



# Water Rate Study

## Township of Perth South

September 17, 2025

Watson & Associates Economists Ltd.  
905-272-3600  
[info@watsonecon.ca](mailto:info@watsonecon.ca)



# Table of Contents

	Page
<b>Executive Summary .....</b>	<b>i</b>
<b>1. Introduction.....</b>	<b>1-1</b>
1.1 Background.....	1-1
1.2 Study Process.....	1-2
1.3 Regulatory Changes in Ontario.....	1-2
1.4 Sustainable Water and Sewage Systems Act.....	1-3
1.5 Financial Plans Regulation .....	1-5
1.6 Water Opportunities Act, 2010.....	1-7
1.7 Infrastructure for Jobs and Prosperity Act, 2015 (I.J.P.A.).....	1-8
1.8 Forecast Growth and Servicing Requirements .....	1-10
<b>2. Capital Infrastructure Needs.....</b>	<b>2-1</b>
2.1 Capital Forecast.....	2-1
<b>3. Lifecycle Costing.....</b>	<b>3-1</b>
3.1 Overview of Lifecycle Costing.....	3-1
3.1.1 Definition.....	3-1
3.1.2 Financing Costs .....	3-1
3.1.3 Costing Methods .....	3-4
3.2 Impact on Budgets.....	3-6
<b>4. Capital Cost Financing Options .....</b>	<b>4-1</b>
4.1 Summary of Capital Cost Financing Alternatives.....	4-1
4.2 Development Charges Act, 1997 .....	4-2
4.3 Municipal Act .....	4-2
4.4 Historical and Current Grant Funding Availability .....	4-4
4.5 Existing Reserves/Reserve Funds.....	4-6
4.6 Debenture Financing.....	4-6
4.7 Infrastructure Ontario.....	4-6
4.7.1 Housing-Enabling Water Infrastructure Lending Stream.....	4-7
4.8 Recommended Capital Financing Approach.....	4-8



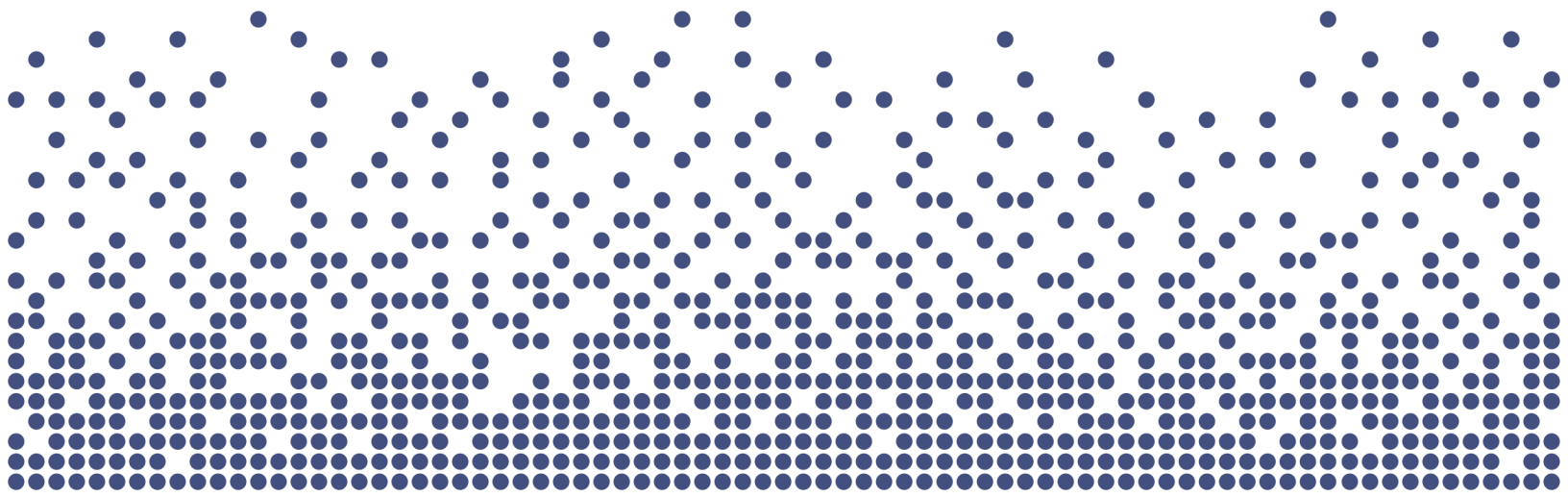
# Table of Contents (Cont'd)

	Page
<b>5. Overview of Expenditures and Revenues .....</b>	<b>5-1</b>
5.1 Water Operating Expenditures.....	5-1
5.2 Water Operating Revenues .....	5-1
<b>6. Pricing Structures .....</b>	<b>6-1</b>
6.1 Introduction .....	6-1
6.2 Alternative Pricing Structures.....	6-2
6.3 Assessment of Alternative Pricing Structures .....	6-4
6.4 Rate Structures in Ontario .....	6-9
6.5 Recommended Rate Structures.....	6-10
<b>7. Analysis of Water Rates and Policy Matters .....</b>	<b>7-1</b>
7.1 Introduction .....	7-1
7.2 Water Rates.....	7-1
7.3 Connection Fees.....	7-2
<b>8. Recommendations .....</b>	<b>8-1</b>
<b>Appendix A Detailed Water Rate Calculations – Black Creek.....</b>	<b>A-1</b>
<b>Appendix B Detailed Water Rate Calculations – St. Pauls .....</b>	<b>B-1</b>



## List of Acronyms and Abbreviations

<b>Acronym</b>	<b>Full Description of Acronym</b>
A.M.O.	Association of Municipalities of Ontario
A.W.W.A.	American Water Works Association
cu.m.	Cubic metre
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.	Ministry of Environment
O.C.I.F.	Ontario Community Infrastructure Fund
O.C.W.A.	Ontario Clean Water Agency
O.L.T.	Ontario Land Tribunal
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 Perth South retained Watson & Associates Economists Ltd. (Watson) to undertake a Water Rate Study. This study aims to provide a water rate analysis for current capital and operating forecasts, in addition to lifecycle cost requirements. The results of this analysis provide for updated water rates for customers within the serviced areas of the Township of Perth South. The rate analysis contained herein continues to provide fiscally responsible practices that align 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 Township has two distinct water service areas: the Black Creek and St. Pauls water systems. Each area has its own rate to recover capital and operating costs associated with the respective system.
- The current rate structure for both water systems is a flat rate.
- The 2026 to 2035 capital spending program for the Black Creek water system totals \$161,200 (inflated dollars).
- The 2026 to 2035 capital spending program for the St. Pauls water system totals \$217,000 (inflated dollars).
- Provisions for asset management needs have been factored into the rate analysis to align with the recommendations in the Township's Asset Management Plan.
- Annual operating expenditures related to wages and salaries are increasing by 2% per annum over the forecast, while expenditures related to utilities, fuels, and chemicals are increasing at 5% per annum.
- Existing water customers total 33 in the Black Creek water system and 36 in the St. Pauls water system. It is anticipated the Township will see an increase of approximately 5 new customers in the St. Pauls system over the next 10-year period and no growth is anticipated in the Black Creek system; and
- The present rate structure (annual flat rate) is continued for both water systems in order to recover the capital and operating related costs.

Based on the above information, the estimated rate increases are as follows:



- In order to meet the needs of the water forecast for the Black Creek system, the flat rate is anticipated to increase annually by 5% from 2026 to 2030, and 3% every year thereafter.
- To meet the needs of the water forecast for the St. Pauls system, the flat rate is anticipated to increase annually by 3% from 2026 to 2034.
- The connection fee for new users is currently \$2,000 per new property that connects into the water system. This rate has not been adjusted for inflation since 2002. It is recommended that the connection fee is updated to \$5,500 per property to adjust for inflation and reflect the current costs of the water system.

Table ES-1 summarizes the recommended water rates for the Black Creek system based on the analysis provided herein over the forecast period. Table ES-2 summarizes the recommended water rates for the St. Pauls system over the forecast period.

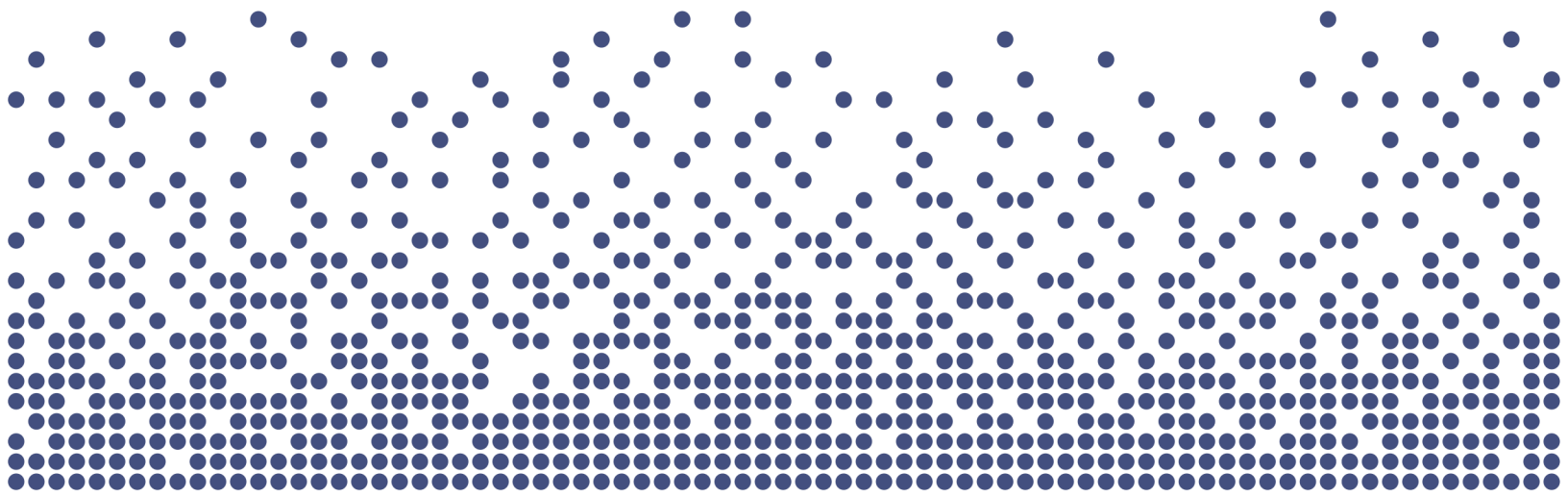


Table ES-1  
Township of Perth South  
Annual Customer Water Bill – Black Creek

Description	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Annual Flat Rate	\$1,694	\$1,779	\$1,868	\$1,961	\$2,059	\$2,162	\$2,227	\$2,294	\$2,363	\$2,433	\$2,506
% Increase		5%	5%	5%	5%	5%	3%	3%	3%	3%	3%

Table ES-2  
Township of Perth South  
Annual Customer Water Bill – St. Pauls

Description	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Annual Flat Rate	\$1,599	\$1,647	\$1,696	\$1,747	\$1,800	\$1,854	\$1,909	\$1,967	\$2,026	\$2,086	\$2,149
% Increase		3%	3%	3%	3%	3%	3%	3%	3%	3%	3%



# Report



# Chapter 1

## Introduction



# 1. Introduction

## 1.1 Background

---

The Township of Perth South is located in Perth County, with a population of approximately 3,776 population. The Township currently provides water via two well-based distribution systems: Black Creek water system and St. Pauls water system. Both systems are small residential systems with unmetered water users.

Currently, there are 33 water customers in the Black Creek system and 36 water customers in the St. Pauls system.

