

MUNICIPALITY OF LEAMINGTON

WATER RATE STUDY

June 8, 2010



4304 Village Centre Court
Mississauga, Ontario
Canada L4Z 1S2

Phone: (905)272-3600

Fax: (905)272-3602

e-mail: info@watson-econ.ca

 Planning for growth

CONTENTS

	<u>Page</u>
1. INTRODUCTION	
1.1 Background	1-1
1.2 Study Process	1-2
1.3 Regulatory Changes in Ontario	1-3
1.4 Summary of the <i>Sustainable Water and Sanitary Sewer Act</i>	1-3
1.5 Financial Plans Regulation	1-5
1.6 Bill 13	1-8
1.7 Forecast Growth and Servicing Requirements	1-9
2. CAPITAL INFRASTRUCTURE NEEDS	
2.1 Capital Forecast	2-1
3. LIFE CYCLE COSTING	
3.1 Overview of Life Cycle Costing	
3.1.1 Definition	3-1
3.1.2 Financing Costs	3-1
3.1.3 Costing Methods	3-5
3.2 Impact on Budgets	3-7
4. CAPITAL COST FINANCING OPTIONS	
4.1 Summary of Capital Cost Financing Alternatives	4-1
4.2 <i>Development Charges Act, 1997</i>	4-2
4.3 <i>Municipal Act</i>	4-3
4.4 Grant Funding Availability	4-5
4.5 Existing Reserves/Reserve Funds	4-5
4.6 Debenture Financing	4-6
4.7 Infrastructure Renewal Bonds	4-6
4.8 Recommended Approach	4-8
5. OVERVIEW OF EXPENDITURES AND REVENUES	
5.1 Water Operating Expenditures	5-1
5.2 Water Operating Revenues	5-2
6. PRICING STRUCTURES	
6.1 Introduction	6-1
6.2 Alternative Pricing Structures	6-2
6.3 Assessment of Alternative Pricing Structures	6-4
6.4 Rate Structures in Ontario	6-9
6.5 Recommended Rate Structures	6-10

CONTENTS

	<u>Page</u>
7. ANALYSIS OF WATER RATES AND POLICY MATTERS	
7.1 Introduction	7-1
7.2 Water Rates	7-1
8. CONCLUSIONS AND OBSERVATIONS	8-1

APPENDICES

- A 2010 DEBT CAPACITY CALCULATIONS
- B WATER SYSTEM INVENTORY DATA
- C DETAILED WATER RATE CALCULATIONS

1. INTRODUCTION

1. INTRODUCTION

1.1 Background

The Municipality of Leamington is a municipality located in the County of Essex, with a population of approximately 29,300. The municipality services 9,224 users with water servicing. These users are comprised of residential, non-residential, regulated greenhouses and non-regulated greenhouses along with Heinz. The Municipality purchases water from the Union Water Treatment Plant located south of the Hamlet of Ruthven in the former Township of Gosfield South. Currently, there are capacity constraints evident in this system and enhancements to the plant's ability to provide water are currently under review.

Currently, the Municipality has a base charge for water, a base charge for water meter replacement as well as a consumption rate per m³ for metered customers. The current rates for water are imposed by By-law. There are also a small number of customers who receive water but are not metered, these customers are charged on a flat rate basis. The water rates presently in effect are as follows:

Water Rates

Effective January 1, 2010

2010 Water Rates	Monthly
Base Charge	\$15.00
Water Meter Replacement Charge	\$3.00

Consumption Rates	per m³
Residential and Commercial (Meters less than or equal 1 inch)	\$0.6798
Regulated Greenhouse and Commercial (Meters greater than 1 inch)	\$0.7414
Unregulated Greenhouse and Field Drip Irrigation (Meters greater than 1 inch)	\$0.8074
Unregulated Greenhouse over 3 acres:	\$1.6148

Flat Rate Users	Monthly
Flat Rate Customers	\$43.00
Fireline Customers	\$43.00
Hydrant Maintenance Customers	\$67.59

With the legislative changes being made across Ontario, as a result of the Walkerton crisis, municipalities are required to conform to new statutes governing the management of water systems. Watson & Associates Economists Ltd. was retained by the Municipality of Leamington to assist in addressing these changes in a proactive manner as they relate to the water systems.

As discussed in more detail in section 1.5, municipalities across Ontario are required to make application to the province for a license to operate their water systems. As part of the licensing approval process, a municipality must submit a “Financial Plan” by July 1, 2010 or six months after the granting of the license, whichever is later. As Leamington was granted their license on August 28, 2009, their deadline for submission is July 1, 2010.

The financial Plan is being carried out in two parts. The Water Rate Study (this study) will provide for a longer range projection of the municipality’s capital/operating budgets along with providing a preliminary review of the infrastructure replacement needs. As a product of this review, a preliminary forecast of water rates will be provided however Council is not being asked to approve these rates at this time. Further discussion and the setting of rates will occur during the annual budget process. However the analysis provided herein provides the details to allow for the preparation of the mandatory O. Reg 453/07 report which must be submitted to the Province to fulfill the licensing requirements. The O. Reg 453/07 Study will take the information which is contained in this rate study (which has been prepared on a “modified accrual or cash” basis) and restates that information in a Financial Statement format (“full accrual” basis) which is the required basis for submission to the Province. As will be provided in the O. Reg 453/07 report, Council will be requested to approve that report prior to submission to the Province.

1.2 Study Process

The objectives of the study and the steps involved in carrying out this assignment are summarized below:

- Identify all current and future water system capital needs to assess the immediate and longer-term implications.
- Identify potential methods of cost recovery from the capital needs listing. These recovery methods may include other statutory authorities (e.g. Development Charges, *Municipal Act*, etc.) as an offset to recovery through the water rates.

- Identify existing operating costs by component and estimate future operating costs over the next ten years. This assessment identifies fixed and variable costs in order to project those costs sensitive to changes to the existing infrastructure inventory, as well as costs which may increase commensurate with growth.
- Provide a report and presentation to staff and Council, relative to the findings.

1.3 Regulatory Changes in Ontario

Resulting from the water crisis in Walkerton, significant regulatory changes have been made in Ontario over the past few years. These changes arise as a result of the Walkerton Commission and the 93 recommendations made by the Walkerton Inquiry Part II report. Areas of recommendation include:

- watershed management and source protection;
- quality management;
- preventative maintenance;
- research and development;
- new performance standards;
- sustainable asset management; and
- lifecycle costing.

The legislation which will most impact municipal water rates is the *Sustainable Water and Sewage Systems Act* (SWSSA) which will require municipalities to implement full cost pricing. The Act was enacted in 2002, however, has not been implemented pending the approval of its regulations. It is not known when the Act will be fully implemented however 'interim' legislation was introduced on August 16, 2007 which requires similar principles be introduced. The following sections describe these changes.

1.4 Summary of the Sustainable Water and Sewage Systems Act

As noted earlier, the *Sustainable Water and Sewage Systems Act* (SWSSA) was passed on December 13, 2002. The intent of the Act is to introduce the requirement for municipalities to undertake an assessment of the "full cost" of providing their water and the wastewater services.

It is noted that, at the time of writing, the regulations, which accompany the Act, have not been issued. In total, there are 40 areas within the Act to which the Minister may make Regulations. As will be discussed in the next section, interim legislation was passed on August 16, 2007 which will implement many of the principles provided by SWSSA.

Full costs for water service is defined in subsection 3(7) of the Act and includes “source protection costs, operating costs, financing costs, renewal and replacement costs and improvement costs associated with extracting, treating or distributing water to the public and such other costs which may be specified by regulation.” Similar provisions are made for wastewater services in subsection 4(7) respecting the “collecting, treating or discharging waste water.”

The Act will require the preparation of two reports for submission to the Ministry of the Environment (or such other member of the Executive Council as may be assigned the administration of this Act under the Executive Council Act). The first report is on the “full cost of services” and the second is the “cost recovery plan.” Once these reports have been reviewed and approved by the Ministry, the municipality will be required to implement the plans within a specified time period.

In regard to the “Full Cost of Services” report, the municipality (deemed a regulated entity under the Act) must prepare and approve a report concerning the provision of water and sewage services. This report must include an inventory of the infrastructure, a management plan providing for the long-term integrity of the systems and address the full cost of providing the services (other matters may be specified by the regulations) along with the revenue obtained to provide them. A professional engineer must certify the inventory and management plan portion of the report. The municipality’s auditor will be required to provide a written opinion on the report. The report must be approved by the municipality and then be forwarded to the Ministry along with the engineer’s certification and the auditor’s opinion. The regulations will stipulate the timing for this report.

The second report is referred to as a “Cost Recovery Plan” and will address how the municipality intends to pay for the full costs of providing the service. The regulations may specify limitations on what sources of revenue the municipality may use. The regulations may also provide limits as to the level of increases any customer or class of customer may

experience over any period of time. Provision is made for the municipality to implement increases above these limits however ministerial approval would be required first. Similar to the first report, the municipal auditor must provide a written opinion on the report prior to Council's adoption, and this opinion must accompany the report when submitted to the Province.

The Act provides the Minister the power to approve or not approve the plans. If the Minister is not satisfied with the report or if a municipality does not submit a plan, the Minister may have a plan prepared. The cost to the Crown for preparing the plan will be recovered from the municipality. As well, the Minister may direct two or more regulated municipalities to prepare a joint plan. This joint plan may be directed at the onset or be directed by the Minister after receiving the individual plans from the municipalities.

The Minister also has the power to order a municipality to generate revenue from a specific revenue source or in a specified manner. The Minister may also order a regulated entity to do or refrain from doing such things as the Minister considers advisable to ensure that the entity pays the full cost of providing the services to the public.

Once the plans are approved and in place, the municipality will be required to submit progress reports. The timing of these reports and the information to be contained therein will be established by the regulations. A municipal auditor's opinion must be provided with the progress report. Municipalities may also revise the plans if they deem the estimate does not reflect the full cost of providing the services, as a result of a change in circumstances, regulatory or other changes that affect their plan, etc. The municipality must then revise its prior plan, provide an auditor's opinion, and submit the plan to the Minister.

As of the time of writing, the regulations to implement this Act have not been passed; hence the Act will not be in effect until these regulations are passed. As discussed in Section 1.5, interim legislation has been introduced by the Province.

1.5 Financial Plans Regulation

On August 16, 2007, the MOE passed O.Reg 453/07 which requires the preparation of financial plans for water systems. The MOE has also provided a Financial Plan Guidance Document to

assist in preparing the plans. A brief summary of the key elements of the regulations is provided below:

- The financial plan will represent one of the key elements for the Municipality to obtain its Drinking Water License.
- The plan is to be completed by July 1, 2010 (may be later if Drinking Water License is to be obtained later than this).
- The financial plans shall be for a period of at least six years but longer planning horizons are encouraged.
- As the regulation is under the *Drinking Water Act*, the preparation of the plan is mandatory for water and encouraged for wastewater.
- The plan is considered a living document (i.e. will be updated as annual budgets are prepared) but will need to be undertaken at a minimum every five years.
- The plans generally require the forecasting of capital, operating and reserve fund positions, providing detailed inventories, forecasting future users and volume usage and corresponding calculation of rates. In addition, PSAB information on the system must be provided for each year of the forecast (i.e. total non-financial assets, tangible capital asset acquisitions, tangible capital asset construction, betterments, write-downs, disposals, total liabilities and net debt).
- The financial plans must be made available to the public (at no charge) upon request and be available on the Municipality's web site. The availability of this information must also be advertised.
- The financial plans are to be approved by Resolution of the Council or governing body indicating that the drinking water system is financially viable.

In general, the financial principles of the draft regulations follow the intent of SWSSA to move municipalities towards financial sustainability. However, many of the prescriptive requirements have been removed (e.g. preparation of two separate documents for Provincial approval, auditor opinions, engineer certifications, etc.).

