



The Municipality of **Lambton Shores**

2022 WATER AND WASTEWATER RATE STUDY & O.REG 453/07 FINANCIAL PLAN



DFA Infrastructure International Inc.

November 30, 2022



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November 30, 2022

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Director of Financial Services
Municipality of Lambton Shores
9575 Port Franks Road, RR#1
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**Re: Lambton Shores
2022 Water and Wastewater Rate Study & O. Reg 453/07 Financial Plan**

Dear Janet:

We are pleased to submit to you the above noted report entitled: "2022 Water and Wastewater Rate Study & O. Reg 453/07 Financial Plan". Please feel free to contact me if you have any questions. We appreciate the opportunity to be of assistance to the Municipality of Lambton Shores with this undertaking.

Yours truly,

DFA Infrastructure International Inc.
Derek Ali, MBA, P.Eng.
President

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Transmittal Letter

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1 Introduction

1.1 Background

The Municipality of Lambton Shores (Municipality) stores and distributes drinking water to approximately 7,000 customers and is responsible for ensuring that management of the water distribution system is financially sustainable over the long-term. Water supply to the Municipality (treatment and transmission) is provided by both the Lambton Area Water Supply System (LAWSS) and the Lake Huron Water Supply System (LHWSS). The Municipality provides wastewater collection services to approximately 3,000 customers and is responsible for ensuring that these services are financially sustainable over the long-term.

The last Water and Wastewater Rate review was conducted by the Municipality was in 2018 and as such municipal staff and Council recognized the need to update current rates and charges. Accordingly, DFA Infrastructure International Inc. (DFA) was retained by the Municipality to conduct a comprehensive Water and Wastewater Rate Review. The study includes determination of the full cost of service for water and wastewater over ten (10) years from 2023 to 2032 inclusive, using 2022 as the base year, and the calculation of rates and charges that adequately fund the cost of service, while treating ratepayers in a fair and equitable manner.

The Municipality is also required to prepare and submit an updated Water System Financial Plan to meet the requirements of the Drinking Water Quality Management System as defined under O.Reg. 453/07 for renewal of its water distribution system licence.

1.2 Purpose

The primary purpose of this Water and Wastewater Rate Study is to:

- Identify the full costs of managing the Municipality's water and wastewater systems based on the most recent available information;
- Update the Municipality's current rates and charges to its customers, using the existing structure of a base charge and uniform consumption rate per cubic metre that will recover the full costs of supplying and distributing drinking water, and collection and treatment of wastewater.
- Prepare an updated Water System Financial Plan in accordance with the requirements of O.Reg. 453/07 for the renewal of the licence for the Municipality's water distribution system; and
- Prepare a Sanitary Sewer System Financial Plan similar to that required for water under O.Reg 453/07.

2 Regulatory Requirements

2.1 Provincial Regulations

Provincial requirements governing water and wastewater services primarily include the following:

- The Environmental Assessment Act (EAA);
- The Safe Drinking Water Act (SDWA);
- The Municipal Act (MA);
- The Development Charges Act (DCA); and

- The Water Opportunities and Conservation Act, 2010 (WOA).

The first two (2) set out the technical requirements related to service delivery. The EA Act applies to expansion of existing facilities and establishment of new capacity such as the installation of new pipes to service growth in customers.

The Safe Drinking Water Act, 2002 (SDWA) has significant implications to the daily operations as it sets out the water sampling and other operational requirements (in O. Reg. 170/03) for ensuring that the water delivered to consumers is of high quality and safe for consumption. The SDWA has been a major influence over the past decade in terms of adjustments to operational practices and water quality assurance. In addition, there is also a requirement under this Act (O.Reg. 188/07) for drinking water providers to establish a Drinking Water Quality Management System (DWQMS) and obtain licences for their respective water systems. As part of the DWQMS, and as required under O. Reg. 453/07 (Financial Plans Regulation), operating authorities must submit a financial plan for their respective water systems as a condition of licensing. There are also many regulations and guidelines that deal with design and operation standards that mandate certain activities be undertaken as part of service delivery.

The Municipal Act, Part VII, Section 293 requires municipalities to establish reserves for dealing with long-term liabilities. This applies directly to the water systems and the future liabilities associated with their age and condition. The Municipal Act also permits the municipalities to establish fees for cost recovery and requires public input prior to any fee adjustments. The Development Charges Act and regulations establishes the requirements for the recovery of portions of future growth-related capital expenditures to be incurred by municipalities. The Sustainable Water and Sewage Systems Act, 2002 requires that water systems be financially sustainable. The Water Opportunities and Conservation Act, 2010 is the most recent legislation to be enacted influencing water system management. It requires sustainability plans to be prepared for water systems and overlaps somewhat with the SWSA.

The Water Opportunities and Conservation Act, 2010

The WOA was enacted in November 2010 and the regulations are pending. This legislation promotes water conservation and requires municipalities to develop:

- Water conservation plans;
- Sustainability plans for water, wastewater & stormwater management; and
- Asset management plans.

Financial plans are required as a component of the water sustainability and asset management plans.

The DWQMS Requirements

Regulation 188/07 under the Safe Drinking Water Act requires Ontario municipalities to apply for and obtain Drinking Water System Licences as part of their overall DWQMS. One of the requirements to obtain a drinking water licence is to prepare and submit a financial plan in accordance with O.Reg. 453/07.

2.2 Municipality of Lambton Shores By-Law 98-2021

The Municipality's By-law No. 98-2021 establishes the water and wastewater rates and charges that apply to the various customer classes in 2022. By-Law 98-2021 that details the 2022 water and wastewater rates for the Municipality is attached as Appendix A.

3 Methodology

The Rate Study gives consideration to the full costs (or the required investment) associated with managing the Municipality's water and wastewater systems over a ten (10) year period from 2023 to 2032 inclusive, and the recovery of those costs (or revenue plan) through proposed rates and charges to customers. The life cycle costs of assets from the Municipality's Capital Replacement Forecast and the 2019 Asset Management Plan capital funding recommendations were also considered in determining the full replacement and/or rehabilitation needs given that some water and wastewater system assets (e.g. water mains and sewer mains) can have life expectancies in the 50 to 100 year range. Growth related capital needs from the 2022 Development Charges Background Study were also considered.

3.1 Full Cost Considerations

Calculation of the Municipality's full cost of managing the water and wastewater systems is based on the approved 2022 operating budgets and draft 2023 capital forecasts related to the primary activities required to deliver water and wastewater services to customers. Higher costs are generally expected in the future as the water and wastewater business environment changes. The impact can be mitigated however by fully understanding, assessing, and planning for future water and wastewater system costs.

Determination of the full cost of managing the Municipality's water and wastewater systems takes into account the factors that have a bearing on the cost of providing reliable water and wastewater services to the customers over the long-term. These included both current and future considerations that would influence the cost of managing the systems (and the revenues required to sustain them). Table 3-1 notes the main drivers of cost. The assumptions made are noted in the respective sections of this report.

Table 3-1: Cost Components and Drivers

Cost Component	Cost Drivers	Future Cost Implications
Water and Wastewater systems operations and maintenance (O&M)	<p>This is the annual cost of operating and maintaining the current system including direct (e.g. operations staff) and indirect costs (e.g overhead, charge backs etc).</p> <p>Changes in regulations can result in additional (O&M) activities and added costs. This was evident when the regulations under the Safe Drinking Water Act took effect. Municipalities were required to undertake specific activities in the interest of water quality management (e.g sampling, analysis and reporting of water quality). More recently, the DWQMS meant additional costs for water system operational plans and licensing albeit not annually. It is expected that pending</p>	<p>This is a direct annual cost that is reasonably consistent (fixed) from year to year but requires adjustment to account for non-recurring items, operational changes, variable cost (e.g. chemical use) changes and inflation. Non-rate revenues from administrative fees and grants offset these costs.</p> <p>The long term impact of new regulations on costs are difficult to predict. However, the costs are</p>