The water systems in the Township utilize an annual flat rate charge for their customers. Table 1-1 provides the existing rates currently in effect for the Black Creek and St. Pauls water systems.

Table 1-1  
Township of Perth South  
Water Rates – 2025

Township of Perth South	
2025 - Water Billing Rates	
Annual Flat Rate	
Black Creek Water System	\$1,694
St. Pauls Water System	\$1,599

Since the Walkerton crisis, the Province has continued to make legislative changes for municipal water and wastewater systems. Noted below are the historical changes along with pending legislation anticipated to be implemented in the future. Watson & Associates Economists Ltd. (Watson) was retained by the Township of Perth South to assist in addressing these changes in a proactive manner as they relate to the water systems. The assessment provided herein addresses changes recommended to the water rates based on the most current information and forecasts the implications over the next 10-year period.



## 1.2 Study Process

---

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

- Identify all current and future water system capital needs to assess the immediate and longer-term implications;
- Identify potential methods of cost recovery from the capital needs listing. These recovery methods may include other statutory authorities (e.g. *Municipal Act*) as an offset to recovery through the water rates;
- Identify existing operating costs by component and estimate future operating costs over the next ten years. This assessment identifies fixed and variable costs in order to project those costs sensitive to changes to the existing infrastructure inventory, as well as costs which may increase commensurate with growth; and
- Provide staff and Council the findings to assist in gaining approval of the rates for 2026 and future years.

## 1.3 Regulatory Changes in Ontario

---

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

---

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 (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

---

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.



## 1.6 Water Opportunities Act, 2010

---

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.

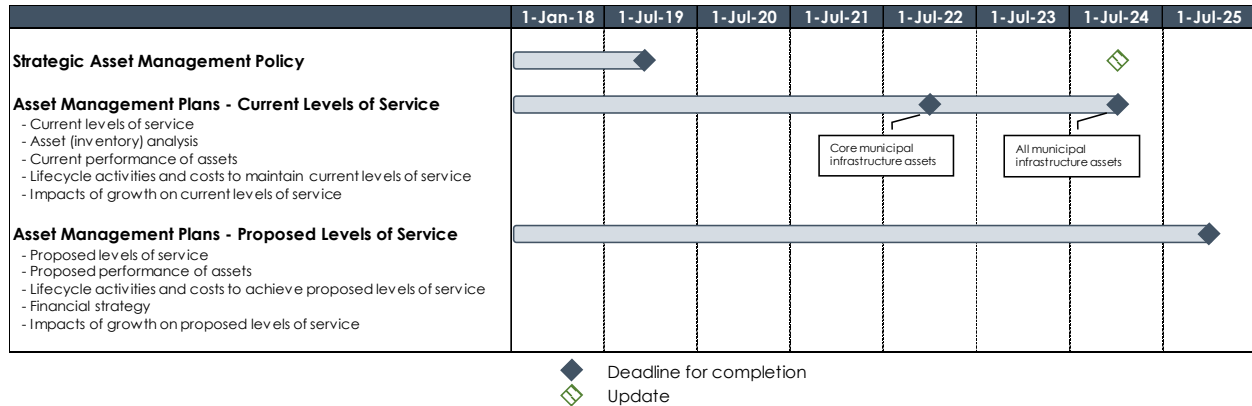
## **1.7 Infrastructure for Jobs and Prosperity Act, 2015 (I.J.P.A.)**

---

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:



**Figure 1-1**  
**Legislative Timelines set out by the Jobs and Prosperity Act**  
**Legislation related to Asset Management Plans**



Note: on March 15, 2021, the Province filed Regulation 193/21 to extend all of the timelines of Regulation 588/17 by one year (reflected in the table above).

Every municipality in Ontario was required 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, 2022):
  - 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, 2024):
  - Same steps as Phase 1 but for all assets.
- Phase 3 – Asset Management Plan (by July 1, 2025):
  - Builds on Phase 1 and 2 by adding:
    - Proposed levels of service; and
    - Lifecycle management and financial strategy.

In relation to water (which is considered a core asset), municipalities were to have an asset management plan that addresses the related infrastructure by July 1, 2022 (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.

## 1.8 Forecast Growth and Servicing Requirements

---

The Township of Perth South services 69 water customers, with 33 customers in Black Creek and 36 customers in St. Pauls. Information on the existing number of customers was obtained from the Township.

For future water customers to be added to the systems, consideration has been given to development potential for both the Black Creek and St. Pauls areas. Based on discussions with staff, there are no future developments anticipated in the Black Creek area over the forecast period. With respect to St. Pauls, it is anticipated that five (5) new water customers will be added to the system over the forecast period. Table 1-2 provides the forecast of water users in the St. Pauls water system.



Table 1-2  
Township of Perth South  
2025 to 2035 Water System Forecast – St. Pauls

**Water Users Forecast - St. Pauls**

Year	Total Users	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
2025	3	2	3	3	3	3	3	3	3	3	3	3
2026	2		1	2	2	2	2	2	2	2	2	2
2027	0			-	-	-	-	-	-	-	-	-
2028	0				-	-	-	-	-	-	-	-
2029	0					-	-	-	-	-	-	-
2030	0						-	-	-	-	-	-
2031	0							-	-	-	-	-
2032	0								-	-	-	-
2033	0									-	-	-
2034	0										-	-
2035	0											-
<b>Total</b>	<b>5</b>	<b>2</b>	<b>4</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>	<b>5</b>

Water Customer Forecast	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Existing	36	36	36	36	36	36	36	36	36	36	36
New - Growth	2	4	5	5	5	5	5	5	5	5	5
<b>Total</b>	<b>38</b>	<b>40</b>	<b>41</b>	<b>41</b>	<b>41</b>	<b>41</b>	<b>41</b>	<b>41</b>	<b>41</b>	<b>41</b>	<b>41</b>



# Chapter 2

## Capital Infrastructure Needs



## 2. Capital Infrastructure Needs

### 2.1 Capital Forecast

---

Capital forecasts have been provided for each of the water systems and are presented on Tables 2-1 through 2-2 (note: the costs are provided in inflated dollars). The basis for these forecasts is the capital infrastructure replacement needs based on recommendations from the Ontario Clean Water Agency (O.C.W.A.) and discussions with Township staff. Additional provisions related to asset replacement needs have been incorporated into the capital forecast to align with the recommendations provided in the Township's Asset Management Plan. These recommendations provided for an annual amount to be spent related to the replacement of existing assets.

A summary of the capital works related is provided in the following tables. Table 2-1 presents the capital forecast summary for the Black Creek water system, and Table 2-2 presents the capital forecast summary for the St. Pauls water system.



Table 2-1  
Township of Perth South  
2026 to 2035 Water Capital Forecast Summary (Inflated \$) – Black Creek

Description	Total 2026 to 2035	Years Undertaken
<b>Capital Expenditures</b>		
Chemicals	5,900	2026-2030
Chlorine Injectors and Parts	1,400	2026-2030
Water Service Repair Parts	4,260	2026-2030
Well House Repairs (Pipe, Valves, etc.)	3,950	2026-2030
UV Parts (Solenoid Valves, Circuit Boards, etc.)	4,300	2026-2030
Well Inspection	3,300	2027
Data Logger Maintenance	500	2028
Overtime/Call-Outs	12,000	2026-2030
Contingency	6,400	2026-2030
<b>Lifecycle</b>		
UV Lamps	5,500	2026-2030
Chemical Pump Replacement Parts	6,260	2026-2030
Pressure Tank Replacement	2,860	2026, 2028, 2030
Analyzer Probe	6,600	2027, 2030
Chlorine Analyzer Parts (Electrolyte Membrane Cap)	2,740	2026-2030
Provision for Asset Management Needs	95,230	2026-2035
<b>Total Capital Expenditures</b>	<b>161,200</b>	



Table 2-2  
Township of Perth South  
2026 to 2035 Water Capital Forecast Summary (Inflated \$) – St. Pauls

Description	Total 2026 to 2035	Years Undertaken
<b>Capital Expenditures</b>		
Chemicals	5,900	2026-2030
Chlorine Injectors and Parts	1,410	2026-2030
Water Service Repairs	4,330	2026-2030
Well House Repairs (pipe, valves, etc.)	4,250	2026-2030
UV Parts (Solenoid Valves, Circuit Boards, etc.)	4,300	2026-2030
Data Logger Maintenance/Upgrade	3,000	2027
Overtime/Call-Outs	12,200	2026-2030
Contingency	6,400	2026-2030
<b>Lifecycle</b>		
UV Lamps	5,500	2026-2030
Chemical Pump Replacement Parts	6,290	2026-2030
Pressure Tank Replacement	1,930	2027, 2029
Analyzer Probe	6,400	2027, 2030
Chlorine Analyzer Parts (Electrolyte/Membrance Cap)	2,740	2026-2035
Flowmeter Replacement	3,100	2027
Provision for Asset Management Needs	149,250	2026-2035
<b>Total Capital Expenditures</b>	<b>217,000</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

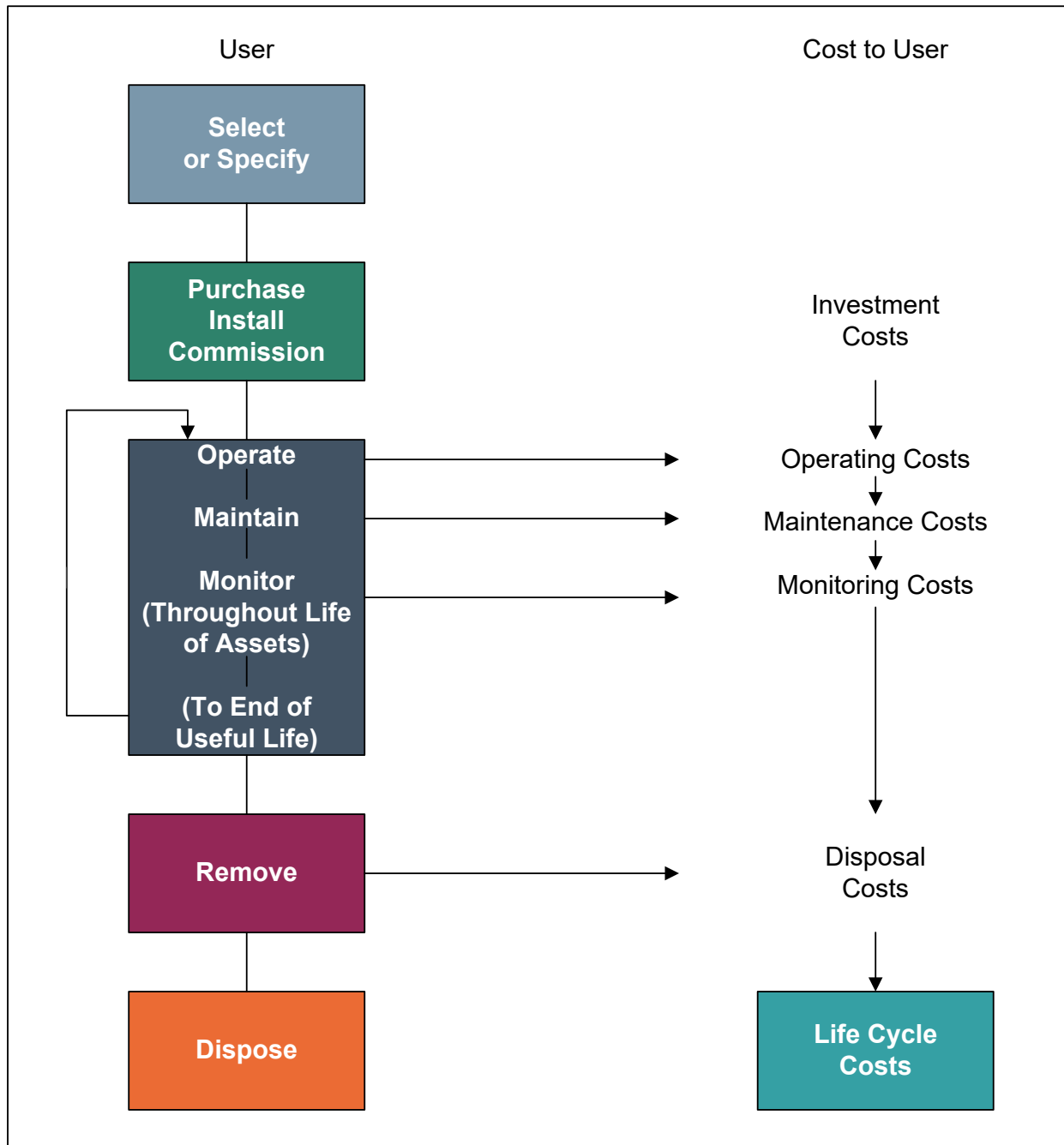
This section will focus on financing mechanisms in place to fund the costs incurred throughout the asset's life.