A Guideline ("Towards Financially Sustainable Drinking-Water and Wastewater Systems") has been developed to assist municipalities in understanding the Province's direction and provides a detailed discussion on possible approaches to sustainability. The Province's Principles of Financially Sustainable Water and Wastewater Services are provided below:

-
- Principle #1: Ongoing public engagement and transparency can build support for, and confidence in, financial plans and the system(s) to which they relate.
- Principle #2: An integrated approach to planning among water, wastewater, and storm water systems is desirable given the inherent relationship among these services.
- Principle #3: Revenues collected for the provision of water and wastewater services should ultimately be used to meet the needs of those services.
- Principle #4: Life-cycle planning with mid-course corrections is preferable to planning over the short-term, or not planning at all.
- Principle #5: An asset management plan is a key input to the development of a financial plan.
- Principle #6: A sustainable level of revenue allows for reliable service that meets or exceeds environmental protection standards, while providing sufficient resources for future rehabilitation and replacement needs.
- Principle #7: Ensuring users pay for the services they are provided leads to equitable outcomes and can improve conservation. In general, metering and the use of rates can help ensure users pay for services received.
- Principle #8: Financial Plans are “living” documents that require continuous improvement. Comparing the accuracy of financial projections with actual results can lead to improved planning in the future.
- Principle #9: Financial plans benefit from the close collaboration of various groups, including engineers, accountants, auditors, utility staff, and municipal council.

The preparation of this study document is consistent with the principles of the SWSSA and the new regulations.

1.6 **Bill 13**

On March 23, 2010, a private members Bill (Bill 13) was given first reading. The Bill proposes to repeal the *Sustainable Water and Sewage Systems Act* and to introduce a new Act entitled the *Sustainable Water and Waste Water Systems Improvement and Maintenance Act*. The purpose of the Bill is to ensure public ownership of the water services and wastewater services is maintained, promote full cost recovery and increase in scale and capacity of the systems, improve transparency and to create an independent economic regulation.

The proposed Act provides for the following elements:

- ensures that the public ownership of water and wastewater systems is maintained.
- establishes the “Ontario Water Board” as an agent of the province. The duties of the Water Board are to review and approve business plans, provide quality management certification, monitor and approve charges imposed for water and wastewater services, ensure reporting to the public on systems is undertaken and informing the Minister with respect to the above matters.
- require regulated entities below 10,000 customers to evaluate the potential to amalgamate with other entities. The Minister may direct two or more regulated entities to amalgamate their water and wastewater systems.
- regulated entities will be required to prepare Business Plans for their water and wastewater services. The Business Plan must contain a governance model, financial model, accountability model, inventory and management plan for infrastructure, assessment of full cost of providing the service and revenue obtained to provide the service and a description as to how the regulated entity intends to pay the full cost of providing the service.
- the Business Plan shall also specify that full metering of customers will be used as a source of revenue subject to any prescribed exceptions.

- regulated entities providing water and wastewater services to the public shall establish and maintain a corporation under the *Business Corporations Act*. The regulated entity shall be the sole shareholder of the corporation.
- regulated entities shall not increase charges for water and wastewater services beyond prescribed amounts unless approved by the Water Board.

1.7 Forecast Growth and Servicing Requirements

The Municipality currently services 9,244 water customers. Information on existing number of customers and existing billable water volumes was obtained from the Municipality.

For forecasting future water volumes, the average annual volume per residential customer of 350 m³ has been assumed for new water customers. Further, for forecasting future water volumes for new greenhouses, an average annual volume of 3,485 m³ per acre has been assumed.

For future water customers whom are to be added to the system, the growth forecast as outlined in the Municipality's current Development Charge Background Study was reviewed and modified by staff to reflect current economic conditions.

Table 1-1 provides for the forecast of water users and volumes.

Table 1-1
Municipality of Leamington
Water and Sewer System User Forecast

Water Users Forecast		2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Year	Total Users										
2010	35	18	35	35	35	35	35	35	35	35	35
2011	35	18	35	35	35	35	35	35	35	35	35
2012	35	18	35	35	35	35	35	35	35	35	35
2013	59		18	30	30	59	59	59	59	59	59
2014	59					30	59	59	59	59	59
2015	59						30	59	59	59	59
2016	115							58	115	115	115
2017	115								58	115	115
2018	115									58	115
2019	115										58
Total	742	18	53	88	135	194	253	340	455	570	685
m ³ /user	350	350	350	350	350	350	350	350	350	350	350
Annual Flow	6,300	18,550	30,800	47,250	67,900	88,550	119,000	159,250	199,500	239,750	

Greenhouse Development		2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Year	acres										
2010	38	19	38	38	38	38	38	38	38	38	38
2011	10	5	10	10	10	10	10	10	10	10	10
2012	10		5	10	10	10	10	10	10	10	10
2013	10			5	5	10	10	10	10	10	10
2014	10					5	10	10	10	10	10
2015	10						5	10	10	10	10
2016	10							5	10	10	10
2017	10								5	10	10
2018	10									5	10
2019	10										5
Total	128	19	43	53	63	73	83	93	103	113	123
m ³ /acre	3,485	3,485	3,485	3,485	3,485	3,485	3,485	3,485	3,485	3,485	3,485
Annual Flow	66,207	149,767	184,613	219,459	254,305	289,150	323,996	358,842	393,688	428,533	

Water Customer Forecast		2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Year											
Existing	9,224	9,224	9,224	9,224	9,224	9,224	9,224	9,224	9,224	9,224	9,224
New - Growth	18	53	88	135	194	253	340	455	570	685	
Total	9,242	9,277	9,312	9,359	9,418	9,477	9,564	9,679	9,794	9,909	

Water Consumption Forecast (m ³)		2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Year											
Existing Residential & Small Non-Residential	2,644,502	2,644,502	2,644,502	2,644,502	2,644,502	2,644,502	2,644,502	2,644,502	2,644,502	2,644,502	2,644,502
Existing Large Non-Residential	354,454	354,454	354,454	354,454	354,454	354,454	354,454	354,454	354,454	354,454	354,454
Existing Greenhouse Regulated	1,160,033	1,160,033	1,160,033	1,160,033	1,160,033	1,160,033	1,160,033	1,160,033	1,160,033	1,160,033	1,160,033
Existing Greenhouse Unregulated	2,267,909	2,267,909	2,267,909	2,267,909	2,267,909	2,267,909	2,267,909	2,267,909	2,267,909	2,267,909	2,267,909
Existing Greenhouse Unregulated (Over 3 acres)	0	0	0	0	0	0	0	0	0	0	0
New Residential	6,300	18,550	30,800	47,250	67,900	88,550	119,000	159,250	199,500	239,750	
New Greenhouse Regulated	66,207	149,767	184,613	219,459	254,305	289,150	323,996	358,842	393,688	428,533	
Total Excluding Heinz	6,499,405	6,595,215	6,642,311	6,693,607	6,749,103	6,804,598	6,869,894	6,944,990	7,020,086	7,095,181	
Existing Heinz	1,744,740	1,744,740	1,744,740	1,744,740	1,744,740	1,744,740	1,744,740	1,744,740	1,744,740	1,744,740	1,744,740
Total Including Heinz	8,244,145	8,339,955	8,387,051	8,438,347	8,493,842	8,549,338	8,614,634	8,689,730	8,764,825	8,839,921	

2. CAPITAL INFRASTRUCTURE NEEDS

2. CAPITAL INFRASTRUCTURE NEEDS

2.1 Capital Forecast

A Capital forecasts has been provided for the water systems and is presented on Table 2-1 (Note: the costs are in inflated dollars). The basis for these forecasts is the Municipality's five Year Capital Forecast, along with the development charge background study and a lifecycle analysis for replacement of existing infrastructure. The largest capital costs are for the works related to repairs/replacements and extensions of watermains. A summary of the 10 year forecast is provided below:

**Water Capital Forecast
2010-2019
(Inflated \$)**

Project	Total Cost
Watermain Repairs/Replacements/Extensions	\$13,706,000
Water Meter Replacement Program	1,147,000
Growth Related Projects	710,000
Water Hydrants Replacements	547,000
Water Valves Replacements	946,000
Water Connections Replacements	5,196,000
Total Capital Expenditures	\$22,252,000

Table 2-1
Municipality of Leamington
Water Service
Capital Budget Forecast
Inflated \$

Description	Budget 2009	Total (2010 - 2019)	Forecast														
			2010	2011	2012	2013	2014	2015	2016	2017	2018	2019					
County Rd 20 water main Replacement	7,360	280,000	280,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Armstrong (Oak St W/7 Talbot St W. incl Johnson/Grace)	-	230,000	230,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hickson Rd	100,369	6,000	6,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Victoria/Orange/Princess/Mill St E	328,031	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Queen St from John St to Clark St	6,126	165,000	165,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Selkirk from Queen to Baird St	3,497	115,000	115,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Clark St from Erie to Elliott St	6,095	195,000	195,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mersea Rd 7 / Kent Rd 1	3,785	255,000	255,000	-	255,000	-	-	-	-	-	-	-	-	-	-	-	-
Oak W - Sherk to Fraser	592	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phase II Wartime Area water main Replacement	8,300	-	-	100,000	102,000	104,000	106,000	108,000	110,000	113,000	115,000	117,000	120,000	-	-	-	-
Unforeseen Projects	-	1,095,000	1,095,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Forest - Seaciff Dr W to Park St	-	270,000	270,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Erie St S from Seaciff To Park St	-	35,000	35,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hydro-Vac complete with Valve Turner	-	70,000	70,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Russell St - Erie to Fox then N towards Talbot	-	97,000	97,000	-	82,000	-	-	-	-	-	-	-	-	-	-	-	-
Grace Ave from Johnson to Kimball	-	116,000	116,000	-	92,000	-	-	-	-	-	-	-	-	-	-	-	-
Fuller Ave from Talbot St to Grace Ave	-	44,000	44,000	-	36,000	-	-	-	-	-	-	-	-	-	-	-	-
Westmoreland-Oak St to Talbot St (Eng)	-	28,000	28,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Noble from Oak St to Talbot St (Eng)	-	24,000	24,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Churchill - Oak to talbot St (Eng)	-	26,000	26,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Erie St Askew to Oak St	-	179,000	179,000	-	179,000	-	-	-	-	-	-	-	-	-	-	-	-
Erie / Oak St Intersection	-	82,000	82,000	-	82,000	-	-	-	-	-	-	-	-	-	-	-	-
Marlborough St W. from Erie to Chestnut	-	115,000	115,000	-	-	25,000	90,000	-	-	-	-	-	-	-	-	-	-
Chestnut from Marlborough to Russell	-	16,000	16,000	-	-	16,000	-	-	-	-	-	-	-	-	-	-	-
Fox St from Marlborough St to Russell St	-	17,000	17,000	-	-	17,000	-	-	-	-	-	-	-	-	-	-	-
Henry/Lorne/Gladstone/	-	286,000	286,000	-	-	286,000	-	-	-	-	-	-	-	-	-	-	-
Wilkinson Dr from Csorgo to Hodgins	-	318,000	318,000	-	-	-	318,000	-	-	-	-	-	-	-	-	-	-
Gold Coast Ave	-	97,000	97,000	-	-	-	-	97,000	-	-	-	-	-	-	-	-	-
Ontario St from Oak St E. to Robinson St	-	103,000	103,000	-	-	-	-	103,000	-	-	-	-	-	-	-	-	-
Princess St from Oak St E. to Robinson St	-	103,000	103,000	-	-	-	-	103,000	-	-	-	-	-	-	-	-	-
Melrose from Erie St to Sherk St	-	271,000	271,000	-	-	-	-	271,000	-	-	-	-	-	-	-	-	-
Water Meter Replacement Program	-	924,000	924,000	-	-	780,000	144,000	-	-	-	-	-	-	-	-	-	-
Growth Related Projects	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ESAR from Talbot to Oak St Contract B	440,594	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Talbot St E. from Zehrs to ESA Contract A	50,000	25,000	25,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ESAR extension from Oak St to Seaciff Dr.	-	685,000	685,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trunk Watermain Works - Phase 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trunk Watermain Works - Phase 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lifecycle Program	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Water Hydrants	-	547,000	547,000	-	56,000	57,000	58,000	60,000	61,000	62,000	63,000	64,000	66,000	-	-	-	-
Water Meters	-	223,000	223,000	-	23,000	23,000	24,000	24,000	25,000	25,000	26,000	26,000	27,000	-	-	-	-
Water Valves	-	946,000	946,000	-	97,000	99,000	101,000	103,000	105,000	107,000	109,000	111,000	114,000	-	-	-	-
Watermains	-	9,068,000	9,068,000	-	930,000	948,000	967,000	987,000	1,006,000	1,026,000	1,047,000	1,068,000	1,089,000	-	-	-	-
Water Connections	-	5,196,000	5,196,000	-	533,000	543,000	554,000	565,000	577,000	588,000	600,000	612,000	624,000	-	-	-	-
Total Capital Expenditures	954,748	22,252,000	2,301,000	2,467,000	2,898,000	2,898,000	2,362,000	2,421,000	1,884,000	1,921,000	1,960,000	1,998,000	2,040,000	-	-	-	-

3. LIFE CYCLE COSTING

3. LIFE CYCLE COSTING

3.1 Overview of Life Cycle Costing

3.1.1 *Definition*

For many years, life cycle costing has been used in the field of maintenance engineering and to evaluate the advantages of using alternative materials in construction or production design. The method has gained wider acceptance and use in the areas of industrial decision-making and the management of physical assets.