Cost Component	Cost Drivers	Future Cost Implications
	regulations under the Water Opportunities Act and greater enforcement of compliance requirements by the Ministry of the Environment and Climate Change (MECP) would require more actions to be undertaken (and increased costs) by municipalities.	<p>expected to rise as more stringent requirements are established and compliance enforcement by the MECP increases.</p> <p>The majority of operating costs are assumed to increase by 3% annually..</p>
Customer Growth	As the existing urban areas are developed, the addition of new customers would increase the total demand for water. A corresponding rise in wastewater volume requiring treatment would also be expected	<p>The increase in demand, if significant, would increase volumes of water consumed and wastewater treated, and variable costs in the year the new customers are added.</p> <p>Customer Growth is based on projections contained within the Municipality's 2022 Development Charges Background Study.</p>
Consumption Volume (m3)	Consumption is a function of the number of customers (existing and new growth), weather conditions and the economic environment. The weather conditions have a significant influence on how much water is consumed in a given year. For example, lower temperatures and wet weather tend to result in less water consumption. Dry weather and higher temperatures increase water consumption. Wet weather would also mean more stormwater entering the wastewater system (known as inflow and infiltration) The loss of large (commercial or industrial) customers perhaps due to economic climate would reduce demand.	The annual consumption volume is unpredictable. Fluctuations can result in higher than anticipated costs or lower revenues and lead to budget deficits. An operating reserve would minimize the risk of deficits and stabilize rates (i.e. minimize rate spikes) It is assumed that consumption will continue to increase as a result of new customer growth.
New growth related services	This refers to installation of new assets to increase the system capacity to facilitate new development and build out of the approved service areas within the Municipality	<p>Would result in capital investments in the year the new infrastructure is needed. Note that financing of these costs can be through debt or cash from reserves after third party contributions are considered (e.g. grants, developer contributions etc.)</p> <p>Growth related capital investments are as provided from the Municipality's 2022 Development Charges Background Study</p>
Asset preservation and renewal	This is mainly the replacement of aging Tangible Capital Assets (TCA) e.g. old water mains, plant components, well components etc. that have exceeded their service life.	Would result in future capital expenditures in the year in which the assets require replacement or rehabilitation to extend their useful lives. Allowances must be made as part of the annual costs to account for the future replacement of these assets

Cost Component	Cost Drivers	Future Cost Implications
		<p>Financing can be through a combination of debt, contributions from the operating budget and reserve funds.</p> <p>Asset renewal needs are as provided from the Municipality's Capital Budget Forecast, and supplemented with additional lifecycle needs as determined by the Municipality's 2022 Tangible Capital Asset Inventory and 2019 Asset Management Plan (AMP) capital funding recommendations.</p>
Other capital expenditures	These are capital expenditures other than those needed for growth and asset renewal. These would include cost of studies and implementation of operational improvements of the water and wastewater systems such as water loss reduction measures and wastewater I & I reduction programs.	<p>Would increase costs in the year the expenditure is required. Financing can be through a combination of debt and reserves.</p> <p>Other capital investments are as provided from the Municipality's Capital Budget Forecast</p>
Capital Financing	Capital financing for projects can be from four (4) main sources: Debt financing, reserves, annual rates and third party contributions (gas tax, grants etc.). Grant funding is available only when approved and is therefore not a predictable source of financing for financial planning purposes. The greater the debt financing, the higher the annual amount (costs) needed to repay the principal and interest on any current or future debt. Financing from reserves can only be used if sufficient funds are available. Therefore annual contributions to reserves are required to build balances for use in future years. Financing from rates do not increase annual costs but tend to drive up rates in the year the capital expenditure is required.	<p>Annual costs would increase to provide for reserve contributions and debt repayment. It should be noted that using debt financing would minimize spikes in funding required for capital projects and allocates cost to future users</p> <p>It is assumed that debt financing will be used when funds from other sources (reserves, grants, etc) are insufficient to finance the current year's capital program.</p>
Inflation	This is the annual rate of inflation as reported by Statistics Canada for the provision for cost of living adjustments each year (consumer and capital)	Annual inflation is assumed to be 3%. Inflation for capital related expenditures is 4%
Market competition and pricing	The level of competition within the market place depends on the number of service providers available. Additionally, the capacity of industry service providers to meet the increasing demand for their services may tend to increase prices. Tender prices for future capital projects would be influenced by the market conditions at the time of tendering.	Potential higher prices depending on the future behaviour of the industry.

3.2 Full Cost Assessment

The full cost assessment identifies the current and future costs (i.e. the full costs) associated with the management of the water and wastewater systems over the next ten (10) years (2023 to 2032). The key cost areas include:

- Operations & Maintenance (O&M) cost projections;
- Cost of water supplied;
- Capital Budget based on the approved capital forecast;
- Tangible Capital Asset (TCA) projections including asset replacement needs;
- Capital Funding Strategy based on the Municipality's 2019 Asset Management Plan's recommendations;
- Debt servicing requirements; and
- Reserve fund requirements.

The non-rate revenues associated with the systems are also identified. These are defined as revenues that are routinely generated each year by the daily operations and include administrative revenues such as service fees, penalties, operating grants and other direct user fees and service charges. It is important to note that the non-rate revenues do not include the revenues generated by the water and wastewater user rates. The full cost developed through the various analyses in this study identify the revenue requirements for the water and wastewater systems and form the basis for the future rates and charges.

3.3 Data Sources

The primary sources of data used in this review are listed in Table 3-2. In addition, information was also developed from discussions with input from municipal staff, as required.

Table 3-2: Data Sources

Item	Data Source
Asset Life Expectancy	<ul style="list-style-type: none"> • Municipality's TCA Policy and Asset Management Plan • Information Provided by the Municipality
Asset Replacement Costs	<ul style="list-style-type: none"> • Municipality's TCA Policy • Historical Costs Provided by the Municipality indexed to 2022 • 2019 Asset Management Plan
Asset Values	<ul style="list-style-type: none"> • Municipality's TCA Policy and Asset Management Plan • Information Provided by the Municipality
O & M Costs and Revenue Projections	<ul style="list-style-type: none"> • Municipality's 2022 Water and Wastewater Operating Budgets
Capital Cost Projections	<ul style="list-style-type: none"> • Municipality's 2022 Water Capital Budget and the draft 2023-2032 Capital Forecasts

Debt	<ul style="list-style-type: none"> Municipality's 2022 Water and Wastewater Operating and Capital Budgets and the draft 2023-2032 Capital Budget Forecasts
Investments, Reserve balances etc.	<ul style="list-style-type: none"> Information provided by the Municipality
Existing Customers	<ul style="list-style-type: none"> Municipality's Customer count Provided by the Municipality
Growth	<ul style="list-style-type: none"> Information Provided by the Municipality including information contained in the Municipality's 2022 DC Background Study
Water and Wastewater Volumes	<ul style="list-style-type: none"> Municipality's actual historical Consumption Volumes provided by the Municipality

4 Customer Growth

The cost of service depends on the number and type of customers and corresponding demand. Although most costs are fixed, variable costs such as annual chemical use and hydro costs can increase depending on the level of customer growth and water consumption and wastewater treated. Capital costs related to increasing system capacity to accommodate customer growth can also be influenced by growth and demand. In addition, the current rate structure is comprised of a fixed (base charge) per customer plus a consumption charge based on the metered volume of water consumed (billed wastewater flows). Therefore, forecasting customer growth and annual water consumption volumes is essential to projecting future costs, revenue requirements and rates.

4.1 Current Customers

There are currently 7,033 metered water customers and 2,994 metered wastewater customers based on information provided by the Municipality. This number is expected to increase over the 2023 – 2032 forecast period. Table 4-1 shows the current number of residential and commercial customers by meter size.

Table 4-1: 2022 Customer Count

2022 Water and Wastewater Customers		
Meter Size	Number of Water Customers	Number of Wastewater Customers
0.75"	6,817	2,907
1"	110	46
1.5"	45	17
2"	46	19
2.5"	1	-
3"	6	3
4"	7	2
6"	1	-
Total	7,033	2,994

4.2 Customer Growth Projections

Table 4-2 shows the increase in total customers over the 2023-2032 forecast period. Customer growth projections reflect the residential and commercial customer growth contained in the Municipality's 2022 Development Charges Background Study.

Customer growth over the 2022-2032 forecast period is projected to be 1,030 new residential units. Commercial customer growth is also derived from the 2022 Development Charges Study. Projected employment growth from the 2022 Development Charges Background Study is converted to reflect 70 new commercial customers over the 2022-2032 forecast period. Detailed customer growth projections by year/meter size are presented in Appendix B.

