



# Water and Wastewater Rate Study

## Township of Whitewater Region

December 17, 2019

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## List of Acronyms and Abbreviations

Acronym	Full Description of Acronym
A.M.O.	Association of Municipalities of Ontario
C.W.W.F.	Clean Water and Wastewater Fund
D.C.A.	Development Charges Act, 1997
F.I.R.	Financial Information Return
I.J.P.A.	Infrastructure for Jobs and Prosperity Act, 2015
I.O.	Infrastructure Ontario
LPAT	Local Planning Appeal Tribunal
M.O.E.C.P.	Ministry of Environment, Conservation, and Parks
O.C.I.F.	Ontario Community Infrastructure Fund
O.M.B.	Ontario Municipal Board
O.Reg.	Ontario Regulation
O.S.I.F.A.	Ontario Strategic Infrastructure Financing Authority
P.S.A.B.	Public Sector Accounting Board
P.T.I.F.	Public Transit Infrastructure Fund
S.W.S.S.A.	Sustainable Water and Sewage Systems Act, 2002



# Executive Summary



# Executive Summary

The Township of Whitewater Region retained Watson & Associates Economists Ltd. (Watson) to undertake a water and wastewater rate study. This study aims to provide an analysis of current capital and operating forecasts, costing for lifecycle cost requirements, current volumes and customer profiles. The results of this analysis provide updated water and wastewater flat rates and volume rates for customers within the Township of Whitewater Region (the Township). The rate analysis contained herein continues to provide fiscally responsible practices that are in-line with current Provincial legislation. This analysis includes rate increases that allow the Township to work towards saving the full lifecycle replacement amounts required for adequate asset management practices.

The analysis presented herein provides the following:

- The present rate structure for water is a separate flat rate for each settlement area; Beachburg, Cobden, and Haley. There is also a volume charge for metered properties in Cobden (only 3 properties currently);
- The present rate structure for wastewater is a flat rate in Cobden as well as a volume charge for metered properties (only 3 properties currently);
- Two options are presented in this report; the first is one is a consolidated flat rate for all areas. The second option is the same, however, it includes additional revenue from implementing Development Charges in the Township;
- Internal financing is used for the General Reserve to provide assistance to the Development Charges Reserve Funds to maintain positive balances (in Option 2);
- The 2020 to 2029 capital spending program for water and wastewater is \$5.76 million and \$12.46 million (inflated), respectively;
- Annual operating expenditures are assumed to increase by 2% per annum for all expenditures;
- Existing Cobden system water customers total 522; new customers will range from between 6 and 8 customers annually over the next 10-year period;
- Existing Beachburg system water customers total 485; new customers will range from between 5 and 7 customers annually to 2029;
- Existing Haley system water customers total 33 customers and is assumed to remain constant



- Existing Cobden wastewater customers total 497; new customers will range from between 6 and 8 customers annually over the next 10-year period; and
- All new customers are assumed to be flat rate customers (i.e. non-metered).

Based on the above information, the needs for water are significant in the latter half of the forecast period, while wastewater needs are arising at the beginning of the forecast. Given the significant capital expenditures, combined with small reserve balances, rate increases have been set at 20% for 2020, then balanced for the combined water/wastewater user to experience an average 9% annual increase on the combined bill. This is achieved by providing the following changes to water and wastewater:

- To meet the needs of the water forecast, an initial increase in the monthly flat rate of 20% is required. From 2021 to 2025, the annual increase is proposed to be 10% per year. Subsequently, the annual increase will be 5% per year over the remaining forecast period (2026 to 2029). The volume rate is anticipated to increase at the same percentage as the flat rates. For the option that includes Development Charges revenue, the initial increase in the rates is 20%, with 10% increases from 2021 to 2024 then 8% in 2025, 6% in 2026, 4% in 2027 and 3% in 2028 and 2029.
- To meet the needs of the wastewater forecast, the initial increase in the flat rate is 20%, similar to the increase required for the water rates. However, given the large expenditure of the wastewater treatment plant at the beginning of the forecast, the anticipated increase required in 2021 is 60%. The subsequent increases from 2022 to 2029 are provided at 5%. For the option that includes Development Charges revenue, the initial increase is 20% in 2020, 60% in 2021 and 5% in 2022. Beginning in 2023, the annual rate increase begins to decline. In 2023 the anticipated increase required is 5%, then 4% in 2023, 3% in 2024, then 2% thereafter.

Tables ES-1 and ES-2 summarize the recommended water and wastewater rates and annual bills (for residential customers) based on the analysis provided herein over the forecast period.



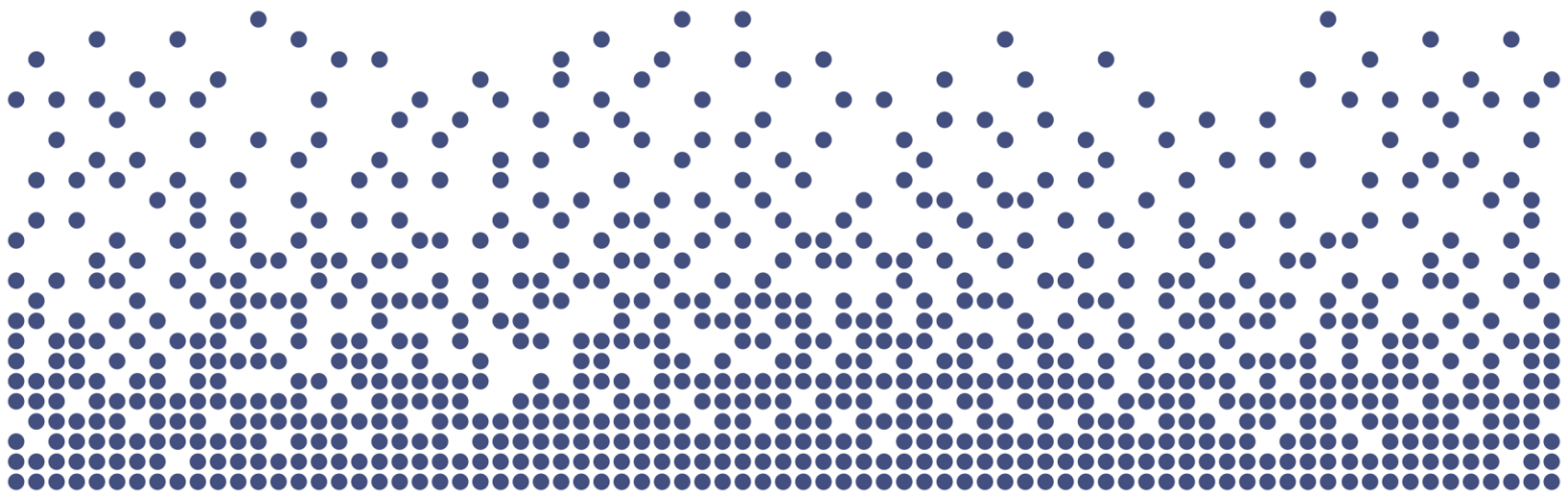
Table ES-1  
Township of Whitewater Region  
Annual Residential Customer Bill  
Option 1 – No Development Charges

Description	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
<b>Water</b>											
Monthly Flat Rate	\$ 61	\$ 74	\$ 81	\$ 89	\$ 98	\$ 108	\$ 118	\$ 124	\$ 131	\$ 137	\$ 144
<b>Annual Flat Rate (Total Water Bill)</b>	\$ 735	\$ 882	\$ 970	\$ 1,067	\$ 1,174	\$ 1,292	\$ 1,421	\$ 1,492	\$ 1,566	\$ 1,645	\$ 1,727
<b>Annual % Increase (Water)</b>		20%	10%	10%	10%	10%	10%	5%	5%	5%	5%
<b>Wastewater</b>											
Monthly Flat Rate	\$ 77	\$ 92	\$ 147	\$ 155	\$ 162	\$ 171	\$ 179	\$ 188	\$ 198	\$ 207	\$ 218
<b>Annual Flat Rate (Total Wastewater Bill)</b>	\$ 921	\$ 1,105	\$ 1,769	\$ 1,857	\$ 1,950	\$ 2,047	\$ 2,150	\$ 2,257	\$ 2,370	\$ 2,489	\$ 2,613
<b>Annual % Increase (Wastewater)</b>		20%	60%	5%	5%	5%	5%	5%	5%	5%	5%
<b>Total Water and Wastewater Bill</b>	<b>\$ 1,656</b>	<b>\$ 1,987</b>	<b>\$ 2,739</b>	<b>\$ 2,924</b>	<b>\$ 3,124</b>	<b>\$ 3,339</b>	<b>\$ 3,570</b>	<b>\$ 3,749</b>	<b>\$ 3,936</b>	<b>\$ 4,133</b>	<b>\$ 4,340</b>
<b>Annual % Increase</b>		20%	38%	7%	7%	7%	7%	5%	5%	5%	5%

Table ES-2  
Township of Whitewater Region  
Annual Residential Customer Bill  
Option 2 – With Development Charges

Description	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
<b>Water</b>											
Monthly Flat Rate	\$ 61	\$ 74	\$ 81	\$ 89	\$ 98	\$ 108	\$ 116	\$ 123	\$ 128	\$ 132	\$ 136
<b>Annual Flat Rate (Total Water Bill)</b>	\$ 735	\$ 882	\$ 970	\$ 1,067	\$ 1,174	\$ 1,292	\$ 1,395	\$ 1,479	\$ 1,538	\$ 1,584	\$ 1,631
<b>Annual % Increase (Water)</b>		20%	10%	10%	10%	10%	8%	6%	4%	3%	3%
<b>Wastewater</b>											
Monthly Flat Rate	\$ 77	\$ 92	\$ 147	\$ 155	\$ 161	\$ 166	\$ 169	\$ 172	\$ 176	\$ 179	\$ 183
<b>Annual Flat Rate (Total Wastewater Bill)</b>	\$ 921	\$ 1,105	\$ 1,769	\$ 1,857	\$ 1,931	\$ 1,989	\$ 2,029	\$ 2,070	\$ 2,111	\$ 2,153	\$ 2,196
<b>Annual % Increase (Wastewater)</b>		20%	60%	5%	4%	3%	2%	2%	2%	2%	2%
<b>Total Water and Wastewater Bill</b>	<b>\$ 1,656</b>	<b>\$ 1,987</b>	<b>\$ 2,739</b>	<b>\$ 2,924</b>	<b>\$ 3,105</b>	<b>\$ 3,281</b>	<b>\$ 3,424</b>	<b>\$ 3,548</b>	<b>\$ 3,649</b>	<b>\$ 3,737</b>	<b>\$ 3,828</b>
<b>Annual % Increase</b>		20%	38%	7%	6%	6%	4%	4%	3%	2%	2%





# Report



# Chapter 1

## Introduction



# 1. Introduction

## 1.1 Background

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The Township of Whitewater Region currently services three systems, the Haley water system, the Beachburg water system and the Cobden water and wastewater system. Currently, there are 33 non-metered water customers in the Haley system, 485 non-metered water customers in the Beachburg system, and 519 non-metered water customers in the Cobden system. In addition to the non-metered customers in the Cobden system, there are 3 metered customers. In total, there are 1,037 non-metered water customers and 3 metered water customers. The Township also provides wastewater servicing to 494 non-metered and 3 metered customers in the Cobden area. The Cobden system's water source comes from Muskrat Lake and is treated by the Cobden water treatment plant owned by the Township and operated by Ontario Clean Water Agency (O.C.W.A). The source water for the Haley system is two drilled wells, whereas the Beachburg system consists of one dug well and one drilled well.

All three areas currently utilize a flat rate charge for their non-metered customers. The metered customers in the Cobden area pay a volumetric charge of \$5.81 per 1,000 gallons or the minimum of 1 small residential or commercial quarterly rate, whichever is higher. Similarly, the Cobden wastewater system utilizes a flat rate for non-metered customers and a volumetric charge for metered customers at \$10.82 per 1,000 gallons or a minimum of 1 small residential or commercial quarterly rate, whichever is higher. The flat rates for water and wastewater for all three areas are differentiated by class of user. Table 1-1 provides the existing rates currently in effect.



Table 1-1  
Township of Whitewater Region  
Water and Wastewater Rates – 2019

2019 - Water Billing Rates			2019 - Wastewater Billing Rates		
Monthly Flat Rate			Monthly Flat Rate		
Beachburg			Beachburg		
Residential		61.26	Residential		n/a
Multi-Residential (1st Unit)		61.26	Multi-Residential (1st Unit)		n/a
Multi-Residential (2nd and subsequent units)		49.00	Multi-Residential (2nd and subsequent units)		n/a
Small Commercial		61.26	Small Commercial		n/a
Medium Commercial		91.89	Medium Commercial		n/a
High/Large Commercial		122.52	High/Large Commercial		n/a
Vacancy		20% of Regular water rate per unit	Vacancy		n/a
Cobden			Cobden		
Residential		61.26	Residential		76.76
Multi-Residential (1st Unit)		61.26	Multi-Residential (1st Unit)		76.76
Multi-Residential (2nd and subsequent units)		49.00	Multi-Residential (2nd and subsequent units)		61.41
Small Commercial		61.26	Small Commercial		76.76
Medium Commercial		91.89	Medium Commercial		115.14
High/Large Commercial		122.52	High/Large Commercial		153.52
Vacancy		20% of Regular water rate per unit	Vacancy		20% of Regular wastewater rate per unit
Haley			Haley		
Residential		146.53	Residential		n/a
Vacancy		29.31	Vacancy		n/a
Volume Charge			Volume Charge		
Cobden			Cobden		
	5.81	per 1,000 gallons or minimum of 1 small residential or commercial quarterly rate, whichever is higher		10.82	per 1,000 gallons or minimum of 1 small residential or commercial quarterly rate, whichever is higher
\$	1.278	per m <sup>3</sup> or minimum of 1 small residential or commercial quarterly rate, whichever is higher	\$	2.380	per m <sup>3</sup> or minimum of 1 small residential or commercial quarterly rate, whichever is higher

With the legislative changes being made across Ontario as a result of the Walkerton crisis, municipalities will be required to conform to new statutes governing the management of water and wastewater systems. Watson & Associates Economists Ltd. (Watson) was retained by the Township of Whitewater Region to assist in addressing these changes in a proactive manner as they relate to the water and wastewater systems. The assessment provided herein addresses changes recommended to the water and wastewater rates based on the most current information and forecasts the implications over the next ten-year period.



## 1.2 Study Process

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

- Identify all current and future water and wastewater 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 Act, 1997* (D.C.A.), *Municipal Act*, etc.) as an offset to recovery through the water and wastewater 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 staff and Council the findings to assist in gaining approval of the rates for 2020 and future years based on two options:
  - First, a combined flat rate structure, whereby all three settlement areas pay the same rate; and
  - Second, a combined flat rate structure with the inclusion of development charge revenues.

## 1.3 Regulatory Changes in Ontario

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Resulting from the water crisis in Walkerton, significant regulatory changes have been made in Ontario. 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 would have most impacted municipal water and wastewater rates was the *Sustainable Water and Sewage Systems Act* (S.W.S.S.A.) which would have required municipalities to implement full cost pricing. The legislation was enacted in 2002, however, it had not been implemented pending the approval of its regulations. The Act was repealed as of January 1, 2013. It is expected that the provisions of the *Water Opportunities Act* will implement the fundamental requirements of S.W.S.S.A. Furthermore, on December 27, 2017, O.Reg. 588/17 was released under the *Infrastructure for Jobs and Prosperity Act, 2015* (I.J.P.A.), which outlines the requirements for asset management for municipalities. The results of the asset management review under this Act will need to be considered in light of the recent investments undertaken by the Township and the capital spending plan provided herein. The following sections describe these various resulting changes.

## 1.4 Sustainable Water and Sewage Systems Act

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As noted earlier, the S.W.S.S.A. was passed on December 13, 2002. The intent of the Act was to introduce the requirement for municipalities to undertake an assessment of the “full cost” of providing their water and wastewater services. It is noted, however, that this Act has been repealed. To provide broader context and understanding to other legislation discussed herein, a description of the Act is provided below.

Full costs for water service was defined in subsection 3(7) of the Act and included “...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 were made for wastewater services in subsection 4(7) with respect to “...collecting, treating or discharging wastewater.”

The Act would have required the preparation of two reports for submission to the Ministry of the Environment, Conservation, and Parks (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 was on the “full cost of services” and the second was the “cost recovery plan.” Once these reports were reviewed and approved by the Ministry, the municipality would have been 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) would prepare and approve a report concerning the provision of water and sewage services. This report was to include an inventory of the infrastructure, a management plan providing for the long-term integrity of the systems, and would 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 would certify the inventory and management plan portion of the report. The municipality's auditor would be required to provide a written opinion on the report. The report was to 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 would stipulate the timing for this report.

The second report was referred to as a **cost recovery plan** and would address how the municipality intended to pay for the full costs of providing the service. The regulations were to specify limitations on what sources of revenue the municipality may use. The regulations may have also provided limits as to the level of increases any customer or class of customer may experience over any period of time. Provision was 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 would 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 provided the Minister the power to approve or not approve the plans. If the Minister was not satisfied with the report or if a municipality did not submit a plan, the Minister may have a plan prepared. The cost to the Crown for preparing the plan would 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 had the power to order a municipality to generate revenue from a specific revenue source or in a specified manner. The Minister may have also ordered a regulated entity to do or refrain from doing such things as the Minister considered advisable to ensure that the entity pays the full cost of providing the services to the public.



Once the plans were approved and in place, the municipality would be required to submit progress reports. The timing of these reports and the information to be contained therein would be established by the regulations. A municipal auditor's opinion must be provided with the progress report. Municipalities would 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 would then revise its prior plan, provide an auditor's opinion, and submit the plan to the Minister.

## 1.5 Financial Plans Regulation

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On August 16, 2007, the M.O.E. passed O.Reg 453/07 which requires the preparation of financial plans for water (and wastewater) systems. The M.O.E. has also provided a Financial Plan Guidance Document to assist in preparing the plans. A brief summary of the key elements of the regulation is provided below:

- The financial plan will represent one of the key elements for the municipality to obtain its Drinking Water Licence;
- 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 *Safe Drinking Water Act, 2002*, 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, P.S.A.B. 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 website. The availability of this information must also be advertised; and
- 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 S.W.S.S.A. to move municipalities towards financial sustainability. Many of the prescriptive requirements, however, have been removed (e.g. preparation of two separate documents for provincial approval, auditor opinions, engineer certifications, etc.).

A Guideline (“Towards Financially Sustainable Drinking Shores – Water and Wastewater Systems”) had been developed to assist municipalities in understanding the Province’s direction and provided 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 stormwater 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: Lifecycle 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.

**Note:** Watson is currently working with Township staff to complete the water financial plan. This will be provided under separate cover.

## 1.6 Water Opportunities Act, 2010

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As noted earlier, since the passage of the *Safe Drinking Water Act, 2002*, continuing changes and refinements to the legislation have been introduced. Some of these Bills have found their way into law, while others have not been approved. Bill 72, the *Water Opportunities Act, 2010*, was introduced into legislation on May 18, 2010 and received Royal Assent on November 29, 2010.

The Act provides for the following elements:

- The fostering of innovative water, wastewater and stormwater technologies, services and practices in the private and public sectors;
- Preparation of water conservation plans to achieve water conservation targets established by the regulations; and
- Preparation of sustainability plans for municipal water services, municipal wastewater services and municipal stormwater services.

With regard to the sustainability plans:

- The Act extends from the water financial plans and requires a more detailed review of the water financial plan and requires a full plan for wastewater and stormwater services; and
- Regulations will provide performance targets for each service – these targets may vary based on the jurisdiction of the regulated entity or the class of entity.

The financial plan shall include:

- An asset management plan for the physical infrastructure;
- A financial plan;
- For water, a water conservation plan;



- An assessment of risks that may interfere with the future delivery of the municipal service, including, if required by the regulations, the risks posed by climate change and a plan to deal with those risks; and
- Strategies for maintaining and improving the municipal service, including strategies to ensure the municipal service can satisfy future demand, consider technologies, services and practices that promote the efficient use of water and reduce negative impacts on Ontario's water resources, and increase co-operation with other municipal service providers.

Performance indicators will be established by service, with the following considerations:

- May relate to the financing, operation or maintenance of a municipal service or to any other matter in respect of what information may be required to be included in a plan;
- May be different for different municipal service providers or for municipal services in different areas of the Province.

Regulations will prescribe:

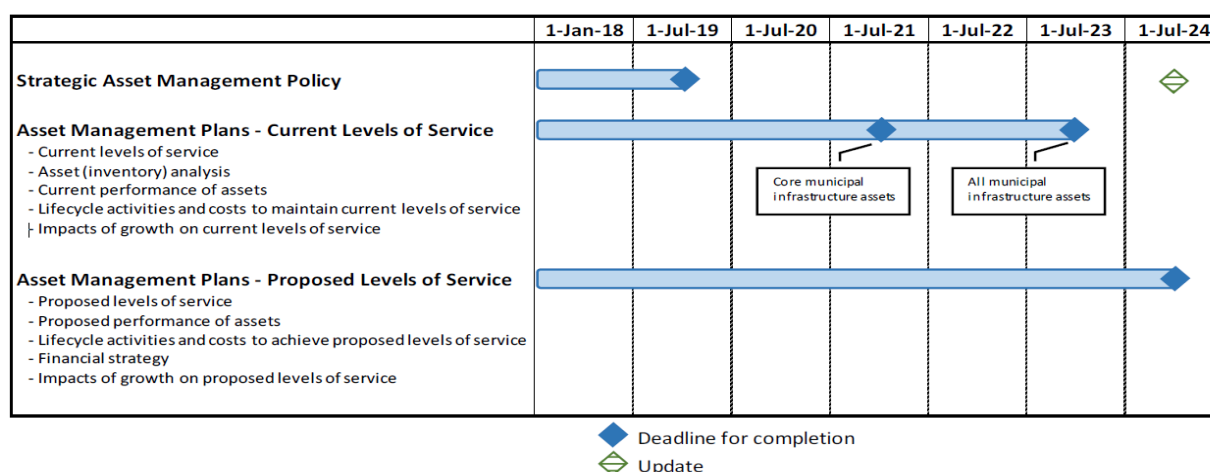
- Timing;
- Contents of the plans;
- Which identified portions of the plan will require certification;
- Public consultation process; and
- Limitations, updates, refinements, etc.

As noted earlier, it is expected that this Act will implement the principles of the S.W.S.S.A. once all regulations are put in place.

## **1.7 Infrastructure for Jobs and Prosperity Act, 2015 (I.J.P.A.)**

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On June 4, 2015, the Province of Ontario passed the I.J.P.A. which, over time, will require municipalities to undertake and implement asset management plans for all infrastructure they own. On December 27, 2017, the Province released Ontario Regulation 588/17 under the I.J.P.A. which has three phases that municipalities must meet:



Every municipality in Ontario will have to prepare a strategic asset management policy by July 1, 2019. Municipalities will be required to review their strategic asset management policies at least every five years and make updates as necessary. The subsequent phases are as follows:

- Phase 1 – Asset Management Plan (by July 1, 2021):
  - For core assets, municipalities must have the following:
    - Inventory of assets;
    - Current levels of service measured by standard metrics; and
    - Costs to maintain levels of service.
- Phase 2 – Asset Management Plan (by July 1, 2023):
  - Same steps as Phase 1 but for all assets.
- Phase 3 – Asset Management Plan (by July 1, 2024):
  - Builds on Phase 1 and 2 by adding:
    - Proposed levels of service; and
    - Lifecycle management and financial strategy.

In relation to water and wastewater (which is considered a core asset), municipalities will need to have an asset management plan that addresses the related infrastructure by July 1, 2021 (Phase 1). O.Reg. 588/17 specifies that the municipality's asset management plan must include the following for each asset category:

- The current levels of service being provided, determined in accordance with the following qualitative descriptions and technical metrics and based on data from at



most the two calendar years prior to the year in which all information required under this section is included in the asset management plan;

- The current performance of each asset category, including:
  - a summary of the assets in the category;
  - the replacement cost of the assets in the category;
  - the average age of the assets in the category, determined by assessing the average age of the components of the assets;
  - the information available on the condition of the assets in the category;
  - a description of the municipality's approach to assessing the condition of the assets in the category, based on recognized and generally accepted good engineering practices where appropriate; and
- The lifecycle activities that would need to be undertaken to maintain the current levels of service.

Upon completion of the asset management plan for water and wastewater services, the Township will need to consider the impacts on the capital plan provided herein.

## **1.8 Forecast Growth and Servicing Requirements**

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As mentioned earlier, the Township of Whitewater Region services three water systems and one wastewater system, the Beachburg water system, the Haley water system and the Cobden water and wastewater systems. Currently, there is a total of 1,037 non-metered water customers for all three systems and 3 metered customers in Cobden. Cobden is the only area that provides wastewater servicing. This area (Cobden) has 494 non-metered and 3 metered wastewater customers. Information on the existing number of customers and existing billable volumes was obtained from the Township. As noted above, the flat rates are structured based on class of user. The rates are based on the relationship between the class of user, relative to a residential customer. For example, a medium commercial customer is considered to be 1.5 residential customers, therefore they would pay 1.5 times the residential rate. The definitions for classes of users are provided in Appendix E. Table 1-2 provides a summary of the existing customer profile, by class of user, and the weighting used to relate the class of user with a residential customer.



Table 1-2  
Township of Whitewater Region  
Customer Profile – Weighted Customers

Details	Water Customers	Monthly Water Rate	Weighting	Water - Weighted Customer Count	Wastewater Customers	Monthly Wastewater Rate	Wastewater - Weighted Customer Count
<b>Cobden</b>							
Residential	367.0	\$61.26	1.0	367.0	344.0	\$76.76	344.0
Small Commercial	34.0	\$61.26	1.0	34.0	34.0	\$76.76	34.0
Medium Commercial	17.0	\$91.89	1.5	25.5	16.0	\$115.14	24.0
High Commercial	12.0	\$122.52	2.0	24.0	11.0	\$153.52	22.0
Multi Residential	79.0	\$61.26	0.8	63.2	79.0	\$76.76	63.2
Vacant Residential/Small Commercial/Multi-res	10.0	\$12.25	0.2	2.0	10.0	\$15.35	2.0
Vacant Medium Commercial	-	\$18.38	0.3	-	-	\$23.03	-
Vacant High Commercial	-	\$24.50	0.4	-	-	\$30.70	-
Metered Customers	3.0				3.0		
<b>Total Cobden</b>	<b>522.0</b>			<b>515.7</b>	<b>497.0</b>		<b>489.2</b>
<b>Beachburg</b>							
Residential	409.0	\$61.26	1.0	409.0			
Small Commercial	16.0	\$61.26	1.0	16.0			
Medium Commercial	7.0	\$91.89	1.5	10.5			
High Commercial	11.0	\$122.52	2.0	22.0			
Multi Residential	33.0	\$61.26	0.8	26.4			
Vacant Residential/Small Commercial/Multi-res	9.0	\$12.25	0.2	1.8			
Vacant Medium Commercial	-	\$18.38	0.3	-			
Vacant High Commercial	-	\$24.50	0.4	-			
<b>Total Beachburg</b>	<b>485.0</b>			<b>485.7</b>			
<b>Haley</b>							
Residential	32.0	\$146.53	1.0	32.0			
Small Commercial							
Medium Commercial							
High Commercial							
Multi Residential							
Vacant Residential	1.0	\$29.31	0.2	0.2			
<b>Total Haley</b>	<b>33.0</b>			<b>32.2</b>			

For future water and wastewater customers to be added to the systems, consideration has been given to development potential within the serviced areas of the Township over the forecast period 2020 to 2029.

In coordination with this rate study, Watson was retained to conduct a Development Charges background study and associated by-law for Council's consideration. As part of this work, a growth forecast was developed based on the County's official plan targets provided to the Township, as well as discussions with staff regarding anticipated development. Note: The development charge study work is currently underway and is anticipated to be complete in 2020.



The growth forecast provided herein is based on the forecast used for the Township's 2020 Development Charge study (ongoing). For operating revenue purposes, it would be undesirable to forecast too high as it could produce a potential operating deficit should the growth not materialize. Forecasting higher amounts for development charge purposes, however, ensures that capital infrastructure is in place so as not to inhibit development.

Table 1-3 provides for the forecast of water users within the Cobden System. Table 1-4 provides for the forecast of water users within the Beachburg system. Table 1-5 provides for the forecast of water users within the Haley water system. Table 1-6 provides the forecast of wastewater users within the Cobden system.



