31.41
Quarterly/unit	\$87.00	\$94.23
Annually/unit	\$348.00	\$376.92

Late payment charge is 2%. A bill payment is late if not made within 16 days of the date on which the bill is mailed.

## Schedule 2 Recommended 2012 Sewage User Rates

### REGIONAL MUNICIPALITY OF DURHAM Sewage User Rate Schedule Monthly Effective January 1, 2012

**Volumetric Charges**

**2012 Rate Increase = 4.6%**

Block	Consumption Range			Current 2011	Proposed 2012
	From	To	Units		
First Block	0	to 45	cubic metres/month	\$1.245 /cubic metre	\$1.302 /cubic metre
	0	to 10,000	gallons/month	\$5.657 /1,000 gallons	\$5.917 /1,000 gallons
	0	to 1,600	cubic feet/month	\$3.524 /100 cubic feet	\$3.686 /100 cubic feet
<i>Sewer rate expressed as a % of water rate</i>				169.7%	163.9%
Second Block	46	to 4,500	cubic metres/month	\$1.095 /cubic metre	\$1.146 /cubic metre
	10,001	to 1,000,000	gallons/month	\$4.978 /1,000 gallons	\$5.207 /1,000 gallons
	1,601	to 160,000	cubic feet/month	\$3.101 /100 cubic feet	\$3.244 /100 cubic feet
<i>Sewer rate expressed as a % of water rate</i>				175.6%	169.6%
Third Block		Over 4,500	cubic metres/month	\$0.920 /cubic metre	\$0.963 /cubic metre
		Over 1,000,000	gallons/month	\$4.184 /1,000 gallons	\$4.376 /1,000 gallons
		Over 160,000	cubic feet/month	\$2.607 /100 cubic feet	\$2.726 /100 cubic feet
<i>Sewer rate expressed as a % of water rate</i>				160.7%	155.2%

**Basic Charges (\$/month)**

Meter	Service Charge		Minimum Charge		Flat Rate/unit	
	Current 2011	Proposed 2012	Current 2011	Proposed 2012	Current 2011	Proposed 2012
Standard	\$4.88	\$5.10	No minimum charge		\$33.17	\$34.69
All other sizes						
Monthly	\$4.88	\$5.10	\$33.00	\$35.00	\$33.17	\$34.69
Quarterly	\$14.64	\$15.30			\$99.51	\$104.07
Annually	\$58.56	\$61.20			\$398.04	\$416.28

Late payment charge is 2%. A bill payment is late if not made within 16 days of the date on which the bill is mailed.

## Schedule 3 Recommended 2012 Water & Sanitary Sewer Systems Miscellaneous Fees & Charges

### THE REGIONAL MUNICIPALITY OF DURHAM WATER & SANITARY SEWER SYSTEMS MISCELLANEOUS CHARGES (Excludes Any Applicable Taxes – except where noted)

Schedule 3 - Recommended 2012 Miscellaneous Charges  Item Number & Description	By-Law Schedule Reference		Existing 2011 Charges		Recommended 2012 Charges
	Water By-law #89-2003	Sewer By-law #90-2003	Water \$	Sewer \$	Note: Changes are in Bold \$
<b>SERVICE CONNECTION RELATED CHARGES</b>					
1) Water Service Connection Charges, for single family and semi-detached residential lots including those for pre-installed stubs: a) 19mm (3/4") diameter - Base Rate – Apr 1 – Nov 30 - Winter Rate – Dec 1 – Mar 31 b) 25mm (1") diameter - Base Rate – Apr 1 – Nov 30 - Winter Rate – Dec 1 – Mar 31	D1		2,900.00 3,800.00 3,000.00 4,000.00		<b>2,973.00</b> <b>3,895.00</b> <b>3,075.00</b> <b>4,100.00</b>
2) Water Service Connections, not covered above, including apartment buildings (from duplexes to multi floor buildings), townhouses and condominiums on blocks of land or recreational, institutional, commercial and industrial buildings: - 19-mm (3/4") diameter minimum charge - 25-mm (1") diameter minimum charge	D2		Actual Cost 2,900.00 3,000.00		Actual Cost <b>2,973.00</b> <b>3,075.00</b>
3) Inspection of an installation of a separate fire line on private property	D3		93.10		<b>96.00</b>
4) Sanitary Sewer Service Connection Charges for single family and semi-detached residential lots for pre-installed stubs 100 or 125mm (4" or 5") diameter: - Base Rate (Apr 1 – Nov 30) - Winter Rate (Dec 1 – Mar 31)		C1		3,300.00 4,300.00	<b>3,383.00</b> <b>4,408.00</b>
5) Sanitary Sewer Service Connections, not covered above, including apartment buildings (from duplexes to multi floor buildings), townhouses and condominiums on blocks of land or recreational, institutional, commercial and industrial buildings: - Minimum Charge		C2		Actual Cost 3,300.00	Actual Cost <b>3,383.00</b>
6) Storm Sewer Service Connections: - Minimum Charge		C3		Actual Cost 3,300.00	Actual Cost <b>3,383.00</b>
7) Reuse of Water/Sewer Service Connection where building has been or will be demolished or removed: - Inspection fee	D4	C4		93.10 for both	<b>96.00 for both</b>

Schedule 3 - Recommended 2012 Miscellaneous Charges  Item Number & Description	By-Law Schedule Reference		Existing 2011 Charges		Recommended 2012 Charges			
	Water By-law #89- 2003	Sewer By-law #90- 2003	Water \$	Sewer \$	Note: Changes are in Bold \$			
- Where a disused Water/Sewer Service Connection is to be replaced by the Region			See above service connection charges					
8) Disconnecting, rendering inoperable, reconnecting or restoring Water/Sewer connection	D5	C5	Actual Cost		Actual Cost			
<b>FRONTAGE CHARGES (see Note (1)(2)(3)(4)&amp;(5))</b>								
9) Standard 150-mm (6-inch) diameter Watermain (Note 3)	E1 & E2							
i) Cash cost (standard)								
- /metre						189.00	<b>194.00</b>	
- /foot						57.61	<b>59.13</b>	
ii) Per annum (see Note 2)								
- /metre	25.68	<b>26.36</b>						
- /foot	7.83	<b>8.03</b>						
10) Standard 200-mm (8-inch) diameter Watermain	E1 & E2							
i) Cash cost (standard)								
- /metre						220.00	<b>226.00</b>	
- /foot						67.06	<b>68.88</b>	
ii) Per annum (see Note 2)								
- /metre	29.89	<b>30.71</b>						
- /foot	9.11	<b>9.36</b>						
11) Standard 300-mm (12-inch) diameter Watermain	E1 & E2							
i) Cash cost (standard)								
- /metre						245.00	<b>251.00</b>	
- /foot						74.68	<b>76.50</b>	
ii) Per annum (see Note 2)								
- /metre	33.29	<b>34.10</b>						
- /foot	10.15	<b>10.39</b>						
12) Standard 200-mm (8-inch) diameter Sanitary Sewer (Note 3)		D1 & D2						
i) Cash cost (standard)								
- /metre							243.00	<b>249.00</b>
- /foot							74.07	<b>75.90</b>
ii) Per annum (see Note 2)								
- /metre		33.02	<b>33.83</b>					
- /foot		10.06	<b>10.31</b>					
13) Standard 250-mm (10-inch) diameter Sanitary Sewer		D1 & D2						
i) Cash cost (standard)								
- /metre							277.00	<b>284.00</b>
- /foot							84.43	<b>86.56</b>
ii) Per annum (see Note 2)								
- /metre		37.64	<b>38.59</b>					
- /foot		11.47	<b>11.76</b>					

Schedule 3 - Recommended 2012 Miscellaneous Charges	By-Law Schedule Reference		Existing 2011 Charges		Recommended 2012 Charges
	Water By-law #89- 2003	Sewer By-law #90- 2003	Water \$	Sewer \$	Note: Changes are in Bold \$
14) Standard 300-mm (12-inch) diameter Sanitary Sewer		D1 & D2			
i) Cash cost (standard)					
- /metre				309.00	<b>317.00</b>
- /foot				94.18	<b>96.62</b>
ii) Per annum (see Note 2)					
- /metre				41.98	<b>43.07</b>
- /foot				12.80	<b>13.13</b>
<b>Note (1)</b> – Customers requiring non-standard main sizes charged actual cost.					
<b>Note (2)</b> – Bases of per annum charges: Repayment period = 10 years Annual Interest rate = 6%					
<b>Note (3)</b> – Residential frontage charges to be assessed on the basis of a standard 150-mm (6-inch) diameter watermain and a standard 200-mm (8-inch) diameter sanitary sewer.					
<b>Note (4)</b> – Any frontage charges for non-standard main sizes, or any extraordinary circumstances, be assessed by the Commissioners of Finance and Works on a case by case basis to maximize full recovery.					
<b>Note (5)</b> – Rate may vary if estimated construction costs vary significantly from the rates noted above.					
<b>MISCELLANEOUS CHARGES</b>					
15) <u>Water Shut Off/Turn On</u>					
<b>Initiated by Customer:</b>	F1	E1			
During normal Regional working hours:					
- Shut Water Off			57.00		<b>58.00</b>
- Turn Water On			57.00		<b>58.00</b>
- Shut Off & Turn On During Same Call			65.00		<b>67.00</b>
After normal Regional working hours:					
- Shut Water Off			86.00		<b>88.00</b>
- Turn Water On			86.00		<b>88.00</b>
- Shut Off and Turn On During Same Call			94.00		<b>96.00</b>
<b>Initiated by Region:</b>					
For failure by the Customer to arrange with the Region for meter installation, replacement, repair or inspection or meter reading (off or on, each)			57.00		<b>58.00</b>
For Water Shut Off Notification prior to shut off action being taken			35.00 for both		<b>36.00 for both</b>
For Water Shut Off for collection action, (water not necessarily shut off) for non-payment of Water/Sewer bill, or any Regional invoice, or for violation of any provision of the Water System/Sewer System By-laws (water not necessarily shut off)			86.00 for both		<b>88.00 for both</b>
Turn Water On			57.00 for both		<b>58.00 for both</b>
16) Standby charge while water service is shut off but not disconnected	F2		Standard Service Charge		Standard Service Charge

Schedule 3 - Recommended 2012 Miscellaneous Charges  Item Number & Description	By-Law Schedule Reference		Existing 2011 Charges		Recommended 2012 Charges
	Water By-law #89- 2003	Sewer By-law #90- 2003	Water \$	Sewer \$	Note: Changes are in Bold \$
17) <u>Testing of Water Meter Initiated by Customer:</u> - Deposit Fee where the meter is found to measure the flow of water within or below AWWA Specifications - Up to a maximum size of 25mm - Over 25mm Fee if meter is found to measure the flow of water above AWWA specifications	F3		190.00  190.00 Actual Cost No Charge		<b>195.00</b>  <b>195.00</b> Actual Cost No Charge
18) Unmetered water used for construction (building purposes) per service	F4		73.00		<b>75.00</b>
19) Drawing Regional water from hydrant for purposes other than fire protection i) Area Municipalities - /cubic metre - /1000 gallons ii) Others - /cubic metre - /1000 gallons - Deposit - Minimum Charge - Administration Fee	F5		2.86 13.02  2.86 13.02 395.00 395.00 103.00		<b>2.93</b> <b>13.32</b>  <b>2.93</b> <b>13.32</b> <b>405.00</b> <b>405.00</b> <b>106.00</b>
20) Repair or replacement of frozen, damaged or missing water meters - Up to a maximum size of 19mm (3/4") - Over 19mm (3/4")	F6		186.00 Actual Cost		<b>191.00</b> Actual Cost
21) Thawing of service pipes	F7		No Charge		No Charge
22) Thawing of private hydrants or unmetered Fire Lines	F8		Actual Cost		Actual Cost
23) Cleaning sanitary sewer services		E3		No Charge	No Charge
24) Repair to or renewal of sanitary building sewers		E4		No Charge	No Charge
25) Supplying Statement of Account	F9	E5	28.00 for both		<b>29.00 for both</b>
26) Charge for Regional Solicitor providing information	F10	E6	76.00 for both		<b>78.00 for both</b>
27) Processing of dishonoured cheques	F11	E7	44.00 for both		<b>45.00 for both</b>
28) Change of Occupancy	F12	E8	32.00 for both		<b>33.00 for both</b>
29) Charge for late payment of Water/Sewer Surcharge Rates.	F13	E9	2%		2%
30) Lien Administration Fee	F14	E10	65.00 for both		<b>67.00 for both</b>
31) Installation and removal of anti-tampering devices on fire hydrants & curb stops	F15		107.00		<b>110.00</b>

Schedule 3 - Recommended 2012 Miscellaneous Charges  Item Number & Description	By-Law Schedule Reference		Existing 2011 Charges		Recommended 2012 Charges
	Water By-law #89- 2003	Sewer By-law #90- 2003	Water \$	Sewer \$	Note: Changes are in Bold \$
32) Water from Water Supply Plants, Water Pollution Control Plants & Works Depots - /cubic metre - /1000 gallons - Minimum Volume Charge \$/per month - Occasional Users – Flat Rate - Account Administration Fee \$/year - Key deposit - Refundable on return of key	F16		2.15 9.76 43.00 30.00 107.00 182.00 152.00		<b>2.20</b> <b>10.00</b> <b>44.00</b> <b>31.00</b> <b>110.00</b> <b>187.00</b> <b>156.00</b>
33) Fire Flow tests: - Full test (May 1 – Oct 31) - Full test (Nov 1 – Apr 30) - Opening Hydrants (May 1 – Oct 31) - Opening Hydrant (Nov 1 – Apr 30)	F17		407.00 707.00 279.00 568.00		<b>417.00</b> <b>725.00</b> <b>286.00</b> <b>582.00</b>
34) Sewage Surcharge and Compliance Agreements		E11		1,716.00	<b>1,759.00</b>
35) Disposal of Septic Tank and Holding Tank Waste and the disposal of Water Pollution Control Plant Sludges: a) Hauled Domestic Waste - /cubic metre - /1000 gallons b) Annual charge for registration of Haulers c) Waste Discharge Application d) ICI Sector areas (discharges up to 100,000 gallons)		E2		15.46 70.27 166.00 166.00 832.00	<b>15.85</b> <b>72.05</b> <b>170.00</b> <b>170.00</b> <b>853.00</b>
36) Copies of By-laws Water System, Sewer System and Sewer Use (+ Applicable taxes)	F18	E12	17.00/copy		17.00/copy
37) Sewer TV Inspection Reports and Videos per report or video (+ Applicable taxes)		E13		12.50	<b>12.80</b>
38) Sewer Use By-law Agreement extra strength waste cost	By-law #164-89			48¢/kg	48¢/kg
39) Sewer Appeal Application per request			425.00		<b>436.00</b>

