CITY OF HAMILTON

CORPORATE SERVICES DEPARTMENT
Financial Planning and Policy Division

TO: Mayor and Members General Issues Committee	**WARD(S) AFFECTED:** CITY WIDE
COMMITTEE DATE: March 22, 2011	
SUBJECT/REPORT NO: Water and Wastewater Rate Structure Review (FCS11025) (City Wide)	
SUBMITTED BY: Roberto Rossini General Manager Finance and Corporate Services	**PREPARED BY:** John Savoia (905) 546-2424, ext. 7298
SIGNATURE:	

RECOMMENDATION:

(a) That the following principles be used to develop alternative rate structures for Council's consideration:
   i) be fair and equitable
   ii) promote conservation
   iii) be affordable and financially sustainable
   iv) stabilize revenue
   v) be justifiable
   vi) be simple to understand
   vii) support economic development;

(b) That the total cost of the Water and Wastewater Rate Structure Review with an upset limit of $70,000, be funded equally from the Waterworks Capital reserve (108015) and the Sanitary Sewer Capital reserve (108005);

(c) That staff be authorized and directed to return to Council by September 2011 with an updated water and wastewater rate structure for Council's consideration.

EXECUTIVE SUMMARY

At its meeting of January 26, 2011, Council approved the following direction:

> *"That staff be directed to report back on alternative measures of water costing for the 2012 rate budget."*

The purpose of this report is to seek Council's approval to move forward with a water and wastewater rate structure review ("Review") by approving guiding principles that will be instrumental in determining alternative rate structures for Council's consideration.

It is anticipated that the Review will identify options that speak to the principles identified in recommendation (a) to report FCS11025, as well as, ensuring they conform to current legislation and industry best practices.

The intent of the Review will be to identify and evaluate alternative rate structures to recover costs reflected in the current 2011 rate supported budget (i.e., revenue neutral). The Review will not be evaluating alternative rate structures with an objective of increasing total rate revenues. Alternative rate structures may impact various customer sectors differently with the associated impacts to be identified for Council by the Review.

There are a variety of water and wastewater rate structures in use across North America. Generally, most of these structures fit into one or more of the following categories:

Flat fees: A flat fee is assessed, independent of usage. This fee typically is used when water meters are not in place to measure customers' consumption. As per Environment Canada studies, water utilities have been moving away from flat fees as rate and cost of service studies indicate better ways of distributing costs to customers based upon their respective demands on the system. Typically, the use of flat fees is found with very small utilities and where a business case for metering may not exist. An outcome of the Walkerton Inquiry was a recommendation to the Provincial government that "metering should be mandatory in all sustainable water systems."

Volumetric charge: A charge is assessed based upon metered usage. The rate structures of most utilities across North America incorporate some type of volumetric rate; however, most also incorporate a base (fixed) component.

Base plus volumetric charge: A base (fixed) charge is assessed, typically per meter/inlet service size, on each customer bill. In addition, a volumetric charge is also assessed based upon metered usage. Most of the larger utilities in North America have a base and volumetric charge structure and this trend is growing. In addition to the volumetric cost, there is the recognition that the high fixed costs of water and

wastewater drives the need for a "base" charge reflecting costs such as: billing, meter services, overhead and infrastructure investment, irrespective of usage. Utilities also recognize that a base charge component provides for a more reliable revenue stream.

Within this type of structure, there are two methods of structuring the volumetric charge:

Uniform rates: The volumetric charge per unit (e.g., cubic meter) is the same regardless of the level of usage. With approximately 80% of Canadians with water meters on an uniform rate structure, this structure is the most prevalent water and wastewater rate structure because it is easy to understand and implement and ties relatively well with cost of service.

Inclining/Declining block rates: Volumetric charges can also vary according to the amount, or "blocks", of usage.

> Declining block rates have the per unit rate decrease as the volume increases. This type of structure is typically used to represent the commodity nature of water and that larger users may place less cost on the system on a per unit marginal cost basis. Although there are a fair number of utilities with this type of structure, there has been a decline in popularity in recent years due to a greater focus on conservation. Utilities with this type of structure may want to attract/retain large industry to their area for economic reasons. An example, of a declining block rate structure is found in the City of London, where it was established over 60 years, whereby residential customers pay higher rates than non-residential customers.
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> Inclining block rates have the per unit rate increase as the volume increases. This type of structure is considered a "conservation" rate structure and is typically used by communities with water shortage issues to reflect the burden on the limited water supply placed by larger users and/or users with widely varying demands. A number of water utilities utilize this type of structure and its popularity is increasing, particularly in the western United States, as more utilities struggle with water supply issues. However, price elasticity studies' results, presented in research commissioned by the Walkerton Inquiry, indicate that there has been evidence that residential average consumption is not reduced by the pricing structure as water demand is not significantly influenced by price. Additionally, large families and multi-unit structures, without sub-metering, may be adversely impacted by an inclining block rate structure. Once again, the City of London serves an example with a separate residential rate, established in 1991, incorporating an inclining block structure to promote conservation.

