



**SUBJECT: 2011 Water, Wastewater, and Stormwater Budget**  
**FROM: I. Simanovskis, Director of Infrastructure and Environmental Services**  
**DATE: April 19, 2011**

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### **RECOMMENDATIONS**

***THAT Council receive report no. IES11-014;***

***THAT Council approve the 2011 Water, Wastewater, and Stormwater budgets with a combined net expenditure of \$13,327,326;***

***THAT Council approve the recommendation to cease the application of an area specific charge for the residents serviced by the Ballymore, Bayview, and Brentwood sewage pumping stations effective May 1, 2011 after which the related costs are included in the uniform Town rates noted above;***

***THAT Council approve the 2011 retail water rate of \$1.4359 per cubic meter and the retail wastewater rate of \$1.1227 per cubic meter of water effective May 1, 2011;***

***THAT Council approve the 2011 flat rate stormwater charge of \$4.11 per unit per month for residential and condominium properties and \$57.69 per unit per month for metered non-residential commercial/industrial and multi-residential properties effective May 1, 2011;***

***THAT Council approve the 2011 bulk water purchase rate of \$2.5586 per cubic meter effective May 1, 2011;***

***THAT Council approve fees of \$750 per connection for installation of a service connection for either water or wastewater services effective May 1, 2011; and***

***THAT Council adopt the necessary by-law to implement the above recommendations effective May 1, 2011***

### **PURPOSE OF THE REPORT**

The purpose of this report is to present adjustments to rate setting practices and present the budget summary for rate supported programs and set the 2011 rates for fees collected for the water, wastewater and stormwater services effective May 1, 2011.

## **BACKGROUND**

### **Legislative Framework**

#### **Legislative environment has been effective in increasing confidence on Ontario's water systems**

The services of water supply, wastewater management and stormwater management are greatly regulated by the Province. This regulation has been a part of the industry for a long time. However, as a result of the Walkerton tragedy in 2000, significant changes to legislation occurred resulting in continued improvements to how water supply is delivered. The best practices coming out of the changes to water regulations has been of great benefit to increasing confidence and certainty in the delivery of safe water to the community.

#### **Overseers of water systems are held to a standard of care for public safety**

The Safe Drinking Water Act, 2002 focuses on water supply and outlines the expected standard of care for overseers of water supply systems. This Act is the basis of our operations and great effort is placed in ensuring compliance and continual improvement in meeting all the requirements.

#### **Wastewater and Stormwater systems have similar Acts and Regulations**

Legislation for wastewater and stormwater are also in place and have similar requirements for these services. Recent legislation for stormwater protection includes the Lake Simcoe Protection Act 2008 for which Aurora is a participating partner within this watershed. The Storm Water Management Plan required to be completed by 2013 is an example of the types of continuous improvement initiative the Province is requiring of its partner Municipalities.

### **Drinking Water Quality Management System (DWQMS)**

#### **The Town is well on its way to completing Water System Licensing Requirements**

The DWQMS is the primary process from which the Municipality will achieve the required approvals for operations of the water system from the Ministry of the Environment. This process has been underway across Ontario for several years now and the following summary provides Council with a brief history of the milestones achieved to date:

- Development of Operational Plan (May 2008- May 2009)
- Council Endorse Operational Plan (June 23, 2009)
- Submit Operational Plan to MOE (Aug 1, 2009 Mandated Deadline)
- MOE Audit of Operational Plan (March 29, 2011)
- MOE Acceptance of Operational Plan (Expected May 2011)
- Council Endorsement and Submission of Financial Plan (within 6 months of Operational Plan acceptance, mandated deadline)
- MOE Issues Operating System License (MOE Schedule)

### **Rate Setting Practices in the Town of Aurora**

**Setting water and sewer rates involves input from several sources**

Rate setting is based on a number of operating and financial inputs. Historically the setting of rates has been a collaborative effort between the Finance and Infrastructure and Environmental Services Departments with Finance taking a lead role. The key inputs to the budget process have been:

- Develop budget for operational costs
- York Region Water Supply Projections for Aurora
- York Region wholesale purchase rate per m<sup>3</sup> of water supplies
- Estimate of non-billable water loss occurring within the local system

With the pending issuance of a Water License from the MOE expected this summer, the financial aspects of the budget process will be required to take on a much more robust and formal financial planning process focusing more on system requirements.