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 developer contributions 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. Note,



development charges are typically utilized to recover capital costs associated with new growth, however, the Township does not currently have development charges in place.

Capital construction to replace existing infrastructure, however, is largely not growth-related and will therefore not yield 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 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.

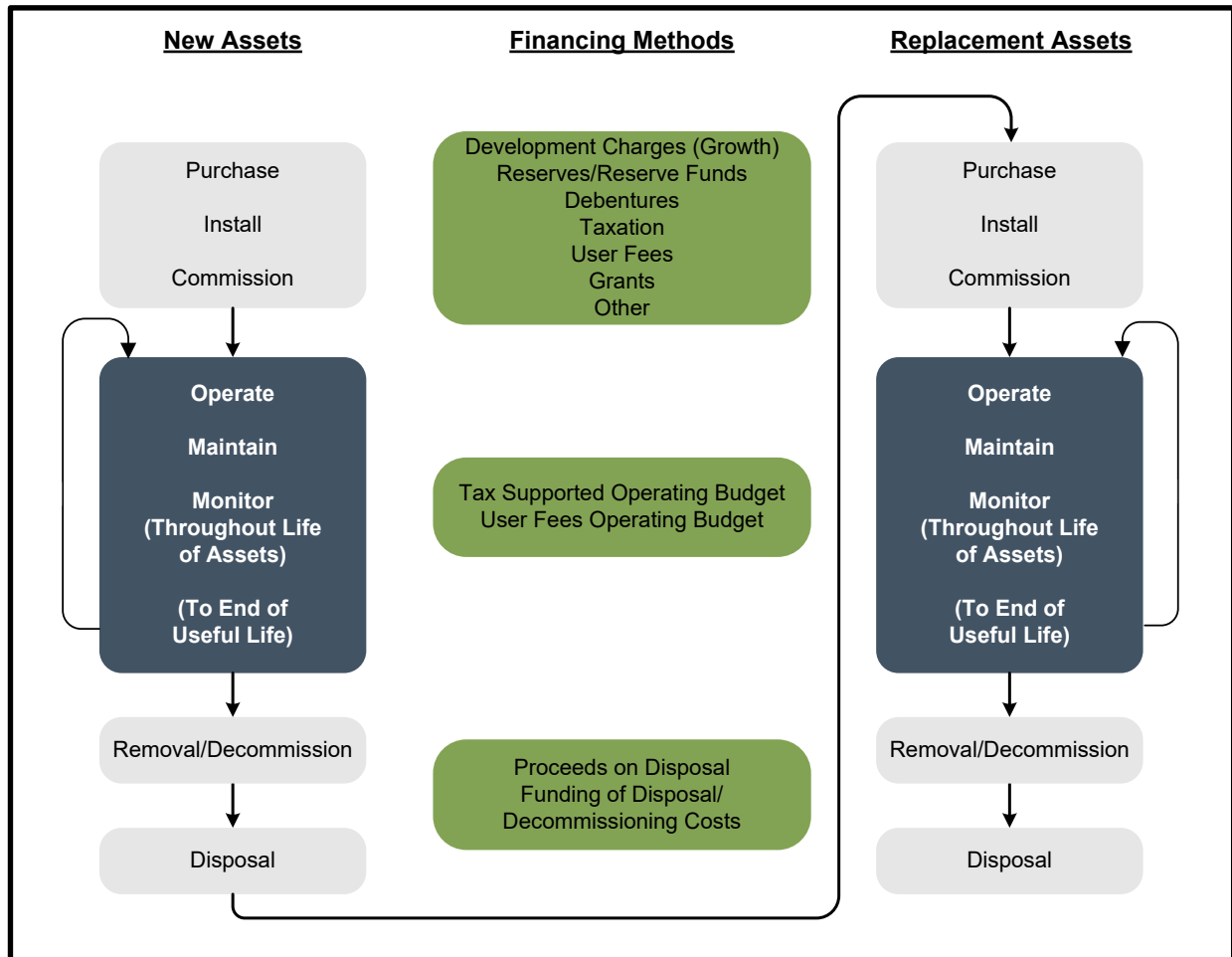
When the asset requires replacement, the sources of financing will be limited to reserves, debentures and contributions from the operating budget. At this point, the question is raised: "If the cost of replacement is to be assessed against the tax/rate payer who benefits from the replacement of the asset,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



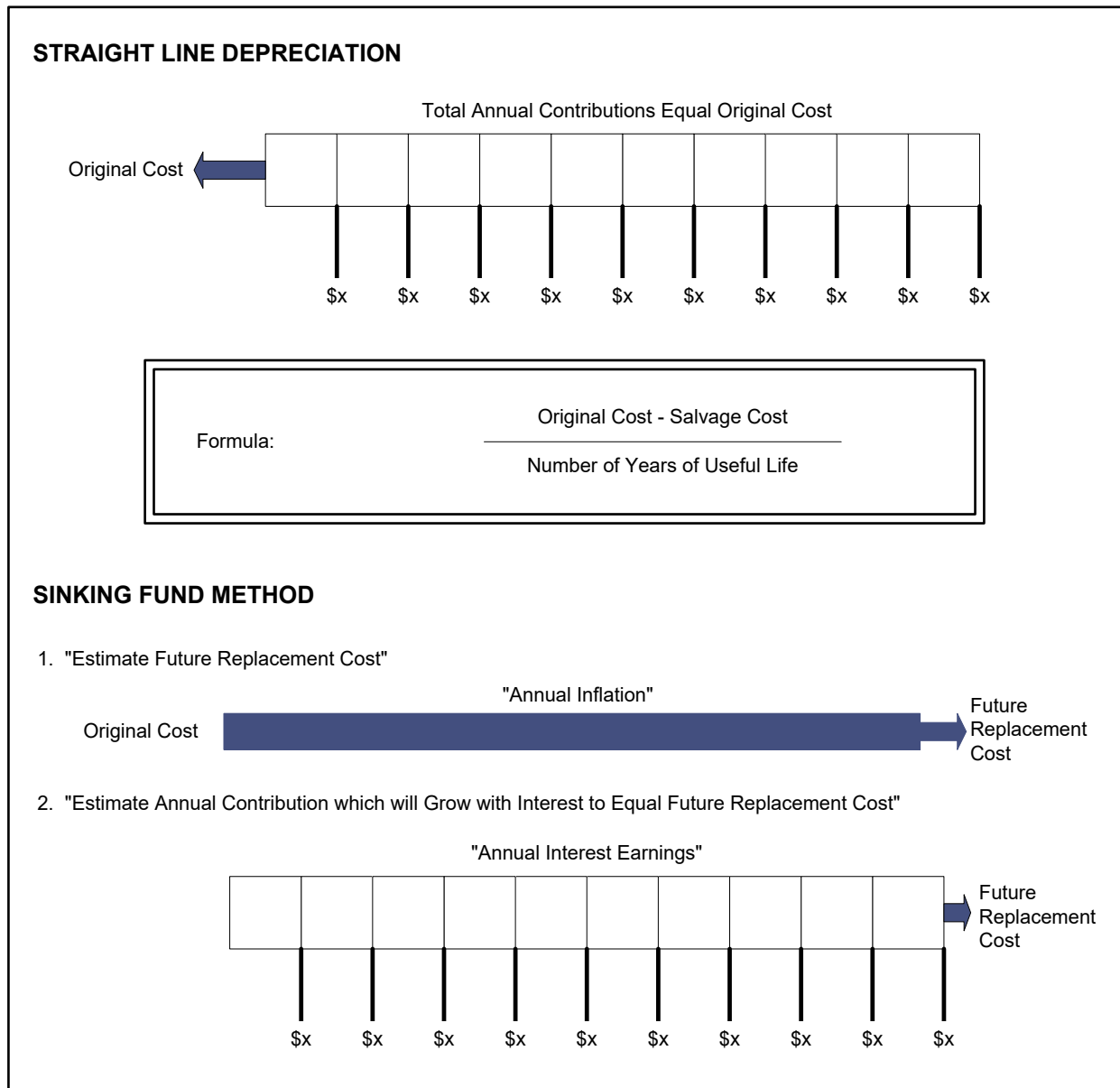
The straight-line method is calculated by taking the original cost of the asset, subtracting its estimated salvage value (estimated value of the asset at the time it is disposed of) and dividing this by the estimated number of years of useful life. The reducing balance method is calculated by utilizing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

The Township's Asset Management Plan outlines the total replacement cost of the Township's water asset inventory to be approximately \$2.08 million (2025 dollars). Based on useful life assumptions and replacement costs of the water assets, the average annual level of investment recommended for both water systems in the Asset Management Plan is approximately \$34,500 per year.



To integrate the asset management needs into the rate calculations, and ensure the full lifecycle costs are being incorporated into the capital plan, additional asset management provisions have been included in the capital needs forecast for both water systems. The \$34,500 has been allocated to each water system based on the proportionate share of existing assets. Approximately 43% of the existing water assets are part of the Black Creek system, and 57% are part of the St. Pauls system. This share has been applied to the \$34,500 to determine an annual provision in the capital forecast (see Section 2).



# 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 (e.g. Bill 98 in 1997 and Bill 23 in 2022 providing amendments to the Development Charges Act).

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

Under s.484 of *Municipal Act, 2001*, the *Local Improvement Act* was repealed with the in-force date of the *Municipal Act* (January 1, 2003). The municipal powers granted under the *Local Improvement Act* now fall under the jurisdiction of the *Municipal Act*. To this end, on December 20, 2002, O.Reg. 390/02 was filed, which 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	
• Historical Grant Funding Availability	4.4



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

## 4.2 Development Charges Act, 1997

---

Development charges are a revenue tool used by municipalities to recover the capital costs associated with new development and redevelopment. These costs are in addition to what a developer/builder normally constructs as part of their subdivision (i.e. Local Services). Empowered by the *Development Charges Act, 1997*, municipalities may pass by-laws to impose charges to recover the capital costs associated with development and redevelopment, however, the Township does not currently impose development charges.

## 4.3 Municipal Act

---

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 Ontario Land Tribunal (OLT) (formerly Local Planning Appeal Tribunal (LPAT), formerly 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
- OLT 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 OLT 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 OLT, 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 Historical and Current Grant Funding Availability

---

### 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 (P.T.I.F.) in Federal Phase 1 projects. The C.W.W.F. was announced in Ontario on September 15, 2016. The Fund was \$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 added \$10.1 billion for trade and transportation infrastructure and \$2 billion for rural and northern communities.

