Water Rate Study

Township of Hamilton

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October 15, 2025

Table of Contents

Table of Contents (Cont'd)

Page

List of Acronyms and Abbreviations

Acronym	Full Description of Acronym
A.M.O.	Association of Municipalities of Ontario
C.W.W.F.	Clean Water and Wastewater Fund
D.C.A.	Development Charges Act, 1997
F.I.R.	Financial Information Return
H.E.W.S.F.	Housing-Enabling Water Systems Fund
I.J.P.A.	Infrastructure for Jobs and Prosperity Act, 2015
I.O.	Infrastructure Ontario
M.O.E.	Ministry of Environment
O.C.I.F.	Ontario Community Infrastructure Fund
OLT	Ontario Land Tribunal
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 Hamilton (Township) retained Watson & Associates Economists Ltd. (Watson) to undertake a water rate study. This study aims to provide an analysis of current and future capital and operating costs, costing for lifecycle cost requirements, water volumes and customer profiles. The results of this analysis provide the Township with updated water base charges and volume rates. The rate analysis contained herein provides fiscally responsible practices that are in line with current provincial legislation at a level of rate increases that are reasonable.

The analysis presented herein provides the following:

- The Township currently serves 586 metered water customers in Creighton Heights, Baltimore & Camborne. There are also 145 customers that are not serviced with municipal water but are subject to the Township's annual water capital charge. Over the 2035 forecast period, an additional 66 new water customers are assumed.
- The 2026 to 2035 capital spending program for water is $11.95 million (inflated).
- The operating expenditures related to personnel are assumed to increase at 4% per year while all other operating expenditures are assumed to increase by 2% annually.
- As identified in the previous study, the Township's water reserve fund is in a deficit due to funding historical shortfalls in the water budget. The rates provided herein are forecasted to allow the Township to address the deficit by 2031;
- The current rate structure for water customers (monthly base charge, increasing block volume rate, and annual capital charge) and bulk water users are proposed to be continued.

To meet these expenditure requirements, the following water rate increases are suggested:

- The Township's water charges (base charges, volume rates, capital charges, and bulk water) have been calculated to increase by 5% annually for the forecast period (2026 to 2035).

Based on the above, the water bill is anticipated to increase by an average of $156 per year for residential customers, based on 164 cubic metres (36,075 gallons) of usage.

Tables ES-1 summarizes the recommended water rates for all customers in cubic metres based on the analysis herein over the forecast period. ES-2 provides the summary to the recommended water rates for all customers in gallons.

Table ES-1
Township of Hamilton
Water Rate Summary – Cubic Metres

Description	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Monthly Base Charge - Residential	$62.50	$65.63	$68.91	$72.35	$75.97	$79.77	$83.76	$87.94	$92.34	$96.96	$101.81
Monthly Base Charge - Multi-Residential	$70.26	$73.77	$77.46	$81.33	$85.40	$89.67	$94.16	$98.86	$103.81	$109.00	$114.45
Monthly Base Charge - Commercial	$79.05	$83.00	$87.15	$91.51	$96.09	$100.89	$105.93	$111.23	$116.79	$122.63	$128.76
Block 1 (First 22.73 m^3 per month)	$1.96	$2.05	$2.16	$2.26	$2.38	$2.50	$2.62	$2.75	$2.89	$3.03	$3.19
Block 2 (Next 13.64 m^3 per month)	$2.94	$3.08	$3.24	$3.40	$3.57	$3.75	$3.94	$4.13	$4.34	$4.56	$4.78
Block 3 (Each additional 4.55 m^3 per month)	$4.40	$4.62	$4.85	$5.10	$5.35	$5.62	$5.90	$6.19	$6.50	$6.83	$7.17
Annual Capital Charge	$346.05	$363.35	$381.52	$400.60	$420.63	$441.66	$463.74	$486.93	$511.27	$536.84	$563.68
Bulk Water Rate per m^3	$3.28	$3.45	$3.62	$3.80	$3.99	$4.19	$4.40	$4.62	$4.85	$5.10	$5.35
% Increase		5%	5%	5%	5%	5%	5%	5%	5%	5%	5%

Table ES-2
Township of Hamilton
Water Rate Summary – Gallons

Description	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Monthly Base Charge - Residential	$62.50	$65.63	$68.91	$72.35	$75.97	$79.77	$83.76	$87.94	$92.34	$96.96	$101.81
Monthly Base Charge - Multi-Residential	$70.26	$73.77	$77.46	$81.33	$85.40	$89.67	$94.16	$98.86	$103.81	$109.00	$114.45
Monthly Base Charge - Commercial	$79.05	$83.00	$87.15	$91.51	$96.09	$100.89	$105.93	$111.23	$116.79	$122.63	$128.76
Block 1 per 1,000 gallons (First 5,000 gallons per month)	$8.89	$9.33	$9.80	$10.29	$10.81	$11.35	$11.91	$12.51	$13.13	$13.79	$14.48
Block 2 per 1,000 gallons (Next 3,000 gallons per month)	$13.35	$14.02	$14.72	$15.45	$16.23	$17.04	$17.89	$18.78	$19.72	$20.71	$21.75
Block 3 per 1,000 gallons (Each additional 1,000 gallons per month)	$20.01	$21.01	$22.06	$23.16	$24.32	$25.54	$26.82	$28.16	$29.56	$31.04	$32.59
Annual Capital Charge	$346.05	$363.35	$381.52	$400.60	$420.63	$441.66	$463.74	$486.93	$511.27	$536.84	$563.68
Bulk Water Rate (per 1,000 gallons)	$14.93	$15.67	$16.46	$17.28	$18.14	$19.05	$20.01	$21.01	$22.06	$23.16	$24.32
% Increase		5%	5%	5%	5%	5%	5%	5%	5%	5%	5%

Report

Chapter 1
Introduction

1. Introduction

1.1 Background

The Township of Hamilton currently services 586 metered water customers, comprising of 573 residential and 13 commercial users. The Township's water supply comes primarily from Creighton Heights, Camborne, and Cobourg.

The Township also collects water capital charges from 145 other customers, comprising of 114 from Buttersfield and 31 from Kennedy Road. These customers are not serviced with Township water.

The water system is metered and utilizes a rate structure with a monthly base charge as well as a 3-tier increasing block volume charge on a per 1,000 gallons basis. The Township also provides bulk water services on a per 1,000 gallons basis charge.

For calculation purposes, the volumes and rates have been converted from a "per 1,000 gallons" to a "per cubic metre" throughout this study.

Table 1-1 provides the existing rates currently in effect.

Table 1-1
Township of Hamilton
Water Rates – 2025

2025 - Water Billing Rates	
Monthly Base Charge	
Creighton Heights, Baltimore & Camborne - Residential	$ 62.50
Creighton Heights, Baltimore & Camborne - Multi-Residential	$ 70.26
Creighton Heights, Baltimore & Camborne - Commercial	$ 79.05
Annual Capital Charge	
All Municipal Water Serviced Properties	$ 346.05

Volume Charge - per 1,000 Gallons	
Increasing Block	
$ 8.89	Block 1 per 1,000 gallons (First 5,000 gallons per month)
$ 13.35	Block 2 per 1,000 gallons (Next 3,000 gallons per month)
$ 20.01	Block 3 per 1,000 gallons (Each additional 1,000 gallons per month)
Bulk Water Charge - per 1,000 Gallons	
$ 14.93	per 1,000 gallons

Volume Charge - per cubic metre	
Increasing Block	
$ 1.96	Block 1 per m^3 (First 22.73 m3 per month)
$ 2.94	Block 2 per m^3 (Next 13.64 m3 per month)
$ 4.40	Block 3 per m^3 (Each additional 4.55 m3 per month)
Bulk Water Charge - per cubic metre	
$ 3.28	per m^3

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 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 forecast 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. *Development Charges Act, 1997* (D.C.A.), *Municipal Act*, etc.) as an offset to recovery through the water rates;
- Identify existing operating costs by component and estimate future operating costs over the next ten years. This assessment identifies fixed and variable costs in order to project those costs sensitive to changes to the existing infrastructure inventory, as well as costs which may increase commensurate with growth; 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 waste water."

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:

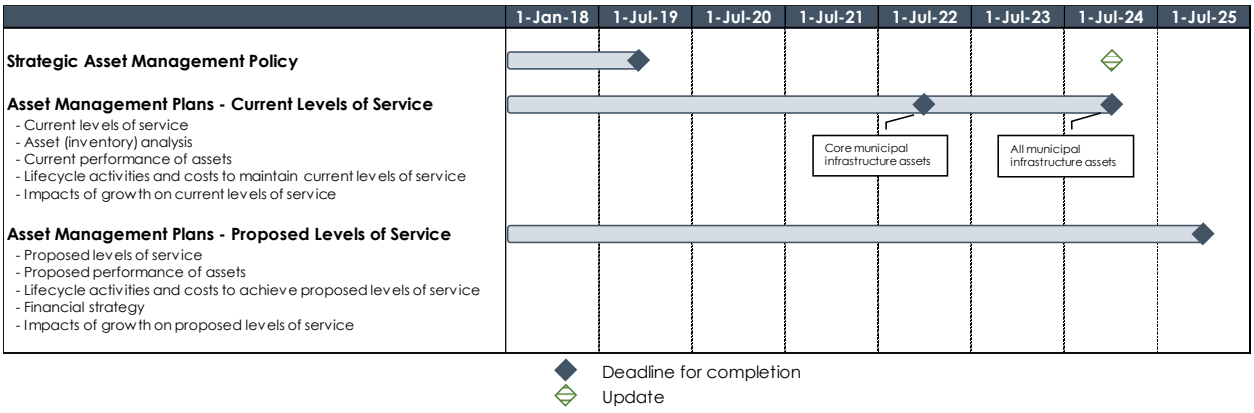
- Timing;
- Contents of the plans;
- Which identified portions of the plan will require certification;
- Public consultation process; and
- Limitations, updates, refinements, etc.

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 Infrastructure for 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 to have prepared 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

As described earlier in this chapter, the Township services 586 metered water customers in Creighton Heights, Baltimore, & Camborne. Information on the existing number of customers and existing billable volumes was obtained from the Township.

For future water customers to be added to the systems, consideration has been given to the potential new developments identified by Township staff over the 2035 forecast period.

The forecast assumes the addition of 66 water customers over the forecast period. For operating revenue purposes, it would be undesirable to forecast too high as it could produce a potential operating deficit should the growth in the water systems not materialize.

Based on historical information, the Township's volumes per customer is 164 cubic metres (36,075 gallons) per year. For forecasting purposes, the assumed billable volumes per customer will be based on that figure.

Table 1-2 presents the forecast of water users and volumes within the Township.

Table 1-2
Township of Hamilton
Water System Forecast – Cubic Metres

Year	Total Users	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
2025	6	3	6	6	6	6	6	6	6	6	6	6
2026	6		3	6	6	6	6	6	6	6	6	6
2027	6			3	6	6	6	6	6	6	6	6
2028	6				3	6	6	6	6	6	6	6
2029	6					3	6	6	6	6	6	6
2030	6						3	6	6	6	6	6
2031	6							3	6	6	6	6
2032	6								3	6	6	6
2033	6									3	6	6
2034	6										3	6
2035	6											3
Total	**66**	**3**	**9**	**15**	**21**	**27**	**33**	**39**	**45**	**51**	**57**	**63**
m^3/user	164	164	164	164	164	164	164	164	164	164	164	164
Annual Flow		**492**	**1,476**	**2,460**	**3,444**	**4,428**	**5,412**	**6,396**	**7,380**	**8,364**	**9,348**	**10,332**

Water Customer Forecast	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Existing	586	586	586	586	586	586	586	586	586	586	586
New - Growth	3	9	15	21	27	33	39	45	51	57	63
Total	**589**	**595**	**601**	**607**	**613**	**619**	**625**	**631**	**637**	**643**	**649**

Water Volume Forecast (m^3)	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Block 1 (First 22.73 m3 per month)											
Existing	83,439	83,439	83,439	83,439	83,439	83,439	83,439	83,439	83,439	83,439	83,439
New	492	1,476	2,460	3,444	4,428	5,412	6,396	7,380	8,364	9,348	10,332
Subtotal Block 1	**83,931**	**84,915**	**85,899**	**86,883**	**87,867**	**88,851**	**89,835**	**90,819**	**91,803**	**92,787**	**93,771**
Block 2 (Next 13.64 m3 per month)											
Existing	2,729	2,729	2,729	2,729	2,729	2,729	2,729	2,729	2,729	2,729	2,729
New	-	-	-	-	-	-	-	-	-	-	-
Subtotal Block 2	**2,729**	**2,729**	**2,729**	**2,729**	**2,729**	**2,729**	**2,729**	**2,729**	**2,729**	**2,729**	**2,729**
Block 3 (Each additional 4.55 m3 per month)											
Existing	9,781	9,781	9,781	9,781	9,781	9,781	9,781	9,781	9,781	9,781	9,781
New	-	-	-	-	-	-	-	-	-	-	-
Subtotal Block 3	**9,781**	**9,781**	**9,781**	**9,781**	**9,781**	**9,781**	**9,781**	**9,781**	**9,781**	**9,781**	**9,781**
Total	**96,440**	**97,424**	**98,408**	**99,392**	**100,376**	**101,360**	**102,344**	**103,328**	**104,312**	**105,296**	**106,280**

