Correspondence for Information

Request for Recommendation
Finance Committee

Greater | Grand Sudbury
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Type of Decision

Meeting Date	January 24, 2004				Report Date	January 22, 2004			
Decision Requested		Yes	X	No	Priority	X	High		Low
	Direction Only				Type of Meeting	X	Open		Closed

Report Title

2004 Area Rating

Policy Implication + Budget Impact

X	This report and recommendation(s) have been reviewed by the Finance Division and the funding source has been identified.

N/A

X	Background Attached

Recommendation

FOR INFORMATION ONLY

	Recommendation Continued

Recommended by the General Manager

D. Wuksinic
General Manager of Corporate Services

Recommended by the C.A.O.

M. Mieto
Chief Administrative Officer

Report Prepared By	Division Review
S. Jonasson Director of Finance/City Treasurer	S. Jonasson Director of Finance/City Treasurer

At the December 18th Finance Meeting, Councillor Dupuis requested that a presentation be made to Council on subject of Area Rating. This report accompanies the presentation which will be made to the Finance Committee on January 24th, 2004 as part of the 2004 budget process.

History

Area rating was introduced to the City of Greater Sudbury at the time of amalgamation. Section 15 of The City of Greater Sudbury Act 1999 laid out the rules and permitted area rating relating to:

- special services applicable to "old"municipalities
- assets and liabilities of the "old" municipalities, and
- for five specific services, namely
  - the supply and distribution of water,
  - the collection and disposal of sewage,
  - street lighting,
  - fire protection and prevention, and
  - public transportation, other than highways

Because area rating is complex and also difficult to administer, it is not a decision that a municipality wants to make without a lot of thought and review. For many good reasons, area rating under the first two scenarios was not introduced at the time of amalgamation (i.e. minimal service level differences between municipalities were harmonized, no substantial differences in assets and liabilities). These decisions cannot be revisited and therefore this report will only address the decisions around the area rating of the five services listed above and specifically the area rating of fire and transportation which was introduced due to the varied service levels offered by the former area municipalities.

Five Specific Services

Water and Wastewater

Both water and wastewater services were regional responsibilities prior to amalgamation and although these services were offered region-wide, not everyone received them. For a number of years all water costs and 30 percent of wastewater costs had been recovered through user fees and therefore area rating was not considered for these services. In 2001, the City moved to full cost recovery of both water and wastewater services and adjusted rates accordingly so that only those receiving the services paid for them.

Street lighting

Area rating was not considered for street lighting as the cost of this service was nominal as compared to other services and there did not seem to be major service level issues that needed to be addressed.

Fire Protection and Prevention

Prior to amalgamation, fire services levels were considerably different throughout the seven former area municipalities and the former unorganized area. It was not possible to harmonize service levels without increasing the budget by about $20 million, nor was it felt necessary to have career level service throughout the newly created City of Greater Sudbury (CGS). In order to recognize the differing levels of service and also maintain the same relative tax position for this service, area rating was adopted. Therefore three distinct areas were recognized,

- Career - the former City of Sudbury area which was predominantly serviced by full time career firefighters supplemented marginally by volunteer forces,
- Composite - the former City of Valley East area which was serviced by both full time career firefighters and volunteer forces, and
- Volunteer - all other areas of the new CGS including the former unorganized areas which were serviced by volunteers forces only.

Public Transportation

Prior to amalgamation, public transportation service levels (transit and transportation for the disabled) were considerably different from one municipality to another. Again, it was not possible to harmonize service levels without increasing the budget by millions of dollars. In fact, the cost to harmonize this service was even higher than the cost of harmonizing fire services. The six smaller area municipalities had differing levels of service and there was no service in Onaping Falls. At the time of amalgamation, the decision was made to harmonize the service throughout the six smaller area municipalities and apply one area rate to them, and have another area rate for the former City of Sudbury area which had a much higher service level. The former unorganized area had no service and therefore was not required to pay for this service. Two area rates established were:

- Commuter - all lower tier municipalities except the former City of Sudbury and excluding the former unorganized areas (Service along major arteries, weekday service level between 6 - 8 trips daily)

- Urban - former City of Sudbury (More frequent service with higher number of trips and service along both main arteries and some residential streets)

Area Rated Services

The following describes how fire protection and prevention costs and public transportation costs are area rated.

Fire Protection and Prevention

2004 Area Rating

Fire service costs include both base costs and direct suppression costs. The base costs include costs of administration, facilities and apparatus, public education and prevention. Because these costs are common to all areas, they are allocated to each of the fire service areas on the basis of weighted assessment. The direct suppression costs plus the allocated base costs determine the costs for each of the areas. The following chart illustrates the costs and taxes for each of the three service areas using preliminary 2004 budgets and preliminary 2004 assessments.

	Career $	Composite $	Volunteer $	Total $
Base Costs	2,993,165	501,271	1,325,475	4,819,911
Direct Suppression Costs	7,680,248	1,100,844	982,800	9,763,892
Total Costs	10,673,413	1,602,115	2,308,275	14,583,803
Weighted Assessment	5,575,109,743	953,000,809	2,403,066,229	8,931,176,781
Fire Tax Rate	.0019145	.0016811	.0009606	*.0016329*
Taxes ($100,000 home)	191.45	168.11	96.06	*163.29*

Note the different tax levels in each of the areas in recognition of the differing service levels. Also note the last column which illustrates in italics what the uniform tax rate would be if there was no area rating. If a uniform tax rate were used at existing service levels, then the volunteer area would see a substantial increase in taxes while the career area would see a moderate drop in taxes with the composite area remaining relatively the same.

Future Service Levels and Area Rating Changes

Over the next year, there will be a number of changes made to the way fire services are delivered in order to ensure that the key principles in the delivery of emergency services are met. One of the objectives is that the closest/fastest and most appropriate emergency services resource be dispatched to the emergency, in the interests of public safety. For example, this will mean that the New Sudbury fire station will serve as first and second response to the community of Garson, and the Minnow Lake station will serve as first and second response to the community of Coniston. The service levels in these two communities will improve without any increase in costs. These changes and others will require a change to the area rating calculation. Thus the career rate would be extended over a larger area, probably resulting in a slight reduction in the career rate and a slight increase in the volunteer rate. Currently area rating is along old municipal boundaries, however new boundaries will have to be drawn to reflect the higher level of service such as those that will be seen in the Coniston and Garson areas and new area rates will have to be calculated.

In addition, the finalization of the master fire plan will be presented to Council in the spring after the 2004 budget is finalized and any resulting changes in service levels will require a review of area rating. One of the improvements being considered in the master fire plan is an increase of 10 full time firefighters in the Valley area. We emphasize that the master fire plan assessment is still underway and that at this time this is but a possible consideration - not a recommendation. Nevertheless, if recommended and subsequently approved by City Council, this would increase suppression service levels in this area to on site first unit response by a 4 person crew, 24 hours a day, seven days a week. Increased operating costs associated with this service level are estimated at $1 million annually. The following chart shows the impact of these increased costs on the composite rate.

	Career $	Composite $	Volunteer $	Total $
Total Costs	10,673,413	2,602,115	2,308,275	15,583,803
Weighted Assessment	5,575,109,743	953,000,809	2,403,066,229	8,931,176,781
Fire Tax Rate	.0019145	.0027304	.0009606	*.0017449*
Taxes ($100,000 home)	191.45	273.04	96.06	*174.49*

The fire rate in the Valley area would increase to considerably more than that in the former City of Sudbury area, and with a lesser but somewhat comparable service level. Therefore it would be appropriate to redefine the definition of the Career area to "suppression services offered 24 hours, seven days a week with first response by a 4 person crew manned by full time firefighters". This would allow for the harmonization of the career and composite area rates into one new career rate.

This next chart shows what would happen if the Career and Composite rates were melded into one new Career rate so that only two area rates would exist - a new career rate and the existing volunteer rate.

	New Career $	Composite $	Volunteer $	Total $
Total Costs	13,275,528	n/a	2,308,275	15,583,803
Weighted Assessment	6,528,110,552	n/a	2,403,066,229	8,931,176,781
Fire Tax Rate	.0020336	n/a	.0009606	*.0017449*
Taxes ($100,000 home)	203.36	n/a	96.06	*174.49*

Note that the taxes in the former City of Sudbury area would go up somewhat as the assessment base in this area shares in the increased costs.

Public Transportation

2004 Area Rating

Transit costs and costs relating to transportation for the disabled are area rated in order to respect the differing levels of service in the City. Transit costs are allocated on a formula based on service hours provided and kilometers traveled. The 2004 allocation is 82 percent to the urban area and 18 percent to the commuter area. Transportation for the disabled costs are allocated based on net costs in each of the 2 service areas. The area rating boundaries follow the former area municipal boundaries.

The following chart illustrates the costs and taxes for public transportation for both service areas, using preliminary 2004 budget numbers and preliminary assessments.