Table 4-2: Customer Growth Projection

Service	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Water	7,143	7,253	7,363	7,473	7,583	7,693	7,803	7,913	8,023	8,133
Wastewater	3,104	3,214	3,324	3,434	3,544	3,654	3,764	3,874	3,984	4,094

5 Volume Projections

5.1 2022 Water Consumption and Billed Wastewater Volume

Table 5-1 details the projected 2022 metered water consumption and billed wastewater flows as derived from billing records provided by the Municipality. The 7,033 metered customers are projected to consume approximately 1,193,924 m³ of water in 2022. It is estimated that water consumption will increase to 1,276,424 m³ by 2032. The 2,994 metered wastewater customers are projected to generate approximately 426,132 m³ of billed wastewater in 2022. Billed wastewater flows are projected to increase to 608,632 m³ by 2032. It should be noted that the volume for wastewater billing are the metered water volumes for those wastewater customers that also have water services. This method of applying the wastewater rates to the metered water consumption volumes for billing purposes is standard industry practice because wastewater flows are typically not metered by municipalities.

Table 5-1: 2022-2032 Water and Wastewater Projected Volumes (m³)

Service	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Water	1,193,924	1,212,174	1,230,424	1,248,674	1,266,924	1,285,174	1,303,424	1,321,674	1,339,924	1,358,174	1,376,424
Wastewater	426,132	444,382	462,632	480,882	499,132	517,382	535,632	553,882	572,132	590,382	608,632

6 Capital Budget Requirements

The detailed water and wastewater 2022 capital budget requirements and 2023-2032 capital needs forecast are presented in Appendices C and D respectively. These appendices reflect the projects identified by the Municipality in its 2022 Capital Budget and draft 2023-2032 Capital Forecast, supplemented with forecasted capital needs as identified in the Municipality's 2022 Development Charges Background Study and the 2019 Asset Management Plan (AMP) capital funding recommendations.

There is approximately \$12.9 million in projected water related capital expenditures and approximately \$21.0 million in projected wastewater related capital expenditures required between 2023 to 2032. Contained within these capital forecasts are growth-related needs that are to service anticipated residential and non-residential growth in the Municipality.

Appendices C and D also show the projected sources of financing for the annual water and wastewater capital requirements. The level of water and wastewater rates have a direct impact on the mix of capital financing. The Municipality will continue to finance its' capital requirements mainly through cash from capital reserves, external contributions and developer contributions needed to fund growth related projects. Debt will only be used to fund capital needs when other sources of capital funding are insufficient. It should be noted that no debt will be required to fund the water capital program over the forecast period.

6.1 Debt Financing

Issuance of debt allows for funds to be available in the year the project is required to proceed, with repayment of the debt occurring in future years. This approach supports the principle of user pay such that the beneficiaries of the new assets pay for their use through the debt repayment. Financing from capital reserve requires that sufficient funds be available in the reserve in the year the project is undertaken, through annual contributions from the operating budget to the reserve in prior years. Therefore, without debt or reserve financing, major rate increases, or "spikes" would be required in the project year to raise sufficient funds to cover the project expenditures.

The Municipality will be required to borrow over the forecast to fund the projected wastewater capital program. There is however existing debt for both water and wastewater previously issued for the funding of past capital projects. Existing water debt matures in 2027, whereas existing wastewater debt matures in 2023. Appendix E shows the debt continuity for both water and wastewater debt from 2023 - 2032.

Approximately \$0.4 million in new nongrowth-related wastewater debt and \$8.8 million in new growth-related wastewater debt is projected to be required over the forecast period to fund the wastewater capital program. The repayment of wastewater growth-related debt will be funded from future wastewater development charge receipts and therefore will not impact on the rate payer and rates. It is assumed that new debt is issued with a term of 20 year and at an interest rate of 3%. Appendix E provides the details on 2022 - 2032 continuity of projected outstanding water and wastewater debt, showing annually new debt requirements and debt principal repayments.

6.2 Reserve Fund Requirements

There are two (2) separate capital related reserve funds for water and wastewater for which projections are made over the study period:

- The Capital Reserve Fund; and
- Development Charges Reserve Fund.

Appendix F-1 shows the continuity schedule for each capital reserve fund and development charges reserve fund projection. These schedules show the transfers to and from the respective reserve funds and the opening and closing balances. Reserve funds are assumed to earn 2.5 % annual interest on balances.

6.2.1 Water and Wastewater Capital Reserves

Funds contained in the water and wastewater capital reserves are used in funding the annual capital replacement needs reflected in the capital needs forecast, and is the account used in transferring any projected revenue surpluses.

The water and wastewater capital reserve funds are funded by annual operating budget transfers. The 2022 operating budget currently provides for approximately \$3.0 million for water capital funding replacement needs, and approximately \$0.4 million for wastewater capital funding replacement needs.

It should be noted, the Municipality's 2019 Asset Management Plan (AMP) has recommended that to ensure long-term sustainable funding of capital replacement needs the following level of annual water and wastewater operating budget contributions to capital reserves is required:

- Water \$3.0 million
- Wastewater \$1.2 million

The current level of annual contributions to the water capital reserve is already at the 2019 AMP's recommended level. However, the annual level of contribution to the wastewater capital reserve is significantly lower than what is recommended in the 2019 AMP, with a current level of annual funding of approximately \$0.4 million. To avoid the significant impact on wastewater rates and charges that would result with the immediate implementation of the 2019 AMP's recommended annual wastewater capital funding level, a phasing in of the sustainable level of operating budget contributions to the wastewater capital reserves is recommended. Wastewater would see the AMP's recommendation of \$1.2 million in annual contributions achieved by 2027.

While phasing in the recommended levels of wastewater capital funding would allow for wastewater rates to be increased annually at an acceptable level as noted in Section 8, phasing in would also create a capital funding shortfall in the short term that would need to be addressed beyond 2027 with higher than recommended levels of capital funding. The continuity of the accumulated capital funding shortfall is presented in Appendix F-2

A comparison of the projected 2023-2032 capital reserve balances to the projected 2023-2032 replacement values of the Municipality's water and wastewater capital infrastructure are also presented in Appendix F-1. The Municipality's water and wastewater capital infrastructure replacement values were obtained from the 2019 Asset Management Plan and were inflated annually at a rate of 4%. By 2032 the projected reserve balances for both water and wastewater will be approximately 5% of the projected capital infrastructure replacement values, which is considered an appropriate level for municipalities.

Water Development Charges Reserve Fund

The water development charges reserve fund has an opening balance in 2022 of \$2.2 million, increasing to \$2.7 million by 2032.

The draft 2022 Development Charges Background Study has noted that there will be no net recoverable growth-related water capital costs over the forecast period. As such, there are no projected water development charge revenues over the same period. The increase in the water development charges reserve is the result of interest accumulating on the annual reserve balance. It is assumed that reserves earn interest at 2.5%.

Wastewater Development Charges Reserve Fund

The wastewater development charges reserve fund has an opening balance in 2022 of approximately \$0.5 million, decreasing to approximately \$26 thousand in 2032.

It is projected that there will be insufficient wastewater development charges reserves balances to fund the growth capital needs identified over the forecast period. As such growth-related debt will be required to cash flow portions of the growth components of capital projects. It is expected that future debt servicing on the wastewater growth-related debt will be recovered from the wastewater development charges reserve and future wastewater development charge contributions, and therefore will not impact on the projected required user revenues. Annual contributions to the wastewater development charge reserve are based on the customer growth projections detailed in Section 4 and proposed rates as contained in the 2022 Development Charges Background Study. It is assumed that development charge rates are indexed annually by 4%.

7 Operations & Maintenance (O&M) Cost Projections

The annual operating budgets are based on the operations and maintenance needs of the Municipality's water and wastewater systems. These include operations and maintenance costs related to the water system (i.e. water purchases, storage and distribution), and the wastewater system (i.e. treated wastewater and wastewater collection). These costs generally include the staffing, materials, utilities and other costs related to the following:

- Administration;
- Contracted Services;
- Minor Capital; and
- Maintenance.

Transfers to reserves and debt servicing are typically included in the annual O&M budgets. These costs have however been addressed separately for the purposes of this report and are noted in Section 6.

A portion of the O&M costs is offset by non-rate revenues. These include:

- Penalties and late payment charges;
- Administrative service fees and charges;
- Recoveries ,and
- Government grants (when available).

The projection of the gross costs and non-rate revenues over the study period is based on the Municipality's 2022 Operating Budgets. It has been assumed that for 2023 and beyond, O&M costs (not including non-recurring costs, reserve transfers and debt servicing) will increase annually by 3%;

Table 8.1 and Table 8.2 shows the Municipality's 2022 operating budgets for water and wastewater services including the net amount to be recovered from customers.