## Schedule 4 Recommended 2012 Water Rate for the Sun Valley Heights Homeowners Co-operative Water System

Cost Item	Budget 2011	Projected Cost 2012
	\$	\$
Hydro Electricity	1,220	1,220
Property Taxes	220	250
Laboratory Costs	2,190	2,200
Vehicle	2,760	2,800
Operator & Reports	14,000	14,350
Operation Materials	3,585	3,600
Maintenance Materials & Other	620	600
<b>TOTAL</b>	<b>24,595</b>	<b>25,020</b>
<b>Annual cost to the 17 property owners</b>	<b>\$1,447</b>	<b>\$1,472</b>
<b>Monthly charges per property owner (billings sent quarterly)</b>	<b>\$121</b>	<b>\$123</b>

# Schedule 5 Recommended 2012 Fee Schedule for Laboratory Services at the Regional Environmental Laboratory Located at the Duffin Creek WPCP

Description	2011 Rate (before appl. Taxes)		2012 Rate (before appl. Taxes)	
	\$	\$	\$	\$
<b>ONTARIO DRINKING WATER REGULATION 170/03 PACKAGES</b>				
<b><u>DESCRIPTION</u></b>				
<b><u>Microbiological</u></b>				
Presence/Absence Test (P/A for TC, EC)	\$	14.00	\$	14.00
Treated Water (P/A, HPC or BKD)	\$	26.00	\$	26.00
Well Water/Raw/Reg.319 (TC, EC)	\$	27.00	\$	27.00
Well Water/Treated/Distribution (TC, EC, HPC)	\$	37.00	\$	37.00
Resample Tests (e.g. MFHPC, MFTC)	\$	13.00	\$	13.00
Resample Test (E.coli)	\$	14.00	\$	14.00
<b><u>Inorganic Chemical</u></b>				
<b>All Parameters required under Schedule 23</b> (As, B, Ba, Cd, Cr, Hg, Sb, Se, U)	\$	79.00	\$	79.00
<b>All Parameters required under Schedule 23 plus additional metals</b> (Al, As, B, Ba, Cd, Co, Cr, Cu, Fe, Hg, Mn, Mo, Ni, Pb, Sb, Se, U, Zn)	\$	79.00	\$	79.00
<b>Inorganic Ions required under O.Regulation 170/03</b> (F, NO2, NO3, Na)	\$	78.00	\$	78.00
<b>Inorganic Ions required under O.Regulation 170/03 plus additional Ions</b> (Hardness*, Ca, Mg, Na, K, Ammonia, F, Cl, Br, NO2, NO3, PO4, SO4)	\$	78.00	\$	78.00
(Nitrite, Nitrate)	\$	51.00	\$	51.00
(Sodium)	\$	34.00	\$	34.00
(Fluoride)	\$	34.00	\$	34.00
(Lead testing as required under O.Regulation 170)	\$	35.00	\$	35.00
(Lead testing as required under O.Regulation 243)	\$	50.00	\$	50.00
<b><u>Organic Chemical</u></b>				
<b>THMs (Trihalomethanes)</b>	\$	100.00	\$	100.00
bromodichloromethane			bromoform	
dibromochloromethane			chloroform	
THM (Total)				
<b>All Parameters required under Schedule 24</b> (Please see Parameters listed in O.Regulation 170/03)	\$	1,066.00	\$	1,066.00
<b>All Parameters required under Schedule 24 plus additional Organic Parameters</b> (Includes all Parameters described under the following test CODES listed in this book - VOC, OC, TRIAZ, OP, PHENAC, CHLORPHEN, CARBUREA, GLYPH, DIPARA, PCB)	\$	1,066.00	\$	1,066.00
<b><u>Combined Packages</u></b>				
<b>York Region Drinking Water Package A</b> (Includes DW2M (less TURB), Hg, B, Ba, U, VOC, OC, TRIAZ, OP, PHENAC, CHLORPHEN, CARBUREA, GLYPH, DIPARA, PCB)	\$	1,260.00	\$	1,260.00
*Calculation included (no charge).				

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**2012 FEES AND CHARGES**  
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Description	2011 Rate (before appl. Taxes)		2012 Rate (before appl. Taxes)	
	\$	\$	\$	\$
<b><u>MICROBIOLOGICAL CODES</u></b>				
<b><u>DESCRIPTION</u></b>				
<b>O.Regulation 170/03</b>				
Presence/Absence Test (P/A for TC, EC)	\$	14.00	\$	14.00
Treated Water (P/A, HPC or BKD)	\$	26.00	\$	26.00
Well Water/Raw/Reg.319 (TC, EC)	\$	27.00	\$	27.00
Well Water/Treated/Distribution (TC, EC, HPC)	\$	37.00	\$	37.00
Raw Water Intake, Municipal (TC, EC, BKD)	\$	32.00	\$	32.00
Treated/Distribution Water (TC, EC, BKD, HPC)	\$	42.00	\$	42.00
Resample Tests (e.g. MFHPC, MFTC)	\$	13.00	\$	13.00
Resample Test (E.coli)	\$	14.00	\$	14.00
<b>New Mains</b>				
New Water Mains (TC, EC, BKD, HPC)	\$	42.00	\$	42.00
New Water Mains (TC, EC, BKD, HPC)+Thiosulphate	\$	52.00	\$	52.00
<b>Waste Water</b>				
E.coli (Final Effluent)	\$	16.00	\$	16.00
E.coli (Sludge / Cake)	\$	30.00	\$	30.00
Final Effluent (TC, EC)	\$	30.00	\$	30.00
Final Effluent (TC, EC, FS)	\$	40.00	\$	40.00
Microscopic Examination	\$	95.00	\$	95.00
<b>Recreational Water</b>				
E.coli (Lake/Beach/Creek/Pond/River)	\$	14.00	\$	14.00
Lakes / Bathing beaches (TC, EC, FS)	\$	37.00	\$	37.00
Any Single Membrane Filtration Test (eg. FC - MFFC, AE - MFAE, PS, SA etc.)	\$	25.00	\$	25.00
<b>Raw Water</b>				
Algae Enumeration and Identification	\$	74.00	\$	74.00
Microcystin		M OE Reg O.160/03	\$	150.00
<b>Mycology (Fungi)</b>				
Fungal Enumeration	\$	21.00	\$	21.00
Fungal Identification (Consultation Required)	\$	105.00	\$	105.00
Air Quality (Microbial - Bacteria, Yeasts & Molds)	\$	53.00	\$	53.00
<b>Sterility (Spore) Testing</b>				
Bacillus subtilis (DRY)	\$	25.00	\$	25.00
Bacillus stearothermophilus (STEAM)	\$	25.00	\$	25.00
<b>Other Bacteriological Groups</b>				
Private Wells (TC, EC)(Signed Report only in one week)	\$	27.00	\$	27.00
Private Wells (TC, EC)(Unsigned Report faxed next day)	\$	50.00	\$	50.00
Private Wells (TC, EC)(Signed Report faxed next day)	\$	75.00	\$	75.00
Iron Bacteria - Presence/Absence	\$	53.00	\$	53.00
Sulphur Bacteria - Presence/Absence	\$	53.00	\$	53.00
Iron & Sulphur Bacteria - Presence/Absence	\$	84.00	\$	84.00
Enumeration for (TC, EC, FC, HPC, BKD, PS, AE or FS) per parameter	\$	50.00	\$	50.00

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Description	2011 Rate (before appl. Taxes)		2012 Rate (before appl. Taxes)	
	\$	\$	\$	\$
<b>GENERAL INORGANIC CODES</b>				
<b>DESCRIPTION</b>				
	Water	S/S/S	Water	S/S/S
pH, Conductivity, Alkalinity	\$ 27.00	\$ 32.00	\$ 27.00	\$ 32.00
Alkalinity	\$ 16.00	\$ 21.00	\$ 16.00	\$ 21.00
Conductivity	\$ 11.00	\$ 16.00	\$ 11.00	\$ 16.00
pH	\$ 11.00	\$ 16.00	\$ 11.00	\$ 16.00
Fluoride by Ion Selective Electrode	\$ 21.00	\$ 27.00	\$ 21.00	\$ 27.00
Total Residual Chlorine	\$ 11.00	\$ 19.00	\$ 11.00	\$ 19.00
Free Residual Chlorine	\$ 11.00	\$ 19.00	\$ 11.00	\$ 19.00
Colour	\$ 16.00	\$ 19.00	\$ 16.00	\$ 19.00
Turbidity	\$ 16.00	\$ 19.00	\$ 16.00	\$ 19.00
Biochemical Oxygen Demand (BOD5)	\$ 35.00	\$ 42.00	\$ 35.00	\$ 42.00
Carbonaceous Biochemical Oxygen Demand (cBOD5)	\$ 35.00	\$ 42.00	\$ 35.00	\$ 42.00
Chemical Oxygen Demand (COD)	\$ 31.00	\$ 37.00	\$ 31.00	\$ 37.00
Dissolved Organic Carbon (DOC)	\$ 29.00	\$ 37.00	\$ 29.00	\$ 37.00
Cyanide (Total)	\$ 40.00	\$ 47.00	\$ 40.00	\$ 47.00
Cyanide (Free)	\$ 40.00	\$ 47.00	\$ 40.00	\$ 47.00
Phenol	\$ 37.00	\$ 45.00	\$ 37.00	\$ 45.00
Sulphide (H2S)	\$ 37.00	\$ 45.00	\$ 37.00	\$ 45.00
Silicate (SiO3)	\$ 27.00	\$ 32.00	\$ 27.00	\$ 32.00
Dissolved Solids (DS)	\$ 18.00	\$ 21.00	\$ 18.00	\$ 21.00
Dissolved Solids, Ashed Dissolved Solids	\$ 26.00	\$ 29.00	\$ 26.00	\$ 29.00
Volatile Dissolved Solids*				
Suspended Solids (SS)	\$ 15.00	\$ 17.00	\$ 15.00	\$ 17.00
Suspended Solids, Ashed Suspended Solids, Volatile Suspended Solids*	\$ 21.00	\$ 24.00	\$ 21.00	\$ 24.00
Total Solids (TS)	\$ 13.00	\$ 15.00	\$ 13.00	\$ 15.00
Total Solids, Ashed Total Solids, Volatile Total Solids*	\$ 19.00	\$ 21.00	\$ 19.00	\$ 21.00
Dissolved Solids, Suspended Solids, Total Solids	\$ 35.00	\$ 40.00	\$ 35.00	\$ 40.00
Total Oil & Grease	\$ 52.00	\$ 62.00	\$ 52.00	\$ 62.00
Total / Mineral / Animal & Vegetable* Oil & Grease	\$ 79.00	\$ 95.00	\$ 79.00	\$ 95.00
Volatile Acids	\$ 30.00	\$ 30.00	\$ 30.00	\$ 30.00
Moisture	-	\$ 19.00	-	\$ 19.00
Iodine Number for Activated Carbon	-	\$ 158.00	-	\$ 158.00
S/S/S = Sewage, Sludge and Soil				
*Calculation included (no charge).				

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Description	2011 Rate (before appl. Taxes)		2012 Rate (before appl. Taxes)	
	\$	\$	\$	\$
<b><u>GENERAL INORGANIC CODES</u></b>				
<b><u>DESCRIPTION</u></b>				
<b><u>Ion Chromatography</u></b>				
	Water	S/S/S	Water	S/S/S
Hardness*, Ca, Mg, Na, K, Ammonia, F, Cl, Br, NO2, NO3, PO4, SO4	\$ 78.00	\$ 94.00	\$ 78.00	\$ 94.00
F, Cl, Br, NO2, NO3, PO4, SO4	\$ 51.00	\$ 61.00	\$ 51.00	\$ 61.00
Hardness*, Ca, Mg, Na, K, Ammonia	\$ 51.00	\$ 61.00	\$ 51.00	\$ 61.00
Any One of the Above Single Elements by IC	\$ 34.00	\$ 40.00	\$ 34.00	\$ 40.00
<b><u>Nutrients by Segmented Flow Analyzer</u></b>				
NH3+NH4, PO4, NO2, NO2+NO3, TKN, TP	\$ 97.00	\$ 116.00	\$ 97.00	\$ 116.00
NH3+NH4, PO4, NO2, NO2+NO3	\$ 58.00	\$ 69.00	\$ 58.00	\$ 69.00
TKN, TP	\$ 58.00	\$ 69.00	\$ 58.00	\$ 69.00
Any One of the Above Single Nutrients by SFA	\$ 38.00	\$ 46.00	\$ 38.00	\$ 46.00
<b><u>Metals</u></b>				
Mercury (Hg) by Cold Vapour AA or AF	\$ 35.00	\$ 42.00	\$ 35.00	\$ 42.00
Acid Soluble Metals by ICP (Al, Fe, Mn, Pb, Zn)	\$ 40.00	-	\$ 40.00	-
Cation Scan by ICP (B, Ba, Be, Ca, K, Li, Mg, Na, SiO3, Sr, U)	\$ 40.00	-	\$ 40.00	-
Heavy Metals Scan by ICP (Water) (Al, As, Cd, Co, Cr, Cu, Fe, Mn, Mo, Ni, Pb, Se, Sb, Zn)	\$ 53.00	\$ 63.00	\$ 53.00	\$ 63.00
Heavy Metals Scan by ICP (Sewage/Sludge/Soil) (As, Cd, Co, Cr, Cu, Mo, Ni, Pb, Se, Zn)	-	\$ 63.00	-	\$ 63.00
Regulation 170 - Heavy Metals Scan by ICP (Al, As, B, Ba, Cd, Co, Cr, Cu, Fe, Mn, Mo, Ni, Pb, Sb, Se, U, Zn)	\$ 75.00	-	\$ 75.00	-
Any One of the Above Single Metals by ICP	\$ 35.00	\$ 42.00	\$ 35.00	\$ 42.00
(Lead testing as required under O.Regulation 170)	\$ 35.00	-	\$ 35.00	-
(Lead testing as required under O.Regulation 243)	\$ 50.00	-	\$ 50.00	-
Other elements such as (Ag, Ti, V, Tl, etc.) are available as single element requests.				
S/S/S = Sewage, Sludge and Soil				
* = Calculation Included (no charge)				

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Description	2011 Rate (before appl. Taxes)		2012 Rate (before appl. Taxes)	
	\$	\$	\$	\$
<b><u>INORGANIC MONITORING PACKAGES</u></b>				
<b><u>DESCRIPTION</u></b>				
<b>Drinking Water</b>				
<b>Drinking Water Package #1</b> (pH, conductivity, alkalinity, chloride, fluoride, bromide, nitrite, nitrate, phosphate, sulphate, calcium, magnesium, sodium, potassium, ammonia, hardness*, ionic balance*, total anions*, total cations*, calculated dissolved solids*, calculated conductivity*, langelier index*)	\$	95.00	\$	95.00
<b>Drinking Water Package #2</b> (colour, turbidity, Al, Fe, Mn, Pb, Zn) (pH, conductivity, alkalinity, chloride, fluoride, bromide, nitrite, nitrate, phosphate, sulphate, calcium, magnesium, sodium, potassium, ammonia, hardness*, ionic balance*, total anions*, total cations*, calculated dissolved solids*, calculated conductivity*, langelier index*)	\$	147.00	\$	147.00
<b>Drinking Water Package #2 with expanded metals</b> (colour, turbidity, Al, As, Cd, Co, Cr, Cu, Fe, Mn, Mo, Ni, Pb, Sb, Se, Zn) (pH, conductivity, alkalinity, chloride, fluoride, bromide, nitrite, nitrate, phosphate, sulphate, calcium, magnesium, sodium, potassium, ammonia, hardness*, ionic balance*, total anions*, total cations*, calculated dissolved solids*, calculated conductivity*, langelier index*)	\$	171.00	\$	171.00
<b>Landfill Monitoring</b>				
<b>Surface Water</b> (BOD, COD, colour, phenol, total solids, suspended solids, dissolved solids*, pH, conductivity, alkalinity, fluoride, chloride, bromide, nitrite, nitrate, sulphate, phosphate, calcium, magnesium, sodium, potassium, ammonia, hardness*, total cations*, total anions*, ionic balance*, calculated dissolved solids*, calculated conductivity*, langelier index*, dissolved organic carbon, total kjeldahl nitrogen, total phosphorus, Al, As, Cd, Co, Cr, Cu, Fe, Mn, Mo, Ni, Pb, Sb, Se, Zn)	\$	363.00	\$	363.00
(Filtration of Raw Landfill samples)	\$	35.00	\$	35.00
*Calculation included (no charge).				