Table 1-3  
Township of Whitewater Region  
2019 to 2029 Cobden Water System Forecast

**Water Users Forecast - Cobden**

Year	Total Users	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
2020	8		4	8	8	8	8	8	8	8	8	8
2021	8			4	8	8	8	8	8	8	8	8
2022	7				4	7	7	7	7	7	7	7
2023	7					4	7	7	7	7	7	7
2024	7						4	7	7	7	7	7
2025	7							4	7	7	7	7
2026	7								4	7	7	7
2027	6									3	6	6
2028	6										3	6
2029	6											3
<b>Total</b>	<b>69</b>	<b>-</b>	<b>4</b>	<b>12</b>	<b>20</b>	<b>27</b>	<b>34</b>	<b>41</b>	<b>48</b>	<b>54</b>	<b>60</b>	<b>66</b>

**Water Users Forecast - Cobden**

Water Customer Forecast	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Non-Metered:											
Existing - Cobden (weighted)	515.70	515.70	515.70	515.70	515.70	515.70	515.70	515.70	515.70	515.70	515.70
New - Growth	-	4	12	20	27	34	41	48	54	60	66
Metered:											
Existing - Cobden	3	3	3	3	3	3	3	3	3	3	3
New - Growth	-	-	-	-	-	-	-	-	-	-	-
<b>Total</b>	<b>518.70</b>	<b>522.70</b>	<b>530.70</b>	<b>538.70</b>	<b>545.70</b>	<b>552.70</b>	<b>559.70</b>	<b>566.70</b>	<b>572.70</b>	<b>578.70</b>	<b>584.70</b>





Table 1-4  
Township of Whitewater Region  
2019 to 2029 Beachburg Water System Forecast

**Water Users Forecast - Beachburg**

Year	Total Users	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
2020	5		3	5	5	5	5	5	5	5	5	5
2021	7			4	7	7	7	7	7	7	7	7
2022	6				3	6	6	6	6	6	6	6
2023	6					3	6	6	6	6	6	6
2024	6						3	6	6	6	6	6
2025	6							3	6	6	6	6
2026	6								3	6	6	6
2027	6									3	6	6
2028	6										3	6
2029	6											3
<b>Total</b>	<b>60</b>	<b>-</b>	<b>3</b>	<b>9</b>	<b>15</b>	<b>21</b>	<b>27</b>	<b>33</b>	<b>39</b>	<b>45</b>	<b>51</b>	<b>57</b>

**Water Users Forecast - Beachburg**

Water Customer Forecast	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Non-Metered:											
Existing - Beachburg (weighted)	485.70	485.70	485.70	485.70	485.70	485.70	485.70	485.70	485.70	485.70	485.70
New - Growth	-	3	9	15	21	27	33	39	45	51	57
<b>Total</b>	<b>485.70</b>	<b>488.70</b>	<b>494.70</b>	<b>500.70</b>	<b>506.70</b>	<b>512.70</b>	<b>518.70</b>	<b>524.70</b>	<b>530.70</b>	<b>536.70</b>	<b>542.70</b>



Table 1-5  
Township of Whitewater Region  
2019 to 2029 Haley Water System Forecast

**Water Users Forecast - Haley**

Year	Total Users	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
2020	0		-	-	-	-	-	-	-	-	-	-
2021	0			-	-	-	-	-	-	-	-	-
2022	0				-	-	-	-	-	-	-	-
2023	0					-	-	-	-	-	-	-
2024	0						-	-	-	-	-	-
2025	0							-	-	-	-	-
2026	0								-	-	-	-
2027	0									-	-	-
2028	0										-	-
2029	0											-
<b>Total</b>	<b>0</b>	-	-	-	-	-	-	-	-	-	-	-

**Water Users Forecast - Haley**

Water Customer Forecast	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Non-Metered:											
Existing - Haley (weighted)	32.20	32.20	32.20	32.20	32.20	32.20	32.20	32.20	32.20	32.20	32.20
New - Growth	-	-	-	-	-	-	-	-	-	-	-
<b>Total</b>	<b>32.20</b>	<b>32.20</b>	<b>32.20</b>	<b>32.20</b>	<b>32.20</b>	<b>32.20</b>	<b>32.20</b>	<b>32.20</b>	<b>32.20</b>	<b>32.20</b>	<b>32.20</b>



Table 1-6  
Township of Whitewater Region  
Cobden Wastewater System Forecast

**Wastewater Users Forecast - Cobden**

Year	Total Users	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
2020	8		4	8	8	8	8	8	8	8	8	8
2021	8			4	8	8	8	8	8	8	8	8
2022	7				4	7	7	7	7	7	7	7
2023	7					4	7	7	7	7	7	7
2024	7						4	7	7	7	7	7
2025	7							4	7	7	7	7
2026	7								4	7	7	7
2027	6									3	6	6
2028	6										3	6
2029	6											3
<b>Total</b>	<b>69</b>	<b>-</b>	<b>4</b>	<b>12</b>	<b>20</b>	<b>27</b>	<b>34</b>	<b>41</b>	<b>48</b>	<b>54</b>	<b>60</b>	<b>66</b>

**Wastewater Users Forecast - Cobden**

Wastewater Customer Forecast	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Non-Metered:											
Existing - Cobden (weighted)	489.20	489.20	489.20	489.20	489.20	489.20	489.20	489.20	489.20	489.20	489.20
New - Growth	-	4	12	20	27	34	41	48	54	60	66
Metered:											
Existing - Cobden	3	3	3	3	3	3	3	3	3	3	3
<b>Total</b>	<b>492.20</b>	<b>496.20</b>	<b>504.20</b>	<b>512.20</b>	<b>519.20</b>	<b>526.20</b>	<b>533.20</b>	<b>540.20</b>	<b>546.20</b>	<b>552.20</b>	<b>558.20</b>



# Chapter 2

## Capital Infrastructure Needs



## 2. Capital Infrastructure Needs

### 2.1 Capital Forecast

---

Capital forecasts have been provided for the water and wastewater systems and are presented in Tables 2-1 and 2-2 (Note: the costs are provided in inflated dollars). The basis for these forecasts is the Township's Capital Forecasts, the Capital Asset and 20-year Capital Plans for each of the three systems (provided by OCWA), and works identified as asset replacement needs based on the inventory data provided for the water and wastewater systems.



Table 2-1  
Township of Whitewater Region  
2020 to 2029 Water Capital Forecast Summary (Inflated \$)

Description	Total 2020 to 2029	Years Undertaken
<b>Cobden</b>		
<u>Capital Expenditures</u>		
Filter Bed #1 Replacement	61,000	2020
Potassium Permanganate Lines	61,000	2020
<u>OCWA Capital Needs</u>		
Capital - Cobden	1,147,000	2020 to 2029
<u>Lifecycle</u>		
Watermains - Cobden	678,000	2028
<b>Total Cobden</b>	<b>1,947,000</b>	
<b>Beachburg</b>		
<u>OCWA Capital Needs</u>		
Capital - Beachburg	1,156,000	2020 to 2029
<u>Lifecycle</u>		
Watermains - Beachburg	767,000	2028
<u>Growth-related</u>		
New Water Tower (1,500 cu.m)	1,732,000	2024 to 2025
<b>Total Beachburg</b>	<b>3,655,000</b>	
<b>Haley</b>		
<u>OCWA Capital Needs</u>		
Capital - Haley	155,000	2020 to 2029
<b>Total Cobden</b>	<b>155,000</b>	
<b>Total Capital Needs</b>	<b>5,757,000</b>	

Table 2-2  
Township of Whitewater Region  
2020 to 2029 Wastewater Capital Forecast Summary (Inflated \$)

Description	Total 2020 to 2029	Years Undertaken
<b>Cobden</b>		
<u>Growth-related</u>		
Cobden WWTP Expansion	12,461,000	2020
<b>Total Capital Needs</b>	<b>12,461,000</b>	



# Chapter 3

## Lifecycle Costing



## 3. Lifecycle Costing

### 3.1 Overview of Lifecycle Costing

---

#### 3.1.1 *Definition*

For many years, lifecycle 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, lifecycle costs are all the costs which are incurred during the lifecycle 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 lifecycle 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.

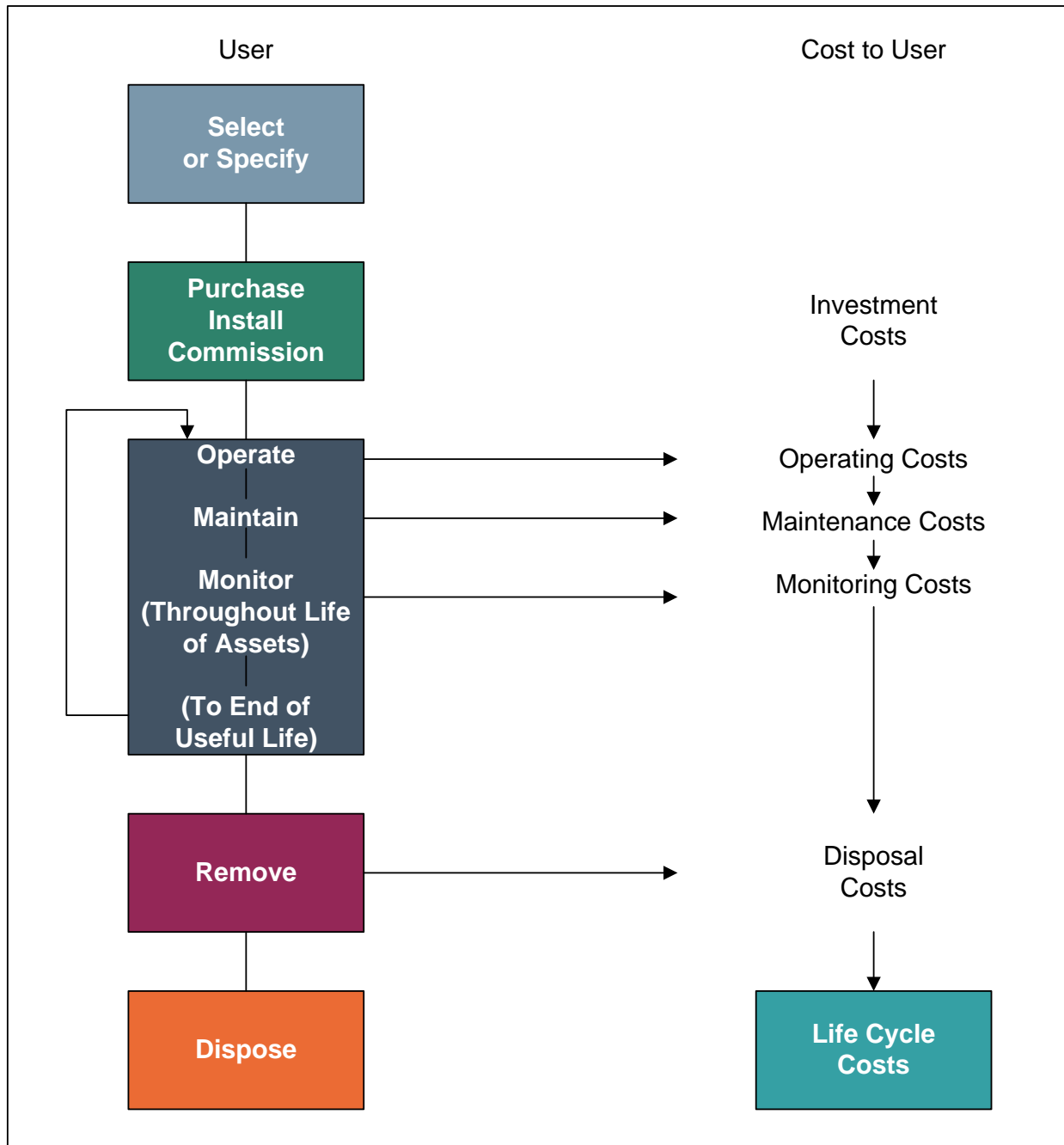
In a municipal context, services are provided to benefit tax/rate payers. Acquisition of assets is normally timed in relation to direct needs within the community. At times, economies of scale or technical efficiencies will lead to oversizing an asset to accommodate future growth within the Township. 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.

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





Figure 3-1  
Lifecycle Costing



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 Township to continue. As well, debentures



could be used to fund such works, with the debt charge carrying costs recouped from taxpayers in the future.

Capital construction to replace existing infrastructure, however, 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, such as 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.

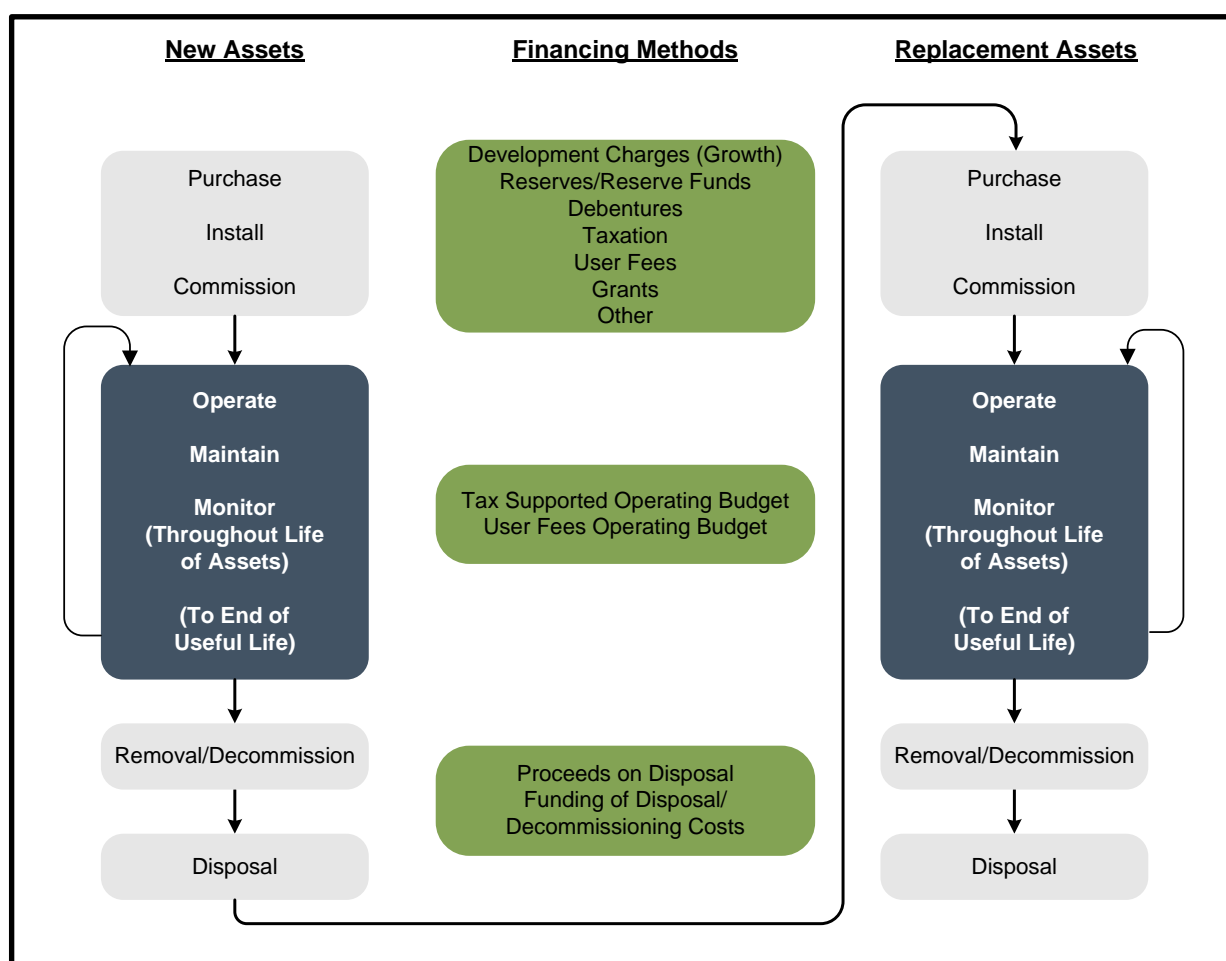
When the asset requires replacement, the sources of financing will be limited to reserves, debentures and contributions from the operating budget. At this point, the question is raised: "If the cost of replacement is to be assessed against the tax/rate payer who benefits from the replacement of the asset, 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 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.

Figure 3-2  
Financing Lifecycle Costs



### 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 (shown graphically in Figure 3-3).



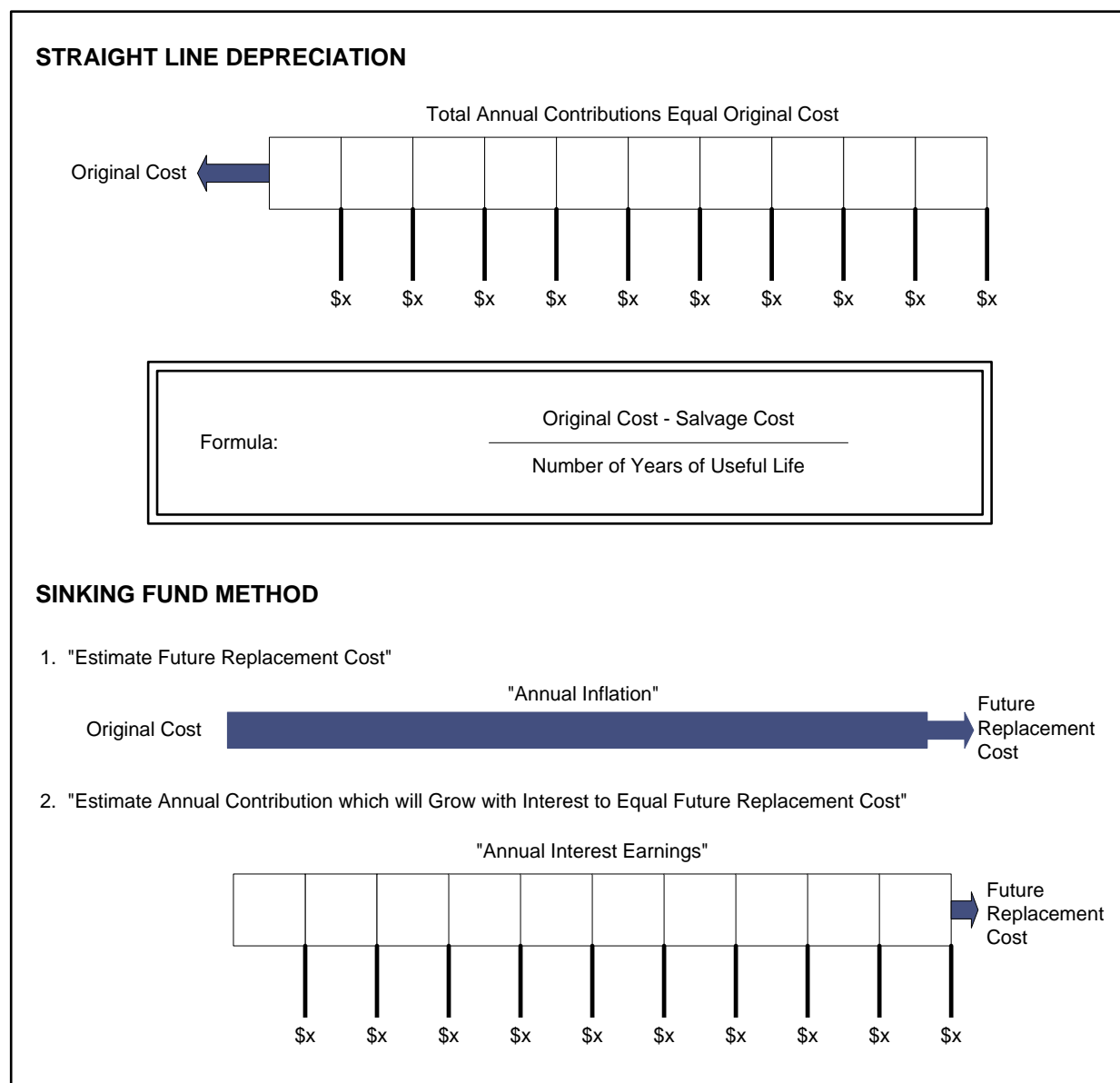
The straight-line method is calculated by taking the original cost of the asset, subtracting its estimated salvage value (estimated value of the asset at the time it is disposed of) and dividing this by the estimated number of years of useful life. The reducing balance method is calculated by utilizing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

The second method of lifecycle 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 lifecycle costing.



Figure 3-3



## 3.2 Impact on Budgets

Detailed water and wastewater systems inventory information was obtained from the Township. The age of the water distribution systems dates back to the early 1950s. The water systems have expanded throughout the years. The wastewater system dates back to the early 1950s. The total value of existing water infrastructure is \$24.2 million, and the value of existing wastewater infrastructure is \$20.6 million. On a per capita



basis, this translates into an investment of \$91,648 for water, and \$41,533 for wastewater.

The detailed water and wastewater inventories are provided in Appendices A and B, respectively. As well, the lifecycle “sinking fund” contribution amounts for each piece of infrastructure have also been included. These calculations determine the level of investment the Township may wish to consider as part of its budgeting practices. This information is summarized in Figure 3-4.

**Figure 3-4**  
**Township of Whitewater Region**  
**Summary of Water and Wastewater Infrastructure**

Area	Total Replacement Value	Suggested amount to be included in 10-year forecast based on estimated life	Amount included in 10-year forecast	Net Replacement for Future Lifecycle	Annual Lifecycle Replacement
<b>Water</b>					
Water Facilities - Cobden	9,129,050	2,504,090	1,163,507	7,965,543	269,739
Water Facilities - Beachburg	4,430,060	-	1,050,690	3,379,370	241,365
Water Facilities - Haley	803,180	-	143,475	659,705	29,361
<b>Sub-total Water Facilities</b>	<b>14,362,290</b>	<b>2,504,090</b>	<b>2,357,672</b>	<b>12,004,618</b>	<b>540,465</b>
Watermains - Cobden	4,369,970	567,710	567,710	3,802,260	142,719
Watermains - Beachburg	4,692,290	642,010	642,010	4,050,280	155,415
Watermains - Haley	747,110	-	-	747,110	24,656
<b>Sub-total Water Mains</b>	<b>9,809,370</b>	<b>1,209,720</b>	<b>1,209,720</b>	<b>8,599,650</b>	<b>322,790</b>
<b>Total Water</b>	<b>24,171,660</b>	<b>3,713,810</b>	<b>3,567,392</b>	<b>20,604,268</b>	<b>863,255</b>
<b>Wastewater</b>					
Wastewater Facilities	15,754,520	11,422,030	12,217,000	3,537,520	216,985
Sanitary Sewers	4,887,550	1,005,550	-	4,887,550	191,590
<b>Total Wastewater</b>	<b>20,642,070</b>	<b>12,427,580</b>	<b>12,217,000</b>	<b>8,425,070</b>	<b>408,575</b>
<b>Total</b>	<b>44,813,730</b>	<b>16,141,390</b>	<b>15,784,392</b>	<b>29,029,338</b>	<b>1,271,830</b>

Investment per customer is \$91,648 for water and \$41,533 for wastewater

With respect to lifecycle costing contained in the Appendices, the following information was taken into consideration:

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



Summaries of both water and wastewater assets are shown on Figures 3-5 and 3-6. These figures show when the assets are due to be replaced, based on their average useful life, and the cost of replacement in 2019 dollars.

As noted earlier, the Township will be undertaking a detailed asset management plan for water and wastewater services. The results of this evaluation may vary from the results provided herein. At that time, the results of the plans can be considered in light of the capital plan provided herein.



Figure 3-5  
Township of Whitewater Region  
Summary of Water Infrastructure Replacement Years (2019 \$)

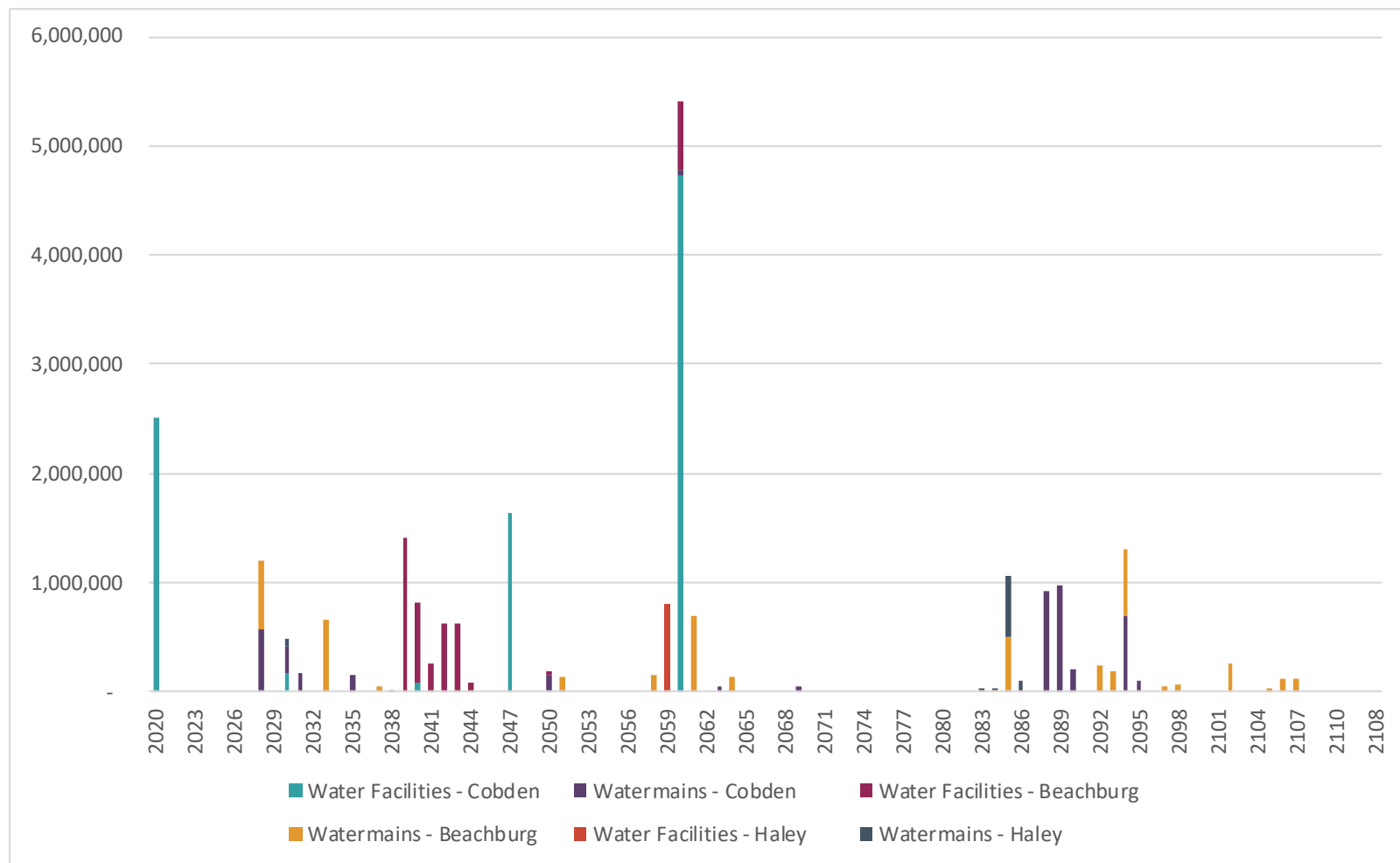
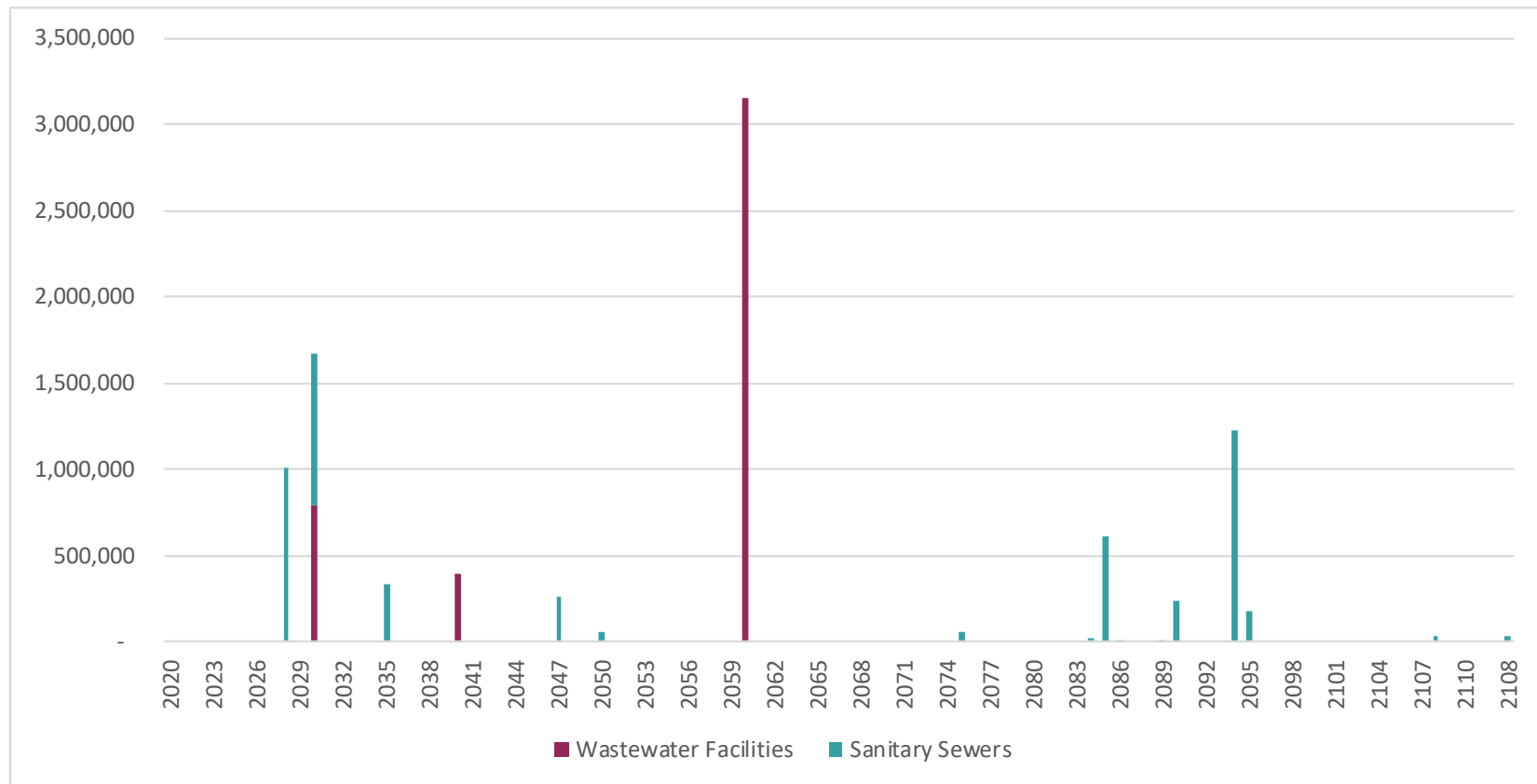






Figure 3-6  
Township of Whitewater Region  
Summary of Wastewater Infrastructure Replacement Years (2019 \$)





# Chapter 4

## Capital Cost Financing Options



## 4. Capital Cost Financing Options

### 4.1 Summary of Capital Cost Financing Alternatives

---

Historically, the powers that municipalities had to raise alternative revenues to taxation to fund capital services have been restrictive. Over the past decade, 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 D.C.A.).

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 allowed for the *Local Improvement Act* to be deemed to remain in force until April 1, 2003. O.Reg. 119/03 was enacted on April 19, 2003, which restored many of the previous *Local Improvement Act* provisions; however, the authority is now provided under the *Municipal Act*.

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

Recovery Methods	Section Reference
• <i>Development Charges Act, 1997</i>	4.2
• <i>Municipal Act</i>	4.3
○ Fees and Charges	
○ Sewer and Water Area Charges	
○ Connection Fees	
○ Local Improvements	



Recovery Methods	Section Reference
• Grant Funding	4.4
• Existing Reserves/Reserve Funds	4.5
• Debenture Financing	4.6
• Infrastructure Ontario	4.7

## 4.2 Development Charges Act, 1997

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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 Act provided the following changes to the former Act:

- Replace those sections of the 1989 Act that govern municipal development charges;
- 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; and
- Set out provisions for appeals and complaints.

In late 2015, the Province approved further amendments to the D.C.A. With respect to water and wastewater, the only changes are for the municipality to provide an asset management calculation for the growth-related works and for the Council to consider (but not necessarily approve) area-specific rates.