Table 7-1: 2022 Water Operating Budget

Water Service Operating Expenditures	Budget 2022
PERSONNEL COSTS	9,133
UTILITIES	59,864
OMI - CONTRACTED SERVICES	619,721
LAWSS - CONTRACTED SERVICES	122,666
NORTH MIDDLESEX CONTRACT	9,636
CONTRACTED SERVICES	205,827
INSURANCE	34,693
VEHICLE OR EQUIPMENT	25,300
WATER PURCHASE	660,662
MATERIALS & SUPPLIES	108,780
MAINTENANCE & REPAIR	15,814
ADMINISTRATIVE OTHER	326,336
RESERVE CONTRIBUTION (To Balance Budget)	3,180
Sub Total Operating Expenditures	2,201,612
Capital-Related Expenditures	
Existing Debt (Principal) - Non-Growth Related	311,785
Existing Debt (Interest) - Non-Growth Related	31,332
Transfer to Capital Reserves	2,963,601
Sub Total Capital Related Expenditures	3,306,718
Total Expenditures	5,508,330
Total Non-Rate Revenue	245,150
Net Water Costs To Be Recovered From Users	5,263,180

Appendix G details the projected 2023 – 2032 water systems gross operating & maintenance costs, non-rate revenues and net costs to be recovered from customers through the Municipality's base and consumption charges. The net annual costs of the water system are expected to increase from \$5.3 million in 2022 to approximately \$6.1 million by 2032.

Table 7-2: 2022 Wastewater Operating Budget

Wastewater Service Operating Expenditures	Budget 2022
PERSONNEL COSTS	5,052
UTILITIES	202,694
OMI - CONTRACTED SERVICES	651,306
CONTRACTED SERVICES	47,858
INSURANCE	49,066
VEHICLE OR EQUIPMENT	6,300
GBAJSB - LS PORTION	468,497
MAINTENANCE & REPAIR	76,500
ADMINISTRATIVE OTHER	338,815
RESERVE CONTRIBUTION (To Balance Budget)	3,495
Sub Total Operating Expenditures	1,849,583
Capital-Related Expenditures	
Existing Debt (Principal) - Non-Growth Related	93,333
Existing Debt (Interest) - Non-Growth Related	9,642
Transfer to Capital Reserves and Reserve Funds	367,437
Sub Total Capital Related Expenditures	470,412
Total Expenditures	2,319,996
Total Non-Rate Revenue	76,500
Net Wastewater Costs To Be Recovered From Users	2,243,496

Appendix H summarizes the projected 2023 – 2032 wastewater systems gross operating & maintenance costs, non-rate revenues and net costs to be recovered from customers through the Municipality's base and consumption charges. The net annual costs of the wastewater system are expected to increase from approximately \$2.2 million in 2022 to \$4.3 million by 2032.

8 Sustainable User Rates and Revenues

Appendix I presents the projected 2023 – 2032 sustainable water rates and revenues. Appendix J presents the projected 2023-2032 sustainable wastewater rates and revenues. These rates and revenues are based on the Municipality's current water and wastewater rate structure. The costs and revenues contained in Section 6 (Capital Budget Requirements) and Section 7 (Operating & Maintenance Cost Projections), and the projected growth contained in Section 4 (Customer Growth) and Section 5 (Volume Projections) were considered in calculating the sustainable user rates and revenues as presented in this section.

8.1 Current Rate Structure

The Municipality's current rate structure includes a fixed (base) charge to a customer plus a uniform consumption rate.

8.1.1 Fixed (Base) Charge

A customer's base charge is calculated according to their meter's size and the meter's associated Meter Ratio. The smallest meter size (3/4 ") has a meter ratio of 1. This determines the baseline charge for the larger meter sizes. Once the baseline charge is calculated, the base charge for the larger metered customers is determined by multiplying the baseline charge by their respective Meter Ratio.

The meter ratios for water and wastewater for each meter size are shown in Table 8-1. This is in keeping with best practice as revenues generated from the base charge component of a rate structure is considered stable, and therefore will minimize volatility of user revenues due to fluctuations in consumption.

Table 8-1: Meter Ratio by Meter Size

Meter Size	Water Meter Ratio	Wastewater Meter Ratio
0.75"	1.00	1.00
1"	1.89	3.24
1.5"	3.43	5.87
2"	5.60	9.60
2.5"	6.45	11.05
3"	10.77	18.46
4"	17.76	30.44
6"	34.14	59.74

8.1.2 Uniform Consumption Charge

The Uniform Consumption Rate is a single block water rate that is applied to each customer's metered consumption. This portion of the charge is consistent with the concept of user pay as it increases with consumption and is generally within the control of the customer.

8.2 Current Rates and Charges

The Municipality's current water and wastewater rates and charges are shown in Table 8-2. These rates and charges are set to recover the net costs of water and wastewater services as noted in Table 7-1 (Water Service 2022 Operating Budget) and Table 7-2 (Wastewater Service 2022 Operating Budget) and are used in developing the projected sustainable user rates and revenues noted below.

Table 8-2: 2022 Water and Wastewater Rates and Charges

Annual Base Charge Per Meter Size	Water	Wastewater
0.75"	\$ 194.40	\$ 217.68
1"	\$ 367.68	\$ 705.84
1.5"	\$ 666.12	\$ 1,278.60
2"	\$ 1,089.48	\$ 2,090.76
2.5"	\$ 1,253.28	\$ 2,405.40
3"	\$ 2,093.28	\$ 4,018.20
4"	\$ 3,452.88	\$ 6,627.00
6"	\$ 6,635.88	\$ 13,004.28
Consumption Rates	Water	Wastewater
Per Cubic Metre	\$ 3.16	\$ 3.50

8.3 Water Rates and Revenue Projection

Table 8-3 presents the current and projected sustainable water rates and charges and their associated revenues for the five (5) year period 2023 – 2027. The detailed 10-year projection of water rates and revenue is presented

in Appendix I. As noted in Table 8-3, the projected water rates and charges are not required to be increased over the forecast period as the projected level of annual water revenues from customers is sufficient to sustainably fund the projected operational and capital costs of the municipality's water system.

Table 8-3: Projected Water Rates and Revenues

Projected Annual Water Base Charges and Revenues					
Customer Type	2023	2024	2025	2026	2027
Annual Increase %Increases	0.0%	0.0%	0.0%	0.0%	0.0%
0.75"	\$ 194.40	\$ 194.40	\$ 194.40	\$ 194.40	\$ 194.40
1"	\$ 367.68	\$ 367.68	\$ 367.68	\$ 367.68	\$ 367.68
1.5"	\$ 666.12	\$ 666.12	\$ 666.12	\$ 666.12	\$ 666.12
2"	\$ 1,089.48	\$ 1,089.48	\$ 1,089.48	\$ 1,089.48	\$ 1,089.48
2.5"	\$ 1,253.28	\$ 1,253.28	\$ 1,253.28	\$ 1,253.28	\$ 1,253.28
3"	\$ 2,093.28	\$ 2,093.28	\$ 2,093.28	\$ 2,093.28	\$ 2,093.28
4"	\$ 3,452.88	\$ 3,452.88	\$ 3,452.88	\$ 3,452.88	\$ 3,452.88
6"	\$ 6,635.88	\$ 6,635.88	\$ 6,635.88	\$ 6,635.88	\$ 6,635.88
Total Base Charge Revenues	\$ 1,512,977	\$ 1,535,574	\$ 1,558,171	\$ 1,580,768	\$ 1,603,365
Projected Annual Uniform Water Rates & Revenues					
Annual % Increase	0.0%	0.0%	0.0%	0.0%	0.0%
Rates	\$ 3.16	\$ 3.16	\$ 3.16	\$ 3.16	\$ 3.16
Total Volumetric Revenues	\$ 3,830,470	\$ 3,888,140	\$ 3,945,810	\$ 4,003,480	\$ 4,061,150
Projected Total Water Revenues					
Total Revenues	\$ 5,343,447	\$ 5,423,714	\$ 5,503,981	\$ 5,584,248	\$ 5,664,515

8.4 Wastewater Rates and Revenue Projection

Table 8-4 presents the current and projected sustainable wastewater rates and charges and their associated revenues for the five (5) year period 2023 – 2027. The detailed 10-year projections of wastewater rates and revenue is presented in Appendix J.