Table 1-3
Township of Hamilton
Water System Forecast - Gallons

Year	Total Users	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
2025	6	3	6	6	6	6	6	6	6	6	6	6
2026	6		3	6	6	6	6	6	6	6	6	6
2027	6			3	6	6	6	6	6	6	6	6
2028	6				3	6	6	6	6	6	6	6
2029	6					3	6	6	6	6	6	6
2030	6						3	6	6	6	6	6
2031	6							3	6	6	6	6
2032	6								3	6	6	6
2033	6									3	6	6
2034	6										3	6
2035	6											3
Total	**66**	**3**	**9**	**15**	**21**	**27**	**33**	**39**	**45**	**51**	**57**	**63**
gallons/user	36,075	36,075	36,075	36,075	36,075	36,075	36,075	36,075	36,075	36,075	36,075	36,075
Annual Flow		**108,225**	**324,674**	**541,124**	**757,573**	**974,023**	**1,190,472**	**1,406,922**	**1,623,371**	**1,839,821**	**2,056,270**	**2,272,720**

Water Customer Forecast	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Existing	586	586	586	586	586	586	586	586	586	586	586
New - Growth	3	9	15	21	27	33	39	45	51	57	63
Total	**589**	**595**	**601**	**607**	**613**	**619**	**625**	**631**	**637**	**643**	**649**

Water Volume Forecast (m^3)	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Block 1 per 1,000 gallons(First 5,000 gallons per month)											
Existing	18,353,920	18,353,920	18,353,920	18,353,920	18,353,920	18,353,920	18,353,920	18,353,920	18,353,920	18,353,920	18,353,920
New	108,225	324,674	541,124	757,573	974,023	1,190,472	1,406,922	1,623,371	1,839,821	2,056,270	2,272,720
Subtotal Block 1	**18,462,145**	**18,678,594**	**18,895,044**	**19,111,493**	**19,327,943**	**19,544,392**	**19,760,842**	**19,977,291**	**20,193,741**	**20,410,190**	**20,626,640**
Block 2 per 1,000 gallons(Next 3,000 gallons per month)											
Existing	600,300	600,300	600,300	600,300	600,300	600,300	600,300	600,300	600,300	600,300	600,300
New	-	-	-	-	-	-	-	-	-	-	-
Subtotal Block 2	**600,300**	**600,300**	**600,300**	**600,300**	**600,300**	**600,300**	**600,300**	**600,300**	**600,300**	**600,300**	**600,300**
Block 3 per 1,000 gallons(Each additional 1,000 gallons per month)											
Existing	2,151,470	2,151,470	2,151,470	2,151,470	2,151,470	2,151,470	2,151,470	2,151,470	2,151,470	2,151,470	2,151,470
New	-	-	-	-	-	-	-	-	-	-	-
Subtotal Block 3	**2,151,470**	**2,151,470**	**2,151,470**	**2,151,470**	**2,151,470**	**2,151,470**	**2,151,470**	**2,151,470**	**2,151,470**	**2,151,470**	**2,151,470**
Total	**21,213,915**	**21,430,364**	**21,646,814**	**21,863,263**	**22,079,713**	**22,296,162**	**22,512,612**	**22,729,061**	**22,945,511**	**23,161,960**	**23,378,410**

Chapter 2
Capital Infrastructure Needs

2. Capital Infrastructure Needs

2.1 Capital Forecast

Capital forecasts have been provided for the water system and are presented in Table 2-1 (note: the costs are in inflated dollars).

The forecast is based on the Township's identified capital requirements, including projects from the 10-year capital plan, the draft Water Master Plan, and the Asset Management Plan. An annual inflationary increase of 3% has been applied to the capital program.

Over the forecast period, total capital costs for the water system are estimated at $11.95 million.

Table 2-1
Township of Hamilton
2026 to 2035 Water Capital Forecast Summary (Inflated $)

Description	Total	Timing
Capital Expenditures		
Creighton Heights Wells 1 and 6 Maintenance and Rehabilitation	188,000	2028, 2033
Creighton Heights Wells 7 Maintenance and Rehabilitation	97,000	2029, 2034
Creighton Heights Valve and Equipment Replacements	388,000	2029
Creighton Heights – Distribution System Extension and Looping	1,140,000	2032-2034
Creighton Heights Roof and Site Repairs	37,000	2027
Creighton Heights – Generator and transfer switch replacement	191,000	2027
Creighton Heights Highlift Pump removal inspection and repair (Highlift pumps to be inspected/rehabilitated, 1 pump per year)	99,000	2027-2029
Camborne Well Rehabilitations	52,000	2026
Camborne - Priority Electrical & Controls Upgrades - PLC	106,000	2027
Camborne – Replace Filter Media	42,000	2027
Water Vehicle	10,000	2026
Water Rate Study	119,000	2030, 2035
Well Upgrade - 2 year project	253,000	2033
Water Development Charge Study	50,000	2030, 2035
Creighton Heights - Well Option Study (Ammonia Removal)	318,000	2026-2028
Water Meter Upgrades	270,000	2026-2035
Ammonia Removal System		
Creighton Heights – Engineering Design of Ammonia Removal System	380,000	2031
Creighton Heights – Construction of Ammonia Removal System	2,089,000	2032-2033
LUSI (Buttersfield)		
Olivers Lane Watermain Replacement-Ontario St to east end	553,000	2032
Haymur St rehabilitaion or replacement-June Ave to Olivers Lane	418,000	2034
Water Master Plan Projects	5,056,000	2027-2030
Water Masterplan update	90,000	2030
Total Capital Expenditures	**11,946,000**	

Chapter 3
Lifecycle Costing

3. Lifecycle Costing

3.1 Overview of Lifecycle Costing

3.1.1 Definition

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

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

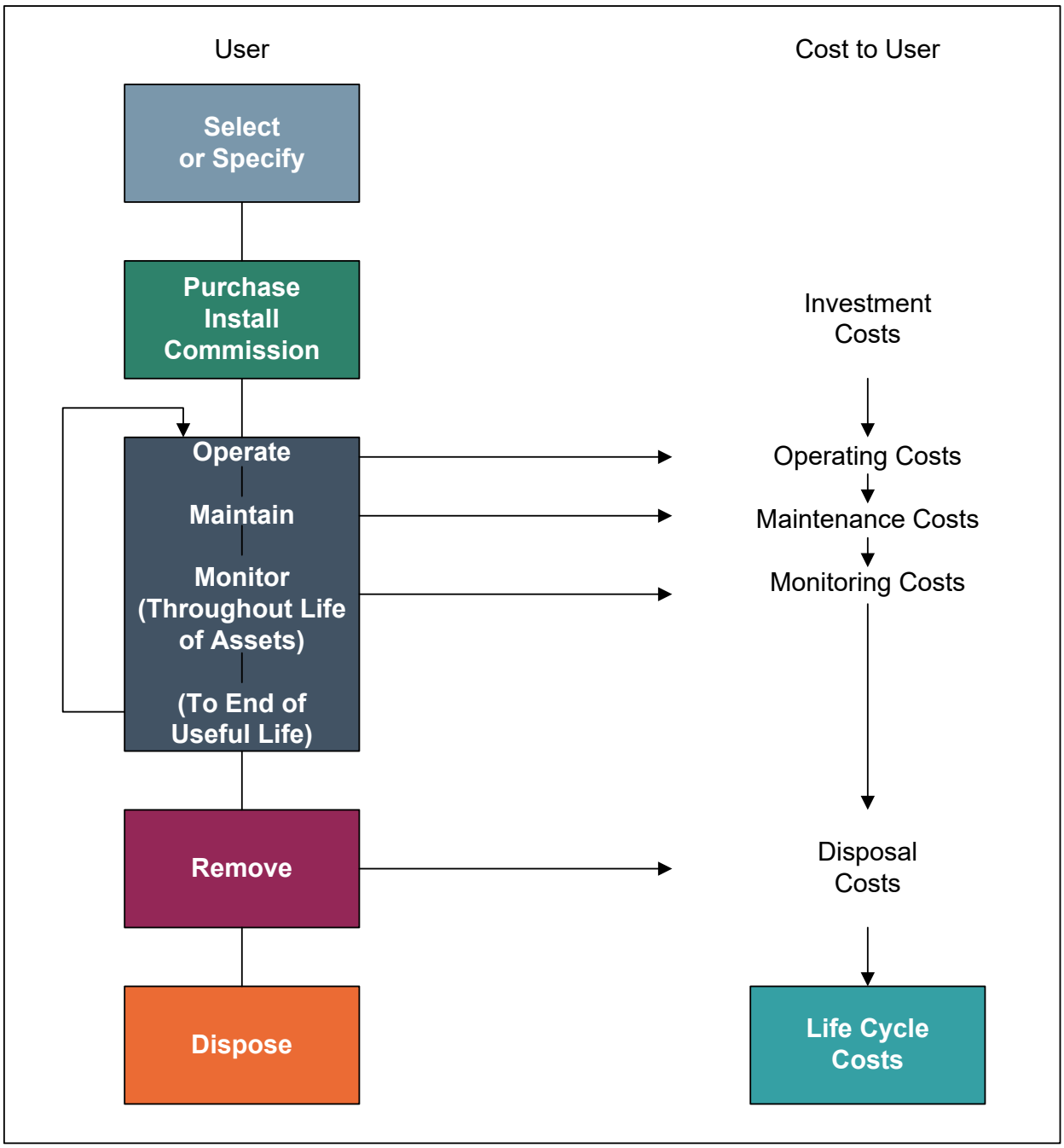
3.1.2 Financing Costs

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

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

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

Figure 3-1
Lifecycle Costing



New construction related to growth could produce development charges and developer contributions (e.g. works internal to a subdivision which are the responsibility of the developer to construct) to fund a significant portion of projects, where new assets are being acquired to allow growth within the Township to continue. As well, debentures

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

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

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

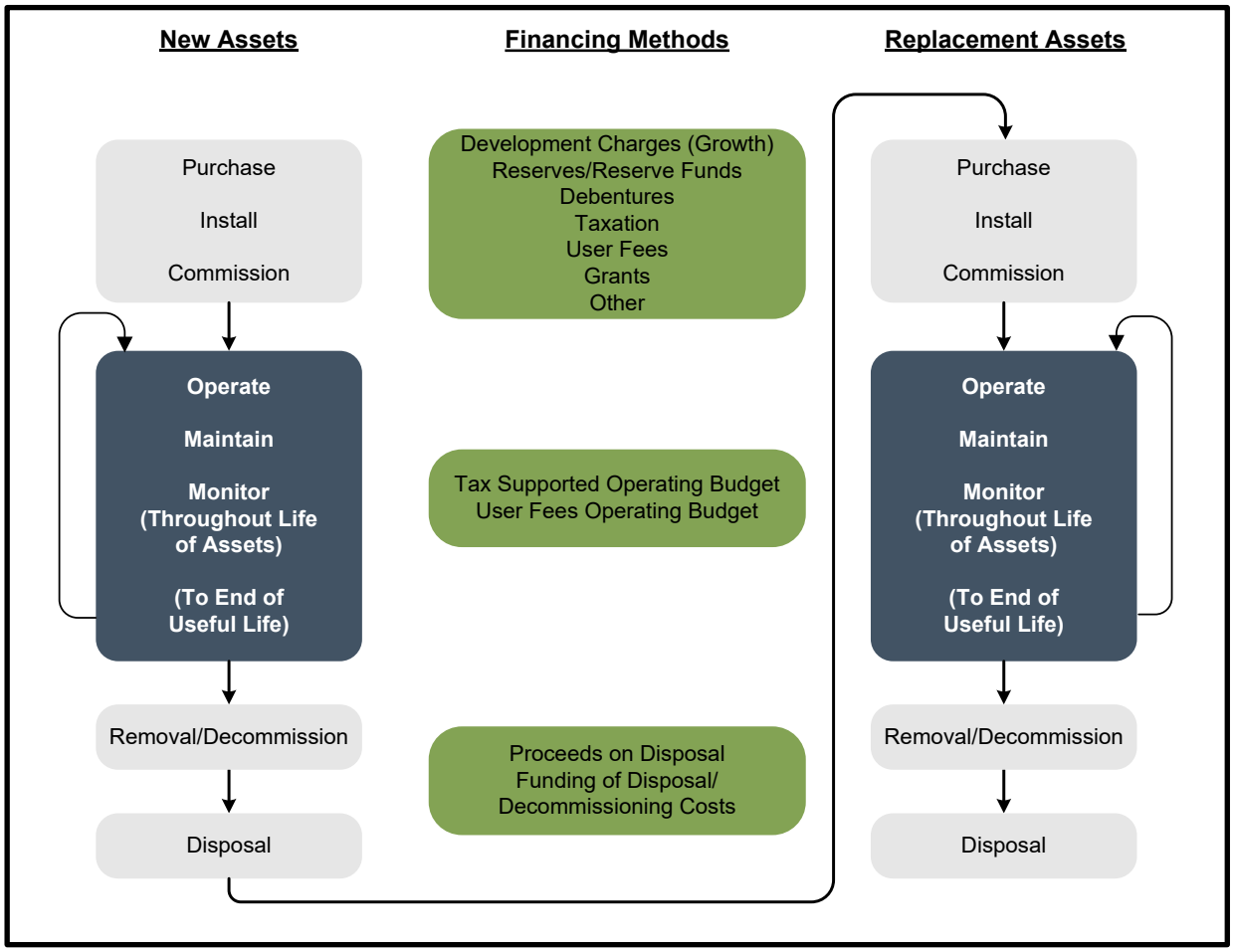
As referred to earlier, growth-related financing methods such as development charges and developer contributions could be utilized to finance the growth-related component of the new asset. These revenues are collected (indirectly) from the new homeowner who benefits directly from the installation of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