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Description	2011 Rate (before appl. Taxes)		2012 Rate (before appl. Taxes)	
	\$	\$	\$	\$
<b><u>INORGANIC MONITORING PACKAGES</u></b>				
<b><u>DESCRIPTION</u></b>				
<b><u>Sewer Use By-law</u></b>	\$	407.00	\$	407.00
<b>Complete Inorganic Package</b> sulphate, phenol, cyanide, Total/Mineral/Animal & Vegetable Oil & Grease Hg, Ag, Al, As, Cd, Co, Cr, Cu, Fe, Mn, Mo, Ni, Pb, Sb, Se, Sn, Ti, Zn				
<b><u>Sewage and Industrial Waste</u></b>				
<b>Monitoring Package #1</b> (BOD5, suspended solids)	\$	42.00	\$	42.00
<b>Monitoring Package #2</b> (BOD5, susp. solids, total kjeldahl nitrogen, total phosphorus)	\$	98.00	\$	98.00
<b>Monitoring Package #2 plus Metals</b> (BOD5, susp. solids, total kjeldahl nitrogen, total phosphorus Al, As, Cd, Co, Cr, Cu, Fe, Mn, Mo, Ni, Pb, Sb, Se, Zn)	\$	158.00	\$	158.00
<b>Monitoring Package #3</b> (BOD5, susp. solids, total kjeldahl nitrogen, total phosphorus ammonia+ammonium, nitrite, nitrite+nitrate, diss. phosphate)	\$	147.00	\$	147.00
<b>Monitoring Package #3 plus Metals</b> (BOD5, susp. solids, total kjeldahl nitrogen, total phosphorus ammonia+ammonium, nitrite, nitrite+nitrate, diss. phosphate Al, As, Cd, Co, Cr, Cu, Fe, Mn, Mo, Ni, Pb, Sb, Se, Zn)	\$	207.00	\$	207.00
<b>Monitoring Package #4 plus Metals</b> (BOD5, CBOD5, susp. solids, total kjeldahl nitrogen, total phosphorus ammonia+ammonium, nitrite, nitrite+nitrate, diss. phosphate, pH Al, As, Cd, Co, Cr, Cu, Fe, Mn, Mo, Ni, Pb, Sb, Se, Zn)	\$	257.00	\$	257.00
<b><u>Sludge</u></b>				
<b>Sludge Monitoring Package #1</b> (total solids, total kjeldahl nitrogen, total phosphorus, ammonia+ammonium, nitrite, nitrite+nitrate, diss. phosphate)	\$	114.00	\$	114.00
<b>Sludge Monitoring Package #1 plus Metals</b> (total solids, total kjeldahl nitrogen, total phosphorus, ammonia+ammonium, nitrite, nitrite+nitrate, diss. phosphate Hg, As, Cd, Co, Cr, Cu, Mo, Ni, Pb, Se, Zn)	\$	174.00	\$	174.00
<b>Sludge Monitoring Package #2 (Agrisludge)</b> (total solids, ashed total solids, volatile total solids*, total kjeldahl nitrogen, total phosphorus, ammonia+ammonium nitrite + nitrate, Hg, As, Cd, Co, Cr, Cu, K, Mo, Ni, Pb, Se, Zn)	\$	200.00	\$	200.00
*Calculation included (no charge).				

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Description	2011 Rate (before appl. Taxes)		2012 Rate (before appl. Taxes)	
	\$	\$	\$	\$
<b>ORGANIC MONITORING PACKAGES</b>				
<b>DESCRIPTION</b>				
<b>Drinking / Surface / Ground Water and Wastewater</b>				
<b>THMs (Trihalomethanes)</b>				
bromodichloromethane		\$ 100.00	\$ 100.00	
dibromochloromethane	bromoform			
THM (Total)	chloroform			
<b>BTEX by Purge &amp; Trap GC/MS</b>		\$ 79.00	\$ 79.00	
benzene	ethylbenzene			
m,p-xylene	o-xylene			
toluene				
<b>Taste &amp; Odour</b>		\$ 225.00	\$ 225.00	
geosmin	2-methylisoborneol (MIB)			
2-isobutyl-3-methoxypyrazine	2-isopropyl-3-methoxypyrazine			
2,3,6-trichloroanisole	2,4,6-trichloroanisole			
<b>Haloacetic Acids (Disinfection By-Products)</b>		\$ 195.00	\$ 195.00	
bromochloroacetic acid	dibromoacetic acid			
dichloroacetic acid	monobromoacetic acid			
monochloroacetic acid	trichloroacetic acid			
<b>Volatile Organic Compounds</b>		\$ 126.00	\$ 126.00	
benzene	cis-1,2-dichloroethylene			
bromodichloromethane	trans-1,2-dichloroethylene			
bromoform	dichloromethane			
bromomethane	1,2-dichloropropane			
carbon tetrachloride	cis-1,3-dichloropropylene			
chlorobenzene	trans-1,3-dichloropropylene			
chlorodibromomethane	ethylbenzene			
chloroethane	styrene			
chloroform	1,1,2,2-tetrachloroethane			
chloromethane	toluene			
tetrachloroethylene (perchloroethylene)	1,1,1-trichloroethane			
1,2-dibromoethane(ethylene dibromide)	1,1,2-trichloroethane			
1,2-dichlorobenzene	trichloroethylene			
1,3-dichlorobenzene	trichlorofluoromethane			
1,4-dichlorobenzene	vinyl chloride			
1,1-dichloroethane	o-xylene			
1,2-dichloroethane	m,p-xylene			
1,1-dichloroethylene	THM (Total)			
methyl tert-butyl ether (MTBE)	xylene (Total)			
<b>Pesticide/Herbicide Analysis</b>				
<b>Organochlorine Pesticides</b>		\$ 121.00	\$ 121.00	
aldrin	endosulphan I			
a-BHC	endosulphan II			
b-BHC	endosulphan sulphate			
g-BHC (Lindane)	endrin			
a-chlordane	heptachlor			
g-chlordane	heptachlor epoxide			
p,p'-DDD	methoxychlor			
p,p'-DDE	mirex			
p,p'-DDT	oxychlordane			
o,p'-DDT	trifluralin			
dieldrin	toxaphene			



**THE REGIONAL MUNICIPALITY OF DURHAM  
2012 FEES AND CHARGES  
WORKS DEPARTMENT - ENVIRONMENTAL LABORATORY**

Description	2011 Rate (before appl. Taxes)		2012 Rate (before appl. Taxes)	
	\$	\$	\$	\$
<b>Industrial Sewer Use By-law Acid/Base/Neutral Compounds</b>				
di-n-butylphthalate		\$ 210.00	\$	210.00
	bis(2-ethylhexyl)phthalate			
Polychlorinated Biphenyls		\$ 79.00	\$	79.00
<b>Industrial Sewer Use By-law Volatile Organic Compounds</b>		\$ 132.00	\$	132.00
1,1,2,2,-tetrachloroethane	m/p-xylene			
1,2-dichlorobenzene	o-xylene			
1,4-dichlorobenzene	styrene			
benzene	tetrachloroethylene			
chloroform	toluene			
cis-1,2-dichloroethylene	trans-1,3-dichloropropylene			
dichloromethane	trichloroethylene			
ethylbenzene	xylene (Total)			
methyl ethyl ketone (MEK)				
<b>Industrial Sewer Use By-law Nonylphenols &amp; Ethoxylates (Subcontracted)</b>		\$ 420.00	\$	420.00
nonylphenol	nonylphenol ethoxylates			
<b>Durham/York/Peel Sewer Use By-law Organic Package</b>		\$ 762.00	\$	762.00
1,1,2,2,-tetrachloroethane	m/p-xylene			
1,2-dichlorobenzene	o-xylene			
1,4-dichlorobenzene	styrene			
benzene	tetrachloroethylene			
chloroform	toluene			
cis-1,2-dichloroethylene	trans-1,3-dichloropropylene			
dichloromethane	trichloroethylene			
ethylbenzene	xylene (Total)			
methyl ethyl ketone (MEK)				
di-n-butyl phthalate	bis (2-ethylhexyl) phthalate			
PCB (Total)				
nonylphenol	nonylphenol ethoxylates			
<b>Total Petroleum Hydrocarbons (TPH) in Water (Subcontracted)</b>		\$ 200.00	\$	200.00
This CCME method includes:				
a). BTEX-Purgeables by P&T GC/MS or HS GC/FID - gasoline range				
b). Extractables by GC/FID - diesel range				
c). Total Oil & Grease by Gravimetric - heavy oil range				
<b>Legal Sample Fees and Legal storage fees (new fees in 2012)</b>				
Samples submitted under legal chain of custody	per sample		\$	250.00
To maintain an unbroken chain of custody for samples that may be used for litigation				
Extended storage for legal samples (longer than 30 days)	per container per month		\$	3.00
Samples will be stored free of charge for 30 days from the date of final report				
Court testimony by Regional Environmental Laboratory staff	per hour (including travel and wait time)		\$	72.00
Mileage for appearance	per kilometre (actual)		\$	0.52

**Regional Municipality of Durham**

**2012**

**Water and Sanitary Sewer**

**User Rates**

**Detailed Report**

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# DETAILED REPORT

## 1.0 **BACKGROUND**

### 1.1 **Water and Sanitary Sewer User Rates Are Reviewed Annually**

The Region's water and sanitary sewage user rates are reviewed annually and recommendations are made to Council in December, prior to a January 1<sup>st</sup> implementation of approved user rates.

The existing water and sanitary sewer user rates follow the same basic format as the uniform rates adopted in 1976. Since that time, user rates have been calculated in a consistent manner using a standard waterworks industry technique, the Base-Extra Capacity method. Rates based on metered consumption with three declining rate blocks, a service charge (by meter size for water), and an unmetered fire line charge (water only). Although the rate levels are reviewed annually, the most recent detailed rate format review was conducted in 2004 and reported to Council.

The following report is related to this User Rates Report and was previously considered and approved by Council:

- **Report #2011-J-46: 2011 Asset Management Update** – This report provides an update on Durham's asset management initiatives, including those related to the water and sewage systems. It provides important information regarding existing asset replacement values, condition and needs for existing asset rehabilitation and replacement. Some of the findings of that report will be used to formulate future asset management strategies.

The following report is being considered concurrently by Council:

- **Report #2011-J-54: 2012 Water Supply and Sanitary Sewerage Servicing and Financing Study** – The water and sewer preliminary capital budget data utilized in this report is developed in conjunction with the information provided in the Servicing and Financing Study.

The implications of recommendations included in this report have been considered in developing the proposed 2012 water and sanitary sewer user rates.

### 1.2 **User Rates Implemented on January 1st of Each Year**

It is imperative that user rates be approved in 2011 in order that they can be implemented with the first customer billings commencing early January 2012. Any delay in implementation may mean that any required rate increase would have to be larger to generate sufficient revenue during the Region's fiscal year. In addition, it is considered preferable to adjust the rates during the low winter consumption period rather than have a rate increase occur at the same time as the spring/summer seasonal usage increase.

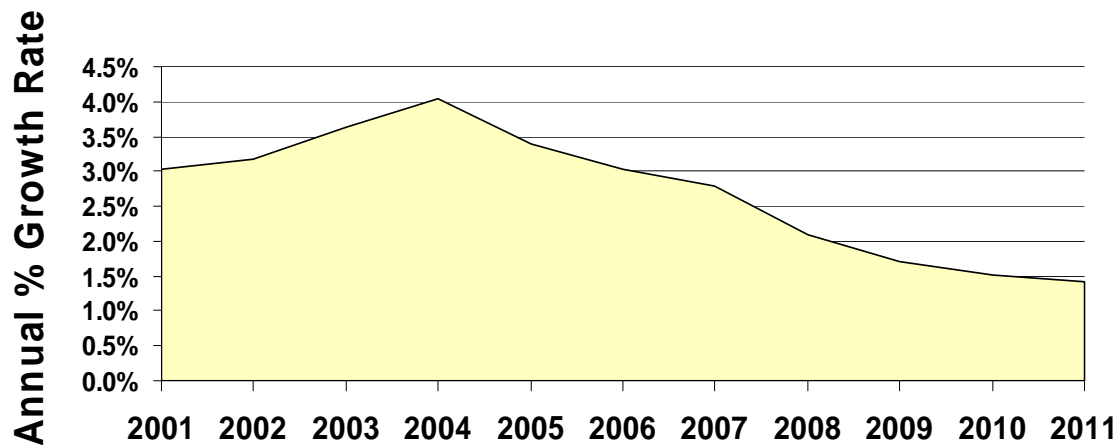
### **1.3 Public Notification Provided**

Public notification that the proposed 2012 water and sanitary sewer user fees and related charges will be considered by the Joint Finance & Administration and Works Committees on December 1st, and by Regional Council on December 14th, 2011, was provided twice in the local newspapers throughout the Region on November 10th and 17th. Printed copies of this user rate report are available to the public free of charge upon request or by accessing the Regional web site. This affords the public an opportunity to make representation to Joint Committee and Council regarding proposed changes to the user rates prior to adoption.

## 2.0 CUSTOMER GROWTH HAS SLOWED

Actual annual water customer growth from 2001 to 2011 (June data) is shown in Exhibit 1 below. June figures are used for rate calculation purposes as they represent the "average" number of customers for the year.

### **Exhibit 1 Yearly Growth in Water Customers 2001 to 2011 (%)** **(June data)**



Customer growth peaked at 4.0% in 2004. Since then the growth rate has been steadily decreasing, reaching about 1.4% this year.

For rate setting purposes, customer growth is projected to further decline in 2012 to 1.0% for water and 1.1% for sewage. This is based on growth indicators remaining low compared to historic levels, including development charge receipts and future development commitments.