As noted in Table 8-4, the projected wastewater rates and charges will be required to be increased annually over the forecast period. The proposed annual increases are required to ensure that the projected level of annual wastewater revenues from customers will be sufficient to sustainably fund the projected operational and capital needs of the municipality's wastewater system. As noted in Section 6.2.1 - Water and Wastewater Capital Reserves, the main driver of the increase in wastewater rates is the current shortfall in the recommended level of annual funding of wastewater capital replacements as recommended in the Municipality's 2019 AMP. The current level of wastewater capital funding is at approximately \$0.4 million per year, with a recommended level of annual wastewater capital funding of \$1.2 million. The phased-in increase in annual capital funding as noted in Section 6.2.1 will require wastewater rates to increase by 6% in 2023 and 2024, 4% annual increases in 2025 and 2026, and 2% annual increases thereafter for the balance of the forecast period.

Table 8-4: Projected Wastewater Rates and Revenues

Projected Annual Wastewater Base Charges and Revenues					
	2023	2024	2025	2026	2027
Annual Increase %Increases	6.0%	6.0%	4.0%	4.0%	2.0%
0.75"	\$ 230.74	\$ 244.59	\$ 254.37	\$ 264.54	\$ 269.83
1"	\$ 748.19	\$ 793.08	\$ 824.81	\$ 857.80	\$ 874.95
1.5'	\$ 1,355.32	\$ 1,436.63	\$ 1,494.10	\$ 1,553.86	\$ 1,584.94
2"	\$ 2,216.21	\$ 2,349.18	\$ 2,443.15	\$ 2,540.87	\$ 2,591.69
2.5"	\$ 2,549.72	\$ 2,702.71	\$ 2,810.82	\$ 2,923.25	\$ 2,981.71
3"	\$ 4,259.29	\$ 4,514.85	\$ 4,695.44	\$ 4,883.26	\$ 4,980.93
4"	\$ 7,024.62	\$ 7,446.10	\$ 7,743.94	\$ 8,053.70	\$ 8,214.77
6"	\$ 13,784.54	\$ 14,611.61	\$ 15,196.07	\$ 15,803.92	\$ 16,119.99
Total Base Charge Revenues	\$ 826,159	\$ 906,473	\$ 974,705	\$ 1,046,946	\$ 1,101,803
Projected Annual Uniform Wastewater Rates & Revenues					
Annual %Increase	6.0%	6.0%	4.0%	4.0%	2.0%
Rates	\$ 3.71	\$ 3.93	\$ 4.09	\$ 4.25	\$ 4.34
Total Volumetric Revenue	\$ 1,648,657	\$ 1,819,347	\$ 1,966,761	\$ 2,123,058	\$ 2,244,698
Projected Total Wastewater Revenues					
Total Revenues	\$ 2,474,817	\$ 2,725,819	\$ 2,941,466	\$ 3,170,004	\$ 3,346,501

9 O.Reg 453/07 Water System Financial Plan No. 049-301

Regulation 188/07 under the Safe Drinking Water Act requires Ontario municipalities to apply for and obtain Drinking Water System Licences as part of their overall DWQMS. One of the requirements of holding a valid drinking water licence is preparing and submitting to the Province an updated financial plan in accordance with O.Reg. 453/07. The financial plan must include financial statements on the following:

- The proposed or projected financial position of the drinking water systems;
- The proposed or projected gross cash receipts and gross cash payments;
- The proposed or projected financial operations of the drinking water system; and
- Details on the extent to which the above information applies to the replacement of lead service pipes, if applicable.

Appendix K lists each requirement of the regulation and references the respective financial statements and other relevant information required under each regulatory requirement. The financial plan must apply to a period of at least six (6) years with the first year being the year the existing license expires. In the Municipality's case an updated Water System Financial Plan is based on the Water and Wastewater Rate Review and will be for a period of 10 years (2023-2032). Upon Council's approval the financial plan would be made available to the public at no charge and posted on the Municipality's website. It will also be submitted to the Province as part of the Municipality's next drinking water license renewal application.

This section presents an updated water system financial plan as defined in O.Reg. 453/07, thereby allowing the Municipality to fulfil its obligations under the drinking water licensing regulations for the next renewal of its drinking water systems license. The number for the updated financial plan is 049-301.

9.1 Water Tangible Capital Assets (TCA) Analysis

The results of the rate study contained in this report are used as the basis for preparing the water system financial plan. The Municipality's Tangible Capital Asset inventories were also used in the preparation of the water system financial plan. The amortization of the tangible capital assets is shown as a "non-cash" annual cost that reflects the annual "use" of assets until the end of their respective useful lives. Allowances are made to finance the replacement and/ or rehabilitation of the existing assets once they "expire" and can no longer play a role in providing the required drinking water service to customers. It should be noted however that since amortization is based on the original (historical) cost at the time the asset was placed in service it does not account for inflation since the year of installation. Therefore, basing asset replacement costs on amortization alone is not sufficient to cover the future replacement needs.

The TCA projections contained in the Municipality's water financial plan are based on the following assumptions:

- Amortization of existing assets is based on the Municipality's Tangible Capital Assets Policies and Procedures. Amortization of new infrastructure investments is based on straight line depreciation with depreciation first charged in the year after acquisition;
- Historical costs, life expectancy and remaining useful life are as identified in the TCA data provided by the Municipality;
- Fully depreciated assets continue to be used in service i.e. no asset removals; and
- New assets to be acquired are based on the capital forecast presented. The forecast includes projects in the Municipality's Capital Budget Forecast.

Water Asset Value

The water system is comprised of the following asset classes:

- Buildings
- Water Mains
- Equipment
- Water Meters
- Hydrants

Table 10-2 shows the current capital asset value based on historical cost and accumulated amortization to 2022. This is reflected as the net book value (NBV) i.e. the "accounting" value, and indicates that the water system as a whole is approximately 28% depreciated, or has approximately 72% remaining life based on the TCA data. This suggests that the water system assets are relatively new.

Table 9-1: Water – Asset Amortization and Book Value (NBV)

2022 Water Asset Details			
Historical Cost	\$	114,627,853	100%
Accumulated Amortization	\$	32,329,215	28%
Net Book Value	\$	82,298,638	72%

9.2 Water Financial Statements

This financial plan involves the review, analysis and assessment of financial information contained in the rate study including costs, revenues, debt, cash transactions and Tangible Capital Assets (TCA) to prepare the following three (3) financial statements covering the period 2023 - 2032:

- Statement of Financial Position;
- Statement of Operations; and
- Statement of Cash Flow

9.2.1 Water - Statement of Financial Position

The Statement of Financial Position is presented in Table 9-2. This statement summarizes the Municipality's water-related financial and non-financial assets i.e. Tangible Capital Assets (TCA) and liabilities, and provides the net financial asset (or net debt) position and accumulated surplus related to managing the water system. The financial assets are primarily cash balances in the water reserves and reserve funds. Liabilities consist of the development charge reserve fund balances (i.e. deferred revenues) and water long-term debt. The non-financial assets (TCA) include the Municipality's water infrastructure. The historical costs are amortized over the asset life to arrive at the net book value each year from 2023 to 2032. New assets are added in the years acquired, developed or built. Contributed assets are primarily new infrastructure and facilities that would be transferred to the Municipality's ownership and control by developers as they are completed. However, this is assumed to be zero. It is also assumed that other non-financial assets such as inventory and prepaid expenses are zero.

Contained within the Statement of Financial Position are important indicators, the first being net financial assets (or net debt) which is defined as the difference between financial assets and liabilities. This indicator provides a measure of the water system's "future revenue requirement". Table 9-2 indicates that in 2023, the Municipality's water system will be in a net financial asset position of \$14.2 million. This will increase over the forecast period with a net financial asset position of \$39.3 million by 2032. The net financial asset position indicates that financial resources will be available to fund future operations. The net financial asset position is due to available cash exceeding long-term debt and deferred revenues.

The next important indicator contained in the Statement of Financial Position is the net book value of TCA. Table 9-2 shows that net TCA are expected to decrease over the forecast period by about \$5.8 million. This indicates that the consumption of existing capital assets exceeds the Municipality's plans to invest in tangible capital assets. Further, a consumption ratio consisting of the accumulated amortization of the Municipality's TCA as a percent of historical cost ratio highlights the aged condition of the assets and their potential replacement needs. The Municipality's Water Asset Consumption Ratio increases over the forecast period from 28% to 36%, suggesting that the water system would be over a third through its life expectancy by 2032. As this percentage is increasing over time indicates the Municipality is not spending adequate funds to finance the replacement or rehabilitation of aging assets as they expire.