Further changes have been provided as a result of Bill 108 which received Royal Assent on June 6, 2019. Note that parts of the Bill have now received Proclamation and Regulations are anticipated to be released prior to year-end 2019. These changes to the D.C.A. include:

- Removal of “soft services” from the D.C.A. and moving them under the authority of the *Planning Act* as “Community Benefit Charges”;
- Removal of the 10% mandatory deduction;
- Payments in instalments (for rental housing, industrial, commercial, institutional, and non-profit housing. Note: under Bill 138, which has received royal assent and proclamation, commercial and industrial developments have been removed from the list of developments that can pay their D.C. in instalments);
- Timing of Calculation. D.C.s for developments that require Site Plan or Zoning Amendments are frozen at the time of the application, rather than at building permit; and
- Additional Dwelling Units are Exempt. Additional dwelling units in ancillary structures are now exempt from D.C.s.

## 4.3 Municipal Act

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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 Local Planning Appeal Tribunal (L.P.A.T., formerly known as the O.M.B.).

Section 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 and 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 with 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
- LPAT 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 L.P.A.T. on the grounds that the charges are “unfair or unjust.”

Section 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*.

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 LPAT, 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; and
- 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

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### Federal Infrastructure Funding

#### Phase 1 (April 1, 2016 to March 31, 2018)

Funding was provided by the Government of Canada to expressly help municipalities with repair and rehabilitation projects. Funding was mainly provided through the Clean Water and Wastewater Fund (C.W.W.F.) and Public Transit Infrastructure Fund

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(P.T.I.F.) in Federal Phase 1 projects. The C.W.W.F. was announced in Ontario on September 15, 2016. The Fund is \$1.1 billion for water, wastewater, and storm water systems in Ontario. The federal government provided \$569 million and Ontario and municipal governments provided \$275 million each.

Over 1,300 water, wastewater, and storm water projects have been approved in Ontario through the C.W.W.F. In Ontario, P.T.I.F. accounted for nearly \$1.5 billion of the national total of \$3.4 billion. The program was allocated by ridership numbers from the Canadian Urban Transit Association. The Association of Municipalities of Ontario (A.M.O.) understands that \$1 billion of Ontario's share has been approved.

### Phase 2: Next Steps

The federal government announced Phase 2 of its infrastructure funding plan with a total of \$180 billion spent over 11 years. In addition to the balance of funding for previous green, social, and public transit infrastructure funds (\$20 billion each, including Phase 1), the government has added \$10.1 billion for trade and transportation infrastructure and \$2 billion for rural and northern communities. This funding must be implemented by agreements with each Province and Territory.

In Phase 2, Ontario will be eligible for \$11.8 billion including \$8.3 billion for transit, \$2.8 billion for green infrastructure, \$407 million for community, culture and recreation and \$250 million for rural and northern communities.

In Phase 2, Ontario will be eligible for \$11.8 billion including \$8.3 billion for transit, \$2.8 billion for green infrastructure, \$407 million for community, culture and recreation and \$250 million for rural and northern communities.

### Federal Gas Tax

The federal Gas Tax is a permanent source of funding provided up-front, twice-a-year, to Provinces and Territories, who in-turn flow this funding to their municipalities to support local infrastructure priorities. Municipalities can pool, bank and borrow against this funding, providing significant financial flexibility. Every year, the federal Gas Tax provides over \$2 billion and supports approximately 2,500 projects in communities across Canada. Each municipality selects how best to direct the funds with the flexibility provided to make strategic investments across 18 different project categories, which include other water and wastewater servicing.





## Ontario Government

The Province has taken steps to increase municipal infrastructure funding. The Ontario Community Infrastructure Fund (O.C.I.F.) was increased in 2016 with formula-based support growing to \$200 million, and application funding growing to \$100 million annually by 2018/2019. As well, \$15 million annually will go to the new Connecting Links program to help pay for the construction and repair costs of municipal roads that connect communities to provincial highways. This is on top of the Building Ontario Up investment of \$130 billion in public infrastructure over 10 years starting in 2015.

### 4.5 Existing Reserves/Reserve Funds

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The Township has established reserves for water and wastewater costs. The following table summarizes the water and wastewater reserves utilized in this analysis and their respective anticipated balances at December 31, 2019:

Reserves and Reserve Funds	Dec. 31 2019
<b>Water</b>	
Capital Reserve	51,614
Development Charges Reserve Fund	-
Lifecycle Reserve Fund	-
<b>Wastewater</b>	
Capital Reserve	228,860
Development Charges Reserve Fund	-
Lifecycle Reserve Fund	-

As provided above, both the water and wastewater reserves have a slightly positive balance. The rate forecasts for water and wastewater will need to address large future capital costs including the Cobden wastewater treatment plant expansion in 2020 and the new water tower in 2025.

### 4.6 Debenture Financing

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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 Regulation 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). The Township of Whitewater Region's 2018 calculation on Debt Capacity is shown on Schedule 81 of the Township's most recent Financial Information Return (F.I.R.). This calculates to the Township's estimated annual repayment limit of approximately \$1.71 million. Based on 20-year financing at an assumed rate of 3%, the available debt for the Township is approximately \$25.42 million.

## 4.7 Infrastructure Ontario

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Infrastructure Ontario (I.O.) 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 O.S.I.F.A. into its operations). I.O. combines the infrastructure renewal needs of municipalities into an infrastructure investment "pool." I.O. 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.

I.O. 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 I.O. approach, all borrowers receive the same low interest rate. I.O. will enter into a 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 O.S.I.F.A.'s 2004/2005 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 O.S.I.F.A. and I.O., 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.

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.

The analysis provided herein assumes that the Township will require debt financing for the capital projects identified.

## 4.8 Recommended Capital Financing Approach

Two rate options are presented in this analysis. The first option provides the rates calculated based on one flat rate for all settlement areas. The second option provides the same rate structure as option 1, however, includes development charge revenues.

Of the various funding alternatives provided in this section, the following are recommended for further consideration by the Township for the capital expenditures (inflated) provided in Chapter 2:

Description	Option 1 - No DC Revenue		Option 2 - With DC Revenue	
	Water Combined 2020 to 2029	Cobden Wastewater 2020 to 2029	Water Combined 2020 to 2029	Cobden Wastewater 2020 to 2029
<b>Capital Financing</b>				
Provincial/Federal Grants	-	6,273,000	-	6,273,000
Development Charges Reserve Fund	-	-	126,300	-
Non-Growth Related Debenture Requirements	1,416,000	5,827,500	283,000	2,089,700
Growth Related Debenture Requirements	-	-	843,620	3,738,300
Operating Contributions	-	-	-	-
Lifecycle Reserve Fund	-	-	-	-
Water/Wastewater Reserves	4,341,000	360,500	4,504,080	360,000
<b>Total Capital Financing</b>	<b>5,757,000</b>	<b>12,461,000</b>	<b>5,757,000</b>	<b>12,461,000</b>



Tables 4-1 and 4-2 provide for the full capital expenditure and funding program by year for water (Beachburg, Cobden and Haley) and wastewater (Cobden), for Option 1.

Tables 4-3 and 4-4 provide for the full capital expenditure and funding program by year for water (Beachburg, Cobden and Haley) and wastewater (Cobden), for Option 2.



Table 4-1  
Township of Whitewater Region  
Capital Budget Forecast – Water (inflated \$)  
Option 1 – No Development Charges

Description	Budget 2019	Total	Forecast									
			2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
<b>Capital Expenditures - Cobden</b>												
Filter Bed #1 Replacement	55,000	61,000	61,000	-	-	-	-	-	-	-	-	-
Potassium Permanganate Lines	32,800	61,000	61,000	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-
<b>Capital Expenditures - Beachburg</b>	-	-	-	-	-	-	-	-	-	-	-	-
Beachburg Pressure Tank	92,000	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-
<b>OCWA Capital</b>	-	-	-	-	-	-	-	-	-	-	-	-
Capital - Cobden	-	1,147,000	88,000	259,000	126,000	129,000	61,000	135,000	66,000	70,000	175,000	38,000
Capital - Beachburg	-	1,156,000	124,000	108,000	161,000	93,000	238,000	105,000	115,000	106,000	77,000	29,000
Capital - Haley	-	155,000	22,000	11,000	79,000	-	7,000	13,000	11,000	2,000	1,000	9,000
	-	-	-	-	-	-	-	-	-	-	-	-
<b>Lifecycle:</b>	-	-	-	-	-	-	-	-	-	-	-	-
Watermains - Cobden	-	678,000	-	-	-	-	-	-	-	-	678,000	-
Watermains - Beachburg	-	767,000	-	-	-	-	-	-	-	-	767,000	-
Watermains - Haley	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-
<b>Studies:</b>	-	-	-	-	-	-	-	-	-	-	-	-
Water/Wastewater Study - Haley	1,225	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-
<b>Growth Related:</b>	-	-	-	-	-	-	-	-	-	-	-	-
New Water Tower (1,500 cu.m)	-	1,732,000	-	-	-	-	155,000	1,577,000	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Capital Expenditures</b>	<b>181,025</b>	<b>5,757,000</b>	<b>356,000</b>	<b>378,000</b>	<b>366,000</b>	<b>222,000</b>	<b>461,000</b>	<b>1,830,000</b>	<b>192,000</b>	<b>178,000</b>	<b>1,698,000</b>	<b>76,000</b>
<b>Capital Financing</b>												
Provincial/Federal Grants	-	-	-	-	-	-	-	-	-	-	-	-
Development Charges Reserve Fund	-	-	-	-	-	-	-	-	-	-	-	-
Non-Growth Related Debenture Requirements	-	1,416,000	210,500	194,000	88,500	-	-	923,000	-	-	-	-
Growth Related Debenture Requirements	-	-	-	-	-	-	-	-	-	-	-	-
Operating Contributions	-	-	-	-	-	-	-	-	-	-	-	-
Lifecycle Reserve Fund	-	-	-	-	-	-	-	-	-	-	-	-
Water Reserve	181,025	4,341,000	145,500	184,000	277,500	222,000	461,000	907,000	192,000	178,000	1,698,000	76,000
<b>Total Capital Financing</b>	<b>181,025</b>	<b>5,757,000</b>	<b>356,000</b>	<b>378,000</b>	<b>366,000</b>	<b>222,000</b>	<b>461,000</b>	<b>1,830,000</b>	<b>192,000</b>	<b>178,000</b>	<b>1,698,000</b>	<b>76,000</b>



Table 4-2  
Township of Whitewater Region  
Capital Budget Forecast – Wastewater (inflated \$)  
Option 1 – No Development Charges

Description	Budget 2019	Total	Forecast									
			2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
<b>Capital Expenditures</b>												
Wastewater Rate Study	15,000	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-
<b>Growth Related:</b>	-	-	-	-	-	-	-	-	-	-	-	-
Cobden WWTP Expansion	-	12,461,000	12,461,000	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Capital Expenditures</b>	<b>15,000</b>	<b>12,461,000</b>	<b>12,461,000</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>Capital Financing</b>												
Provincial/Federal Grants		6,273,000	6,273,000									
Development Charges Reserve Fund	-	-	-	-	-	-	-	-	-	-	-	-
Non-Growth Related Debenture Requirements	-	5,827,500	5,827,500	-	-	-	-	-	-	-	-	-
Growth Related Debenture Requirements	-	-	-	-	-	-	-	-	-	-	-	-
Operating Contributions	-	-	-	-	-	-	-	-	-	-	-	-
Lifecycle Reserve Fund	-	-	-	-	-	-	-	-	-	-	-	-
Wastewater Reserve	15,000	360,500	360,500	-	-	-	-	-	-	-	-	-
<b>Total Capital Financing</b>	<b>15,000</b>	<b>12,461,000</b>	<b>12,461,000</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>



Table 4-3  
Township of Whitewater Region  
Capital Budget Forecast – Water (inflated \$)  
Option 2 – With Development Charges

Description	Budget 2019	Total	Forecast									
			2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
<b>Capital Expenditures - Cobden</b>												
Filter Bed #1 Replacement	55,000	61,000	61,000	-	-	-	-	-	-	-	-	-
Potassium Permanganate Lines	32,800	61,000	61,000	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-
<b>Capital Expenditures - Beachburg</b>	-	-	-	-	-	-	-	-	-	-	-	-
Beachburg Pressure Tank	92,000	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-
<b>OCWA Capital</b>	-	-	-	-	-	-	-	-	-	-	-	-
Capital - Cobden	-	1,147,000	88,000	259,000	126,000	129,000	61,000	135,000	66,000	70,000	175,000	38,000
Capital - Beachburg	-	1,156,000	124,000	108,000	161,000	93,000	238,000	105,000	115,000	106,000	77,000	29,000
Capital - Haley	-	155,000	22,000	11,000	79,000	-	7,000	13,000	11,000	2,000	1,000	9,000
	-	-	-	-	-	-	-	-	-	-	-	-
<b>Lifecycle:</b>	-	-	-	-	-	-	-	-	-	-	-	-
Watermains - Cobden	-	678,000	-	-	-	-	-	-	-	-	678,000	-
Watermains - Beachburg	-	767,000	-	-	-	-	-	-	-	-	767,000	-
Watermains - Haley	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-
<b>Studies:</b>	-	-	-	-	-	-	-	-	-	-	-	-
Water/Wastewater Study - Haley	1,225	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-
<b>Growth Related:</b>	-	-	-	-	-	-	-	-	-	-	-	-
New Water Tower (1,500 cu.m)	-	1,732,000	-	-	-	-	155,000	1,577,000	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Capital Expenditures</b>	<b>181,025</b>	<b>5,757,000</b>	<b>356,000</b>	<b>378,000</b>	<b>366,000</b>	<b>222,000</b>	<b>461,000</b>	<b>1,830,000</b>	<b>192,000</b>	<b>178,000</b>	<b>1,698,000</b>	<b>76,000</b>
<b>Capital Financing</b>												
Provincial/Federal Grants		-										
Development Charges Reserve Fund	-	126,300	-	-	-	-	86,800	39,500	-	-	-	-
Non-Growth Related Debenture Requirements	181,025	283,000	26,000	181,500	75,500	-	-	-	-	-	-	-
Growth Related Debenture Requirements	-	843,620	-	-	-	-	-	843,620	-	-	-	-
Operating Contributions	-	-	-	-	-	-	-	-	-	-	-	-
Lifecycle Reserve Fund	-	-	-	-	-	-	-	-	-	-	-	-
Water Reserve	-	4,504,080	330,000	196,500	290,500	222,000	374,200	946,880	192,000	178,000	1,698,000	76,000
<b>Total Capital Financing</b>	<b>181,025</b>	<b>5,757,000</b>	<b>356,000</b>	<b>378,000</b>	<b>366,000</b>	<b>222,000</b>	<b>461,000</b>	<b>1,830,000</b>	<b>192,000</b>	<b>178,000</b>	<b>1,698,000</b>	<b>76,000</b>



Table 4-4  
Township of Whitewater Region  
Capital Budget Forecast – Wastewater (inflated \$)  
Option 2 – With Development Charges

Description	Budget 2019	Total	Forecast									
			2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
<b>Capital Expenditures</b>												
Wastewater Rate Study	15,000	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-
<b>Growth Related:</b>	-	-	-	-	-	-	-	-	-	-	-	-
Cobden WWTP Expansion	-	12,461,000	12,461,000	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Capital Expenditures</b>	<b>15,000</b>	<b>12,461,000</b>	<b>12,461,000</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>Capital Financing</b>												
Provincial/Federal Grants		6,273,000	6,273,000									
Development Charges Reserve Fund	-	-	-	-	-	-	-	-	-	-	-	-
Non-Growth Related Debenture Requirem	-	2,089,700	2,089,700	-	-	-	-	-	-	-	-	-
Growth Related Debenture Requirements	-	3,738,300	3,738,300	-	-	-	-	-	-	-	-	-
Operating Contributions	-	-	-	-	-	-	-	-	-	-	-	-
Lifecycle Reserve Fund	-	-	-	-	-	-	-	-	-	-	-	-
Wastewater Reserve	15,000	360,000	360,000	-	-	-	-	-	-	-	-	-
<b>Total Capital Financing</b>	<b>15,000</b>	<b>12,461,000</b>	<b>12,461,000</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>





# Chapter 5

## Overview of Expenditures and Revenues



## 5. Overview of Expenditures and Revenues

### 5.1 Water Operating Expenditures

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In this report, the forecast water budget figures (2020 to 2029) are based on the 2019 operating budgets. The costs for each component of the operating budget have been reviewed with staff to establish forecast inflationary adjustments. The expenditures have been assumed to increase at a rate of 2% annually. Note that annual contributions have been provided to the capital reserves in order to minimize the need for additional debt to finance the capital program. Also included are any debenture expenditures and contributions to reserve funds.

### 5.2 Water Operating Revenues

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The Township has minor miscellaneous revenue sources in 2019 to help contribute towards operating expenditures. Operating expenditures are funded mainly from flat rate revenues with a small amount of revenue also being generated from three metered customers in Cobden. Tables 5-1 and 5-2 provide for the operating budgets for the water system for Option 1 (no development charge revenue) and Option 2 (with development charge revenue). Note, for Option 2, an interim loan has been utilized to fund the growth-related debt payments from the capital reserve. This amount is transferred from the capital reserve through the operating budget and back to the D.C. reserve fund to make the debenture payments.



**Table 5-1**  
**Township of Whitewater Region**  
**Operating Budget Forecast – Water (inflated \$)**  
**Option 1 – No Development Charges**

Description	Budget 2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
<b>Expenditures</b>											
<b>Operating Costs</b>											
<b>COBDEN - ADMINISTRATION</b>											
2-4-2401-1330 COBDEN WATER Education, Semim	500	500	500	500	500	500	500	500	500	500	500
2-4-2401-2230 COBDEN WATER - Insurance	7,700	7,900	8,100	8,300	8,500	8,700	8,900	9,100	9,300	9,500	9,700
2-4-2401-4010 COBDEN WATER - Contracts	255,000	260,100	265,300	270,600	276,000	281,500	287,100	292,800	298,700	304,700	310,800
2-4-2401-5020 COBDEN WATER - PIL	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300
<b>COBDEN - TRANSMISSION</b>											
2-4-2402-1010 COBDEN WATER TRANS - Salary	5,045	5,100	5,200	5,300	5,400	5,500	5,600	5,700	5,800	5,900	6,000
2-4-2402-1110 COBDEN WATER TRANS - Benefits	707	700	700	700	700	700	700	700	700	700	700
2-4-2402-1210 COBDEN WATER TRANS - Payroll De	340	300	300	300	300	300	300	300	300	300	300
2-4-2402-1220 COBDEN WATER TRANS - WSIB	55	100	100	100	100	100	100	100	100	100	100
2-4-2402-2410 COBDEN WATER TRANS - Equipment	25,000	25,500	26,000	26,500	27,000	27,500	28,100	28,700	29,300	29,900	30,500
2-4-2402-2430 COBDEN WATER TRANS - Building F	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000
2-4-2402-5010 COBDEN WATER TRANS - Miscellaneous	5,500	5,600	5,700	5,800	5,900	6,000	6,100	6,200	6,300	6,400	6,500
<b>COBDEN - DISTRIBUTION</b>											
2-4-2403-1010 COBDEN WATER DIST - Salary	5,045	5,100	5,200	5,300	5,400	5,500	5,600	5,700	5,800	5,900	6,000
2-4-2403-1110 COBDEN WATER DIST - Benefits	707	700	700	700	700	700	700	700	700	700	700
2-4-2403-1210 COBDEN WATER DIST - Payroll De &	340	300	300	300	300	300	300	300	300	300	300
2-4-2403-1220 COBDEN WATER DIST - WSIB	55	100	100	100	100	100	100	100	100	100	100
2-4-2403-2010 COBDEN WATER DIST - Materials/Supplies	2,500	2,600	2,700	2,800	2,900	3,000	3,100	3,200	3,300	3,400	3,500
2-4-2403-2440 COBDEN WATER DIST - Equipment F	7,500	7,700	7,900	8,100	8,300	8,500	8,700	8,900	9,100	9,300	9,500
2-4-2403-5010 COBDEN WATER DIST - Miscellaneous	7,000	7,100	7,200	7,300	7,400	7,500	7,700	7,900	8,100	8,300	8,500
<b>BEACHBURG - ADMINISTRATION</b>											
2-4-3401-1330 BEACHBURG WATER - Education, SE	500	500	500	500	500	500	500	500	500	500	500
2-4-3401-2230 BEACHBURG WATER - Insurance	7,465	7,600	7,800	8,000	8,200	8,400	8,600	8,800	9,000	9,200	9,400
2-4-3401-4010 BEACHBURG WATER - Contracts	245,000	249,900	254,900	260,000	265,200	270,500	275,900	281,400	287,000	292,700	298,600
2-4-3401-5020 BEACHBURG WATER - PIL	6,700	6,800	6,900	7,000	7,100	7,200	7,300	7,400	7,500	7,700	7,900
<b>BEACHBURG - TRANSMISSION</b>											
2-4-3402-1010 BEACHBURG WATER TRANS - Salary	4,890	5,000	5,100	5,200	5,300	5,400	5,500	5,600	5,700	5,800	5,900
2-4-3402-1110 BEACHBURG WATER TRANS - Benefits	685	700	700	700	700	700	700	700	700	700	700
2-4-3402-1210 BEACHBURG WATER TRANS - PayE	330	300	300	300	300	300	300	300	300	300	300
2-4-3402-1220 BEACHBURG WATER TRANS - WSIB	55	100	100	100	100	100	100	100	100	100	100
2-4-3402-2410 BEACHBURG WATER TRANS - Equipment	10,000	10,200	10,400	10,600	10,800	11,000	11,200	11,400	11,600	11,800	12,000
2-4-3402-2430 BEACHBURG WATER TRANS - Building	6,500	6,600	6,700	6,800	6,900	7,000	7,100	7,200	7,300	7,400	7,500
2-4-3402-5010 BEACHBURG WATER TRANS - Misc.(	6,000	6,100	6,200	6,300	6,400	6,500	6,600	6,700	6,800	6,900	7,000
<b>BEACHBURG - DISTRIBUTION</b>											
2-4-3403-1010 BEACHBURG WATER DIST - Salary	4,890	5,000	5,100	5,200	5,300	5,400	5,500	5,600	5,700	5,800	5,900
2-4-3403-1110 BEACHBURG WATER DIST - Benefits	685	700	700	700	700	700	700	700	700	700	700
2-4-3403-1210 BEACHBURG WATER DIST - Payroll	330	300	300	300	300	300	300	300	300	300	300
2-4-3403-1220 BEACHBURG WATER DIST - WSIB	55	100	100	100	100	100	100	100	100	100	100
2-4-3403-2010 BEACHBURG WATER DIST - Material	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
2-4-3403-2440 BEACHBURG WATER DIST - Equipment	3,000	3,100	3,200	3,300	3,400	3,500	3,600	3,700	3,800	3,900	4,000
2-4-3403-5010 BEACHBURG WATER DIST - Miscellaneous	5,000	5,100	5,200	5,300	5,400	5,500	5,600	5,700	5,800	5,900	6,000
<b>HALEY - ADMINISTRATION</b>											
2-4-4401-1330 HALEY WATER - Education, Seminar:	500	500	500	500	500	500	500	500	500	500	500
2-4-4401-2230 HALEY WATER - Insurance	550	600	600	600	600	600	600	600	600	600	600
2-4-4401-4010 HALEY WATER - Contracts	19,000	19,400	19,800	20,200	20,600	21,000	21,400	21,800	22,200	22,600	23,100
<b>HALEY - TRANSMISSION</b>											
2-4-4402-1010 HALEY WATER TRANS - Salary	365	400	400	400	400	400	400	400	400	400	400
2-4-4402-1110 HALEY WATER TRANS - Benefits	55	100	100	100	100	100	100	100	100	100	100
2-4-4402-1210 HALEY WATER TRANS - Payroll Deck	25	-	-	-	-	-	-	-	-	-	-
2-4-4402-1220 HALEY WATER TRANS - WSIB	5	-	-	-	-	-	-	-	-	-	-
2-4-4402-2410 HALEY WATER TRANS - Equipment F	4,500	4,600	4,700	4,800	4,900	5,000	5,100	5,200	5,300	5,400	5,500
2-4-4402-2430 HALEY WATER TRANS - Building ReF	2,500	2,600	2,700	2,800	2,900	3,000	3,100	3,200	3,300	3,400	3,500
2-4-4402-5010 HALEY WATER TRANS - Miscellaneous	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
<b>HALEY - DISTRIBUTION</b>											
2-4-4403-1010 HALEY WATER DIST - Salary	365	400	400	400	400	400	400	400	400	400	400
2-4-4403-1110 HALEY WATER DIST - Benefits	55	100	100	100	100	100	100	100	100	100	100
2-4-4403-1210 HALEY WATER DIST - Payroll Deduct	25	-	-	-	-	-	-	-	-	-	-
2-4-4403-1220 HALEY WATER DIST - WSIB	5	-	-	-	-	-	-	-	-	-	-
2-4-4403-2440 HALEY WATER DIST - Equipment Rei	-	-	-	-	-	-	-	-	-	-	-
2-4-4403-5010 HALEY WATER DIST - Miscellaneous	500	500	500	500	500	500	500	500	500	500	500
<b>Chargeback Salaries</b>											
Chargeback Salaries - Cobden	19,555	19,900	20,300	20,700	21,100	21,500	21,900	22,300	22,700	23,200	23,700
Chargeback Salaries - Beachburg	18,382	18,700	19,100	19,500	19,900	20,300	20,700	21,100	21,500	21,900	22,300
Chargeback Salaries - Haley	1,173	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200
<b>Sub Total Operating</b>	<b>697,939</b>	<b>711,800</b>	<b>725,900</b>	<b>740,200</b>	<b>754,700</b>	<b>769,400</b>	<b>784,500</b>	<b>799,800</b>	<b>815,400</b>	<b>831,400</b>	<b>847,800</b>



Table 5-1 (continued)  
Township of Whitewater Region  
Operating Budget Forecast – Water (inflated \$)  
Option 1 – No Development Charges

Description	Budget 2019	Forecast									
		2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
<b>Capital-Related</b>											
Existing Debt (Principal) - Growth Related											
Existing Debt (Interest) - Growth Related											
New Growth Related Debt (Principal)		-	-	-	-	-	-	-	-	-	-
New Growth Related Debt (Interest)		-	-	-	-	-	-	-	-	-	-
Existing Debt (Principal) - Non-Growth Related	74,079	66,778	58,980	61,580	64,297	67,138	70,107	73,211	76,455	79,847	83,393
Existing Debt (Interest) - Non-Growth Related	76,147	72,956	70,262	67,662	64,944	62,104	59,135	56,031	52,787	49,395	45,849
New Non-Growth Related Debt (Principal)		-	7,834	15,289	19,041	19,612	20,201	55,157	56,811	58,516	60,271
New Non-Growth Related Debt (Interest)		-	6,315	11,900	14,096	13,525	12,937	40,021	38,366	36,662	34,906
Transfer to Capital		-	-	-	-	-	-	-	-	-	-
Transfer to Capital Reserve		93,950	184,326	277,292	389,499	522,247	671,019	693,966	783,071	877,951	978,962
<b>Sub Total Capital Related</b>	<b>150,226</b>	<b>233,684</b>	<b>327,717</b>	<b>433,722</b>	<b>551,878</b>	<b>684,626</b>	<b>833,398</b>	<b>918,385</b>	<b>1,007,490</b>	<b>1,102,371</b>	<b>1,203,382</b>
<b>Total Expenditures</b>	<b>848,165</b>	<b>945,484</b>	<b>1,053,617</b>	<b>1,173,922</b>	<b>1,306,578</b>	<b>1,454,026</b>	<b>1,617,898</b>	<b>1,718,185</b>	<b>1,822,890</b>	<b>1,933,771</b>	<b>2,051,182</b>
<b>Revenues</b>											
Metered Revenue	25,207	27,525	30,277	33,305	36,635	40,299	44,329	46,545	48,872	51,316	53,882
Other Revenue											
2-3-1302-3324 ONTARIO - OCIF top-up	35,000										
2-3-1302-3540 WATER Interest on Bank Account	493										
Contributions from Development Charges Reserve Fund											
Contributions from Reserves / Reserve Funds	27,644										
<b>Total Operating Revenue</b>	<b>88,345</b>	<b>27,525</b>	<b>30,277</b>	<b>33,305</b>	<b>36,635</b>	<b>40,299</b>	<b>44,329</b>	<b>46,545</b>	<b>48,872</b>	<b>51,316</b>	<b>53,882</b>
<b>Water Billing Recovery - Total</b>	<b>759,820</b>	<b>917,959</b>	<b>1,023,340</b>	<b>1,140,617</b>	<b>1,269,943</b>	<b>1,413,727</b>	<b>1,573,569</b>	<b>1,671,640</b>	<b>1,774,018</b>	<b>1,882,455</b>	<b>1,997,300</b>



Table 5-2  
Township of Whitewater Region  
Operating Budget Forecast – Water (inflated \$)  
Option 2 – With Development Charges