2001 to 2011 actual and 2012 projected June customer data is provided in Exhibit 2. There were a total of 161,144 water customers in June this year.

## **Exhibit 2 Water & Sewage Customers 2001 to 2011 Actual & 2012 Budget (June to June)**

Year	Water			Sewage		
	Total	Increase Over Previous June		Total	Increase Over Previous June	
		Number	Percent		Number	Percent
2001	123,733	3,646	3.0%	119,477	3,636	3.1%
2002	127,651	3,918	3.2%	123,316	3,839	3.2%
2003	132,300	4,649	3.6%	127,918	4,602	3.7%
2004	137,637	5,337	4.0%	133,213	5,295	4.1%
2005	142,294	4,657	3.4%	137,915	4,702	3.5%
2006	146,615	4,321	3.0%	142,252	4,337	3.1%
2007	150,724	4,109	2.8%	146,400	4,148	2.9%
2008	153,884	3,160	2.1%	149,553	3,153	2.2%
2009	156,520	2,636	1.7%	152,219	2,666	1.8%
2010	158,877	2,357	1.5%	154,598	2,379	1.6%
2011	161,144	2,267	1.4%	156,878	2,280	1.5%
<b>2012 Budget</b>	<b>162,755</b>	<b>1,611</b>	<b>1.0%</b>	<b>158,604</b>	<b>1,726</b>	<b>1.1%</b>

## Notes:

1. There are fewer sewer customers than water customers because there are Regional water customers but no Regional sanitary sewer services in Orono, Blackstock, Greenbank, Uxville and most of Prince Albert. In addition there are some individual customers in communities with sanitary sewers who are currently served only by the Regional water system.
2. The sewer customer growth percentages are sometimes slightly higher than those for water due to there being fewer total sewer customers in the calculation (i.e. the denominator in the sewer customer increase calculation is smaller than that for water customers, causing the resulting percentage to be higher).

The 2012 increase in the number of water customers of 1,611 is less than the increase of 3,300 dwelling units provided in Report #2011-J-54: 2012 Water Supply and Sanitary Sewerage Servicing and Financing Study. These differentials arise in part due to multi-unit developments, including apartment buildings and condominium corporations, representing only one customer for billing purposes. There are currently approximately 202,400 *residential dwelling units* compared to about 156,600 *residential customers* billed.

2012 projected customer growth is summarized as follows:

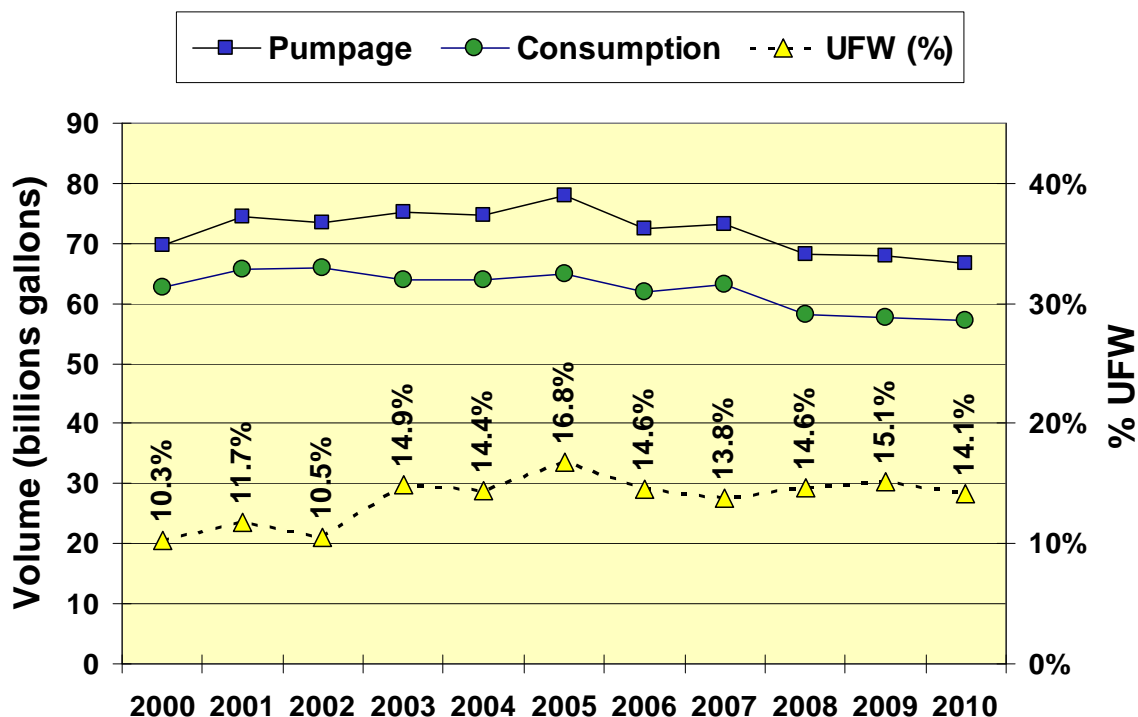
**The projected customer growth for 2012 is:**  
**Water increase by +1,611 (+1.0%) to a total of 162,755**  
**Sewage increase by +1,726 (+1.1%) to a total of 158,604**

### 3.0 WATER DEMAND IS DECREASING

#### 3.1 Consumption vs Supply

Water supply, consumption and customer numbers are shown below in Exhibit 3.

#### **Exhibit 3 Water Supply, Consumption & Unaccounted for Water**



With the exception of 2005 and 2007, both dry summers with attendant higher seasonal usage, both supply and consumption have levelled off or decreased since about 2001. The average annual decrease in both pumpage and consumption is about 1.8% annually from 2004 to 2010.

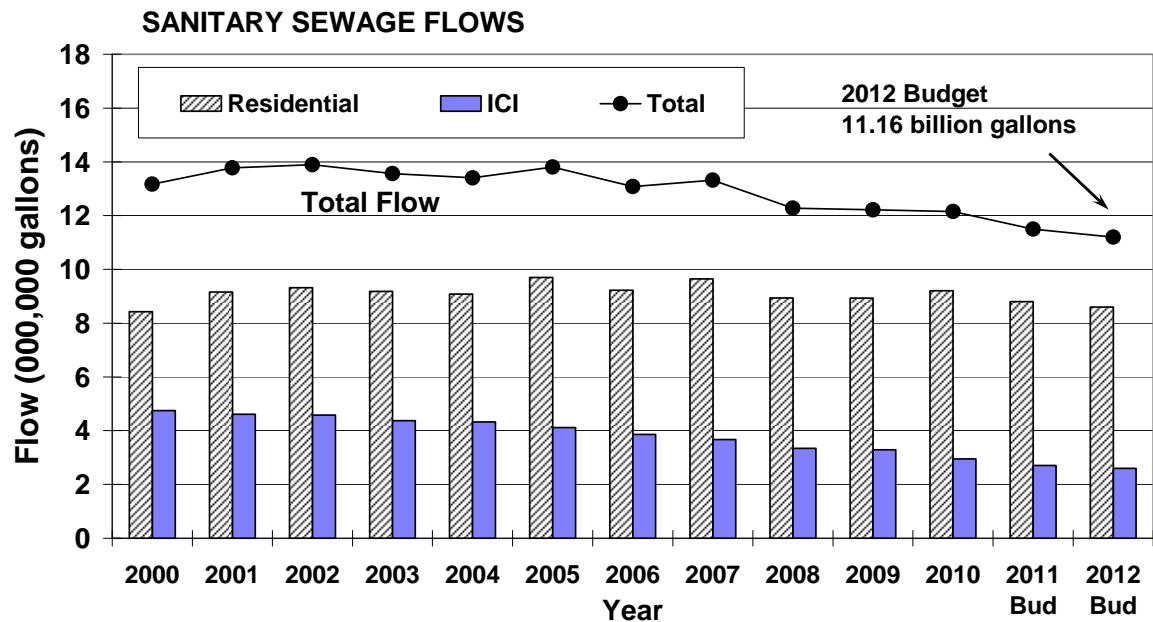
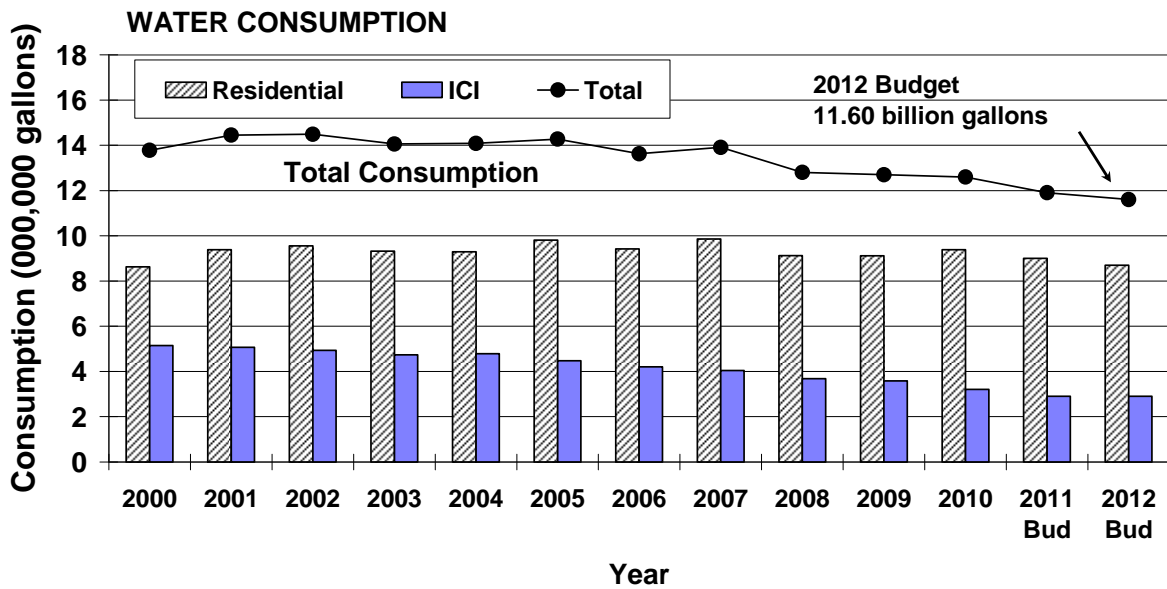
Unaccounted for water (UFW) losses have been calculated based on the difference between billed consumption and pumpage. This is also referred to as NRW (Non-Revenue Water) since it mostly represents water losses not billed. The biggest components include watermain leakage, fire fighting and main flushing. Retail meter inaccuracy can also be a factor.

For the past 8 years UFW has ranged between 14% and 17%. This range is considered fairly normal, but efforts are continually made to limit or reduce UFW losses through various programs such as cathodic protection and cement lining of cast iron mains, replacement of old mains, replacement of old retail meters and polybutylene water service replacement. The meter replacement program results in a reduction in unbilled water due to old meters under-recording flows. This improves revenues and higher billed flows (and hence lowers apparent UFW).

### 3.2 Total Historical Consumption

Actual residential, ICI (industrial, commercial and institutional) and total volumes billed to customers for water and sewage from 2000 to 2010, and the 2011 and 2012 budgets, are graphed in Exhibit 4. With regard to water, total consumption was fairly level from 2001 to 2006, and since has trended downwards. Exceptions are the two very dry years 2005 and 2007 which produced seasonal surges in usage.

#### **Exhibit 4 Billed Water Consumption & Sewage Flows**



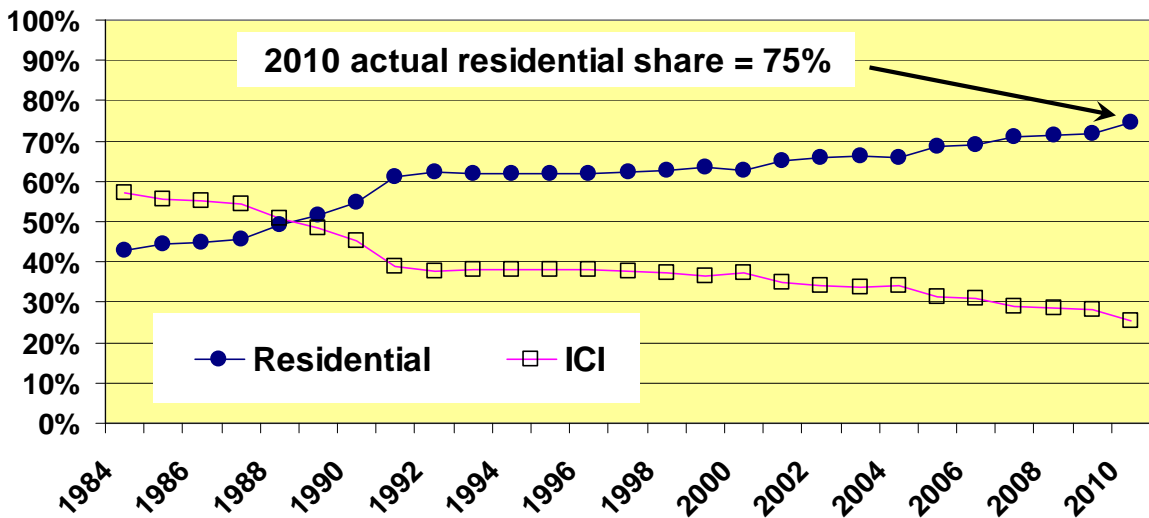
### 3.3 Consumption by Sector

#### 3.3.1 Residential Usage Share - Increasing

Over the years there has been a steady increase in the share of consumption by residential customers and a corresponding decrease by ICI customers. Residential usage has grown from about a 41% share in 1984 to a 75% share in 2010. The change was due to a combination of strong residential growth, and for a number of years, decreases in large ICI customer consumption.

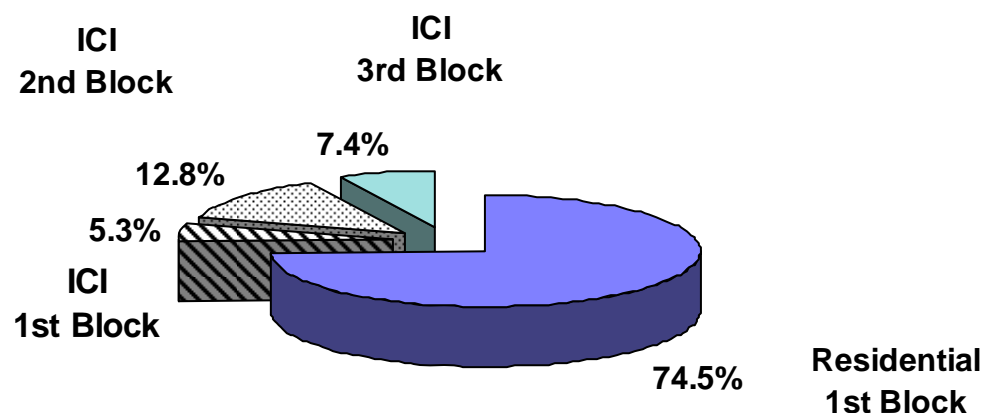
This shift in consumption share is illustrated Exhibit 5.