	Urban $	**Commuter $**	**Total $**
Transit	4,763,961	1,045,747	5,809,708
Transportation for the Disabled	955,240	641,070	1,596,310
Total Costs	5,719,201	1,686,817	7,406,018
Weighted Assessment	5,575,109,743	3,291,025,965	8,866,135,708
Tax Rate	.0010258	.0005126	*.0008353*
Taxes ($100,000 home)	102.58	51.26	*83.53*

The last column which shows in italics what the tax rate would be is this service was maintained at existing levels but was no longer area rated. Also note that the former unorganized area does not pay for transportation services as it does not receive these services. Just as with fire protection and prevention, as service levels change, there may be a need to revisit how area rates are calculated. If this service was not area rated, there would be additional demands for increased service.

Summary

Area rating was introduced at the time of amalgamation in order to recognize the significant differences in levels of fire and transportation services in the former area municipalities and former unorganized areas. As the City evolves and service levels change, so will area rating. As service levels are harmonized, then area rates will be harmonized and where existing services are extended across old municipal boundaries, the area rating boundaries will be modified as well.

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Report Title

Assessment Growth versus Market Valuation Change

Policy Implication + Budget Impact

X	This report and recommendation(s) have been reviewed by the Finance Division and the funding source has been identified.

X	Background Attached

Recommendation

FOR INFORMATION ONLY

	Recommendation Continued

Recommended by the General Manager

D. Wuksinic
General Manager of Corporate Services

Recommended by the C.A.O.

M. Mieto
Chief Administrative Officer

Report Prepared By	Division Review
S. Jonasson Director of Finance / City Treasurer	S. Jonasson Director of Finance / City Treasurer

BACKGROUND

This report has been prepared to assist Council in understanding some of the issues relating to assessment, specifically the difference between assessment growth and market valuation change, and what each means to the City of Greater Sudbury.

City of Greater Sudbury Assessment Growth versus Market Valuation Change

Assessment Growth

Over the last number of years, the assessment growth in the City of Greater Sudbury has been relatively flat. This has been of concern to the City as assessment growth is seen as an indicator of a healthy community. Assessment growth represents the net increase in numbers of homes and business facilities and the expansion of facilities; and increases in assessment suggest that a community is growing. The following shows the assessment growth in the City of Greater Sudbury for the last number of years . The 2004 assessment growth is the highest it has been in a number of years.

Year	1996	1997	1998	1999*	2000	2001	2002	2003	2004*
Assessment Growth (Loss) %	0.57	0.54	0.65	0.77	0.28	0.40	-0.10	0.33	0.78

* 1999 growth artificially high due to introduction of provincial vacancy rebate program; 2004 growth based on MPAC data to October, 2003

Assessment growth is important to a municipality as it allows for an increase in the levy without an increase in the tax rate. For example, if a municipality has a one percent increase in its levy and a one percent growth in assessment, it can raise additional tax revenue without increasing taxes per se. In our City, the .78 percent assessment growth in 2004 is worth $1 million. In other words, the 2004 levy can be $1 million more than last year's levy without affecting taxes.

Market Valuation Change

2004 was also a reassessment year. Properties were reassessed by the Municipal Property Assessment Corporation (MPAC), to reflect June 2003 market values. These values are used to develop the returned roll which is used for 2004 taxation purposes. Preliminary estimates indicate that the City's market valuation change is 3.2 percent as outlined in the chart that follows. Market values of properties have changed such that the weighted assessment has increased by 3.2 percent. In comparison, in 2003 the market valuation change was a reduction of 3.6 percent. Although the increase in market values is a positive indicator to the community, it is not the same thing as assessment growth. What it does mean though, is that on average, properties have increased in value since the last reassessment.

Market Valuation Change (000)

Class	2003 Weighted Assessment $	2004 Weighted Assessment $	Valuation Change %
Residential	5,380,233	5,576,949	3.7
Multi-residential	686,428	669,729	-2.4
Commercial	1,672,413	1,757,146	5.1
Industrial	318,759	313,576	-1.6
Large Industrial	541,286	563,466	4.1
Pipelines	47,677	46,046	-3.4
Farmland	2,227	2,518	13.1
Managed Forest	3,676	1,747	-52.5
Total	8,652,699	8,931,177	3.2

What is important to note is that the assessment growth of .8 percent is included in the valuation change of 3.2 percent. Now that we have reassessments every year it is not easy for Council or the public to see the municipality's assessment growth. Before 1998, assessment was easy to measure and in reassessment years, MPAC provided municipalities with assessment growth data. Since the move to market value assessment, municipalities have had to extract this information from the assessment data - a difficult job as the information is not readily available.

Hypothetical Example of Assessment Growth versus Market Valuation Change

The following sections of this report show the differences in assessment growth and valuation change using very simple examples. It assumes a "municipality called Tiny" with a municipal levy of $10,000 and only 4 residential units initially, then growing to 5 units in Year 2. It demonstrates the impact of growth and market valuation change on each of the properties, the tax rate and the municipal levy.

Assessment Growth

This chart shows 4 units with a total assessment of $500,000 and a total municipal levy of $10,000 in year 1. The tax rate is determined by dividing the levy by the total assessment. In year 2 there is an additional unit with a value of $20,000. If the tax rate remains at .02, the municipality can raise an additional $400 or 4 percent because of the $20,000 growth in assessment. Note that there has been no change in taxes for the first 4 units.

"Tiny" Municipality

	Year 1			Year 2		
Unit	Assessed Value	Tax Rate	Taxes/ Levy	Assessed Value	Tax Rate	Taxes/ Levy
1	100,000	0.02	2,000	100,000	0.02	2,000
2	120,000	0.02	2,400	120,000	0.02	2,400
3	80,000	0.02	1,600	80,000	0.02	1,600
4	200,000	0.02	4,000	200,000	0.02	4,000
5				20,000	0.02	400
Total	500,000		10,000	520,000		10,400

Market Valuation Change

Using the same four residential units as in the first example, the following chart demonstrates what happens when there are changes in value as a result of reassessment but no additional growth.

"Tiny" Municipality

	Year 1			Year 2		
Unit	Assessed Value	Tax Rate	Taxes/ Levy	Assessed Value	Tax Rate	Taxes/ Levy
1	100,000	0.02	2,000	115,000	0.0185	2,130
2	120,000	0.02	2,400	110,000	0.0185	2,035
3	80,000	0.02	1,600	85,000	0.0185	1,575
4	200,000	0.02	4,000	230,000	0.0185	4,260
Total	500,000		10,000	540,000		10,000

Even though there has been an 8 percent increase in values, there has been no assessment growth. There are no new units. A lower tax rate is calculated and the municipality collects the same levy as before. There is no new money for the municipality. Even though the municipality is collecting the same amount in total, the amount of tax paid by each residential unit is different than before due to the reassessment.

Assessment Growth and Market Valuation Change

This next chart illustrates the impact of both a change in valuation and an increase in assessment growth by combining both into one chart. It demonstrates the assessment growth and revenue that results from the additional unit.

"Tiny" Municipality

	Year 1			Year 2		
Unit	Assessed Value	Tax Rate	Taxes/ Levy	Assessed Value	Tax Rate	Taxes/ Levy
1	100,000	0.02	2,000	115,000	0.0185	2,130
2	120,000	0.02	2,400	110,000	0.0185	2,035
3	80,000	0.02	1,600	85,000	0.0185	1,575
4	200,000	0.02	4,000	230,000	0.0185	4,260
5*				21,600	0.0185	400
Total	500,000		10,000	561,600		10,400

* for simplicity assumes market value increase of 8% in new unit as well

The market value change is now 12.3 percent and it is made up of 4 percent real growth and 8.3 percent in market valuation change. The growth provides the municipality with additional revenue, however the market valuation change just redistributes the existing tax levy among the same ratepayers.

Other Assessment Issues

Properties are now being reassessed every year and so from now on (unless the Province changes the reassessment rules), the assessment rolls returned to municipalities will be a combination of valuation changes and pure assessment growth or loss. It will be up to municipalities to determine how much of the change relates to growth in order to calculate its value to the municipality.

There are many other assessment and tax issues that could be included in this report however the complexities of tax policy would only create confusion, so more information on tax policy will be provided at a later date. The one other issue that is important to know, is that legislation now allows a municipality to set its tax rate on a revised roll, as opposed to the returned roll. Municipalities are not happy with the quality of the rolls being returned by MPAC. Due to the number of errors in the assessment roll, for the last 2 years the City has chosen to set tax rates on the revised roll in order to work with MPAC to correct as many errors as possible before tax rates are set. This is a huge undertaking and is currently underway. The protection of the assessment base is a growing concern for many municipalities and therefore we have retained a property tax agent to assist with a number of assessment issues, of which the correction of errors on the assessment role is only one. Other issues of concern are appealing properties and preparing for Assessment Review Board Hearings to both defend and challenge valuations and seek out new revenue sources from increased or missed assessment.

In March or April when Council is ready to set tax rates, the assessment valuation numbers may be marginally different than they are today, due to the corrections being made to the roll at this time.

Summary

In summary, the City's returned roll indicates a 3.2 percent increase in market valuation. Included in this change is .78 percent real growth representing $1 million in revenue. Both of these increases can be viewed as positive, especially in comparison to the limited assessment growth of .33 percent and negative market valuation change of 3.6 percent in 2003.