Stormwater: In North America, there are a wide variety of mechanisms for recovering stormwater costs. In the past, municipalities have used tax levy revenues for stormwater management. Once the costs of stormwater management started to

increase, due to stormwater management requirements, many municipalities have started implementing separate user fee structures for stormwater. The use of property-based fees, based on an assessment of the impervious area, is becoming a more prevalent method of charging for stormwater. Stormwater fees are typically recovered on water and sewer bills but are also recovered by utilities on tax bills or other types of mechanisms. As of January 1, 2011, both Kitchener and Waterloo have implemented a stormwater management fee based on impervious area measurements of properties.

The City of Hamilton currently utilizes a two-part water and wastewater rate structure recovering a portion of the service costs from a fixed basic charge (based on the size of water meter) and a volumetric charge. This type of structure conforms with guidelines published by the Canadian Water Works Association (CWWA) and is used by the majority of municipalities in Ontario – according to a study conducted in 2008 on behalf of the City of Guelph, more than 80 municipalities and utilities in Ontario use the uniform rate structure in some fashion.

Current Fixed Charges:

CWWA recommends that a fixed rate charge be used for costs that are not related to volumes consumed and relate primarily to customers such as meter reading, billing, customer service and meter repair. The Review will need to reconsider the proportion of fixed versus variable costs within the water and wastewater services and assess the appropriateness of fixed rate options relative to the guiding principles. Recouping all possible fixed costs from a fixed charge will likely need to be limited to ensure users can still adopt water efficiency and reduce their rate billings. Furthermore, Hamilton's fixed charge is progressive based on the size of the customer's water meter. The Review should examine whether the basis of the fixed charge should be based on the size of the customer's water service connection.

Current Volumetric (Variable) Charges:

Costs that are driven largely by volumes consumed (typically water supply, wastewater treatment, distribution, collection, storage and maintenance costs) are suggested to be recovered through a volumetric rate. Hamilton's current fixed charge does include a minimum water consumption allowance per month which, for residential customers, represents the first five cubic metres ($5m^3$) of water consumption. The Review should examine whether the inclusion of a water consumption allowance within the fixed rate is still appropriate.

The City's existing sewer rate consists of a 100 per cent surcharge on the water charge. While there is a strong correlation between the volume of water consumed and the volume of wastewater discharged, the costs to build, operate and maintain these two systems vary significantly. As a surcharge on water charges is a common approach to fund sewer related costs, the Review will study what the surcharge rate may be to

reflect the actual cost of providing these sanitary services and adjust the surcharge percentage accordingly.

The Table below provides a breakdown of charge components of the typical residential water and wastewater bill based on the existing water/wastewater rate structure:

2011 Typical Annual Residential Household Water & Wastewater Bill (based on annual water consumption of 220m^3)	
Minimum (base) Charge: $8.08 x 12 months	$ 96.96
Usage Charge: (220m^3 - 60m^3) x $1.126	180.16
Water Charge	**$ 277.12**
Sewer Surcharge	**$ 277.12**
Total Water and Sewer Bill	**$ 554.24**

The City's stormwater program is currently funded through the water and wastewater rate, property taxes and development charges. Beginning in 2004, approximately 85% of the stormwater management costs were transferred from the tax levy to the rate supported budget. The total transfer of $10.2 million to the rate budget was partially off-set by the financial savings resulting from the GST rebate for municipalities effective April 1, 2004. The City has experienced financial challenges under the present funding system particularly, during wetter than average years, with dramatic increased costs associated with wastewater treatment. As noted previously, some municipalities have started implementing separate user fee structures for stormwater. Council had initially directed staff to determine the feasibility of introducing a stormwater utility rate with the associated stormwater rate study progressing to have recommendations to be brought forward for Council's consideration in June 2011 (refer to Report PW09099). However, at its meeting of February 23, 2011, Council directed that the stormwater rate study be cancelled. As such, the Review will address the current level of funding support for the stormwater program as reflected in the 2011 rate supported budget, exclusively.

The concepts of user pay and full cost pricing are key elements of the *Sustainable Water and Sewage Systems Act* which all municipalities will need to address in the future. The question of what each customer pays is, however, a complex issue with varying viewpoints and interests. This report seeks to establish the guiding principles and some issues around Water and Wastewater rate setting. It is important to establish the principles in advance of undertaking the technical work of rate setting. Once the principles are established and fixed, then the rate setting process evolves from them. It must also be recognized that there needs to be a balance in how the principles are applied; e.g., a uniform rate is simple, but it may not necessarily be fair and equitable if customers within the City are not equally responsible for the cost of the

system. The process of updating the rate structures must weigh the extent to which each principle controls each component of the structure.
Table 1 of report FCS11025 below provides a brief description of what the principles are intended to achieve. A successful rate structure will result when an appropriate balance is achieved between the various principles being considered.