#### **Exhibit 5 Billed Water & Sewage Volumes – Residential versus ICI (1984 to 2010)**



The distribution of consumption by block and customer class is illustrated in Exhibit 6.

## Exhibit 6 2010 Water Consumption Share by Block



Consumption by block is broken down as follows:

- 1st block (up to 10,000 gallons/month or 45 m<sup>3</sup>/month) - All residential usage is billed at 1st block rates and these customers represent the majority of usage. Total 1st block consumption represented 79.8% of all usage in 2010 (ICI 5.3% + Residential 74.5%).
- 2<sup>nd</sup> block (10,001 to 1,000,000 gallons/month or 46 to 4,500 m<sup>3</sup>/month) – This segment has levelled off and currently is about 12.8% of the total.
- 3<sup>rd</sup> block (over 1,000,000 gallons/month or 4,500 m<sup>3</sup>/month) – Large user consumption is decreasing and is currently about 7.4% of total usage.

### 3.3.2 Residential Usage - Decreasing

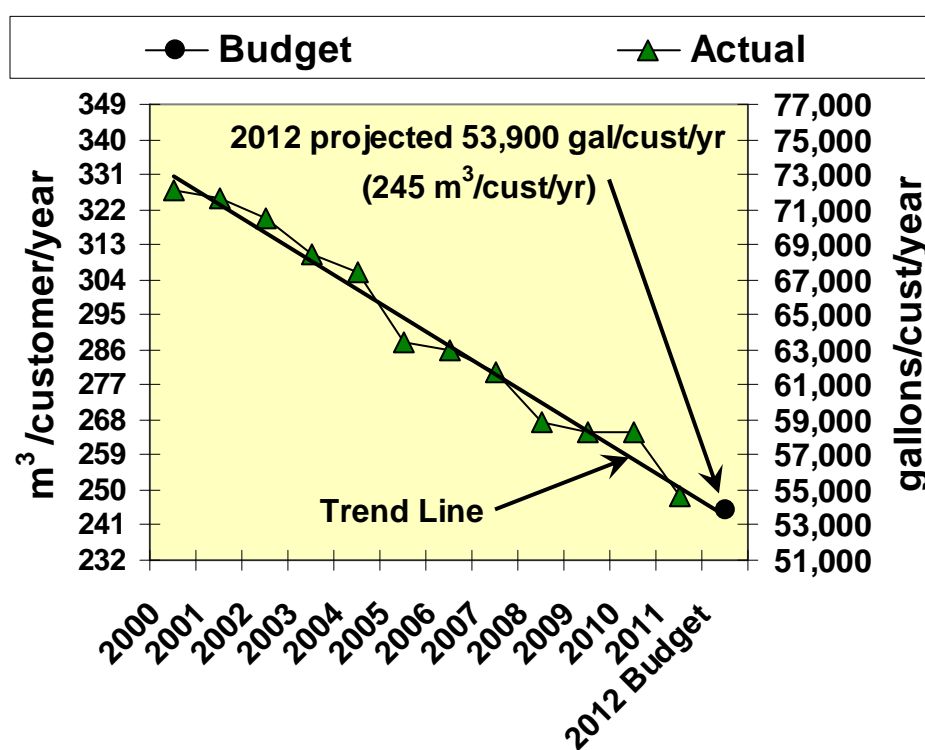
Residential consumption has two components:

- **Basic Usage** - Day-to-day usage, which occurs year-round, reached about 54,700 gallons per customer per year (249 m<sup>3</sup>/cust/yr) in 2011.
- **Seasonal Usage** - Added seasonal usage, which occurs during the summer season and can vary up to about 7,000 gallons per customer per year (32 m<sup>3</sup>/cust/yr).

Seasonal volumes are mostly due to outside usage such as lawn irrigation. Year-to-year weather variations can result in very little seasonal usage in wet years (examples 2006 and 2008) to significant seasonal usage in dry years (examples 2005, 2007 & 2011). Revenue projections assume very little seasonal usage. Basic residential usage is the most important element in projecting residential use.

**Although residential customer growth continues, basic day-to-day usage per customer has been dropping since about 2000. This steady usage decrease by existing residential customers tends to offset the impact on total residential consumption from the addition of new customers. The decrease in basic per customer residential billed usage is illustrated in Exhibit 7.**

### Exhibit 7 Basic Annual Residential Water Usage per Customer (excludes seasonal usage)



The downward trend in residential basic usage (day-to-day consumption), is a result of a number of initiatives which began in the 1990's:

- The Province revised the Ontario Building Code in 1996 to require low flush toilets (6.0 litres per flush) and low flow showerheads (9.85 litres per minute) in new construction. This started the trend towards more efficient household usage in new homes.
- In 1996 the Region launched a number of conservation initiatives under the Water Efficient Durham program. This included plumbing fixture replacement programs as well as promotional efforts to encourage conservation. Consumers are learning to be more careful with water usage and are practicing water conservation.

- New appliances, especially washing machines, are designed to use significantly less water.
- The cost of water efficient appliances such as efficient toilets and front-loading washers has continued to decline to the point where many families find them affordable. The availability of water efficient plumbing fixtures and appliances at costs that continue to decrease has resulted in ongoing decreases in consumption without the need for subsidy.
- There is a move towards housing intensification, which will result in smaller lot size, implying lower seasonal usage.

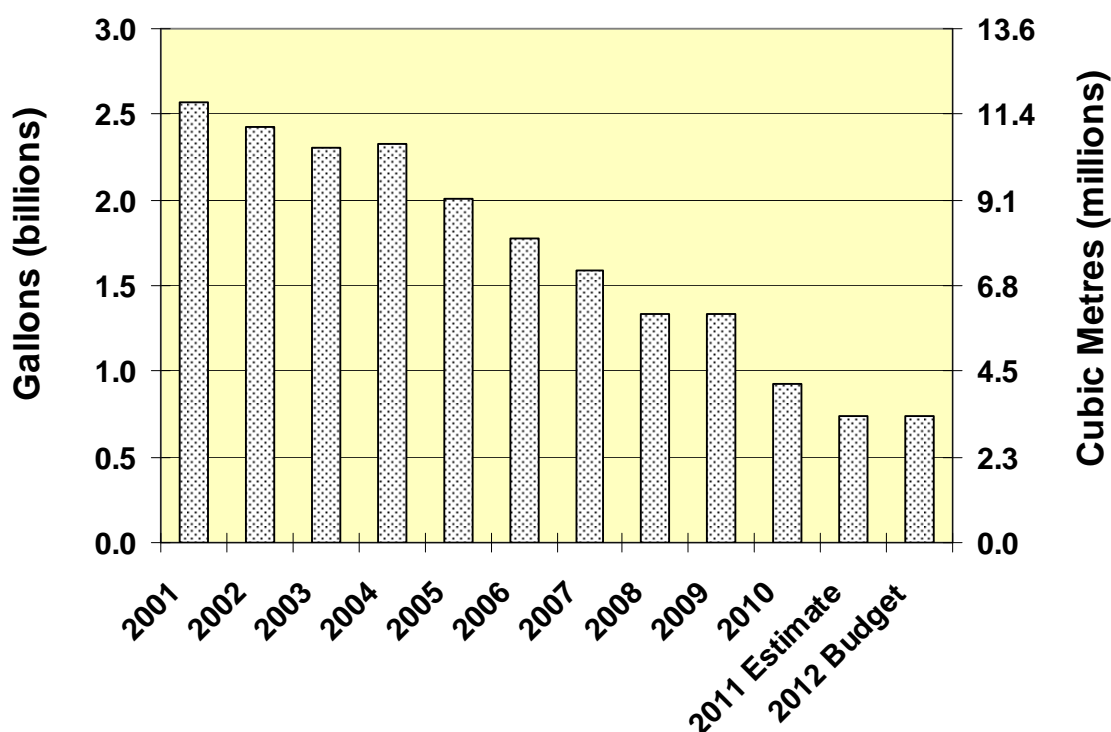
### 3.3.3 Small to Medium ICI Customer Usage – Some Decreases

Water usage by small to medium ICI water customers remains fairly constant year-to-year at about 18% of total usage.

### 3.3.4 Large Industry Usage - Decreasing

The large industry sector is responsible for 3<sup>rd</sup> block consumption and currently represents about 7% of consumption. Actual 3<sup>rd</sup> block consumption is graphed for 2001 to 2010 below in Exhibit 8, as well as 2011 estimated and 2012 budget flows.

**Exhibit 8 3<sup>rd</sup> Block Water Consumption 2001 to 2012**



Third (3<sup>rd</sup>) block water consumption in this segment has been in decline, having decreased 64% from 2001 to 2010, or over 10% per year. Plant closures and cutbacks as well as conservation efforts all contribute. There were 31 customers reaching 3<sup>rd</sup> block rates to the end of September this year. This number is unchanged from 2010.

Currently usage in this segment appears to have stabilized after years of decline. As a result, the 2012 3<sup>rd</sup> block usage is projected at 740 million gallons (3.3 million m<sup>3</sup>), the same level as currently projected to occur by 2011 year-end.

### 3.4 Consumption Summary

Actual Consumption/Flow for 2006 to 2010 and budget levels for 2011 and 2012 are shown in Exhibit 9.

#### **Exhibit 9 Water Consumption & Sewage Flows 2006 to 2010 Actual and 2011 & 2012 Budget**

Year	Water			Sewage		
	Residential	ICI	Total	Residential	ICI	Total
<b>Cubic Metres*</b>						
2006 Actual	42,822,261	19,135,357	61,957,618	41,913,684	17,547,936	59,461,620
<i>Change</i>	4.7%	-3.9%	2.0%	4.6%	-4.8%	1.8%
2007 Actual	44,828,681	18,382,370	63,211,051	43,859,157	16,700,559	60,559,716
<i>Change</i>	-7.5%	-9.0%	-7.9%	-7.4%	-9.0%	-7.8%
2008 Actual	41,487,275	16,732,318	58,219,593	40,628,653	15,191,928	55,820,581
<i>Change</i>	-0.2%	-2.5%	-0.9%	-0.1%	-1.6%	-0.5%
2009 Actual	41,405,125	16,307,970	57,713,095	40,580,796	14,949,642	55,530,438
<i>Change</i>	3.0%	-10.5%	-0.8%	3.1%	-10.3%	-0.5%
2010 Actual	42,665,289	14,602,808	57,268,097	41,840,343	13,415,645	55,255,988
<b>2011 Budget</b>	<b>40,909,000</b>	<b>13,364,000</b>	<b>54,273,000</b>	<b>40,118,000</b>	<b>12,000,000</b>	<b>52,118,000</b>
<i>Change</i>	-3.5%	-0.7%	-2.8%	-3.2%	-0.8%	-2.7%
<b>2012 Budget</b>	<b>39,468,000</b>	<b>13,273,000</b>	<b>52,741,000</b>	<b>38,818,000</b>	<b>11,909,000</b>	<b>50,727,000</b>
<b>Gallons (000)*</b>						
<b>2011 Budget</b>	<b>9,000,000</b>	<b>2,940,000</b>	<b>11,940,000</b>	<b>8,826,000</b>	<b>2,640,000</b>	<b>11,466,000</b>
<i>Change</i>	-3.5%	-0.7%	-2.8%	-3.2%	-0.8%	-2.7%
<b>2012 Budget</b>	<b>8,683,000</b>	<b>2,920,000</b>	<b>11,603,000</b>	<b>8,540,000</b>	<b>2,620,000</b>	<b>11,160,000</b>

\* Note: 1 cubic metre = 220 gallons OR 1,000 gallons = 4.54 cubic metres

The water consumption and sewage flows are projected to decrease by about 2.8% and 2.7% respectively in 2012 from 2011 budget levels.

The 2012 water consumption and sanitary sewage flow projections take into account the following:

- A continuing reduction is assumed in basic usage per residential customer influenced by water efficient plumbing fixtures and possible changes in consumption patterns.
- Low levels of summer seasonal usage.

- Usage by small to mid-range ICI customers remaining fairly constant.
- Decreased (versus 2011 budget) industrial usage by large customers.

**Taking the foregoing into account, 2012 consumption is budgeted as follows:  
Water consumption is projected to decrease by 2.8% to 52,741,000 cubic metres  
(11,603,000,000 gallons)  
Sewage flow is projected to decrease by 2.7% to 50,727,000 cubic metres  
(11,160,000,000 gallons)**

#### **4.0 THE RECOMMENDED 6.4% INCREASE IN THE COMBINED WATER & SANITARY SEWER USER RATES IS NEEDED TO FINANCE THE PROPOSED PRELIMINARY 2012 EXPENDITURE BUDGETS**

##### **4.1 User Rate Revenue Requirements**

The proposed preliminary 2012 water and sanitary sewerage expenditure budgets require a combined user rate increase of 6.4% (water 8.3% and sewer 4.6%).

The proposed 2012 Water Budget expenditures and revenue sources, including user rate revenue requirements is summarized in Exhibit 10 for water and Exhibit 11 for sanitary sewerage.

Additional information on the capital program is available from Report #2011-J-54: 2012 Water Supply and Sanitary Sewerage Servicing and Financing Study.

##### **4.2 Water Supply System**

Approximately \$5.03 million in additional user rate revenues is required to support increased expenditures. This is generated by a combination of:

- **User Rate Increase** - The proposed 8.3% water rate increase generates \$5.75 million in additional revenues;
- **Customer Growth** - Customer growth adds \$0.37 million; and,
- **Consumption Decrease** - Projected reduced consumption will decrease revenues by \$1.09 million.

The proposed preliminary 2012 user rate supported water system expenditures of \$75.09 million represent an increase of \$5.03 million over 2011 budget levels.

##### **4.3 Sanitary Sewerage System**

Approximately \$1.73 million in additional user rate revenues is required to support increased sanitary sewerage system expenditures. This is generated by a combination of:

- **User Rate Increase** - The proposed 4.6% sewage rate increase generates +\$3.25 million in additional revenue;
- **Customer Growth** - Customer growth adds \$0.12 million; and,
- **Consumption Decrease** - Projected reduced consumption will decrease revenues by \$1.64 million.

The proposed preliminary 2012 user rate supported sanitary sewerage system expenditures of \$73.85 million represent an increase of \$1.73 million.