Description	Budget 2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
<b>Expenditures</b>											
<b>Operating Costs</b>		-	-	-	-	-	-	-	-	-	-
<b>COBDEN - ADMINISTRATION</b>											
2-4-2401-1330 COBDEN WATER Education, Semim	500	500	500	500	500	500	500	500	500	500	500
2-4-2401-2230 COBDEN WATER - Insurance	7,700	7,900	8,100	8,300	8,500	8,700	8,900	9,100	9,300	9,500	9,700
2-4-2401-4010 COBDEN WATER - Contracts	255,000	260,100	265,300	270,600	276,000	281,500	287,100	292,800	298,700	304,700	310,800
2-4-2401-5020 COBDEN WATER - PIL	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300
<b>COBDEN - TRANSMISSION</b>											
2-4-2402-1010 COBDEN WATER TRANS - Salary	5,045	5,100	5,200	5,300	5,400	5,500	5,600	5,700	5,800	5,900	6,000
2-4-2402-1110 COBDEN WATER TRANS - Benefits	707	700	700	700	700	700	700	700	700	700	700
2-4-2402-1210 COBDEN WATER TRANS - Payroll De	340	300	300	300	300	300	300	300	300	300	300
2-4-2402-1220 COBDEN WATER TRANS - WSIB	55	100	100	100	100	100	100	100	100	100	100
2-4-2402-2410 COBDEN WATER TRANS - Equipment	25,000	25,500	26,000	26,500	27,000	27,500	28,100	28,700	29,300	29,900	30,500
2-4-2402-2430 COBDEN WATER TRANS - Building F	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000
2-4-2402-5010 COBDEN WATER TRANS - Miscellaneous	5,500	5,600	5,700	5,800	5,900	6,000	6,100	6,200	6,300	6,400	6,500
<b>COBDEN - DISTRIBUTION</b>											
2-4-2403-1010 COBDEN WATER DIST - Salary	5,045	5,100	5,200	5,300	5,400	5,500	5,600	5,700	5,800	5,900	6,000
2-4-2403-1110 COBDEN WATER DIST - Benefits	707	700	700	700	700	700	700	700	700	700	700
2-4-2403-1210 COBDEN WATER DIST - Payroll De&	340	300	300	300	300	300	300	300	300	300	300
2-4-2403-1220 COBDEN WATER DIST - WSIB	55	100	100	100	100	100	100	100	100	100	100
2-4-2403-2010 COBDEN WATER DIST - Materials/Supplies	2,500	2,600	2,700	2,800	2,900	3,000	3,100	3,200	3,300	3,400	3,500
2-4-2403-2440 COBDEN WATER DIST - Equipment F	7,500	7,700	7,900	8,100	8,300	8,500	8,700	8,900	9,100	9,300	9,500
2-4-2403-5010 COBDEN WATER DIST - Miscellaneous	7,000	7,100	7,200	7,300	7,400	7,500	7,700	7,900	8,100	8,300	8,500
<b>BEACHBURG - ADMINISTRATION</b>											
2-4-3401-1330 BEACHBURG WATER - Education, SE	500	500	500	500	500	500	500	500	500	500	500
2-4-3401-2230 BEACHBURG WATER - Insurance	7,465	7,600	7,800	8,000	8,200	8,400	8,600	8,800	9,000	9,200	9,400
2-4-3401-4010 BEACHBURG WATER - Contracts	245,000	249,900	254,900	260,000	265,200	270,500	275,900	281,400	287,000	292,700	298,600
2-4-3401-5020 BEACHBURG WATER - PIL	6,700	6,800	6,900	7,000	7,100	7,200	7,300	7,400	7,500	7,700	7,900
<b>BEACHBURG - TRANSMISSION</b>											
2-4-3402-1010 BEACHBURG WATER TRANS - Salary	4,890	5,000	5,100	5,200	5,300	5,400	5,500	5,600	5,700	5,800	5,900
2-4-3402-1110 BEACHBURG WATER TRANS - Benefits	685	700	700	700	700	700	700	700	700	700	700
2-4-3402-1210 BEACHBURG WATER TRANS - PayrE	330	300	300	300	300	300	300	300	300	300	300
2-4-3402-1220 BEACHBURG WATER TRANS - WSIB	55	100	100	100	100	100	100	100	100	100	100
2-4-3402-2410 BEACHBURG WATER TRANS - Equipment	10,000	10,200	10,400	10,600	10,800	11,000	11,200	11,400	11,600	11,800	12,000
2-4-3402-2430 BEACHBURG WATER TRANS - Building	6,500	6,600	6,700	6,800	6,900	7,000	7,100	7,200	7,300	7,400	7,500
2-4-3402-5010 BEACHBURG WATER TRANS - Misc.(	6,000	6,100	6,200	6,300	6,400	6,500	6,600	6,700	6,800	6,900	7,000
<b>BEACHBURG - DISTRIBUTION</b>											
2-4-3403-1010 BEACHBURG WATER DIST - Salary	4,890	5,000	5,100	5,200	5,300	5,400	5,500	5,600	5,700	5,800	5,900
2-4-3403-1110 BEACHBURG WATER DIST - Benefits	685	700	700	700	700	700	700	700	700	700	700
2-4-3403-1210 BEACHBURG WATER DIST - Payroll	330	300	300	300	300	300	300	300	300	300	300
2-4-3403-1220 BEACHBURG WATER DIST - WSIB	55	100	100	100	100	100	100	100	100	100	100
2-4-3403-2010 BEACHBURG WATER DIST - Material	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
2-4-3403-2440 BEACHBURG WATER DIST - Equipment	3,000	3,100	3,200	3,300	3,400	3,500	3,600	3,700	3,800	3,900	4,000
2-4-3403-5010 BEACHBURG WATER DIST - Miscellaneous	5,000	5,100	5,200	5,300	5,400	5,500	5,600	5,700	5,800	5,900	6,000
<b>HALEY - ADMINISTRATION</b>											
2-4-4401-1330 HALEY WATER - Education, Seminar:	500	500	500	500	500	500	500	500	500	500	500
2-4-4401-2230 HALEY WATER - Insurance	550	600	600	600	600	600	600	600	600	600	600
2-4-4401-4010 HALEY WATER - Contracts	19,000	19,400	19,800	20,200	20,600	21,000	21,400	21,800	22,200	22,600	23,100
<b>HALEY - TRANSMISSION</b>											
2-4-4402-1010 HALEY WATER TRANS - Salary	365	400	400	400	400	400	400	400	400	400	400
2-4-4402-1110 HALEY WATER TRANS - Benefits	55	100	100	100	100	100	100	100	100	100	100
2-4-4402-1210 HALEY WATER TRANS - Payroll Deck	25	-	-	-	-	-	-	-	-	-	-
2-4-4402-1220 HALEY WATER TRANS - WSIB	5	-	-	-	-	-	-	-	-	-	-
2-4-4402-2410 HALEY WATER TRANS - Equipment F	4,500	4,600	4,700	4,800	4,900	5,000	5,100	5,200	5,300	5,400	5,500
2-4-4402-2430 HALEY WATER TRANS - Building Ref	2,500	2,600	2,700	2,800	2,900	3,000	3,100	3,200	3,300	3,400	3,500
2-4-4402-5010 HALEY WATER TRANS - Miscellaneous	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
<b>HALEY - DISTRIBUTION</b>											
2-4-4403-1010 HALEY WATER DIST - Salary	365	400	400	400	400	400	400	400	400	400	400
2-4-4403-1110 HALEY WATER DIST - Benefits	55	100	100	100	100	100	100	100	100	100	100
2-4-4403-1210 HALEY WATER DIST - Payroll Deduct	25	-	-	-	-	-	-	-	-	-	-
2-4-4403-1220 HALEY WATER DIST - WSIB	5	-	-	-	-	-	-	-	-	-	-
2-4-4403-2440 HALEY WATER DIST - Equipment Rei	-	-	-	-	-	-	-	-	-	-	-
2-4-4403-5010 HALEY WATER DIST - Miscellaneous	500	500	500	500	500	500	500	500	500	500	500
<b>Chargeback Salaries</b>											
Chargeback Salaries - Cobden	19,555	19,900	20,300	20,700	21,100	21,500	21,900	22,300	22,700	23,200	23,700
Chargeback Salaries - Beachburg	18,382	18,700	19,100	19,500	19,900	20,300	20,700	21,100	21,500	21,900	22,300
Chargeback Salaries - Haley	1,173	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200
<b>Sub Total Operating</b>	<b>697,939</b>	<b>711,800</b>	<b>725,900</b>	<b>740,200</b>	<b>754,700</b>	<b>769,400</b>	<b>784,500</b>	<b>799,800</b>	<b>815,400</b>	<b>831,400</b>	<b>847,800</b>



Table 5-2 (continued)  
Township of Whitewater Region  
Operating Budget Forecast – Water (inflated \$)  
Option 2 – With Development Charges

Description	Budget 2019	Forecast									
		2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
<b>Capital-Related</b>											
Existing Debt (Principal) - Growth Related											
Existing Debt (Interest) - Growth Related											
New Growth Related Debt (Principal)		-	-	-	-	-	-	31,396	32,338	33,308	34,307
New Growth Related Debt (Interest)		-	-	-	-	-	-	25,309	24,367	23,397	22,397
Existing Debt (Principal) - Non-Growth Related	74,079	66,778	58,980	61,580	64,297	67,138	70,107	73,211	76,455	79,847	83,393
Existing Debt (Interest) - Non-Growth Related	76,147	72,956	70,262	67,662	64,944	62,104	59,135	56,031	52,787	49,395	45,849
New Non-Growth Related Debt (Principal)		-	968	7,751	10,794	11,117	11,451	11,794	12,148	12,513	12,888
New Non-Growth Related Debt (Interest)		-	780	6,196	8,228	7,905	7,571	7,228	6,874	6,509	6,134
Transfer to Capital	-	-	-	-	-	-	-	-	-	-	-
Interim Loan to DC Reserve Fund		-	-	-	-	-	-	35,622	36,235	35,826	35,390
Transfer to Capital Reserve		93,950	196,728	290,533	403,614	536,362	655,718	754,948	825,921	882,614	941,659
<b>Sub Total Capital Related</b>	<b>150,226</b>	<b>233,684</b>	<b>327,717</b>	<b>433,722</b>	<b>551,878</b>	<b>684,626</b>	<b>803,981</b>	<b>995,538</b>	<b>1,067,124</b>	<b>1,123,409</b>	<b>1,182,017</b>
<b>Total Expenditures</b>	<b>848,165</b>	<b>945,484</b>	<b>1,053,617</b>	<b>1,173,922</b>	<b>1,306,578</b>	<b>1,454,026</b>	<b>1,588,481</b>	<b>1,795,338</b>	<b>1,882,524</b>	<b>1,954,809</b>	<b>2,029,817</b>
<b>Revenues</b>											
Metered Revenue	25,207	27,525	30,277	33,305	36,635	40,299	43,523	46,134	47,979	49,419	50,901
Other Revenue											
2-3-1302-3324 ONTARIO - OCIF top-up	35,000										
2-3-1302-3540 WATER Interest on Bank Account	493										
Contributions from Development Charges Reserve Fund	-	-	-	-	-	-	-	56,705	56,705	56,705	56,705
Interim Loan from Capital Reserve		-	-	-	-	-	-	35,622	36,235	35,826	35,390
Contributions from Reserves / Reserve Funds	27,644	-	-	-	-	-	-	-	-	-	-
<b>Total Operating Revenue</b>	<b>88,345</b>	<b>27,525</b>	<b>30,277</b>	<b>33,305</b>	<b>36,635</b>	<b>40,299</b>	<b>43,523</b>	<b>138,460</b>	<b>140,919</b>	<b>141,949</b>	<b>142,996</b>
<b>Water Billing Recovery - Total</b>	<b>759,820</b>	<b>917,959</b>	<b>1,023,340</b>	<b>1,140,617</b>	<b>1,269,943</b>	<b>1,413,727</b>	<b>1,544,959</b>	<b>1,656,878</b>	<b>1,741,605</b>	<b>1,812,860</b>	<b>1,886,822</b>



## **5.3 Wastewater Operating Expenditures**

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In this report, the forecast wastewater budget figures (2020 to 2029) are based on the 2019 operating budgets. The costs for each component of the operating budget have been reviewed with staff to establish forecast inflationary adjustments. The expenditures have been assumed to increase at a rate of 2% annually. Note that annual contributions have been provided to the capital reserves in order to minimize the need for additional debt to finance the capital program. Also included are any debenture expenditures and contributions to reserve funds.

## **5.4 Wastewater Operating Revenues**

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The operating revenue for the wastewater program comes mainly from flat rate revenue from customers. A small amount of revenue is also generated from three metered customers. Table 5-3 and Table 5-4 outline the operating budgets for the wastewater system for Options 1 and 2 respectively. Note, for Option 2, an interim loan has been utilized to fund the growth-related debt payments from the capital reserve. This amount is transferred from the capital reserve through the operating budget and back to the D.C. reserve fund to make the debenture payments.



**Table 5-3**  
**Township of Whitewater Region**  
**Operating Budget Forecast – Wastewater (inflated \$)**  
**Option 1 – No Development Charges**

Description	Budget 2019	Forecast									
		2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
<b>Expenditures</b>											
<b>Operating Costs</b>											
<b>SEWER - DISTRIBUTION</b>			-	-	-	-	-	-	-	-	-
14-6000-1010 SEWER DIST - Salary	4,350	4,400	4,500	4,600	4,700	4,800	4,900	5,000	5,100	5,200	5,300
1-4-6000-1110 SEWER DIST - Benefits	610	600	600	600	600	600	600	600	600	600	600
1-4-6000-1210 SEWER DIST - Payroll Deductions	300	300	300	300	300	300	300	300	300	300	300
1-4-6000-1220 SEWER DIST - WSIB	140	100	100	100	100	100	100	100	100	100	100
1-4-6000-1330 SEWER DIST - Sewer Line Maintenan	25,000	25,500	26,000	26,500	27,000	27,500	28,100	28,700	29,300	29,900	30,500
1-4-6000-2010 SEWER DIST - Materials/Supplies	2,500	2,600	2,700	2,800	2,900	3,000	3,100	3,200	3,300	3,400	3,500
1-4-6000-2440 SEWER DIST - Equipment Rental	2,500	2,600	2,700	2,800	2,900	3,000	3,100	3,200	3,300	3,400	3,500
1-4-6000-2465 SEWER DIST - Sewer Line Maintenan	75,000	76,500	78,000	79,600	81,200	82,800	84,500	86,200	87,900	89,700	91,500
<b>SEWER - TRANSMISSION</b>			-	-	-	-	-	-	-	-	-
1-4-6100-1010 SEWER TRANS - Salary	4,350	4,400	4,500	4,600	4,700	4,800	4,900	5,000	5,100	5,200	5,300
1-4-6100-1110 SEWER TRANS - Benefits	610	600	600	600	600	600	600	600	600	600	600
1-4-6100-1210 SEWER TRANS - Payroll Deductions	300	300	300	300	300	300	300	300	300	300	300
1-4-6100-1220 SEWER TRANS - WSIB	140	100	100	100	100	100	100	100	100	100	100
1-4-6100-1330 SEWER TRANS - Education, Seminar	500	500	500	500	500	500	500	500	500	500	500
1-4-6100-2230 SEWER TRANS - Insurance	5,042	5,100	5,200	5,300	5,400	5,500	5,600	5,700	5,800	5,900	6,000
1-4-6100-2410 SEWER TRANS - Equipment Repairs	10,000	10,200	10,400	10,600	10,800	11,000	11,200	11,400	11,600	11,800	12,000
1-4-6100-2430 SEWER TRANS - Building Repairs & f	2,500	2,600	2,700	2,800	2,900	3,000	3,100	3,200	3,300	3,400	3,500
1-4-6100-4010 SEWER TRANS - Contracts	300,000	306,000	312,100	318,300	324,700	331,200	337,800	344,600	351,500	358,500	365,700
1-4-6100-5010 SEWER TRANS - Miscellaneous	10,500	10,700	10,900	11,100	11,300	11,500	11,700	11,900	12,100	12,300	12,500
1-4-6100-5020 SEWER TRANS - PIL Sewer Plant	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400
<b>Sub Total Operating</b>	<b>445,742</b>	<b>454,500</b>	<b>463,600</b>	<b>472,900</b>	<b>482,400</b>	<b>492,000</b>	<b>501,900</b>	<b>512,000</b>	<b>522,200</b>	<b>532,600</b>	<b>543,200</b>
<b>Capital-Related</b>											
Existing Debt (Principal) - Growth Related											
Existing Debt (Interest) - Growth Related											
New Growth Related Debt (Principal)		-	-	-	-	-	-	-	-	-	-
New Growth Related Debt (Interest)		-	-	-	-	-	-	-	-	-	-
Existing Debt (Principal) - Non-Growth Related	8,418	8,718	9,029	9,351	9,684	10,029	10,386	10,757	11,140	11,537	11,948
Existing Debt (Interest) - Non-Growth Related	5,605	5,305	4,994	4,672	4,339	3,994	3,637	3,266	2,883	2,486	2,075
New Non-Growth Related Debt (Principal)		-	216,875	223,381	230,082	236,985	244,094	251,417	258,960	266,728	274,730
New Non-Growth Related Debt (Interest)		-	174,825	168,319	161,617	154,715	147,605	140,283	132,740	124,971	116,969
Transfer to Capital		-	-	-	-	-	-	-	-	-	-
Transfer to Capital Reserve	36,859	131,846	105,414	159,708	215,774	275,699	339,520	407,575	477,861	552,681	632,311
<b>Sub Total Capital Related</b>	<b>50,882</b>	<b>145,869</b>	<b>511,136</b>	<b>565,430</b>	<b>621,496</b>	<b>681,422</b>	<b>745,243</b>	<b>813,298</b>	<b>883,584</b>	<b>958,404</b>	<b>1,038,034</b>
<b>Total Expenditures</b>	<b>496,624</b>	<b>600,369</b>	<b>974,736</b>	<b>1,038,330</b>	<b>1,103,896</b>	<b>1,173,422</b>	<b>1,247,143</b>	<b>1,325,298</b>	<b>1,405,784</b>	<b>1,491,004</b>	<b>1,581,234</b>
<b>Revenues</b>											
Metered Revenue	46,012	55,215	88,344	92,761	97,399	102,269	107,382	112,752	118,389	124,309	130,524
Contributions from Development Charges Reserve Fund	-	-	-	-	-	-	-	-	-	-	-
Contributions from Reserves / Reserve Funds	-	-	-	-	-	-	-	-	-	-	-
<b>Total Operating Revenue</b>	<b>46,012</b>	<b>55,215</b>	<b>88,344</b>	<b>92,761</b>	<b>97,399</b>	<b>102,269</b>	<b>107,382</b>	<b>112,752</b>	<b>118,389</b>	<b>124,309</b>	<b>130,524</b>
<b>Wastewater Billing Recovery - Total</b>	<b>450,612</b>	<b>545,154</b>	<b>886,392</b>	<b>945,569</b>	<b>1,006,497</b>	<b>1,071,153</b>	<b>1,139,760</b>	<b>1,212,546</b>	<b>1,287,395</b>	<b>1,366,695</b>	<b>1,450,710</b>





**Table 5-4**  
**Township of Whitewater Region**  
**Operating Budget Forecast – Wastewater (inflated \$)**  
**Option 2 – With Development Charges**

Description	Budget 2019	Forecast									
		2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
<b>Expenditures</b>											
<b>Operating Costs</b>											
<b>SEWER - DISTRIBUTION</b>											
1-4-6000-1010 SEWER DIST - Salary	4,350	4,400	4,500	4,600	4,700	4,800	4,900	5,000	5,100	5,200	5,300
1-4-6000-1110 SEWER DIST - Benefits	610	600	600	600	600	600	600	600	600	600	600
1-4-6000-1210 SEWER DIST - Payroll Deductions	300	300	300	300	300	300	300	300	300	300	300
1-4-6000-1220 SEWER DIST - WSIB	140	100	100	100	100	100	100	100	100	100	100
1-4-6000-1330 SEWER DIST - Sewer Line Maintenanc	25,000	25,500	26,000	26,500	27,000	27,500	28,100	28,700	29,300	29,900	30,500
1-4-6000-2010 SEWER DIST - Materials/Supplies	2,500	2,600	2,700	2,800	2,900	3,000	3,100	3,200	3,300	3,400	3,500
1-4-6000-2440 SEWER DIST - Equipment Rental	2,500	2,600	2,700	2,800	2,900	3,000	3,100	3,200	3,300	3,400	3,500
1-4-6000-2465 SEWER DIST - Sewer Line Maintenanc	75,000	76,500	78,000	79,600	81,200	82,800	84,500	86,200	87,900	89,700	91,500
<b>SEWER - TRANSMISSION</b>											
1-4-6100-1010 SEWER TRANS - Salary	4,350	4,400	4,500	4,600	4,700	4,800	4,900	5,000	5,100	5,200	5,300
1-4-6100-1110 SEWER TRANS - Benefits	610	600	600	600	600	600	600	600	600	600	600
1-4-6100-1210 SEWER TRANS - Payroll Deductions	300	300	300	300	300	300	300	300	300	300	300
1-4-6100-1220 SEWER TRANS - WSIB	140	100	100	100	100	100	100	100	100	100	100
1-4-6100-1330 SEWER TRANS - Education, Seminar	500	500	500	500	500	500	500	500	500	500	500
1-4-6100-2230 SEWER TRANS - Insurance	5,042	5,100	5,200	5,300	5,400	5,500	5,600	5,700	5,800	5,900	6,000
1-4-6100-2410 SEWER TRANS - Equipment Repairs	10,000	10,200	10,400	10,600	10,800	11,000	11,200	11,400	11,600	11,800	12,000
1-4-6100-2430 SEWER TRANS - Building Repairs & f	2,500	2,600	2,700	2,800	2,900	3,000	3,100	3,200	3,300	3,400	3,500
1-4-6100-4010 SEWER TRANS - Contracts	300,000	306,000	312,100	318,300	324,700	331,200	337,800	344,600	351,500	358,500	365,700
1-4-6100-5010 SEWER TRANS - Miscellaneous	10,500	10,700	10,900	11,100	11,300	11,500	11,700	11,900	12,100	12,300	12,500
1-4-6100-5020 SEWER TRANS - PIL Sewer Plant	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400
<b>Sub Total Operating</b>	<b>445,742</b>	<b>454,500</b>	<b>463,600</b>	<b>472,900</b>	<b>482,400</b>	<b>492,000</b>	<b>501,900</b>	<b>512,000</b>	<b>522,200</b>	<b>532,600</b>	<b>543,200</b>
<b>Capital-Related</b>											
Existing Debt (Principal) - Growth Related											
Existing Debt (Interest) - Growth Related											
New Growth Related Debt (Principal)	-	139,123	143,297	147,596	152,024	156,585	161,282	166,121	171,104	176,237	
New Growth Related Debt (Interest)	-	112,149	107,975	103,676	99,248	94,688	89,990	85,152	80,168	75,035	
Existing Debt (Principal) - Non-Growth Related	8,418	8,718	9,029	9,351	9,684	10,029	10,386	10,757	11,140	11,537	11,948
Existing Debt (Interest) - Non-Growth Related	5,605	5,305	4,994	4,672	4,339	3,994	3,637	3,266	2,883	2,486	2,075
New Non-Growth Related Debt (Principal)	-	77,770	80,103	82,506	84,981	87,530	90,156	92,861	95,647	98,516	
New Non-Growth Related Debt (Interest)	-	62,691	60,358	57,955	55,480	52,930	50,304	47,600	44,814	41,944	
Transfer to Capital	-	-	-	-	-	-	-	-	-	-	-
Interim Loan to DC Reserve Fund	-	111,104	186,801	185,512	184,198	182,855	181,487	185,705	184,394	182,976	
Transfer to Capital Reserve	36,859	131,846	356,652	410,946	456,499	493,626	520,729	548,659	575,427	602,988	631,365
<b>Sub Total Capital Related</b>	<b>50,882</b>	<b>145,869</b>	<b>873,513</b>	<b>1,003,504</b>	<b>1,047,767</b>	<b>1,083,580</b>	<b>1,109,340</b>	<b>1,135,902</b>	<b>1,166,888</b>	<b>1,193,138</b>	<b>1,220,097</b>
<b>Total Expenditures</b>	<b>496,624</b>	<b>600,369</b>	<b>1,337,113</b>	<b>1,476,404</b>	<b>1,530,167</b>	<b>1,575,580</b>	<b>1,611,240</b>	<b>1,647,902</b>	<b>1,689,088</b>	<b>1,725,738</b>	<b>1,763,297</b>
<b>Revenues</b>											
Metered Revenue	46,012	55,215	88,344	92,761	96,471	99,366	101,353	103,380	105,448	107,557	109,708
Contributions from Development Charges Reserve Fund	-	-	251,272	251,272	251,272	251,272	251,272	251,272	251,272	251,272	251,272
Interim Loan from Capital Reserve	-	-	111,104	186,801	185,512	184,198	182,855	181,487	185,705	184,394	182,976
Contributions from Reserves / Reserve Funds	-	-	-	-	-	-	-	-	-	-	-
<b>Total Operating Revenue</b>	<b>46,012</b>	<b>55,215</b>	<b>450,720</b>	<b>530,834</b>	<b>533,256</b>	<b>534,836</b>	<b>535,480</b>	<b>536,139</b>	<b>542,425</b>	<b>543,223</b>	<b>543,956</b>
<b>Wastewater Billing Recovery - Total</b>	<b>450,612</b>	<b>545,154</b>	<b>886,392</b>	<b>945,569</b>	<b>996,911</b>	<b>1,040,744</b>	<b>1,075,760</b>	<b>1,111,762</b>	<b>1,146,663</b>	<b>1,182,515</b>	<b>1,219,341</b>



# Chapter 6

## Pricing Structures

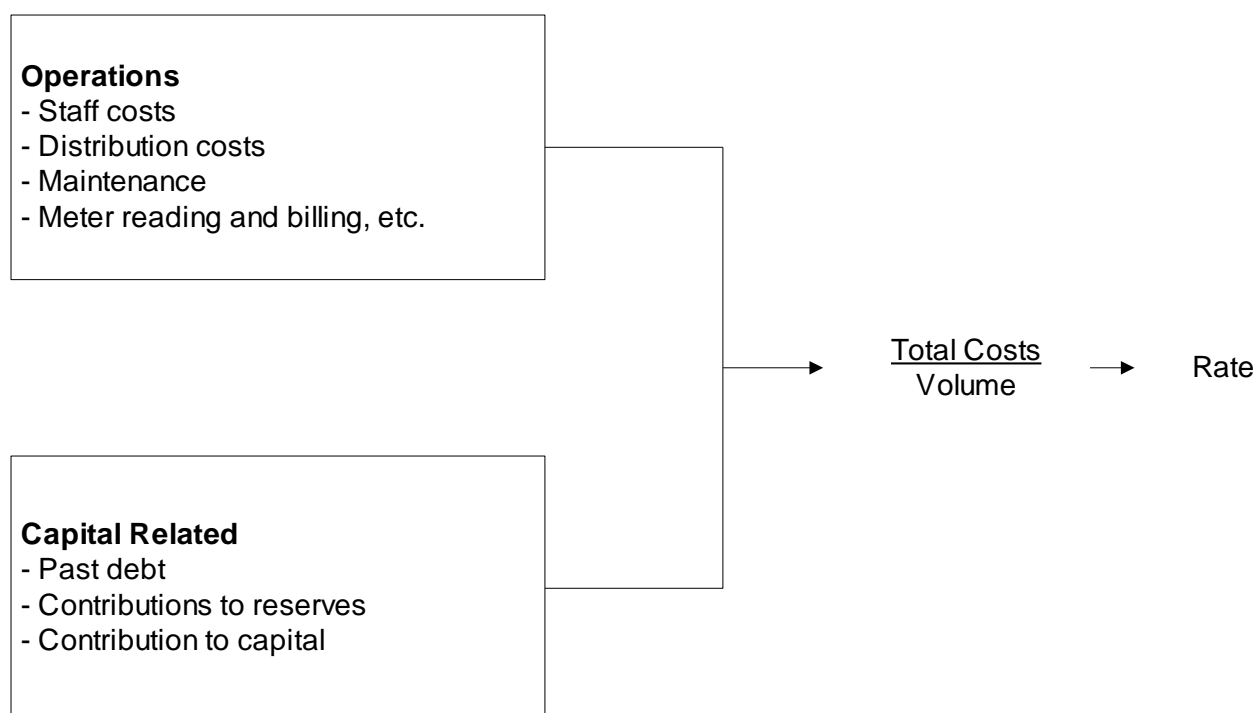


## 6. Pricing Structures

### 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 that will affect the expenditures over time are provided below.

#### Operations

- Inflation;



- Increased maintenance as system ages; and
- Changes to provincial legislation.

### Capital Related

- New capital will be built as areas expand;
- Replacement capital needed as system ages; and
- 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

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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 five basic rate structures employed along with other variations:

- Flat Rate (non-metered customers);
- Constant Rate;
- Declining Block Rate;
- Increasing (or Inverted) Block Rate;
- Hump Back Block Rate; and
- Base Charges.

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 a 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.

**The Hump Back Rate:** The hump back rate is a combination of an increasing block rate and the declining block rate. Under this method the consumer's bill rises with higher volumes used up to a certain level and then begins to fall for volumes in excess of levels set for the increasing block rate.

## 6.3 Assessment of Alternative Pricing Structures

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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 and 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 less incentive to reduce consumption.

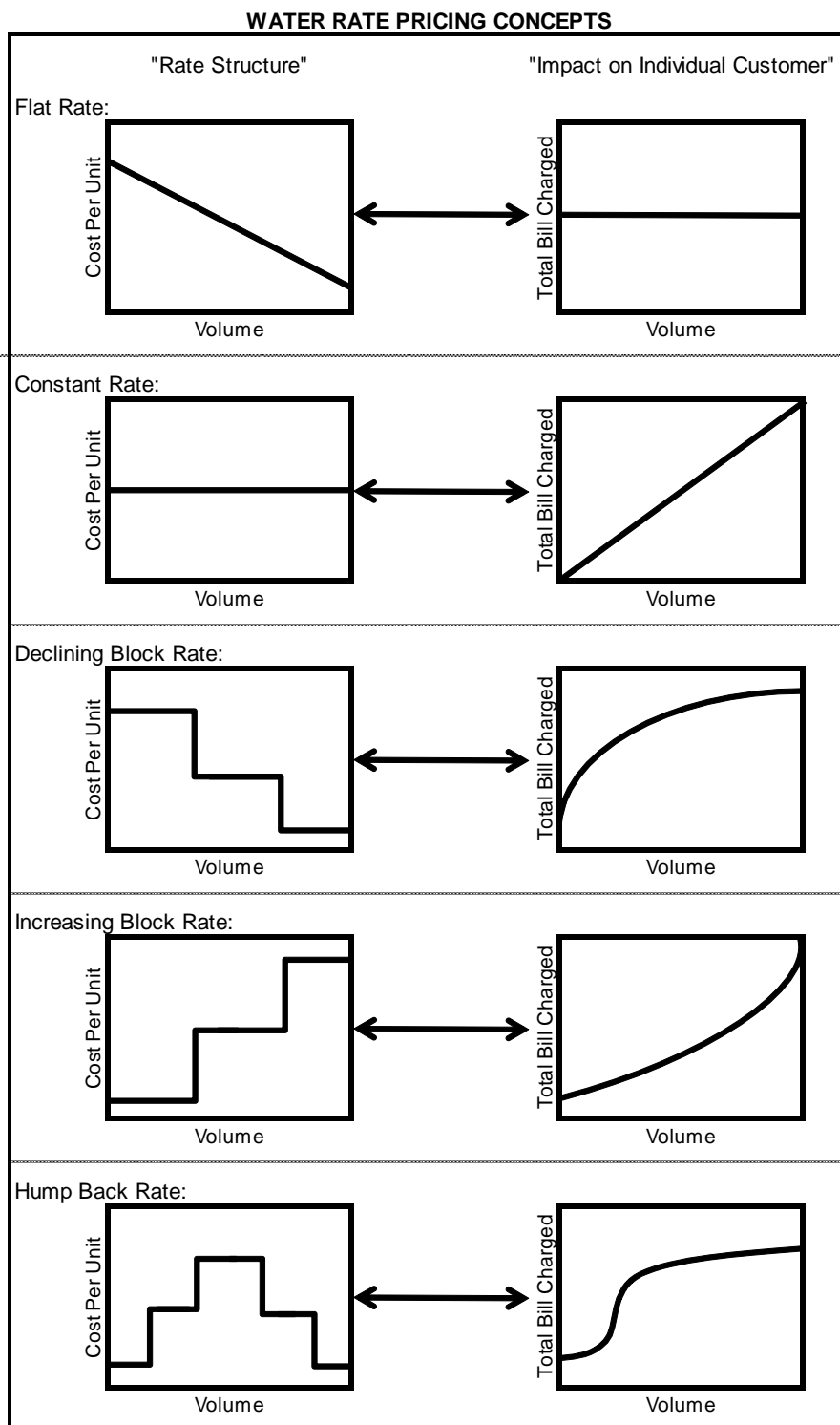
The Constant Rate structure presents the customer with a linear relationship between consumption and the cost thereof. As the consumer pays a fixed cost per unit, his bill will vary directly with the amount consumed. This method presents tangible incentive for consumers to conserve water. As metering 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. Following the schematic is a table summarizing each rate structure.