Another important indicator in the Statement of Financial Position is the accumulated surplus. This indicator provides a measure of the resources available to the Municipality for managing its water system. The accumulated surplus is projected to increase from approximately \$98.4 million in 2023 to approximately \$117.6

million by 2032. The accumulated surplus consists of non-financial assets that are made up of the net TCA balance representing past investments in water infrastructure, increased by the net financial asset balances.

Table 9-2: Water – Statement of Financial Position

	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Financial Assets										
Cash, Receivables and Investment	\$16,730,927	\$19,089,659	\$21,840,232	\$24,625,985	\$27,510,734	\$30,525,575	\$33,513,009	\$36,468,649	\$39,436,137	\$42,030,393
Total Financial Assets	\$16,730,927	\$19,089,659	\$21,840,232	\$24,625,985	\$27,510,734	\$30,525,575	\$33,513,009	\$36,468,649	\$39,436,137	\$42,030,393
Financial Liabilities										
Accounts Payable & Deferred Revenue	\$2,342,580	\$2,401,145	\$2,461,173	\$2,522,702	\$2,585,770	\$2,650,414	\$2,716,674	\$2,784,591	\$2,854,206	\$2,735,905
Long-term Liabilities	\$184,821	\$140,772	\$95,316	\$48,407	\$0	\$0	\$0	\$0	\$0	\$0
Total Financial Liabilities	\$2,527,401	\$2,541,917	\$2,556,489	\$2,571,110	\$2,585,770	\$2,650,414	\$2,716,674	\$2,784,591	\$2,854,206	\$2,735,905
Net Financial Assets (Net Debt)	\$14,203,526	\$16,547,742	\$19,283,743	\$22,054,875	\$24,924,965	\$27,875,162	\$30,796,335	\$33,684,058	\$36,581,931	\$39,294,488
Non-Financial Assets										
Tangible Capital Assets	\$116,861,820	\$117,652,819	\$118,199,113	\$118,746,470	\$119,326,432	\$119,936,665	\$120,602,106	\$121,302,232	\$122,038,261	\$122,808,981
Accumulated Amortization	(\$32,679,376)	(\$33,865,781)	(\$35,173,376)	(\$36,524,511)	(\$37,878,350)	(\$39,219,584)	(\$40,542,582)	(\$41,863,143)	(\$43,164,201)	(\$44,458,253)
Total Non-Financial Assets	\$84,182,445	\$83,787,038	\$83,025,737	\$82,221,959	\$81,448,082	\$80,717,081	\$80,059,524	\$79,439,089	\$78,874,060	\$78,350,728
Accumulated Surplus	\$98,385,971	\$100,334,780	\$102,309,480	\$104,276,834	\$106,373,047	\$108,592,243	\$110,855,859	\$113,123,147	\$115,455,992	\$117,645,216
Financial Indicators	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Increase (Decrease) in Net Financial Assets	\$160,633	\$2,344,216	\$2,736,001	\$2,771,132	\$2,870,090	\$2,950,197	\$2,921,173	\$2,887,723	\$2,897,874	\$2,712,557
Increase (Decrease) in Tangible Capital Assets	\$1,868,397	(\$395,407)	(\$761,301)	(\$803,778)	(\$773,877)	(\$731,001)	(\$657,558)	(\$620,435)	(\$565,028)	(\$523,332)
Increase (Decrease) in Accumulated Surplus	\$2,029,030	\$1,948,809	\$1,974,700	\$1,967,354	\$2,096,213	\$2,219,196	\$2,263,616	\$2,267,288	\$2,332,845	\$2,189,225
Water Asset Consumption Ratio	28%	29%	30%	31%	32%	33%	34%	35%	35%	36%

9.2.2 Water - Statement of Operations

The Statement of Operations is presented in Table 9-3 It summarizes the annual revenues and expenses associated with managing the Municipality's water system. It provides a report on the transactions and events that have an influence on the accumulated surplus. The main revenue items included are:

- Revenues from Water Rates and Charges;
- Earned Revenues (external capital funding, grants and capital and operating contributions from development charges); and
- Other Revenues (service charges, penalties and interest, miscellaneous fees and charges).

The main expense items are:

- The annual cost of operating and maintaining the water systems and non-TCA capital;
- Interest on long-term debt; and
- Amortization expenses on existing and added TCA.

The operating surplus (or deficit) is an important indicator contained in the Statement of Operations. An operating surplus (deficit) measures whether operating revenues generated in a year were sufficient to cover operating expenses incurred in that year. It is important to note that an annual surplus is necessary to ensure funds will be available to address non-expense items such as TCA acquisitions over and above amortization expenses, reserve/reserve fund contributions for asset replacement and rate stabilization, and repayment of outstanding debt principal. A ratio of operating surplus to total revenue is shown in Table 9-3 and reflects the percent of total revenue that can be allocated to funding the non-expense items noted above.

Table 9-3: Water – Statement of Operation

	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Water Revenue										
Rate Revenue	\$5,343,447	\$5,423,714	\$5,503,981	\$5,584,248	\$5,664,515	\$5,744,782	\$5,825,049	\$5,905,316	\$5,985,583	\$6,065,850
Earned Revenue	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$185,031
Other Revenue	\$603,440	\$654,433	\$727,859	\$735,895	\$881,100	\$961,582	\$1,041,612	\$1,121,089	\$1,201,086	\$1,276,842
Total Revenues	\$5,946,887	\$6,078,147	\$6,231,840	\$6,320,143	\$6,545,615	\$6,706,364	\$6,866,660	\$7,026,405	\$7,186,668	\$7,527,722
Water Expenses										
Operating Expenses	\$2,419,338	\$2,575,464	\$2,683,312	\$2,764,323	\$2,849,466	\$2,885,850	\$2,990,322	\$3,130,493	\$3,224,408	\$3,321,140
Non-TCA Capital	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$370,061
Interest on Debt	\$17,013	\$5,512	\$4,105	\$2,653	\$1,154	\$0	\$0	\$0	\$0	\$0
Amortization	\$1,481,506	\$1,548,362	\$1,569,723	\$1,585,813	\$1,598,783	\$1,601,318	\$1,612,723	\$1,628,622	\$1,629,412	\$1,647,292
Total Expenses	\$3,917,857	\$4,129,338	\$4,257,140	\$4,352,789	\$4,449,402	\$4,487,168	\$4,603,045	\$4,759,117	\$4,853,823	\$5,338,497
Annual Surplus/(Deficit)	\$2,029,030	\$1,948,810	\$1,974,700	\$1,967,354	\$2,096,212	\$2,219,196	\$2,263,615	\$2,267,288	\$2,332,845	\$2,189,224
Accumulated Surplus/(Deficit), Beginning of Year	\$96,356,941	\$98,385,971	\$100,334,780	\$102,309,480	\$104,276,834	\$106,373,047	\$108,592,243	\$110,855,858	\$113,123,146	\$115,455,991
Accumulated Surplus/ (Deficit), End of Year	\$98,385,971	\$100,334,780	\$102,309,480	\$104,276,834	\$106,373,047	\$108,592,243	\$110,855,858	\$113,123,146	\$115,455,991	\$117,645,215
Financial Indicators	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Increase (Decrease) in Total Revenues	\$438,557	\$131,261	\$153,692	\$88,303	\$225,472	\$160,749	\$160,297	\$159,744	\$160,263	\$341,053
Increase (Decrease) in Total Expenses	\$237,252	\$211,481	\$127,802	\$95,649	\$96,614	\$37,765	\$115,877	\$156,072	\$94,706	\$484,674
Increase (Decrease) in Annual Surplus	\$201,305	(\$80,220)	\$25,890	(\$7,345)	\$128,858	\$122,983	\$44,420	\$3,672	\$65,557	(\$143,621)
Operating Surplus Ratio	34%	32%	32%	31%	32%	33%	33%	32%	32%	29%

9.2.3 Water - Statement of Cash Flows

The Statement of Cash Flow is presented in Table 9-4. This statement summarizes the main cash inflows and outflows related to the water system in four (4) main areas - operating, capital, investing and financing, and shows the annual changes in cash.