**Consolidation of programs and rate setting into IES will streamline process**

In addressing these changing needs, the lead responsibility for financial planning of all aspects of the water system will be transferred to the Infrastructure and Environmental Services Department. The role of Finance will shift from providing direct input into the budget process to internal auditor and final reviewer. This change will achieve two positive outcomes; 1) it will ensure all aspects of budget development are synchronized and related interactions are understood, 2) will provide an independent audit process prior to recommendations being made to Council.

This is the first budget being submitted under this new approach which will also be extended to the wastewater and stormwater systems due to their close relationships.

**COMMENTS****Overview of Budget Process****Rate setting developed through several areas of responsibility**

The following outlines the steps in developing the water, wastewater and stormwater budget after which the details of the financial implications are presented through the development of the proposed rates for these services:

- Determine annual operating financial needs
- Review capital replacement plan and assess status of reserve fund profile
- Determine annual reserve contribution requirements for sustainability
- Analyse probable water volumetric needs based on Town consumption patterns
- Determine rates that achieve conservative revenue based on wet summer sales targets.
- Project 4 years out to review stability of rate and incorporate rate stabilization funding from reserves as may be required.

**Overview of Budget Pressures**

### Pressures for Sustainability

#### **Infrastructure and sustainability pressures on regional water systems passed down through wholesale rates**

The municipal water industry is continuing to move through substantial changes in how services are delivered and how future sustainability is accommodated and planned for. York Region has seen significant costs in its wholesale rates over the past several years that result in a direct impact on the Town's costs. Their current forecast is however showing signs of levelling off wherein the projected increased are dropping to 5 percent for 2012 and 2013 and then further reduced to 2 percent thereafter. This suggests that the regional budget is approaching sustainability resulting in reduced direct costs impacts.

#### **Town water rate pressures as a result of wholesale costs and long term capital requirements**

The Town's budget history has been increasing costs in lock step with the Region to maintain current revenue levels. A detailed review of the 2011 budget was undertaken in light of provincial requirements for financial planning submissions in late 2011. This financial plan will be required to demonstrate how the Aurora water system is achieving financial sustainability in the long term. All budget pressures in the next 6 years are primarily as a result of the need to demonstrate a sustainable budget. The pressure on rates does dramatically reduce after 2014 where increases closer to 3 percent can be expected.

### System Water Loss

#### **Causes of water loss vary and the impact of various factors are unique to each system**

System water loss occurs when activities or incidents in the field result in loss of water that is non-billable. All water systems experience these losses and they can range from as low as 5 percent to over 15 percent with a typical range being 7-10 percent. There are generally two categories of losses, known non-billable and unknown non-billable. Examples of known non-billable losses are water quality testing, system flushing and watermain commissioning. Examples of unknown non-billable losses include system leaks too small to be detected, theft, unmetered Parks uses, meter reading accuracy and watermain breaks.

#### **Aurora water system is well managed and known losses are measured**

Historically the town has averaged approximately 9 percent for overall losses. 2010 however has increased to 11 percent. The known losses have remained stable at about 4 percent as the flushing and sampling programs are well established with level of construction and repair activity being the only significant variable. It is difficult to attribute the remaining unknown losses to infrastructure condition as significant investments in our system have produced a very robust network with an extremely low break rate.