Figure 6-1





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 increases
Increasing Block	Cost per unit increases as threshold targets are achieved	Bill increases at a faster rate as volumes increase
Hump Back Rate	Combination of an increasing block at the lower consumption volumes and then converts to a declining block for the high	Bill increases at a faster rate at the lower consumption amounts and then slows as volumes increase

## 6.4 Rate Structures in Ontario

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In a past 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 Metered Customers

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The rates and structures discussed in the next section focus on the flat rate customers in the Township, however, there are three metered properties that are charged a volume rate based on the amount of water they use. Historical volumes were used to estimate the anticipated revenue for 2019. For the purposes of the calculations, the volume rates calculated are based on the annual increases required for the flat rate users.

## 6.6 Recommended Rate Structures

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Based on the foregoing and based on preliminary discussions with staff and Council, it is recommended that the Township move from three separate area rates, to one combined flat rate while maintaining the volume rate (with minimum charge) for metered customers.

As noted earlier, the needs for wastewater are significant at the beginning of the forecast period, while the majority of water needs arise in the latter half of the forecast. Additionally, given the small reserve balance for water and the capital costs required through the forecast period, rate increases are required at the beginning of the forecast. Hence rate increases are proposed to be 20% in 2020 for both water (based on current Beachburg and Cobden rates) and wastewater. Note, the percentage rate increases proposed apply to both the flat rates as well as the metered rates.

In order to meet the needs for water, it is recommended that the rate be increased by 20% for 2020. This results in an initial \$147 increase in the annual flat rate for residential customers. From 2021 to 2024, the annual increases are recommended to be 10% per year to ensure recovery of funds to minimize debt required for the water tower as well as to begin saving for lifecycle replacements required in the system. Subsequent to 2024, the proposed rate increases for Options 1 and 2 differ. Table 6-1 provides a comparison of the proposed increases both with and without recovery of development charge revenues.

As for wastewater, it is recommended that the wastewater rates increase by 20% in 2020 as well. This results in an initial \$184 increase in the annual flat rate for residential customers. Due to the cost of the Cobden wastewater treatment plant work being



undertaken in 2020, the rates for 2021 are calculated to increase by 60% to ensure recovery of revenues to pay for the debt charges and increases in operating costs. For Option 1, subsequent to 2021, the rates are anticipated to increase by 5% annually for the remainder of the forecast period. For Option 2, subsequent to 2021, the rate increases decline until 2025 and remain at 2% thereafter. Table 6-2 provides for a comparison of the rate increases proposed for each option.

The above increases are recommended to ensure that the Township can fund the capital and operating costs while limiting the need to issue debentures. Additionally, the rate increases assist the Township in saving for the lifecycle replacement of existing assets for the future.

Table 6-1  
Township of Whitewater Region  
Comparison of Proposed Water Rate Increases

Year	Option 1 Proposed % Increase	Option 2 Proposed % Increase	Option 1 Proposed Annual Charge	Option 2 Proposed Annual Charge
2020	20%	20%	\$882	\$882
2021	10%	10%	\$970	\$970
2022	10%	10%	\$1,067	\$1,067
2023	10%	10%	\$1,174	\$1,174
2024	10%	10%	\$1,292	\$1,292
2025	10%	8%	\$1,421	\$1,395
2026	5%	6%	\$1,492	\$1,479
2027	5%	4%	\$1,566	\$1,538
2028	5%	3%	\$1,645	\$1,584
2029	5%	3%	\$1,727	\$1,631



Table 6-2  
Township of Whitewater Region  
Comparison of Proposed Wastewater Rate Increases

Year	Option 1 Proposed % Increase	Option 2 Proposed % Increase	Option 1 Proposed Annual Charge	Option 2 Proposed Annual Charge
2020	20%	20%	\$1,105	\$1,105
2021	60%	60%	\$1,769	\$1,769
2022	5%	5%	\$1,857	\$1,857
2023	5%	4%	\$1,950	\$1,931
2024	5%	3%	\$2,047	\$1,989
2025	5%	2%	\$2,150	\$2,029
2026	5%	2%	\$2,257	\$2,070
2027	5%	2%	\$2,370	\$2,111
2028	5%	2%	\$2,489	\$2,153
2029	5%	2%	\$2,613	\$2,196



# Chapter 7

## Analysis of Water and Wastewater Rates and Policy Matters



## 7. Analysis of Water and Wastewater Rates and Policy Matters

### 7.1 Introduction

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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 water and wastewater 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 capital reserve contribution. Chapter 6 provided a summary of the anticipated rates over the forecast period, whereas this chapter provides for the detailed calculation of the flat charges over the forecast period. These calculations will be based on the net operating expenditures (the variable costs) provided in Chapter 5, divided by the weighted number of customers forecasted in section 1.8.

### 7.2 Water Rates

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Based on the discussion of rate structures provided in section 6.6 and the recommendation to implement one flat rate (while continuing with the volume rate for metered customers), the rates are calculated by taking the net recoverable amounts from Tables 5-1 and 5-2 (the product of total expenditures less non-rate revenues and deduct metered revenue amounts discussed in section 6.5) and dividing them by the number of customers (on a residential equivalent basis) resulting in the forecasted rates. As noted in Chapter 6, the majority of the water capital costs are required in the latter half of the forecast, with replacements required throughout the forecast.

The forecasted rates are presented in Tables 7-1 and 7-2. Detailed calculations of the flat rates are provided in Appendix C. A summary of the recommended flat rates along with the total annual bill for a residential customer are as follows:





Table 7-1  
Township of Whitewater Region  
Forecasted Annual Residential Water Bill  
Option 1 – No Development Charges

Description	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
<b>Water</b>											
Monthly Flat Rate	\$ 61	\$ 74	\$ 81	\$ 89	\$ 98	\$ 108	\$ 118	\$ 124	\$ 131	\$ 137	\$ 144
<b>Annual Flat Rate (Total Water Bill)</b>	<b>\$ 735</b>	<b>\$ 882</b>	<b>\$ 970</b>	<b>\$ 1,067</b>	<b>\$ 1,174</b>	<b>\$ 1,292</b>	<b>\$ 1,421</b>	<b>\$ 1,492</b>	<b>\$ 1,566</b>	<b>\$ 1,645</b>	<b>\$ 1,727</b>
<b>Annual % Increase (Water)</b>		20%	10%	10%	10%	10%	10%	5%	5%	5%	5%

Table 7-2  
Township of Whitewater Region  
Forecasted Annual Residential Water Bill  
Option 2 – With Development Charges

Description	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
<b>Water</b>											
Monthly Flat Rate	\$ 61	\$ 74	\$ 81	\$ 89	\$ 98	\$ 108	\$ 116	\$ 123	\$ 128	\$ 132	\$ 136
<b>Annual Flat Rate (Total Water Bill)</b>	<b>\$ 735</b>	<b>\$ 882</b>	<b>\$ 970</b>	<b>\$ 1,067</b>	<b>\$ 1,174</b>	<b>\$ 1,292</b>	<b>\$ 1,395</b>	<b>\$ 1,479</b>	<b>\$ 1,538</b>	<b>\$ 1,584</b>	<b>\$ 1,631</b>
<b>Annual % Increase (Water)</b>		20%	10%	10%	10%	10%	8%	6%	4%	3%	3%

## 7.3 Wastewater Rates

Similar to water, the calculation of the wastewater rates takes the net recoverable amounts from Tables 5-3 and 5-4 and divides them by the residential equivalent customers, resulting in the forecasted flat rates. Detailed calculations are provided in Appendix D. As mentioned in Chapter 6, the bulk of the wastewater needs are required in the beginning of the capital forecast.

Based on the timing of the capital needs, coupled with the anticipated debt required for the project, the wastewater flat rates are anticipated to increase by 20% for 2020, 60% for 2021, then increase at 5% annually thereafter (for Option 1). For Option 2, the increases anticipated for 2020 and 2021 are the same as calculated in Option 1 however, beginning in 2022 the anticipated annual increases are 5% after which they begin to step down to 2% by 2025 and continue at 2% annually thereafter.

The following summarizes the recommended rates for wastewater and provides the annual bill for a residential customer:



Table 7-3  
Township of Whitewater Region  
Forecasted Annual Residential Wastewater Bill  
Option 1 – No Development Charges

Description	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
<b>Wastewater</b>											
Monthly Flat Rate	\$ 77	\$ 92	\$ 147	\$ 155	\$ 162	\$ 171	\$ 179	\$ 188	\$ 198	\$ 207	\$ 218
<b>Annual Flat Rate (Total Wastewater Bill)</b>	<b>\$ 921</b>	<b>\$ 1,105</b>	<b>\$ 1,769</b>	<b>\$ 1,857</b>	<b>\$ 1,950</b>	<b>\$ 2,047</b>	<b>\$ 2,150</b>	<b>\$ 2,257</b>	<b>\$ 2,370</b>	<b>\$ 2,489</b>	<b>\$ 2,613</b>
<b>Annual % Increase (Wastewater)</b>		20%	60%	5%	5%	5%	5%	5%	5%	5%	5%

Table 7-4  
Township of Whitewater Region  
Forecasted Annual Residential Wastewater Bill  
Option 2 – With Development Charges

Description	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
<b>Wastewater</b>											
Monthly Flat Rate	\$ 77	\$ 92	\$ 147	\$ 155	\$ 161	\$ 166	\$ 169	\$ 172	\$ 176	\$ 179	\$ 183
<b>Annual Flat Rate (Total Wastewater Bill)</b>	<b>\$ 921</b>	<b>\$ 1,105</b>	<b>\$ 1,769</b>	<b>\$ 1,857</b>	<b>\$ 1,931</b>	<b>\$ 1,989</b>	<b>\$ 2,029</b>	<b>\$ 2,070</b>	<b>\$ 2,111</b>	<b>\$ 2,153</b>	<b>\$ 2,196</b>
<b>Annual % Increase (Wastewater)</b>		20%	60%	5%	4%	3%	2%	2%	2%	2%	2%

## 7.4 Forecast of Combined Water and Wastewater Impact for the Average Residential Customer

Based on the foregoing information, the combined impact of the water and wastewater flat rate charges equal to an increase of 20% in 2020, 38% in 2021, then 7% in 2022. Beginning in 2023:

- Option 1 bills increase by 7% per year until 2025, then 5% from 2026 to 2029.
- Option 2 bills increase by 6% until 2024, 4% in 2025 and 2026, 3% in 2027, then 2% in 2028 and 2029.

Tables 7-5 and 7-6 present the forecast combined annual bill for residential customers for Option 1 and 2.



Table 7-5  
Township of Whitewater Region  
Forecasted Annual Residential Water and Wastewater Bill  
Option 1 – No Development Charges

Description	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
<b>Water</b>											
Monthly Flat Rate	\$ 61	\$ 74	\$ 81	\$ 89	\$ 98	\$ 108	\$ 118	\$ 124	\$ 131	\$ 137	\$ 144
<b>Annual Flat Rate (Total Water Bill)</b>	\$ 735	\$ 882	\$ 970	\$ 1,067	\$ 1,174	\$ 1,292	\$ 1,421	\$ 1,492	\$ 1,566	\$ 1,645	\$ 1,727
<b>Annual % Increase (Water)</b>		20%	10%	10%	10%	10%	10%	5%	5%	5%	5%
<b>Wastewater</b>											
Monthly Flat Rate	\$ 77	\$ 92	\$ 147	\$ 155	\$ 162	\$ 171	\$ 179	\$ 188	\$ 198	\$ 207	\$ 218
<b>Annual Flat Rate (Total Wastewater Bill)</b>	\$ 921	\$ 1,105	\$ 1,769	\$ 1,857	\$ 1,950	\$ 2,047	\$ 2,150	\$ 2,257	\$ 2,370	\$ 2,489	\$ 2,613
<b>Annual % Increase (Wastewater)</b>		20%	60%	5%	5%	5%	5%	5%	5%	5%	5%
<b>Total Water and Wastewater Bill</b>	<b>\$ 1,656</b>	<b>\$ 1,987</b>	<b>\$ 2,739</b>	<b>\$ 2,924</b>	<b>\$ 3,124</b>	<b>\$ 3,339</b>	<b>\$ 3,570</b>	<b>\$ 3,749</b>	<b>\$ 3,936</b>	<b>\$ 4,133</b>	<b>\$ 4,340</b>
<b>Annual % Increase</b>		20%	38%	7%	7%	7%	7%	5%	5%	5%	5%

Table 7-6  
Township of Whitewater Region  
Forecasted Annual Residential Water and Wastewater Bill  
Option 2 – With Development Charges

Description	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
<b>Water</b>											
Monthly Flat Rate	\$ 61	\$ 74	\$ 81	\$ 89	\$ 98	\$ 108	\$ 116	\$ 123	\$ 128	\$ 132	\$ 136
<b>Annual Flat Rate (Total Water Bill)</b>	\$ 735	\$ 882	\$ 970	\$ 1,067	\$ 1,174	\$ 1,292	\$ 1,395	\$ 1,479	\$ 1,538	\$ 1,584	\$ 1,631
<b>Annual % Increase (Water)</b>		20%	10%	10%	10%	10%	8%	6%	4%	3%	3%
<b>Wastewater</b>											
Monthly Flat Rate	\$ 77	\$ 92	\$ 147	\$ 155	\$ 161	\$ 166	\$ 169	\$ 172	\$ 176	\$ 179	\$ 183
<b>Annual Flat Rate (Total Wastewater Bill)</b>	\$ 921	\$ 1,105	\$ 1,769	\$ 1,857	\$ 1,931	\$ 1,989	\$ 2,029	\$ 2,070	\$ 2,111	\$ 2,153	\$ 2,196
<b>Annual % Increase (Wastewater)</b>		20%	60%	5%	4%	3%	2%	2%	2%	2%	2%
<b>Total Water and Wastewater Bill</b>	<b>\$ 1,656</b>	<b>\$ 1,987</b>	<b>\$ 2,739</b>	<b>\$ 2,924</b>	<b>\$ 3,105</b>	<b>\$ 3,281</b>	<b>\$ 3,424</b>	<b>\$ 3,548</b>	<b>\$ 3,649</b>	<b>\$ 3,737</b>	<b>\$ 3,828</b>
<b>Annual % Increase</b>		20%	38%	7%	6%	6%	4%	4%	3%	2%	2%



## 7.5 Forecast Volume Rates for Water and Wastewater by Class of User

As noted in section 6.5, metered customers are charged a volume rate (with a minimum charge) based on the amount of water used. Additionally, classes of users have rates imposed based on their estimated equivalency to a residential unit. Tables 7-7, 7-8, 7-9, and 7-10 provide the forecasted water and wastewater flat charges (by class of user) as well as the volume rates for Options 1 and 2.

Table 7-7  
Township of Whitewater Region  
Forecasted Water Rates by Class of User  
Option 1 – No Development Charges

Water - Annual Flat Rates	Weighting Factor	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Residential	1.00	\$ 882	\$ 970	\$ 1,067	\$ 1,174	\$ 1,292	\$ 1,421	\$ 1,492	\$ 1,566	\$ 1,645	\$ 1,727
Small Commercial	1.00	\$ 882	\$ 970	\$ 1,067	\$ 1,174	\$ 1,292	\$ 1,421	\$ 1,492	\$ 1,566	\$ 1,645	\$ 1,727
Medium Commercial	1.50	\$ 1,323	\$ 1,456	\$ 1,601	\$ 1,761	\$ 1,937	\$ 2,131	\$ 2,238	\$ 2,349	\$ 2,467	\$ 2,590
High Commercial	2.00	\$ 1,764	\$ 1,941	\$ 2,135	\$ 2,348	\$ 2,583	\$ 2,841	\$ 2,983	\$ 3,133	\$ 3,289	\$ 3,454
Multi Residential	0.80	\$ 706	\$ 776	\$ 854	\$ 939	\$ 1,033	\$ 1,137	\$ 1,193	\$ 1,253	\$ 1,316	\$ 1,381

Water - Metered Rates	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Metered Charge (per cu.m)	1.278	1.534	1.687	1.856	2.041	2.245	2.470	2.593	2.723	2.859	3.002

Table 7-8  
Township of Whitewater Region  
Forecasted Water Rates by Class of User  
Option 2 – With Development Charges

Water - Annual Flat Rates	Weighting Factor	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Residential	1.00	\$ 882	\$ 970	\$ 1,067	\$ 1,174	\$ 1,292	\$ 1,395	\$ 1,479	\$ 1,538	\$ 1,584	\$ 1,631
Small Commercial	1.00	\$ 882	\$ 970	\$ 1,067	\$ 1,174	\$ 1,292	\$ 1,395	\$ 1,479	\$ 1,538	\$ 1,584	\$ 1,631
Medium Commercial	1.50	\$ 1,323	\$ 1,456	\$ 1,601	\$ 1,761	\$ 1,937	\$ 2,092	\$ 2,218	\$ 2,307	\$ 2,376	\$ 2,447
High Commercial	2.00	\$ 1,764	\$ 1,941	\$ 2,135	\$ 2,348	\$ 2,583	\$ 2,790	\$ 2,957	\$ 3,075	\$ 3,168	\$ 3,263
Multi Residential	0.80	\$ 706	\$ 776	\$ 854	\$ 939	\$ 1,033	\$ 1,116	\$ 1,183	\$ 1,230	\$ 1,267	\$ 1,305

Water - Metered Rates	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Metered Charge (per cu.m)	1.278	1.534	1.687	1.856	2.041	2.245	2.425	2.571	2.673	2.754	2.836



Table 7-9  
Township of Whitewater Region  
Forecasted Wastewater Rates by Class of User  
Option 1 – No Development Charges

Cobden Wastewater - Annual Flat Rates	Weighting Factor	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Residential	1.00	\$1,105	\$1,769	\$1,857	\$1,950	\$2,047	\$2,150	\$2,257	\$2,370	\$2,489	\$2,613
Small Commercial	1.00	\$1,105	\$1,769	\$1,857	\$1,950	\$2,047	\$2,150	\$2,257	\$2,370	\$2,489	\$2,613
Medium Commercial	1.50	\$1,658	\$2,653	\$2,785	\$2,925	\$3,071	\$3,225	\$3,386	\$3,555	\$3,733	\$3,919
High Commercial	2.00	\$2,211	\$3,537	\$3,714	\$3,900	\$4,095	\$4,299	\$4,514	\$4,740	\$4,977	\$5,226
Multi Residential	0.80	\$884	\$1,415	\$1,486	\$1,560	\$1,638	\$1,720	\$1,806	\$1,896	\$1,991	\$2,090
<b>Cobden Wastewater - Metered Rates</b>											
Metered Charge (per cu.m)		2.380	2.856	4.570	4.798	5.038	5.290	5.555	5.832	6.124	6.430

Table 7-10  
Township of Whitewater Region  
Forecasted Wastewater Rates by Class of User  
Option 2 – With Development Charges

Cobden Wastewater - Annual Flat Rates	Weighting Factor	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Residential	1.00	\$1,105	\$1,769	\$1,857	\$1,931	\$1,989	\$2,029	\$2,070	\$2,111	\$2,153	\$2,196
Small Commercial	1.00	\$1,105	\$1,769	\$1,857	\$1,931	\$1,989	\$2,029	\$2,070	\$2,111	\$2,153	\$2,196
Medium Commercial	1.50	\$1,658	\$2,653	\$2,785	\$2,897	\$2,984	\$3,043	\$3,104	\$3,166	\$3,230	\$3,294
High Commercial	2.00	\$2,211	\$3,537	\$3,714	\$3,863	\$3,978	\$4,058	\$4,139	\$4,222	\$4,306	\$4,392
Multi Residential	0.80	\$884	\$1,415	\$1,486	\$1,545	\$1,591	\$1,623	\$1,656	\$1,689	\$1,723	\$1,757
<b>Cobden Water - Metered Rates</b>											
Metered Charge (per cu.m)		2.380	2.856	4.570	4.798	4.990	5.140	5.243	5.347	5.454	5.564



# Chapter 8

## Recommendations

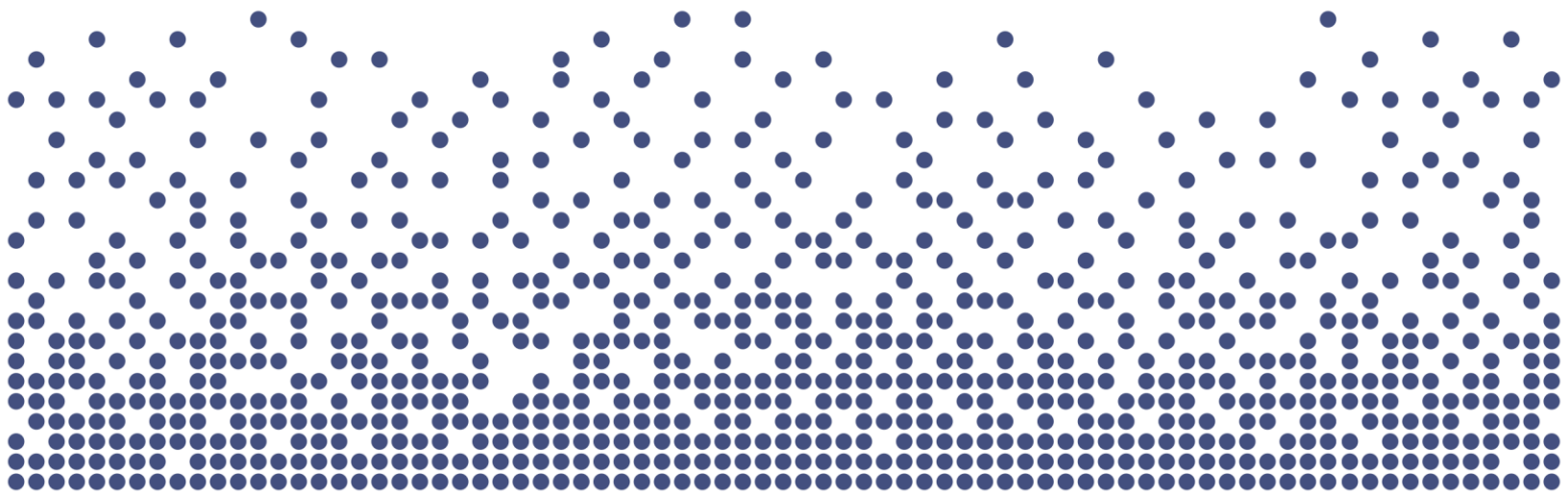


## 8. Recommendations

As presented within this report, capital and operating expenditures have been identified and forecast over a ten-year period for water and wastewater services.

Based upon the foregoing, the following recommendations are identified for consideration by Township Council:

1. That Council provide for the recovery of all water and wastewater costs through full cost recovery rates.
2. That Council consider the Capital Plan for water and wastewater as provided in Tables 2-1 and 2-2 and the associated Capital Financing Plan as set out in Tables 4-1, 4-2, 4-3, and 4-4.
3. That Council consider the volume rates provided in Tables 7-7 and 7-8 for water and Tables 7-9 and 7-10 for wastewater.
4. That Council consider the flat rates for water and wastewater as provided in Tables 7-7, 7-8, 7-9, and 7-10.
5. That the Township undertake an assessment of the existing customer profiles and their associated class, the class of customer definitions and/or the proportional water/wastewater rate based on the class of users in order to better distribute the cost of the services to the appropriate users.
6. That the Township examine the difference between cost, revenue and/or consumption with the implementation of water meters to all and/or certain water users.
7. The identification of any studies or exercises that would assist in forecasting the cost for the delivery water and wastewater services including, but not limited to, Master Servicing Plan, 10-Year Capital and Operations Budget Forecast, and Water Loss Study.



# Appendices





# Appendix A

## Water System Inventory Data



## Appendix A: Water System Inventory Data



**Table A-1**  
**Township of Whitewater Region**  
**Water Facilities**

ID	Name	Location	Year Installed	Estimated Life (Months)	Estimated Life (Years)	Replacement Year	Replacement Cost	Years until Replacement	Annual Lifecycle Contribution	Amount to be included in 10 year Forecast
CW0001	Cobden Water Treatment Plant - Siteworks	Cobden	1980	240	35	2020	86,350		suggested for 10 year capital forecast	86,350
CW0002	Cobden Water Treatment Plant - U/G Piping	Cobden	1980	720	60	2040	86,350	21	5,076	-
CW0003	Cobden Water Treatment Plant - Cement Structures	Cobden	1980	960	80	2060	690,780	41	24,849	-
CW0004	Cobden Water Treatment Plant - Building Structural Elements	Cobden	1980	480	50	2030	172,700	11	17,646	-
CW0005	Cobden Water Treatment Plant - Building Finishes	Cobden	1980	240	30	2020	172,700	1	suggested for 10 year capital forecast	172,700
CW0006	Cobden Water Treatment Plant - Process/Mechanical/Electrical	Cobden	1980	240	25	2020	2,245,040	1	suggested for 10 year capital forecast	2,245,040
CW0007	2010 Cobden Water Treatment Plant Upgrade	Cobden	2010	600	50	2060	4,039,330	41	145,302	-
CW0024	Haley Water Treatment Plant - 2010 Addition	Haley	2009	600	50	2059	803,180	40	29,361	-
CW0032	Cobden Water Tower	Cobden	1987	720	60	2047	1,635,800	28	76,866	-
	Beachburg Waterworks	Beachburg	1989	600	50	2039	1,418,620	20	86,758	-
	Beachburg Waterworks	Beachburg	1990	600	50	2040	729,540	21	42,886	-
	Beachburg Waterworks	Beachburg	1991	600	50	2041	258,180	22	14,621	-
	Beachburg Waterworks	Beachburg	1992	600	50	2042	629,460	23	34,411	-
	Beachburg Waterworks	Beachburg	1993	600	50	2043	630,550	24	33,338	-
	Beachburg Waterworks	Beachburg	1994	600	50	2044	85,540	25	4,381	-
	Beachburg Waterworks	Beachburg	2000	600	50	2050	23,190	31	1,011	-
	Beachburg Waterworks	Beachburg	2001	600	50	2051	16,640	32	709	-
	Beachburg Waterworks	Beachburg	2010	600	50	2060	628,020	41	22,591	-
	Beachburg Waterworks	Beachburg	2013	300	25	2038	10,320	19	658	-
<b>Total</b>							<b>14,362,290</b>		<b>540,465</b>	<b>2,504,090</b>
<b>Total Cobden</b>							<b>9,129,050</b>		<b>269,739</b>	<b>2,504,090</b>
<b>Total Beachburg</b>							<b>4,430,060</b>		<b>241,365</b>	<b>-</b>
<b>Total Haley</b>							<b>803,180</b>		<b>29,361</b>	<b>-</b>



Table A-2  
Township of Whitewater Region  
Watermains

ID	Name	Location	Township	Length (km)	Length (m)	Diameter (mm)	Material	Year Installed	Estimated Life (Years)	Replacement Year	Total Main Replacement Costs	Years until Replacement	Annual Lifecycle Contribution	Amount to be included in 10 year Forecast
											41,610		1,814	
W001	Archibald St.	Arthur St. - Ross St.	Cobden	0.125	125	150	Cast	1975	75	2050		31		-
W002	Arthur St.	Main St. - Archibald St.	Cobden	0.175	175	150	Cast	1960	75	2035	79,750	16	5,874	-
W003	Bonnechere Rd	Main St. - Boundary Rd.	Cobden	0.264	264	200	PVC	1988	100	2088	119,680	69	3,213	-
W004	Boundary Rd.	John St. - Bonnechere St.	Cobden	0.640	640	200	PVC	1988	100	2088	290,140	69	7,789	-
W005	Bromley St.	Simpson St. - East of Simpson	Cobden	0.043	43	150	Cast	1955	75	2030	20,940	11	2,140	-
W006	Bromley St.	John St. - Simpson St.	Cobden	0.097	97	100	Cast	1955	75	2030	23,620	11	2,413	-
W007	Bromley St.	East of Simpson - Crawford St.	Cobden	0.070	70	200	PVC	1994	100	2094	35,570	75	920	-
W008	Cowley St.	Gould St. - Pembroke St.	Cobden	0.168	168	150	Cast	1953	75	2028	83,410	9	suggested for 10 year capital forecast	83,410
W009	Cowley St.	Crawford St. - Gould St.	Cobden	0.116	116	150	Cast	1953	75	2028	57,590	9	suggested for 10 year capital forecast	57,590
W010	Crawford St.	Meadow St. - Boundary Rd.	Cobden	0.119	119	100	Cast	1956	75	2031	28,310	12	2,677	-
W011	Crawford St.	Main St. - Jason St.	Cobden	0.215	215	200	PVC	1994	100	2094	109,260	75	2,825	-
W012	Crawford St.	Jason St. - Meadow St.	Cobden	0.107	107	150	PVC	1994	100	2094	43,500	75	1,125	-
W013	Crawford St.	Cowley - Main St.	Cobden	0.128	128	150	Cast	1994	75	2069	52,040	50	1,656	-
W014	Creamery Rd.	Meadow St. - Boundary Rd.	Cobden	0.085	85	150	PVC	1994	100	2094	34,560	75	894	-
W015	Dixon St.	Gould St. - Pembroke St.	Cobden	0.239	239	200	PVC	1988	100	2088	108,120	69	2,903	-
W016	Gould St.	Water Tank Line - Main St.	Cobden	0.134	134	150	Cast	1955	75	2030	65,250	11	6,667	-
W017	Gould St.	Main St. - Dixon St.	Cobden	0.120	120	100	Cast	1955	75	2030	29,220	11	2,986	-
W018	Gould St.	Jason St. - Boundary Rd.	Cobden	0.197	197	100	Cast	1953	75	2028	48,900	9	suggested for 10 year capital forecast	48,900
W019	Gould St.	Dixon St. - Jason St.	Cobden	0.049	49	200	PVC	1988	100	2088	22,210	69	596	-
W020	Gould St.	Cowley St. - Water Tank Line	Cobden	0.091	91	200	PVC	1988	100	2088	41,250	69	1,107	-
W021	Jason St.	John St. - Crawford St.	Cobden	0.168	168	100	Cast	1956	75	2031	39,960	12	3,779	-
W022	Jason St.	Crawford St. - Gould St.	Cobden	0.137	137	200	PVC	1994	100	2094	69,370	75	1,794	-
W023	John St.	Truelove St. - Main St.	Cobden	0.091	91	150	Cast	1953	75	2028	45,180	9	suggested for 10 year capital forecast	45,180
W024	John St.	North of Boundary - Boundary Rd.	Cobden	0.076	76	200	PVC	1989	100	2089	33,980	70	906	-
W025	John St.	Main St. - North of Boundary	Cobden	0.466	466	100	Cast	1955	75	2030	113,460	11	11,593	-
W026	John St.	Town Limit - Ross St.	Cobden	0.146	146	150	Cast	1988	75	2063	52,950	44	1,821	-