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

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

existing users for the asset's use and set those funds aside in a reserve to finance the cost of replacing the asset in the future.

Figure 3-2
Financing Lifecycle Costs



3.1.3 Costing Methods

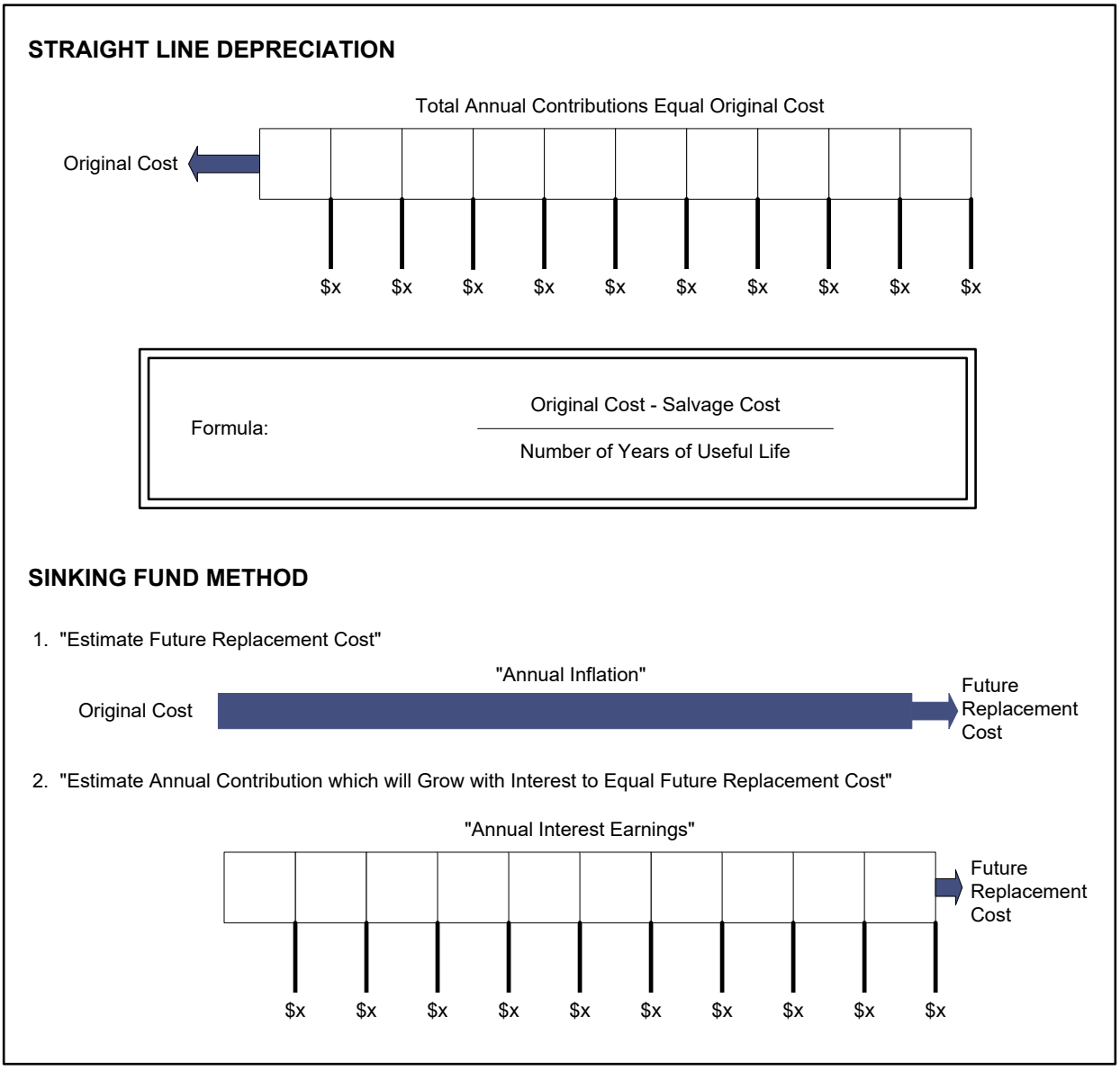
There are two fundamental methods of calculating the cost of the usage of an asset and for the provision of the revenue required when the time comes to retire and replace it. The first method is the Depreciation Method. This method recognizes the reduction in the value of the asset through wear and tear and aging. There are two commonly used forms of depreciation: the straight-line method and the reducing balance method (shown graphically in Figure 3-3).

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

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

The preferred method used herein for forecasting purposes is the sinking fund method of lifecycle costing.

Figure 3-3



3.2 Impact on Budgets

Based on the Township's review of its water assets, an annual replacement program has been established to address the aging water infrastructure. These amounts are identified through the Township's Asset Management Plan and are considered in the calculations.

Chapter 4
Capital Cost Financing Options

4. Capital Cost Financing Options

4.1 Summary of Capital Cost Financing Alternatives

Historically, the powers that municipalities had to raise alternative revenues to taxation to fund capital services have been restrictive. Over the past decade, legislative reforms have been introduced. Some of these have expanded municipal powers (e.g. Bill 26 introduced in 1996 to provide for expanded powers for imposing fees and charges), while others appear to restrict them (Bill 98 in 1997 providing amendments to the D.C.A. along with recently proposed changes through Bill 23, *More Homes Built Faster Act*, 2022).

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
• *Development Charges Act, 1997*	4.2
• *Municipal Act*	4.3
○ Fees and Charges	
○ Sewer and Water Area Charges	
○ Connection Fees	
○ Local Improvements	

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

4.2 Development Charges Act, 1997

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

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

developer for the costs the municipality would have incurred if the project had been financed from the development charge reserve fund;
- Set out provisions for front-end financing capital projects (limited to essential services) required to service new development; and
- Set out provisions for appeals and complaints.

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

Since 2019, a number of further amendments to the D.C.A. have occurred. With respect to water and wastewater, a few changes may impact D.C. revenue collections:

1. Timing of Collection:

    a. D.C. Rate Freeze - For developments proceeding through site plan or zoning by-law amendment, the D.C. rate is frozen at the time the application is submitted. The D.C. remains frozen for eighteen months after the application is approved. Should the D.C. study be updated to increase water and wastewater D.C. rates during this period, the Township would not be able to collect for this increase.

    b. D.C. Installment Payments - For rental housing and institutional development D.C.s are paid over five years. This provides a delay in receipt of D.C. revenues which will need to be cash-flowed by the Township.

2. Mandatory Exemptions:

    a. The ability to add additional units to new and existing homes without incurring D.C. payment.

    b. Developments of land intended for use by a university that receives operating funds from the Government.

    c. Affordable/Attainable Housing based on the thresholds set by the Province.

d. Non-Profit housing.

e. Discounts for rental housing (which range from 15% to 25%) depending on the number of bedrooms.

Consideration for these exemptions and discounts should be made during the D.C. study process to ensure all capacity available to growth is allocated appropriately.

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 known as Local Planning Appeal Tribunal (LPAT)).

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 Grant Funding Availability

Federal Infrastructure Funding

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

Funding was provided by the Government of Canada to expressly help municipalities with repair and rehabilitation projects. Funding was mainly provided through the Clean Water and Wastewater Fund (C.W.W.F.) and Public Transit Infrastructure Fund (P.T.I.F.) in Federal Phase 1 projects. The C.W.W.F. was announced in Ontario on September 15, 2016. The Fund is $1.1 billion for water, wastewater, and storm water systems in Ontario. The federal government provided $569 million and Ontario and municipal governments provided $275 million each.

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

Phase 2: Next Steps

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

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

Federal Gas Tax

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

Ontario Government

The Province has taken steps to increase municipal infrastructure funding. The Ontario Community Infrastructure Fund (O.C.I.F.) was increased in 2016 with formula-based support growing to $200 million, and application funding growing to $100 million annually. 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.

Housing-Enabling Water Systems Fund

In Ontario's 2023 Fall Economic Statement, the Province announced the Housing-Enabling Water Systems Fund (H.E.W.S.F.), which aims to invests a total of $200 million over three years towards the repair, rehabilitation, and expansion of core water, wastewater, and stormwater infrastructure to promote growth and enable new housing development. The H.E.W.S.F. is a competitive application-based funding program and the program guidelines were release on January 29, 2024.

Eligible Asset types include:

- Drinking water assets (e.g., treatment plants, reservoirs, local pipes including the distribution system watermain and the municipal portion of service lines, pump stations)

- Wastewater assets (e.g., lagoon systems, pump stations, lift station, linear assets, treatment plants, storage tanks and collection systems)
- Stormwater assets (e.g., management facilities, linear assets including conveyance piping/ditches/culverts)

The first round of HEWSF funding was launched with an initial commitment (e.g. $200 million, per early plans) and ultimately led to an investment of $970 million, with an application deadline of April 19, 2024. Under that first intake, 54 infrastructure projects across 61 municipalities were supported, enabling the construction of approximately 500,000 new homes across Ontario.

In view of high demand, the Province launched a second intake, providing an additional $325 million, with applications due November 1, 2024.

In July 2025, the Province committed another $400 million in direct funding to support 50 further projects from the first two intakes. These projects are expected to enable approximately 86,000 new housing units across 55 municipalities.

In total, the H.E.W.S.F. is investing nearly $1.7 billion in housing-enabling water infrastructure, designed to support the development of around 700,000 new homes across Ontario.

Grant Funding

For this study process, an estimated grant amount of $3.04 million has been assumed. However, if the status of the grant funding changes, the rate study may need to be amended to reflect the appropriate funding sources.

4.5 Existing Reserves/Reserve Funds

The Township has established reserves and reserve funds for water costs. The estimated balances to the end of December 31, 2025 are presented in Table 4-1:

Table 4-1
Water Reserves and Reserve Funds
Estimated as of December 31, 2024

Reserve	Projected 2025 Ending Balance
Water	
Equity - Environmental - Water Rate Study	**9,817**
LUSI (Buttersfield) Capital Fund Reserve	**47,992**
Waterworks System - Water Capital Reserve	**5,432**
Water Reserve	**(118,418)**
Equity - Environmental - Water - Kennedy Water Reserve	**(277,572)**
Hydrant Reserve	**154,817**

*Numbers in brackets () are deficits

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 Hamilton'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 $3.09 million. Based upon 20-year financing at an assumed rate of 4.00%, the available debt for the Township is approximately $42.04 million. Based on the calculations provided herein, it is assumed that the Township will require approximately $6.76 million of debt to finance capital projects over the forecast period.

4.7 Infrastructure Ontario

Infrastructure Ontario (I.O.) is an arms-length crown corporation, which has been set up as a tool to offer low-cost and longer-term financing to assist municipalities in renewing their infrastructure (this corporation has merged the former O.S.I.F.A. into its operations). I.O. combines the infrastructure renewal needs of municipalities into an infrastructure investment "pool." I.O. will raise investment capital to finance loans to the public sector by selling a new investment product called Infrastructure Renewal Bonds to individual and institutional investors.