#### **High losses occurring across York Region and Region initiating collaborative**

**investigation to determine causes**

This phenomenon of increased losses is not unique to Aurora as all other municipalities serviced by the York Water System are seeing similar results. The issue has become of such great concern to the municipalities that York Region has initiated two projects to determine what is happening. The first project is to undertake a water audit for all municipalities in relation to Regional flow records to identify if possible where the losses are occurring. The second initiative is to review billing data for all municipalities which may also reveal useful insight into the issue.

**Aging residential water meters record to the benefit of the user as they age and lose accuracy**

At the Town level, there is concern that aging residential water meters are reading lower water flows which directly impacts unknown water losses. Staff are undertaking a study this year and will be recommending a meter change out program starting in 2012. Once resolution of any upper tier and lower tier issues are achieved it is expected that the long term water loss should drop to about 8 percent. To ensure sustainable budgeting, these losses must be recovered as part of the general rate.

*Impact of Wetter Summers***High demand projections from Region used to set rates resulting in revenue short fall when summer is not as dry**

Summer conditions have a significant impact on water consumption. To ensure adequate supply, York Region projects water demands based on dry summer conditions. Although this is a prudent approach to planning for water supply, this approach does not prove useful when budgeting for water sales at the local level. Previous rate setting practices have considered the Regional projection as the initial water sales target. However, summer conditions have been wetter than normal since 2007 which was the last dry summer in recent history. Therefore, consumption has been consistently below the regional target resulting in significant overestimating of sales in the budget. This approach has impacted revenues resulting in the need to subsidize the program from reserves as revenue projections were not met.

**Water subsidies from reserves to be eliminated over next 3 years**

Other than 2007 when sales met targets, the last decade has resulted in the need to subsidize the program in the range of \$500,000 per year. This subsidy will remain in the budget for at least the next three years as flow projections and rates are adjusted to better align target sales with actual sales after which recover of these subsidies will begin to occur.

*Transfer of Ongoing Capital Projects into the Operating Budget***Transfer of capital projects to operating budget impacts annual operating costs**

There are currently capital projects in the program that provide for continuous funding toward contracted system repairs and replacements. Recognizing the perpetual nature of these projects, it is being recommended that they be incorporated into the operating budget

as an ongoing maintenance activity. The short term impact will be a need for continued funding from reserves until rates can be increased sufficiently to offset these increased operating costs. The net benefit of this change will be reduced reliance on reserves for capital expenditures and a more stable annual budget which includes all aspects of routine maintenance activities.

### Deficit Reserve Balance

#### **Declining reserve balance expected to be replenished over next four years**

The combined reserve account for the water/wastewater system has seen a significant decline since 2005 when the closing balance was \$3,850,000. The reserve moved into a deficit position in 2008 and is currently overdrawn by \$1,030,000. This is a result of the combined impact of an aggressive capital spending program driven by the need to match availability of funding provided from other levels of government, and the need to subsidize the gap in forecast sales.

The need to re-establish adequate reserves and close the gap in revenues is the greatest pressure on the rates over the next 4 years as the budget approaches sustainability.

#### **Update to the Internal Accounting Practices**

The following outlines opportunities being recommended to improve internal accounting practices.

### Abandon Area Specific Operating Charges for Sewage Pumping Stations

#### **Three pumping stations recover operating costs through area specific charges**

Of the six pumping stations in town, Aurora owns and operates three sewage pumping stations using areas specific charges which are required to service developments that do not allow for gravity flow of sewage into the collection system. These stations are known as the Ballymore, Bayview and Brentwood Pumping Stations.

#### **Practice for collection of specific fees established as part of subdivision agreements**

During design and approval of the subdivisions where these stations exist, the Town adopted a practice of creating an area specific charge to the residents serviced by each station. This has resulted in charges specific to the operation and long term maintenance of these stations being added to the water bill as a separate item. The three stations service 516 residents at a total cost of \$71,300 per year.