Table A-2 (continued)  
Township of Whitewater Region  
Watermains

ID	Name	Location	Township	Length (km)	Length (m)	Diameter (mm)	Material	Year Installed	Estimated Life (Years)	Replacement Year	Total Main Replacement Costs	Years until Replacement	Annual Lifecycle Contribution	Amount to be included in 10 year Forecast
W027	Main St.	Ross St. - Crawford St.	Cobden	0.676	676	200	PVC	1994	100	2094	343,550	75	8,883	-
W028	Main St.	Pembroke St. - Bonnechere St.	Cobden	0.082	82	150	Cast	1953	75	2028	40,710	9	suggested for 10 year capital forecast	40,710
W029	Main St.	Crawford St. - Pembroke St.	Cobden	0.235	235	200	PVC	1990	100	2090	107,410	71	2,846	-
W030	Main St.	Bonnechere St. - WTP	Cobden	0.049	49	150	PVC	2008	100	2108	-	89	-	-
W031	Meadow St.	John St. - East of Dixon	Cobden	0.425	425	100	Cast	1956	75	2031	101,090	12	9,559	-
W032	Morrisson Dr.	Wren Dr. - End	Cobden	0.091	91	150	PVC	1995	100	2095	36,680	76	943	-
W033	Muskrat St.	Pembroke St. - Bonnechere St.	Cobden	0.087	87	200	PVC	1988	100	2088	39,210	69	1,053	-
W034	Pembroke St.	North Boundary - Cowley St.	Cobden	0.504	504	150	Cast	1953	75	2028	250,220	9	suggested for 10 year capital forecast	250,220
W035	Pembroke St.	Cowley St. - Boundary Rd.	Cobden	0.588	588	200	PVC	1988	100	2088	266,570	69	7,157	-
W036	Pembroke St.	0	Cobden	0.067	67	50	PVC	1988	100	2088	12,150	69	326	-
W037	Ross St.	Main St. - End of Ross	Cobden	0.348	348	100	Cast	1960	75	2035	79,290	16	5,840	-
W038	Simons	Wallace - End	Cobden	0.060	60	50	PVC	1985	100	2085	12,250	66	336	-
W039	Simpson St.	Bromley St. - Meadow St.	Cobden	0.258	258	150	PVC	1990	100	2090	94,340	71	2,499	-
W040	Truelove St.	West of Arthur - East of CPR	Cobden	0.193	193	200	Cast	1975	75	2050	80,310	31	3,501	-
W041	Truelove St.	John St. - East of CPR	Cobden	0.120	120	150	Cast	1975	75	2050	39,950	31	1,742	-
W042	Truelove St.	Crawford St. - John St.	Cobden	0.168	168	100	Cast	1953	75	2028	41,700	9	suggested for 10 year capital forecast	41,700
W043	Vankessel St.	Dixon St. - Meadow St.	Cobden	0.137	137	150	PVC	1994	100	2094	55,700	75	1,440	-
W044	Wallace	Pembroke St. - Simmons	Cobden	0.100	100	150	Cast	1985	75	2060	40,830	41	1,469	-
W045	Water Tower Line	Gould St. - Water Tower	Cobden	0.064	64	250	PVC	1988	100	2088	31,720	69	852	-
W046	Wren Dr.	Truelove St. - Morrison Dr.	Cobden	0.145	145	150	PVC	1995	100	2095	58,440	76	1,502	-
0	2008 Addition	0	Cobden	0.001	1	0	0	2008	75	2083	820	64	23	-
0	2014 Addition	0	Cobden	0.001	1	0	0	2014	75	2089	920,160	70	24,539	-
0	2014 Addition	0	Cobden	0.001	1	0	0	2014	75	2089	27,040	70	721	-
W047	0	Caroline - Hume St.	Beachburg	0.125	125	100	Steel	2008	75	2083	-	64	-	-
W048	2007 Extension	Earl St. - 400m north	Beachburg	0.400	400	150	PVC	2007	100	2107	124,600	88	3,021	-
W049	Anderson Dr.	Beachburg Road - 350m south	Beachburg	0.350	350	150	PVC	1993	100	2093	145,890	74	3,794	-
W050	Beachburg Rd. / Robertson Dr.	175m east of Dufferin - Maplevue	Beachburg	0.800	800	250	Steel	1953	75	2028	546,120	9	suggested for 10 year capital forecast	546,120
W051	Beachburg Road	Lapasse Rd. - west	Beachburg	0.295	295	150	Ductile	1986	75	2061	118,060	42	4,181	-
W052	Beachburg Road	Lapasse Rd. - Dufferin	Beachburg	1.160	1,160	200	Ductile	1986	75	2061	580,290	42	20,552	-
W053	Beachburg Road	Dufferin - 175m east of Dufferin	Beachburg	0.175	175	200	Ductile	1983	75	2058	89,000	39	3,308	-



Table A-2 (continued)  
Township of Whitewater Region  
Watermains

ID	Name	Location	Township	Length (km)	Length (m)	Diameter (mm)	Material	Year Installed	Estimated Life (Years)	Replacement Year	Total Main Replacement Costs	Years until Replacement	Annual Lifecycle Contribution	Amount to be included in 10 year Forecast
W054	Cameron	Beachburg Road - Earl St.	Beachburg	0.250	250	150	Steel	1958	75	2033	119,270	14	9,852	-
W055	Cameron & Vera Loop	Earl St.	Beachburg	0.325	325	150	Steel	1976	75	2051	119,390	32	5,087	-
W056	Caroline	Beachburg Road - End	Beachburg	0.190	190	100	Steel	1962	75	2037	43,440	18	2,898	-
W057	County Rd. 21	Mapleview - End	Beachburg	0.480	480	150	PVC	2002	100	2102	177,750	83	4,407	-
W058	Dufferin St.	Beachburg Road - Elliot St.	Beachburg	0.100	100	150	Steel	1958	75	2033	47,710	14	3,941	-
W059	Dufferin St.	Elliot St. - Minto St.	Beachburg	0.100	100	150	Steel	1989	75	2064	35,760	45	1,213	-
W060	Earl St.	Cameron - 2007 Extension	Beachburg	0.190	190	150	PVC	1998	100	2098	75,320	79	1,905	-
W061	Elliot St.	Morris St. - Dufferin St.	Beachburg	0.450	450	150	Steel	1958	75	2033	214,680	14	17,733	-
W062	Harris Cres.	Robertson Dr. - Robertson Dr.	Beachburg	0.400	400	150	PVC	1994	100	2094	162,620	75	4,205	-
W063	Hume St.	Beachburg Road - south	Beachburg	0.075	75	150	Steel	1958	75	2033	35,780	14	2,955	-
W064	Hume St.	Beachburg Road - north	Beachburg	0.150	150	150	Steel	1958	75	2033	71,560	14	5,911	-
W065	Lapasse Dr.	Beachburg Road - 125m north	Beachburg	0.125	125	200	Ductile	1983	75	2058	63,570	39	2,363	-
W066	Lapasse Dr.	125m north - End	Beachburg	0.125	125	150	PVC	1993	100	2093	52,100	74	1,355	-
W067	Little St.	Elliot St. - Minto St.	Beachburg	0.100	100	150	Steel	1958	75	2033	47,710	14	3,941	-
W068	Little St.	Minto St. - King St.	Beachburg	0.100	100	40	Galv	1953	75	2028	18,620	9	suggested for 10 year capital forecast	18,620
W069	Malcolm St.	Cameron - End	Beachburg	0.130	130	150	PVC	1997	100	2097	51,970	78	1,321	-
W070	Mapleview	Robertson Dr. - End	Beachburg	0.120	120	150	PVC	2005	100	2105	40,860	86	999	-
W071	Meadow Dr.	Robertson Dr. - 204m south	Beachburg	0.204	204	150	PVC	2002	100	2102	75,540	83	1,873	-
W072	Meadow Dr.	204m south - First turn	Beachburg	0.350	350	150	PVC	2006	100	2106	113,870	87	2,772	-
W073	Meadow Dr.	First turn - Intersection	Beachburg	0.550	550	150	PVC	1994	100	2094	223,610	75	5,781	-
W074	Meadow Dr.	Intersection - County Rd. 21	Beachburg	0.560	560	150	PVC	1994	100	2094	227,670	75	5,886	-
W075	Minto St.	Little St. - Dufferin St.	Beachburg	0.290	290	150	Steel	1989	75	2064	103,710	45	3,517	-
W076	Morris St.	Beachburg Road - Anderson Dr.	Beachburg	0.325	325	40	Galv	1953	75	2028	60,510	9	suggested for 10 year capital forecast	60,510
W077	Robertson Dr.	175m west of Maple - End	Beachburg	0.600	600	150	PVC	1992	100	2092	247,050	73	6,464	-
W078	Smith St.	Beachburg Road - End	Beachburg	0.250	250	150	Steel	1958	75	2033	119,270	14	9,852	-
W079	Stewart St.	Beachburg Road - End	Beachburg	0.090	90	40	Galv	1953	75	2028	16,760	9	suggested for 10 year capital forecast	16,760
0	2008 Addition	0	Beachburg	0.001	1	0	0	2008	75	2083	6,810	64	190	-
0	2009 Additions	0	Beachburg	0.001	1	0	0	2009	75	2084	19,920	65	550	-
0	2010 Addition	0	Beachburg	0.001	1	0	0	2010	75	2085	494,020	66	13,547	-
0	2011 Addition	0	Beachburg	0.001	1	0	0	2011	75	2086	1,480	67	40	-
W079	Heather Drive	Nr. House 6 - Hydrant	Halley	0.020	20	25	0	1955	75	2030	3,650	11	373	-
W080	Heather Drive	Hydrant - Nr. Houses 12, 13, 15, 16	Halley	0.110	110	50	0	1955	75	2030	26,780	11	2,736	-
W081	Heather Drive	Nr. Houses 12, 13, 15, 16 - Old Pumphouse	Halley	0.045	45	100	0	1955	75	2030	10,960	11	1,120	-
W082	Sullivan Street	Old Pumphouse - Turn Circle	Halley	0.060	60	100	0	1955	75	2030	14,610	11	1,493	-
W083	2008 Addition	0	Halley	0.001	1	0	0	2008	75	2083	270	64	8	-
W084	2009 Additions	0	Halley	0.001	1	0	0	2009	75	2084	20,310	65	561	-
W085	2010 Additions	0	Halley	0.001	1	0	0	2010	75	2085	564,420	66	15,477	-
0	2011 Additions	0	Halley	0.001	1	0	0	2011	75	2086	106,110	67	2,889	-
<b>Total</b>				<b>18.841</b>	<b>18,841</b>						<b>9,809,370</b>		<b>322,790</b>	<b>1,209,720</b>
<b>Total Cobden</b>														<b>567,710</b>
<b>Total Beachburg</b>														<b>642,010</b>
<b>Total Halley</b>														<b>0</b>



# Appendix B

## Wastewater System Inventory Data



## Appendix B: Wastewater System Inventory Data





Table B-1  
Township of Whitewater Region  
Wastewater Facilities

<i>ID</i>	<i>Item</i>	<i>Location</i>	<i>Year Installed</i>	<i>Estimated Life</i>	<i>Replacement Year</i>	<i>Replacement Cost</i>	<i>Years until Replacement</i>	<i>Annual Lifecycle Contribution</i>	<i>Amount to be included in 10 year Forecast</i>
CW0025	Sewage Treatment Plant - Siteworks	Cobden	1980	35	2020	393,860	1	suggested for 10 year capital forecast	393,860
CW0026	Sewage Treatment Plant - U/G Piping	Cobden	1980	60	2040	393,860	21	23,153	-
CW0027	Sewage Treatment Plant - Cement Structures	Cobden	1980	80	2060	3,150,900	41	113,344	-
CW0028	Sewage Treatment Plant - Building Structural Elements	Cobden	1980	50	2030	787,730	11	80,489	-
CW0029	Sewage Treatment Plant - Building Finishes	Cobden	1980	30	2020	787,730	1	suggested for 10 year capital forecast	787,730
CW0030	Sewage Treatment Plant - Process/Mechanical/Electrical	Cobden	1980	25	2020	10,240,440	1	suggested for 10 year capital forecast	10,240,440
<b>Total</b>						<b>15,754,520</b>		<b>216,985</b>	<b>11,422,030</b>



**Table B-2**  
**Township of Whitewater Region**  
**Wastewater Mains**

ID	Name	Location	Township	Length (km)	Length (m)	Diameter (mm)	Material	Year Installed	Estimated Life	Replacement Year	Total Main Replacement Costs	Years until Replacement	Annual Lifecycle Contribution	Amount to be included in 10 year Forecast
S001	Archibald St.	Ross St. - Arthur St.	Cobden	0.120	120	200	AC	1975	75	2050	54,930	31	2,395	-
S002	Ross St.	Main St. - End of Ross	Cobden	0.355	355	200	AC	1960	75	2035	222,440	16	16,383	-
S003	Arthur St.	Main St. - Archibald	Cobden	0.179	179	200	AC	1960	75	2035	111,850	16	8,238	-
S004	Wren Dr.	Truelove St. - Morrisson Dr.	Cobden	0.145	145	200	PVC	1995	100	2095	80,360	76	2,066	-
S005	Morrisson Dr.	Wren Dr. - End of Wren	Cobden	0.091	91	200	PVC	1995	100	2095	50,430	76	1,296	-
S006	Truelove St.	West on Truelove - Ross St.	Cobden	0.072	72	200	PVC	1995	100	2095	39,900	76	1,026	-
S007	Truelove St.	Pump Station - Crawford St.	Cobden	0.300	300	200	AC	1953	75	2028	204,800	9	suggested for 10 year capital forecast	204,800
S008	Truelove St. Forcemain	Pump Station - John St.	Cobden	0.125	125	100	PVC	1994	100	2094	31,760	75	821	-
S009	Main St.	Town Limits - Ross St.	Cobden	0.268	268	200	AC	1972	75	2047	128,850	28	6,055	-
S010	Main St.	Ross St. - MH East of C.P.R.	Cobden	0.525	525	200	PVC	1994	100	2094	293,210	75	7,581	-
S011	Main St.	MH East of C.P.R. - John St.	Cobden	0.100	100	250	PVC	1994	100	2094	60,980	75	1,577	-
S012	Main St.	John St. - MH East of John	Cobden	0.073	73	200	PVC	1994	100	2094	40,530	75	1,048	-
S013	Main St.	MH West of Crawford - MH on Crawford	Cobden	0.168	168	200	PVC	1994	100	2094	93,920	75	2,428	-
S014	Main St.	Gould - Pembroke St.	Cobden	0.216	216	200	AC	1955	75	2030	144,630	11	14,778	-
S015	John St.	Truelove St. - Main St.	Cobden	0.091	91	200	PVC	1994	100	2094	50,870	75	1,315	-
S016	John St.	Main St. - Bromley St.	Cobden	0.085	85	250	PVC	1994	100	2094	51,840	75	1,340	-
S017	Bromley St.	John St. - Crawford St.	Cobden	0.219	219	250	PVC	1994	100	2094	133,560	75	3,453	-
S018	Crawford St.	Bromley St. - Jason St.	Cobden	0.097	97	250	PVC	1994	100	2094	58,850	75	1,522	-
S019	Crawford St.	Cowley St. - Main St.	Cobden	0.140	140	200	AC	1953	75	2028	95,570	9	suggested for 10 year capital forecast	95,570
S020	Crawford St.	Main St. - Bromley St.	Cobden	0.096	96	200	PVC	1994	100	2094	53,390	75	1,380	-
S021	Crawford St.	MH South of Meadow - South on Crawford	Cobden	0.054	54	200	PVC	1990	100	2090	27,150	71	719	-
S022	Crawford St.	MH South of Jason - MH South of Meadow	Cobden	0.121	121	200	PVC	1990	100	2090	60,840	71	1,612	-
S023	John St.	South Side of Bromley - Jason St.	Cobden	0.127	127	150	AC	1955	75	2030	38,650	11	3,949	-
S024	John St.	Jason St. - Meadow St.	Cobden	0.094	94	200	AC	1955	75	2030	62,940	11	6,431	-
S025	John St.	Meadow St. - Boundary Rd	Cobden	0.120	120	200	AC	1955	75	2030	80,010	11	8,175	-
S026	Simpson St.	South Side of Bromley - Jason St.	Cobden	0.096	96	200	Clay	1955	75	2030	64,280	11	6,568	-



Table B-2 (continued)  
Township of Whitewater Region  
Wastewater Mains

ID	Name	Location	Township	Length (km)	Length (m)	Diameter (mm)	Material	Year Installed	Estimated Life	Replacement Year	Total Main Replacement Costs	Years until Replacement	Annual Lifecycle Contribution	Amount to be included in 10 year Forecast
S027	Simpson St.	Jason St. - Meadow St.	Cobden	0.111	111	200	Clay	1955	75	2030	74,320	11	7,594	-
S028	Jason St.	Simpson St. - Crawford St.	Cobden	0.079	79	200	PVC	1990	100	2090	39,470	71	1,046	-
S029	Jason St.	Crawford St. - Gould St.	Cobden	0.101	101	250	PVC	1990	100	2090	55,120	71	1,460	-
S030	Meadow St.	John St. - Simpson St.	Cobden	0.086	86	200	PVC	1990	100	2090	43,240	71	1,146	-
S031	Meadow St.	Simpson St. - Crawford St.	Cobden	0.062	62	150	PVC	1990	100	2090	14,170	71	375	-
S032	Meadow St.	Crawford St. - East of Dixon	Cobden	0.264	264	200	AC	1972	75	2047	126,930	28	5,964	-
S033	Gould St.	Cowley St. - Main St.	Cobden	0.199	199	200	PVC	1994	100	2094	111,250	75	2,876	-
S034	Gould St.	Main St. - Dixon St.	Cobden	0.112	112	200	PVC	1994	100	2094	62,500	75	1,616	-
S035	Gould St.	Dixon St. - Jason St.	Cobden	0.052	52	250	PVC	1994	100	2094	31,710	75	820	-
S036	Gould St.	MH South of Jason - Meadow St.	Cobden	0.082	82	200	AC	1955	75	2030	54,910	11	5,611	-
S037	Gould St.	Meadow St. - Boundary Rd	Cobden	0.178	178	200	AC	1955	75	2030	119,190	11	12,179	-
S038	Cowley St.	Pembroke St. - Crawford St.	Cobden	0.216	216	200	AC	1953	75	2028	147,450	9	suggested for 10 year capital forecast	147,450
S039	Dixon St.	Gould St. - West of Pembroke	Cobden	0.167	167	250	PVC	1994	100	2094	101,840	75	2,633	-
S040	Dixon St.	West of Pembroke - Pembroke St.	Cobden	0.079	79	200	AC	1955	75	2030	52,900	11	5,405	-
S041	Vankessel St.	Dixon St. - North of Meadow	Cobden	0.085	85	250	PVC	1994	100	2094	51,840	75	1,340	-
S042	Creamery Rd.	Meadow St. - Boundary Rd.	Cobden	0.085	85	200	AC	1955	75	2030	56,910	11	5,815	-
S043	Boundary Rd.	Crawford St. - Gould St.	Cobden	0.084	84	200	AC	1955	75	2030	56,240	11	5,746	-
S044	Boundary Rd.	West of Vankessel - Pembroke St.	Cobden	0.120	120	200	AC	1955	75	2030	80,350	11	8,210	-
S045	Boundary Rd.	Pembroke St. - STP	Cobden	0.055	55	200	AC	1953	75	2028	37,550	9	suggested for 10 year capital forecast	37,550
S046	Pembroke St.	North End - North of Boundary	Cobden	0.762	762	200	AC	1953	75	2028	520,180	9	suggested for 10 year capital forecast	520,180
S047	Bonnechere St. Forcemain	Main St. - Boundary Rd.	Cobden	0.274	274	100	PVC	1975	100	2075	57,010	56	1,702	-
S048	2008 Additions		Cobden	0.058	58	100	PVC	2008	100	2108	560	89	14	-
S049	2008 Additions		Cobden	0.030	30	100	PVC	2008	100	2108	27,190	89	656	-
S050	2009 Additions		Cobden	0.001	1	0	0	2009	75	2084	14,700	65	406	-
S051	2010 Additions		Cobden	0.001	1	0	0	2010	75	2085	606,310	66	16,626	-
S052	2011 Additions		Cobden	0.001	1	0	0	2011	75	2086	3,330	67	91	-
S053	2014 Additions		Cobden	0.001	1	0	0	2014	75	2089	3,840	70	102	-
<b>Total</b>					<b>7,418</b>						<b>4,887,550</b>		<b>191,590</b>	<b>1,005,550</b>



# Appendix C

## Detailed Water Rate Calculations



# Appendix C: Detailed Water Rate Calculations

Table C-1  
Township of Whitewater Region  
Capital Budget Forecast (Uninflated \$)

Description	Budget 2019	Total	Forecast									
			2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
<b>Capital Expenditures - Cobden</b>												
Filter Bed #1 Replacement	55,000	60,000	60,000									
Potassium Permanganate Lines	32,800	60,000	60,000									
<b>Capital Expenditures - Beachburg</b>												
Beachburg Pressure Tank	92,000		-	-	-	-	-	-	-	-	-	-
		-										
<b>OCWA Capital</b>		-										
Capital - Cobden	-	1,043,507	85,907	248,947	119,024	119,534	54,827	120,043	57,375	59,922	146,537	31,390
Capital - Beachburg	-	1,050,690	121,767	103,935	151,828	85,593	215,886	93,606	99,822	90,549	64,055	23,647
Capital - Haley	-	143,475	21,195	10,598	74,387	-	6,114	11,413	9,579	2,038	1,019	7,133
		-										
<b>Lifecycle:</b>		-										
Watermains - Cobden	-	567,710									567,710	
Watermains - Beachburg	-	642,010									642,010	
Watermains - Haley		-									-	
<b>Studies:</b>		-										
Water/Wastewater Study - Haley	1,225	-										
		-										
<b>Growth Related:</b>		-										
New Water Tower (1,500 cu.m)		1,540,000	-	-	-	-	140,000	1,400,000	-	-	-	-
		-										
<b>Total Capital Expenditures</b>	<b>181,025</b>	<b>5,107,392</b>	<b>348,869</b>	<b>363,479</b>	<b>345,239</b>	<b>205,127</b>	<b>416,828</b>	<b>1,625,062</b>	<b>166,776</b>	<b>152,510</b>	<b>1,421,332</b>	<b>62,170</b>



Option 1 – No Development Charges

Table C-2  
Township of Whitewater Region  
Capital Budget Forecast (Inflated \$)  
Option 1 – No Development Charges

Description	Budget 2019	Total	Forecast									
			2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
<b>Capital Expenditures - Cobden</b>												
Filter Bed #1 Replacement	55,000	61,000	61,000	-	-	-	-	-	-	-	-	-
Potassium Permanganate Lines	32,800	61,000	61,000	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-
<b>Capital Expenditures - Beachburg</b>	-	-	-	-	-	-	-	-	-	-	-	-
Beachburg Pressure Tank	92,000	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-
<b>OCWA Capital</b>	-	-	-	-	-	-	-	-	-	-	-	-
Capital - Cobden	-	1,147,000	88,000	259,000	126,000	129,000	61,000	135,000	66,000	70,000	175,000	38,000
Capital - Beachburg	-	1,156,000	124,000	108,000	161,000	93,000	238,000	105,000	115,000	106,000	77,000	29,000
Capital - Haley	-	155,000	22,000	11,000	79,000	-	7,000	13,000	11,000	2,000	1,000	9,000
	-	-	-	-	-	-	-	-	-	-	-	-
<b>Lifecycle:</b>	-	-	-	-	-	-	-	-	-	-	-	-
Watermains - Cobden	-	678,000	-	-	-	-	-	-	-	-	678,000	-
Watermains - Beachburg	-	767,000	-	-	-	-	-	-	-	-	767,000	-
Watermains - Haley	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-
<b>Studies:</b>	-	-	-	-	-	-	-	-	-	-	-	-
Water/Wastewater Study - Haley	1,225	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-
<b>Growth Related:</b>	-	-	-	-	-	-	-	-	-	-	-	-
New Water Tower (1,500 cu.m)	-	1,732,000	-	-	-	-	155,000	1,577,000	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Capital Expenditures</b>	<b>181,025</b>	<b>5,757,000</b>	<b>356,000</b>	<b>378,000</b>	<b>366,000</b>	<b>222,000</b>	<b>461,000</b>	<b>1,830,000</b>	<b>192,000</b>	<b>178,000</b>	<b>1,698,000</b>	<b>76,000</b>
<b>Capital Financing</b>												
Provincial/Federal Grants		-										
Development Charges Reserve Fund	-	-	-	-	-	-	-	-	-	-	-	-
Non-Growth Related Debenture Requirements	-	1,416,000	210,500	194,000	88,500	-	-	923,000	-	-	-	-
Growth Related Debenture Requirements	-	-	-	-	-	-	-	-	-	-	-	-
Operating Contributions	-	-	-	-	-	-	-	-	-	-	-	-
Lifecycle Reserve Fund	-	-	-	-	-	-	-	-	-	-	-	-
Water Reserve	181,025	4,341,000	145,500	184,000	277,500	222,000	461,000	907,000	192,000	178,000	1,698,000	76,000
<b>Total Capital Financing</b>	<b>181,025</b>	<b>5,757,000</b>	<b>356,000</b>	<b>378,000</b>	<b>366,000</b>	<b>222,000</b>	<b>461,000</b>	<b>1,830,000</b>	<b>192,000</b>	<b>178,000</b>	<b>1,698,000</b>	<b>76,000</b>

Table C-3  
Township of Whitewater Region  
Schedule of Non-growth Related Debenture Repayments (Inflated \$)  
Option 1 – No Development Charges

Debenture Year	2019	Principal (Inflated)	Forecast									
			2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
2020		210,500		14,149	14,149	14,149	14,149	14,149	14,149	14,149	14,149	14,149
2021		194,000			13,040	13,040	13,040	13,040	13,040	13,040	13,040	13,040
2022		88,500				5,949	5,949	5,949	5,949	5,949	5,949	5,949
2023		-					-	-	-	-	-	-
2024		-						-	-	-	-	-
2025		923,000							62,040	62,040	62,040	62,040
2026		-								-	-	-
2027		-									-	-
2028		-										-
2029		-										
<b>Total Annual Debt Charges</b>	<b>-</b>	<b>1,416,000</b>	<b>-</b>	<b>14,149</b>	<b>27,189</b>	<b>33,137</b>	<b>33,137</b>	<b>33,137</b>	<b>95,177</b>	<b>95,177</b>	<b>95,177</b>	<b>95,177</b>

Table C-4  
Township of Whitewater Region  
Water Reserve Continuity (Inflated \$)  
Option 1 – No Development Charges

Description	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Opening Balance	266,678	51,614	65	399	195	171,048	236,941	979	513,004	1,140,436	326,796
Transfer from Operating	-	93,950	184,326	277,292	389,499	522,247	671,019	693,966	783,071	877,951	978,962
Transfer to Capital	181,025	145,500	184,000	277,500	222,000	461,000	907,000	192,000	178,000	1,698,000	76,000
Transfer to Operating	35,051	-	-	-	-	-	-	-	-	-	-
<b>Closing Balance</b>	<b>50,602</b>	<b>64</b>	<b>391</b>	<b>191</b>	<b>167,694</b>	<b>232,295</b>	<b>959</b>	<b>502,945</b>	<b>1,118,075</b>	<b>320,388</b>	<b>1,229,758</b>
Interest	1,012	1	8	4	3,354	4,646	19	10,059	22,361	6,408	24,595



Table C-5  
Township of Whitewater Region  
Operating Budget Forecast (Inflated \$)  
Option 1 – No Development Charges