The operating cash transactions begin with the surplus or deficit identified in the Statement of Operations. This figure is adjusted to add or subtract non-cash items that were included as revenues or expenses (e.g. amortization expenses and earned revenues). It is assumed that there are no “investing activities” over the period. The capital section indicates the amounts to be spent to acquire capital assets (TCA) or to be received from the sale of assets. In the Municipality’s case, it is assumed that there are no assets to be sold to generate cash. The financing section identifies funds received from development charge receipts and interest earned on the reserve fund balance, with the portion of debt repaid as cash outflows.

Table 9-4 indicates that cash is being generated from operations, which is used in funding the acquisition of TCA and towards building internal reserves. The Municipality's cash position is projected to increase over the forecast period from \$16.7 million in 2023 to a \$42.0 million in 2032.

Table 9-4: Water – Statement of Cash Flow

	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Cash Provided by:										
Operating Activities										
Annual Surplus/(Deficit)	\$2,029,030	\$1,948,810	\$1,974,700	\$1,967,354	\$2,096,212	\$2,219,196	\$2,263,615	\$2,267,288	\$2,332,845	\$2,189,224
Non-Cash Items										
Amortization	\$1,481,506	\$1,548,362	\$1,569,723	\$1,585,813	\$1,598,783	\$1,601,318	\$1,612,723	\$1,628,622	\$1,629,412	\$1,647,292
Earned Revenue	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	(\$185,031)
Net Change in Cash Provided by Operating Activities	\$3,510,536	\$3,497,171	\$3,544,423	\$3,553,167	\$3,694,995	\$3,820,514	\$3,876,338	\$3,895,910	\$3,962,257	\$3,651,486
Capital Activities										
Purchase of TCA	(\$3,349,903)	(\$1,152,955)	(\$808,422)	(\$782,035)	(\$824,906)	(\$870,317)	(\$955,165)	(\$1,008,187)	(\$1,064,384)	(\$1,123,960)
Net Change in Cash Used in Capital Activities	(\$3,349,903)	(\$1,152,955)	(\$808,422)	(\$782,035)	(\$824,906)	(\$870,317)	(\$955,165)	(\$1,008,187)	(\$1,064,384)	(\$1,123,960)
Financing Activities										
DC Collections	\$57,136	\$58,565	\$60,029	\$61,529	\$63,068	\$64,644	\$66,260	\$67,917	\$69,615	\$66,729
External Financing	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Proceeds From Long-Term Debt	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Repayment of Long-Term Debt	(\$326,104)	(\$44,049)	(\$45,456)	(\$46,909)	(\$48,407)	\$0	\$0	\$0	\$0	\$0
Net Change in Cash Used in Financing Activities	(\$268,968)	\$14,516	\$14,572	\$14,621	\$14,660	\$64,644	\$66,261	\$67,917	\$69,615	\$66,730
Net Change in Cash and Cash Equivalents	(\$108,336)	\$2,358,732	\$2,750,573	\$2,785,753	\$2,884,750	\$3,014,841	\$2,987,433	\$2,955,640	\$2,967,488	\$2,594,256
Cash and Cash Equivalents, Beginning of the Year	\$16,839,262	\$16,730,927	\$19,089,659	\$21,840,232	\$24,625,985	\$27,510,734	\$30,525,575	\$33,513,009	\$36,468,649	\$39,436,137
Cash and Cash Equivalents, End of the Year	\$16,730,927	\$19,089,659	\$21,840,232	\$24,625,985	\$27,510,734	\$30,525,575	\$33,513,009	\$36,468,649	\$39,436,137	\$42,030,393

9.3 Lead Service Pipe Removal

The financial plan is also required to detail the extent to which the information described above relates directly to the replacement of lead service pipes. Currently the Municipality is unaware of any lead service pipes within the water system.

10 Wastewater System Financial Plan

Preparing a Wastewater System Financial Plan is not mandatory but has become a municipal best practice over the past few years. It is typically prepared in accordance with the requirements of O.Reg 453/07 which applies to water systems.

This financial plan involves the review, analysis and assessment of financial information contained in the rate study including costs, revenues, debt, cash transactions and Tangible Capital Assets (TCA) to prepare the following three (3) financial statements covering the period 2020 to 2025 as required under O.Reg. 453/07:

- Statement of Financial Position;
- Statement of Operations; and
- Statement of Cash Flow.

The wastewater system financial plan will apply to a period of (10) 10 years from 2023 to 2032 to be consistent with the period covered by the water system financial plan. It is anticipated that the financial plan would be made available to the public at no charge on the Municipality's website following final approval of the rate study and financial plan by Council.

10.1 Wastewater Tangible Capital Assets (TCA) Analysis

The results of the rate study contained in this report are used as the basis for preparing the wastewater system financial plan. The Municipality's Asset Inventories were also used in the preparation of the wastewater system financial plan. The amortization of the tangible capital assets is shown as a "non-cash" annual cost that reflects the annual "use" of assets until the end of their respective useful lives. Allowances are made to finance the replacement and/ or rehabilitation of the existing assets once they "expire" and can no longer play a role in providing the required wastewater service to customers. However, it should be noted that since amortization is based on the original (historical) cost at the time the asset was placed in service it does not account for inflation since the year of installation. Therefore, basing asset replacement costs on amortization alone is not sufficient to cover the future replacement needs.

The TCA projections contained in the Municipality's wastewater financial plan are based on the following assumptions:

- Amortization of existing assets is based on the Municipality's Tangible Capital Assets policies and procedures. Amortization of new infrastructure investments is based on straight line depreciation with depreciation first charged in the year after acquisition;
- Historical costs, life expectancy and remaining useful life as per the TCA data provided by the Municipality;
- Fully depreciated assets continue to be used in service i.e. no asset removals; and
- New assets to be acquired are based on the capital forecast. The forecast includes projects in the Municipality's Capital Budget Forecast.

Wastewater Asset Value

The wastewater system is comprised of the following asset classes:

- Buildings (Treatment Facilities, Lagoons, Pump Stations)
- Sewer Mains
- Force Mains

Table 10-1 shows the current capital asset value based on historical cost and accumulated amortization to 2022. This is reflected as the net book value (NBV) i.e. the "accounting" value, and indicates that the wastewater system as a whole is approximately 32% depreciated or has approximately 68% remaining life based on the TCA data. This suggests that the wastewater system assets are relatively new.

Table 10-1: Wastewater – Asset Amortization and Net Book Value (NBV)

2022 Wastewater Asset Details			
Historical Cost	\$	33,306,917	100%
Accumulated Amortization	\$	10,667,890	32%
Net Book Value	\$	22,639,027	68%

10.2 Wastewater Financial Statements

This financial plan involves the review, analysis and assessment of financial information contained in the rate study including costs, revenues, debt, cash transactions and Tangible Capital Assets (TCA) to prepare the following three (3) financial statements covering the period 2023 - 2032:

- Statement of Financial Position;
- Statement of Operations; and
- Statement of Cash Flow.

10.2.1 Wastewater - Statement of Financial Position

The Statement of Financial Position is presented in Table 10-2. This statement summarizes the Municipality's wastewater related financial and non-financial assets (Tangible Capital Assets – TCA) and liabilities, and provides the net financial asset/ (net debt) position and accumulated surplus related to managing the wastewater system. The financial assets are primarily cash balances in the wastewater reserves and reserve funds. Liabilities consist of the development charge reserve fund balances (i.e. deferred revenues) and wastewater long-term debt. The non-financial assets (TCA) include the Municipality's wastewater infrastructure. The historical costs are amortized over the asset life to arrive at the net book value each year from 2022 to 2032. New assets are added in the years acquired, developed or built. Contributed assets are primarily new infrastructure that would be transferred to the Municipality's ownership and control by developers as they are completed. However this is assumed to be zero. It is also assumed that other non-financial assets such as inventory and prepaid expenses are zero.