#### **Area specific fees for any communal service is an ineffective approach to equitable distribution of costs**

The practice of an area specific charge is arcane in the context of an integrated system and is similar to the notion of charging residents living adjacent to a watermain project for the cost of replacing the watermain. The system must be considered as an integrated system and all costs associated with the operation of the system are to be shared equally by all users. The recommendation to eliminate the area specific charges for these pumping

stations will achieve that objective with no significant impact to the overall community and an immediate adjustment to the expenses of those residents currently receiving these costs.

The following tables are based on the financial forecasts presented in the 2011 Proposed Budget attached at Appendix "A".

### 2011 Water Budget and Rate Calculation

**Table 1A**

<i>Rate Component</i>	<i>2010 Restated Rate</i>	<i>2011 Proposed</i>	<i>Change (%)</i>
Wholesale Cost	\$0.6339	\$0.6973	10.00%
Water Loss Allowance	\$0.0892	\$0.0982	10.00%
Net Operating Costs	\$0.5824	\$0.6404	9.96%
<b>Total Retail Water Rate</b>	<b>\$1.3055</b>	<b>\$1.4359</b>	<b>9.99%</b>

### 2011 Wastewater Budget and Rate Calculation

**Table 1B**

<i>Rate Component</i>	<i>2010 Restated Rate</i>	<i>2011 Proposed</i>	<i>Change (%)</i>
Wholesale Cost	\$0.7182	\$0.7900	10.00%
Water Loss Allowance	\$0.0889	\$0.0995	12.26%
Net Operating Costs	\$0.2146	\$0.2332	8.67%
<b>Total Retail Wastewater Rate</b>	<b>\$1.0217</b>	<b>\$1.1227</b>	<b>9.89%</b>
<b>2011 Combined Rate</b>	<b>\$2.3272</b>	<b>\$2.5586</b>	<b>9.94%</b>

### 2011 Miscellaneous Charges

#### Connection Charges

The current connection charge is \$725 per connection. This charge is proposed to remain unchanged for 2011 and is the fee for approving connections to consumers.

#### Turning Water On or Off

The current flat fee for turning a water supply off or on at the request of a customer is \$40.00 per event during working hours and \$80.00 per event other than normal working hours. This rate has been in effect since 2008 and is not recommended to increase at this

time.

### Purchase of Bulk Water

The current rate for purchase of bulk water is \$2.3272 per m<sup>3</sup>. This is the same rate charged to retail customers for both water and wastewater services combined. The Town incurs wholesale costs for both services based on metered water consumption. The 2011 rate therefore is to increase to the combined charge of \$2.5586 per m<sup>3</sup> on May 1, 2011 to correspond.

### **2011 Stormwater Charges**

#### **Stormwater charges are collected as flat rate fees to residents and commercial accounts**

In 2002, Aurora implemented a flat rate charge for stormwater operation and maintenance. The operating costs consist primarily of routine maintenance and periodic capital upgrades to the existing infrastructure. The costs are apportioned between the residential and non-residential accounts based on a fixed formula which are then calculated and charged as a monthly fixed fee per account. A summary of the costs are presented in the table below.

**Table 2A**

<i>Rate Component</i>	<i>2010 Restated</i>	<i>2011 Proposed</i>	<i>Change (%)</i>
Gross Operating Costs	\$500,620	\$459,173	-8.30%
Reserve Contribution	\$1,028,527	\$1,000,000	-2.80%
Fee Stabilization	(\$437,647)	(\$300,000)	31.50%
<b>Total Recovery</b>	<b>\$1,091,500</b>	<b>\$1,159,173</b>	<b>6.20%</b>

The 2011 rates are proposed to remain unchanged as shown in the table below:

**Table 2B**

<i>Stormwater Flat Rate</i>	<i>2010 Rate</i>	<i>2011 Proposed Rate</i>	<i>Rate Change</i>	<i>Change (%)</i>
Residential/year	\$49.32	\$49.32	\$0.00	0.00%
Residential/month	\$4.11	\$4.11	\$0.00	0.00%
Non-Residential/year	\$692.28	\$692.28	\$0.00	0.00%
Non-Residential/month	\$57.69	\$57.69	\$0.00	0.00%

### **ALTERNATIVE(S) TO RECOMMENDATIONS**



The rates for the various services are established each year based on coming into effect May 1 of the current year. Approval of the recommendations in advance of May 1 will allow the revised rates to be charged at the appropriate time to fulfill budget projections.