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Report Title

Full Cost Recovery of Water and Wastewater Services

Policy Implication + Budget Impact

X	This report and recommendation(s) have been reviewed by the Finance Division and the funding source has been identified.

X	Background Attached

Recommendation

FOR INFORMATION ONLY

	Recommendation Continued

Recommended by the General Manager

D. Wuksinic
General Manager of Corporate Services

Recommended by the C.A.O.

M. Mieto
Chief Administrative Officer

Report Prepared By	Division Review
S. Jonasson Director of Finance / City Treasurer	S. Jonasson Director of Finance / City Treasurer

BACKGROUND

This report has been prepared to provide background information on the City's water and wastewater cost recovery policy as many of the new Councillors may not be familiar with the details of this policy. For those Councillors that are familiar with the policy, this report will serve as an update.

In 2001, the City of Greater Sudbury adopted a full cost recovery system for water and wastewater services. This report provides some background information on this major policy decision.

Rationale for Full Cost Recovery System

The move to a full cost recovery system has many benefits for taxpayers and property owners including:

- fairness - only those residents that have water or wastewater services pay for them (prior to the full cost recovery system, there were 17% of residents that did not have wastewater services at all and paid for this service through their property tax bill),
- conservation - with 70% of wastewater costs on the property tax bill, residents were unaware of the true cost of this service; the implementation of a full cost recovery system, has made residents aware of the cost of the service and has increased the motivation to conserve water,
- accessibility to grants - the Province of Ontario indicated that municipalities would qualify for funding assistance for water and wastewater projects only if they had full cost recovery systems in place. Since the implementation of the full cost recovery system, the City has received provincial and federal grants totaling $13.3 million for the David Street water project and provincial grants totaling $8.4 million for the South End sewer project,
- ease of implementation - the use of a full recovery system based on water consumption is less complex and more understandable than using area rating as a means to collect this revenue.

Water/Wastewater Study

For a number of years prior to amalgamation, water costs had been fully recovered through user fees; however only 30 percent of wastewater costs were recovered through user fees and this change was only introduced in the late nineties. The Transition Board recommended that the City of Greater Sudbury move to full cost recovery of wastewater services. In 2001, Council authorized a water/wastewater study to develop an appropriate and equitable rate structure which would fully recover the costs of both water and wastewater services. The study included the following:

- a review of the existing water rate system (both service charge and consumption charge)
- a review of the City's customer base (residential, commercial and industrial)
- the use of block rates by volume (increasing and decreasing to promote conservation and economic development)
- the use of a discount on the wastewater rate to reflect lawn watering or other non wastewater uses and
- the implementation of an appeal process where unusual or unique circumstances could be addressed and mitigated.

R.V. Anderson Associates Limited, Dennis Consultants and KPMG were engaged to undertake the study. They made the following recommendations:

- the continuation of financing water costs through both a fixed service charge and a variable consumption rate
- the implementation of a full cost recovery system for wastewater services through an increase in the wastewater rate from 25% to 115% of water billings
- the transfer of fire protection costs from water rates to the municipal levy
- the adoption of a sustainable capital asset management program designed to finance the ongoing cost of maintaining the City's water and wastewater infrastructure systems
- the introduction of quarterly billings for water and wastewater services
- the approval of a rate setting process for water and wastewater services, thereby alleviating the need to undergo annual rate studies
- the introduction of a wastewater rebate program if considered necessary
- the establishment of water and wastewater stabilization reserves that would mitigate the need to adjust rates in response to surpluses or deficits in water and wastewater services, primarily as a result of fluctuations in consumption from year to year.
- the introduction of a water meter testing program designed to ensure that water usage is accurately recorded and invoiced, and
- the development of a communications strategy to create public awareness of the change in water and wastewater financing

Council adopted the recommendations and moved to a full cost recovery policy in July of 2001. For the information of the Committee, a copy of the consultant's report is attached.

Cost Recovery Policy

In accordance with the water and wastewater policy, rates are adjusted each January based on the proposed net budget for the year, inclusive but not limited to, inflation adjustments and increases in the sustainable capital asset management program as well as changes in consumption levels.

Costs are to be recovered through:

- a fixed service charge for water (to recover fixed operating costs such as the cost of keeping the water mains in a good state of repair, water meter repair and replacement costs, billing and collection costs)
- a consumption rate (a uniform per cubic meter charge to be applied to the amount of water consumed), and
- a wastewater rate (which is expressed as a percentage of the total water bill)

Each year, net surpluses or deficits (revenues netted against expenditures) for water and wastewater services are contributed to/or drawn from water and wastewater rate stabilization reserves. This minimizes fluctuations in rates due to annual expenditure variances and consumption variances as a result of abnormal weather conditions.

Sustainable Capital Asset Management Program

As part of the move to a full cost recovery system, the City implemented a sustainable capital asset management program (SCAMP) to fund the cost of replacing or rehabilitating its existing water and wastewater infrastructure. Under this plan, contributions to capital for water and wastewater are increasing by $400,000 and $440,000 annually plus inflation, so that by 2012 the City's level of capital spending will be at the industry standard of 2% of asset value (sewer and water infrastructure is valued at approximately $1 billion).

Recent Provincial Legislation on Sustainable Water and Wastewater

In 2002, the Province passed Bill 175, the Sustainable Water and Sewage Systems Act. The Act responded to the Walkerton tragedy, and is designed to ensure that providers of public water and wastewater systems have the financial capacity and associated revenue streams to guarantee that these systems will operate in perpetuity, under a prescribed "Standard of Care" defined in another recent Act, Safe Drinking Water Act. The legislation recognizes that many Ontario Municipalities currently do not charge, or only partially charge, for these services, choosing to leave the burden, in part or in whole, on property taxes. The legislation provides for phase-in periods for these Municipalities to come up to full cost recovery from users, subject to the Minister's approval, on a case-by-case basis. CGS is very well positioned to comply with this Legislation, as we are already at 100% cost recovery from our customers, subject to any additional Regulations that the Province may pass. As an example, the Province may require that $x dollars be kept in dedicated Reserves to cope with unforeseen calamities, although it is unlikely that calamities will occur if Municipalities meet the "Standard of Care" as prescribed. Compliance with this "Standard of Care" is primarily responsible for rising water and wastewater user fees over the past two years.

Water / Wastewater Rebates

The City has a number of water and wastewater rebate programs:

- a residential and commercial water/wastewater plumbing failure rebate program
- residential and commercial run water adjustment program as a result of ruptured watermains and subsequent discolored water
- running water to waste program to prevent freeze-ups, and
- commercial wastewater rebate program, where it can be demonstrated that the water is used in manufactured products such as soft drinks and ice

The first three rebate programs were reviewed by Dennis Consultants and KPMG as part of their study and they did not recommend any changes in these programs. The commercial wastewater rebate program was recommended by the consultants and initiated by the City as a result of the move to the full recovery of wastewater costs. No other rebate programs have been recommended by the consultants or staff or adopted by Council. Further information on existing rebate programs can be found in an attached report dated April 15, 2003.

Water and Wastewater Rate Structures for

THE CITY OF GREATER SUDBURY

Analysis and Recommendations

Submitted by:

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May 23, 2001

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Recent events across Canada have brought to light the importance of the water and wastewater services provided by municipalities. The key to ensuring the safety of a municipal water supply rests in sound policies for delivering, maintaining and financing water and wastewater services.

The City of Greater Sudbury has, in recent years, experienced its own issues with respect to water and wastewater services. Recognizing the need to ensure water and wastewater services are appropriately financed, the City is currently reviewing its existing rate structures. As part of the budget process for the 2001 fiscal year, the firms of R.V. Anderson Associates Limited and KPMG LLP were retained to prepare a report for Council addressing City policy for water and wastewater rates. Specifically, the report was to include:

- An overview of the existing water and wastewater rates structures and customer base
- A comparison of the City's water and wastewater rates to other municipalities
- An analysis of the options available to the City in establishing water and wastewater rates, including the use of block rates and monthly service charges, with recommendations for an overall rate structure
- Strategies for dealing with exceptions and unique situations, such as unmetered water clients

Based on the results of our review, which included an analysis of policies employed by other municipalities, we recommend that the City adopt the following policy for water and wastewater services effective July 1, 2001:

1. Continuance of the current method of financing water costs through both a fixed service charge (equal to the rates currently charged by the City) and a variable consumption rate of $0.590 per cubic metre of water consumed. This represents a reduction of $0.18 per cubic metre from the current rate of $0.77 per cubic metre.
2. The implementation of a full cost recovery system for wastewater services through an increase in the wastewater rate from the current level of 25% to 115% of water billings.
3. The transfer of $1.97 million in fire protection costs from water rates to the municipal levy.
4. The adoption of a sustainable capital asset management program designed to finance the ongoing cost of maintaining the City's water and wastewater infrastructure system.
5. The introduction of quarterly billings for water and wastewater services.
6. The approval of a rate setting process for water and wastewater services, thereby alleviating the need to undergo annual rate studies.
7. The introduction of a wastewater rebate program if considered necessary.
8. The establishment of water and wastewater stabilization reserves that would mitigate the need to adjust rates in response to surpluses or deficits in water and wastewater services.
9. The introduction of a water meter testing program designed to ensure that water usage is accurately recorded and invoiced.
10. The development of a communications strategy to create public awareness of the change in water and wastewater financing.