TABLE 1

Principle	**Description of Intent**
fairness and equity	Ensure that consumers are contributing equitably in proportion to the cost of the systems with user fees to be non-discriminating between customers and user sectors.
promote conservation	Water conservation may result in deferred infrastructure investments, thereby postponing capital expenditures for all customers. With less water used, there are the environmental benefits of reduced electricity and treatment chemical usage.
affordability and financial sustainability	Sustainability can be achieved through full cost pricing and a user pay approach. This objective will consider the impact on various consumer sectors to ensure that affordability is monitored.
stabilize revenue	The rate structure should minimize dramatic rate increases or decreases over time with the goal to maintain/improve revenue stability while providing a steady and predictable stream of revenues.
be justifiable	The rate structure should be consistent with the rate setting methodologies such as those provided by CWWA and applicable laws, in order to ensure that rates are transparent and justifiable if challenged in court.
be simple to understand and update	The rate structure should be easy for City customers to understand, utilizing a moderate level of educational tools. In addition, the rate structure should be able to be effectively maintained by City staff in future years.
support economic development;	The rate structure can support economic development and business retention in the City.

The Review will identify and assess alternative rate structures, particularly those employed by municipalities of similar profile and characteristics in order to provide recommendations on alternatives that Council may consider for the 2012 rate supported budget. The rate structure that is ultimately implemented must strike a balance between all the principles to achieve a system that is transparent, cost-effective, easy to maintain and ensures a sustainable future for all customers.

Alternatives for Consideration – Not Applicable.

FINANCIAL / STAFFING / LEGAL IMPLICATIONS (for Recommendation(s) only)

Financial: It is estimated that the cost of the Water and Wastewater Rate Structure Review will not exceed $70,000. A future report will outline the financial implications to the City of alternative water and wastewater rate structures.

Staffing: Existing staff complement will co-ordinate the rate structure review with the approved consultant resource.

Legal: No impact from undertaking the rate structure review.

HISTORICAL BACKGROUND (Chronology of events)

In January 2011, Council directed staff to review the City's approach to charging for the provision of water and wastewater services and to report back on alternative rate structures for the 2012 Rate Budget.

The purpose of this report is to seek Council's approval to move forward with a water and wastewater rate structure review ("Review") by approving guiding principles that will be instrumental in determining which options for Council's consideration with respect to alternative rate structures.

It is anticipated that the Review will identify options that speak to the principles identified in recommendation (a) to report FCS11025, as well as, ensuring they conform to current legislation and industry best practices.

There are a variety of water and wastewater rate structures in use across North America with the commonly used rate structures described in the Executive Summary of this report.

This report seeks to establish the guiding principles to be considered during the Water and Wastewater rate setting. It is important to establish the principles in advance of

undertaking the technical work of rate setting. Once the principles are established and fixed, then the rate setting process evolves from them. The recommended principles are outlined in Table 1 to report FCS11025.

It must also be recognized that there needs to be a balance in how the principles are applied; e.g., a uniform rate is simple, but it may not necessarily be fair and equitable if customers are not equally responsible for the cost of the system. The Review will seek to determine and evaluate alternatives by comparing the various types of rate structures against each principle to determine which structure most satisfies the principles. One must recognize that one or more principles may compete or be in direct contrast with another. Ultimately, the objective is to identify the structure that best meets as many of the principles as possible.

Any rate structure that is considered must respect current legislation. The *Sustainable Water and Sewage Systems Act* which came into effect in 2002 is most prominent. The main objective of the legislation is to ensure that water and sewage systems are sustainable over the long term, thereby ensuring the protection of the health of citizens and the environment. The concepts of user pay and full cost pricing are key elements of which all municipalities will need to address in the future. The question of what each customer pays is, however, a complex issue with varying viewpoints and interests.

POLICY IMPLICATIONS

Not applicable.

RELEVANT CONSULTATION

Public Works – Environment and Sustainable Infrastructure Division has been consulted and supports the objectives and recommendations of this report.

ANALYSIS / RATIONALE FOR RECOMMENDATION

(include Performance Measurement/Benchmarking Data, if applicable)

Not applicable.

ALTERNATIVES FOR CONSIDERATION:

(include Financial, Staffing, Legal and Policy Implications and pros and cons for each alternative)

Not applicable.

CORPORATE STRATEGIC PLAN (Linkage to Desired End Results)

Focus Areas: 1. Skilled, Innovative and Respectful Organization, 2. Financial Sustainability, 3. Intergovernmental Relationships, 4. Growing Our Economy, 5. Social Development, 6. Environmental Stewardship, 7. Healthy Community

Financial Sustainability

- Financially Sustainable City by 2020
- Effective and sustainable Growth Management

Environmental Stewardship

- Natural resources are protected and enhanced

Healthy Community

- Adequate access to food, water, shelter and income, safety, work, recreation and support for all (Human Services)

APPENDICES / SCHEDULES

Not applicable.