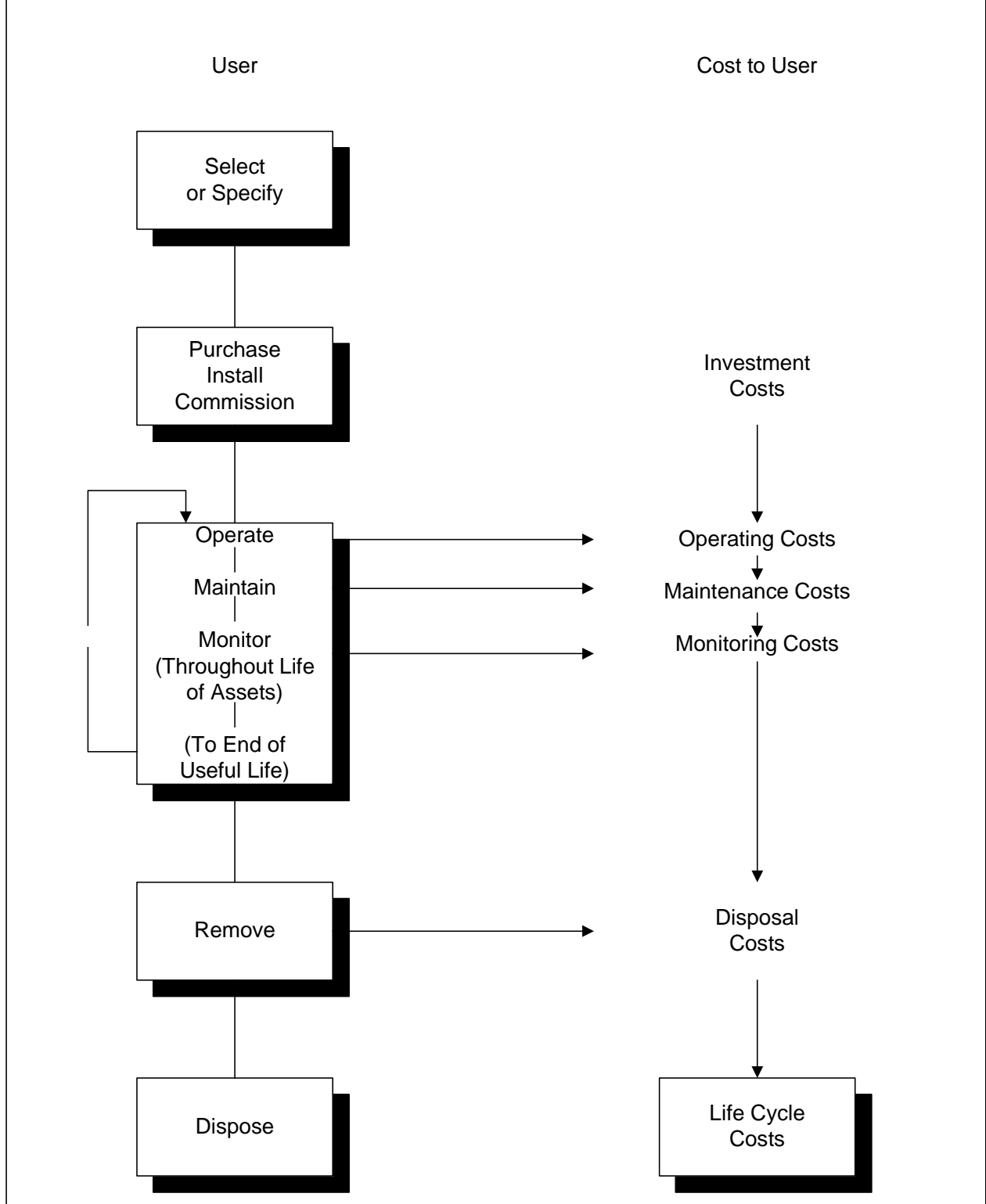
By definition, life cycle costs are all the costs which are incurred during the life cycle of a physical asset, from the time its acquisition is first considered, to the time it is taken out of service for disposal or redeployment. The stages which the asset goes through in its life cycle are specification, design, manufacture (or build), install, commission, operate, maintain and disposal. Figure 3-1 depicts these stages in a schematic form.

3.1.2 *Financing Costs*

This section will focus on financing mechanisms in place to fund the costs incurred throughout the asset's life.

In a municipal context, services are provided to benefit tax/rate payers. Acquisition of assets is normally timed in relation to direct needs within the community. At times, economies of scale or technical efficiencies will lead to oversizing an asset to accommodate future growth within the Municipality. Over the past few decades, new financing techniques such as development charges have been employed based on the underlying principle of having tax/rate payers who benefit directly from the service paying for that service. Operating costs which reflect the cost of the service for that year are charged directly to all existing tax/rate payers who have received the benefit. Operating costs are normally charged through the tax base or user rates.

**Figure 3-1
Life Cycle Costing**



Capital expenditures are recouped through several methods; operating budget contributions, development charges, reserves, developer contributions and debentures, being the most common.

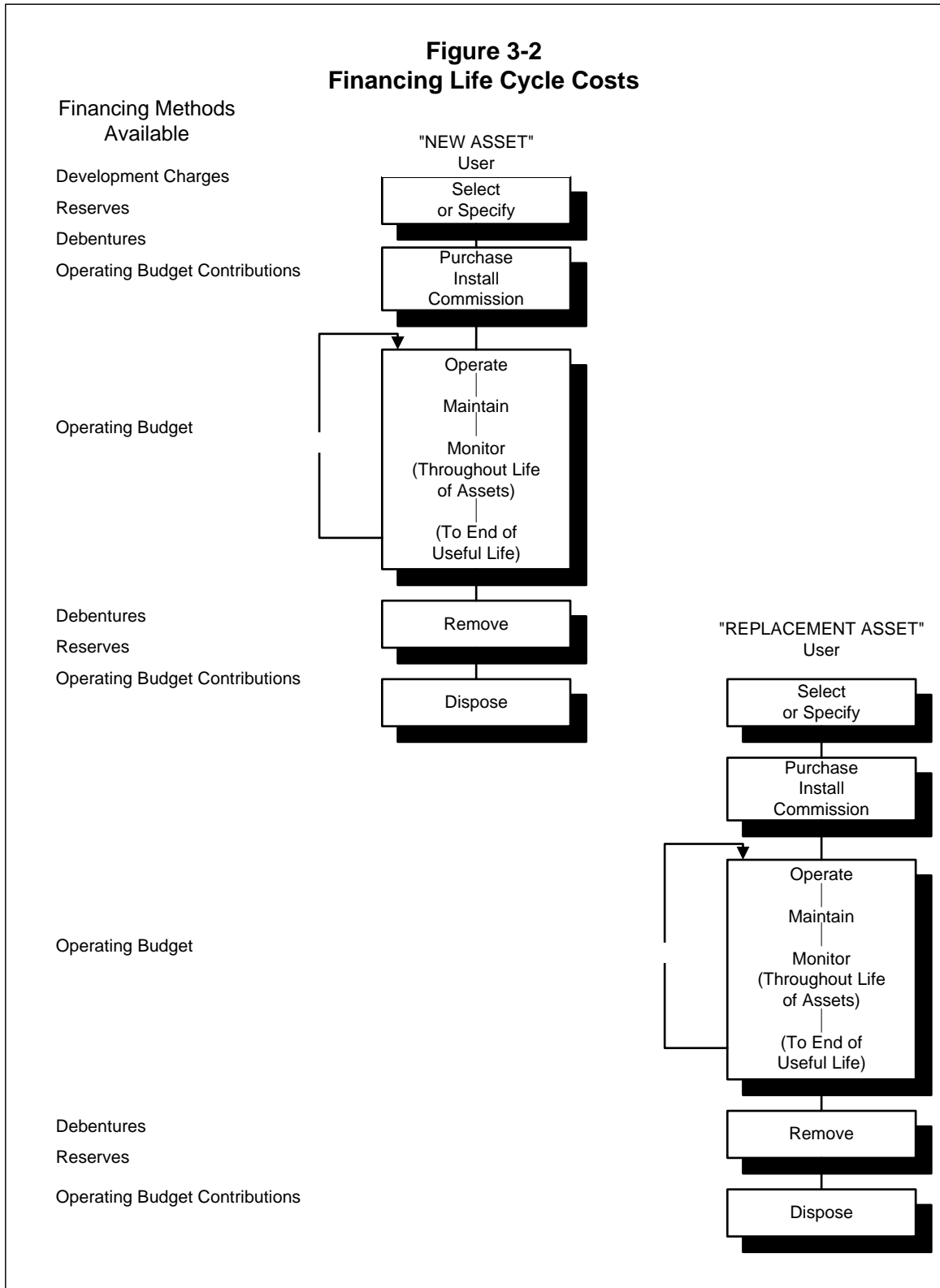
New construction related to growth could produce development charges and developer contributions (e.g. works internal to a subdivision which are the responsibility of the developer to construct) to fund a significant portion of projects, where new assets are being acquired to allow growth within the municipality to continue. As well, debentures could be used to fund such works, with the debt charge carrying costs recouped from taxpayers in the future.

However, capital construction to replace existing infrastructure is largely not growth-related and will therefore not yield development charges or developer contributions to assist in financing these works. Hence, a municipality will be dependent upon debentures, reserves and contributions from the operating budget to fund these works.

Figure 3-2 depicts the costs of an asset from its initial conception through to replacement and then continues to follow the associated costs through to the next replacement.

As referred to earlier, growth-related financing methods such as development charges and developer contributions could be utilized to finance the growth-related component of the new asset. These revenues are collected (indirectly) from the new homeowner who benefits directly from the installation of this asset. Other financing methods may be used as well to finance the non-growth related component of this project; reserves which have been collected from past tax/rate payers, operating budget contributions which are collected from existing tax/rate payers and debenturing which will be carried by future tax/rate payers. Ongoing costs for monitoring, operating and maintaining the asset will be charged annually to the existing tax/rate payer.

When the asset requires replacement, the sources of financing will be limited to reserves, debentures and contributions from the operating budget. At this point, the question is raised; "If the cost of replacement is to be assessed against the tax/rate payer who benefits from the replacement of the asset, should the past tax/rate payer pay for this cost or should future rate payers assume this cost?" If the position is taken that the past user has used up the asset, hence he should pay for the cost of replacement, then a charge should be assessed annually, through the life of the asset to have funds available to replace it when the time comes. If the



position is taken that the future tax/rate payer should assume this cost, then debenturing and, possibly, a contribution from the operating budget should be used to fund this work.

Charging for the cost of using up of an asset is the fundamental concept behind depreciation methods utilized by the private sector. This concept allows for expending the asset as it is used up in the production process. The tracking of these costs forms part of the product's selling price and hence end users are charged for the asset's depreciation. The same concept can be applied in a municipal setting to charge existing users for the asset's use and set those funds aside in a reserve to finance the cost of replacing the asset in the future.

3.1.3 Costing Methods

There are two fundamental methods of calculating the cost of the usage of an asset and for the provision of the revenue required when the time comes to retire and replace it. The first method is the Depreciation Method. This method recognizes the reduction in the value of the asset through wear and tear, and aging. There are two commonly used forms of depreciation: the straight-line method and the reducing balance method.