METHODOLOGY

As requested by the City, we have structured our study so as to identify options available to the City in setting water and wastewater rates and quantify the potential impact of the recommended rate structure on property owners in Greater Sudbury . Our comments and recommendations have been arrived at through the following process.

1. Financial information concerning operating costs and revenues for water and wastewater services was accumulated and analyzed. Our review involved both historical financial information (1999 and 2000 fiscal years) and projected information based on the 2001 City budget.
2. Options available to the City for recovering water and wastewater costs were identified, including flat rates, block rates, monthly service charges and separate rates for water and wastewater services. These options were evaluated and a recommended method of recovering water and wastewater costs was developed.
3. Information concerning water and wastewater rates and billing methods was collected for other municipalities in Ontario and Canada. This information was used to assess the reasonability of the rates charged by the City, as well as to identify common municipal practices with respect to water and wastewater billing methods.
4. Based on the recommended billing structure, water and wastewater rates for the City were developed.
5. Variables such as the municipal tax levy, water rates and wastewater charges were recalculated based on the recommendations contained in the report.
6. A database of approximately 38,000 properties in Sudbury was developed based on information provided by the City. Included in the database was information relating to assessed values, water consumption, water billing amounts and wastewater charges and the properties were sorted by property class (residential, small multi-residential, large multi-residential, commercial and industrial).
7. Based on the revised municipal tax levy, water rates and wastewater charges, an analysis of the impact of the proposed recommendations on properties in Sudbury was conducted. The results of this analysis were summarized and presented in our report.

With a total budget of more than $35 million, water and wastewater services represents a significant cost to the City of Greater Sudbury. Overall, the City will spend more on water and wastewater services than it will for any other public works service and, in some cases, individual municipal departments.

Comparative municipal spending

Municipal Spending		Public Works Spending	
1. Health and social services	136,516,000	1. Water and wastewater	35,368,000
2. Public works	82,567,000	2. Roads	24,758,000
3. Citizen and leisure services	37,255,000	3. Solid waste	12,829,000
4. Police services	26,294,000	4. Engineering services	5,965,000
5. Emergency services	19,936,000	5. Administrative and other	3,647,000

Traditionally, water costs in Sudbury have tended to be higher than wastewater costs. This is due in part to the fact that the capital allocation for water included approximately $1.8 million of sewer upgrading costs so that these costs could be recovered through user rates. The 2001 budget, which includes these costs in sewer expenses, more accurately reflects the relationship between water and wastewater services.

Annual water expenditures

	1999 Actual	2000 Actual	2001 Forecast
Water production	3,977,300	4,047,422	3,965,870
Water distribution	2,630,725	3,468,324	3,193,350
Water billing and collection	622,668	598,577	392,992
Allocated engineering costs	942,116	1,114,300	1,249,581
Other allocated costs	2,827,971	2,885,077	2,909,636
Total operating costs	11,000,780	12,113,700	11,711,429
Debt servicing[1]	937,641	937,435	889,679
Contribution to capital[2]	7,294,169	7,205,340	5,454,591
Total costs	19,232,590	20,256,475	18,055,699

[1] When the debentures relating to sewer and water projects are repaid in 2008, the amount traditionally required for debt servicing will be included in the capital contribution.

[2] The capital contributions for 1999 and 2000 include $1.8 million of sewer upgrading costs.

Annual wastewater expenditures

	1999 Actual	2000 Actual	2001 Forecast
Sewage treatment	5,285,855	5,581,997	5,348,340
Sewage services	1,374,525	1,550,480	1,542,830
Allocated engineering costs	942,113	1,114,298	1,204,952
Other allocated costs	2,839,376	2,961,891	2,957,884
Total operating costs	10,441,869	11,208,666	11,054,006
Debt servicing	1,103,577	1,103,577	1,103,577
Contribution to capital[3]	3,400,950	3,365,536	5,154,271
Total costs	14,946,396	15,677,779	17,311,854

Prior to 2001, user fees were designed to recover 100% of water costs and approximately 30% of wastewater costs[4] with the remaining 70% of wastewater costs funded through the municipal levy. The preliminary 2001 budget is based on a 100% recovery of sewer costs through user fees.

While water services are intended to be self-funding, fluctuations in water consumption caused by climatic conditions have resulted in fluctuations from the budgeted amounts. Traditionally, surpluses in water services have been transferred to reserves, from which deficits in water services have been financed. While wastewater services have also experienced variances from budget due to changes in consumption levels (and the resultant impact on user fee revenues), no similar reserve exists as wastewater costs were financed primarily through the municipal levy.

Water revenues and expenditures

	1999 Actual	2000 Actual	2001 Forecast
Total expenditures	19,232,590	20,256,475	18,055,699
Total revenues from user fees[5]	19,805,248	19,292,199	18,055,699
Surplus (deficit)	572,658	(964,276)	–
Estimated water consumption, in cubic metres	18,237,000	17,604,000	

Wastewater revenues and expenditures

	1999 Actual	2000 Actual	2001 Forecast
Total expenditures	14,946,396	15,677,779	17,311,854
Total revenues from user fees[6]	5,029,820	5,005,680	17,311,854
Wastewater costs funded through municipal levy	9,979,269	10,103,655	–
Surplus (deficit)	62,693	(568,444)	–

[3] The capital contributions for 2001 include $1.8 million of sewer upgrading costs previously funded from water revenue.

[4] The sewer rate is calculated as 25% of the water rate (including service charges).

[5] Includes water consumption charges, service charges, frontage fees and other user charges.

[6] Includes sewer rate revenue, frontage fees and other miscellaneous recoveries.

Because of changes in consumption levels, as well as the effects of inflation[7], the City of Greater Sudbury would require a change in water rates during 2001 regardless of whether the recommendations in this report are adopted. Specifically, we have estimated that the cost per cubic metre of water sold, which was set at $0.77 per cubic metre during 1999 and 2000, would need to increase to $0.808 per cubic metre if the recommendations are not adopted.

Projected water rates assuming no change in policy

Total water costs	18,055,699
Add: sewer upgrading costs[8]	1,826,635
Total water expenditures to be financed through user fees	19,882,334
Less: water expenditures financed through service charges and other fees	(5,663,615)
Water expenditures to be financed through consumption charge	14,218,719
Projected water consumption, in cubic metres (based on 2000 consumption levels)	17,604,000
Water rate per cubic metre of consumption	$0.808

On average, residential property owners in Sudbury use approximately 240 cubic metres of water annually. Accordingly, the average residential homeowner in Sudbury would have experienced an increase of $12 per year as a result of inflation and changes in consumption levels.

[7] We understand that the 2001 budgeted costs for sewer and water services include approximately $430,000 in inflation adjustments.

[8] Based on the assumption that no change in policy would occur, sewer upgrading costs would be included in the determination of water rates. Following the implementation of the recommendations, these costs would be included in the calculation of sewer rates.

The City currently provides water services to more than 42,000 customers, the majority of which are residential properties.

Breakdown of water customers

Customer Type	Percentage of Total	Average Annual Consumption
Single family residential properties	82.5%	240 m^3
Multi-residential properties	8.7%	680 m^3
Industrial, commercial and institutional properties	8.8%	1,490 m^3
Total	100.0%	385 m^3

Overall, more than 97% of the City's water customers have water meters that are used to provide the basis for water billings. Those customers without water meters are charged a flat rate based on a implied consumption level.

CURRENT BILLING PRACTICE

Currently, the City uses a combination of a fixed monthly service charge (based on the size of water metre) and a variable charge based on the amount of water consumed (calculated at a rate of $0.77 per cubic metre of water used).

The majority of customers are billed semi-annually for water services, however, large consumers of water (primarily industrial, commercial and institutional properties) are invoiced bi-monthly.

OPTIONS AVAILABLE TO THE CITY

Water rates for any municipality may consist of up to four components:

- A fixed charge, designed to recover costs that are a function of the number of water customers, not their consumption
- A variable charge, designed to recover those costs that fluctuate with consumption levels
- Fire protection charges, designed to recover the cost of hydrant systems and excess capacity built into a municipal water system for the purpose of fighting fires
- Rate surcharges, representing a charge added to current rates designed to collect a targeted amount of revenue in excess of that required to financing the cost of water services. Given than rate surcharges are normally used to finance specific projects or one-time emergency costs, we have not included a discussion of rate surcharges in our analysis.

For the purpose of our analysis, we have reviewed each of the remaining three components in detail.

Fixed service charges

As noted earlier, fixed charges are designed to finance water service costs that do not vary with consumption levels. For example, meter reading and repair costs are a function of the number of water customers, and not their individual consumption. Given that these types of fixed costs apply to all water customers, regardless of consumption levels, it is common practice to finance these costs on a per customer basis rather than through a variable charge based on consumption.

Options available

For municipalities, four approaches to recovering fixed costs are commonly used.