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

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

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

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

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

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 for the capital expenditures (inflated) provided in Chapter 2:

Table 4-2
Township of Hamilton
Capital Forecasting Financing Sources
Inflated $

Description	Total
Capital Financing	
Provincial/Federal Grants	3,039,000
Non-Growth Related Debenture Requirements	468,998
Non-Growth Related Debenture Requirements LUSI	799,637
Growth Related Debenture Requirements	5,492,900
LUSI (Buttersfield) Capital Fund Reserve	171,363
Equity - Environmental - Water Rate Study Reserve Fund	107,100
Waterworks System - Water Capital Reserve	1,867,002
Total Capital Financing	**11,946,000**

Tables 4-3 provide for the full capital expenditure and funding program by year for water.

Table 4-3
Township of Hamilton
Capital Budget Forecast – Water (inflated $)

Description	Total	Forecast									
		2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Capital Expenditures											
Creighton Heights Wells 1 and 6 Maintenance and Rehabilitation	188,000	-	-	87,000	-	-	-	-	101,000	-	-
Creighton Heights Wells 7 Maintenance and Rehabilitation	97,000	-	-	-	45,000	-	-	-	-	52,000	-
Creighton Heights Valve and Equipment Replacements	388,000	-	-	-	388,000	-	-	-	-	-	-
Creighton Heights – Distribution System Extension and Looping	1,140,000	-	-	-	-	-	-	369,000	380,000	391,000	-
Creighton Heights Roof and Site Repairs	37,000	-	37,000	-	-	-	-	-	-	-	-
Creighton Heights – Generator and transfer switch replacement	191,000	-	191,000	-	-	-	-	-	-	-	-
Creighton Heights Highlift Pump removal inspection and repair (Highlift pumps to be inspected/rehabilitated, 1 pump per year)	99,000	-	32,000	33,000	34,000	-	-	-	-	-	-
Camborne Well Rehabilitations	52,000	52,000	-	-	-	-	-	-	-	-	-
Camborne - Priority Electrical & Controls Upgrades - PLC	106,000	-	106,000	-	-	-	-	-	-	-	-
Camborne – Replace Filter Media	42,000	-	42,000	-	-	-	-	-	-	-	-
Water Vehicle	10,000	10,000	-	-	-	-	-	-	-	-	-
Water Rate Study	119,000	-	-	-	-	52,000	-	-	-	-	67,000
Well Upgrade - 2 year project	253,000	-	-	-	-	-	-	-	253,000	-	-
Water Development Charge Study	50,000	-	-	-	-	23,000	-	-	-	-	27,000
Creighton Heights - Well Option Study (Ammonia Removal)	318,000	103,000	106,000	109,000	-	-	-	-	-	-	-
Water Meter Upgrades	270,000	21,000	21,000	22,000	23,000	23,000	30,000	31,000	32,000	33,000	34,000
Ammonia Removal System		-	-	-	-	-	-	-	-	-	-
Creighton Heights – Engineering Design of Ammonia Removal System	380,000	-	-	-	-	-	380,000	-	-	-	-
Creighton Heights – Construction of Ammonia Removal System	2,089,000	-	-	-	-	-	-	1,029,000	1,060,000	-	-
LUSI (Buttersfield)		-	-	-	-	-	-	-	-	-	-
Olivers Lane Watermain Replacement-Ontario St to east end	553,000	-	-	-	-	-	-	553,000	-	-	-
Haymur St rehabilitaion or replacement-June Ave to Olivers Lane	418,000	-	-	-	-	-	-	-	-	418,000	-
Water Master Plan Projects	5,056,000	-	165,000	852,000	4,039,000	-	-	-	-	-	-
Water Masterplan update	90,000	-	-	-	-	90,000	-	-	-	-	-
Total Capital Expenditures	**11,946,000**	**186,000**	**700,000**	**1,103,000**	**4,529,000**	**188,000**	**410,000**	**1,982,000**	**1,826,000**	**894,000**	**128,000**
Capital Financing											
Provincial/Federal Grants	3,039,000	-	-	-	-	-	380,000	1,213,500	1,250,000	195,500	-
Non-Growth Related Debenture Requirements	468,998	-	256,741	6,185	206,071	-	-	-	-	-	-
Non-Growth Related Debenture Requirements LUSI	799,637	-	-	-	-	-	-	384,157	-	415,480	-
Growth Related Debenture Requirements	5,492,900	-	165,000	852,000	4,039,000	118,200	-	92,250	95,000	97,750	33,700
LUSI (Buttersfield) Capital Fund Reserve	171,363	-	-	-	-	-	-	168,843	-	2,520	-
Equity - Environmental - Water Rate Study Reserve Fund	107,100	-	-	-	-	46,800	-	-	-	-	60,300
Waterworks System - Water Capital Reserve	1,867,002	186,000	278,259	244,815	283,929	23,000	30,000	123,250	481,000	182,750	34,000
Total Capital Financing	**11,946,000**	**186,000**	**700,000**	**1,103,000**	**4,529,000**	**188,000**	**410,000**	**1,982,000**	**1,826,000**	**894,000**	**128,000**

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 costs for each component of the operating budget have been reviewed with staff to establish forecast inflationary adjustments. Personnel are assumed to increase by 4% per year and all other operating expenditures are assumed to increase by 2% per year.

In addition, contributions to the various water reserves (Hydrant Reserve, Water Studies Reserve, Capital Reserve, Buttersfield Reserve, and Water General Reserve) have been included. The reserve transfers are used to fund the water capital program identified in Chapter 2. Additionally, debentures related to non-growth-related expenditures have also been included.

As mentioned earlier, the Township has a deficit in one of its water reserves due to historical water operating budgets being covered by non-water sources. The Township has been actively addressing this deficit over the past few years and has a remaining negative balance of $118,418 (this was noted in section 4.5). The forecasted rates presented herein will allow the Township to pay this deficit by 2031.

With respect to the transfers to the Buttersfield Reserve, these are funds that are collected from the Buttersfield customers serviced by Cobourg for future capital expenditures. Any collections related to Buttersfield are 100% utilized for Buttersfield related expenditures.

5.2 Water Operating Revenues

The Township's fixed revenue sources are generated primarily from base charges and other service fees that help contribute towards the water capital and operating expenditures. The water base charges are calculated to increase by 5% per year over the 2035 forecast period.

The water base charges are further discussed in section 6.5 of this study.

Note that the operating revenue presented herein represents the fixed component of the total operating revenue. The shortfall of the fixed revenue from the operating expenditures is what is used to calculate the recovery from the water volume rates, which is presented in Chapter 7. Table 5-1 provides for the water operating budget for the Township.

Table 5-1
Township of Hamilton
Operating Budget Forecast – Water (inflated $)

Description	Forecast									
	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Expenditures										
Operating Costs										
Water Admin										
Total Water Salaries and Benefit Exp	422,600	439,500	457,100	475,400	494,400	514,200	534,800	556,200	578,400	601,500
TRAINING	4,600	4,700	4,800	4,900	5,000	5,100	5,200	5,300	5,400	5,500
MEMBERSHIPS	800	800	800	800	800	800	800	800	800	800
FUEL	9,200	9,400	9,600	9,800	10,000	10,200	10,400	10,600	10,800	11,000
STAFF APPRECIATION	500	500	500	500	500	500	500	500	500	500
OFFICE SUPPLIES	500	500	500	500	500	500	500	500	500	500
LAB SUPPLIES	6,900	7,000	7,100	7,200	7,300	7,400	7,500	7,700	7,900	8,100
INSURANCE	42,800	43,700	44,600	45,500	46,400	47,300	48,200	49,200	50,200	51,200
AUDIT - DWQMS	4,600	4,700	4,800	4,900	5,000	5,100	5,200	5,300	5,400	5,500
TELEPHONE	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
DISPATCHING SERVICES	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100
COURIER/POSTAGE	2,200	2,200	2,200	2,200	2,200	2,200	2,200	2,200	2,200	2,200
SAMPLING	500	500	500	500	500	500	500	500	500	500
CONTRACTED OUT	26,500	27,000	27,500	28,100	28,700	29,300	29,900	30,500	31,100	31,700
MINOR CAPITAL	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500
VEHICLE REPAIRS	4,100	4,200	4,300	4,400	4,500	4,600	4,700	4,800	4,900	5,000
WRITE OFFS	500	500	500	500	500	500	500	500	500	500
GIS MAPPING	2,600	2,700	2,800	2,900	3,000	3,100	3,200	3,300	3,400	3,500
CONSULTANT GENERAL	6,100	6,200	6,300	6,400	6,500	6,600	6,700	6,800	6,900	7,000
WATERWORKS WATER METERS	3,600	3,700	3,800	3,900	4,000	4,100	4,200	4,300	4,400	4,500
COMPUTER HARDWARE, SOFTWARE AND INTERNET SUPPORT	10,200	10,400	10,600	10,800	11,000	11,200	11,400	11,600	11,800	12,000
Camborne	-	-	-	-	-	-	-	-	-	-
CHEMICAL SUPPLY	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100
HYDRO	7,500	7,700	7,900	8,100	8,300	8,500	8,700	8,900	9,100	9,300
HEATING FUEL	2,100	2,100	2,100	2,100	2,100	2,100	2,100	2,100	2,100	2,100
TELEPHONE	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500
SAMPLING	2,900	3,000	3,100	3,200	3,300	3,400	3,500	3,600	3,700	3,800
LINE MAINT	20,400	20,800	21,200	21,600	22,000	22,400	22,800	23,300	23,800	24,300
HOLDING TANK	500	500	500	500	500	500	500	500	500	500
Creighton Heights	-	-	-	-	-	-	-	-	-	-
CHEMICALS	16,300	16,600	16,900	17,200	17,500	17,900	18,300	18,700	19,100	19,500
HYDRO	64,100	65,400	66,700	68,000	69,400	70,800	72,200	73,600	75,100	76,600
TELEPHONE	800	800	800	800	800	800	800	800	800	800
SAMPLING	6,100	6,200	6,300	6,400	6,500	6,600	6,700	6,800	6,900	7,000
LINE MAINTENANCE	37,700	38,500	39,300	40,100	40,900	41,700	42,500	43,400	44,300	45,200
SCADA NETWORK	800	800	800	800	800	800	800	800	800	800
HOLDING TANK	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200
Hydrants										
HYDRANT INSPECTIONS	4,500	4,600	4,700	4,800	4,900	5,000	5,100	5,200	5,300	5,400
New PT Position - Water Operator	-	40,000	41,600	43,300	45,000	46,800	48,700	50,600	52,600	54,700
New Buttersfield Charge ($1,000/mo)	12,000	12,000	12,000	12,000	12,000	12,000	12,000	12,000	12,000	12,000
Sub Total Operating	**731,900**	**794,600**	**819,600**	**845,500**	**872,200**	**899,900**	**928,500**	**958,300**	**989,100**	**1,020,900**

Table 5-1 (con't)
Township of Hamilton
Operating Budget Forecast – Water (inflated $)