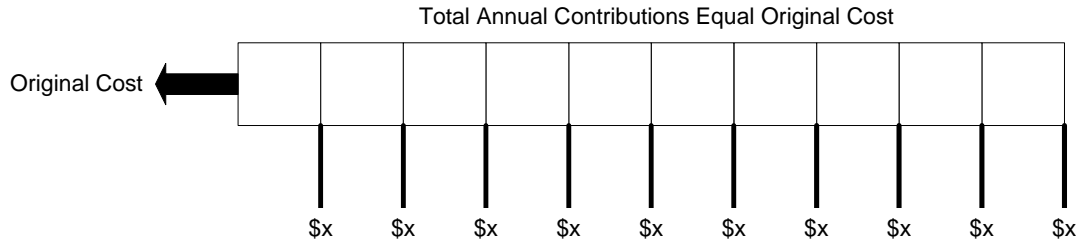
The straight line method is calculated by taking the original cost of the asset, subtracting its estimated salvage value (estimated value of the asset at the time it is disposed of) and dividing this by the estimated number of years of useful life. The reducing balance method is calculated by utilizing a fixed percentage rate and this rate is applied annually to the undepreciated balance of the asset value.

The second method of life cycle costing is the sinking fund method. This method first estimates the future value of the asset at the time of replacement. This is done by inflating the original cost of the asset at an assumed annual inflation rate. A calculation is then performed to determine annual contributions (equal or otherwise) which, when invested, will grow with interest to equal the future replacement cost.

The preferred method used herein for forecasting purposes is the sinking fund method of life cycle costing. It is noted that, within the O. Reg 453/07 report, depreciation of the municipal assets will be undertaken as a requirement of reporting on a full accrual basis.

FIGURE 3-3

STRAIGHT LINE DEPRECIATION

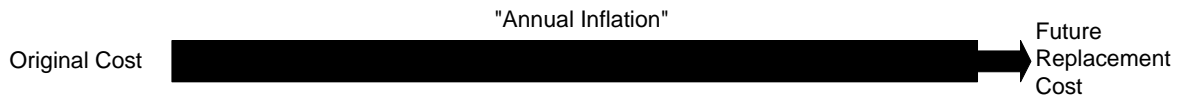


Formula:

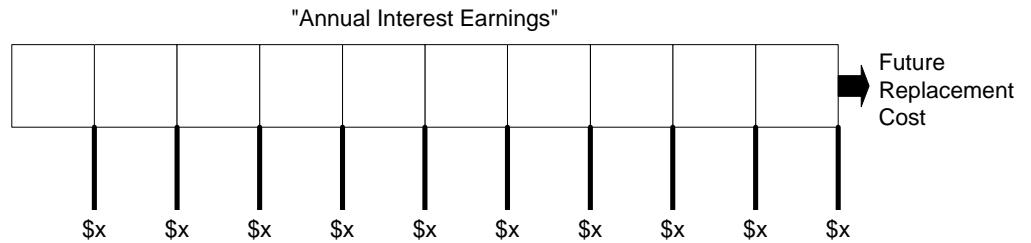
$$\frac{\text{Original Cost} - \text{Salvage Cost}}{\text{Number of Years of Useful Life}}$$

SINKING FUND METHOD

1. "Estimate Future Replacement Cost"



2. "Estimate Annual Contribution which will Grow with Interest to Equal Future Replacement Cost"



3.2 Impact on Budgets

Detailed water systems inventory information was obtained from the Municipality. The age of the water system dates back to the 1930's.

The detailed watermain inventory is provided in Appendix B. As well, the lifecycle "sinking fund" contribution amounts for section of infrastructure have also been included. These calculations determine the level of investment the Municipality may wish to consider as part of its budgeting practices. This information is summarized in Table 3-1.

It is noted that the inventory of the complete water systems will be required to be assessed and reported on by a professional engineer as part of the documentation required under *Sustainable Water and Sewage Systems Act*. The detailed specifics of the required assessment and reporting will not be known until the Province has set these standards by regulation to be enacted under the Sustainable Water and Sewage Systems Act. With respect to lifecycle costing the following information was taken under consideration:

- approximate age;
- material type;
- main lengths;
- diameter of the mains;
- estimated useful life; and
- estimated replacement costs.

Table 3-1
Summary of Water Infrastructure

Area	Total Replacement Value (2010\$)	Amount to be funded in 10 year forecast	Net Replacement Value	Annual Lifecycle Replacement
Water				
Water Facilities and Inventory	1,399,160	732,031	667,129	25,020
Water Hydrants	4,230,000	495,000	3,735,000	124,672
Water Meters	1,972,276	1,087,853	884,423	62,631
Water Valves	4,464,198	855,300	3,608,898	124,742
Watermains	96,903,183	11,399,374	85,503,809	2,237,965
Water Connections	16,496,049	4,701,139	11,794,910	492,247
Total Water	107,569,657	13,837,527	93,732,130	2,550,010

4. CAPITAL COST FINANCING OPTIONS

4. CAPITAL COST FINANCING OPTIONS

4.1 Summary of Capital Cost Financing Alternatives

Historically, the powers that municipalities have had to raise alternative revenues to taxation to fund capital services have been restrictive. Over the past few years, legislative reforms have been introduced. Some of these have expanded municipal powers (e.g. Bill 26 introduced in 1996 to provide for expanded powers for imposing fees and charges), while others appear to restrict them (Bill 98 in 1997 providing amendments to the *Development Charges Act*).

The Province passed a new *Municipal Act* which came into force on January 1, 2003. Part XII of the Act and O.Reg. 584/06, govern a municipality's ability to impose fees and charges. In contrast to the previous Municipal Act, this Act provides municipalities with broadly defined powers and does not differentiate between fees for operating and capital purposes. It is anticipated that the powers to recover capital costs under the previous Municipal Act will continue within the new Statutes and Regulations, as indicated by s.9(2) and s.452 of the new Municipal Act.

Under s.484 of Municipal Act, 2001, the Local Improvement Act was repealed with the in force date of the Municipal Act (January 1, 2003). The municipal powers granted under the Local Improvement Act now fall under the jurisdiction of the Municipal Act. To this end, on December 20, 2002, O.Reg. 390/02 was filed, which allows for the Local Improvement Act to be deemed to remain in force until April 1, 2003.

The methods of capital cost recovery available to municipalities are provided as follows:

RECOVERY METHODS	SECTION REFERENCE
<ul style="list-style-type: none"> • <i>Development Charges Act, 1997</i> 	4.2
<ul style="list-style-type: none"> • <i>Municipal Act</i> <ul style="list-style-type: none"> • Fees and Charges • Sewer and Water Area Charges • Connection Fees • Local Improvements 	4.3

4.2 **Development Charges Act, 1997**

In November, 1996, the Ontario Government introduced Bill 98, a new *Development Charges Act*. The Province's stated intentions were to "create new construction jobs and make home ownership more affordable" by reducing the charges and to "make municipal Council decisions more accountable and more cost effective." The basis for this Act is to allow municipalities to recover the growth-related capital cost of infrastructure necessary to accommodate new growth within the municipality. Generally the new Act provided the following changes to the former Act.

- Replace those sections of the 1989 DCA which govern municipal development charges. (Education development charges are not to be significantly altered at this time.)
- Limit services which can be financed from development charges, specifically excluding parkland acquisition, administration buildings, and cultural, entertainment, tourism, solid waste management and hospital facilities.
- Ensure that the level of service used in the calculation of capital costs will not exceed the average level of service over the previous decade. Level of service is to be measured from both a quality and quantity perspective.
- Provide that uncommitted excess capacity available in existing municipal facilities and benefits to existing residents are removed from the calculation of the charge.
- Ensure that the development charge revenues collected by municipalities are spent only on those capital costs identified in the calculation of the development charge.
- Require municipalities to contribute funds (e.g. taxes, user charges or other non-development charge revenues) to the financing of certain projects primarily funded from development charges. The municipal contribution is 10 percent for services such as recreation, parkland development, libraries, etc.
- Permit (but apparently not require) municipalities to grant developers credits for the direct provision of services identified in the development charge calculation and, when credits are granted, require the municipality to reimburse the developer for the costs the

municipality would have incurred if the project had been financed from the development charge reserve fund.

- Set out provisions for front-end financing capital projects (limited to essential services) required to service new development.
- Set out provisions for appeals and complaints, and transitional rules, including that municipalities will have up to 18 months from the date of proclamation of the new Act to establish new development charge by-laws, otherwise the old by-laws will expire.

The Municipality presently imposes development charges for water services for both residential and non-residential growth as well as greenhouse growth. It is noted that the development charge rate for greenhouses is discounted and that this amount is required to be funded from the water rates.

4.3 Municipal Act

4.3.1 Part XII of the Municipal Act provides municipalities with broad powers to impose fees and charges via passage of a by-law. These powers, as presented in s.391(1), include imposing fees or charges:

- “for services or activities provided or done by or on behalf of it;
- for costs payable by it for services or activities provided or done by or on behalf of any other municipality or local board; and
- for the use of its property including property under its control”

Restrictions are provided to ensure that the form of the charge is not akin to a poll tax. Any charges not paid under this authority may be added to the tax roll and collected in a like manner. The fees and charges imposed under this part are not appealable to the OMB.

4.3.2 s.221 of the previous Municipal Act, permitted municipalities to impose charges, by by-law, on owners or occupants of land who would or might derive benefit from the construction of sewage (storm and sanitary) or water works being authorized (in a Specific Benefit Area). For a by-law imposed under this section of the previous Act:

- A variety of different means could be used to establish the rate and recovery of the costs could be imposed by a number of methods at the discretion of Council (i.e. lot size, frontage, number of benefiting properties, etc.);
- Rates could be imposed in respect to costs of major capital works, even though an immediate benefit was not enjoyed;
- Non-abutting owners could be charged;
- Recovery was authorized against existing works, where a new water or sewer main was added to such works, "notwithstanding that the capital costs of existing works has in whole or in part been paid."
- Charges on individual parcels could be deferred;
- Exemptions could be established;
- Repayment was secured; and
- OMB approval was not required.

While under the new Municipal Act no provisions are provided specific to the previous s.221, the intent to allow capital cost recovery through fees and charges is embraced within s.391. The new Municipal Act also maintains the ability of municipalities to impose capital charges for water and sewer services on landowners not receiving an immediate benefit from the works. Under s.391(2) of the Act, "a fee or charge imposed under subsection (1) for capital costs related to sewage or water services or activities may be imposed on persons not receiving an immediate benefit from the services or activities but who will receive a benefit at some later point in time." Also, capital charges imposed under s.391 are not appealable to the OMB on the grounds that the charges are "unfair or unjust."

4.3.3 s.222 of the previous Municipal Act permitted municipalities to pass a by-law requiring buildings to connect to the municipality's sewer and water systems, charging the owner for the cost of constructing services from the mains to the property line. Under the new Municipal Act, this power still exists under Part II, General Municipal Powers (s.9 (3) b of the Municipal Act). Enforcement and penalties for this use of power are contained in s.427 (1) of the Municipal Act.

4.3.4 Under the previous *Local Improvement Act*:

- A variety of different types of works could be undertaken, such as watermain, storm and sanitary sewer projects, supply of electrical light or power, bridge construction, sidewalks, road widening and paving.
- Council could pass a by-law for undertaking such work on petition of a majority of benefiting taxpayers, on a 2/3 vote of Council and on sanitary grounds, based on the recommendation of the Minister of Health. The by-law was required to go to the OMB, which might hold hearings and alter the by-law, particularly if there were objections.
- The entire cost of a work was assessed only upon the lots abutting directly on the work, according to the extent of their respective frontages, using an equal special rate per metre of frontage.
- As noted, this Act was repealed as of April 1, 2003; however, O.Reg. 119/03 was enacted on April 19, 2003 which restores many of the previous *Local Improvement Act* provisions; however, the authority is now provided under the *Municipal Act*.

4.4 Grant Funding Availability

Since the early 1980's, the level of Provincial and Federal assistance toward municipal infrastructure has declined significantly. By the mid 1990's, there were very limited funds available from senior levels of government. In mid-2000, initiatives from the Provincial and Federal level were announced; providing for a new program (OSTAR) to assist small cities, towns and rural areas in addressing infrastructure improvements. In November 2004, another program (COMRIF) was introduced which also provided combined assistance from the senior governments until early 2007. Subsequently Federal and Provincial Funding have been made available under the Build Canada Fund and Stimulus Fund Programs. Under the specific requirements of these recent programs, the projects must be "shovel ready" and are allocated on a case by case basis.