**Exhibit 10 Revenues Required from 2012 Water Rates**

<b>Budget Category</b>	<b>2011 Actual Budget (\$)</b>	<b>2012 Proposed Preliminary Budget (\$)</b>	<b>Increase/Decrease (\$)</b>
<b>A) Operations (net)</b>			
Operations, Maintenance & Administration	45,068,000	47,182,400	
Less Other Revenues (mainly frontage)	86,000	86,000	
<b>Operations from Current User Rates</b>	<b>44,982,000</b>	<b>47,096,400</b>	
<b>B) Tangible Capital Assets</b>			
Construction of Municipal Services (Gross Cost)	41,603,000	35,657,000	
Operations Capital	1,393,000	751,000	
<b>Total Capital Program</b>	<b>42,996,000</b>	<b>36,408,000</b>	
Less Financing & Recoveries Applied			
- Development Charge Reserve Fund - Residential	18,914,000	12,882,400	
- Development Charge Reserve Fund - Commercial	898,000	614,100	
- Development Charge Reserve Fund - Industrial	0	278,400	
- Other Financing	4,571,000	753,200	
<b>Total Non User Rate Financing</b>	<b>24,383,000</b>	<b>14,528,100</b>	
<b>Capital Program from User Rates Revenues</b>	<b>18,613,000</b>	<b>21,879,900</b>	
Less User Rate Financing (Debt/Reserves)			
- Asset Management Reserve Fund	2,611,000	2,961,000	
<b>Total User Rate Financing</b>	<b>2,611,000</b>	<b>2,961,000</b>	
<b>Capital Program from Current User Rates</b>	<b>16,002,000</b>	<b>18,918,900</b>	
<b>C) Debt</b>			
Expenditure	10,116,000	10,104,600	
Less Development Charge Reserve Funds Applied	4,002,000	3,994,200	
<b>Debt from User Rates</b>	<b>6,114,000</b>	<b>6,110,400</b>	
<b>D) Contributions to Reserve Funds</b>			
Asset Management Reserve Fund	2,961,000	2,961,000	
<b>Reserve Funds From User Rates</b>	<b>2,961,000</b>	<b>2,961,000</b>	
<b>E) Current User Rate Revenue Requirements</b>			
Total Expenditures	98,180,000	93,695,000	(4,485,000)
Total Reserve Fund Contributions	2,961,000	2,961,000	0
Less Total Revenues & Recoveries	(31,082,000)	(21,569,300)	9,512,700
<b>Total Current User Rate Revenues Required</b>	<b>70,059,000</b>	<b>75,086,700</b>	<b>5,027,700</b>
<b>Equivalent Water User Rate Increase</b>		<b>8.3%</b>	
<b>F) Impact of Changes in Customers &amp; Consumption on Rate Increase</b>			
<b>Component</b>		<b>Revenue Change</b>	<b>Rate Increase</b>
Increased revenue needed for expenditures		5,027,700	7.2%
Increased revenue needed due to lower consumption estimates		1,095,300	1.6%
Reduced revenue needed due to customer growth		(369,500)	-0.5%
<b>Added Revenue From Rate Increase</b>		<b>5,753,500</b>	<b>8.3%</b>

**Exhibit 11 Revenues Required from 2012 Sewage Rates**

<b>Budget Category</b>	<b>2011 Actual Budget (\$)</b>	<b>2012 Proposed Preliminary Budget (\$)</b>	<b>Increase/Decrease (\$)</b>
<b>A) Operations (net)</b>			
Operations, Maintenance & Administration	49,211,000	50,951,700	
Less Other Revenues (mostly frontage)	155,000	155,000	
<b>Operations from Current User Rates</b>	<b>49,056,000</b>	<b>50,796,700</b>	
<b>B) Tangible Capital Assets</b>			
Construction of Municipal Services (Gross Cost)	110,011,000	49,049,000	
Operations Capital	783,000	609,000	
York Durham Capital	196,000	221,000	
<b>Total Capital Program</b>	<b>110,990,000</b>	<b>49,879,000</b>	
Less Financing & Recoveries Applied			
- Development Charge Reserve Fund - Residential	4,530,000	4,440,900	
- Development Charge Reserve Fund - Commercial	630,000	561,800	
- Development Charge Reserve Fund - Industrial	0	176,300	
- Development Charge Debenture	37,953,000	0	
- Other Financing	26,390,000	29,750,700	
<b>Total Non User Rate Financing</b>	<b>69,503,000</b>	<b>34,929,700</b>	
<b>Capital Program from User Rates Revenues</b>	<b>41,487,000</b>	<b>14,949,300</b>	
Less User Rate Financing			
- User Rate Debenture	4,251,000	0	
- Asset Management Reserve Fund	2,122,000	2,122,000	
- Courtice WPCP User Rate Savings	10,200,000	0	
- Treatment Plant/Rate Stabilization Reserve Fund	11,671,000	0	
<b>Total User Rate Financing</b>	<b>28,244,000</b>	<b>2,122,000</b>	
<b>Capital Program from Current User Rates</b>	<b>13,243,000</b>	<b>12,827,300</b>	
<b>C) Debt</b>			
Expenditures			
- Existing Regional Debt	10,894,000	15,074,900	
- Existing York Durham Debt	3,245,000	3,243,400	
<b>Total Debt</b>	<b>14,139,000</b>	<b>18,318,300</b>	
Less Development Charge Reserve Fund	6,781,000	10,560,600	
<b>Net Debt from User Rates</b>	<b>7,358,000</b>	<b>7,757,700</b>	
<b>D) Contributions to Reserve Funds</b>			
Asset Management Reserve Fund	2,472,000	2,472,000	
<b>Reserve Funds From User Rates</b>	<b>2,472,000</b>	<b>2,472,000</b>	
<b>E) Current User Rate Revenue Requirements</b>			
Total Expenditures	174,340,000	119,149,000	(55,191,000)
Total Reserve Fund Contributions	2,472,000	2,472,000	0
Less Total Revenues & Recoveries	(104,683,000)	(47,767,300)	56,915,700
<b>Total Current User Rate Revenues Required</b>	<b>72,129,000</b>	<b>73,853,700</b>	<b>1,724,700</b>
<b>Equivalent Sewer User Rate Increase</b>		<b>4.6%</b>	
<b>F) Impact of Changes in Customers &amp; Consumption on Rate Increase</b>			
<b>Component</b>		<b>Revenue Change</b>	<b>Rate Increase</b>
Increased revenue needed for expenditures		1,724,700	2.4%
Increased revenue needed due to lower consumption estimates		1,639,200	2.3%
Reduced revenue needed due to customer growth		(116,800)	-0.1%
<b>Added Revenue From Rate Increase</b>		<b>3,247,100</b>	<b>4.6%</b>

#### 4.4 **Recommended 8.3% Water Rate & 4.6% Sewage Rate Increases**

The recommended user rates are based on the proposed expenditure and revenue budgets, customer growth and projected consumption levels. Details of the customer, consumption and proposed budget data used in the rate calculations are provided above.

<b><i>Proposed 2012 User Rate Increases</i></b>	
Water	+8.3%
Sewage	+4.6%
Combined	+6.4%

This Report is part of the 2012 Regional Business Planning and Budget Process.

In order to support the proposed preliminary 2012 Water Supply and Sanitary Sewerage Budgets, presented to Council concurrently with this user rate report, it is recommended that current user rates be increased by 8.3% for water and 4.6% for sewage (combined

increase of 6.4%).

The recommended user rate adjustments are caused by a combination of increases in customers and reduced consumption, combined with increased expenditure requirements compared with 2011 budget levels.

Based on 2012 customer and consumption projections, these rates are estimated to generate \$75.09 million for water and \$73.85 million for sanitary sewer. With the application of other revenues and reserve funds and debenture financing the total expenditures supported are \$93.70 million for water and \$119.15 million for sanitary sewer.

Water and sewage system user rate funding (current rates and financing) is applied to water and sewage system operating costs (66% share), current capital programs (25%) and long term debt repayment (9%). Operating costs are entirely recovered from user rates. The capital costs relate to replacement of aging infrastructure, works needed to meet regulatory requirements and growth not recovered from development charges. The long term debt repayments are for large projects funded by debenture.

The recommended 2012 water and sanitary sewer user rates are provided in Schedule 1 - Recommended 2012 Water User Rates and Schedule 2 - Recommended 2012 Sewage User Rates.

#### 4.5 **Recommended Raw Water Rate**

The Region supplies untreated raw water from the Whitby Water Supply Plant to three customers located near the plant. The raw water pumping is separate from the potable water treatment facilities, but the intake is shared. The raw water rate recovers the operating costs associated with operating the raw water system including pumping and main maintenance. Capital costs related to modifications or upgrades to the raw water supply are recovered from the raw water customers using separate capital charges. All past capital charges have been repaid and there are currently no raw water system capital charges outstanding.

No change is recommended to the current raw water rate of \$0.236/m<sup>3</sup> (\$1.072/1,000 gal). Projected increased raw water consumption results in full recovery of projected increased operating costs without an increased raw water rate. The raw water operating costs are fully recovered from the Region's raw water rate shown in Schedule 1 – Recommended 2012 Water User Rates and charged to these customers for the volume of water supplied.

#### **4.6 Recommended Miscellaneous Fees & Charges**

Water System By-law #89-2003 (as amended) and Sewer System By-law #90-2003 (as amended) establish a variety of fees and charges that the Region can use to recover the actual cost of providing day-to-day and individual services related to the Region's water and sewage systems.

Water and sewage systems rates, fees and charges for 2011 (current) and 2012 (recommended) are set out in Schedule 3 – Recommended 2012 Water & Sanitary Sewer Systems Miscellaneous Fees & Charges of this report. All fees and charges where changes are recommended are **bolded** and are generally increased by about 2.5% over 2011 levels.

The recommended 2012 fees and charges are based on tracking actual costs over time. Many of the charges have been escalated in line with associated operating and capital cost increases (some charges are capital driven and others are operations related). Some fees or charges remain unchanged.

#### **4.7 Recommended Sun Valley Heights Homeowners Co-operative Water System Charges**

The recommended charges for the Sun Valley Heights Homeowners Co-operative Water System are provided in Schedule 4 – Recommended 2012 Water Rate for the Sun Valley Heights Homeowners Co-operative Water System. The charge is based on system actual costs and increases by 1.7% in 2012 from 2011.

The following provides some background on Sun Valley:

- The Sun Valley Heights Homebuilders Cooperative water supply system is a privately owned water supply system servicing 17 individual residential properties in the City of Oshawa, north of Conlin Road and west of Thornton Road.
- On August 3, 2000, the Region of Durham was issued an order pursuant to Section 62 of the Ontario Water Resources Act to maintain and operate the existing private water system owned by Sun Valley Heights Homebuilders Cooperative.
- The Region is currently operating the Sun Valley system in compliance with the order and requirements of Ontario Drinking Water Protection Regulation 170/03 (formerly Regulation 459/00). The costs incurred to operate and maintain the system are billed to each property owner on a quarterly basis.

#### **4.8 Recommended Regional Environmental Laboratory Charges**

The Regional Environmental Laboratory is located at the Duffin Creek WPCP. The lab ownership is shared with the Region of York. The lab is operated by Durham Region with costs and revenues part of the Region's Duffin Creek WPCP budget.

The laboratory operating costs are fully recovered from fees and charges. The current fee schedule is sufficient to accomplish this. No change is recommended to the current 2011 fee levels for 2012.

Three new fees are proposed (see the end of the fee schedule). The three proposed new fees related to legal samples and are as follows:

- Legal Chain of Custody;
- Extended Storage for Legal Samples; and,
- Court Testimony by Laboratory Staff – In addition to the hourly charge for court testimony, mileage is billed at the Region's current under 5,000 kilometre rate.

The recommended charges for laboratory services are set in Schedule 5 – 2012 Fee Schedule for Laboratory Services at the Regional Environmental Laboratory Located at the Duffin Creek WPCP.

## 5.0 CUSTOMER IMPACT

### 5.1 User Rate Impact on Customers of Various Sizes

Water and sewer charges to various sized customers are provided in Exhibit 12.

#### **Exhibit 12 Rates Impact on Customers of Various Sizes**

Customer Category	2011 Billing			2012 Billing			Increase			
	Water	Sewage	Total	Water	Sewage	Total	Water	Sewage	Total	%
<b>Quarterly Billings (\$/qtr)</b>										
20,000 gal/yr - Standard Meter	53.66	42.93	96.59	58.11	44.89	103.00	4.45	1.96	6.41	6.6
50,000 gal/yr - Standard Meter	78.67	85.35	164.02	85.19	89.26	174.45	6.52	3.91	10.43	6.4
60,000 gal/yr - Flat Rate	87.00	99.50	186.50	94.22	104.06	198.28	7.22	4.56	11.78	6.4
100,000 gal/yr - Standard Meter	120.33	156.06	276.39	130.32	163.23	293.55	9.99	7.17	17.16	6.2
<b>Bimonthly Billings (\$ bimonthly)</b>										
100,000 gal/yr - Standard Meter	80.22	104.04	184.26	86.88	108.82	195.70	6.66	4.78	11.44	6.2
500,000 gal/yr - Standard Meter	270.90	438.18	709.08	293.36	458.32	751.68	22.46	20.14	42.60	6.0
5,000,000 gal/yr - 2" Meter	807	1,018	1,825	874	1,066	1,940	67	48	115	6.3
50,000,000 gal/yr - 4" Meter	22,971	36,478	59,449	24,876	38,154	63,030	1,905	1,676	3,581	6.0
150,000,000 gal/yr - 6" Meter	67,045	106,212	173,257	72,608	111,086	183,694	5,563	4,874	10,437	6.0

### 5.2 User Rate Impact on Typical Residential Customer

The impact on a typical residential customer of the proposed 2012 water and sewer rate charges is highlighted below in Exhibit 13. Note that this assumes no change in consumption. Evidence shows that consumption per customer is trending downward. As a result the impact for such customers would be moderated.

#### **Exhibit 13 Rates Impact on Typical Residential Customer**

	Billings		Increase	
	2011 (\$)	2012 Proposed (\$)	(\$)	(%)
<b>Based on 60,000 gal/year (273 m<sup>3</sup>/yr) Consumption</b>				
Water	87.00	94.22	7.22	8.3%
Sewage	<u>99.50</u>	<u>104.06</u>	<u>4.56</u>	4.6%
Total (\$/quarter)	186.50	198.28	11.78	6.4%
Annual Billing (\$/year)	746.00	793.12	47.12	6.4%

### 5.3 User Rate Impact on 25 Largest Customers

Examples of projected water and sewer charges to the Region's 25 largest customers, using the current user rates and recommended rates for 2012 are provided in Exhibit 14.