Description	Forecast									
	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Capital-Related										
Existing Debt (Principal) - Growth Related										
Existing Debt (Interest) - Growth Related										
New Growth Related Debt (Principal)	-	-	5,541	34,374	171,386	182,211	189,499	200,177	211,374	223,112
New Growth Related Debt (Interest)	-	-	6,600	40,458	200,643	198,516	191,228	187,338	183,130	178,585
Existing Debt (Principal) - Non-Growth Related										
Debenture bylaw 2023-26	3,880	3,880	3,880	3,880	3,880	3,880	3,880	3,880	3,880	3,880
Debenture bylaw 2023-27	6,352	6,352	6,352	6,352	6,352	6,352	6,352	6,352	6,352	6,352
Debenture bylaw 2023-28 (LUSI)	10,800	10,800	10,800	10,800	10,800	10,800	10,800	10,800	10,800	10,800
Existing Debt (Interest) - Non-Growth Related										
Debenture bylaw 2023-26	4,536	4,369	4,214	4,035	3,867	3,700	3,543	3,366	3,198	3,031
Debenture bylaw 2023-27	4,547	4,281	4,027	3,750	3,485	3,219	2,962	2,688	2,423	2,157
Debenture bylaw 2023-28 (LUSI)	10,203	9,742	9,306	8,819	8,358	7,897	7,456	6,975	6,513	6,052
Payback of Interest for the Water Reserve Deficit	2,218	2,068	1,918	1,768	1,618	-	-	-	-	-
New Non-Growth Related Debt (Principal)	-	-	8,622	9,174	16,462	17,120	17,805	18,517	19,258	20,028
New Non-Growth Related Debt (Interest)	-	-	10,270	10,172	18,048	17,390	16,705	15,993	15,252	14,482
New Non-Growth Related Debt (Principal) - LUSI	-	-	-	-	-	-	-	12,901	13,417	27,906
New Non-Growth Related Debt (Interest) - LUSI	-	-	-	-	-	-	-	15,366	14,850	30,933
Transfer to Capital	-	-	-	-	-	-	-	-	-	-
Transfer to Water Reserve	7,500	7,500	7,500	7,500	7,500	80,918				
Transfer to Wate Rate Study Reserve	-	-	-	-	40,000	12,000	12,000	12,000	12,000	12,000
Transfer to Buttersfield Capital Reserve	7,697	10,158	12,694	15,381	18,242	21,203	24,244	-	2,520	-
Transfer to Hydrant Reserve	14,000	13,900	13,800	13,700	13,600	13,500	13,400	13,300	13,200	13,100
Transfer to Capital Reserve	230,988	226,830	244,815	283,929	271,262	272,771	402,268	453,267	509,609	544,461
Sub Total Capital Related	**302,722**	**299,881**	**350,338**	**454,094**	**795,503**	**851,477**	**902,141**	**962,919**	**1,027,777**	**1,096,880**
Total Expenditures	**1,034,622**	**1,094,481**	**1,169,938**	**1,299,594**	**1,667,703**	**1,751,377**	**1,830,641**	**1,921,219**	**2,016,877**	**2,117,780**
Revenues										
Base Charge	471,273	499,798	529,998	561,967	595,809	631,630	669,543	709,669	752,133	797,070
Capital Charge	268,881	284,614	301,248	318,834	337,426	357,080	377,855	399,816	423,028	447,561
Other Revenue		-	-	-	-	-	-	-	-	-
Contributions from Development Charges Reserve Fund	-	-	12,141	74,833	372,029	380,727	380,727	387,515	394,505	401,697
Contributions from Reserves / Reserve Funds	-	-	-	-	-	-	-	-	-	-
Water Admin										
PENALTIES & INTEREST	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000
MISC. REVENUE	-	-	-	-	-	-	-	-	-	-
METER SALES	3,600	3,700	3,800	3,900	4,000	4,100	4,200	4,300	4,400	4,500
OTHER RECOVERIES	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000
BUTTERSFIELD COST RECOVERIES	40,700	42,700	44,800	47,000	49,400	51,900	54,500	57,200	60,100	63,100
Hydrants										
AREA CHARGE HYDRANTS	18,500	18,500	18,500	18,500	18,500	18,500	18,500	18,500	18,500	18,500
Total Operating Revenue	**806,954**	**853,312**	**914,487**	**1,029,034**	**1,381,164**	**1,447,936**	**1,509,325**	**1,580,999**	**1,656,666**	**1,736,429**
Water Billing Recovery - Total	**227,668**	**241,169**	**255,452**	**270,559**	**286,539**	**303,441**	**321,316**	**340,220**	**360,211**	**381,351**

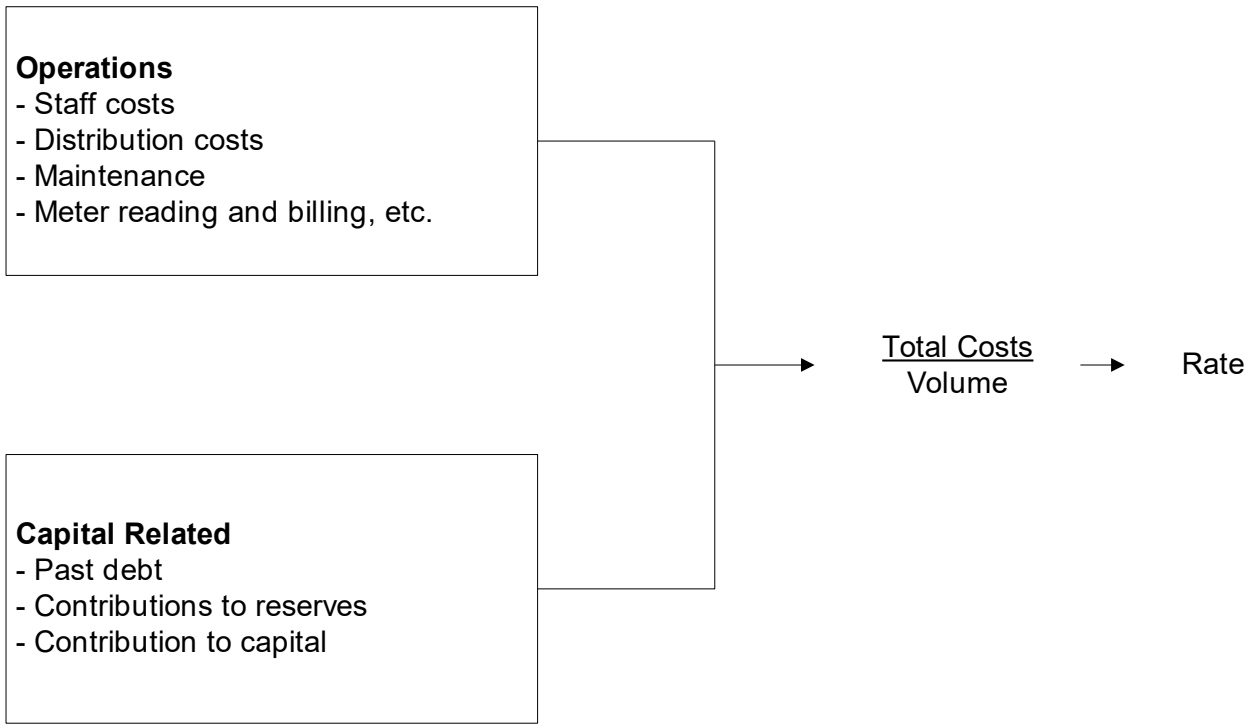
Chapter 6
Pricing Structures

6. Pricing Structures

6.1 Introduction

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

"Annual Costs"



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

Operations

- Inflation;
- Increased maintenance as system ages; and

- Changes to provincial legislation.

Capital Related

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

6.2 Alternative Pricing Structures

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.

Cost Recovery

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

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

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

Administration

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

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

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

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

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

Equity

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

Conservation

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

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

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

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

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

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

Figure 6-1

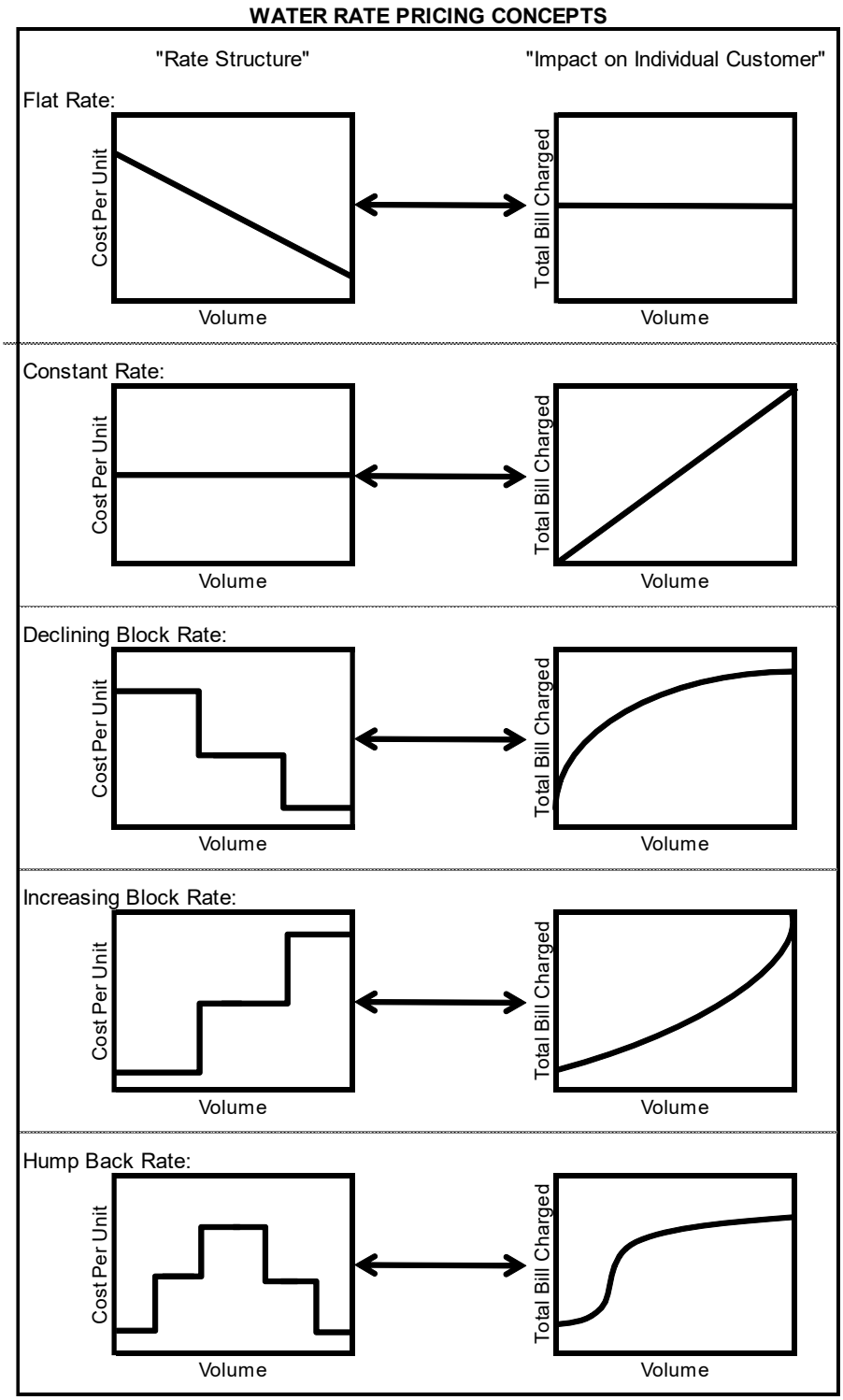

WATER RATE PRICING CONCEPTS
"Rate Structure"
"Impact on Individual Customer"
Flat Rate:
Cost Per Unit
Volume
Total Bill Charged
Volume
Constant Rate:
Cost Per Unit
Volume
Total Bill Charged
Volume
Declining Block Rate:
Cost Per Unit
Volume
Total Bill Charged
Volume
Increasing Block Rate:
Cost Per Unit
Volume
Total Bill Charged
Volume
Hump Back Rate:
Cost Per Unit
Volume
Total Bill Charged
Volume

Figure 6-2
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 impose a base monthly charge.

Historically, the development of a base charge often reflected either the recovery of meter reading/billing/collection costs, plus administration or those costs plus certain fixed costs (such as capital contributions or reserve contributions). More recently, many municipalities have started to establish base charges based on ensuring a secure

portion of the revenue stream which does not vary with volume consumption. Selection of the quantum of the base charge is a matter of policy selected by individual municipalities.

6.5 Recommended Rate Structures

The Township currently utilizes a monthly base charge, an increasing block volume rate, and an annual capital charge. It is recommended that the same rate structures be continued in the future.

To support the Township's capital expenditures, future asset replacement requirements, and day-to-day operating needs, the water base charges are proposed to increase by 5% over the 2035 forecast period. The forecasted water base charges for the different unit types are presented in Table 6-1.

With respect to the capital charge, the calculations provided herein recommend similar increases to the water base charges in order to assist in funding the capital program identified in Chapter 2. While these increases to the capital charge do not fully fund the forecasted capital program, they will assist in reducing the need for debentures. The forecasted capital charges for all customers are presented in Table 6-2.