1. **Customer charges** – Under this approach, fixed costs are allocated based on a customer charge that is the same for all water users. For example, a municipality with fixed costs of $5 million and 50,000 water customers would have a customer charge of $100 per customer ($5 million ÷ 50,000 customers). Municipalities have the option of either applying customer charges across all types of water customers (residential, commercial and industrial) or designing different customer charges for each category of water customer.
2. **Fixed service charges** – While the customer charge approach assumes that water users incur fixed costs evenly, a fixed service charge approach recognizes that certain fixed costs, such as water meter repair and replacement costs, increase with meter size. As a result, the fixed service charge approach allocates fixed costs to customers based on the size of their water services and meters. This is the approach that is currently used by the City to recover fixed costs.
3. **Minimum charges** – A third alternative available to municipalities for the recovery of fixed water costs is the establishment of minimum charges. Under a minimum charge structure, all customers are billed for a certain amount of water usage regardless of consumption.
4. **Block rates** – While generally thought of as a means of recovering variable costs (as they are based on water consumption levels) block rate structures can be used to recover fixed costs by:
   - Establishing the amount of water consumption for the first block of water billing at a level so low that all customers will exceed the block; and
   - Establishing a water rate for the first block that is sufficient to finance the fixed costs

   For example, a municipality can use a block rate structure to recover fixed costs of approximately $100 per year (that would otherwise be recovered through a fixed charge) by charging $2.00 per cubic metre for the first 50 cubic metres of water consumed. Given that the average residential water consumption is 240 cubic metres per year, this effectively becomes a fixed charge as the majority of customers will pay this amount.

Recommended approach - fixed service charges

While each alternative for fixed cost recovery has its advantages and disadvantages, we recommend that the City continue to use the fixed service charge approach due to the following:

- The fixed service charge approach represents the fairest method of recovering fixed costs as it recognizes that certain costs vary depending on meter size. Unlike a flat customer charge, which allocates fixed costs evenly across all customers, the fixed service charge approach charges customers with larger meters (and higher associated costs) more.
- The fixed service charge is the current method used by the City and, as such, is easily understood by residents and property owners. Any change in the current method of recovering fixed costs may result in confusion and/or the perception that the City is attempting to increase the amount of revenue generated from water customers through a new type of fee or a minimum charge.
- The use of a fixed service charge appears to be the most common method used by municipalities to recover fixed costs.

Summary of fixed cost recovery approaches

	Customer Charge	Fixed Service Charge	Minimum Charge	Block Rate	No Fixed Recovery
Greater Sudbury		✓			
Thunder Bay		✓			
Peterborough		✓			
Moncton		✓			
Fredericton		✓			

Recommended rate – fixed service charges

Based on our review of the historical and budgeted cost of water services, as well as our understanding of the nature of the City's water operations and customer base, we estimate that approximately $4.8 million of costs should be recovered through fixed service charges. During the 2000 fiscal year, the City collected a similar amount through the fixed service charge, which would indicate that no change in current fixed service charges is necessary.

The conclusion that no change in the current fixed service charges is necessary is supported by a comparison of the City's fixed service charges to other municipalities, which indicates that Sudbury's rates are consistent with other municipalities.

Summary of monthly fixed service charges

	Meter Size (in millimeters)							
	16	25	37	50	75	100	150	200
Greater Sudbury	*8.77*	*13.01*	*17.54*	*35.35*	*78.30*	*105.78*	*176.34*	*283.62*
Peterborough	17.00	26.60	44.21	64.28	104.00	204.70	355.00	505.80
Thunder Bay	3.66	9.17	18.33	29.33	55.00	91.67	183.00	293.30
Moncton	7.50	30.00	30.00	30.00	120.00	120.00	120.00	120.00
Fredericton[9]	7.33	8.00	8.66	9.83	14.00	17.33	20.67	27.33
Average (excluding Sudbury)	*7.10*	*13.49*	*20.62*	*25.99*	*55.67*	*88.13*	*125.26*	*176.13*

[9] Includes a meter rental charge of $4.00 per month.

Variable charge

Unlike fixed charges, which are determined based on the number of water customers, variable charges are directly related to consumption levels.

Options available

Generally speaking, four types of variable rate structures are used by municipalities.

1. **Uniform rate structure** – Under a uniform rate structure, a constant price is charged for water consumed. Currently, the City uses a uniform rate of $0.77 per cubic meter of water consumed. Theoretically, a uniform rate structure is appropriate where:
   - Customers exhibit similarities in usage characteristics
   - Simplicity and understanding of the rate structure is desired
   - Cost and usage data by type of customer is not available or the costs of obtaining this information outweigh the potential benefits
2. **Declining block rate structure** – Under declining block rate structure, the per unit price of water decreases as water consumption increases, based on blocks of water consumption established by the municipality. The use of a declining block rate structure is supported by the view that the cost of producing water decreases as the volume increases, due to cost allocations and economies of scale. In addition, declining block rate structures are often employed as a means of providing incentives to large water consumers to use municipal water services as opposed to private water systems. However, declining block rate structures appear to be inconsistent with the goals of water conservation as they do not provide a disincentive for increased water consumption. In addition, declining block rate structures are sometimes perceived as unfair by residential and other low volume users, who are required to pay more on average for water than larger water consumers.
3. **Increasing block rate structure** – As the opposite of a declining block rate structure, an increasing block rate structure has the effect of increasing the per unit price of water as consumption increases. Generally speaking, increasing block rate structures are more complicated than other types of rate structures and require higher levels of detail with respect to water costs and consumption levels. As a result, increasing block rate structures are used primarily by municipalities:
   - That have a sufficient number of different customer classes to support an effective increasing block rate structure
   - That possess the information and data necessary to design a block rate structure
   - That are facing capacity constraints and/or the need to expand the existing infrastructure and where an increasing block rate structure would be suitable to finance these increased costs or reduce water consumption levels
   - That are not subject to significant fluctuations or volatility in water consumption levels

4. **Seasonal rates** – When a municipal water system is designed, a certain amount of excess capacity is built into the system to account for peak demand. In most cases, peak demand occurs during the summer months, primarily as a result of lawn watering. A seasonal rate structure can take two forms:

   - The establishment of two separate rates – one for the peak demand season and one for the remainder of the year. The peak demand season rate is typically the higher of the two in order to encourage conservation and recover the costs associated with the higher levels of water production.
   - The use of an excess-use rate, whereby customers exceeding a predetermined level of water consumption are charged a high rate for the excess consumption during the peak demand season.

   Given the need for relatively timely meter readings (generally monthly), the costs of implementing a seasonal demand rate structure can outweigh the benefits. As a result, seasonal rate structures are generally used by municipalities with:

   - Significant variations in water consumption between peak and off-peak periods
   - Capacity constraints during peak periods
   - Seasonal fluctuations in the number of water customers

Recommended approach – variable charges

As a result of our analysis, we recommend that the City continue to employ a uniform water rate structure for its variable water billings. In arriving at this recommendation, we have considered the following:

- **Simplicity and fairness** – Perhaps the greatest advantage of the uniform rate structure is its simplicity and perception of fairness. Under this structure, all residents of Sudbury pay the same amount for water and the absence of consumption blocks simplifies the water billing process, both for customers and the City.
- **Quality and availability of consumption data** – In order to be successfully implemented and maintained, certain variable rate structures require relatively detailed information concerning consumption levels, both by period (e.g. summer vs. winter consumption levels) and by customer type. As semi-annual meter readings are used for the majority of the City's customers, the information necessary to implement either a block rate structure (both increasing and declining) or seasonal structure is not available.
- **Customer diversity** – The use of a block rate structure for variable rates is most suitable where a number of different water customer classes exist and consumption characteristics vary significantly between these classes. Given that more than 90% of the City's water customers are residential or multi-residential properties, this diversity does not exist.

  In addition, our review of water production levels indicates that the difference between water production during the summer and winter months is not significant, thereby precluding the use of seasonal rates.
- **Volatility** – As noted earlier in our report, the City experienced a deficit in water services of approximately $965,000 for the year, primarily due to a decrease in consumption levels. Given that block and seasonal rate structures increase the importance placed on consumption levels, their implementation would increase the financial risk faced by the City in periods of declining consumption.
- **Consistency with other municipalities** – Based on our analysis, the use of a uniform rate structure appears to be consistent with general municipal practices.

Summary of fixed cost recovery approaches

	Uniform Rate	Declining Block	Increasing Block	Seasonal Rates	Other
Greater Sudbury	✓				
Thunder Bay	✓				
Peterborough	✓				
Moncton	✓				
Fredericton	✓				

Fire protection charges

As part of its mandate to deliver water services to the residents and property owners of Sudbury, the City is also responsible for ensuring that sufficient water service exists to deliver adequate fire protection services. This is accomplished primarily through:

- The construction and maintenance of a fire hydrant system
- Increases in capacity of the water system to provide the increased water volumes required for firefighting operations

Currently, fire protection costs, which are estimated to be in the range of $1.97 million annually, are financed through water billings, both the meter charge and the variable rate. However, it can be argued that this is not an appropriate method of financing fire protection costs given the nature of benefits that accrue from these expenditures.