In Phase 2, Ontario was 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.

### Canada Community-Building Fund

The Canada Community-Building Fund 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 Canada Community-Building Fund 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.

Recently the Province announced funding through a new Ontario Infrastructure Bank. This new, arms-length, board-governed agency will assist investors and institutions to further participate in large-scale infrastructure projects. Ontario is providing \$825 million over three years towards the Housing-Enabling Water Systems Fund, which will help municipalities repair, rehabilitate and expand drinking water, wastewater and stormwater infrastructure needed to build more homes.



## 4.5 Existing Reserves/Reserve Funds

---

The Township has established reserves and reserve funds for water costs within each water system. The following table summarizes the water reserves utilized in this analysis and their respective estimated balances at December 31, 2024:

Table 4-1  
Water Reserves  
As of December 31, 2024

Reserve	Dec. 31 2024
<b>Water</b>	
Black Creek Water Reserve	170,716
St. Pauls Water Reserve	234,387

## 4.6 Debenture Financing

---

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

The Ministry of Municipal Affairs regulates the level of debt incurred by Ontario municipalities, through its powers established under the *Municipal Act*. Ontario 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 Perth South's 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 \$1.41 million. Based on 20-year financing at an assumed rate of 4.5%, the available debt for the Township is approximately \$18.33 million.

## 4.7 Infrastructure Ontario

---

Infrastructure Ontario (I.O.) is an arms-length crown corporation, which supports the Ontario government's goals of modernizing and maximizing the value of public



infrastructure. Its lending program was established as a tool to offer low-cost and longer-term financing to assist municipalities in modernizing and renewing their infrastructure. 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 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 longer loan terms than they could get in the financial markets. They can also save on costs such as legal fees 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.

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

#### ***4.7.1 Housing-Enabling Water Infrastructure Lending Stream***

On November 28, 2024, the Province and I.O. announced the Housing-Enabling Water Infrastructure (H.E.W.I.) lending stream. This lending stream will provide up to \$1.0 billion in loans to municipalities for projects to construct, expand, and rehabilitate drinking water, wastewater, and stormwater infrastructure to enable new housing development. Eligible projects under this stream include:

- Potable Water Assets: Treatment plants, reservoirs, local pipes, distribution system watermains, municipal service lines, and pump stations.
- Wastewater Assets: Lagoon systems, pump stations, lift stations, linear assets, treatment plants, storage tanks, and collection systems.
- Stormwater Assets: Management facilities and linear assets such as conveyance piping, ditches, and culverts.

Key features of this lending stream include lower interest rates, the option to defer interest payments during the construction phase of a project, and extended amortization periods (up to 40 years). Additionally, municipalities have the flexibility to issue multiple debentures in sequence over the 40-year period (i.e., split terms during debentures) and to pay down the principal between sequential debentures. This program started



accepting applications on December 2, 2024, and is being administered on a “first-come-first-served” basis until the maximum program amount is reached.

## 4.8 Recommended Capital Financing Approach

---

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

Table 4-2  
Township of Perth South  
2026-2035 Capital Forecast Financing Sources  
Inflated \$

Description	Water - Black Creek	Water - St. Pauls
<b>Capital Financing</b>		
Provincial/Federal Grants	-	-
Non-Growth Related Debenture Requirements	-	-
Operating Contributions	-	-
Black Creek Water Reserve	161,200	-
St. Pauls Water Reserve	-	217,000
<b>Total Capital Financing</b>	<b>161,200</b>	<b>217,000</b>

Tables 4-3 and 4-4 provide for the full capital expenditure and funding programs by year for the water systems in Black Creek and St. Pauls, respectively.



Table 4-3  
Township of Perth South  
Capital Budget Forecast – Water (inflated \$)  
Black Creek Water System

Description	Budget 2025	Total	Forecast										
			2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	
<b>Capital Expenditures</b>													
Chemicals	1,000	5,900	1,100	1,100	1,200	1,200	1,300	-	-	-	-	-	-
Chlorine Injectors and Parts	220	1,400	240	260	280	300	320	-	-	-	-	-	-
Water Service Repair Parts	775	4,260	800	830	850	880	900	-	-	-	-	-	-
Well House Repairs (Pipe, Valves, etc.)	700	3,950	750	750	800	800	850	-	-	-	-	-	-
UV Parts (Solenoid Valves, Circuit Boards, etc.)	700	4,300	800	850	850	900	900	-	-	-	-	-	-
Well Inspection	-	3,300	-	3,300	-	-	-	-	-	-	-	-	-
Data Logger Maintenance	3,000	500	-	-	500	-	-	-	-	-	-	-	-
Overtime/Call-Outs	2,400	12,000	2,400	2,400	2,400	2,400	2,400	-	-	-	-	-	-
Contingency	1,100	6,400	1,200	1,200	1,300	1,300	1,400	-	-	-	-	-	-
<b>Lifecycle:</b>													
UV Lamps	950	5,500	1,000	1,050	1,100	1,150	1,200	-	-	-	-	-	-
Chemical Pump Replacement Parts	1,175	6,260	1,200	1,230	1,250	1,280	1,300	-	-	-	-	-	-
Pressure Tank Replacement	-	2,860	930	-	950	-	980	-	-	-	-	-	-
Analyzer Probe	-	6,600	-	3,300	-	-	3,300	-	-	-	-	-	-
Chlorine Analyzer Parts (Electrolyte Membrane Cap)	500	2,740	530	530	550	550	580	-	-	-	-	-	-
Provision for Asset Management Needs	-	95,230	1,640	1,670	1,710	1,740	1,780	16,660	16,990	17,330	17,680	18,030	
<b>Total Capital Expenditures</b>	<b>12,520</b>	<b>161,200</b>	<b>12,590</b>	<b>18,470</b>	<b>13,740</b>	<b>12,500</b>	<b>17,210</b>	<b>16,660</b>	<b>16,990</b>	<b>17,330</b>	<b>17,680</b>	<b>18,030</b>	
<b>Capital Financing</b>													
Provincial/Federal Grants	-	-	-	-	-	-	-	-	-	-	-	-	-
Non-Growth Related Debenture Requirements	-	-	-	-	-	-	-	-	-	-	-	-	-
Operating Contributions	-	-	-	-	-	-	-	-	-	-	-	-	-
Black Creek Water Reserve	12,520	161,200	12,590	18,470	13,740	12,500	17,210	16,660	16,990	17,330	17,680	18,030	
<b>Total Capital Financing</b>	<b>12,520</b>	<b>161,200</b>	<b>12,590</b>	<b>18,470</b>	<b>13,740</b>	<b>12,500</b>	<b>17,210</b>	<b>16,660</b>	<b>16,990</b>	<b>17,330</b>	<b>17,680</b>	<b>18,030</b>	



Table 4-3  
Township of Perth South  
Capital Budget Forecast – Water (inflated \$) (Cont'd)  
St. Pauls Water System

Description	Budget 2025	Total	Forecast										
			2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	
<b>Capital Expenditures</b>													
New Drinking Water Well	160,000	-	-	-	-	-	-	-	-	-	-	-	-
Chemicals	1,000	5,900	1,100	1,100	1,200	1,200	1,300	-	-	-	-	-	-
Chlorine Injectors and Parts	220	1,410	240	260	280	300	330	-	-	-	-	-	-
Water Service Repairs	775	4,330	800	830	850	900	950	-	-	-	-	-	-
Well House Repairs (pipe, valves, etc.)	700	4,250	750	800	850	900	950	-	-	-	-	-	-
UV Parts (Solenoid Valves, Circuit Boards, etc.)	750	4,300	800	850	850	900	900	-	-	-	-	-	-
Data Logger Maintenance/Upgrade	-	3,000	-	3,000	-	-	-	-	-	-	-	-	-
Overtime/Call-Outs	2,400	12,200	2,400	2,400	2,400	2,400	2,600	-	-	-	-	-	-
Contingency	1,100	6,400	1,200	1,200	1,300	1,300	1,400	-	-	-	-	-	-
<b>Lifecycle:</b>													
UV Lamps	950	5,500	1,000	1,050	1,100	1,150	1,200	-	-	-	-	-	-
Chemical Pump Replacement Parts	1,175	6,290	1,200	1,230	1,250	1,280	1,330	-	-	-	-	-	-
Pressure Tank Replacement	925	1,930	-	950	-	980	-	-	-	-	-	-	-
Analyzer Probe	-	6,400	-	3,200	-	-	3,200	-	-	-	-	-	-
Chlorine Analyzer Parts (Electrolyte/Membrance Cap)	500	2,740	530	530	550	550	580	-	-	-	-	-	-
Flowmeter Replacement	-	3,100	-	3,100	-	-	-	-	-	-	-	-	-
Provision for Asset Management Needs	-	149,250	6,380	6,510	6,640	6,770	6,910	22,300	22,740	23,200	23,660	24,140	
<b>Total Capital Expenditures</b>	<b>170,495</b>	<b>217,000</b>	<b>16,400</b>	<b>27,010</b>	<b>17,270</b>	<b>18,630</b>	<b>21,650</b>	<b>22,300</b>	<b>22,740</b>	<b>23,200</b>	<b>23,660</b>	<b>24,140</b>	
<b>Capital Financing</b>													
Provincial/Federal Grants	-	-	-	-	-	-	-	-	-	-	-	-	-
Non-Growth Related Debenture Requirements	-	-	-	-	-	-	-	-	-	-	-	-	-
Operating Contributions	-	-	-	-	-	-	-	-	-	-	-	-	-
St. Pauls Water Reserve	170,495	217,000	16,400	27,010	17,270	18,630	21,650	22,300	22,740	23,200	23,660	24,140	
<b>Total Capital Financing</b>	<b>170,495</b>	<b>217,000</b>	<b>16,400</b>	<b>27,010</b>	<b>17,270</b>	<b>18,630</b>	<b>21,650</b>	<b>22,300</b>	<b>22,740</b>	<b>23,200</b>	<b>23,660</b>	<b>24,140</b>	



# Chapter 5

## Overview of Expenditures and Revenues



## 5. Overview of Expenditures and Revenues

### 5.1 Water Operating Expenditures

---

In this report, the forecast water budget figures (2026 to 2035) are based on the 2025 operating budgets. The operating expenditures have been provided by staff and have been adjusted over the forecast period by an annual inflationary factor of 2.0%.

Expenditures related to utilities, fuels, chemicals and other materials are assumed to increase by 5% per annum.

Annual contributions have been provided to the capital reserves over the forecast period in order to minimize the need for debt to finance the capital program.

### 5.2 Water Operating Revenues

---

The Township has miscellaneous revenue sources to help contribute towards operating expenditures. These miscellaneous revenues include penalties and interest payments, which have been assumed to increase at a rate of 2% annually. In addition, new user connection charges have been factored into the St. Pauls operating forecast, based on the anticipated five (5) new connections (see Section 1.8). This connection charge is currently \$2,000 per new connection, however, further review of this charge has been undertaken as part of this rate study (see Section 7.2).

Table 5-1 and 5-2 provides for the operating budget for the Black Creek water system and St. Pauls water system, respectively.