4.5 Existing Reserves/Reserve Funds

The Municipality has established reserves and reserve funds for water costs. The following table summarizes the water reserves utilized in this analysis and the respective 2009 year-end closing balances.

Municipality of Leamington
Water Reserve Fund Summary

Reserve/Reserve Fund	Balance at Dec. 31/09
Water	
Wheatley Watermains Capital Reserve	125,725.00
Water Meter Replacement Reserve	60,000.00
Water System Capital Reserve	4,592,036.00
Development Charges Reserve Fund	1,570,008.00
Lifecycle Reserve Fund	-

4.6 Debenture Financing

Although it is not a direct method of minimizing the overall cost to the ratepayer, debentures are used by municipalities to assist in cash flowing large capital expenditures.

The Ministry of Municipal Affairs regulates the level of debt incurred by Ontario municipalities, through its powers established under the *Municipal Act*. Ontario Regulations 403/02 provides the current rules respecting municipal debt and financial obligations. Through the rules established under these regulations, a municipality's debt capacity is capped at a level where no more than 25% of the municipality's own purpose revenue may be allotted for servicing the debt (i.e. debt charges). Appendix A provides for Leamington's 2010 Annual Repayment Limit (under Ontario Regulation 403/02) – a letter from Municipal Affairs and Housing, dated January 4, 2010. As can be seen, in Appendix A, the Municipality's maximum borrowing levels are in the \$48 – \$55.7 million range. It should be noted, however, that the issuance of debt should be managed at levels sustainable by the Municipality. Issuance of large amounts of debt in any one year can have dramatic impacts on taxes and rates. Hence, proper management of capital spending and the level of debt issued annually must be monitored and evaluated over the longer-term period.

4.7 Infrastructure Renewal Bonds

Infrastructure Ontario (IO) is an arms length crown corporation, which has been set up as a tool to offer low-cost and longer-term financing to assist municipalities in renewing their infrastructure (this corporation has merged the former OSIFA into its operations) IO combines

the infrastructure renewal needs of municipalities into an infrastructure investment “pool”. IO will raise investment capital to finance loans to the public sector by selling a new investment product called Infrastructure Renewal Bonds to individual and institutional investors.

IO provides access to infrastructure capital that would not otherwise be available to smaller borrowers. Larger borrowers receive a longer term on their loans than they could obtain in the financial markets, and can also benefit from significant savings on transaction costs such as legal costs and underwriting commissions. Under the IO approach, all borrowers receive the same low interest rate. IO will enter into financial agreement with each municipality subject to technical and credit reviews, for a loan up to the maximum amount of the loan request.

The first round of the former OSIFA's 2004-05 infrastructure renewal program was focused on municipal priorities of clean water infrastructure, sewage treatment facilities, municipal roads and bridges, public transit and waste management infrastructure. The focus of the program was expanded in 2005/2006 somewhat to include:

- clean water infrastructure;
- sewage infrastructure;
- waste management infrastructure;
- municipal roads and bridges;
- public transit;
- municipal long-term care homes;
- renewal of municipal social housing and culture; and
- tourism and recreation infrastructure.

With the merging of OSIFA and IO, the program was broadened in late 2006 to also include municipal administrative buildings, local police and fire stations, emergency vehicles and equipment, ferries, docks and municipal airports.

It is noted that the interest rates will vary from time to time. The following interest rates were available to municipalities for the following term, based on a serial repayment schedule as of June 8, 2010:

Term	Serial
5 Year	2.85%
10 Year	3.78%
15 Year	4.23%
20 Year	4.49%
25 Year	4.65%
30 Year	4.75%
35 Year	4.80%
40 Year	4.84%

To be eligible to receive these loans, municipalities must submit a formal application along with pertinent financial information. Allotments are prioritized and distributed based upon the Province's assessment of need.

4.8 Recommended Approach

Of the various alternatives provided in this section, the following are recommended for further consideration of the Municipality of Leamington for the capital expenditures provided in Chapter 2:

Capital Financing	Total Cost (2010 - 2019)
Provincial/Federal Grants	-
Development Charges	710,000
Non-Growth Related Debenture Requirements	-
Growth Related Debenture Requirements	-
Operating Contributions	-
Transfer from Water Meter Replacement Reserve	1,147,000
Transfer from Water Reserve	20,395,000
Total Capital Financing	22,252,000

Table 4-1 provides for the full capital expenditure and funding program by year for water.

Table 4-1
Municipality of Leamington
Water Service
Capital Budget Forecast
Inflated \$

Description	Budget 2009	Total (2010 - 2019)	Forecast										
			2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	
County Rd 20 water main Replacement	7,360	280,000	280,000	-	-	-	-	-	-	-	-	-	-
Armstrong (Oak St W/Talbot St W. incl Johnson/Grace)	-	230,000	230,000	-	-	-	-	-	-	-	-	-	-
Hickson Rd	100,369	6,000	6,000	-	-	-	-	-	-	-	-	-	-
Victoria/Orange/Princess/Mill St E	328,031	-	-	-	-	-	-	-	-	-	-	-	-
Queen St from John St to Clark St	6,126	165,000	165,000	-	-	-	-	-	-	-	-	-	-
Selkirk from Queen to Baird St	3,497	115,000	115,000	-	-	-	-	-	-	-	-	-	-
Clark St from Erie to Elliott St	6,095	195,000	195,000	-	-	-	-	-	-	-	-	-	-
Mersea Rd 7 / Kent Rd 1	3,785	255,000	255,000	-	-	-	-	-	-	-	-	-	-
Oak W - Sherk to Fraser	592	-	-	-	-	-	-	-	-	-	-	-	-
Phase II Wartime Area water main Replacement	8,300	-	-	104,000	106,000	108,000	110,000	113,000	115,000	117,000	120,000	-	
Unforeseen Projects	-	1,095,000	100,000	102,000	104,000	106,000	108,000	110,000	113,000	115,000	117,000	120,000	
Forest - Seaciff Dr W to Park St	-	270,000	270,000	-	-	-	-	-	-	-	-	-	-
Erie St S from Seaciff To Park St	-	35,000	35,000	-	-	-	-	-	-	-	-	-	-
Hydro-Vac complete with Valve Turner	-	70,000	70,000	-	-	-	-	-	-	-	-	-	-
Russell St -Erie to Fox then N towards Talbot	-	97,000	15,000	82,000	-	-	-	-	-	-	-	-	-
Grace Ave from Johnson to Kimball	-	116,000	24,000	92,000	-	-	-	-	-	-	-	-	-
Fuller Ave from Talbot St to Grace Ave	-	44,000	8,000	36,000	-	-	-	-	-	-	-	-	-
Westmoreland-Oak St to Talbot St (Eng)	-	28,000	28,000	-	-	-	-	-	-	-	-	-	-
Noble from Oak St to Talbot St (Eng)	-	24,000	24,000	-	-	-	-	-	-	-	-	-	-
Churchill - Oak to talbot St (Eng)	-	26,000	26,000	-	-	-	-	-	-	-	-	-	-
Erie St Askew to Oak St	-	179,000	179,000	-	-	-	-	-	-	-	-	-	-
Erie / Oak St Intersection	-	82,000	82,000	-	-	-	-	-	-	-	-	-	-
Mariborough St W. from Erie to Chestnut	-	115,000	-	25,000	90,000	-	-	-	-	-	-	-	-
Chestnut from Marlborough to Russell	-	16,000	16,000	-	-	-	-	-	-	-	-	-	-
Fox St from Marlborough St to Russell St	-	17,000	17,000	-	-	-	-	-	-	-	-	-	-
Henry/Lorne/Gladstone/	-	286,000	286,000	-	-	-	-	-	-	-	-	-	-
Wilkinson Dr from Csorgo to Hodgins	-	318,000	318,000	-	-	-	-	-	-	-	-	-	-
Gold Coast Ave	-	97,000	97,000	-	-	-	-	97,000	-	-	-	-	-
Ontario St from Oak St E. to Robinson St	-	103,000	103,000	-	-	-	-	103,000	-	-	-	-	-
Princess St from Oak St E. to Robinson St	-	103,000	103,000	-	-	-	-	103,000	-	-	-	-	-
Melrose from Erie St to Sherk St	-	271,000	271,000	-	-	-	-	271,000	-	-	-	-	-
Water Meter Replacement Program	-	924,000	924,000	-	-	780,000	-	-	-	-	-	-	-
Growth Related Projects	-	-	-	-	-	-	-	-	-	-	-	-	-
ESAR from Talbot to Oak St Contract B	440,594	-	-	-	-	-	-	-	-	-	-	-	-
Talbot St E. from Zehrs to ESA Contract A	50,000	25,000	25,000	-	-	-	-	-	-	-	-	-	-
ESAR extension from Oak St to Seaciff Dr.	-	685,000	685,000	-	-	-	-	-	-	-	-	-	-
Trunk Watermain Works - Phase 3	-	-	-	-	-	-	-	-	-	-	-	-	-
Trunk Watermain Works - Phase 4	-	-	-	-	-	-	-	-	-	-	-	-	-
Lifecycle Program	-	-	-	-	-	-	-	-	-	-	-	-	-
Water Hydrants	-	547,000	547,000	56,000	57,000	58,000	58,000	60,000	61,000	62,000	63,000	66,000	
Water Meters	-	223,000	223,000	23,000	23,000	24,000	24,000	24,000	25,000	25,000	26,000	27,000	
Water Valves	-	946,000	946,000	97,000	99,000	101,000	101,000	103,000	105,000	107,000	109,000	114,000	
Watermains	-	9,068,000	9,068,000	930,000	948,000	967,000	967,000	987,000	1,006,000	1,026,000	1,047,000	1,089,000	
Water Connections	-	5,196,000	5,196,000	533,000	543,000	554,000	554,000	565,000	577,000	588,000	600,000	624,000	
Total Capital Expenditures	954,748	22,252,000	2,301,000	2,467,000	2,898,000	2,362,000	2,362,000	2,421,000	1,884,000	1,921,000	1,960,000	2,040,000	
Capital Financing	-	-	-	-	-	-	-	-	-	-	-	-	-
Provincial/Federal Grants	490,594	710,000	710,000	-	-	-	-	-	-	-	-	-	-
Development Charges	-	-	-	-	-	-	-	-	-	-	-	-	-
Non-Growth Related Debutentue Requirements	-	-	-	-	-	-	-	-	-	-	-	-	-
Growth Related Debutentue Requirements	-	-	-	-	-	-	-	-	-	-	-	-	-
Operating Contributions	-	-	-	-	-	-	-	-	-	-	-	-	-
Transfer from Water Meter Replacement Reserve	-	1,147,000	-	23,000	803,000	168,000	168,000	24,000	25,000	25,000	26,000	27,000	
Transfer from Water Reserve	464,154	20,395,000	1,591,000	2,444,000	2,095,000	2,194,000	2,194,000	2,397,000	1,859,000	1,896,000	1,934,000	2,013,000	
Total Capital Financing	954,748	22,252,000	2,301,000	2,467,000	2,898,000	2,362,000	2,362,000	2,421,000	1,884,000	1,921,000	1,960,000	2,040,000	

5. OVERVIEW OF EXPENDITURES AND REVENUES

5. OVERVIEW OF EXPENDITURES AND REVENUES

5.1 Water Operating Expenditures

In this report the forecasted budget figures (2010-2019) are based on the 2010 Operating Budget forecast. The costs for each component of the operating budget have been reviewed with staff to establish forecast inflationary adjustments. The table below summarizes these assumptions.