Essentially, the steps taken to ensure adequate fire protection services represent a form of insurance – the hydrants and excess capacity are developed even though they may not be used. As with insurance policies in general, the benefits obtained from the fire protection costs are related to the value of properties protected – larger buildings, by virtue of their size, require more fire protection capability than smaller properties. As a result, it is reasonable to argue that fire protection charges should not be financed on the basis of water consumption or meter size, but rather the value of the properties.

In addition, the fire protection capabilities built into the City's water system are also used to protect institutions serving the public good, such as hospitals, schools and recreational facilities. Given that all members of the community benefit from these properties, the cost of fire protection charges should be allocated throughout the community.

Based on the above, we would recommend that the fire protection charges incurred by the City be financed through the municipal general levy. This recommendation not only provides a fair method of recovering the cost of fire protection capabilities built into the City's water system, but is also consistent with how other municipalities finance water costs relating to fire protection.

CURRENT BILLING PRACTICE

Currently, the City finances wastewater costs through a combination of a sewer rate (equal to 25% of a property's water bill), which finances 30% of total wastewater costs, and the municipal levy, which funds the remaining 70% of wastewater costs.

OPTIONS AVAILABLE TO THE CITY

With respect to financing wastewater costs, the City has three alternatives:

1. Continue to finance wastewater costs through a combination of user fees and the municipal levy
2. Implement a full cost recovery system for wastewater services and remove wastewater costs from the municipal levy
3. Area rate wastewater costs, thereby allocating the costs on the basis of assessment among residents and property owners that use wastewater services

The use of a full recovery sewer rate has several benefits for taxpayers and property owners in Sudbury, including:

- **Fairness** – By financing a portion of wastewater costs through property taxes, all residents of City pay for the service, regardless of the fact that some residents use less water (and therefore less wastewater services) than others. *In addition, 17% of residents do not have wastewater services at all and, as such, pay for a service they do not receive. Moving towards a full cost recovery system provides fairness to residents.*
- **Conservation** – With 70% of wastewater costs included in property taxes, residents are unaware of the true cost of wastewater services. The implementation of a full cost recovery system will not only make residents aware of the cost of wastewater services, but will also increase the motivation to conserve water, thereby reducing operating costs for the City.
- **Accessibility to grants** – The Province of Ontario has recently indicated that municipalities will qualify for funding assistance for water and wastewater projects only if they have full cost recovery systems in place. By introducing a full cost recovery system for wastewater services, the City will continue to access Provincial assistance.
- **Ease of implementation** – While area rating would ensure that wastewater costs are distributed among property owners receiving the services, the use of a full recovery system based on water consumption would be less complex and more understandable.

In light of the above, it is recommended that the City implement a full cost recovery system for wastewater services. Given the lack of information concerning wastewater usage (as municipalities do not meter wastewater flows), it is also recommended that the wastewater charge be based on water billing charges.

SUSTAINABLE CAPITAL ASSET MANAGEMENT PROGRAM

Under a sustainable capital asset management program, the City would implement a strategy to fund the cost of replacing or rehabilitating its existing water and wastewater infrastructure system. Theoretically, sustainable capital asset management programs recognize that a municipality's water and wastewater infrastructure was not constructed at the same time and, as a result, different portions of the system will need to be replaced at different times. The goal of a sustainable capital asset management program is to ensure that sufficient financing is available to fund the ongoing need to continually maintain the water and wastewater infrastructure.

Currently, the City is projected to spend approximately $10 million on capital projects relating to water and wastewater infrastructure, or approximately 1% of the replacement value of the system. In comparison, the generally accepted level of capital spending required to appropriately maintain water and wastewater infrastructure is 2% of the replacement value. Were the City to increase the level of capital spending to the industry standard of 2%, an additional $10 million of capital spending would be required.

Despite the relatively high cost associated with a sustainable capital asset management program, we believe that the City has no other alternative but to implement such a program. We understand that a significant portion of the City's water and wastewater infrastructure was constructed during the 1920's and is now nearing the end of its 80 year useful life. As a result, the near-term operations of the City will likely be marked by significant capital expenditures relating to this portion of the water and waste infrastructure system.

In addition, other capital projects such as the David Street Water Treatment Plant will also require financing, thereby placing a considerable strain on the City's ability to fund water and wastewater capital projects without an increase in user fees. Given that water and wastewater services are intended to be financed entirely through user fees and not the municipal levy, the increased cost of capital expenditures should be reflected in the determination of water and wastewater rates.

In light of the significant increase in capital financing, however, the City may wish to consider implementing the sustainable capital asset management program over a ten year period.

WATER BILLING FREQUENCY

Traditionally, the majority of water customers in Sudbury are invoiced semi-annually. While this billing frequency has minimized certain costs to the City, such as postage and meter reading, it also has certain disadvantages:

- A semi-annual water billing system limits the usefulness of consumption information available to the City. For example, the City is unable to obtain information concerning monthly or even seasonal water usage under a six month billing cycle. As a result, the ability of the City to implement plans to improve the management of the water system (including the use of alternative rate structures) is hindered.
- A semi-annual water billing system also limits the ability of customers to modify their water consumption levels. As a result, residents may not be aware of the cost of high water usage until six months have passed.
- A move towards a more frequent water billing system would improve the cash flow performance of the City. While we understand that a number of water customers use the City's preauthorized payment plan for monthly water and wastewater payments, a quarterly billing system for all customers not on the preauthorized payment plan would provide more timely payments to the City, allowing it to earn interest revenue (or reduce interest costs) on the revenue collected.

While we recommend that the City move to a quarterly billing system, we recognize that increased costs will result from such a change. Based on our analysis, we estimate that the increased costs resulting from a quarterly billing system will be in the range of $225,000 per year. However, these costs are offset by increased revenues of $200,000 that would be generated in interest from the improved cash flows of the City. These increased revenues have already been reflected in the City's 2001 budget.

RATE SETTING PROCESS

Traditionally, the Regional Municipality of Sudbury incorporated inflation into water rates based on year-to-year changes in the Consumer Price Index. In addition, changes in water consumption levels (both increases and decreases) have been considered when setting water rates. These procedures were incorporated into a rate setting policy that was approved by Council.

Given the relatively large size of water and sewer expenditures, inflation and changes in consumption levels do have the potential to significantly affect both water and wastewater rates. For example, a 2% inflationary increase in water and wastewater costs will result in additional expenditures of $700,000, while a 2% change in water consumption translates into $400,000.

In light of the potential significance of both of these factors, the City should incorporate inflation and changes in consumption levels into its rate setting process. In order to facilitate the rate setting process, we also recommend the adoption of a rate setting policy similar to that used by the former Region, which incorporated inflation, changes in consumption levels and annual increases relating to a sustainable capital asset management program. By approving the method of establishing rates, Council would avoid the necessity of having to approve the rates themselves on an annual basis.

WASTEWATER REBATES

Certain industries, such as food processing and beverage facilities, may have significant differences between volumes of water consumed and those flowed into the wastewater system. For these customers, the impact of the recommendations may result in an unfair distribution of costs as the amount of water purchased from the municipality is not a fair indicator of their use of the wastewater services. As a result, the City may wish to consider the implementation of a wastewater rebate system, whereby customers who can demonstrate a significant difference between water and wastewater usage can apply for a rebate from the City[10]. The adoption of a quarterly billing frequency will likely improve the City's ability to implement a wastewater rebate program by providing more detailed information concerning water usage levels.

WATER AND WASTEWATER RESERVES

Traditionally, the City has transferred any net surpluses generated from water services into reserves, using these funds to offset instances where there have been net deficits. Should the recommendations be adopted, the City will continue to experience both surpluses and deficits for water and wastewater services, as actual user fee revenues and expenditures will fluctuate from budgeted amounts for a number of reasons. Given that this use of reserve funds provides a degree of stability for the City's water and wastewater services (precluding the need to continuously adjust rates), we recommend that this practice continue into the future.

[10] We understand the normal eligibility for a wastewater rebate is a 20% variance between water and wastewater usage.

WATER METER TESTING

During the course of our review, we noted that size of water meters for certain industrial and commercial customers appears to be excessive in light of their water consumption levels. As a result, it is possible that these meters are not accurately recording the amount of water consumed by the customers, resulting in a loss of revenue to the City.

In order to alleviate concerns over the accuracy of the water meter readings, the City may wish to consider the use of an outside contractor to undertake a water meter testing program and, where considered appropriate, replace meters that may be too large compared to the level of water consumption.

UNMETERED WATER AND WASTEWATER CLIENTS

Currently, there are approximately 300 properties in the City, the majority of which are residential properties, that receive water services but are unmetered. While the City has implemented a mandatory water metering program, these properties are unable to have water meters installed due to such factors as a lack of a basement or insufficient access to the water intake pipes.

For these properties, the City charges water based on a consumption level of 27 cubic meters per month. Given that this is above the average residential consumption level of 20 cubic meters per month, we would not recommend any change in the City's policy with respect to unmetered properties.