Table 5-1  
Township of Perth South  
Water Operating Budget Forecast – Black Creek (inflated \$)

Description	Budget	Forecast									
	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
<b>Expenditures</b>											
<u>Operating Costs</u>											
Direct Salaries & Wages	6,656	6,656	6,656	6,656	6,656	6,790	6,930	7,070	7,210	7,350	7,500
Employee - CPP	130	130	130	130	130	133	136	139	142	145	148
Employee - EI	153	153	153	153	153	156	159	162	165	168	171
Employee - EHT	130	130	130	130	130	133	136	139	142	145	148
Employee WSIB	228	228	228	228	228	233	238	243	248	253	258
Employee Benefits	387	387	387	387	387	395	403	411	419	427	436
Employee - OMERS	599	599	599	599	599	611	623	635	648	661	674
Materials & Supplies	81	83	85	87	89	91	93	95	97	99	101
Hydro	3,478	3,572	3,668	3,767	3,869	4,060	4,260	4,470	4,690	4,920	5,170
Heat	443	455	467	480	493	518	544	571	600	630	662
Postage and Courier	121	124	127	131	135	138	141	144	147	150	153
Telephone	560	577	595	613	632	645	658	671	684	698	712
Insurance	120	123	126	129	132	135	138	141	144	147	150
Building Repairs and Maintenance	500	514	528	543	558	569	580	592	604	616	628
Equipment Repairs and Maintenance	2,000	2,055	2,112	2,170	2,230	2,270	2,320	2,370	2,420	2,470	2,520
OCWA 1 - Fixed Price	24,570	25,239	25,926	26,631	27,355	27,900	28,460	29,030	29,610	30,200	30,800
OCWA 2 - Contract Extras	5,420	5,570	5,724	5,882	6,045	6,170	6,290	6,420	6,550	6,680	6,810
OCWA 3 - Third Party	4,034	4,135	4,238	4,344	4,453	4,540	4,630	4,720	4,810	4,910	5,010
Contracted Services	5,500	514	528	542	557	568	579	591	603	615	627
Security System Monitoring	328	337	346	355	365	372	379	387	395	403	411
Property Taxes	797	820	843	867	891	909	927	946	965	984	1,004
<b>Sub Total Operating</b>	<b>56,235</b>	<b>52,401</b>	<b>53,596</b>	<b>54,824</b>	<b>56,087</b>	<b>57,336</b>	<b>58,624</b>	<b>59,947</b>	<b>61,293</b>	<b>62,671</b>	<b>64,093</b>
<u>Capital-Related</u>											
Existing Debt (Principal) - Non-Growth Related	-	-	-	-	-	-	-	-	-	-	-
Existing Debt (Interest) - Non-Growth Related	-	-	-	-	-	-	-	-	-	-	-
New Non-Growth Related Debt (Principal)	-	-	-	-	-	-	-	-	-	-	-
New Non-Growth Related Debt (Interest)	-	-	-	-	-	-	-	-	-	-	-
Transfer to Capital	-	-	-	-	-	-	-	-	-	-	-
Transfer to Capital Reserve	-	6,481	8,226	10,085	12,062	14,215	15,071	15,957	16,886	17,851	18,842
<b>Sub Total Capital Related</b>	<b>-</b>	<b>6,481</b>	<b>8,226</b>	<b>10,085</b>	<b>12,062</b>	<b>14,215</b>	<b>15,071</b>	<b>15,957</b>	<b>16,886</b>	<b>17,851</b>	<b>18,842</b>
<b>Total Expenditures</b>	<b>56,235</b>	<b>58,882</b>	<b>61,822</b>	<b>64,909</b>	<b>68,149</b>	<b>71,551</b>	<b>73,695</b>	<b>75,904</b>	<b>78,179</b>	<b>80,522</b>	<b>82,935</b>
<b>Revenues</b>											
Penalty & Interest	180	185	190	195	200	204	208	212	216	220	224
Contributions from Reserves / Reserve Funds	144	-	-	-	-	-	-	-	-	-	-
<b>Total Operating Revenue</b>	<b>324</b>	<b>185</b>	<b>190</b>	<b>195</b>	<b>200</b>	<b>204</b>	<b>208</b>	<b>212</b>	<b>216</b>	<b>220</b>	<b>224</b>
<b>Water Billing Recovery - Total</b>	<b>55,911</b>	<b>58,697</b>	<b>61,632</b>	<b>64,714</b>	<b>67,949</b>	<b>71,347</b>	<b>73,487</b>	<b>75,692</b>	<b>77,963</b>	<b>80,302</b>	<b>82,711</b>



Table 5-2  
Township of Perth South  
Water Operating Budget Forecast – St. Pauls (inflated \$)

Description	Budget 2025	Forecast									
		2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
<b>Expenditures</b>											
<u>Operating Costs</u>											
Direct Salaries & Wages	6,656	6,656	6,656	6,656	6,656	6,790	6,930	7,070	7,210	7,350	7,500
Employee - CPP	130	130	130	130	130	133	136	139	142	145	148
Employee - EI	153	153	153	153	153	156	159	162	165	168	171
Employee - EHT	130	130	130	130	130	133	136	139	142	145	148
Employee - WSIB	228	228	228	228	228	233	238	243	248	253	258
Employee Benefits	387	387	387	387	387	395	403	411	419	427	436
Employee - OMERS	599	599	599	599	599	611	623	635	648	661	674
Materials & Supplies	252	259	266	273	281	287	293	299	305	311	317
Hydro	3,389	3,481	3,575	3,672	3,771	3,960	4,160	4,370	4,590	4,820	5,060
Heat	781	802	824	846	869	912	958	1,006	1,056	1,109	1,164
Postage and Courier	121	124	127	131	135	138	141	144	147	150	153
Telephone	550	565	581	597	614	626	639	652	665	678	692
Insurance	119	122	125	128	131	134	137	140	143	146	149
Equipment Repairs and Maintenance	1,713	1,760	1,809	1,859	1,910	1,950	1,990	2,030	2,070	2,110	2,150
OCWA 1 - Fixed Price	24,571	25,240	25,927	26,632	27,356	27,900	28,460	29,030	29,610	30,200	30,800
OCWA 2 - Contract Extras	3,558	3,657	3,758	3,862	3,969	4,050	4,130	4,210	4,290	4,380	4,470
OCWA 3 - Third Party	4,108	4,219	4,333	4,450	4,570	4,660	4,750	4,850	4,950	5,050	5,150
Contracted Services	6,040	1,069	1,099	1,129	1,160	1,180	1,200	1,220	1,240	1,260	1,290
Security System Monitoring	175	180	185	190	195	199	203	207	211	215	219
<b>Sub Total Operating</b>	<b>53,660</b>	<b>49,761</b>	<b>50,892</b>	<b>52,052</b>	<b>53,244</b>	<b>54,447</b>	<b>55,686</b>	<b>56,957</b>	<b>58,251</b>	<b>59,578</b>	<b>60,949</b>
<u>Capital-Related</u>											
Existing Debt (Principal) - Non-Growth Related	-	-	-	-	-	-	-	-	-	-	-
Existing Debt (Interest) - Non-Growth Related	-	-	-	-	-	-	-	-	-	-	-
New Non-Growth Related Debt (Principal)	-	-	-	-	-	-	-	-	-	-	-
New Non-Growth Related Debt (Interest)	-	-	-	-	-	-	-	-	-	-	-
Transfer to Capital	-	-	-	-	-	-	-	-	-	-	-
Transfer to Water Reserve	13,605	20,635	19,191	20,132	21,104	22,126	23,178	24,267	25,404	26,581	27,788
<b>Sub Total Capital Related</b>	<b>13,605</b>	<b>20,635</b>	<b>19,191</b>	<b>20,132</b>	<b>21,104</b>	<b>22,126</b>	<b>23,178</b>	<b>24,267</b>	<b>25,404</b>	<b>26,581</b>	<b>27,788</b>
<b>Total Expenditures</b>	<b>67,265</b>	<b>70,396</b>	<b>70,083</b>	<b>72,184</b>	<b>74,348</b>	<b>76,573</b>	<b>78,864</b>	<b>81,224</b>	<b>83,655</b>	<b>86,159</b>	<b>88,737</b>
<b>Revenues</b>											
Penalty & Interest	503	517	531	546	561	572	583	595	607	619	631
New User Connection Fee	6,000	4,000	-	-	-	-	-	-	-	-	-
Contributions from Reserves / Reserve Funds	-	-	-	-	-	-	-	-	-	-	-
<b>Total Operating Revenue</b>	<b>6,503</b>	<b>4,517</b>	<b>531</b>	<b>546</b>	<b>561</b>	<b>572</b>	<b>583</b>	<b>595</b>	<b>607</b>	<b>619</b>	<b>631</b>
<b>Water Billing Recovery - Total</b>	<b>60,762</b>	<b>65,879</b>	<b>69,552</b>	<b>71,638</b>	<b>73,787</b>	<b>76,001</b>	<b>78,281</b>	<b>80,629</b>	<b>83,048</b>	<b>85,540</b>	<b>88,106</b>



# Chapter 6

## Pricing Structures



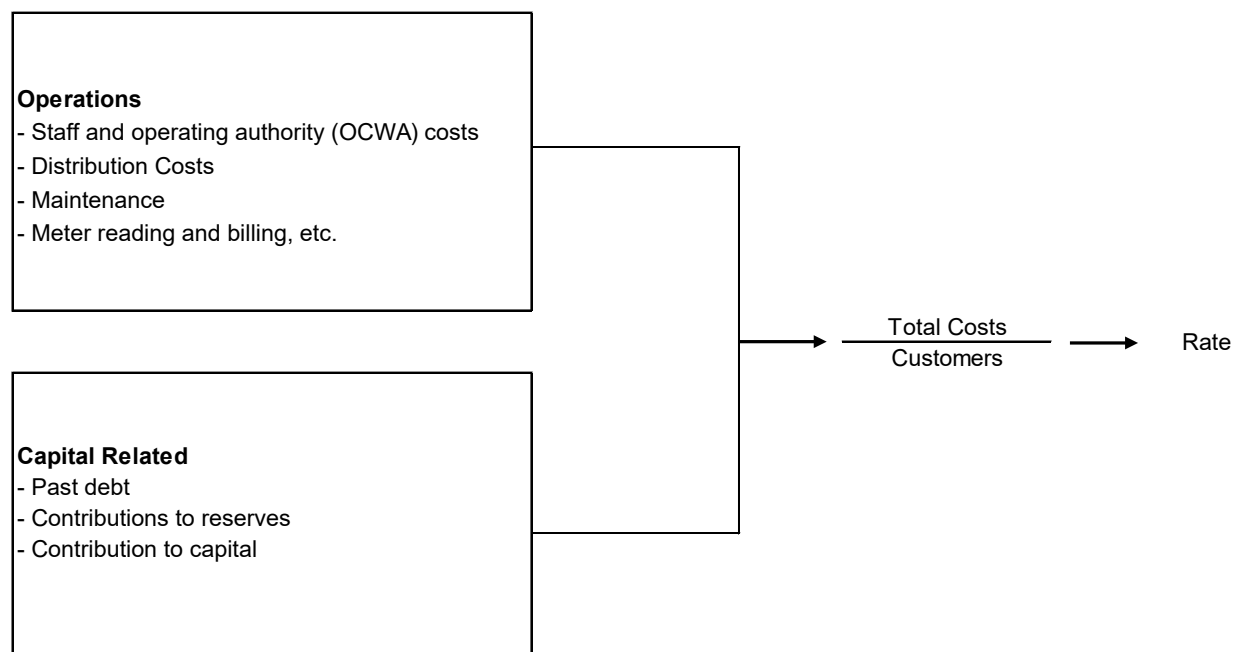
## 6. Pricing Structures

### 6.1 Introduction

---

Rates, in their simplest form, can be defined as total costs to maintain the utility function divided by either the total expected volume to be generated for the period for metered systems, or the total number of customers for unmetered systems. 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 (*Municipal Act*).