Table 6-1
Township of Hamilton
Base Charge Forecast – Water

Water	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Existing	586	586	586	586	586	586	586	586	586	586	586
New	3	9	15	21	27	33	39	45	51	57	63
Total Customers	**589**	**595**	**601**	**607**	**613**	**619**	**625**	**631**	**637**	**643**	**649**
Total Annual Revenue	**$444,332**	**$471,273**	**$499,798**	**$529,998**	**$561,967**	**$595,809**	**$631,630**	**$669,543**	**$709,669**	**$752,133**	**$797,070**

Creighton Heights, Baltimore & Camborne - Residential Meter Size	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Existing	573	573	573	573	573	573	573	573	573	573	573
New	3	9	15	21	27	33	39	45	51	57	63
Subtotal Customers	**576**	**582**	**588**	**594**	**600**	**606**	**612**	**618**	**624**	**630**	**636**
Monthly Base Charge	$62.50	$65.63	$68.91	$72.35	$75.97	$79.77	$83.76	$87.94	$92.34	$96.96	$101.81
Annual Base Charge	$750.00	$787.50	$826.88	$868.22	$911.63	$957.21	$1,005.07	$1,055.33	$1,108.09	$1,163.50	$1,221.67
Total Annual Revenue	**$432,000**	**$458,325**	**$486,203**	**$515,722**	**$546,978**	**$580,070**	**$615,104**	**$652,191**	**$691,449**	**$733,003**	**$776,983**

Creighton Heights, Baltimore & Camborne - Multi-Residential Meter Size	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Existing	0	0	0	0	0	0	0	0	0	0	0
New											
Subtotal Customers	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Monthly Base Charge	$70.26	$73.77	$77.46	$81.33	$85.40	$89.67	$94.16	$98.86	$103.81	$109.00	$114.45
Annual Base Charge	$843.12	$885.28	$929.54	$976.02	$1,024.82	$1,076.06	$1,129.86	$1,186.35	$1,245.67	$1,307.96	$1,373.35
Total Annual Revenue	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**

Creighton Heights, Baltimore & Camborne - Commercial Meter Size	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Existing	13	13	13	13	13	13	13	13	13	13	13
New											
Subtotal Customers	**13**	**13**	**13**	**13**	**13**	**13**	**13**	**13**	**13**	**13**	**13**
Monthly Base Charge	$79.05	$83.00	$87.15	$91.51	$96.09	$100.89	$105.93	$111.23	$116.79	$122.63	$128.76
Annual Base Charge	$948.60	$996.03	$1,045.83	$1,098.12	$1,153.03	$1,210.68	$1,271.21	$1,334.78	$1,401.51	$1,471.59	$1,545.17
Total Annual Revenue	**$12,332**	**$12,948**	**$13,596**	**$14,276**	**$14,989**	**$15,739**	**$16,526**	**$17,352**	**$18,220**	**$19,131**	**$20,087**

Table 6-2
Township of Hamilton
Annual Capital Charge Forecast – Water

Water	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Existing	731	731	731	731	731	731	731	731	731	731	731
New	3	9	15	21	27	33	39	45	51	57	63
Total Customers	**734**	**740**	**746**	**752**	**758**	**764**	**770**	**776**	**782**	**788**	**794**
Total Annual Revenue	**$254,001**	**$268,881**	**$284,614**	**$301,248**	**$318,834**	**$337,426**	**$357,080**	**$377,855**	**$399,816**	**$423,028**	**$447,561**

All Municipal Water Serviced Properties	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Existing	586	586	586	586	586	586	586	586	586	586	586
New	3	9	15	21	27	33	39	45	51	57	63
Subtotal Customers	**589**	**595**	**601**	**607**	**613**	**619**	**625**	**631**	**637**	**643**	**649**
Monthly Capital Charge	$28.84	$30.28	$31.79	$33.38	$35.05	$36.80	$38.65	$40.58	$42.61	$44.74	$46.97
Annual Capital Charge	$346.05	$363.35	$381.52	$400.60	$420.63	$441.66	$463.74	$486.93	$511.27	$536.84	$563.68
Total Annual Revenue	**$203,823**	**$216,195**	**$229,294**	**$243,162**	**$257,844**	**$273,386**	**$289,838**	**$307,251**	**$325,681**	**$345,186**	**$365,828**

Buttersfield	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Existing	114	114	114	114	114	114	114	114	114	114	114
New											
Subtotal Customers	**114**	**114**	**114**	**114**	**114**	**114**	**114**	**114**	**114**	**114**	**114**
Monthly Capital Charge	$28.84	$30.28	$31.79	$33.38	$35.05	$36.80	$38.65	$40.58	$42.61	$44.74	$46.97
Annual Capital Charge	$346.05	$363.35	$381.52	$400.60	$420.63	$441.66	$463.74	$486.93	$511.27	$536.84	$563.68
Total Annual Revenue	**$39,450**	**$41,422**	**$43,493**	**$45,668**	**$47,951**	**$50,349**	**$52,866**	**$55,510**	**$58,285**	**$61,199**	**$64,259**

Kennedy	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Existing	31	31	31	31	31	31	31	31	31	31	31
New	0	0	0	0	0	0	0	0	0	0	0
Subtotal Customers	**31**	**31**	**31**	**31**	**31**	**31**	**31**	**31**	**31**	**31**	**31**
Monthly Capital Charge	$28.84	$30.28	$31.79	$33.38	$35.05	$36.80	$38.65	$40.58	$42.61	$44.74	$46.97
Annual Capital Charge	$346.05	$363.35	$381.52	$400.60	$420.63	$441.66	$463.74	$486.93	$511.27	$536.84	$563.68
Total Annual Revenue	**$10,728**	**$11,264**	**$11,827**	**$12,418**	**$13,039**	**$13,691**	**$14,376**	**$15,095**	**$15,849**	**$16,642**	**$17,474**

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 predominant basis for financing future capital replacement. Chapter 5 established the 10-year operating forecast of expenditures including an annual capital reserve contribution. The base charge revenues identified in Chapter 6 are to ensure that fixed costs are recovered regardless of the amount of volume used by customers. This chapter will provide for the calculation of the volume 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 water volume forecast 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 structures, the rates are calculated by taking the net recoverable amounts from Table 5-1 (the product of total expenditures less non-rate revenues and deduct the base charge amounts provided in section 6.5) and completes the calculation by dividing them by the volumes resulting in the forecasted rates. This results in a water volumetric rate increase of 5% over the forecast period.

With respect to bulk water, the calculations have assumed that the forecasted rates will reflect the same increases to the water volume rates.

These increases are required in order to fund the operating and capital expenditure forecast, while providing reserve fund transfers to prepare for the future lifecycle requirements and address the existing water reserve deficit. Detailed calculations of the volume rates are provided in Appendix A.

A summary of the forecasted base charges, volume rates, capital charges, and bulk water rates are presented in Tables 7-1 for cubic metres and 7-2 for gallons.

To illustrate the rate impacts, the estimated total annual bill for an average residential user who consumes 164 cubic metres (or 36,075 gallons) per year are presented in Tables 7-3 (in cubic metres) and 7-4 (in gallons).

Table 7-1
Township of Hamilton
Water Rate Forecast – Cubic metres

Description	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Monthly Base Charge - Residential	$62.50	$65.63	$68.91	$72.35	$75.97	$79.77	$83.76	$87.94	$92.34	$96.96	$101.81
Monthly Base Charge - Multi-Residential	$70.26	$73.77	$77.46	$81.33	$85.40	$89.67	$94.16	$98.86	$103.81	$109.00	$114.45
Monthly Base Charge - Commercial	$79.05	$83.00	$87.15	$91.51	$96.09	$100.89	$105.93	$111.23	$116.79	$122.63	$128.76
Block 1 (First 22.73 m^3 per month)	$1.96	$2.05	$2.16	$2.26	$2.38	$2.50	$2.62	$2.75	$2.89	$3.03	$3.19
Block 2 (Next 13.64 m^3 per month)	$2.94	$3.08	$3.24	$3.40	$3.57	$3.75	$3.94	$4.13	$4.34	$4.56	$4.78
Block 3 (Each additional 4.55 m^3 per month)	$4.40	$4.62	$4.85	$5.10	$5.35	$5.62	$5.90	$6.19	$6.50	$6.83	$7.17
Annual Capital Charge	$346.05	$363.35	$381.52	$400.60	$420.63	$441.66	$463.74	$486.93	$511.27	$536.84	$563.68
Bulk Water Rate per m^3	$3.28	$3.45	$3.62	$3.80	$3.99	$4.19	$4.40	$4.62	$4.85	$5.10	$5.35
% Increase		5%	5%	5%	5%	5%	5%	5%	5%	5%	5%

Table 7-2
Township of Hamilton
Water Rate Forecast - Gallons

Description	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Monthly Base Charge - Residential	$62.50	$65.63	$68.91	$72.35	$75.97	$79.77	$83.76	$87.94	$92.34	$96.96	$101.81
Monthly Base Charge - Multi-Residential	$70.26	$73.77	$77.46	$81.33	$85.40	$89.67	$94.16	$98.86	$103.81	$109.00	$114.45
Monthly Base Charge - Commercial	$79.05	$83.00	$87.15	$91.51	$96.09	$100.89	$105.93	$111.23	$116.79	$122.63	$128.76
Block 1 per 1,000 gallons (First 5,000 gallons per month)	$8.89	$9.33	$9.80	$10.29	$10.81	$11.35	$11.91	$12.51	$13.13	$13.79	$14.48
Block 2 per 1,000 gallons (Next 3,000 gallons per month)	$13.35	$14.02	$14.72	$15.45	$16.23	$17.04	$17.89	$18.78	$19.72	$20.71	$21.75
Block 3 per 1,000 gallons (Each additional 1,000 gallons per month)	$20.01	$21.01	$22.06	$23.16	$24.32	$25.54	$26.82	$28.16	$29.56	$31.04	$32.59
Annual Capital Charge	$346.05	$363.35	$381.52	$400.60	$420.63	$441.66	$463.74	$486.93	$511.27	$536.84	$563.68
Bulk Water Rate (per 1,000 gallons)	$14.93	$15.67	$16.46	$17.28	$18.14	$19.05	$20.01	$21.01	$22.06	$23.16	$24.32
% Increase		5%	5%	5%	5%	5%	5%	5%	5%	5%	5%

Table 7-3
Township of Hamilton
Average Annual Residential Water Bill
(Based on an Annual Usage of 164 cubic metres for a residential meter)

Description	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Monthly Base Charge - Residential	$62.50	$65.63	$68.91	$72.35	$75.97	$79.77	$83.76	$87.94	$92.34	$96.96	$101.81
Block 1 (First 22.73 m^3 per month)	$1.96	$2.05	$2.16	$2.26	$2.38	$2.50	$2.62	$2.75	$2.89	$3.03	$3.19
Block 2 (Next 13.64 m^3 per month)	$2.94	$3.08	$3.24	$3.40	$3.57	$3.75	$3.94	$4.13	$4.34	$4.56	$4.78
Block 3 (Each additional 4.55 m^3 per month)	$4.40	$4.62	$4.85	$5.10	$5.35	$5.62	$5.90	$6.19	$6.50	$6.83	$7.17
Annual Base Charge Bill	**$750.00**	**$787.50**	**$826.88**	**$868.22**	**$911.63**	**$957.21**	**$1,005.07**	**$1,055.33**	**$1,108.09**	**$1,163.50**	**$1,221.67**
Volume - Block 1 (First 22.73 m^3 per month)	164	164	164	164	164	164	164	164	164	164	164
Volume - Block 2 (Next 13.64 m^3 per month)	0	0	0	0	0	0	0	0	0	0	0
Volume - Block 3 (Each additional 4.55 m^3 per month)	0	0	0	0	0	0	0	0	0	0	0
Annual Volume Bill	**$320.71**	**$336.74**	**$353.58**	**$371.26**	**$389.82**	**$409.31**	**$429.78**	**$451.27**	**$473.83**	**$497.52**	**$522.40**
Annual Capital Charge	**$346.05**	**$363.35**	**$381.52**	**$400.60**	**$420.63**	**$441.66**	**$463.74**	**$486.93**	**$511.27**	**$536.84**	**$563.68**
Total Annual Bill	**$1,416.76**	**$1,487.59**	**$1,561.97**	**$1,640.07**	**$1,722.08**	**$1,808.18**	**$1,898.59**	**$1,993.52**	**$2,093.19**	**$2,197.85**	**$2,307.75**
% Increase		5%	5%	5%	5%	5%	5%	5%	5%	5%	5%

Table 7-4
Township of Hamilton
Average Annual Residential Water Bill
(Based on an Annual Usage of 36,075 gallons for a residential meter)

Description	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Monthly Base Charge - Residential	$62.50	$65.63	$68.91	$72.35	$75.97	$79.77	$83.76	$87.94	$92.34	$96.96	$101.81
Block 1 per 1,000 gallons (First 5,000 gallons per month)	$8.89	$9.33	$9.80	$10.29	$10.81	$11.35	$11.91	$12.51	$13.13	$13.79	$14.48
Block 2 per 1,000 gallons (Next 3,000 gallons per month)	$13.35	$14.02	$14.72	$15.45	$16.23	$17.04	$17.89	$18.78	$19.72	$20.71	$21.75
Block 3 per 1,000 gallons (Each additional 1,000 gallons per month)	$20.01	$21.01	$22.06	$23.16	$24.32	$25.54	$26.82	$28.16	$29.56	$31.04	$32.59
Annual Base Charge Bill	**$750.00**	**$787.50**	**$826.88**	**$868.22**	**$911.63**	**$957.21**	**$1,005.07**	**$1,055.33**	**$1,108.09**	**$1,163.50**	**$1,221.67**
Volume - Block 1 per 1,000 gallons (First 5,000 gallons per month)	36,075	36,075	36,075	36,075	36,075	36,075	36,075	36,075	36,075	36,075	36,075
Volume - Block 2 per 1,000 gallons (Next 3,000 gallons per month)	0	0	0	0	0	0	0	0	0	0	0
Volume - Block 3 per 1,000 gallons (Each additional 1,000 gallons per month)	0	0	0	0	0	0	0	0	0	0	0
Annual Volume Bill	**$320.71**	**$336.74**	**$353.58**	**$371.26**	**$389.82**	**$409.31**	**$429.78**	**$451.27**	**$473.83**	**$497.52**	**$522.40**
Annual Capital Charge	$346.05	$363.35	$381.52	$400.60	$420.63	$441.66	$463.74	$486.93	$511.27	$536.84	$563.68
Total Annual Bill	**$1,416.76**	**$1,487.59**	**$1,561.97**	**$1,640.07**	**$1,722.08**	**$1,808.18**	**$1,898.59**	**$1,993.52**	**$2,093.19**	**$2,197.85**	**$2,307.75**
% Increase		5%	5%	5%	5%	5%	5%	5%	5%	5%	5%

Chapter 8
Recommendations

8. Recommendations

As presented within this report, capital and operating expenditures have been identified and forecasted over the 2026 to 2035 period for water services.