Item	Inflation	Other
Wages and Salaries	2%	
Benefits	2%	
Internal Allocations	2%	
Rents And Services	2%	
Purchased water		Based on Union Water Rates
Office Overhead	2%	
Office Equipment Maintenance	2%	
Building Maintenance	2%	
Other Rents And Services	2%	
Vehicle /Equipment Maintenance	2%	
Meter Maintenance	2%	
Hydrant Maintenance	2%	
Works/Purchases For Owner	2%	
Billing Costs	2%	
Special Events (Notices)	2%	
Health & Safety	2%	
Water Station Expense	2%	
Watermains And Services	2%	

For the annual operating expenditure relating to purchased water, the future expenditures are based on the forecasted consumption as outlined in Table 1-1. It has been assumed that the 2010 Union Water rates for residential, commercial and greenhouses will continue at the same level until 2015 and then begin to increase with inflation (2%) annually beginning in 2016. For Heinz, it is also assumed that the rate specific to Heinz consumption will stay constant until 2015 and every year thereafter will increase with inflation. Table 5-2 outlines the forecasted purchased water expenditures.

5.2 Water Operating Revenues

The Municipality has miscellaneous revenue sources to contribute towards operating expenditures. These have been held constant over the period. The revenue from Heinz has been calculated based on the projected Union Water rates and the Heinz Consumption forecast. Also, the revenue from Flat Rate, Hydrant Maintenance and Fireline Customers has been increased annually at the same rate as the volume rates for metered customers. Note that the largest revenue item relates to the consumption and base charges. This is discussed further in Chapter 6.

Table 5-1 provides for the operating budget for the water system.

Table 5-1
Municipality of Leamington
Water Services
Operating Budget Forecast
Inflated \$

Description	Budget 2009	Forecast																		
		2010	2011	2012	2013	2014	2015	2016	2017	2018	2019									
Revenues																				
Base Charge	1,710,020	1,553,672	1,827,656	1,871,210	1,917,368	1,967,393	2,017,923	2,075,778	2,141,323	2,207,862	2,277,773									
Water Meter Replacement Charge	-	521,500	340,615	348,604	357,101	367,263	376,387	387,875	400,669	412,481	426,837									
Provincial Grant	3,024	3,000																		
Rural waterline debt recovery	83,083	83,083	26,818	23,618	23,618	23,618	0	0	0	0	0									
Residential Flat Rate *	7,249	7,740	7,972	8,211	8,458	8,711	8,973	9,242	9,519	9,805	10,099									
Hydrant rental recovery	0	0	0	0	0	0	0	0	0	0	0									
Flat Rate Fireline *	1,410	1,548	1,594	1,642	1,692	1,742	1,795	1,848	1,904	1,961	2,020									
Private hydrant maintenance *	1,577	1,622	1,671	1,721	1,773	1,826	1,881	1,937	1,995	2,055	2,117									
Water connection fee	30,087	35,000	35,000	35,000	35,000	35,000	35,000	35,000	35,000	35,000	35,000									
Water buyin fee	52,500	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000									
Wheatley surcharge - Hwy 3	-	0	0	0	0	0	0	0	0	0	0									
Wheatley surcharge - Harbour	7,467	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200									
Heinz Volume Charge	478,422	507,836	487,412	487,412	487,412	487,412	487,412	497,160	507,104	517,246	527,591									
Investment Income	18,532	19,000	19,000	19,000	19,000	19,000	19,000	19,000	19,000	19,000	19,000									
Miscellaneous Revenue	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000									
Revenue - UWSS Funding from Trunk Main	385,957	353,324	353,324	353,324	353,324	353,324	353,324	0	0	0	0									
Contributions from Development Charges Reserve Fund	-	0	0	0	0	0	0	0	0	0	0									
Contributions from Reserves / Reserve Funds	157,218	342,036	342,036	342,036	342,036	342,036	342,036	342,036	342,036	342,036	342,036									
Total Operating Revenue	2,956,547	3,506,562	3,520,298	3,568,979	3,623,981	3,660,907	3,720,929	3,447,077	3,535,750	3,624,645	3,719,672									
Water Billing Recovery - Operating	4,887,497	4,804,819	4,948,963	5,097,432	5,250,356	5,407,866	5,470,102	5,537,205	5,409,321	5,286,601	5,169,199									
Lifecycle Reserve Contribution (\$)			0	0	0	0	100,000	200,000	500,000	800,000	1,100,000									
Water Billing Recovery - Total	4,887,497	4,804,819	4,948,963	5,097,432	5,250,356	5,407,866	5,570,102	5,737,205	5,909,321	6,086,601	6,269,199									

* Future years increase at same rate as volume rates

Table 5-2
Municipality of Leamington
Water Purchase Forecast (m3)

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Total Billable Volume	6,499,405	6,595,215	6,642,311	6,693,607	6,749,103	6,804,598	6,869,894	6,944,990	7,020,086	7,095,181
Add Allowance for Water Loss (@ 7%)	6,988,608	7,091,629	7,142,270	7,197,427	7,257,100	7,316,772	7,386,983	7,467,731	7,548,479	7,629,227
UW Water Rate	0.5411	0.5411	0.5411	0.5411	0.5411	0.5411	0.5519	0.5630	0.5742	0.5857
Sub-Total Purchased Water Expenditure	3,781,706	3,837,453	3,864,856	3,894,703	3,926,993	3,959,284	4,077,222	4,204,226	4,334,680	4,468,670
Total Billable Heinz Volume	1,744,740	1,744,740	1,744,740	1,744,740	1,744,740	1,744,740	1,744,740	1,744,740	1,744,740	1,744,740
UW Water Rate	0.2794	0.2794	0.2794	0.2794	0.2794	0.2794	0.2849	0.2906	0.2965	0.3024
Sub-Total Purchased Water Expenditure - Heinz	487,412	487,412	487,412	487,412	487,412	487,412	497,160	507,104	517,246	527,591
Total Purchased Water Expenditure	4,269,118	4,324,865	4,352,268	4,382,115	4,414,405	4,446,696	4,574,382	4,711,330	4,851,926	4,996,261

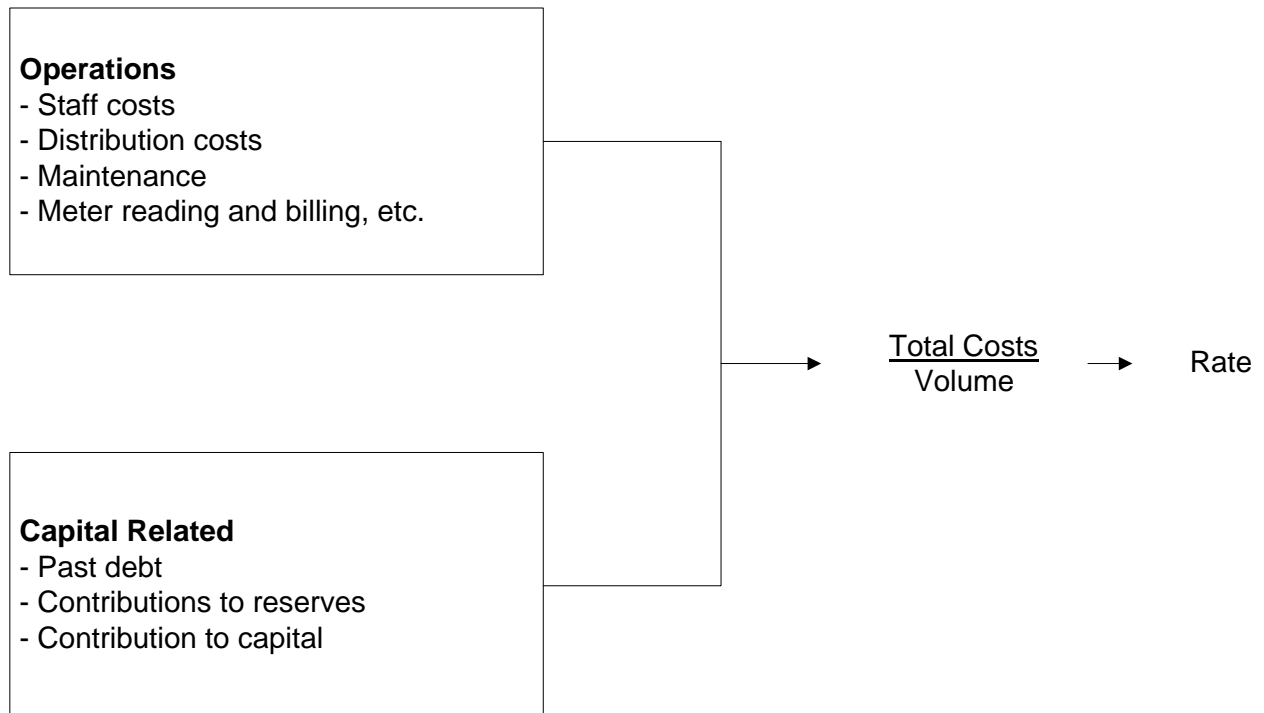
6. PRICING STRUCTURES

6. PRICING STRUCTURES

6.1 Introduction

Rates in their simplest form can be defined as total costs to maintain the utility function divided by the total expected volume to be generated for the period. Total costs are usually a combination of operating costs (e.g. staff costs, distribution costs, maintenance, administration, etc.) and capital-related costs (e.g. past debt to finance capital projects, transfers to reserves to finance future expenditures, etc.). The schematic below provides a simplified illustration of the rate calculation for water.

“ANNUAL COSTS”



These operating and capital expenditures will vary over time. Examples of factors which will affect the expenditures over time are provided below

Operations

- Inflation
- Increased maintenance as system ages
- Changes to Provincial legislation

Capital Related

- New capital will be built as areas expand
- Replacement capital needed as system ages
- Financing of capital costs are a function of policy regarding reserves and direct financing from rates (pay as you go), debt and user pay methods (development charges, *Municipal Act*)

6.2 Alternative Pricing Structures

Throughout Ontario, and as well, Canada, the use of pricing mechanisms varies between municipalities. The use of a particular form of pricing depends upon numerous factors, including Council preference, administrative structure, surplus/deficit system capacities, economic/demographic conditions, to name a few.

Municipalities within Ontario have two basic forms of collecting revenues for water purposes, those being through incorporation of the costs within the tax rate charged on property assessment and/or through the establishment of a specific water rate billed to the customer. Within the rate methods, there are four basic rate structures employed:

- Flat Rate
- Constant Rate
- Declining Block Rate
- Increasing (or Inverted) Block Rate.

The definitions and general application of the various methods are as follows:

Property Assessment: This method incorporates the total costs of providing water into the general requisition or the assessment base of the municipality. This form of collection is a "wealth tax", as payment increases directly with the value of property owned and bears no necessary relationship to actual consumption. This form is easy to administer as the costs to be recovered are incorporated in the calculation for all general services, normally collected through property taxes.

Flat Rate: This rate is a constant charge applicable to all customers served. The charge is calculated by dividing the total number of user households and other entities (e.g. businesses) into the costs to be recovered. This method does not recognize differences in actual consumption but provides for a uniform spreading of costs across all users. Some municipalities define users into different classes of similar consumption patterns, that is a commercial user, residential user and industrial user, and charge a flat rate by class. Each user is then billed on a periodic basis. No meters are required to facilitate this method, but an accurate estimate of the number of users is required. This method ensures set revenue for the collection period but is not sensitive to consumption, hence may cause a shortfall or surplus of revenues collected.

Constant Rate: This rate is a volume-based rate, in which the consumer pays the same price per unit consumed, regardless of the volume. The price per unit is calculated by dividing the total cost of the service by the total volume used by total consumers. The bill to the consumer climbs uniformly as the consumption increases. This form of rate requires the use of meters to record the volume consumed by each user. This method closely aligns the revenue recovery with consumption. Revenue collected varies directly with the consumption volume.

Declining Block Rates: This rate structure charges a successively lower price for set volumes, as consumption increases through a series of "blocks". That is to say that within set volume ranges, or blocks, the charge per unit is set at one rate. Within the next volume range the charge per unit decreases to lower rate, and so on. Typically, the first, or first and second blocks cover residential and light commercial uses. Subsequent blocks normally are used for heavier commercial and industrial uses. This rate structure

requires the use of meters to record the volume consumed by each type of user. This method requires the collection and analysis of consumption patterns by user classification to establish rates at a level which does not over or under collect revenue from rate payers.

Increasing or Inverted Block Rates: The increasing block rate works essentially the same way as the declining block rate, except that the price of water in successive blocks increases rather than declines. Under this method the consumer's bill rises faster with higher volumes used. This rate structure also requires the use of meters to record the volume consumed by each user. This method requires, as with the declining block structure, the collection and analysis of consumption patterns by user classification to establish rates at a level which does not over or under collect from rate payers.