## 6.2 Alternative Pricing Structures

---

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

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

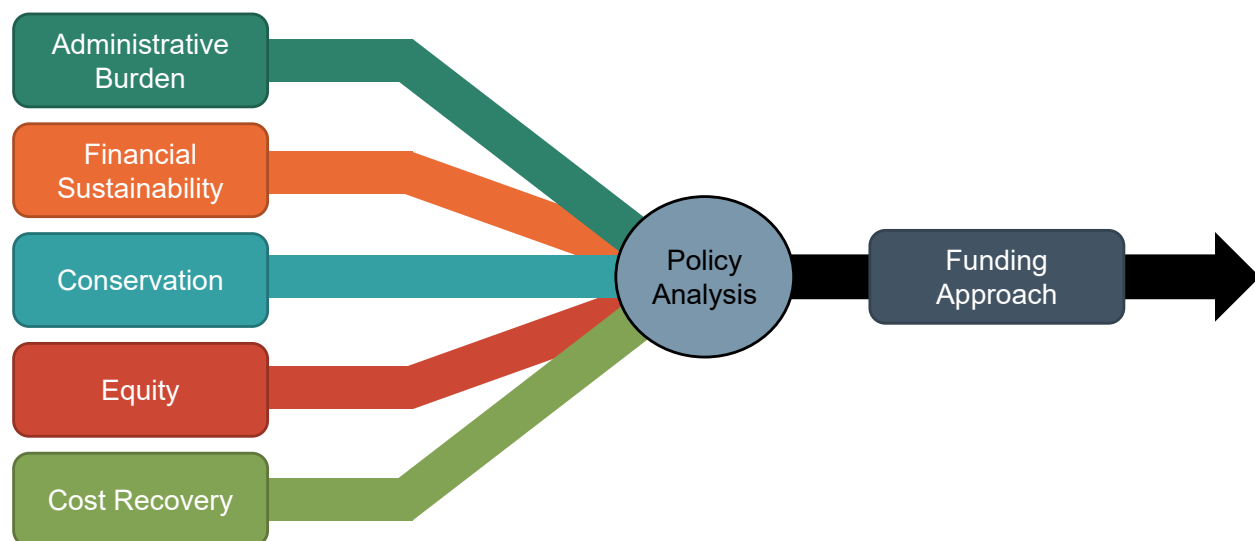


**The Hump Back Rate:** The hump back rate is a combination of an increasing block rate and the declining block rate. Under this method the consumer's bill rises with higher volumes used up to a certain level and then begins to fall for volumes in excess of levels set for the increasing block rate.

## 6.3 Assessment of Alternative Pricing Structures

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.

Figure 6-1  
Factors in Assessing Rate Structures and Funding Approaches



### 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 6-2 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 6-2

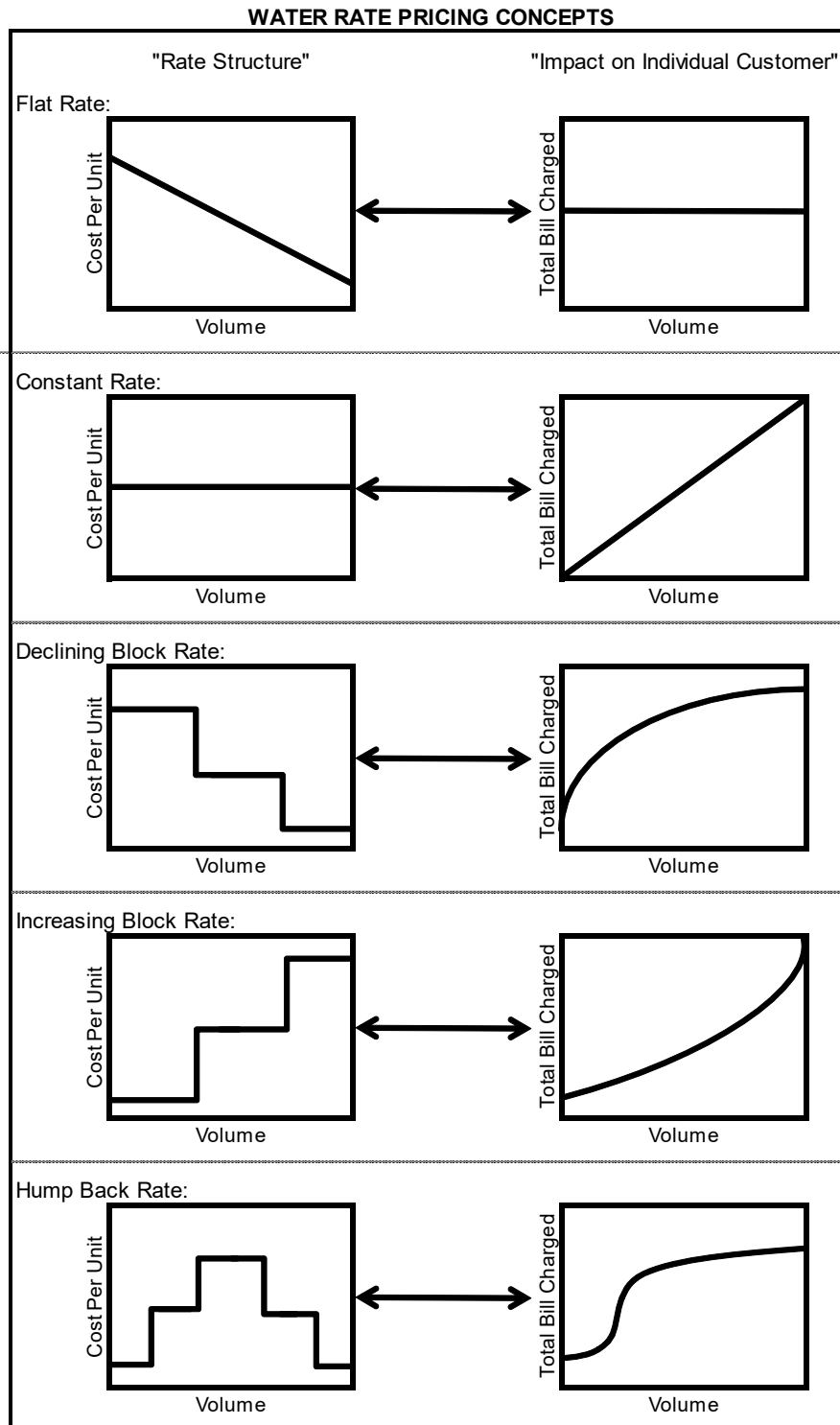




Figure 6-3  
Summary of Various Rate Structures and their Impact on Customer Bills as Volume Usage Increases

Rate Structure	Cost Per Unit As Volume Increases	Impact On Customer Bill As Volume Increases
Flat Rate	Cost per unit decreases as more volume consumed	Bill remains the same no matter how much volume is consumed
Constant Rate	Cost per unit remains the same	Bill increases in direct proportion to consumption
Declining Block	Cost per unit decreases as threshold targets are achieved	Bill increases at a slower rate as volumes increase
Increasing 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 consumption	Bill increases at a faster rate at the lower consumption amounts and then slows as volumes increase

## 6.4 Rate Structures in Ontario

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 Recommended Rate Structures**

---

Based on the foregoing, it is recommended that the Township continue the same flat rate structure in the future for Black Creek and St. Pauls. The Township may consider implementing meters in the future to provide for an alternative rate structure, however the benefits of metering will need to be weighed against other factors such as cost of installation, ongoing operating costs, additional administrative burden, etc.



# Chapter 7

## Analysis of Water Rates and Policy Matters



## 7. Analysis of Water Rates and Policy Matters

### 7.1 Introduction

---

To summarize the analysis undertaken thus far, Chapter 2 reviewed capital-related issues and responds to the provincial directives to maintain and upgrade infrastructure to required levels. Chapter 4 provided a review of capital financing options to which water reserve contributions will be the basis for financing future capital replacement. Chapter 5 established the 10-year operating forecast of expenditures including an annual capital reserve contribution. This chapter will provide for the calculation of the flat rates over the forecast period. These calculations will be based on the net operating expenditures (the variable costs) provided in Chapter 5, divided by the number of customers as provided in section 1.8.

### 7.2 Water Rates

---

Based on the discussion of rate structures provided in section 6.5 and the recommendation to continue with the present structure, the rates are calculated for each system by taking the net recoverable amounts from Table 5-1 and 5-2 (the product of total expenditures less non-rate revenue) and completes the calculation by dividing them by the number of customers resulting in the forecasted rates.

The needs for water are balanced throughout the forecast period for both water system. Additional operating expenditures and lifecycle costs create pressure on the financial sustainability of the water systems.

The Black Creek water reserve has a balance of approximately \$170,700 as of December 31, 2024. In order to meet the needs for water, it is recommended that the flat rates for customers in the Black Creek system increase by 5% annually from 2026 to 2030, and 3% every year thereafter. These increases will allow for the Township to fund capital needs and maintain existing assets as identified through the Asset Management Plan. In addition, Township staff have also identified the need to replace the existing water well within the next 15 years. These recommended rate increases will allow the Township to fund this replacement utilizing existing reserve balances.

With respect to the St. Pauls water system, the water reserve has a balance of approximately \$234,400 as of December 31, 2024. It is recommended that the flat rates



for St. Pauls water users increase by 3% annually from 2026 to 2034. These rate increases allow the Township to fund the ongoing operating needs of the system, the identified capital needs, and provides for the maintenance of annual asset replacements in line with the Asset Management Plan recommendations.

The above increases are recommended to ensure that the Township can fund the capital and operating costs without the need for debentures.

The forecasted rates are presented below in Table 7-1 and 7-2 for Black Creek and St. Pauls, respectively. Detailed calculations of the flat rates are provided in Appendix A.

### **7.3 Connection Fees**

---

The Township imposes a connection fee for any new users that connect to the water system. The current rate is \$2,000 per new property and is based on By-law #40-2002 which was passed in 2002. It is recommended that these rates be indexed to current dollars so that the charge is better aligned to the costs of the water system. The indexed rate would result in a connection fee of \$5,500 per property.