Based upon the foregoing, the following recommendations are identified for consideration by 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 the associated Capital Financing Plan as set out in Tables 4-3.
3. That Council consider the Operating Budget for water as provided in Table 5-1.
4. That Council consider the base charges provided in Table 6-1.
5. That Council consider the annual capital charges provided in Table 6-2
6. That Council consider the volume rates provided in Tables 7-1 and 7-2.

Appendices

Appendix A
Detailed Water Rate Calculations

Appendix A: Detailed Water Rate Calculations

Table A-1
Township of Hamilton
Water Service
Capital Budget Forecast
Inflated $

Description	Total	Forecast									
		2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Capital Expenditures											
Creighton Heights Wells 1 and 6 Maintenance and Rehabilitation	188,000	-	-	87,000	-	-	-	-	101,000	-	-
Creighton Heights Wells 7 Maintenance and Rehabilitation	97,000	-	-	-	45,000	-	-	-	-	52,000	-
Creighton Heights Valve and Equipment Replacements	388,000	-	-	-	388,000	-	-	-	-	-	-
Creighton Heights – Distribution System Extension and Looping	1,140,000	-	-	-	-	-	-	369,000	380,000	391,000	-
Creighton Heights Roof and Site Repairs	37,000	-	37,000	-	-	-	-	-	-	-	-
Creighton Heights – Generator and transfer switch replacement	191,000	-	191,000	-	-	-	-	-	-	-	-
Creighton Heights Highlift Pump removal inspection and repair (Highlift pumps to be inspected/rehabilitated, 1 pump per year)	99,000	-	32,000	33,000	34,000	-	-	-	-	-	-
Camborne Well Rehabilitations	52,000	52,000	-	-	-	-	-	-	-	-	-
Camborne - Priority Electrical & Controls Upgrades - PLC	106,000	-	106,000	-	-	-	-	-	-	-	-
Camborne – Replace Filter Media	42,000	-	42,000	-	-	-	-	-	-	-	-
Water Vehicle	10,000	10,000	-	-	-	-	-	-	-	-	-
Water Rate Study	119,000	-	-	-	-	52,000	-	-	-	-	67,000
Well Upgrade - 2 year project	253,000	-	-	-	-	-	-	-	253,000	-	-
Water Development Charge Study	50,000	-	-	-	-	23,000	-	-	-	-	27,000
Creighton Heights - Well Option Study (Ammonia Removal)	318,000	103,000	106,000	109,000	-	-	-	-	-	-	-
Water Meter Upgrades	270,000	21,000	21,000	22,000	23,000	23,000	30,000	31,000	32,000	33,000	34,000
Ammonia Removal System		-	-	-	-	-	-	-	-	-	-
Creighton Heights – Engineering Design of Ammonia Removal System	380,000	-	-	-	-	-	380,000	-	-	-	-
Creighton Heights – Construction of Ammonia Removal System	2,089,000	-	-	-	-	-	-	1,029,000	1,060,000	-	-
LUSI (Buttersfield)		-	-	-	-	-	-	-	-	-	-
Olivers Lane Watermain Replacement-Ontario St to east end	553,000	-	-	-	-	-	-	553,000	-	-	-
Haymur St rehabilitaion or replacement-June Ave to Olivers Lane	418,000	-	-	-	-	-	-	-	-	418,000	-
Water Master Plan Projects	5,056,000	-	165,000	852,000	4,039,000	-	-	-	-	-	-
Water Masterplan update	90,000	-	-	-	-	90,000	-	-	-	-	-
Total Capital Expenditures	**11,946,000**	**186,000**	**700,000**	**1,103,000**	**4,529,000**	**188,000**	**410,000**	**1,982,000**	**1,826,000**	**894,000**	**128,000**
Capital Financing											
Provincial/Federal Grants	3,039,000	-	-	-	-	-	380,000	1,213,500	1,250,000	195,500	-
Non-Growth Related Debenture Requirements	468,998	-	256,741	6,185	206,071	-	-	-	-	-	-
Non-Growth Related Debenture Requirements LUSI	799,637	-	-	-	-	-	-	384,157	-	415,480	-
Growth Related Debenture Requirements	5,492,900	-	165,000	852,000	4,039,000	118,200	-	92,250	95,000	97,750	33,700
LUSI (Buttersfield) Capital Fund Reserve	171,363	-	-	-	-	-	-	168,843	-	2,520	-
Equity - Environmental - Water Rate Study Reserve Fund	107,100	-	-	-	-	46,800	-	-	-	-	60,300
Waterworks System - Water Capital Reserve	1,867,002	186,000	278,259	244,815	283,929	23,000	30,000	123,250	481,000	182,750	34,000
Total Capital Financing	**11,946,000**	**186,000**	**700,000**	**1,103,000**	**4,529,000**	**188,000**	**410,000**	**1,982,000**	**1,826,000**	**894,000**	**128,000**

Table A-2
Township of Hamilton
Water Service
Schedule of Non-Growth Related Debenture Repayments
Inflated $

Debenture Year	Forecast									
	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
2026		-	-	-	-	-	-	-	-	-
2027			18,891	18,891	18,891	18,891	18,891	18,891	18,891	18,891
2028				455	455	455	455	455	455	455
2029					15,163	15,163	15,163	15,163	15,163	15,163
2030						-	-	-	-	-
2031							-	-	-	-
2032								-	-	-
2033									-	-
2034										-
2035										
Total Annual Debt Charges	-	-	18,891	19,347	34,510	34,510	34,510	34,510	34,510	34,510

Table A-3
Township of Hamilton
Water Service
Schedule of Non-Growth Related Debenture Repayments - LUSI
Inflated $

Debenture Year	Forecast									
	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
2026		-	-	-	-	-	-	-	-	-
2027			-	-	-	-	-	-	-	-
2028				-	-	-	-	-	-	-
2029					-	-	-	-	-	-
2030						-	-	-	-	-
2031							-	-	-	-
2032								28,267	28,267	28,267
2033									-	-
2034										30,572
2035										
Total Annual Debt Charges	-	-	-	-	-	-	-	28,267	28,267	58,839

Table A-4
Township of Hamilton
Water Service
Schedule Growth Related Debenture Repayments
Inflated $

Debenture Year	Forecast									
	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
2026		-	-	-	-	-	-	-	-	-
2027			12,141	12,141	12,141	12,141	12,141	12,141	12,141	12,141
2028				62,692	62,692	62,692	62,692	62,692	62,692	62,692
2029					297,197	297,197	297,197	297,197	297,197	297,197
2030						8,697	8,697	8,697	8,697	8,697
2031							-	-	-	-
2032								6,788	6,788	6,788
2033									6,990	6,990
2034										7,193
2035										
Total Annual Debt Charges	-	-	12,141	74,833	372,029	380,727	380,727	387,515	394,505	401,697

Table A-5
Township of Hamilton
Water Service
Water Reserve Continuity
Inflated $

Description	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Opening Balance	(118,418)	(110,918)	(103,418)	(95,918)	(88,418)	(80,918)	-	-	-	-
Transfer from Operating	7,500	7,500	7,500	7,500	7,500	80,918	-	-	-	-
Transfer to Capital	-	-	-	-	-	-	-	-	-	-
Transfer to Operating	-	-	-	-	-	-	-	-	-	-
Closing Balance	**(110,918)**	**(103,418)**	**(95,918)**	**(88,418)**	**(80,918)**	**-**	**-**	**-**	**-**	**-**
Interest										

Table A-6
Township of Hamilton
Water Service
Water Development Charges Reserve Fund Continuity
Inflated $

Description	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Opening Balance	-	84,391	173,000	253,608	274,567	(4,433)	(295,034)	(588,510)	(891,755)	(1,205,084)
Development Charge Proceeds	82,736	85,217	87,776	90,407	93,117	95,911	98,790	101,755	104,805	107,948
Transfer to Capital										
Transfer to Operating	-	-	12,141	74,833	372,029	380,727	380,727	387,515	394,505	401,697
Closing Balance	**82,736**	**169,608**	**248,636**	**269,183**	**(4,346)**	**(289,249)**	**(576,970)**	**(874,270)**	**(1,181,455)**	**(1,498,834)**
Interest	1,655	3,392	4,973	5,384	(87)	(5,785)	(11,539)	(17,485)	(23,629)	(29,977)
Required from Development Charges	-	165,000	852,000	4,039,000	118,200	-	92,250	95,000	97,750	33,700

Table A-7
Township of Hamilton
Water Service
Equity – Environmental – Water Rate Study Reserve Fund
Inflated $

Description	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Opening Balance	9,817	10,013	10,214	10,418	10,626	3,903	16,221	28,785	41,601	54,673
Transfer from Operating	-	-	-	-	40,000	12,000	12,000	12,000	12,000	12,000
Transfer to Capital	-	-	-	-	46,800	-	-	-	-	60,300
Transfer to Operating	-	-	-	-	-	-	-	-	-	-
Closing Balance	**9,817**	**10,013**	**10,214**	**10,418**	**3,826**	**15,903**	**28,221**	**40,785**	**53,601**	**6,373**
Interest	196	200	204	208	77	318	564	816	1,072	127

Table A-8
Township of Hamilton
Water Service
LUSI (Buttersfield) Capital Fund Reserve
Inflated $

Description	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Opening Balance	47,992	56,803	68,301	82,615	99,955	120,561	144,600	-	-	-
Transfer from Operating	7,697	10,158	12,694	15,381	18,242	21,203	24,244	-	2,520	-
Transfer to Capital	-	-	-	-	-	-	168,843	-	2,520	-
Transfer to Operating	-	-	-	-	-	-	-	-	-	-
Closing Balance	**55,689**	**66,962**	**80,995**	**97,996**	**118,197**	**141,764**	**-**	**-**	**-**	**-**
Interest	1,114	1,339	1,620	1,960	2,364	2,835	-	-	-	-

Table A-9
Township of Hamilton
Water Service
Waterworks System – Water Capital Reserve
Inflated $

Description	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Opening Balance	5,432	51,428	-	-	-	253,227	505,917	800,634	788,359	1,137,523
Transfer from Operating	230,988	226,830	244,815	283,929	271,262	272,771	402,268	453,267	509,609	544,461
Transfer to Capital	186,000	278,259	244,815	283,929	23,000	30,000	123,250	481,000	182,750	34,000
Transfer to Operating	-	-	-	-	-	-	-	-	-	-
Closing Balance	**50,420**	**-**	**-**	**-**	**248,262**	**495,997**	**784,935**	**772,901**	**1,115,219**	**1,647,984**
Interest	1,008	-	-	-	4,965	9,920	15,699	15,458	22,304	32,960

Table A-10
Township of Hamilton

Water Service
Hydrant Reserve
Inflated $

Description	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Opening Balance	154,817	172,193	189,815	207,688	225,815	244,204	262,858	281,783	300,984	320,468
Transfer from Operating	14,000	13,900	13,800	13,700	13,600	13,500	13,400	13,300	13,200	13,100
Transfer to Capital	-	-	-	-	-	-	-	-	-	-
Transfer to Operating	-	-	-	-	-	-	-	-	-	-
Closing Balance	**168,817**	**186,093**	**203,615**	**221,388**	**239,415**	**257,704**	**276,258**	**295,083**	**314,184**	**333,568**
Interest	3,376	3,722	4,072	4,428	4,788	5,154	5,525	5,902	6,284	6,671