In addition, we understand that a small number of properties in the City have access to wastewater services but are not connected to the municipal water system. For these customers, the sewer rate is calculated based on a notional water consumption of 14 cubic meters per month. While this is lower than the average residential consumption of 20 cubic meters per month, we understand that properties with private water systems are characterized by lower usage levels and lower water pressures, both of which result in less inflow into the wastewater system. As a result, we do not recommend any change to the City's policy with respect to properties with wastewater services only.

While the current practice of the City in dealing with unmetered water and wastewater clients is appropriate for residential customers, we recommend that the water and wastewater bylaw contain provisions allowing the City flexibility in addressing similar situations for multi-residential, commercial, industrial and institutional customers.

COMMUNICATIONS STRATEGY

Although the recommendations contained in this report are intended to be revenue neutral to the City as a whole, individual customers will experience changes in their water and wastewater costs to varying degrees.

In order to ensure public understanding and awareness of the recommendations and their potential effects on property owners, we recommend that the City develop a strategy to deal with the expected public interest to result from the changes to the municipal levy, water and wastewater rates.

While such a strategy has not been developed, we would recommend that, at a minimum, the following items be included:

1. An information package containing:
   - An overview of the traditional methods of financing water and wastewater services
   - An description of the proposed changes to water and wastewater rates and municipal taxes, along with the rationale for the changes
   - An indication of how other municipalities finance their water and wastewater costs
   - Key timelines relating to the changes in water and wastewater rates
   - Estimated financial impacts for property owners in Sudbury
2. Press releases and newspaper advertisements
3. Meetings with key high water users

Overall, the message that should be communicated is that the new method of financing water and wastewater services is fair, revenue neutral and consistent with other communities throughout Ontario and Canada.

BASIS OF ANALYSIS

As requested by the City, we have structured our analysis so as to provide an indication of the financial impact of the recommendations on property owners in Sudbury. It is important to note that property costs (defined as municipal property taxes, water and wastewater billings) for 2001 and future years will be influenced by factors such as:

- Inflation
- Property value reassessment
- Changes to education taxes levied by the Province
- Fluctuations in water consumption levels
- The adoption of a sustainable capital asset management policy

Given that these factors would affect property costs regardless of whether the City adopted the recommendations, we have specifically excluded them from our analysis of the financial impact of the recommendations. Accordingly, our analysis should be viewed as an indication of the true effect of implementing the recommendations, exclusive of other factors.

In addition, our analysis has been designed to reflect the financial impact of the recommendations for a full year, notwithstanding our suggestion that the City implement the new rate structures effective July 1, 2001. Based on a July 1 implementation date, the 2001 fiscal year will represent a transition year whereby water and wastewater services will be funded under both the former and recommended rate structures. In order to provide a clear picture of the financial impact of the recommendations in the future, we have presented the full year's effect of the recommendations, which we have supplemented with an indication of the implications for the 2001 fiscal year.

OVERVIEW OF RECOMMENDATIONS

Should the recommendations contained in this report be implemented, a significant change will occur with respect to how the City funds water and wastewater services. Overall, the recommendations will see the following shifts in revenue on an annual basis:

- From the municipal levy to user fees – Following the implementation of the recommendations, the municipal levy will be reduced by approximately $10.1 million, reflecting the portion of wastewater costs (70%) that were traditionally financed through the municipal levy as opposed to the wastewater rate.
- From user fees to the municipal levy – As a result of the recommendations in this report, the portion of water costs relating to fire protection will be financed through the municipal levy. Accordingly, $1.97 million of revenues will be shifted from water user fees to the municipal levy.
- From water rates to wastewater rates – With the implementation of the recommendations, the sewer upgrading costs of $1.8 million will no longer be considered in the determination of water rates (as they will now be financed through the wastewater rate). As a result, approximately $1.8 million of revenue will be transferred from water rates to wastewater rates.
- Increases in water costs – Assuming a move to quarterly billings, water billing costs are projected to increase by $225,000, which should be financed through water rates.

Property taxes

Overall, property taxes would decrease by 6.9% from 2000 levels following the implementation of the recommendations.

Effect of proposed recommendations on the municipal levy

Total municipal levy [11]	117,245,310
Add (less):	
Transfer of wastewater costs from the municipal levy to user fees	(10,103,655)
Fire protection charges transferred from water rates to the municipal levy	1,971,000
Restated municipal levy following implementation of recommendations	109,112,655
Reduction in municipal levy	6.9%

[11] For the purpose of our analysis, we have attempted to demonstrate the change in municipal taxes from last year as a result of the recommendations. Accordingly, our analysis is based on the 2000 municipal levy.

RECOMMENDED RATE STRUCTURE AND FINANCIAL IMPACT

Water rates

Following an implementation of the recommendations contained in this report, variable water rates are projected to decrease from the current rate of $0.770 per cubic metre to $0.590 per cubic metre, a decrease of 23%.

Recommended water rate

Total water costs	18,055,699
Add (less):	
Fire protection charges transferred from water rates to the municipal levy	(1,971,000)
Donations from INCO and Falconbridge applied to water costs[12]	(300,000)
Increased water billing costs	225,000
Total water expenditures to be financed through user fees	16,009,699
Less: water expenditures financed through other fees	(863,615)
Water expenditures to be financed through service charges and consumption charges	15,146,084
Less: water expenditures financed through service charges	(4,800,000)
Water expenditures to be financed through consumption charge	10,346,084
Projected water consumption, in cubic metres (based on 2000 consumption levels)	17,604,000
Recommended water rate per cubic metre of consumption	$0.590

Wastewater rates

In order for the City to implement a full recovery policy for wastewater services, it is recommended that the current wastewater rate increase from 25% to 115% of water billings.

Recommended wastewater rate

Total wastewater costs	17,311,854
Add (less):	
Donations from INCO and Falconbridge applied to wastewater costs[13]	(300,000)
Total wastewater expenditures to be financed through user fees	17,011,854
Less: wastewater expenditures financed through other fees	(472,525)
Wastewater expenditures to be financed through wastewater rate (A)	16,539,329
Water billing revenues	15,146,084
Less: Portion collected from customers without wastewater services	(605,843)
Water billing revenues upon which wastewater revenues will be raised (B)	14,540,241
Wastewater rate as a percentage of water billings (A) ÷ (B)	115%

[12] During 2000, the Transition Board for the City of Greater Sudbury secured a $1.33 million donation from both INCO and Falconbridge to partially compensate the City for a decrease in taxation revenue resulting from the implementation of a full recovery wastewater rate. For 2001, the amount of the donation is $600,000, which will be applied evenly between water and wastewater costs. Future donations from INCO and Falconbridge will amount to $400,000 in 2002 and $333,000 in 2003.

FINANCIAL IMPACT

While the recommendations proposed will be revenue neutral to the City as a whole (ie. the City will continue to treat water and wastewater services as a breakeven activity), some portion of water and wastewater costs will shifted from commercial and industrial customers to residential property owners in the City. This shift is primarily due to the fundamental makeup of the City's assessment base and water customers.

In Greater Sudbury, just over 60% of the municipal levy is paid by residential property owners. This class, however, makes up 82% of the City's water customers. As a result, any transfer of costs from the municipal levy to user fees will have an greater impact on residential property owners as their proportionate share of costs is greater through user fees than the municipal levy.

Assessment and water customers by property class

	Equalized Assessment (in millions)		Water Billing Customers	
Residential	5,374	60.3%	34,382	82.5%
Multi-residential	849	9.5%	3,606	8.7%
Industry, Commercial and Institutional	2,689	30.2%	3,689	8.8%
Total	8,912	100.0%	41,677	100.0%

Based on the information supplied, as well as the assumptions noted earlier, the financial impact of the recommendations contained in this report are as follows.

Residential property owners

Following the implementation of the recommended options for water and wastewater rates, the majority of residential property owners in Sudbury will experience an increase in overall property costs (defined as property taxes, water and sewer charges).

Based on our review, a typical homeowner in Sudbury (total assessment of $110,000 and water consumption of 20 cubic metres per month), would see their property costs increase by approximately $50 per year, representing an increase of 3% over 2000 property costs.

However, typical residential property owners that do not receive wastewater services (accounting for 17% of all households in Sudbury) would see their property costs decrease by approximately $150 per year.

Projected financial impact on single family residential property owners

	Pay Less	Pay More (per month)		
		$0 to $5	$5 to $10	More than $10
Single family residential properties	10%	50%	38%	2%

Multi-residential property owners

For the purpose of the analysis, classification of multi-residential property owners was made into two categories:

- Small multi-residential properties (under six units), which fall into the residential property class
- Larger multi-residential properties (more than six units), which fall into the multi-residential property class

Based on the analysis, small multi-residential properties will see an increase in property costs in the range of $75 per year while larger multi-residential properties will experience an decrease of approximately $850 per year.

Projected financial impact on multi-residential property owners

	Pay Less	Pay More (per month)		
		$0 to $5	$5 to $10	More than $10
Small multi-residential properties	4%	32%	47%	17%
Large multi-residential properties	76%	10%	7%	7%

Commercial and industrial properties

Both commercial and industrial properties, which tend to have low water billings compared to assessment values, are projected to experience overall cost savings as a result of the recommendations. Approximately 83% of commercial property owners and 96% of industrial property owners will experience reductions in property costs, with the average reduction amounting to $500 for commercial properties and $1,800 for industrial properties.