Description	Budget 2019	Forecast									
		2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
<b>Expenditures</b>											
<u>Operating Costs</u>		-	-	-	-	-	-	-	-	-	-
<b>COBDEN - ADMINISTRATION</b>		-	-	-	-	-	-	-	-	-	-
2-4-2401-1330 COBDEN WATER Education, Semim	500	500	500	500	500	500	500	500	500	500	500
2-4-2401-2230 COBDEN WATER - Insurance	7,700	7,900	8,100	8,300	8,500	8,700	8,900	9,100	9,300	9,500	9,700
2-4-2401-4010 COBDEN WATER - Contracts	255,000	260,100	265,300	270,600	276,000	281,500	287,100	292,800	298,700	304,700	310,800
2-4-2401-5020 COBDEN WATER - PIL	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300
<b>COBDEN - TRANSMISSION</b>											
2-4-2402-1010 COBDEN WATER TRANS - Salary	5,045	5,100	5,200	5,300	5,400	5,500	5,600	5,700	5,800	5,900	6,000
2-4-2402-1110 COBDEN WATER TRANS - Benefits	707	700	700	700	700	700	700	700	700	700	700
2-4-2402-1210 COBDEN WATER TRANS - Payroll De	340	300	300	300	300	300	300	300	300	300	300
2-4-2402-1220 COBDEN WATER TRANS - WSIB	55	100	100	100	100	100	100	100	100	100	100
2-4-2402-2410 COBDEN WATER TRANS - Equipment	25,000	25,500	26,000	26,500	27,000	27,500	28,100	28,700	29,300	29,900	30,500
2-4-2402-2430 COBDEN WATER TRANS - Building F	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000
2-4-2402-5010 COBDEN WATER TRANS - Miscellaneous	5,500	5,600	5,700	5,800	5,900	6,000	6,100	6,200	6,300	6,400	6,500
<b>COBDEN - DISTRIBUTION</b>											
2-4-2403-1010 COBDEN WATER DIST - Salary	5,045	5,100	5,200	5,300	5,400	5,500	5,600	5,700	5,800	5,900	6,000
2-4-2403-1110 COBDEN WATER DIST - Benefits	707	700	700	700	700	700	700	700	700	700	700
2-4-2403-1210 COBDEN WATER DIST - Payroll De&	340	300	300	300	300	300	300	300	300	300	300
2-4-2403-1220 COBDEN WATER DIST - WSIB	55	100	100	100	100	100	100	100	100	100	100
2-4-2403-2010 COBDEN WATER DIST - Materials/Supplies	2,500	2,600	2,700	2,800	2,900	3,000	3,100	3,200	3,300	3,400	3,500
2-4-2403-2440 COBDEN WATER DIST - Equipment F	7,500	7,700	7,900	8,100	8,300	8,500	8,700	8,900	9,100	9,300	9,500
2-4-2403-5010 COBDEN WATER DIST - Miscellaneous	7,000	7,100	7,200	7,300	7,400	7,500	7,700	7,900	8,100	8,300	8,500
<b>BEACHBURG - ADMINISTRATION</b>											
2-4-3401-1330 BEACHBURG WATER - Education, SE	500	500	500	500	500	500	500	500	500	500	500
2-4-3401-2230 BEACHBURG WATER - Insurance	7,465	7,600	7,800	8,000	8,200	8,400	8,600	8,800	9,000	9,200	9,400
2-4-3401-4010 BEACHBURG WATER - Contracts	245,000	249,900	254,900	260,000	265,200	270,500	275,900	281,400	287,000	292,700	298,600
2-4-3401-5020 BEACHBURG WATER - PIL	6,700	6,800	6,900	7,000	7,100	7,200	7,300	7,400	7,500	7,700	7,900
<b>BEACHBURG - TRANSMISSION</b>											
2-4-3402-1010 BEACHBURG WATER TRANS - Salary	4,890	5,000	5,100	5,200	5,300	5,400	5,500	5,600	5,700	5,800	5,900
2-4-3402-1110 BEACHBURG WATER TRANS - Beneefits	685	700	700	700	700	700	700	700	700	700	700
2-4-3402-1210 BEACHBURG WATER TRANS - PayrE	330	300	300	300	300	300	300	300	300	300	300
2-4-3402-1220 BEACHBURG WATER TRANS - WSIB	55	100	100	100	100	100	100	100	100	100	100
2-4-3402-2410 BEACHBURG WATER TRANS - Equipment	10,000	10,200	10,400	10,600	10,800	11,000	11,200	11,400	11,600	11,800	12,000
2-4-3402-2430 BEACHBURG WATER TRANS - Building	6,500	6,600	6,700	6,800	6,900	7,000	7,100	7,200	7,300	7,400	7,500
2-4-3402-5010 BEACHBURG WATER TRANS - Misc.(	6,000	6,100	6,200	6,300	6,400	6,500	6,600	6,700	6,800	6,900	7,000
<b>BEACHBURG - DISTRIBUTION</b>											
2-4-3403-1010 BEACHBURG WATER DIST - Salary	4,890	5,000	5,100	5,200	5,300	5,400	5,500	5,600	5,700	5,800	5,900
2-4-3403-1110 BEACHBURG WATER DIST - Benefits	685	700	700	700	700	700	700	700	700	700	700
2-4-3403-1210 BEACHBURG WATER DIST - Payroll	330	300	300	300	300	300	300	300	300	300	300
2-4-3403-1220 BEACHBURG WATER DIST - WSIB	55	100	100	100	100	100	100	100	100	100	100
2-4-3403-2010 BEACHBURG WATER DIST Material	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
2-4-3403-2440 BEACHBURG WATER DIST - Equipment	3,000	3,100	3,200	3,300	3,400	3,500	3,600	3,700	3,800	3,900	4,000
2-4-3403-5010 BEACHBURG WATER DIST - Miscellaneous	5,000	5,100	5,200	5,300	5,400	5,500	5,600	5,700	5,800	5,900	6,000
<b>HALEY - ADMINISTRATION</b>											
2-4-4401-1330 HALEY WATER - Education, Seminar:	500	500	500	500	500	500	500	500	500	500	500
2-4-4401-2230 HALEY WATER - Insurance	550	600	600	600	600	600	600	600	600	600	600
2-4-4401-4010 HALEY WATER - Contracts	19,000	19,400	19,800	20,200	20,600	21,000	21,400	21,800	22,200	22,600	23,100
<b>HALEY - TRANSMISSION</b>											
2-4-4402-1010 HALEY WATER TRANS - Salary	365	400	400	400	400	400	400	400	400	400	400
2-4-4402-1110 HALEY WATER TRANS - Benefits	55	100	100	100	100	100	100	100	100	100	100
2-4-4402-1210 HALEY WATER TRANS - Payroll Deck	25	-	-	-	-	-	-	-	-	-	-
2-4-4402-1220 HALEY WATER TRANS - WSIB	5	-	-	-	-	-	-	-	-	-	-
2-4-4402-2410 HALEY WATER TRANS - Equipment F	4,500	4,600	4,700	4,800	4,900	5,000	5,100	5,200	5,300	5,400	5,500
2-4-4402-2430 HALEY WATER TRANS - Building ReF	2,500	2,600	2,700	2,800	2,900	3,000	3,100	3,200	3,300	3,400	3,500
2-4-4402-5010 HALEY WATER TRANS - Miscellaneous	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
<b>HALEY - DISTRIBUTION</b>											
2-4-4403-1010 HALEY WATER DIST - Salary	365	400	400	400	400	400	400	400	400	400	400
2-4-4403-1110 HALEY WATER DIST - Benefits	55	100	100	100	100	100	100	100	100	100	100
2-4-4403-1210 HALEY WATER DIST - Payroll Deduct	25	-	-	-	-	-	-	-	-	-	-
2-4-4403-1220 HALEY WATER DIST - WSIB	5	-	-	-	-	-	-	-	-	-	-
2-4-4403-2440 HALEY WATER DIST - Equipment Rei	-	-	-	-	-	-	-	-	-	-	-
2-4-4403-5010 HALEY WATER DIST - Miscellaneous	500	500	500	500	500	500	500	500	500	500	500
<b>Chargeback Salaries</b>											
Chargeback Salaries - Cobden	19,555	19,900	20,300	20,700	21,100	21,500	21,900	22,300	22,700	23,200	23,700
Chargeback Salaries - Beachburg	18,382	18,700	19,100	19,500	19,900	20,300	20,700	21,100	21,500	21,900	22,300
Chargeback Salaries - Haley	1,173	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200
<b>Sub Total Operating</b>	<b>697,939</b>	<b>711,800</b>	<b>725,900</b>	<b>740,200</b>	<b>754,700</b>	<b>769,400</b>	<b>784,500</b>	<b>799,800</b>	<b>815,400</b>	<b>831,400</b>	<b>847,800</b>
<u>Capital-Related</u>											
Existing Debt (Principal) - Growth Related											
Existing Debt (Interest) - Growth Related											
New Growth Related Debt (Principal)		-	-	-	-	-	-	-	-	-	-
New Growth Related Debt (Interest)		-	-	-	-	-	-	-	-	-	-
Existing Debt (Principal) - Non-Growth Related	74,079	66,778	58,980	61,580	64,297	67,138	70,107	73,211	76,455	79,847	83,393
Existing Debt (Interest) - Non-Growth Related	76,147	72,956	70,262	67,662	64,944	62,104	59,135	56,031	52,787	49,395	45,849
New Non-Growth Related Debt (Principal)		-	7,834	15,289	19,041	19,612	20,201	55,157	56,811	58,516	60,271
New Non-Growth Related Debt (Interest)		-	6,315	11,900	14,096	13,525	12,937	40,021	38,366	36,662	34,906
Transfer to Capital	-	-	-	-	-	-	-	-	-	-	-
Transfer to Capital Reserve		93,950	184,326	277,292	389,499	522,247	671,019	693,966	783,071	877,951	978,962
<b>Sub Total Capital Related</b>	<b>150,226</b>	<b>233,684</b>	<b>327,717</b>	<b>433,722</b>	<b>551,878</b>	<b>684,626</b>	<b>833,398</b>	<b>918,385</b>	<b>1,007,490</b>	<b>1,102,371</b>	<b>1,203,382</b>
<b>Total Expenditures</b>	<b>848,165</b>	<b>945,484</b>	<b>1,053,617</b>	<b>1,173,922</b>	<b>1,306,578</b>	<b>1,454,026</b>	<b>1,617,898</b>	<b>1,718,185</b>	<b>1,822,890</b>	<b>1,933,771</b>	<b>2,051,182</b>
<b>Revenues</b>											
Metered Revenue	25,207	27,525	30,277	33,305	36,635	40,299	44,329	46,545	48,872	51,316	53,882
Other Revenue			-	-	-	-	-	-	-	-	-
2-3-1302-3324 ONTARIO - OCIF top-up	35,000										
2-3-1302-3540 WATER Interest on Bank Account	493										
Contributions from Development Charges Reserve Fund	-	-	-	-	-	-	-	-	-	-	-
Contributions from Reserves / Reserve Funds	27,644	-	-	-	-	-	-	-	-	-	-
<b>Total Operating Revenue</b>	<b>88,345</b>	<b>27,525</b>	<b>30,277</b>	<b>33,305</b>	<b>36,635</b>	<b>40,299</b>	<b>44,329</b>	<b>46,545</b>	<b>48,872</b>	<b>51,316</b>	<b>53,882</b>
<b>Water Billing Recovery - Total</b>	<b>759,820</b>	<b>917,959</b>	<b>1,023,340</b>	<b>1,140,617</b>	<b>1,269,943</b>	<b>1,413,727</b>	<b>1,573,569</b>	<b>1,671,640</b>	<b>1,774,018</b>	<b>1,882,455</b>	<b>1,997,300</b>



Table C-6  
Township of Whitewater Region  
Water Rate Forecast (Inflated \$)  
Option 1 – No Development Charges

Description	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Total Water Billing Recovery	759,820	917,959	1,023,340	1,140,617	1,269,943	1,413,727	1,573,569	1,671,640	1,774,018	1,882,455	1,997,300
Weighted Customer Count	1,033.60	1,040.60	1,054.60	1,068.60	1,081.60	1,094.60	1,107.60	1,120.60	1,132.60	1,144.60	1,156.60
Flat Rate (Annual)	\$ 735.12	\$ 882.14	\$ 970.36	\$ 1,067.39	\$ 1,174.13	\$ 1,291.55	\$ 1,420.70	\$ 1,491.74	\$ 1,566.32	\$ 1,644.64	\$ 1,726.87
Annual Percentage Change		20%	10%	10%	10%	10%	10%	5%	5%	5%	5%

Water - Annual Flat Rates	Weighting Factor	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Residential	1.00	\$ 882	\$ 970	\$ 1,067	\$ 1,174	\$ 1,292	\$ 1,421	\$ 1,492	\$ 1,566	\$ 1,645	\$ 1,727
Small Commercial	1.00	\$ 882	\$ 970	\$ 1,067	\$ 1,174	\$ 1,292	\$ 1,421	\$ 1,492	\$ 1,566	\$ 1,645	\$ 1,727
Medium Commercial	1.50	\$ 1,323	\$ 1,456	\$ 1,601	\$ 1,761	\$ 1,937	\$ 2,131	\$ 2,238	\$ 2,349	\$ 2,467	\$ 2,590
High Commercial	2.00	\$ 1,764	\$ 1,941	\$ 2,135	\$ 2,348	\$ 2,583	\$ 2,841	\$ 2,983	\$ 3,133	\$ 3,289	\$ 3,454
Multi Residential	0.80	\$ 706	\$ 776	\$ 854	\$ 939	\$ 1,033	\$ 1,137	\$ 1,193	\$ 1,253	\$ 1,316	\$ 1,381

Water - Metered Rates	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Metered Charge (per cu.m)	1.278	1.534	1.687	1.856	2.041	2.245	2.470	2.593	2.723	2.859	3.002





Option 2 – With Development Charges

Table C-7  
Township of Whitewater Region  
Capital Budget Forecast (Inflated \$)  
Option 2 – With Development Charges

Description	Budget 2019	Total	Forecast									
			2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
<b>Capital Expenditures - Cobden</b>												
Filter Bed #1 Replacement	55,000	61,000	61,000	-	-	-	-	-	-	-	-	-
Potassium Permanganate Lines	32,800	61,000	61,000	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-
<b>Capital Expenditures - Beachburg</b>	-	-	-	-	-	-	-	-	-	-	-	-
Beachburg Pressure Tank	92,000	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-
<b>OCWA Capital</b>	-	-	-	-	-	-	-	-	-	-	-	-
Capital - Cobden	-	1,147,000	88,000	259,000	126,000	129,000	61,000	135,000	66,000	70,000	175,000	38,000
Capital - Beachburg	-	1,156,000	124,000	108,000	161,000	93,000	238,000	105,000	115,000	106,000	77,000	29,000
Capital - Haley	-	155,000	22,000	11,000	79,000	-	7,000	13,000	11,000	2,000	1,000	9,000
	-	-	-	-	-	-	-	-	-	-	-	-
<b>Lifecycle:</b>	-	-	-	-	-	-	-	-	-	-	-	-
Watermains - Cobden	-	678,000	-	-	-	-	-	-	-	-	678,000	-
Watermains - Beachburg	-	767,000	-	-	-	-	-	-	-	-	767,000	-
Watermains - Haley	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-
<b>Studies:</b>	-	-	-	-	-	-	-	-	-	-	-	-
Water/Wastewater Study - Haley	1,225	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-
<b>Growth Related:</b>	-	-	-	-	-	-	-	-	-	-	-	-
New Water Tower (1,500 cu.m)	-	1,732,000	-	-	-	-	155,000	1,577,000	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Capital Expenditures</b>	<b>181,025</b>	<b>5,757,000</b>	<b>356,000</b>	<b>378,000</b>	<b>366,000</b>	<b>222,000</b>	<b>461,000</b>	<b>1,830,000</b>	<b>192,000</b>	<b>178,000</b>	<b>1,698,000</b>	<b>76,000</b>
<b>Capital Financing</b>												
Provincial/Federal Grants		-										
Development Charges Reserve Fund	-	126,300	-	-	-	-	86,800	39,500	-	-	-	-
Non-Growth Related Debenture Requirements	181,025	283,000	26,000	181,500	75,500	-	-	-	-	-	-	-
Growth Related Debenture Requirements	-	843,620	-	-	-	-	-	843,620	-	-	-	-
Operating Contributions	-	-	-	-	-	-	-	-	-	-	-	-
Lifecycle Reserve Fund	-	-	-	-	-	-	-	-	-	-	-	-
Water Reserve	-	4,504,080	330,000	196,500	290,500	222,000	374,200	946,880	192,000	178,000	1,698,000	76,000
<b>Total Capital Financing</b>	<b>181,025</b>	<b>5,757,000</b>	<b>356,000</b>	<b>378,000</b>	<b>366,000</b>	<b>222,000</b>	<b>461,000</b>	<b>1,830,000</b>	<b>192,000</b>	<b>178,000</b>	<b>1,698,000</b>	<b>76,000</b>

Table C-8  
Township of Whitewater Region  
Schedule of Non-growth Related Debenture Repayments (Inflated \$)  
Option 2 – With Development Charges

Debenture Year	2019	Principal (Inflated)	Forecast									
			2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
2020		26,000		1,748	1,748	1,748	1,748	1,748	1,748	1,748	1,748	1,748
2021		181,500			12,200	12,200	12,200	12,200	12,200	12,200	12,200	12,200
2022		75,500				5,075	5,075	5,075	5,075	5,075	5,075	5,075
2023		-					-	-	-	-	-	-
2024		-						-	-	-	-	-
2025		-							-	-	-	-
2026		-								-	-	-
2027		-									-	-
2028		-										-
2029		-										
<b>Total Annual Debt Charges</b>	<b>-</b>	<b>283,000</b>	<b>-</b>	<b>1,748</b>	<b>13,947</b>	<b>19,022</b>	<b>19,022</b>	<b>19,022</b>	<b>19,022</b>	<b>19,022</b>	<b>19,022</b>	<b>19,022</b>

Table C-9  
Township of Whitewater Region  
Schedule of Growth Related Debenture Repayments (Inflated \$)  
Option 2 – With Development Charges

Debenture Year	2019	Principal (Inflated)	Forecast									
			2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
2020		-		-	-	-	-	-	-	-	-	-
2021		-			-	-	-	-	-	-	-	-
2022		-				-	-	-	-	-	-	-
2023		-					-	-	-	-	-	-
2024		-						-	-	-	-	-
2025		843,620							56,705	56,705	56,705	56,705
2026		-								-	-	-
2027		-									-	-
2028		-										-
2029		-										
<b>Total Annual Debt Charges</b>	<b>-</b>	<b>843,620</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>56,705</b>	<b>56,705</b>	<b>56,705</b>	<b>56,705</b>

Table C-10  
Township of Whitewater Region  
Water Reserve Continuity (Inflated \$)  
Option 2 – With Development Charges

Description	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Opening Balance	266,678	236,259	213	450	493	185,749	354,870	64,982	604,154	1,240,157	396,724
Transfer from Operating	-	93,950	196,728	290,533	403,614	536,362	655,718	754,948	825,921	882,614	941,659
Transfer to Capital	-	330,000	196,500	290,500	222,000	374,200	946,880	192,000	178,000	1,698,000	76,000
Transfer to DC Reserve Fund (via operating)								35,622	36,235	35,826	35,390
Transfer to Operating	35,051	-	-	-	-	-	-	-	-	-	-
<b>Closing Balance</b>	<b>231,627</b>	<b>209</b>	<b>441</b>	<b>483</b>	<b>182,107</b>	<b>347,912</b>	<b>63,708</b>	<b>592,308</b>	<b>1,215,840</b>	<b>388,945</b>	<b>1,226,993</b>
Interest	4,633	4	9	10	3,642	6,958	1,274	11,846	24,317	7,779	24,540



Table C-11  
Township of Whitewater Region  
Water Development Charge Reserve Continuity (Inflated \$)  
Option 2 – With Development Charges

Description	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Opening Balance	-	-	21,094	43,028	63,697	85,175	18,953	61	0	(0)	0
Development Charge Proceeds	-	20,680	21,090	19,421	19,807	20,206	20,607	21,022	20,469	20,879	21,314
Transfer from Capital Reserve (via operating)	-	-	-	-	-	-	-	35,622	36,235	35,826	35,390
Transfer to Capital	-	-	-	-	-	86,800	39,500	-	-	-	-
Transfer to Operating	-	-	-	-	-	-	-	56,705	56,705	56,705	56,705
Closing Balance	-	20,680	42,184	62,448	83,505	18,581	59	0	(0)	0	(0)
Interest	-	414	844	1,249	1,670	372	1	0	(0)	0	(0)
Required from Development Charges	-	-	-	-	-	86,800	883,120	-	-	-	-

Table C-12  
Township of Whitewater Region  
Operating Budget Forecast (Inflated \$)  
Option 2 – With Development Charges

Description	Budget 2019	Forecast									
		2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Expenditures											
Operating Costs		-	-	-	-	-	-	-	-	-	-
COBDEN - ADMINISTRATION											
2-4-2401-1330 COBDEN WATER Education, Semim	500	500	500	500	500	500	500	500	500	500	500
2-4-2401-2230 COBDEN WATER - Insurance	7,700	7,900	8,100	8,300	8,500	8,700	8,900	9,100	9,300	9,500	9,700
2-4-2401-4010 COBDEN WATER - Contracts	255,000	260,100	265,300	270,600	276,000	281,500	287,100	292,800	298,700	304,700	310,800
2-4-2401-5020 COBDEN WATER - PIL	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300
COBDEN - TRANSMISSION											
2-4-2402-1010 COBDEN WATER TRANS - Salary	5,045	5,100	5,200	5,300	5,400	5,500	5,600	5,700	5,800	5,900	6,000
2-4-2402-1110 COBDEN WATER TRANS - Benefits	707	700	700	700	700	700	700	700	700	700	700
2-4-2402-1210 COBDEN WATER TRANS - Payroll De	340	300	300	300	300	300	300	300	300	300	300
2-4-2402-1220 COBDEN WATER TRANS - WSIB	55	100	100	100	100	100	100	100	100	100	100
2-4-2402-2410 COBDEN WATER TRANS - Equipment	25,000	25,500	26,000	26,500	27,000	27,500	28,100	28,700	29,300	29,900	30,500
2-4-2402-2430 COBDEN WATER TRANS - Building F	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000
2-4-2402-5010 COBDEN WATER TRANS - Miscellaneous	5,500	5,600	5,700	5,800	5,900	6,000	6,100	6,200	6,300	6,400	6,500
COBDEN - DISTRIBUTION											
2-4-2403-1010 COBDEN WATER DIST - Salary	5,045	5,100	5,200	5,300	5,400	5,500	5,600	5,700	5,800	5,900	6,000
2-4-2403-1110 COBDEN WATER DIST - Benefits	707	700	700	700	700	700	700	700	700	700	700
2-4-2403-1210 COBDEN WATER DIST - Payroll De&	340	300	300	300	300	300	300	300	300	300	300
2-4-2403-1220 COBDEN WATER DIST - WSIB	55	100	100	100	100	100	100	100	100	100	100
2-4-2403-2010 COBDEN WATER DIST - Materials/Supplies	2,500	2,600	2,700	2,800	2,900	3,000	3,100	3,200	3,300	3,400	3,500
2-4-2403-2440 COBDEN WATER DIST - Equipment F	7,500	7,700	7,900	8,100	8,300	8,500	8,700	8,900	9,100	9,300	9,500
2-4-2403-5010 COBDEN WATER DIST - Miscellaneous	7,000	7,100	7,200	7,300	7,400	7,500	7,700	7,900	8,100	8,300	8,500
BEACHBURG - ADMINISTRATION											
2-4-3401-1330 BEACHBURG WATER - Education, SE	500	500	500	500	500	500	500	500	500	500	500
2-4-3401-2230 BEACHBURG WATER - Insurance	7,465	7,600	7,800	8,000	8,200	8,400	8,600	8,800	9,000	9,200	9,400
2-4-3401-4010 BEACHBURG WATER - Contracts	245,000	249,900	254,900	260,000	265,200	270,500	275,900	281,400	287,000	292,700	298,600
2-4-3401-5020 BEACHBURG WATER - PIL	6,700	6,800	6,900	7,000	7,100	7,200	7,300	7,400	7,500	7,700	7,900
BEACHBURG - TRANSMISSION											
2-4-3402-1010 BEACHBURG WATER TRANS - Salary	4,890	5,000	5,100	5,200	5,300	5,400	5,500	5,600	5,700	5,800	5,900
2-4-3402-1110 BEACHBURG WATER TRANS - Benefefits	685	700	700	700	700	700	700	700	700	700	700
2-4-3402-1210 BEACHBURG WATER TRANS - PayrE	330	300	300	300	300	300	300	300	300	300	300
2-4-3402-1220 BEACHBURG WATER TRANS - WSIB	55	100	100	100	100	100	100	100	100	100	100
2-4-3402-2410 BEACHBURG WATER TRANS - Equipment	10,000	10,200	10,400	10,600	10,800	11,000	11,200	11,400	11,600	11,800	12,000
2-4-3402-2430 BEACHBURG WATER TRANS - Building	6,500	6,600	6,700	6,800	6,900	7,000	7,100	7,200	7,300	7,400	7,500
2-4-3402-5010 BEACHBURG WATER TRANS - Misc.(	6,000	6,100	6,200	6,300	6,400	6,500	6,600	6,700	6,800	6,900	7,000
BEACHBURG - DISTRIBUTION											
2-4-3403-1010 BEACHBURG WATER DIST - Salary	4,890	5,000	5,100	5,200	5,300	5,400	5,500	5,600	5,700	5,800	5,900
2-4-3403-1110 BEACHBURG WATER DIST - Benefits	685	700	700	700	700	700	700	700	700	700	700
2-4-3403-1210 BEACHBURG WATER DIST - Payroll	330	300	300	300	300	300	300	300	300	300	300
2-4-3403-1220 BEACHBURG WATER DIST - WSIB	55	100	100	100	100	100	100	100	100	100	100
2-4-3403-2010 BEACHBURG WATER DIST Material	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
2-4-3403-2440 BEACHBURG WATER DIST - Equipment	3,000	3,100	3,200	3,300	3,400	3,500	3,600	3,700	3,800	3,900	4,000
2-4-3403-5010 BEACHBURG WATER DIST - Miscellaneous	5,000	5,100	5,200	5,300	5,400	5,500	5,600	5,700	5,800	5,900	6,000
HALEY - ADMINISTRATION											
2-4-4401-1330 HALEY WATER - Education, Seminar:	500	500	500	500	500	500	500	500	500	500	500
2-4-4401-2230 HALEY WATER - Insurance	550	600	600	600	600	600	600	600	600	600	600
2-4-4401-4010 HALEY WATER - Contracts	19,000	19,400	19,800	20,200	20,600	21,000	21,400	21,800	22,200	22,600	23,100
HALEY - TRANSMISSION											
2-4-4402-1010 HALEY WATER TRANS - Salary	365	400	400	400	400	400	400	400	400	400	400
2-4-4402-1110 HALEY WATER TRANS - Benefits	55	100	100	100	100	100	100	100	100	100	100
2-4-4402-1210 HALEY WATER TRANS - Payroll Deck	25	-	-	-	-	-	-	-	-	-	-
2-4-4402-1220 HALEY WATER TRANS - WSIB	5	-	-	-	-	-	-	-	-	-	-
2-4-4402-2410 HALEY WATER TRANS - Equipment F	4,500	4,600	4,700	4,800	4,900	5,000	5,100	5,200	5,300	5,400	5,500
2-4-4402-2430 HALEY WATER TRANS - Building ReF	2,500	2,600	2,700	2,800	2,900	3,000	3,100	3,200	3,300	3,400	3,500
2-4-4402-5010 HALEY WATER TRANS - Miscellaneous	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
HALEY - DISTRIBUTION											
2-4-4403-1010 HALEY WATER DIST - Salary	365	400	400	400	400	400	400	400	400	400	400
2-4-4403-1110 HALEY WATER DIST - Benefits	55	100	100	100	100	100	100	100	100	100	100
2-4-4403-1210 HALEY WATER DIST - Payroll Deduct	25	-	-	-	-	-	-	-	-	-	-
2-4-4403-1220 HALEY WATER DIST - WSIB	5	-	-	-	-	-	-	-	-	-	-
2-4-4403-2440 HALEY WATER DIST - Equipment Rei	-	-	-	-	-	-	-	-	-	-	-
2-4-4403-5010 HALEY WATER DIST - Miscellaneous	500	500	500	500	500	500	500	500	500	500	500
Chargeback Salaries											
Chargeback Salaries - Cobden	19,555	19,900	20,300	20,700	21,100	21,500	21,900	22,300	22,700	23,200	23,700
Chargeback Salaries - Beachburg	18,382	18,700	19,100	19,500	19,900	20,300	20,700	21,100	21,500	21,900	22,300
Chargeback Salaries - Haley	1,173	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200
Sub Total Operating	697,939	711,800	725,900	740,200	754,700	769,400	784,500	799,800	815,400	831,400	847,800
Capital-Related											
Existing Debt (Principal) - Growth Related											
Existing Debt (Interest) - Growth Related											
New Growth Related Debt (Principal)		-	-	-	-	-	-	31,396	32,338	33,308	34,307
New Growth Related Debt (Interest)		-	-	-	-	-	-	25,309	24,367	23,397	22,397
Existing Debt (Principal) - Non-Growth Related	74,079	66,778	58,980	61,580	64,297	67,138	70,107	73,211	76,455	79,847	83,393
Existing Debt (Interest) - Non-Growth Related	76,147	72,956	70,262	67,662	64,944	62,104	59,135	56,031	52,787	49,395	45,849
New Non-Growth Related Debt (Principal)		-	968	7,751	10,794	11,117	11,451	11,794	12,148	12,513	12,888
New Non-Growth Related Debt (Interest)		-	780	6,196	8,228	7,905	7,571	7,228	6,874	6,509	6,134
Transfer to Capital	-	-	-	-	-	-	-	-	-	-	-
Interim Loan to DC Reserve Fund		-	-	-	-	-	-	35,622	36,235	35,826	35,390
Transfer to Capital Reserve		93,950	196,728	290,533	403,614	536,362	655,718	754,948	825,921	882,614	941,659
Sub Total Capital Related	150,226	233,684	327,717	433,722	551,878	684,626	803,981	995,538	1,067,124	1,123,409	1,182,017
Total Expenditures	848,165	945,484	1,053,617	1,173,922	1,306,578	1,454,026	1,588,481	1,795,338	1,882,524	1,954,809	2,029,817
Revenues											
Metered Revenue	25,207	27,525	30,277	33,305	36,635	40,299	43,523	46,134	47,979	49,419	50,901
Other Revenue			-	-	-	-	-	-	-	-	-
2-3-1302-3324 ONTARIO - OCIF top-up	35,000										
2-3-1302-3540 WATER Interest on Bank Account	493										
Contributions from Development Charges Reserve Fund	-	-	-	-	-	-	-	56,705	56,705	56,705	56,705
Interim Loan from Capital Reserve		-	-	-	-	-	-	35,622	36,235	35,826	35,390
Contributions from Reserves / Reserve Funds	27,644							-	-	-	-
Total Operating Revenue	88,345	27,525	30,277	33,305	36,635	40,299	43,523	138,460	140,919	141,949	142,996
Water Billing Recovery - Total	759,820	917,959	1,023,340	1,140,617	1,269,943	1,413,727	1,544,959	1,656,878	1,741,605	1,812,860	1,886,822



Table C-13  
Township of Whitewater Region  
Water Rate Forecast (Inflated \$)  
Option 2 – With Development Charges

Description	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Total Water Billing Recovery	759,820	917,959	1,023,340	1,140,617	1,269,943	1,413,727	1,544,959	1,656,878	1,741,605	1,812,860	1,886,822
Weighted Customer Count	1,033.60	1,040.60	1,054.60	1,068.60	1,081.60	1,094.60	1,107.60	1,120.60	1,132.60	1,144.60	1,156.60
Constant Rate (Annual)	\$ 735.12	\$ 882.14	\$ 970.36	\$ 1,067.39	\$ 1,174.13	\$ 1,291.55	\$ 1,394.87	\$ 1,478.56	\$ 1,537.71	\$ 1,583.84	\$ 1,631.35
Annual Percentage Change		20%	10%	10%	10%	10%	8%	6%	4%	3%	3%