Table A-11
Township of Hamilton
Water Service
Operating Budget Forecast
Inflated $

Description	Forecast									
	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Expenditures										
Operating Costs										
Water Admin										
Total Water Salaries and Benefit Exp	422,600	439,500	457,100	475,400	494,400	514,200	534,800	556,200	578,400	601,500
TRAINING	4,600	4,700	4,800	4,900	5,000	5,100	5,200	5,300	5,400	5,500
MEMBERSHIPS	800	800	800	800	800	800	800	800	800	800
FUEL	9,200	9,400	9,600	9,800	10,000	10,200	10,400	10,600	10,800	11,000
STAFF APPRECIATION	500	500	500	500	500	500	500	500	500	500
OFFICE SUPPLIES	500	500	500	500	500	500	500	500	500	500
LAB SUPPLIES	6,900	7,000	7,100	7,200	7,300	7,400	7,500	7,700	7,900	8,100
INSURANCE	42,800	43,700	44,600	45,500	46,400	47,300	48,200	49,200	50,200	51,200
AUDIT - DWQMS	4,600	4,700	4,800	4,900	5,000	5,100	5,200	5,300	5,400	5,500
TELEPHONE	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
DISPATCHING SERVICES	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100
COURIER/POSTAGE	2,200	2,200	2,200	2,200	2,200	2,200	2,200	2,200	2,200	2,200
SAMPLING	500	500	500	500	500	500	500	500	500	500
CONTRACTED OUT	26,500	27,000	27,500	28,100	28,700	29,300	29,900	30,500	31,100	31,700
MINOR CAPITAL	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500
VEHICLE REPAIRS	4,100	4,200	4,300	4,400	4,500	4,600	4,700	4,800	4,900	5,000
WRITE OFFS	500	500	500	500	500	500	500	500	500	500
GIS MAPPING	2,600	2,700	2,800	2,900	3,000	3,100	3,200	3,300	3,400	3,500
CONSULTANT GENERAL	6,100	6,200	6,300	6,400	6,500	6,600	6,700	6,800	6,900	7,000
WATERWORKS WATER METERS	3,600	3,700	3,800	3,900	4,000	4,100	4,200	4,300	4,400	4,500
COMPUTER HARDWARE, SOFTWARE AND INTERNET SUPPORT	10,200	10,400	10,600	10,800	11,000	11,200	11,400	11,600	11,800	12,000
Camborne	-	-	-	-	-	-	-	-	-	-
CHEMICAL SUPPLY	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100
HYDRO	7,500	7,700	7,900	8,100	8,300	8,500	8,700	8,900	9,100	9,300
HEATING FUEL	2,100	2,100	2,100	2,100	2,100	2,100	2,100	2,100	2,100	2,100
TELEPHONE	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500
SAMPLING	2,900	3,000	3,100	3,200	3,300	3,400	3,500	3,600	3,700	3,800
LINE MAINT	20,400	20,800	21,200	21,600	22,000	22,400	22,800	23,300	23,800	24,300
HOLDING TANK	500	500	500	500	500	500	500	500	500	500
Creighton Heights	-	-	-	-	-	-	-	-	-	-
CHEMICALS	16,300	16,600	16,900	17,200	17,500	17,900	18,300	18,700	19,100	19,500
HYDRO	64,100	65,400	66,700	68,000	69,400	70,800	72,200	73,600	75,100	76,600
TELEPHONE	800	800	800	800	800	800	800	800	800	800
SAMPLING	6,100	6,200	6,300	6,400	6,500	6,600	6,700	6,800	6,900	7,000
LINE MAINTENANCE	37,700	38,500	39,300	40,100	40,900	41,700	42,500	43,400	44,300	45,200
SCADA NETWORK	800	800	800	800	800	800	800	800	800	800
HOLDING TANK	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200
Hydrants										
HYDRANT INSPECTIONS	4,500	4,600	4,700	4,800	4,900	5,000	5,100	5,200	5,300	5,400
New PT Position - Water Operator	-	40,000	41,600	43,300	45,000	46,800	48,700	50,600	52,600	54,700
New Buttersfield Charge ($1,000/mo)	12,000	12,000	12,000	12,000	12,000	12,000	12,000	12,000	12,000	12,000
Sub Total Operating	**731,900**	**794,600**	**819,600**	**845,500**	**872,200**	**899,900**	**928,500**	**958,300**	**989,100**	**1,020,900**

Table A-11 (con't)
Township of Hamilton
Water Service
Operating Budget Forecast
Inflated $

Description	Forecast									
	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Capital-Related										
Existing Debt (Principal) - Growth Related										
Existing Debt (Interest) - Growth Related										
New Growth Related Debt (Principal)	-	-	5,541	34,374	171,386	182,211	189,499	200,177	211,374	223,112
New Growth Related Debt (Interest)	-	-	6,600	40,458	200,643	198,516	191,228	187,338	183,130	178,585
Existing Debt (Principal) - Non-Growth Related										
Debenture bylaw 2023-26	3,880	3,880	3,880	3,880	3,880	3,880	3,880	3,880	3,880	3,880
Debenture bylaw 2023-27	6,352	6,352	6,352	6,352	6,352	6,352	6,352	6,352	6,352	6,352
Debenture bylaw 2023-28 (LUSI)	10,800	10,800	10,800	10,800	10,800	10,800	10,800	10,800	10,800	10,800
Existing Debt (Interest) - Non-Growth Related										
Debenture bylaw 2023-26	4,536	4,369	4,214	4,035	3,867	3,700	3,543	3,366	3,198	3,031
Debenture bylaw 2023-27	4,547	4,281	4,027	3,750	3,485	3,219	2,962	2,688	2,423	2,157
Debenture bylaw 2023-28 (LUSI)	10,203	9,742	9,306	8,819	8,358	7,897	7,456	6,975	6,513	6,052
Payback of Interest for the Water Reserve Deficit	2,218	2,068	1,918	1,768	1,618	-	-	-	-	-
New Non-Growth Related Debt (Principal)	-	-	8,622	9,174	16,462	17,120	17,805	18,517	19,258	20,028
New Non-Growth Related Debt (Interest)	-	-	10,270	10,172	18,048	17,390	16,705	15,993	15,252	14,482
New Non-Growth Related Debt (Principal) - LUSI	-	-	-	-	-	-	-	12,901	13,417	27,906
New Non-Growth Related Debt (Interest) - LUSI	-	-	-	-	-	-	-	15,366	14,850	30,933
Transfer to Capital	-	-	-	-	-	-	-	-	-	-
Transfer to Water Reserve	7,500	7,500	7,500	7,500	7,500	80,918				
Transfer to Wate Rate Study Reserve	-	-	-	-	40,000	12,000	12,000	12,000	12,000	12,000
Transfer to Buttersfield Capital Reserve	7,697	10,158	12,694	15,381	18,242	21,203	24,244	-	2,520	-
Transfer to Hydrant Reserve	14,000	13,900	13,800	13,700	13,600	13,500	13,400	13,300	13,200	13,100
Transfer to Capital Reserve	230,988	226,830	244,815	283,929	271,262	272,771	402,268	453,267	509,609	544,461
Sub Total Capital Related	**302,722**	**299,881**	**350,338**	**454,094**	**795,503**	**851,477**	**902,141**	**962,919**	**1,027,777**	**1,096,880**
Total Expenditures	**1,034,622**	**1,094,481**	**1,169,938**	**1,299,594**	**1,667,703**	**1,751,377**	**1,830,641**	**1,921,219**	**2,016,877**	**2,117,780**
Revenues										
Base Charge	471,273	499,798	529,998	561,967	595,809	631,630	669,543	709,669	752,133	797,070
Capital Charge	268,881	284,614	301,248	318,834	337,426	357,080	377,855	399,816	423,028	447,561
Other Revenue		-	-	-	-	-	-	-	-	-
Contributions from Development Charges Reserve Fund	-	-	12,141	74,833	372,029	380,727	380,727	387,515	394,505	401,697
Contributions from Reserves / Reserve Funds	-	-	-	-	-	-	-	-	-	-
Water Admin										
PENALTIES & INTEREST	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000
MISC. REVENUE	-	-	-	-	-	-	-	-	-	-
METER SALES	3,600	3,700	3,800	3,900	4,000	4,100	4,200	4,300	4,400	4,500
OTHER RECOVERIES	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000
BUTTERSFIELD COST RECOVERIES	40,700	42,700	44,800	47,000	49,400	51,900	54,500	57,200	60,100	63,100
Hydrants										
AREA CHARGE HYDRANTS	18,500	18,500	18,500	18,500	18,500	18,500	18,500	18,500	18,500	18,500
Total Operating Revenue	**806,954**	**853,312**	**914,487**	**1,029,034**	**1,381,164**	**1,447,936**	**1,509,325**	**1,580,999**	**1,656,666**	**1,736,429**
Water Billing Recovery - Total	**227,668**	**241,169**	**255,452**	**270,559**	**286,539**	**303,441**	**321,316**	**340,220**	**360,211**	**381,351**

Table A-12
Township of Hamilton
Bulk Water Rate Forecast
Inflated $

Description	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Bulk Water Rate Forecast ($/m3)	3.45	3.62	3.80	3.99	4.19	4.40	4.62	4.85	5.10	5.35
Annual Percentage Change	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%

Description	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Bulk Water Rate Forecast (per 1,000 gallons)	15.69	16.47	17.29	18.16	19.07	20.02	21.03	22.08	23.18	24.34
Annual Percentage Change	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%

Table A-13
Township of Hamilton
Water Rate Forecast
Inflated $

Description	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Total Water Billing Recovery	227,668	241,169	255,452	270,559	286,539	303,441	321,316	340,220	360,211	381,351
Increasing Block Structure										
Volume Forecast By Block (m3)										
Block 1 (First 22.73 m3 per month)	84,915	85,899	86,883	87,867	88,851	89,835	90,819	91,803	92,787	93,771
Block 2 (Next 13.64 m3 per month)	2,729	2,729	2,729	2,729	2,729	2,729	2,729	2,729	2,729	2,729
Block 3 (Each additional 4.55 m3 per month)	9,781	9,781	9,781	9,781	9,781	9,781	9,781	9,781	9,781	9,781
Check Total Volume	**97,424**	**98,408**	**99,392**	**100,376**	**101,360**	**102,344**	**103,328**	**104,312**	**105,296**	**106,280**
Increasing Block Rates ($/m ^{3})										
Block 1 (First 22.73 m3 per month)	**2.053**	**2.156**	**2.264**	**2.377**	**2.496**	**2.621**	**2.752**	**2.889**	**3.034**	**3.185**
Block 2 (Next 13.64 m3 per month)	**3.083**	**3.238**	**3.399**	**3.569**	**3.748**	**3.935**	**4.132**	**4.339**	**4.556**	**4.783**
Block 3 (Each additional 4.55 m3 per month)	**4.622**	**4.853**	**5.095**	**5.350**	**5.618**	**5.899**	**6.193**	**6.503**	**6.828**	**7.170**

Description	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Increasing Block Structure										
Volume Forecast By Block (gallons)										
Block 1 per 1,000 gallons(First 5,000 gallons per month)	18,678,594	18,895,044	19,111,493	19,327,943	19,544,392	19,760,842	19,977,291	20,193,741	20,410,190	20,626,640
Block 2 per 1,000 gallons(Next 3,000 gallons per month)	600,300	600,300	600,300	600,300	600,300	600,300	600,300	600,300	600,300	600,300
Block 3 per 1,000 gallons(Each additional 1,000 gallons per month)	2,151,470	2,151,470	2,151,470	2,151,470	2,151,470	2,151,470	2,151,470	2,151,470	2,151,470	2,151,470
Check Total Volume	**21,430,364**	**21,646,814**	**21,863,263**	**22,079,713**	**22,296,162**	**22,512,612**	**22,729,061**	**22,945,511**	**23,161,960**	**23,378,410**
Increasing Block Rates ($/1,000 gallons)										
Block 1 per 1,000 gallons(First 5,000 gallons per month)	**9.335**	**9.801**	**10.291**	**10.806**	**11.346**	**11.913**	**12.509**	**13.135**	**13.791**	**14.481**
Block 2 per 1,000 gallons(Next 3,000 gallons per month)	**14.018**	**14.718**	**15.454**	**16.227**	**17.038**	**17.890**	**18.785**	**19.724**	**20.710**	**21.746**
Block 3 per 1,000 gallons(Each additional 1,000 gallons per month)	**21.011**	**22.061**	**23.164**	**24.322**	**25.538**	**26.815**	**28.156**	**29.564**	**31.042**	**32.594**