Projected financial impact on commercial and industrial property owners

	Pay Less	Pay More (per month)		
		$0 to $5	$5 to $10	More than $10
Commercial properties	80%	8%	3%	9%
Industrial properties	95%	2%	1%	2%

Institutional Properties

The financial impact of the proposed recommendations on institutional properties (schools, churches, hospitals and charitable organizations) is contingent upon the tax status of the individual properties. Accordingly, it was not possible to ascertain the impact on institutional properties as a whole due to time constraints and limitations on the information available. However, some general conclusions as to the effect of the recommendations on specific types of institutional properties can be made:

- Government office buildings will generally experience a decrease in property costs as these facilities, which pay grants in lieu based on the commercial tax rate, are similar to commercial properties (high assessment values and relatively low water consumption)
- Hospitals and post-secondary educational institutions, which pay grants in lieu of taxes based on a "heads and beds" formula, will generally experience increases in property costs as these institutions will not realize the benefit of the reduction in property taxes resulting from the recommendations
- Exempt properties, such as local school board properties, charitable organizations and churches, will likely experience small increases in property costs as these properties will also not realize the benefit of the tax reduction resulting from the recommendations.

Implementation Effects

Given the timing of the budget process, the City is unable to introduce the recommendations retroactive to January 1, 2001. Accordingly, it is recommended that the City introduce the recommendations effective July 1, 2001. Based on our analysis, the use of a July 1, 2001 implementation date will have the following financial effects:

- A total of $5.2 million of wastewater costs will continued to be financed through the municipal levy due to the fact that a full recovery wastewater rate was not in place during the period January 1, 2001 to June 30, 2001.
- Sewer upgrading costs of $900,000, or 50% of the total sewer upgrading costs of $1.8 million, will be financed through wastewater rates during the period July to December 2001. For the first half of 2001, these costs will continued to be funded through water rates.
- Fire protection charges incurred during the period July to December 2001, amounting to $985,000, will be financed through the municipal levy, with fire protection charges for the first half of 2001 financed through water rates.
- Water billing costs will increase by $112,500, reflecting a mid-year implementation of quarterly billing cycles.

Given that the 2001 fiscal year will represent a mix of the old and new rate structure, the financial impact of the recommendations will be somewhat lessened. For a typical residential property owner, property costs are projected to increase by $25 during 2001 as a result of the recommendations.

Sustainable Capital Asset Management

As noted earlier, the adoption of a sustainable capital asset management program for both water and wastewater infrastructure would require the City to double the amount of financing for capital projects. Based on the assumption that the City will implement a sustainable capital asset management policy over a ten year period, the projected water rates and financial impact on residential property owners are as follows:

Projected water rates under a sustainable capital asset management policy

Year	Increase in Water Revenues	Debt Servicing Funds Available[13]	Total Capital Financing Available	Projected Water Rate[14]	Cummulative Residential Impact[15]
2002	400,000	–	400,000	$0.613	$12.00
2003	800,000	–	800,000	$0.636	$24.00
2004	1,200,000	–	1,200,000	$0.659	$36.00
2005	1,600,000	–	1,600,000	$0.682	$48.00
2006	2,000,000	–	2,000,000	$0.705	$60.00
2007	2,400,000	–	2,400,000	$0.728	$72.00
2008	2,800,000	890,000	3,690,000	$0.751	$84.00
2009	3,200,000	890,000	4,090,000	$0.774	$96.00
2010	3,600,000	890,000	4,490,000	$0.797	$108.00
2011	4,000,000	890,000	4,890,000	$0.820	$120.00

[13] Represents funds available when the debentures relating to water infrastructure are repaid.

[14] Assumes that the increased capital costs will be financed entirely through the water consumption charge and other revenue sources, such as the service charge or municipal levy, will not be adjusted. In addition, future consumption levels have been projected based on the actual consumption for 2000.

[15] Represents the projected impact on a typical residential property owner with water consumption of 20 cubic metres per month. The financial impact includes both increased water and wastewater costs (as the wastewater rate is based on the water rate).

By raising water rates under a sustainable asset management policy, the City will also be implementing a similar policy for its wastewater infrastructure, as the wastewater rate is based on water billings. As a result, the amount of capital available for wastewater infrastructure replacement and rehabilitation will also increase.

Projected increase in wastewater capital expenditures

Year	Increase in Water Revenues	Portion Received From Wastewater Customers[16]	Wastewater Rate	Increase in Wastewater Revenues	Debt Servicing Funds Available[17]	Additional Revenue
2002	400,000	384,000	115%	442,000	–	442,000
2003	800,000	768,000	115%	883,000	–	883,000
2004	1,200,000	1,152,000	115%	1,325,000	–	1,325,000
2005	1,600,000	1,536,000	115%	1,766,000	–	1,766,000
2006	2,000,000	1,920,000	115%	2,208,000	–	2,208,000
2007	2,400,000	2,304,000	115%	2,650,000	–	2,650,000
2008	2,800,000	2,688,000	115%	3,091,000	1,104,000	4,195,000
2009	3,200,000	3,072,000	115%	3,533,000	1,104,000	4,637,000
2010	3,600,000	3,456,000	115%	3,974,000	1,104,000	5,078,000
2011	4,000,000	3,840,000	115%	4,416,000	1,104,000	5,520,000

Following the full implementation of the sustainable capital asset management policy, a total of $21 million of financing will be available annually for capital purposes.

Summary of projected capital financing under a sustainable capital asset management policy in 2011

	Water	Wastewater	Total
Existing capital expenditures	5,455,000	5,154,000	10,609,000
Additional capital financing upon repayment of debentures	890,000	1,104,000	1,994,000
Additional revenues collected	4,000,000	4,416,000	8,416,000
Total annual capital financing	10,345,000	10,674,000	21,019,000

[16] Approximately 4% of water customers do not have access to wastewater services. As a result, the wastewater rate will be levied on 96% of the increased water revenue.

[17] Represents funds available for capital purposes when the debentures relating to wastewater infrastructure are repaid.

COMPARISON OF PROPOSED RATES TO OTHER MUNICIPALITIES

While the proposed recommendations, if approved, will result in significant changes to water and wastewater rates in Sudbury, we note that the resultant cost of water and wastewater services will be consistent with comparable municipalities in both Ontario and Canada.

Comparison of monthly water and wastewater billings – 20 cubic meters of consumption[18]

	Water Billing	Wastewater Billing	Total Billing
Greater Sudbury (proposed)	***20.13***	***23.15***	***43.28***
Thunder Bay	18.21	11.83	30.04
Moncton	26.56	16.89	43.45
Peterborough	28.44	24.17	52.61
Fredericton	16.73	16.73	33.46
Average (excluding Sudbury)	***22.49***	***17.41***	***39.90***

In addition, we further recommend that the City adopt a sustainable capital asset management policy in the future, thereby ensuring that sufficient financing exists for capital expenditures.

[18] Includes fixed charges, if applicable.

Request for Recommendation
Priorities Committee

Greater | Grand Sudbury
www.city.greatersudbury.on.ca

Type of Decision											
Meeting Date	April 23, 2003					Report Date	April 15, 2003				
Recommendation			Yes	X	No		Priority	X	High		Low
		Direction Only					Type of Meeting	X	Open		Closed

Report Title

Current Water / Wastewater Rebate Program

Policy Implications + Budget Impact

	This report and recommendation(s) have been reviewed by the Finance Division and the funding source has been identified

N/A

X	Background attached

Recommendation

FOR INFORMATION ONLY

	Recommendation attached

Recommended by the General Manager

D. Wuksinic
General Manager of Corporate Services

Recommended by the C.A.O.

M. Mieto
Chief Administrative Officer

Report Authored By	Division Review
S. Tremblay Supervisor of Billing & Collection / Water/Wastewater	S. Jonasson Director of Finance / City Treasurer

BACKGROUND

At the priority meeting of March 26th, 2003, a report was requested on the existing rebate programs that City of Greater Sudbury already has in place. They are as follows:

Residential and Commercial Water/Wastewater Plumbing Rebate Program

"One time only 50% reduction on extra metered water consumption": Customers that receive a high Water/wastewater bill due to a plumbing problem can request a rebate. Once they have fixed the problem, they must write a letter explaining the problem and include two meter readings, two weeks apart. A reduction will be applied to their account based on their average consumption and half of the extra metered consumption.

Residential and Commercial Run Water Adjustment Program

A number CGS customers (approx. 600) are classified as "Minimum for Winter". They have a previous history of frozen water lines (on the City side) during the winter months. In order to avoid a recurring problem, they have been instructed to run their water continuously between December and April each year. They are then billed for actual consumption for May through November and then this average consumption is used for billing for December through April of the following year.

Commercial Wastewater Rebate Program

Upon request, Commercial customers that have the majority of their water usage going into the making of their product can apply for a wastewater reduction based on the amount of water that is not going into the City sewer system.

Running water to waste

Customers who call Public Works due to dirty water and are told to run it until it clears, can obtain a water/wastewater adjustment based on the amount of water they ran to waste.