Water - Annual Flat Rates	Weighting Factor	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Residential	1.00	\$ 882	\$ 970	\$ 1,067	\$ 1,174	\$ 1,292	\$ 1,395	\$ 1,479	\$ 1,538	\$ 1,584	\$ 1,631
Small Commercial	1.00	\$ 882	\$ 970	\$ 1,067	\$ 1,174	\$ 1,292	\$ 1,395	\$ 1,479	\$ 1,538	\$ 1,584	\$ 1,631
Medium Commercial	1.50	\$ 1,323	\$ 1,456	\$ 1,601	\$ 1,761	\$ 1,937	\$ 2,092	\$ 2,218	\$ 2,307	\$ 2,376	\$ 2,447
High Commercial	2.00	\$ 1,764	\$ 1,941	\$ 2,135	\$ 2,348	\$ 2,583	\$ 2,790	\$ 2,957	\$ 3,075	\$ 3,168	\$ 3,263
Multi Residential	0.80	\$ 706	\$ 776	\$ 854	\$ 939	\$ 1,033	\$ 1,116	\$ 1,183	\$ 1,230	\$ 1,267	\$ 1,305

Water - Metered Rates	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Metered Charge (per cu.m)	1.278	1.534	1.687	1.856	2.041	2.245	2.425	2.571	2.673	2.754	2.836



# Appendix D

## Detailed Wastewater Rate Calculations



## Appendix D: Detailed Wastewater Rate Calculations



Table D-1  
Township of Whitewater Region  
Capital Budget Forecast (Uninflated \$)

Description	Budget 2019	Total	Forecast									
			2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
<b>Capital Expenditures</b>												
Wastewater Rate Study	15,000	-										
		-										
<b>Growth Related:</b>		-										
Cobden WWTP Expansion		12,217,000	12,217,000									
		-										
<b>Total Capital Expenditures</b>	<b>15,000</b>	<b>12,217,000</b>	<b>12,217,000</b>	-	-	-	-	-	-	-	-	-



Option 1 – No Development Charges

Table D-2  
Township of Whitewater Region  
Capital Budget Forecast (Inflated \$)  
Option 1 – No Development Charges

Description	Budget 2019	Total	Forecast									
			2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
<b>Capital Expenditures</b>												
Wastewater Rate Study	15,000	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-
<b>Growth Related:</b>												
Cobden WWTP Expansion	-	12,461,000	12,461,000	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Capital Expenditures</b>	<b>15,000</b>	<b>12,461,000</b>	<b>12,461,000</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>Capital Financing</b>												
Provincial/Federal Grants		6,273,000	6,273,000									
Development Charges Reserve Fund	-	-	-	-	-	-	-	-	-	-	-	-
Non-Growth Related Debenture Requirements	-	5,827,500	5,827,500	-	-	-	-	-	-	-	-	-
Growth Related Debenture Requirements	-	-	-	-	-	-	-	-	-	-	-	-
Operating Contributions	-	-	-	-	-	-	-	-	-	-	-	-
Lifecycle Reserve Fund	-	-	-	-	-	-	-	-	-	-	-	-
Wastewater Reserve	15,000	360,500	360,500	-	-	-	-	-	-	-	-	-
<b>Total Capital Financing</b>	<b>15,000</b>	<b>12,461,000</b>	<b>12,461,000</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>

Table D-3  
Township of Whitewater Region  
Schedule of Non-growth Related Debenture Repayments (Inflated \$)  
Option 1 – No Development Charges

Debenture Year	2019	Principal (Inflated)	Forecast									
			2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
2020		5,827,500		391,700	391,700	391,700	391,700	391,700	391,700	391,700	391,700	391,700
2021		-			-	-	-	-	-	-	-	-
2022		-				-	-	-	-	-	-	-
2023		-					-	-	-	-	-	-
2024		-						-	-	-	-	-
2025		-							-	-	-	-
2026		-								-	-	-
2027		-									-	-
2028		-										-
2029		-										
<b>Total Annual Debt Charges</b>	<b>-</b>	<b>5,827,500</b>	<b>-</b>	<b>391,700</b>	<b>391,700</b>	<b>391,700</b>	<b>391,700</b>	<b>391,700</b>	<b>391,700</b>	<b>391,700</b>	<b>391,700</b>	<b>391,700</b>

Table D-4  
Township of Whitewater Region  
Wastewater Reserve Continuity (Inflated \$)  
Option 1 – No Development Charges

Description	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Opening Balance	202,513	228,860	209	107,735	272,792	498,337	789,516	1,151,617	1,590,377	2,109,603	2,715,530
Transfer from Operating	36,859	131,846	105,414	159,708	215,774	275,699	339,520	407,575	477,861	552,681	632,311
Transfer to Capital	15,000	360,500									
Transfer to Operating	-	-	-	-	-	-	-	-	-	-	-
<b>Closing Balance</b>	<b>224,372</b>	<b>205</b>	<b>105,623</b>	<b>267,443</b>	<b>488,565</b>	<b>774,036</b>	<b>1,129,037</b>	<b>1,559,193</b>	<b>2,068,238</b>	<b>2,662,284</b>	<b>3,347,841</b>
Interest	4,487	4	2,112	5,349	9,771	15,481	22,581	31,184	41,365	53,246	66,957



Table D-5  
Township of Whitewater Region  
Operating Budget Forecast (Inflated \$)  
Option 1 – No Development Charges

Description	Budget 2019	Forecast									
		2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
<b>Expenditures</b>											
<u>Operating Costs</u>											
<b>SEWER - DISTRIBUTION</b>			-	-	-	-	-	-	-	-	-
14-6000-1010 SEWER DIST - Salary	4,350	4,400	4,500	4,600	4,700	4,800	4,900	5,000	5,100	5,200	5,300
1-4-6000-1110 SEWER DIST - Benefits	610	600	600	600	600	600	600	600	600	600	600
1-4-6000-1210 SEWER DIST - Payroll Deductions	300	300	300	300	300	300	300	300	300	300	300
1-4-6000-1220 SEWER DIST - WSIB	140	100	100	100	100	100	100	100	100	100	100
1-4-6000-1330 SEWER DIST - Sewer Line Maintenanc	25,000	25,500	26,000	26,500	27,000	27,500	28,100	28,700	29,300	29,900	30,500
1-4-6000-2010 SEWER DIST - Materials/Supplies	2,500	2,600	2,700	2,800	2,900	3,000	3,100	3,200	3,300	3,400	3,500
1-4-6000-2440 SEWER DIST - Equipment Rental	2,500	2,600	2,700	2,800	2,900	3,000	3,100	3,200	3,300	3,400	3,500
1-4-6000-2465 SEWER DIST - Sewer Line Maintenanc	75,000	76,500	78,000	79,600	81,200	82,800	84,500	86,200	87,900	89,700	91,500
		-									
<b>SEWER - TRANSMISSION</b>			-	-	-	-	-	-	-	-	-
1-4-6100-1010 SEWER TRANS - Salary	4,350	4,400	4,500	4,600	4,700	4,800	4,900	5,000	5,100	5,200	5,300
1-4-6100-1110 SEWER TRANS - Benefits	610	600	600	600	600	600	600	600	600	600	600
1-4-6100-1210 SEWER TRANS - Payroll Deductions	300	300	300	300	300	300	300	300	300	300	300
1-4-6100-1220 SEWER TRANS - WSIB	140	100	100	100	100	100	100	100	100	100	100
1-4-6100-1330 SEWER TRANS - Education, Seminar	500	500	500	500	500	500	500	500	500	500	500
1-4-6100-2230 SEWER TRANS - Insurance	5,042	5,100	5,200	5,300	5,400	5,500	5,600	5,700	5,800	5,900	6,000
1-4-6100-2410 SEWER TRANS - Equipment Repairs	10,000	10,200	10,400	10,600	10,800	11,000	11,200	11,400	11,600	11,800	12,000
1-4-6100-2430 SEWER TRANS - Building Repairs & f	2,500	2,600	2,700	2,800	2,900	3,000	3,100	3,200	3,300	3,400	3,500
1-4-6100-4010 SEWER TRANS - Contracts	300,000	306,000	312,100	318,300	324,700	331,200	337,800	344,600	351,500	358,500	365,700
1-4-6100-5010 SEWER TRANS - Miscellaneous	10,500	10,700	10,900	11,100	11,300	11,500	11,700	11,900	12,100	12,300	12,500
1-4-6100-5020 SEWER TRANS - PIL Sewer Plant	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400
<b>Sub Total Operating</b>	<b>445,742</b>	<b>454,500</b>	<b>463,600</b>	<b>472,900</b>	<b>482,400</b>	<b>492,000</b>	<b>501,900</b>	<b>512,000</b>	<b>522,200</b>	<b>532,600</b>	<b>543,200</b>
<u>Capital-Related</u>											
Existing Debt (Principal) - Growth Related											
Existing Debt (Interest) - Growth Related											
New Growth Related Debt (Principal)		-	-	-	-	-	-	-	-	-	-
New Growth Related Debt (Interest)		-	-	-	-	-	-	-	-	-	-
Existing Debt (Principal) - Non-Growth Related	8,418	8,718	9,029	9,351	9,684	10,029	10,386	10,757	11,140	11,537	11,948
Existing Debt (Interest) - Non-Growth Related	5,605	5,305	4,994	4,672	4,339	3,994	3,637	3,266	2,883	2,486	2,075
New Non-Growth Related Debt (Principal)		-	216,875	223,381	230,082	236,985	244,094	251,417	258,960	266,728	274,730
New Non-Growth Related Debt (Interest)		-	174,825	168,319	161,617	154,715	147,605	140,283	132,740	124,971	116,969
Transfer to Capital	-	-	-	-	-	-	-	-	-	-	-
Transfer to Capital Reserve	36,859	131,846	105,414	159,708	215,774	275,699	339,520	407,575	477,861	552,681	632,311
<b>Sub Total Capital Related</b>	<b>50,882</b>	<b>145,869</b>	<b>511,136</b>	<b>565,430</b>	<b>621,496</b>	<b>681,422</b>	<b>745,243</b>	<b>813,298</b>	<b>883,584</b>	<b>958,404</b>	<b>1,038,034</b>
<b>Total Expenditures</b>	<b>496,624</b>	<b>600,369</b>	<b>974,736</b>	<b>1,038,330</b>	<b>1,103,896</b>	<b>1,173,422</b>	<b>1,247,143</b>	<b>1,325,298</b>	<b>1,405,784</b>	<b>1,491,004</b>	<b>1,581,234</b>
<b>Revenues</b>											
Metered Revenue	46,012	55,215	88,344	92,761	97,399	102,269	107,382	112,752	118,389	124,309	130,524
Contributions from Development Charges Reserve Fund	-	-	-	-	-	-	-	-	-	-	-
Contributions from Reserves / Reserve Funds	-	-	-	-	-	-	-	-	-	-	-
<b>Total Operating Revenue</b>	<b>46,012</b>	<b>55,215</b>	<b>88,344</b>	<b>92,761</b>	<b>97,399</b>	<b>102,269</b>	<b>107,382</b>	<b>112,752</b>	<b>118,389</b>	<b>124,309</b>	<b>130,524</b>
<b>Wastewater Billing Recovery - Total</b>	<b>450,612</b>	<b>545,154</b>	<b>886,392</b>	<b>945,569</b>	<b>1,006,497</b>	<b>1,071,153</b>	<b>1,139,760</b>	<b>1,212,546</b>	<b>1,287,395</b>	<b>1,366,695</b>	<b>1,450,710</b>

Table D-6  
Township of Whitewater Region  
Wastewater Rate Forecast (Inflated \$)  
Option 1 – No Development Charges

Description	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Total Wastewater Billing Recovery	450,612	545,154	886,392	945,569	1,006,497	1,071,153	1,139,760	1,212,546	1,287,395	1,366,695	1,450,710
Weighted Customer Count	489	493	501	509	516	523	530	537	543	549	555
<b>Constant Rate (Annual)</b>	<b>921.12</b>	<b>1,105.34</b>	<b>1,768.54</b>	<b>1,856.97</b>	<b>1,949.82</b>	<b>2,047.31</b>	<b>2,149.68</b>	<b>2,257.16</b>	<b>2,370.02</b>	<b>2,488.52</b>	<b>2,612.95</b>
<b>Annual Percentage Change</b>		<b>20%</b>	<b>60%</b>	<b>5%</b>	<b>5%</b>	<b>5%</b>	<b>5%</b>	<b>5%</b>	<b>5%</b>	<b>5%</b>	<b>5%</b>

Cobden Wastewater - Annual Flat Rates	Weighting Factor	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Residential	1.00	\$1,105	\$1,769	\$1,857	\$1,950	\$2,047	\$2,150	\$2,257	\$2,370	\$2,489	\$2,613
Small Commercial	1.00	\$1,105	\$1,769	\$1,857	\$1,950	\$2,047	\$2,150	\$2,257	\$2,370	\$2,489	\$2,613
Medium Commercial	1.50	\$1,658	\$2,653	\$2,785	\$2,925	\$3,071	\$3,225	\$3,386	\$3,555	\$3,733	\$3,919
High Commercial	2.00	\$2,211	\$3,537	\$3,714	\$3,900	\$4,095	\$4,299	\$4,514	\$4,740	\$4,977	\$5,226
Multi Residential	0.80	\$884	\$1,415	\$1,486	\$1,560	\$1,638	\$1,720	\$1,806	\$1,896	\$1,991	\$2,090

Cobden Wastewater - Metered Rates	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Metered Charge (per cu.m)	2.380	2.856	4.570	4.798	5.038	5.290	5.555	5.832	6.124	6.430	6.752





Option 2 – With Development Charges

Table D-7  
Township of Whitewater Region  
Capital Budget Forecast (Inflated \$)  
Option 2 – With Development Charges

Description	Budget 2019	Total	Forecast									
			2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
<b>Capital Expenditures</b>												
Wastewater Rate Study	15,000	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-
<b>Growth Related:</b>	-	-	-	-	-	-	-	-	-	-	-	-
Cobden WWTP Expansion	-	12,461,000	12,461,000	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Capital Expenditures</b>	<b>15,000</b>	<b>12,461,000</b>	<b>12,461,000</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>Capital Financing</b>												
Provincial/Federal Grants		6,273,000	6,273,000									
Development Charges Reserve Fund	-	-	-	-	-	-	-	-	-	-	-	-
Non-Growth Related Debenture Requirements	-	2,089,700	2,089,700	-	-	-	-	-	-	-	-	-
Growth Related Debenture Requirements	-	3,738,300	3,738,300	-	-	-	-	-	-	-	-	-
Operating Contributions	-	-	-	-	-	-	-	-	-	-	-	-
Lifecycle Reserve Fund	-	-	-	-	-	-	-	-	-	-	-	-
Wastewater Reserve	15,000	360,000	360,000	-	-	-	-	-	-	-	-	-
<b>Total Capital Financing</b>	<b>15,000</b>	<b>12,461,000</b>	<b>12,461,000</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>

Table D-8  
Township of Whitewater Region  
Schedule of Non-growth Related Debenture Repayments (Inflated \$)  
Option 2 – With Development Charges

Debenture Year	2019	Principal (Inflated)	Forecast									
			2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
2020		2,089,700		140,461	140,461	140,461	140,461	140,461	140,461	140,461	140,461	140,461
2021		-			-	-	-	-	-	-	-	-
2022		-				-	-	-	-	-	-	-
2023		-					-	-	-	-	-	-
2024		-						-	-	-	-	-
2025		-							-	-	-	-
2026		-								-	-	-
2027		-									-	-
2028		-										-
2029		-										
<b>Total Annual Debt Charges</b>	<b>-</b>	<b>2,089,700</b>	<b>-</b>	<b>140,461</b>	<b>140,461</b>	<b>140,461</b>	<b>140,461</b>	<b>140,461</b>	<b>140,461</b>	<b>140,461</b>	<b>140,461</b>	<b>140,461</b>

Table D-9  
Township of Whitewater Region  
Schedule of Growth Related Debenture Repayments (Inflated \$)  
Option 2 – With Development Charges

Debenture Year	2019	Principal (Inflated)	Forecast									
			2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
2020		3,738,300		251,272	251,272	251,272	251,272	251,272	251,272	251,272	251,272	251,272
2021		-			-	-	-	-	-	-	-	-
2022		-				-	-	-	-	-	-	-
2023		-					-	-	-	-	-	-
2024		-						-	-	-	-	-
2025		-							-	-	-	-
2026		-								-	-	-
2027		-									-	-
2028		-										-
2029		-										
<b>Total Annual Debt Charges</b>	<b>-</b>	<b>3,738,300</b>	<b>-</b>	<b>251,272</b>	<b>251,272</b>	<b>251,272</b>	<b>251,272</b>	<b>251,272</b>	<b>251,272</b>	<b>251,272</b>	<b>251,272</b>	<b>251,272</b>

Table D-10  
Township of Whitewater Region  
Wastewater Reserve Continuity (Inflated \$)  
Option 2 – With Development Charges

Description	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Opening Balance	202,513	228,860	719	251,193	484,845	770,949	1,101,985	1,468,656	1,872,544	2,307,511	2,780,627
Transfer from Operating	36,859	131,846	356,652	410,946	456,499	493,626	520,729	548,659	575,427	602,988	631,365
Transfer to Capital	15,000	360,000									
Transfer to DC Reserve Fund (via operating)			111,104	186,801	185,512	184,198	182,855	181,487	185,705	184,394	182,976
Transfer to Operating	-	-	-	-	-	-	-	-	-	-	-
<b>Closing Balance</b>	<b>224,372</b>	<b>705</b>	<b>246,268</b>	<b>475,338</b>	<b>755,832</b>	<b>1,080,377</b>	<b>1,439,859</b>	<b>1,835,827</b>	<b>2,262,265</b>	<b>2,726,105</b>	<b>3,229,017</b>
Interest	4,487	14	4,925	9,507	15,117	21,608	28,797	36,717	45,245	54,522	64,580



Table D-11  
Township of Whitewater Region  
Wastewater Development Charge Reserve Continuity (Inflated \$)  
Option 2 – With Development Charges

Description	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Opening Balance	-	-	70,084	0	0	(0)	0	(0)	(0)	(0)	(0)
Development Charge Proceeds	-	68,710	70,085	64,472	65,760	67,075	68,417	69,786	65,567	66,879	68,297
Transfer from Capital Reserve (via operating)	-	-	111,104	186,801	185,512	184,198	182,855	181,487	185,705	184,394	182,976
Transfer to Capital	-	-	-	-	-	-	-	-	-	-	-
Transfer to Operating	-	-	251,272	251,272	251,272	251,272	251,272	251,272	251,272	251,272	251,272
Closing Balance	-	68,710	0	0	(0)	0	(0)	(0)	(0)	(0)	0
Interest	-	1,374	0	0	(0)	0	(0)	(0)	(0)	(0)	0
Required from Development Charges	-	3,738,300	-	-	-	-	-	-	-	-	-

Table D-12  
Township of Whitewater Region  
Operating Budget Forecast (Inflated \$)  
Option 2 – With Development Charges

Description	Budget 2019	Forecast									
		2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Expenditures											
Operating Costs											
SEWER - DISTRIBUTION			-	-	-	-	-	-	-	-	-
14-6000-1010 SEWER DIST - Salary	4,350	4,400	4,500	4,600	4,700	4,800	4,900	5,000	5,100	5,200	5,300
1-4-6000-1110 SEWER DIST - Benefits	610	600	600	600	600	600	600	600	600	600	600
1-4-6000-1210 SEWER DIST - Payroll Deductions	300	300	300	300	300	300	300	300	300	300	300
1-4-6000-1220 SEWER DIST - WSIB	140	100	100	100	100	100	100	100	100	100	100
1-4-6000-1330 SEWER DIST - Sewer Line Maintenanc	25,000	25,500	26,000	26,500	27,000	27,500	28,100	28,700	29,300	29,900	30,500
1-4-6000-2010 SEWER DIST - Materials/Supplies	2,500	2,600	2,700	2,800	2,900	3,000	3,100	3,200	3,300	3,400	3,500
1-4-6000-2440 SEWER DIST - Equipment Rental	2,500	2,600	2,700	2,800	2,900	3,000	3,100	3,200	3,300	3,400	3,500
1-4-6000-2465 SEWER DIST - Sewer Line Maintenanc	75,000	76,500	78,000	79,600	81,200	82,800	84,500	86,200	87,900	89,700	91,500
		-	-	-	-	-	-	-	-	-	-
SEWER - TRANSMISSION			-	-	-	-	-	-	-	-	-
1-4-6100-1010 SEWER TRANS - Salary	4,350	4,400	4,500	4,600	4,700	4,800	4,900	5,000	5,100	5,200	5,300
1-4-6100-1110 SEWER TRANS - Benefits	610	600	600	600	600	600	600	600	600	600	600
1-4-6100-1210 SEWER TRANS - Payroll Deductions	300	300	300	300	300	300	300	300	300	300	300
1-4-6100-1220 SEWER TRANS - WSIB	140	100	100	100	100	100	100	100	100	100	100
1-4-6100-1330 SEWER TRANS - Education, Seminar	500	500	500	500	500	500	500	500	500	500	500
1-4-6100-2230 SEWER TRANS - Insurance	5,042	5,100	5,200	5,300	5,400	5,500	5,600	5,700	5,800	5,900	6,000
1-4-6100-2410 SEWER TRANS - Equipment Repairs	10,000	10,200	10,400	10,600	10,800	11,000	11,200	11,400	11,600	11,800	12,000
1-4-6100-2430 SEWER TRANS - Building Repairs & f	2,500	2,600	2,700	2,800	2,900	3,000	3,100	3,200	3,300	3,400	3,500
1-4-6100-4010 SEWER TRANS - Contracts	300,000	306,000	312,100	318,300	324,700	331,200	337,800	344,600	351,500	358,500	365,700
1-4-6100-5010 SEWER TRANS - Miscellaneous	10,500	10,700	10,900	11,100	11,300	11,500	11,700	11,900	12,100	12,300	12,500
1-4-6100-5020 SEWER TRANS - PIL Sewer Plant	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400
Sub Total Operating	445,742	454,500	463,600	472,900	482,400	492,000	501,900	512,000	522,200	532,600	543,200
Capital-Related											
Existing Debt (Principal) - Growth Related											
Existing Debt (Interest) - Growth Related											
New Growth Related Debt (Principal)		-	139,123	143,297	147,596	152,024	156,585	161,282	166,121	171,104	176,237
New Growth Related Debt (Interest)		-	112,149	107,975	103,676	99,248	94,688	89,990	85,152	80,168	75,035
Existing Debt (Principal) - Non-Growth Related	8,418	8,718	9,029	9,351	9,684	10,029	10,386	10,757	11,140	11,537	11,948
Existing Debt (Interest) - Non-Growth Related	5,605	5,305	4,994	4,672	4,339	3,994	3,637	3,266	2,883	2,486	2,075
New Non-Growth Related Debt (Principal)		-	77,770	80,103	82,506	84,981	87,530	90,156	92,861	95,647	98,516
New Non-Growth Related Debt (Interest)		-	62,691	60,358	57,955	55,480	52,930	50,304	47,600	44,814	41,944
Transfer to Capital	-	-	-	-	-	-	-	-	-	-	-
Interim Loan to DC Reserve Fund		-	111,104	186,801	185,512	184,198	182,855	181,487	185,705	184,394	182,976
Transfer to Capital Reserve	36,859	131,846	356,652	410,946	456,499	493,626	520,729	548,659	575,427	602,988	631,365
Sub Total Capital Related	50,882	145,869	873,513	1,003,504	1,047,767	1,083,580	1,109,340	1,135,902	1,166,888	1,193,138	1,220,097
Total Expenditures	496,624	600,369	1,337,113	1,476,404	1,530,167	1,575,580	1,611,240	1,647,902	1,689,088	1,725,738	1,763,297
Revenues											
Metered Revenue	46,012	55,215	88,344	92,761	96,471	99,366	101,353	103,380	105,448	107,557	109,708
Contributions from Development Charges Reserve Fund	-	-	251,272	251,272	251,272	251,272	251,272	251,272	251,272	251,272	251,272
Interim Loan from Capital Reserve		-	111,104	186,801	185,512	184,198	182,855	181,487	185,705	184,394	182,976
Contributions from Reserves / Reserve Funds	-	-	-	-	-	-	-	-	-	-	-
Total Operating Revenue	46,012	55,215	450,720	530,834	533,256	534,836	535,480	536,139	542,425	543,223	543,956
Wastewater Billing Recovery - Total	450,612	545,154	886,392	945,569	996,911	1,040,744	1,075,760	1,111,762	1,146,663	1,182,515	1,219,341

Table D-13  
Township of Whitewater Region  
Wastewater Rate Forecast (Inflated \$)  
Option 2 – With Development Charges

Description	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Total Wastewater Billing Recovery	450,612	545,154	886,392	945,569	996,911	1,040,744	1,075,760	1,111,762	1,146,663	1,182,515	1,219,341
Weighted Customer Count	489	493	501	509	516	523	530	537	543	549	555
Constant Rate (Annual)	921.12	1,105.34	1,768.54	1,856.97	1,931.25	1,989.19	2,028.97	2,069.55	2,110.94	2,153.16	2,196.22
Annual Percentage Change		20%	60%	5%	4%	3%	2%	2%	2%	2%	2%

Cobden Wastewater - Annual Flat Rates	Weighting Factor	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Residential	1.00	\$1,105	\$1,769	\$1,857	\$1,931	\$1,989	\$2,029	\$2,070	\$2,111	\$2,153	\$2,196
Small Commercial	1.00	\$1,105	\$1,769	\$1,857	\$1,931	\$1,989	\$2,029	\$2,070	\$2,111	\$2,153	\$2,196
Medium Commercial	1.50	\$1,658	\$2,653	\$2,785	\$2,897	\$2,984	\$3,043	\$3,104	\$3,166	\$3,230	\$3,294
High Commercial	2.00	\$2,211	\$3,537	\$3,714	\$3,863	\$3,978	\$4,058	\$4,139	\$4,222	\$4,306	\$4,392
Multi Residential	0.80	\$884	\$1,415	\$1,486	\$1,545	\$1,591	\$1,623	\$1,656	\$1,689	\$1,723	\$1,757

Cobden Water - Metered Rates	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Metered Charge (per cu.m)	2.380	2.856	4.570	4.798	4.990	5.140	5.243	5.347	5.454	5.564	5.675



# Appendix E

## Class of Customer Definitions

## RATE CATEGORIES AND DEFINITIONS

<b>RESIDENTIAL UNIT</b>	<ul style="list-style-type: none"> <li>• Self Contained Residential Units including Apartments, Churches</li> </ul>
<b>SMALL COMMERCIAL UNIT</b>	<ul style="list-style-type: none"> <li>• Commercial Operations consisting of Office Space, Retail Space, Repair Shop, Service Station</li> <li>• Less Than 1000 sq. ft. of Floor Area</li> <li>• Laundromat (1 unit per four machines)</li> <li>• Carwash (1 unit per bay)</li> </ul>
<b>MEDIUM COMMERCIAL UNIT</b>	<ul style="list-style-type: none"> <li>• Commercial Operation consisting of Office Space, Retail Space over 1000 sq. ft. of Floor Area</li> <li>• Commercial Operations requiring water as a process for their operation excluding Washroom Facilities I.e. Eating Establishment Take Out and Full Service Under 1000 sq. ft. Food/Convenience Store under 1000 sq. ft. Bed and Breakfast Funeral Home Hairdressing Shop</li> </ul>
<b>HIGH COMMERCIAL UNIT</b>	<ul style="list-style-type: none"> <li>• Commercial Operations consisting of large grocery, Food Retail and multiple business Development over 1000 sq. ft. of Floor Area</li> <li>• Commercial Operations requiring water as a process for their operation excluding Washroom facilities I.e. Eating Establishment Take out and Full Service over 1000 sq. ft. Food/Convenience Store over 1000 sq. ft.</li> <li>• Motel Facility</li> <li>• Industrial Type Business</li> <li>• Cleaning Type Business</li> <li>• Medical, Dental and Physician Type facilities (less than 1000 sq. ft. – 1 unit – Over 1000 sq. ft. – 2 Units)</li> </ul>
<b>FARM</b>	<ul style="list-style-type: none"> <li>• ½ Small Commercial for Hobby Farm using water for animals – 5 head and under</li> <li>• Small Commercial – Farm Operation – No livestock and/or using water</li> <li>• Medium Commercial for Farm using water for animals – 40 head and under</li> <li>• High Commercial for Farm using water for animals – over 41 head</li> </ul>

## RATE CATEGORIES AND DEFINITIONS

<b>HOME OCCUPATION</b>	<ul style="list-style-type: none"> <li>• ½ Residential - Commercial operation which is carried on as an accessory use within a dwelling</li> </ul>
<b>MULTI RESIDENTIAL</b>	<ul style="list-style-type: none"> <li>• Apartment building consisting of more than one Residential Dwelling shall have one Residential Unit followed by 80% of the Residential unit rate of all other Residential dwellings within the building.</li> </ul>
<b>HALLS (Single Purpose)</b>	<ul style="list-style-type: none"> <li>• ½ Small Commercial – Halls without Kitchen/Servery facilities</li> </ul>
<b>HALLS with a Kitchen/Servery</b>	<ul style="list-style-type: none"> <li>• Small Commercial – Maximum Seating capacity of 200 people or less</li> <li>• High Commercial – Maximum Seating capacity of 201 people or more</li> </ul>
<b>GEOHERMAL</b>	<ul style="list-style-type: none"> <li>• Structures using municipal water as its heat, A/C source shall be applied a Standard Commercial Unit.</li> </ul>
<b>MISCELLANEOUS</b>	<ul style="list-style-type: none"> <li>• Curling Club – Medium Commercial Unit</li> <li>• Royal Canadian Legion including Hall – Small Commercial</li> <li>• Covered Arenas and all associated operations – 3 Units of High Commercial</li> <li>• School – 6 Units of High Commercial</li> <li>• Small Commercial – Attached Hall in excess of 1500 sq. ft.</li> </ul> <p>NOTE: Municipality reserves all rights to make any necessary adjustments to all rates based on:</p> <ul style="list-style-type: none"> <li>• Factors not currently addressed in policy</li> <li>• Adjustment to rates based on volume content and nature of use of water</li> </ul>
<b>VACANCY</b>	<ul style="list-style-type: none"> <li>• Units unoccupied for a period of at least two (2) consecutive calendar months with water service maintained are eligible for the vacancy rate (20% of regular water &amp; sewer rates). The vacancy rate will take effect in the 3<sup>rd</sup> month of the vacancy period.</li> <li>• Regular charges will begin for the full month when occupancy is resumed part way through a month.</li> <li>• This applies to commercial rate categories only.</li> </ul>