Table 7-1  
Township of Perth South  
Forecasted Annual Residential Water Bill – Black Creek

Description	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Annual Flat Rate	\$1,694	\$1,779	\$1,868	\$1,961	\$2,059	\$2,162	\$2,227	\$2,294	\$2,363	\$2,433	\$2,506
% Increase		5%	5%	5%	5%	5%	3%	3%	3%	3%	3%

Table 7-2  
Township of Perth South  
Forecasted Annual Residential Water Bill – St. Pauls

Description	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Annual Flat Rate	\$1,599	\$1,647	\$1,696	\$1,747	\$1,800	\$1,854	\$1,909	\$1,967	\$2,026	\$2,086	\$2,149
% Increase		3%	3%	3%	3%	3%	3%	3%	3%	3%	3%



# Chapter 8

## Recommendations

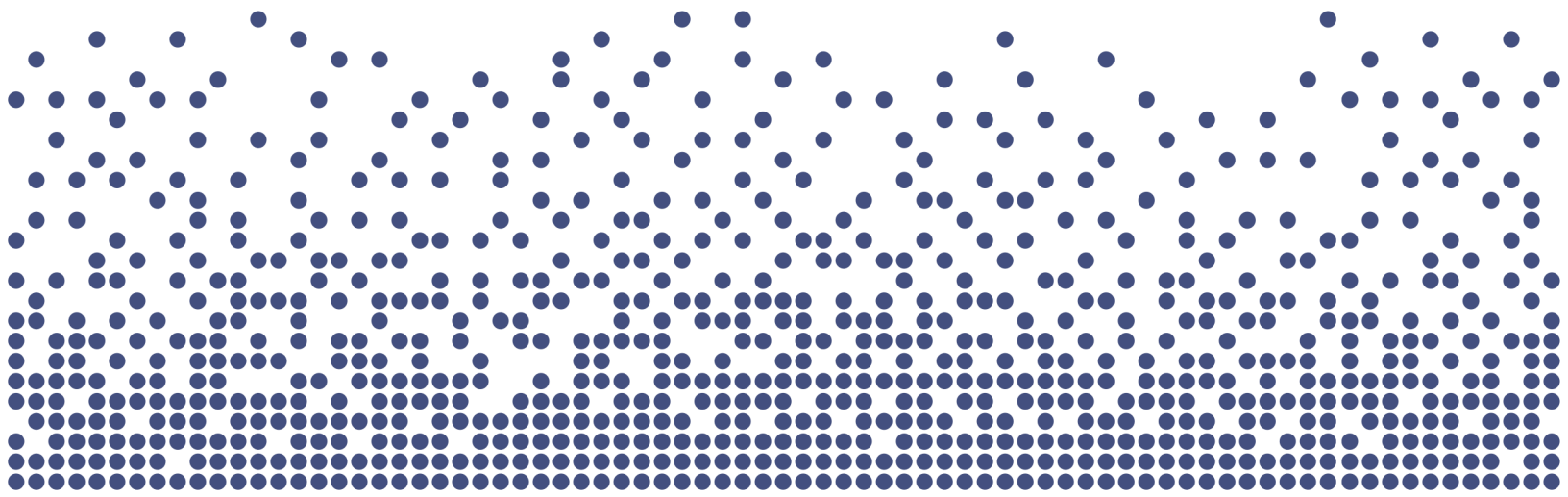


## 8. Recommendations

As presented within this report, capital and operating expenditures have been identified and forecast over a 10-year period for water 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 costs through full cost recovery rates.
2. That Council consider the Capital Plan for water as provided in Tables 2-1 and 2-2 and the associated Capital Financing Plan as set out in Tables 4-3 and 4-4.
3. That Council consider the water rates for Black Creek and St. Pauls as provided in Tables 7-1 and 7-2, respectively.
4. That Council consider the updated connection fee as provided in Section 7.3.



# Appendices



# Appendix A

## Detailed Water Rate Calculations – Black Creek



# Appendix A: Detailed Water Rate Calculations – Black Creek

Table A-1  
Township of Perth South  
Capital Budget Forecast (Inflated \$) – Black Creek

Description	Budget 2025	Total	Forecast										
			2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	
<b>Capital Expenditures</b>													
Chemicals	1,000	5,900	1,100	1,100	1,200	1,200	1,300	-	-	-	-	-	-
Chlorine Injectors and Parts	220	1,400	240	260	280	300	320	-	-	-	-	-	-
Water Service Repair Parts	775	4,260	800	830	850	880	900	-	-	-	-	-	-
Well House Repairs (Pipe, Valves, etc.)	700	3,950	750	750	800	800	850	-	-	-	-	-	-
UV Parts (Solenoid Valves, Circuit Boards, etc.)	700	4,300	800	850	850	900	900	-	-	-	-	-	-
Well Inspection	-	3,300	-	3,300	-	-	-	-	-	-	-	-	-
Data Logger Maintenance	3,000	500	-	-	500	-	-	-	-	-	-	-	-
Overtime/Call-Outs	2,400	12,000	2,400	2,400	2,400	2,400	2,400	-	-	-	-	-	-
Contingency	1,100	6,400	1,200	1,200	1,300	1,300	1,400	-	-	-	-	-	-
<b>Lifecycle:</b>													
UV Lamps	950	5,500	1,000	1,050	1,100	1,150	1,200	-	-	-	-	-	-
Chemical Pump Replacement Parts	1,175	6,260	1,200	1,230	1,250	1,280	1,300	-	-	-	-	-	-
Pressure Tank Replacement	-	2,860	930	-	950	-	980	-	-	-	-	-	-
Analyzer Probe	-	6,600	-	3,300	-	-	3,300	-	-	-	-	-	-
Chlorine Analyzer Parts (Electrolyte Membrane Cap)	500	2,740	530	530	550	550	580	-	-	-	-	-	-
Provision for Asset Management Needs	-	95,230	1,640	1,670	1,710	1,740	1,780	16,660	16,990	17,330	17,680	18,030	18,030
<b>Total Capital Expenditures</b>	<b>12,520</b>	<b>161,200</b>	<b>12,590</b>	<b>18,470</b>	<b>13,740</b>	<b>12,500</b>	<b>17,210</b>	<b>16,660</b>	<b>16,990</b>	<b>17,330</b>	<b>17,680</b>	<b>17,680</b>	<b>18,030</b>
<b>Capital Financing</b>													
Provincial/Federal Grants	-	-	-	-	-	-	-	-	-	-	-	-	-
Non-Growth Related Debenture Requirements	-	-	-	-	-	-	-	-	-	-	-	-	-
Operating Contributions	-	-	-	-	-	-	-	-	-	-	-	-	-
Black Creek Water Reserve	12,520	161,200	12,590	18,470	13,740	12,500	17,210	16,660	16,990	17,330	17,680	17,680	18,030
<b>Total Capital Financing</b>	<b>12,520</b>	<b>161,200</b>	<b>12,590</b>	<b>18,470</b>	<b>13,740</b>	<b>12,500</b>	<b>17,210</b>	<b>16,660</b>	<b>16,990</b>	<b>17,330</b>	<b>17,680</b>	<b>17,680</b>	<b>18,030</b>



Table A-2  
Township of Perth South  
Schedule of Debenture Repayments – Black Creek

Debenture Year	2025	Principal (Inflated)	Forecast									
			2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
2026		-		-	-	-	-	-	-	-	-	-
2027		-			-	-	-	-	-	-	-	-
2028		-				-	-	-	-	-	-	-
2029		-					-	-	-	-	-	-
2030		-						-	-	-	-	-
2031		-							-	-	-	-
2032		-								-	-	-
2033		-									-	-
2034		-										-
2035		-										
<b>Total Annual Debt Charges</b>	-	-	-	-	-	-	-	-	-	-	-	-

Table A-3  
Township of Perth South  
Black Creek Water Reserve Continuity (Inflated \$)

Description	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Opening Balance	170,716	158,052	154,982	147,633	146,857	149,348	149,279	150,644	152,603	155,202	158,480
Transfer from Operating	-	6,481	8,226	10,085	12,062	14,215	15,071	15,957	16,886	17,851	18,842
Transfer for Lifecycle Needs											
Transfer to Capital	12,520	12,590	18,470	13,740	12,500	17,210	16,660	16,990	17,330	17,680	18,030
Transfer to Operating	144	-	-	-	-	-	-	-	-	-	-
<b>Closing Balance</b>	<b>158,052</b>	<b>151,943</b>	<b>144,738</b>	<b>143,978</b>	<b>146,419</b>	<b>146,352</b>	<b>147,690</b>	<b>149,611</b>	<b>152,159</b>	<b>155,373</b>	<b>159,292</b>
Interest		3,039	2,895	2,880	2,928	2,927	2,954	2,992	3,043	3,107	3,186



Table A-4  
Township of Perth South  
Operating Budget Forecast (Inflated \$) – Black Creek

Description	Budget	Forecast										
	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	
<b>Expenditures</b>												
<u>Operating Costs</u>												
Direct Salaries & Wages	6,656	6,656	6,656	6,656	6,656	6,790	6,930	7,070	7,210	7,350	7,500	
Employee - CPP	130	130	130	130	130	133	136	139	142	145	148	
Employee - EI	153	153	153	153	153	156	159	162	165	168	171	
Employee - EHT	130	130	130	130	130	133	136	139	142	145	148	
Employee WSIB	228	228	228	228	228	233	238	243	248	253	258	
Employee Benefits	387	387	387	387	387	395	403	411	419	427	436	
Employee - OMERS	599	599	599	599	599	611	623	635	648	661	674	
Materials & Supplies	81	83	85	87	89	91	93	95	97	99	101	
Hydro	3,478	3,572	3,668	3,767	3,869	4,060	4,260	4,470	4,690	4,920	5,170	
Heat	443	455	467	480	493	518	544	571	600	630	662	
Postage and Courier	121	124	127	131	135	138	141	144	147	150	153	
Telephone	560	577	595	613	632	645	658	671	684	698	712	
Insurance	120	123	126	129	132	135	138	141	144	147	150	
Building Repairs and Maintenance	500	514	528	543	558	569	580	592	604	616	628	
Equipment Repairs and Maintenance	2,000	2,055	2,112	2,170	2,230	2,270	2,320	2,370	2,420	2,470	2,520	
OCWA 1 - Fixed Price	24,570	25,239	25,926	26,631	27,355	27,900	28,460	29,030	29,610	30,200	30,800	
OCWA 2 - Contract Extras	5,420	5,570	5,724	5,882	6,045	6,170	6,290	6,420	6,550	6,680	6,810	
OCWA 3 - Third Party	4,034	4,135	4,238	4,344	4,453	4,540	4,630	4,720	4,810	4,910	5,010	
Contracted Services	5,500	514	528	542	557	568	579	591	603	615	627	
Security System Monitoring	328	337	346	355	365	372	379	387	395	403	411	
Property Taxes	797	820	843	867	891	909	927	946	965	984	1,004	
<b>Sub Total Operating</b>	<b>56,235</b>	<b>52,401</b>	<b>53,596</b>	<b>54,824</b>	<b>56,087</b>	<b>57,336</b>	<b>58,624</b>	<b>59,947</b>	<b>61,293</b>	<b>62,671</b>	<b>64,093</b>	
<u>Capital-Related</u>												
Existing Debt (Principal) - Non-Growth Related	-	-	-	-	-	-	-	-	-	-	-	
Existing Debt (Interest) - Non-Growth Related	-	-	-	-	-	-	-	-	-	-	-	
New Non-Growth Related Debt (Principal)	-	-	-	-	-	-	-	-	-	-	-	
New Non-Growth Related Debt (Interest)	-	-	-	-	-	-	-	-	-	-	-	
Transfer to Capital	-	-	-	-	-	-	-	-	-	-	-	
Transfer to Capital Reserve	-	6,481	8,226	10,085	12,062	14,215	15,071	15,957	16,886	17,851	18,842	
<b>Sub Total Capital Related</b>	<b>-</b>	<b>6,481</b>	<b>8,226</b>	<b>10,085</b>	<b>12,062</b>	<b>14,215</b>	<b>15,071</b>	<b>15,957</b>	<b>16,886</b>	<b>17,851</b>	<b>18,842</b>	
<b>Total Expenditures</b>	<b>56,235</b>	<b>58,882</b>	<b>61,822</b>	<b>64,909</b>	<b>68,149</b>	<b>71,551</b>	<b>73,695</b>	<b>75,904</b>	<b>78,179</b>	<b>80,522</b>	<b>82,935</b>	
<b>Revenues</b>												
Penalty & Interest	180	185	190	195	200	204	208	212	216	220	224	
Contributions from Reserves / Reserve Funds	144	-	-	-	-	-	-	-	-	-	-	
<b>Total Operating Revenue</b>	<b>324</b>	<b>185</b>	<b>190</b>	<b>195</b>	<b>200</b>	<b>204</b>	<b>208</b>	<b>212</b>	<b>216</b>	<b>220</b>	<b>224</b>	
<b>Water Billing Recovery - Total</b>	<b>55,911</b>	<b>58,697</b>	<b>61,632</b>	<b>64,714</b>	<b>67,949</b>	<b>71,347</b>	<b>73,487</b>	<b>75,692</b>	<b>77,963</b>	<b>80,302</b>	<b>82,711</b>	