6.3 Assessment of Alternative Pricing Structures

The adoption by a municipality or utility of any one particular pricing structure is normally a function of a variety of administrative, social, demographic and financial factors. The number of factors and the weighting each particular factor receives can vary between municipalities. The following is a review of some of the more prevalent factors:

Cost Recovery

Cost recovery is a prime factor in establishing a particular pricing structure. Costs can be loosely defined into different categories: operations; maintenance; capital; financing; administration. These costs often vary between municipalities and even within a municipality, based on consumption patterns, infrastructure age, economic growth, etc.

The pricing alternatives defined earlier can all achieve the cost recovery goal, but some do so more precisely than others. Fixed pricing structures, such as Property Assessment and Flat Rate, are established on the value of property or on the number of units present in the municipality, but do not adjust in accordance with consumption. Thus, if actual consumption for the year is greater than projected, the municipality incurs a higher cost of production, but the revenue base remains static (since it was determined at the beginning of the year), thus

potentially providing a funding shortfall. Conversely, if the consumption level declines below projections, fixed pricing structures will produce more revenue than actual costs incurred.

The other pricing methods (declining block, constant rate, increasing block) are consumption based and generally will generate revenues in proportion to actual consumption.

Administration

Administration is defined herein as the staffing, equipment and supplies required to support the undertaking of a particular pricing strategy. This factor not only addresses the physical tangible requirements to support the collection of the revenues, but also the intangible requirements, such as policy development.

The easiest pricing structure to support is the Property Assessment structure. As municipalities undertake the process of calculating property tax bills and the collection process for their general services, the incorporation of the water costs into this calculation would have virtually no impact on the administrative process and structure.

The Flat Rate pricing structure is relatively easy to administer as well. It is normally calculated to collect a set amount, either on a monthly, quarterly, semi annual or annual basis and is billed directly to the customer. The impact on administration centres mostly on the accounts receivable or billing area of the municipality, but normally requires minor additional staff or operating costs to undertake.

The three remaining methods, those being Increasing Block Rate, Constant Rate and Declining Block Rate, have a more dramatic effect on administration. These methods are dependent upon actual consumption and hence involve a major structure in place to administer. First, meters must be installed in all existing units in the municipality and units to be subsequently built must be required to include these meters. Second, meter readings must be undertaken periodically. Hence staff must be available for this purpose or a service contract must be negotiated. Third, the billings process must be expanded to accommodate this process. Billing must be done per a defined period, requiring staff to produce the bills. Lastly, either through increased staffing or by service contract, an annual maintenance program must be set up to ensure meters are working effectively in recording consumed volumes.

The benefit derived from the installation of meters is that information on consumption patterns becomes available. This information provides benefit to administration in calculating rates which will ensure revenue recovery. Additionally, when planning what services are to be constructed in future years, the municipality or utility has documented consumption patterns distinctive to its own situation, which can be used to project sizing of growth-related works.

Equity

Equity is always a consideration in the establishment of pricing structures but its definition can vary depending on a municipality's circumstances and based on the subjective interpretation of those involved. For example: is the price charged to a particular class of rate payer consistent with those of a similar class in surrounding municipalities; through the pricing structure does one class of rate payer pay more than another class; should one pay based on ability to pay, or on the basis that a unit of water costs the same to supply no matter who consumes it; etc. There are many interpretations. Equity therefore must be viewed broadly in light of many factors as part of achieving what is best for the municipality as a whole.

Conservation

In today's society, conservation of natural resources is increasingly being more highly valued. Controversy continuously focuses on the preservation of non-renewable resources and on the proper management of renewable resources. Conservation is also a concept which applies to a municipality facing physical limitations in the amount of water which can be supplied to an area. As well, financial constraints can encourage conservation in a municipality where the cost of providing each additional unit is increasing.

Pricing structures such as property assessment and flat rate do not, in themselves, encourage conservation. In fact, depending on the price which is charged, they may even encourage resource "squandering," either because consumers, without the price discipline, consume water at will, or the customer wants to get his money's worth and hence adopts more liberal consumption patterns. The fundamental reason for this is that the price paid for the service bears no direct relationship to the volume consumed and hence is viewed as a "tax," instead of being viewed as the price of a purchased commodity.

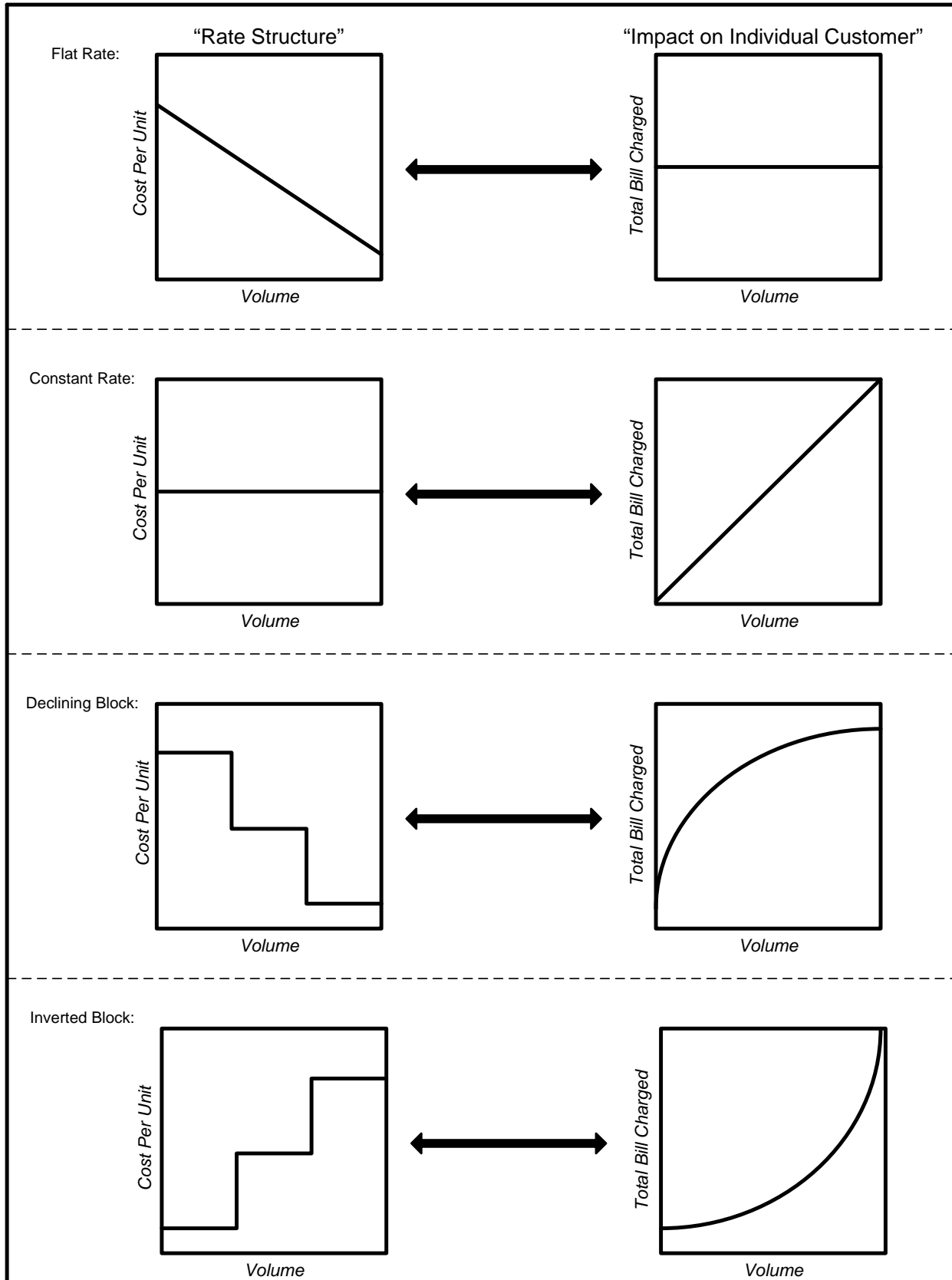
The Declining Block Rate provides a decreasing incentive towards conservation. By creating awareness of volumes consumed, the consumer can reduce his total costs by restricting consumption; however the incentive lessens as more water is consumed, because the marginal cost per unit declines as the consumer enters the next block pricing range. Similarly, those whose consumption level is at the top end of a block have reduced incentive to reduce consumption.

The Constant Rate structure presents the customer with a linear relationship between consumption and the cost thereof. As the consumer pays a fixed cost per unit, his bill will vary directly with the amount consumed. This method presents tangible incentive for consumers to conserve water. As metering provides direct feedback as to usage patterns and the consumer has direct control over the total amount paid for the commodity, the consumer is encouraged to use only those volumes that are reasonably required.

The Inverted Block method presents the most effective pricing method for encouraging conservation. Through this method, the price per unit consumed increases as total volumes consumed grow. The consumer becomes aware of consumption through metering with the charges increasing dramatically with usage. Hence, there normally is awareness that exercising control over usage can produce significant savings. This method not only encourages conservation methods, but may also penalize legitimate high volume users if not properly structured.

Figure 6-1 provides a schematic representation of the various rate structures (note property tax as a basis for revenue recovery has not been presented for comparison, as the proportion of taxes paid varies in direct proportion to the market value of the property). The graphs on the left-hand side of the figure present the cost per unit for each additional amount of water consumed. The right-hand side of the figure presents the impact on the customer's bill as the volume of water increases. The schematic is summarized below for each rate structure.

**FIGURE 6-1
WATER RATE PRICING CONCEPTS**



RATE STRUCTURE	COST PER UNIT AS VOLUME CONSUMPTION INCREASES	IMPACT ON CUSTOMER BILL AS VOLUME CONSUMPTION INCREASES
Flat Rate	Cost per unit decreases as more volume consumed	Bill remains the same no matter how much volume is consumed
Constant Rate	Cost per unit remains the same	Bill increases in direct proportion to consumption
Declining Block	Cost per unit decreases as threshold targets are achieved	Bill increases at a slower rate as volumes increase
Increasing (Inverted) Block	Cost per unit increases as threshold targets are achieved	Bill increases at a faster rate as volumes increase

6.4 Rate Structures in Ontario

In a recent survey of over 170 municipalities (approximately half of the municipalities who provide water and/or sewer), all forms of rate structures are in use by Ontario municipalities. The most common rate structure is the constant rate (for metered municipalities). Most municipalities (approximately 92%) who have volume rate structures also impose a base monthly charge.

Historically, the development of a base charge often reflected either the recovery of meter reading/billing/collection costs, plus administration or those costs plus certain fixed costs (such as capital contributions or reserve contributions). More recently, many municipalities have started to establish base charges based on ensuring a secure portion of the revenue stream which does not vary with volume consumption. Selection of the quantum of the base charge is a matter of policy selected by individual municipalities.

6.5 Recommended Rate Structures

The Municipality presently uses base rates and volume charges (which vary by type of user) for metered water customers and flat rates for customers that are not metered. The present rate structure is provided below:

Water Rates

Effective January 1, 2010

2010 Water Rates	Monthly
Base Charge	\$15.00
Water Meter Replacement Charge	\$3.00

Consumption Rates	per m³
Residential and Commercial (Meters less than or equal 1 inch)	\$0.6798
Regulated Greenhouse and Commercial (Meters greater than 1 inch)	\$0.7414
Unregulated Greenhouse and Field Drip Irrigation (Meters greater than 1 inch)	\$0.8074
Unregulated Greenhouse over 3 acres:	\$1.6148

Flat Rate Users	Monthly
Flat Rate Customers	\$43.00
Fireline Customers	\$43.00
Hydrant Maintenance Customers	\$67.59

As noted in Chapter 5 and for use in Chapter 7, Tables 6-1 provides for the calculation of the base charge revenue. The capital surcharge or base charge, has been adjusted annually for inflation and the flat rates have been increased at the same rate as the volume rates. The number of customers serviced annually is provided in Table 1-1.