#### **Exhibit 14 Rates Impact on 25 Largest Users (Using 2010 Actual Consumption Data - \$/year)**

**Water Rate Increase = 8.3%**

**Sewer Rate Increase = 4.6%**

Rank	2010 Consumption		2011 Rates			2012 Rates			Combined Increase	
	(m <sup>3</sup> )	(000 gal)	Water (\$)	Sewage (\$)	TOTAL (\$)	Water (\$)	Sewage (\$)	TOTAL (\$)	\$	%
1	1,248,370	274,640	722,560	1,158,760	1,881,320	782,520	1,211,940	1,994,460	113,140	6.0%
2	524,980	115,500	308,320	492,920	801,240	333,900	515,550	849,450	48,210	6.0%
3	390,400	85,890	231,250	369,030	600,280	250,430	385,970	636,400	36,120	6.0%
4	378,200	83,200	224,240	357,780	582,020	242,850	374,200	617,050	35,030	6.0%
5	300,890	66,200	179,990	90,310	270,300	194,930	94,460	289,390	19,090	7.1%
6	292,780	64,410	175,330	279,160	454,490	189,880	291,980	481,860	27,370	6.0%
7	267,680	58,890	0	256,060	256,060	0	267,820	267,820	11,760	4.6%
8	251,990	55,440	151,980	241,630	393,610	164,590	252,720	417,310	23,700	6.0%
9	249,880	54,970	150,760	239,660	390,420	163,270	250,670	413,940	23,520	6.0%
10	194,130	42,710	118,850	188,370	307,220	128,710	197,020	325,730	18,510	6.0%
11	180,080	39,620	110,800	10,530	121,330	120,000	11,010	131,010	9,680	8.0%
12	178,850	39,350	110,100	174,310	284,410	119,240	182,310	301,550	17,140	6.0%
13	158,990	34,980	98,730	156,020	254,750	106,920	163,190	270,110	15,360	6.0%
14	156,040	34,330	97,030	91,980	189,010	105,080	96,210	201,290	12,280	6.5%
15	139,910	30,780	87,790	83,070	170,860	95,080	86,890	181,970	11,110	6.5%
16	139,750	30,750	87,720	138,330	226,050	94,990	144,680	239,670	13,620	6.0%
17	124,130	27,310	78,760	123,930	202,690	85,290	129,630	214,920	12,230	6.0%
18	102,030	22,450	66,110	103,600	169,710	71,590	108,360	179,950	10,240	6.0%
19	100,030	22,010	64,970	6,110	71,080	70,350	6,390	76,740	5,660	8.0%
20	90,430	19,890	59,450	92,890	152,340	64,380	97,160	161,540	9,200	6.0%
21	88,420	19,450	58,300	91,050	149,350	63,140	95,230	158,370	9,020	6.0%
22	80,840	17,780	53,960	80	54,040	58,430	90	58,520	4,480	8.3%
23	79,290	17,440	53,070	82,640	135,710	57,470	86,440	143,910	8,200	6.0%
24	76,200	16,760	51,300	79,790	131,090	55,550	83,460	139,010	7,920	6.0%
25	71,610	15,750	48,670	75,570	124,240	52,710	79,040	131,750	7,510	6.0%
Total	5,865,900	1,290,500	3,390,040	4,983,580	8,373,620	3,671,300	5,212,420	8,883,720	510,100	6.1%

Note that the combined increase in percentage terms varies in relation to the amount of water consumed. Large volume users are more influenced by the sewage rate increase compared to water. This difference is because the sewage volumetric rate is higher than water. Since the sewage rate is increasing less than the water rate, the large customer percentage increase is a little lower than the average rate increase. Other anomalies which affect the combined increase include sewer appeals which result in lower sewage charges and one customer being sewage only.

## **5.4 Durham's User Rates Compared with Other Municipalities**

### **5.4.1 Background**

Durham's rates have been compared with several other large urban centres as well as a number of smaller nearby municipalities. For ease of comparison, annual charges are calculated for several typical customers. This compares each municipality's rate structure components in a way most meaningful to customers, i.e., what they have to pay on their water/sewer bills. The 2011 rate information is used for this comparison, which is the most recent rate information available for all municipalities.

Unfortunately, the water bill does not always reflect the true costs of treating and distributing water, as many municipalities use other funding mechanisms to finance this operation. For example, Halton, like many other municipalities, includes the cost of water system fire protection capacity in the property taxes. A similar situation can exist for sanitary sewer.

### **5.4.2 Larger Municipalities**

Water and sewage rates have been surveyed for 13 other medium to large-sized municipalities across the province (14 including Durham).

Most, like Durham, have sole responsibility for water and sewage. Three, the City of Waterloo (in Waterloo Region), the Town of Newmarket (in York Region) and St. Catharines (in Niagara Region), have two-tier utilities, where the upper tier municipality (the Regions) are responsible for major facilities such as treatment, water storage and trunk sewer mains. Local facilities such as distribution mains as well as the customer billings are the responsibility of the local level municipality.

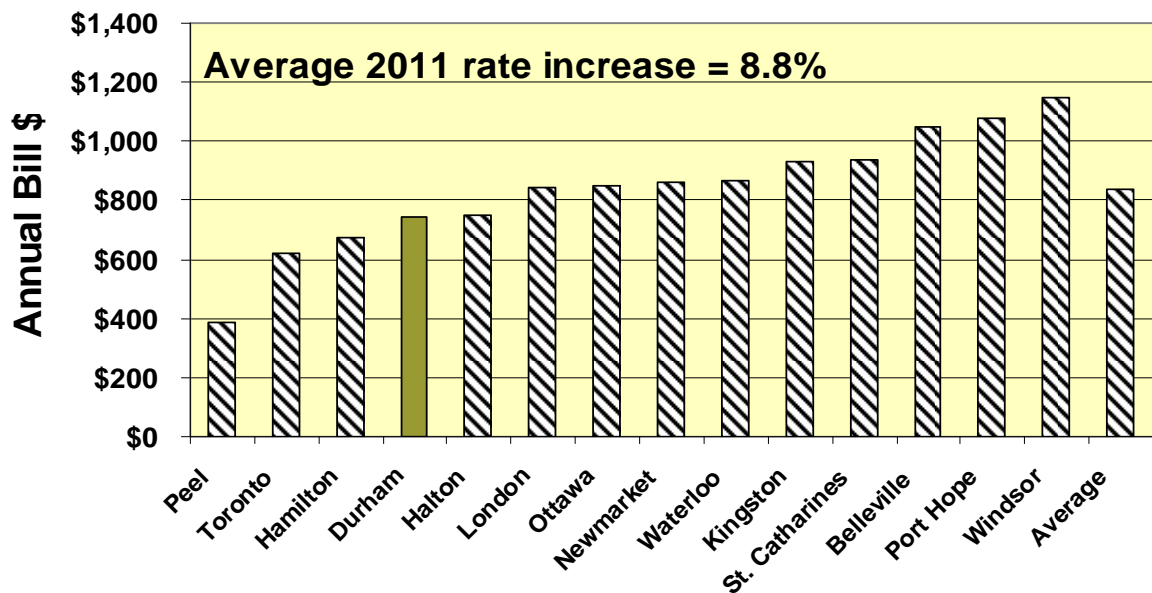
The types and combinations of user rate structures and formats vary, as follows:

- The three local utilities in the two-tier municipalities use single-block rate structures. This is to be expected since the bulk of their costs are billed to them by their regional governments at single-block volumetric rates.
- The eleven single-tier utilities (like Durham) use a variety of approaches (some use a combination of approaches):
  - 42% use declining block rates for ICI customers (like Durham)
  - 33% use single-block rates (like Durham does for residential customers)
  - 25% use increasing block rates for residential consumers
  - 17% use “humpback” rates where there are multiple rate blocks that first increase then decrease again as usage increases.

Comparative water and sewage charges have been calculated for a typical residential customer and for a large customer using available 2011 rates.

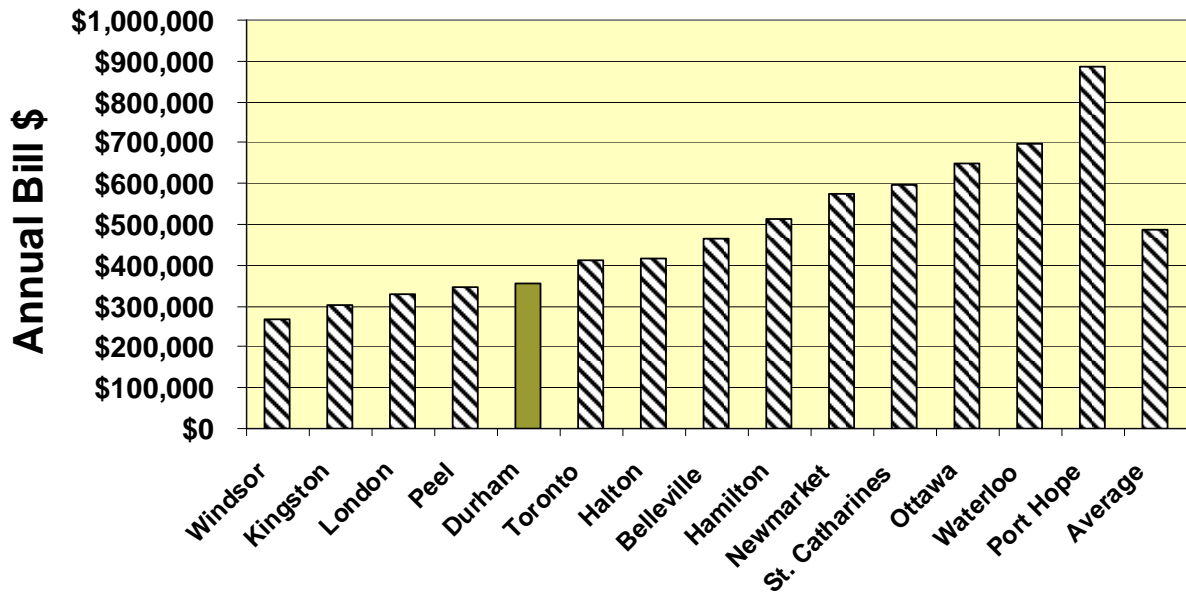
**273 m<sup>3</sup>/year (60,000 gallons)** – This represents an approximate overall average of residential usage per dwelling unit (single family dwellings, apartments, etc). It is just under 23 m<sup>3</sup>/month/unit (5,000 gal/month/unit). Comparative charges are graphed in Exhibit 15. The overall average 2011 combined water and sewage bill increase was 8.8% compared with 4.5% in Durham.

**Exhibit 15 Comparative 2011 Water & Sewage Charges for Average Customer Using 273m<sup>3</sup>/year**



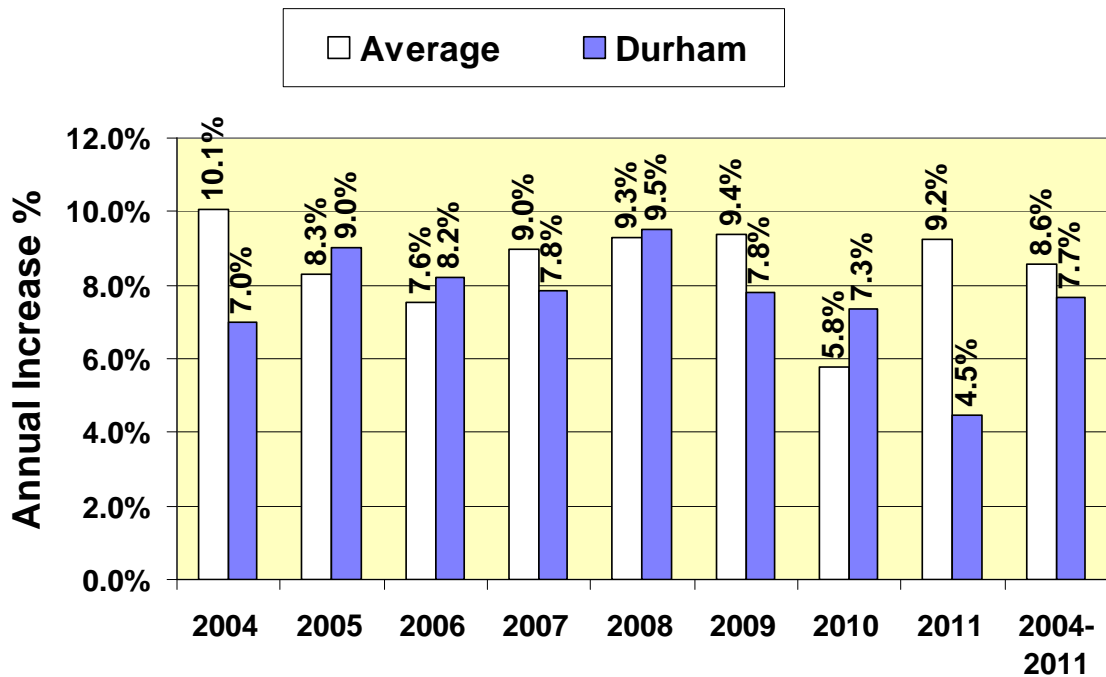
**227,000 m<sup>3</sup>/year (50 million gallons)** – This is a large water user and may not exist in some of the municipalities in the comparison. In Durham it represents about our 9th largest customer. Comparative charges are graphed in Exhibit 16.

### Exhibit 16 Comparative 2011 Water & Sewage Charges for Large Industries Using 227,000 m<sup>3</sup>/year



The Walkerton tragedy forced municipalities and the province to recognize growing infrastructure deficiencies, Ontario municipalities have needed to increase water and sewage user rates in order to fund ever increasing standards as well as investments needed to fund infrastructure replacement needs. Average water and sewage rate increases faced by customers using 273 m<sup>3</sup>/year (60,000 gallons) in the 14 larger municipalities surveyed are graphed in Exhibit 17.

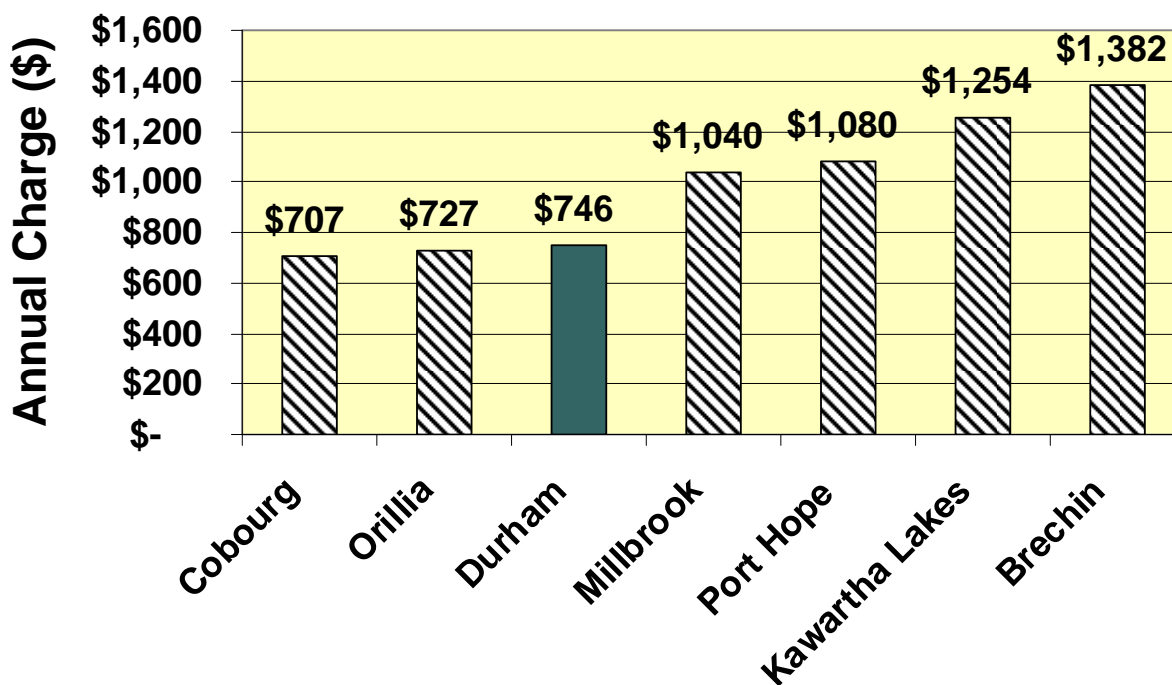
**Exhibit 17 Average Rate Increases for Typical Residential Customers in 14 Municipalities from 2004 to 2011**



### 5.4.3 Neighbouring Municipalities

Typical 2011 charges to a residential customer have also been calculated for six neighbouring communities. The findings are provided in [Exhibit 18](#).