Table A-5  
Township of Perth South  
Water Rate Forecast (Inflated \$) – Black Creek

Description	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Total Water Billing Recovery	55,911	58,697	61,632	64,714	67,949	71,347	73,487	75,692	77,963	80,302	82,711
Total Customers	33	33	33	33	33	33	33	33	33	33	33
<b>Constant Rate</b>	<b>1,694</b>	<b>1,779</b>	<b>1,868</b>	<b>1,961</b>	<b>2,059</b>	<b>2,162</b>	<b>2,227</b>	<b>2,294</b>	<b>2,363</b>	<b>2,433</b>	<b>2,506</b>
<b>Annual Percentage Change</b>		<b>5%</b>	<b>5%</b>	<b>5%</b>	<b>5%</b>	<b>5%</b>	<b>3%</b>	<b>3%</b>	<b>3%</b>	<b>3%</b>	<b>3%</b>



# Appendix B

## Detailed Water Rate Calculations – St. Pauls



# Appendix B: Detailed Water Rate Calculations – St. Pauls

Table B-1  
Township of Perth South  
Capital Budget Forecast (Inflated \$) – St. Pauls

Description	Budget 2025	Total	Forecast										
			2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	
<b>Capital Expenditures</b>													
New Drinking Water Well	160,000	-	-	-	-	-	-	-	-	-	-	-	-
Chemicals	1,000	5,900	1,100	1,100	1,200	1,200	1,300	-	-	-	-	-	-
Chlorine Injectors and Parts	220	1,410	240	260	280	300	330	-	-	-	-	-	-
Water Service Repairs	775	4,330	800	830	850	900	950	-	-	-	-	-	-
Well House Repairs (pipe, valves, etc.)	700	4,250	750	800	850	900	950	-	-	-	-	-	-
UV Parts (Solenoid Valves, Circuit Boards, etc.)	750	4,300	800	850	850	900	900	-	-	-	-	-	-
Data Logger Maintenance/Upgrade	-	3,000	-	3,000	-	-	-	-	-	-	-	-	-
Overtime/Call-Outs	2,400	12,200	2,400	2,400	2,400	2,400	2,600	-	-	-	-	-	-
Contingency	1,100	6,400	1,200	1,200	1,300	1,300	1,400	-	-	-	-	-	-
<b>Lifecycle:</b>													
UV Lamps	950	5,500	1,000	1,050	1,100	1,150	1,200	-	-	-	-	-	-
Chemical Pump Replacement Parts	1,175	6,290	1,200	1,230	1,250	1,280	1,330	-	-	-	-	-	-
Pressure Tank Replacement	925	1,930	-	950	-	980	-	-	-	-	-	-	-
Analyzer Probe	-	6,400	-	3,200	-	-	3,200	-	-	-	-	-	-
Chlorine Analyzer Parts (Electrolyte/Membrance Cap)	500	2,740	530	530	550	550	580	-	-	-	-	-	-
Flowmeter Replacement	-	3,100	-	3,100	-	-	-	-	-	-	-	-	-
Provision for Asset Management Needs	-	149,250	6,380	6,510	6,640	6,770	6,910	22,300	22,740	23,200	23,660	24,140	
<b>Total Capital Expenditures</b>	<b>170,495</b>	<b>217,000</b>	<b>16,400</b>	<b>27,010</b>	<b>17,270</b>	<b>18,630</b>	<b>21,650</b>	<b>22,300</b>	<b>22,740</b>	<b>23,200</b>	<b>23,660</b>	<b>24,140</b>	
<b>Capital Financing</b>													
Provincial/Federal Grants		-											
Non-Growth Related Debenture Requirements	-	-	-	-	-	-	-	-	-	-	-	-	-
Operating Contributions	-	-	-	-	-	-	-	-	-	-	-	-	-
St. Pauls Water Reserve	170,495	217,000	16,400	27,010	17,270	18,630	21,650	22,300	22,740	23,200	23,660	24,140	
<b>Total Capital Financing</b>	<b>170,495</b>	<b>217,000</b>	<b>16,400</b>	<b>27,010</b>	<b>17,270</b>	<b>18,630</b>	<b>21,650</b>	<b>22,300</b>	<b>22,740</b>	<b>23,200</b>	<b>23,660</b>	<b>24,140</b>	



Table B-2  
Township of Perth South  
Schedule of Debenture Repayments (Inflated \$) – St. Pauls

Debenture Year	2025	Principal (Inflated)	Forecast									
			2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
2026		-		-	-	-	-	-	-	-	-	-
2027		-			-	-	-	-	-	-	-	-
2028		-				-	-	-	-	-	-	-
2029		-					-	-	-	-	-	-
2030		-						-	-	-	-	-
2031		-							-	-	-	-
2032		-								-	-	-
2033		-									-	-
2034		-										-
2035		-										
<b>Total Annual Debt Charges</b>	-	-	-	-	-	-	-	-	-	-	-	-

Table B-3  
Township of Perth South  
St. Pauls Water Reserve Continuity (Inflated \$)

Description	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Opening Balance	234,387	77,497	83,366	77,058	81,518	85,673	87,871	90,524	93,893	98,019	102,959
Transfer from Operating	13,605	20,635	19,191	20,132	21,104	22,126	23,178	24,267	25,404	26,581	27,788
Transfer to Capital	170,495	16,400	27,010	17,270	18,630	21,650	22,300	22,740	23,200	23,660	24,140
Transfer to Operating	-	-	-	-	-	-	-	-	-	-	-
<b>Closing Balance</b>	<b>77,497</b>	<b>81,732</b>	<b>75,547</b>	<b>79,920</b>	<b>83,993</b>	<b>86,148</b>	<b>88,749</b>	<b>92,052</b>	<b>96,097</b>	<b>100,940</b>	<b>106,607</b>
Interest		1,635	1,511	1,598	1,680	1,723	1,775	1,841	1,922	2,019	2,132



Table B-4  
Township of Perth South  
Water Operating Budget Forecast (Inflated \$) – St. Pauls

Description	Budget 2025	Forecast									
		2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
<b>Expenditures</b>											
<u>Operating Costs</u>											
Direct Salaries & Wages	6,656	6,656	6,656	6,656	6,656	6,790	6,930	7,070	7,210	7,350	7,500
Employee - CPP	130	130	130	130	130	133	136	139	142	145	148
Employee - EI	153	153	153	153	153	156	159	162	165	168	171
Employee - EHT	130	130	130	130	130	133	136	139	142	145	148
Employee - WSIB	228	228	228	228	228	233	238	243	248	253	258
Employee Benefits	387	387	387	387	387	395	403	411	419	427	436
Employee - OMERS	599	599	599	599	599	611	623	635	648	661	674
Materials & Supplies	252	259	266	273	281	287	293	299	305	311	317
Hydro	3,389	3,481	3,575	3,672	3,771	3,960	4,160	4,370	4,590	4,820	5,060
Heat	781	802	824	846	869	912	958	1,006	1,056	1,109	1,164
Postage and Courier	121	124	127	131	135	138	141	144	147	150	153
Telephone	550	565	581	597	614	626	639	652	665	678	692
Insurance	119	122	125	128	131	134	137	140	143	146	149
Equipment Repairs and Maintenance	1,713	1,760	1,809	1,859	1,910	1,950	1,990	2,030	2,070	2,110	2,150
OCWA 1 - Fixed Price	24,571	25,240	25,927	26,632	27,356	27,900	28,460	29,030	29,610	30,200	30,800
OCWA 2 - Contract Extras	3,558	3,657	3,758	3,862	3,969	4,050	4,130	4,210	4,290	4,380	4,470
OCWA 3 - Third Party	4,108	4,219	4,333	4,450	4,570	4,660	4,750	4,850	4,950	5,050	5,150
Contracted Services	6,040	1,069	1,099	1,129	1,160	1,180	1,200	1,220	1,240	1,260	1,290
Security System Monitoring	175	180	185	190	195	199	203	207	211	215	219
<b>Sub Total Operating</b>	<b>53,660</b>	<b>49,761</b>	<b>50,892</b>	<b>52,052</b>	<b>53,244</b>	<b>54,447</b>	<b>55,686</b>	<b>56,957</b>	<b>58,251</b>	<b>59,578</b>	<b>60,949</b>
<u>Capital-Related</u>											
Existing Debt (Principal) - Non-Growth Related	-	-	-	-	-	-	-	-	-	-	-
Existing Debt (Interest) - Non-Growth Related	-	-	-	-	-	-	-	-	-	-	-
New Non-Growth Related Debt (Principal)	-	-	-	-	-	-	-	-	-	-	-
New Non-Growth Related Debt (Interest)	-	-	-	-	-	-	-	-	-	-	-
Transfer to Capital	-	-	-	-	-	-	-	-	-	-	-
Transfer to Water Reserve	13,605	20,635	19,191	20,132	21,104	22,126	23,178	24,267	25,404	26,581	27,788
<b>Sub Total Capital Related</b>	<b>13,605</b>	<b>20,635</b>	<b>19,191</b>	<b>20,132</b>	<b>21,104</b>	<b>22,126</b>	<b>23,178</b>	<b>24,267</b>	<b>25,404</b>	<b>26,581</b>	<b>27,788</b>
<b>Total Expenditures</b>	<b>67,265</b>	<b>70,396</b>	<b>70,083</b>	<b>72,184</b>	<b>74,348</b>	<b>76,573</b>	<b>78,864</b>	<b>81,224</b>	<b>83,655</b>	<b>86,159</b>	<b>88,737</b>
<b>Revenues</b>											
Penalty & Interest	503	517	531	546	561	572	583	595	607	619	631
New User Connection Fee	6,000	4,000	-	-	-	-	-	-	-	-	-
Contributions from Reserves / Reserve Funds	-	-	-	-	-	-	-	-	-	-	-
<b>Total Operating Revenue</b>	<b>6,503</b>	<b>4,517</b>	<b>531</b>	<b>546</b>	<b>561</b>	<b>572</b>	<b>583</b>	<b>595</b>	<b>607</b>	<b>619</b>	<b>631</b>
<b>Water Billing Recovery - Total</b>	<b>60,762</b>	<b>65,879</b>	<b>69,552</b>	<b>71,638</b>	<b>73,787</b>	<b>76,001</b>	<b>78,281</b>	<b>80,629</b>	<b>83,048</b>	<b>85,540</b>	<b>88,106</b>



Table B-5  
Township of Perth South  
Water Rate Forecast – St. Pauls

Description	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Total Water Billing Recovery	60,762	65,879	69,552	71,638	73,787	76,001	78,281	80,629	83,048	85,540	88,106
Total Customers	38	40	41	41	41	41	41	41	41	41	41
<b>Constant Rate</b>	<b>1,599.00</b>	<b>1,646.97</b>	<b>1,696.38</b>	<b>1,747.27</b>	<b>1,799.69</b>	<b>1,853.68</b>	<b>1,909.29</b>	<b>1,966.57</b>	<b>2,025.57</b>	<b>2,086.34</b>	<b>2,148.93</b>
<b>Annual Percentage Change</b>		<b>3%</b>	<b>3%</b>	<b>3%</b>	<b>3%</b>	<b>3%</b>	<b>3%</b>	<b>3%</b>	<b>3%</b>	<b>3%</b>	<b>3%</b>