Table 6-1
Municipality of Learnington
Base Charge

Water	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Residential and Non Residential Existing	9,223	9,223	9,223	9,223	9,223	9,223	9,223	9,223	9,223	9,223	9,223
Residential New	0	18	53	88	135	194	253	340	455	570	685
Subtotal Customers	9,223	9,241	9,276	9,311	9,358	9,417	9,476	9,563	9,678	9,793	9,908
Monthly Base Charge	\$15.00	\$15.00	\$15.30	\$15.61	\$15.92	\$16.24	\$16.56	\$16.89	\$17.23	\$17.57	\$17.93
Annual Base Charge	\$180.00	\$180.00	\$183.60	\$187.32	\$191.04	\$194.88	\$198.72	\$202.68	\$206.76	\$210.84	\$215.16
Heinz	\$162,408.00	\$122,139.44	\$124,582.22	\$127,073.87	\$129,615.35	\$132,207.65	\$134,851.81	\$137,548.84	\$140,299.82	\$143,056.82	\$145,967.93
Total Annual Revenue	\$1,822,548	\$1,785,519	\$1,827,656	\$1,871,210	\$1,917,368	\$1,967,393	\$2,017,923	\$2,075,778	\$2,141,323	\$2,207,862	\$2,277,773

Water Meter Replacement Charge

Water	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Residential and Non Residential Existing	9,224	9,224	9,223	9,223	9,223	9,223	9,223	9,223	9,223	9,223	9,223
Residential New	0	18	53	88	135	194	253	340	455	570	685
Subtotal Customers	9,224	9,242	9,276	9,311	9,358	9,417	9,476	9,563	9,678	9,793	9,908
Monthly Flat Rate	\$0.00	\$3.00	\$3.06	\$3.12	\$3.18	\$3.25	\$3.31	\$3.38	\$3.45	\$3.51	\$3.59
Annual Flat Rate	\$0.00	\$36.00	\$36.72	\$37.44	\$38.16	\$39.00	\$39.72	\$40.56	\$41.40	\$42.12	\$43.08
Total Annual Revenue	\$0	\$332,712	\$340,615	\$348,604	\$357,101	\$367,263	\$376,387	\$387,875	\$400,669	\$412,481	\$426,837

Water Flat Rate

Water	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Residential and Non Residential Existing	15	15	15	15	15	15	15	15	15	15	15
Residential New	0	0	0	0	0	0	0	0	0	0	0
Subtotal Customers	15	15	15	15	15	15	15	15	15	15	15
Monthly Flat Rate	\$40.00	\$43.00	\$44.29	\$45.62	\$46.99	\$48.40	\$49.85	\$51.34	\$52.88	\$54.47	\$56.11
Annual Flat Rate	\$480.00	\$516.00	\$531.48	\$547.42	\$563.85	\$580.76	\$598.19	\$616.13	\$634.61	\$653.65	\$673.26
Total Annual Revenue	\$7,200	\$7,740	\$7,972	\$8,211	\$8,458	\$8,711	\$8,973	\$9,242	\$9,519	\$9,805	\$10,099

Flat Rate is increasing at the same annual % as the volume rate

Hydrant Maintenance Rate

Water	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Users	2	2	2	2	2	2	2	2	2	2	2
Residential New	0	0	0	0	0	0	0	0	0	0	0
Subtotal Customers	2	2	2	2	2	2	2	2	2	2	2
Monthly Flat Rate	\$67.59	\$67.59	\$69.62	\$71.71	\$73.86	\$76.07	\$78.36	\$80.71	\$83.13	\$85.62	\$88.19
Annual Flat Rate	\$811.08	\$811.08	\$835.41	\$860.47	\$886.29	\$912.88	\$940.26	\$968.47	\$997.53	\$1,027.45	\$1,058.28
Total Annual Revenue	\$1,622	\$1,622	\$1,671	\$1,721	\$1,773	\$1,826	\$1,881	\$1,937	\$1,995	\$2,055	\$2,117

Hydrant Maintenance Rate is increasing at the same annual % as the volume rate

Fireline Rate

Water	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Users	3	3	3	3	3	3	3	3	3	3	3
Residential New	0	0	0	0	0	0	0	0	0	0	0
Subtotal Customers	3	3	3	3	3	3	3	3	3	3	3
Monthly Flat Rate	\$40.00	\$43.00	\$44.29	\$45.62	\$46.99	\$48.40	\$49.85	\$51.34	\$52.88	\$54.47	\$56.11
Annual Flat Rate	\$480.00	\$516.00	\$531.48	\$547.42	\$563.85	\$580.76	\$598.19	\$616.13	\$634.61	\$653.65	\$673.26
Total Annual Revenue	\$1,440	\$1,548	\$1,594	\$1,642	\$1,692	\$1,742	\$1,795	\$1,848	\$1,904	\$1,961	\$2,020

Fireline Rate is increasing at the same annual % as the volume rate

7. ANALYSIS OF WATER RATES AND POLICY MATTERS

7. ANALYSIS OF WATER RATES AND POLICY MATTERS

7.1 Introduction

To summarize the analysis undertaken thus far, Chapter 2 reviewed capital-related issues and responds to the provincial directives to maintain and upgrade infrastructure to required levels. Chapter 4 provided a review of capital financing options to which lifecycle reserve contributions will be the predominant basis for financing future capital replacement. Chapter 5 established the 10-year operating forecast of expenditures including an annual lifecycle capital replacement reserve contribution. Non-rate revenues (including base charge revenues) to assist in offsetting the charges for volumetric rates were also identified in Chapter 5. This chapter will provide for the calculation of the rates over the next 10-year period. These calculations will be based on the net operating expenditures provided in Chapter 5, divided by the water consumption forecast provided in Section 1.7.

7.2 Water Rates

Based on the discussion of rate structures provided in section 6.5 and the recommendation to continue with the present structures, the rates are calculated in Table 7-1. The Table takes the net recoverable amounts from Table 5-1 (the product of total expenditures plus lifecycle cost less the non-rate revenues) and completes the calculation by dividing by the weighted consumption into the net expenditures to calculate the volume rates.

Detailed calculations are provided in Appendix C. A summary of the recommended rates are as follows:

Description	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Base Charges:										
Monthly Base Charge	15.00	15.30	15.61	15.92	16.24	16.56	16.89	17.23	17.57	17.93
Monthly Meter Replacement Charge	3.00	3.06	3.12	3.18	3.25	3.31	3.38	3.45	3.51	3.59
Volume Rates:										
Residential and Small Non-Residential	0.6798	0.6901	0.7058	0.7216	0.7373	0.7534	0.7688	0.7837	0.7989	0.8145
Large Non-Residential	0.7414	0.7526	0.7698	0.7869	0.8041	0.8216	0.8385	0.8547	0.8713	0.8883
Regulated Greenhouse	0.7414	0.7526	0.7698	0.7869	0.8041	0.8216	0.8385	0.8547	0.8713	0.8883
Unregulated Greenhouse	0.8074	0.8196	0.8383	0.8570	0.8756	0.8948	0.9132	0.9308	0.9489	0.9674
Unregulated Greenhouse (Over 3 acres)	1.6148	1.6392	1.6766	1.7140	1.7513	1.7895	1.8263	1.8616	1.8977	1.9348
Monthly Flat Rates:										
Flat Rate Water	43.00	44.29	45.62	46.99	48.40	49.85	51.34	52.88	54.47	56.11
Hydrant Maintenance	67.59	69.62	71.71	73.86	76.07	78.36	80.71	83.13	85.62	88.19
Fireline	43.00	44.29	45.62	46.99	48.40	49.85	51.34	52.88	54.47	56.11

Table 7-1
Municipality of Learnington
Water Services
Water Rate Forecast
Inflated \$

Description	2009 Adopted	2010 Adopted	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Increasing Block Structure												
Consumption Forecast By Block (m3)												
Residential and Small Non-Residential			2,650,802	2,663,052	2,675,302	2,691,752	2,712,402	2,733,052	2,763,502	2,803,752	2,844,002	2,884,252
Large Non-Residential			354,454	354,454	354,454	354,454	354,454	354,454	354,454	354,454	354,454	354,454
Regulated Greenhouse			1,226,240	1,309,800	1,344,646	1,379,492	1,414,338	1,449,184	1,484,029	1,518,875	1,553,721	1,588,567
Unregulated Greenhouse			2,267,909	2,267,909	2,267,909	2,267,909	2,267,909	2,267,909	2,267,909	2,267,909	2,267,909	2,267,909
Unregulated Greenhouse (Over 3 acres)			0	0	0	0	0	0	0	0	0	0
Check Total Consumption	0		6,499,405	6,595,215	6,642,311	6,693,607	6,749,103	6,804,598	6,869,894	6,944,990	7,020,086	7,095,181
Weighted Consumption Forecast By Block (m3)												
Residential and Small Non-Residential			2,650,802	2,663,052	2,675,302	2,691,752	2,712,402	2,733,052	2,763,502	2,803,752	2,844,002	2,884,252
Large Non-Residential			386,573	386,573	386,573	386,573	386,573	386,573	386,573	386,573	386,573	386,573
Regulated Greenhouse			1,337,356	1,428,488	1,466,491	1,504,495	1,542,498	1,580,501	1,618,504	1,656,508	1,694,511	1,732,514
Unregulated Greenhouse			2,693,601	2,693,601	2,693,601	2,693,601	2,693,601	2,693,601	2,693,601	2,693,601	2,693,601	2,693,601
Unregulated Greenhouse (Over 3 acres)			0	0	0	0	0	0	0	0	0	0
Check Total Consumption	0		7,068,331	7,171,713	7,221,966	7,276,420	7,335,073	7,393,726	7,462,180	7,540,433	7,618,686	7,696,940
Rates (\$/m³)												
Residential and Small Non-Residential	0.6688	0.6798	0.6798	0.6901	0.7058	0.7216	0.7373	0.7534	0.7688	0.7837	0.7989	0.8145
Large Non-Residential	0.7304	0.7414	0.7414	0.7526	0.7698	0.7869	0.8041	0.8216	0.8385	0.8547	0.8713	0.8883
Regulated Greenhouse	0.7304	0.7414	0.7414	0.7526	0.7698	0.7869	0.8041	0.8216	0.8385	0.8547	0.8713	0.8883
Unregulated Greenhouse	0.7964	0.8074	0.8074	0.8196	0.8383	0.8570	0.8756	0.8948	0.9132	0.9308	0.9489	0.9674
Unregulated Greenhouse (Over 3 acres)	1.5928	1.6148	1.6147	1.6392	1.6766	1.7140	1.7513	1.7895	1.8263	1.8616	1.8977	1.9348
Check Revenue			1,801,928	1,837,684	1,888,290	1,942,254	1,999,749	2,058,959	2,124,684	2,197,257	2,272,085	2,349,238
Residential and Small Non-Residential			262,779	266,761	272,852	278,935	285,005	291,227	297,212	302,951	308,835	314,866
Large Non-Residential			909,091	985,752	1,035,084	1,085,579	1,137,224	1,190,679	1,244,367	1,298,180	1,353,752	1,411,142
Regulated Greenhouse			1,831,021	1,858,765	1,901,206	1,943,588	1,985,888	2,029,238	2,070,942	2,110,933	2,151,929	2,193,952
Unregulated Greenhouse			0	0	0	0	0	0	0	0	0	0
Unregulated Greenhouse (Over 3 acres)			0	0	0	0	0	0	0	0	0	0
Check Total Revenue	0		4,804,819	4,948,963	5,097,432	5,250,356	5,407,866	5,570,102	5,737,205	5,909,321	6,086,601	6,269,199
Annual Percentage Rate Increase		2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%

8. CONCLUSIONS AND OBSERVATIONS

8. CONCLUSIONS AND OBSERVATIONS

As presented within this report, capital and operating expenditures have been identified and forecasted over a ten-year period for water services. In addition, a long-term lifecycle plan has been provided consistent with the requirements of Regulation 453/07 and the principles provided in SWSSA.

The financial review provided herein presents the basis for meeting the legislative requirements for approval of the Municipality's licence to operate a water system. At this time no formal approval of the rates is required however the adoption of the O.Reg. 453/07 report (under separate cover) is mandatory. This analysis provides the foundation for the mandatory report. As the legislation considers this report "a living document" it will provide a basis for annual review during the Municipality's capital and operating budget process.