**Exhibit 18 Comparative 2011 Residential Water & Sewage Charges (273 m<sup>3</sup>/yr) – Neighbouring Small Municipalities**

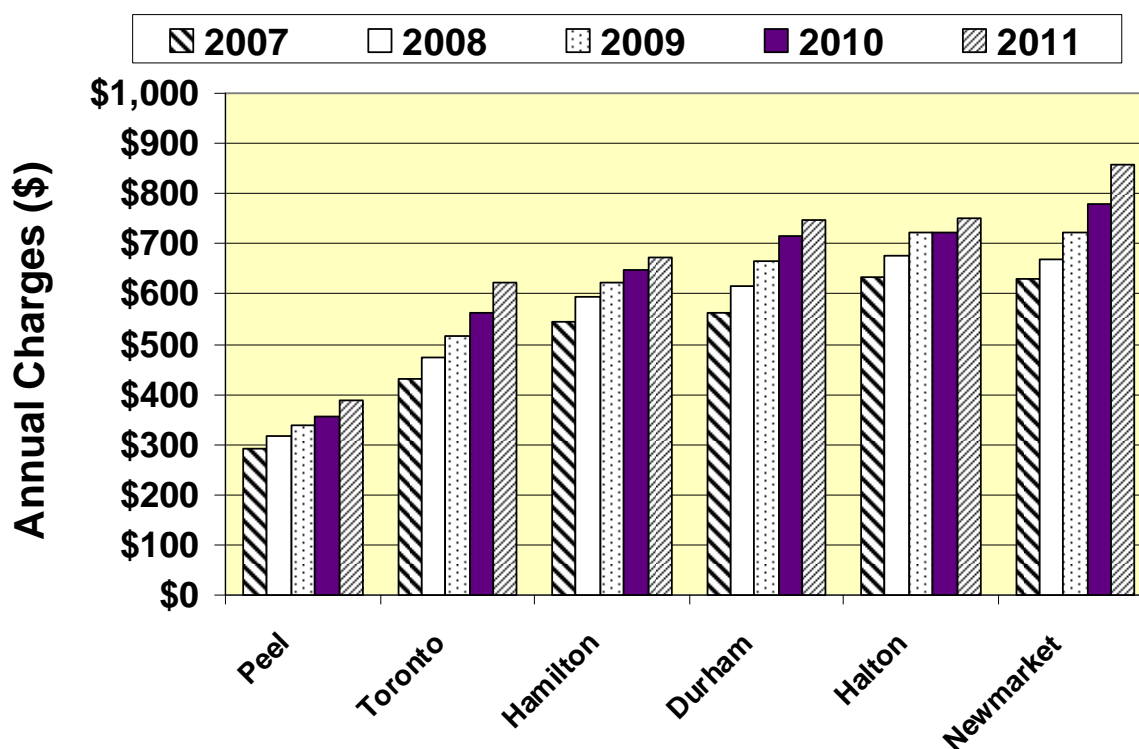


Durham is at the low end of user rate charges. Comparisons are sometimes made difficult because of the use of the property tax to recover some costs. For example, Cobourg recovers some sewage costs from property taxes.

#### 5.4.4 Comparative Rate Increases in Recent Years

Combined water and sewage user rate increases over the past five years in nearby regions are graphed in Exhibit 19.

#### **Exhibit 19 Comparative Recent Bill Increases for Typical Residential Customer (273 m<sup>3</sup>/yr) – Nearby Regions**



Durham is about mid-range in terms of level of charges in this group. The following observations are made:

- Peel is dominated by a single, very large municipality with major Lake Ontario treatment plants and as a result has lower rates than the other nearby regions (including Durham which has many local small systems). It has consistently had low user rate increases and remains the lowest cost provider.
- Peel, Toronto and Hamilton have either a single large metropolitan area or are anchored by one. This leads to economies of scale that Durham cannot match with its many diverse systems spread over a large geographic area.
- Toronto has recognized the need to move towards full cost pricing and has recently started more aggressive rate increases.
- Hamilton, after many years of low rates, determined that their system was severely underfunded and is aggressively moving to full cost recovery.
- Halton also has several urban areas to serve (although less than half of Durham's) and has recently been aggressively increasing user rates.

Durham's stepped metered rate blocks result in lower rates for large volume ICI consumption, which is advantageous to industrial customers. This is based on an analysis of the actual cost of supplying these customers and is possible due to Durham's sole jurisdiction over the complete water and sewer systems. Municipalities which only have jurisdiction over local systems often must purchase water at one wholesale rate, leaving less scope for passing on cost savings related to large volume supply to the customers. As a result, the charges for these municipalities are the highest for large customers. Conversely, these municipalities have lower charges for the smaller volume customers.

Water and sewage systems have faced rapid growth for years. When infrastructure is new, maintenance and replacement costs are relatively low. However, over time, increasing investment is needed to refurbish and replace aging infrastructure. In addition, upgrades are needed to meet more stringent regulations. The end result is that most systems must increase investments to reach sustainable levels. Since 2002, Durham has found it necessary to implement higher annual rate increases than were previously needed.

Annual rate increases for the 14 municipalities discussed in [Subsection 5.4.2](#) have been tracked from 2004 to 2011. The average annual water and sewage rate increase of the 14 municipalities over the 8-year period has been 8.6% per year compared with Durham at 7.7% annually (see [Exhibit 17](#)).

Although Durham's rates are established based on Durham's investment needs, and not in reference to others, it is noted that the other municipalities have been facing the same challenges of increasing funding of water and sewage systems to sustainable levels while experiencing decreased consumption and have been increasing rates in a similar manner.

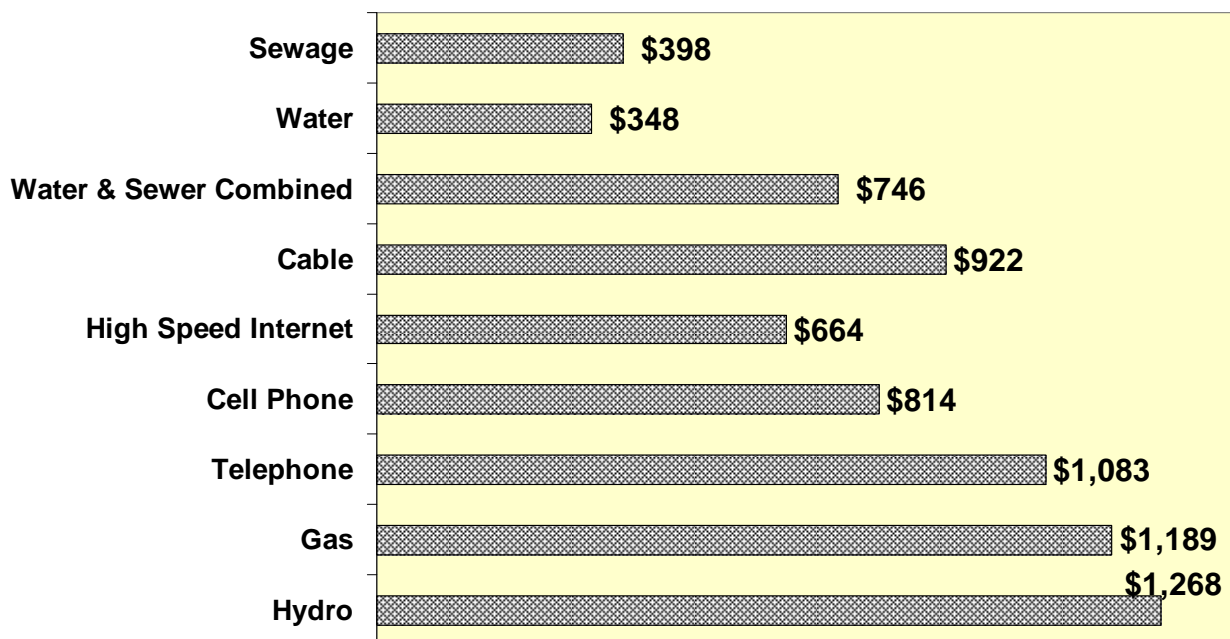
## **5.5 Durham's Residential Water Charges and Sanitary Sewer Charges Are Much Less Than Typical Hydro, Gas, Telephone or Cable Television Services**

Information was gathered on local residential electricity, natural gas, cable television, high speed Internet, cellular phone and home telephone rates and compared with the Region's water and sewer rates.

The "most popular" option has been priced below where that option is indicated by the supplier. There is a wide range of prices for some services.

Representative 2011 annual residential utility charges in Durham (Oshawa rates used) are graphed in [Exhibit 20](#).

### Exhibit 20 Typical Durham Residential Utility Charges 2011



The components of a total annual bill for a representative residential customer are as shown in Exhibit 21.

### Exhibit 21 Typical Residential Utility Charge Share 2011

Utility	Basis of Comparison	% of Annual Utility Bills
Hydro	Cooking, lighting, etc.	24.4
Gas	House heating & water heater	22.8
Phone	Touch tone service + long distance @ \$28/month	20.8
Cable	Most popular package – no movies	17.7
Water	Average residential use – 273 m <sup>3</sup> /year	6.7
Sewer	Average residential use - 273 m <sup>3</sup> /year	7.6
	Total	<u>100%</u>

The **total combined water and sewer billing** for this residential customer (no cell phone or internet) represents only about 14.3% of the total utility charges incurred in a typical home. This is much less than most other individual utility services.

## 6.0 FUTURE CONSIDERATIONS (2013 TO 2016)

### 6.1 Future Customer & Consumption Trends

Elements expected to affect future customer and consumption levels are as follows:

- **Customers** – Report #2011-J-54: 2012 Water Supply & Sanitary Sewerage Servicing and Financing Study indicates a 2013 to 2016 increase in the number of urban residential units of 15,100 or about 1.5% annually. This growth rate is similar to projections last year, but is lower compared to previous projections. Since this includes multi-unit (e.g. condominiums – about 30% of residents are in multi-unit locations), not all additional units represent new customers, so the growth in number of customers would be less than the growth in units. A lower pace of growth averaging 1.0% annually, which reflects a slow recovery from current growth experience, is conservatively adopted for revenue projection purposes.
- **Residential Consumption** – Basic (non-seasonal) consumption per residential customer is expected to continue to decrease for the foreseeable future. New housing being equipped with water efficient fixtures and appliances, and ongoing retrofitting of existing homes are all factors placing downward pressure on residential consumption. When combined with a low customer growth rate, residential consumption is projected to decline in total.
- **Small to Medium Commercial** – This sector historically has been fairly constant, but recently has also shown decline. It is expected that this is a correction that will stabilize in the future.
- **Large Industrial** – This segment is projected to remain steady in 2012, and it is assumed that this sector has stabilized.
- **Total Consumption** – Over the five-year period 2006 to 2010 total consumption has decreased an average of about 1.6% annually. For planning purposes it is projected that total consumption will decrease at 1.5% annually for the 2013 to 2016 period.

Historically, consumption growth has generated additional funding on an annual basis. But this has not been occurring recently. Static or lower usage means revenues will not increase in step with increased customer growth. This is occurring during a period when Provincial water and sewer regulations are becoming stricter and when Durham's Report #2011-J-46: 2011 Asset Management Update indicates that due to deficiencies in the water and sewage systems, infrastructure replacement investments have become a priority.

Staff will continue to monitor consumption trends and determine the impact on future user revenues over the longer term and on capital plans for growth related projects.

All areas impacting billed consumption such as meter accuracy and unaccounted for water levels will continue to be addressed.

## 6.2 Future Cost Trends

The possibility that consumption levels may decrease will affect future budget levels and consequently rate increases over time. However, over the short term the expenditure budget impact is relatively small, since savings are limited to variable operating costs such as power and treatment chemicals.

Over the long-term, permanent trends in consumption can affect water supply and sanitary sewer system capacity requirements and design criteria. This in turn would impact the growth capital program, particularly treatment plant expansions. Decreased demand by existing customers frees up capacity for development, which may result in short term deferral of specific water and sanitary sewerage projects if decreasing consumption trends continue.

Capital costs related to rehabilitation, replacement and regulatory upgrades are not expected to be affected by changes in consumption patterns.

## 6.3 Projected User Rates

Since user rates are set on a year-to-year basis, change in water consumption in the near-term is the most important factor in user rates revenues. About 71% of combined water and sewer user revenues are based on consumption. Consumption in recent years has trended downwards.

In order to fund the forecast operating and capital costs based on the customer and expenditure growth assumptions, water and sewage rates are projected to require annual increases of 7% to 9% or higher.

**The water and sewage user rate forecasts to 2016 are based on a capital program of known needs. However, there are potentially other factors that will have cost implications that are unknown at this time and as a result cannot be quantified. Risks include:**

- Future customer trends, including reduced residential customer consumption due to conservation and water efficient appliances, reduced water sales to large customers and slower customer growth trends;
- Financial impact of works needed to comply with Provincial and Federal Regulatory requirements associated with the Region's water supply and water pollution control plants (i.e. the *Clean Water Act* and the *Lake Simcoe Protection Act*);
- Market price impacts or volatility for input commodities, including energy and chemicals; and,
- Asset management program investment requirements to replace aging and failing infrastructure which has reached or passed the end of its useful life. Although repairs can often extend the life of aged facilities, at some point this is not feasible and from an operational and financial perspective replacement is required.

## 7.0 **FUTURE ACTIONS**

Staff will continue to undertake the following initiatives to ensure the most efficient on-going water and sewage programs:

- i) Participation in benchmarking initiatives in order to identify and establish best practices for operations, maintenance and capital construction;
- ii) Development of the asset management strategy including work on the evaluations for treatment plants and storage facilities, updating condition indexes to 2012 data and further integrating the asset management process and findings into the multi-year budget planning process;
- iii) Assessment of water losses and reduction of unaccounted for losses, where possible;
- iv) Address the issue of high water volumes used for home construction, including developing a forward-looking strategy for recovering the full cost of this use, encouraging a reduction in wastage and finally to discuss with the Homebuilder's Association an approach for charging more equitably and effectively for the water used;
- v) Assessment of emerging trends within residential and non-residential water consumption to project future usage for user rate purposes and monitoring usage trends that might influence future capital programs for treatment plant expansions; and,
- vi) Continue to deal with environmental issues such as the Region's Climate change initiatives as well as conservation and reduced water usage and user-rate supported programs with environmental impacts such as water meter and polybutylene service connection replacement.