Should the approval of the rates extend beyond May 1, staff may recommend adjustments to the rates to ensure sufficient revenue is collected to cover expected costs in the shorter time period.

### **FINANCIAL IMPLICATIONS**

The Water and Wastewater rates are both based on the volume of water purchased by the end users. A change in the method of forecasting consumption has been made for 2011 to more accurately predict sales volumes and reduce revenue shortfalls previously experienced as a result of unexpected seasonal fluctuations. This change has resulted in a reduction in expected sales volumes from 5,410,400 m<sup>3</sup> for 2010 to 4,908,960 m<sup>3</sup> in 2011. The reduction of approximately 500,000 m<sup>3</sup> has a favourable impact on both the revenues and expected wholesale costs for water and is more in line with expected sales based on 2010 final accounts. The influence this has on the 2011 operating budget is what appears to be a marginal increase in overall program costs. Total net expenditures to be approved for user rate recovery are shown in the following table:

**Table 3A**

<i>Component</i>	<i>2010 Restated</i>	<i>2011 Proposed</i>	<i>Change</i>	<i>Change (%)</i>
Water	\$6,869,200	\$6,850,331	(\$18,869)	-0.30%
Wastewater	\$5,236,200	\$5,317,822	\$81,622	1.60%
Stormwater	\$1,091,500	\$1,159,173	\$67,673	6.20%
<b>Total</b>	<b>\$13,196,900</b>	<b>\$13,327,326</b>	<b>\$130,426</b>	<b>1.00%</b>

The proposed rates will result in an average annual residential consumer charge as outlined in the following table and is based on a baseline consumption of 245 m<sup>3</sup>/year:

**Table 3B**

<i>Component</i>	<i>2010 Average Billing</i>	<i>Change</i>	<i>2011 Proposed Average Billing</i>	<i>Change (%)</i>
Water Charge	\$319.85	\$31.95	\$351.80	9.99%
Wastewater Charge	\$205.32	\$24.74	\$275.06	9.89%
Stormwater Charge	\$49.32	\$0	\$49.32	0.0%
<b>Total</b>	<b>\$619.49</b>	<b>\$56.69</b>	<b>\$676.18</b>	<b>9.15%</b>

The primary pressures in the 2011 fees are the Regional increase in wholesale costs by 10

percent, and the restatement of sales volumes to the end consumer resulting in the need to increase unit rates to collect the same amount of revenue for the reduced volume expected to be consumed. A longer term cost pressure influencing the above charges over the next four years will be the shift from contributions from reserves to stabilize the current rates, to a recover of those contributions to create a financially sustainable program. The implementation of the changes in rate stabilization are planned to be incremental and balanced to minimize impacts on the end users over this period.

## **CONCLUSION**

The water, wastewater and stormwater programs are all funded through a rate structure based on consumption and full cost recovery. The proposed rates for 2011 have incorporated the impacts of reduced expected sales, increased wholesale water costs, the need for funding of future capital programs and the recovery of reserves currently committed to rate stabilization.

The budget for 2011 results in an overall increase of 9.15 percent for a typical residential customer. All rates are forecast to be in effect May 1, 2011 until April 30, 2012.

## **ATTACHMENTS**

- Appendix "A" - 2011 proposed budget and 4 year forecast

## **PRE-SUBMISSION REVIEW**

Executive Leadership Team Meeting of April 6, 2011

***Prepared by: Ilmar Simanovskis, Director of Infrastructure and Environmental Services***

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***Ilmar Simanovskis  
Director of Infrastructure &  
Environmental Services***

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***Neil Garbe  
Chief Administrative Officer***