Contained within the Statement of Financial Position are important indicators, the first being net financial assets (or net debt) which is defined as the difference between financial assets and liabilities. This indicator provides a measure of the wastewater system's "future revenue requirement". Table 10.2 indicates that in 2023 the Municipality's wastewater system will be in a net financial asset position in the amount of \$1.0 million. This however will change to a net debt position of \$0.5 million by 2032. The net debt position indicates that financial resources will be required to fund future operations. The increase to the net debt position is due to a combination of the increase in liabilities, mainly through a significant increase in long-term debt, which is mostly offset by a corresponding increase in cash. The next important indicator contained in the Statement of Financial Position is the net book value of TCA. Table 10-2 shows that net TCA are expected to grow by \$12.2 million over the forecast period, or from \$22.0 million in 2023 to \$34.3 million 2032. This indicates that the Municipality has plans to invest in tangible capital assets well in excess of the consumption of existing assets. Further, a consumption ratio consisting of the accumulated amortization of the Municipality's TCA as a percent of historical cost ratio highlights the aged condition of the assets and their potential replacement needs. The Municipality's Wastewater Asset Consumption Ratio reduces from 34% in 2023 to 31% in 2032.

Another important indicator in the Statement of Financial Position is the accumulated surplus. This indicator provides measure of the resources available to the Municipality for managing its wastewater system. The accumulated surplus is projected to increase from approximately \$23.0 million in 2023 to approximately \$33.8 million by 2032. The accumulated surplus consists of non-financial assets that are made up of the net TCA balance representing past investments in wastewater infrastructure, and is either increased by net financial assets, or offset by the net debt balances.

Table 10-2: Wastewater - Statement of Financial Position

	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Financial Assets										
Cash, Receivables and Investment	\$1,874,845	\$1,773,689	\$1	\$599,705	\$2,099,775	\$1,587,514	\$2,814,414	\$4,213,414	\$5,793,502	\$7,184,701
Total Financial Assets	\$1,874,845	\$1,773,689	\$1	\$599,705	\$2,099,775	\$1,587,514	\$2,814,414	\$4,213,414	\$5,793,502	\$7,184,701
Financial Liabilities										
Accounts Payable & Deferred Revenue	\$892,805	\$962,635	\$0	\$297,499	\$616,021	\$956,635	\$755,345	\$564,306	\$384,383	\$26,834
Long-term Liabilities	(\$0)	(\$0)	\$999,092	\$961,910	\$923,613	\$9,086,547	\$8,740,660	\$8,384,397	\$8,017,445	\$7,639,484
Total Financial Liabilities	\$892,805	\$962,635	\$999,092	\$1,259,409	\$1,539,634	\$10,043,182	\$9,496,006	\$8,948,702	\$8,401,828	\$7,666,318
Net Financial Assets (Net Debt)	\$982,040	\$811,055	(\$999,091)	(\$659,704)	\$560,142	(\$8,455,668)	(\$6,681,591)	(\$4,735,289)	(\$2,608,326)	(\$481,617)
Non-Financial Assets										
Tangible Capital Assets	\$33,336,249	\$34,175,379	\$39,490,283	\$39,939,429	\$39,977,775	\$49,350,508	\$49,395,569	\$49,443,694	\$49,495,066	\$49,549,564
Accumulated Amortization	(\$11,303,437)	(\$11,544,473)	(\$9,707,986)	(\$10,239,007)	(\$11,084,858)	(\$10,926,358)	(\$12,021,079)	(\$13,115,180)	(\$14,197,670)	(\$15,275,843)
Total Non-Financial Assets	\$22,032,812	\$22,630,907	\$29,782,297	\$29,700,423	\$28,892,917	\$38,424,151	\$37,374,490	\$36,328,514	\$35,297,396	\$34,273,721
Accumulated Surplus	\$23,014,852	\$23,441,961	\$28,783,206	\$29,040,719	\$29,453,059	\$29,968,483	\$30,692,899	\$31,593,225	\$32,689,071	\$33,792,104
Financial Indicators	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Increase (Decrease) in Net Financial Assets	\$580,469	(\$170,985)	(\$1,810,146)	\$339,387	\$1,219,846	(\$9,015,810)	\$1,774,077	\$1,946,303	\$2,126,963	\$2,126,709
Increase (Decrease) in Tangible Capital Assets	(\$610,485)	\$598,095	\$7,151,390	(\$81,874)	(\$807,505)	\$9,531,233	(\$1,049,660)	(\$1,045,976)	(\$1,031,118)	(\$1,023,675)
Increase (Decrease) in Accumulated Surplus	(\$30,016)	\$427,109	\$5,341,245	\$257,513	\$412,340	\$515,424	\$724,416	\$900,326	\$1,095,845	\$1,103,034
Water Asset Consumption Ratio	34%	34%	25%	26%	28%	22%	24%	27%	29%	31%

10.2.2 Wastewater - Statement of Operations

The Statement of Operations is presented in Table 10-3 It summarizes the annual revenues and expenses associated with managing the Municipality's wastewater system. It provides a report on the transactions and events that have an influence on the accumulated surplus. The main revenue items included are:

- Revenues from Wastewater Rates and Charges;
- Earned Revenues (capital and operating contributions from development charges, gas tax, external contributions and capital grants); and
- Other Revenues (service charges, penalties and interest, miscellaneous fees and charges).

The main expense items are:

- The annual cost of operating and maintaining the wastewater system and non-TCA capital;
- Interest on long-term debt; and
- Amortization expenses on existing and new TCA.

The operating surplus/ (deficit) is an important indicator contained in the Statement of Operations. An operating surplus/ (deficit) measures whether operating revenues generated in a year were sufficient to cover operating expenses incurred in that year. It is important to note that an annual surplus is necessary to ensure funds will be available to address non-expense items such as TCA acquisitions over and above amortization expenses, reserve/reserve fund contributions for asset replacement and rate stabilization, and repayment of outstanding debt principal. A ratio of operating surplus to total revenue is shown in Table 10-3 and reflects the percent of total revenue that can be allocated to funding the non-expense items noted above.

Table 10-3: Wastewater - Statement of Operations

	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Water Revenue										
Rate Revenue	\$2,474,817	\$2,725,819	\$2,941,466	\$3,153,032	\$3,329,528	\$3,511,817	\$3,700,058	\$3,894,417	\$4,095,065	\$4,302,173
Earned Revenue	\$0	\$260,000	\$5,066,840	\$41,106	\$41,106	\$41,106	\$592,435	\$592,435	\$592,435	\$777,466
Other Revenue	\$51,247	\$47,896	\$28,957	\$29,826	\$67,094	\$47,214	\$82,997	\$122,756	\$166,691	\$210,380
Total Revenues	\$2,526,064	\$3,033,715	\$8,037,264	\$3,223,964	\$3,437,729	\$3,600,137	\$4,375,490	\$4,609,609	\$4,854,191	\$5,290,020
Water Expenses										
Operating Expenses	\$1,901,471	\$1,958,515	\$2,017,270	\$2,077,788	\$2,140,122	\$2,204,326	\$2,270,455	\$2,338,569	\$2,408,726	\$2,480,988
Non-TCA Capital	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$370,061
Interest on Debt	\$6,982	\$0	\$0	\$29,973	\$28,857	\$27,708	\$272,596	\$262,220	\$251,532	\$240,523
Amortization	\$647,627	\$648,091	\$678,749	\$858,690	\$856,409	\$852,680	\$1,108,021	\$1,108,492	\$1,098,085	\$1,095,410
Total Expenses	\$2,556,079	\$2,606,606	\$2,696,019	\$2,966,451	\$3,025,389	\$3,084,714	\$3,651,074	\$3,709,283	\$3,758,346	\$4,186,986
Annual Surplus/(Deficit)	(\$30,016)	\$427,109	\$5,341,245	\$257,513	\$412,340	\$515,423	\$724,416	\$900,326	\$1,095,845	\$1,103,033
Accumulated Surplus/(Deficit), Beginning of Year	\$23,044,867	\$23,014,852	\$23,441,961	\$28,783,206	\$29,040,718	\$29,453,058	\$29,968,482	\$30,692,898	\$31,593,224	\$32,689,069
Accumulated Surplus/ (Deficit), End of Year	\$23,014,852	\$23,441,961	\$28,783,206	\$29,040,718	\$29,453,058	\$29,968,482	\$30,692,898	\$31,593,224	\$32,689,069	\$33,792,102
Financial Indicators										
Increase (Decrease) in Total Revenues	\$57,468	\$507,651	\$5,003,549	(\$4,813,300)	\$213,765	\$162,408	\$775,353	\$234,119	\$244,581	\$435,829
Increase (Decrease) in Total Expenses	\$16,662	\$50,527	\$89,413	\$270,432	\$58,937	\$59,325	\$566,361	\$58,209	\$49,062	\$428,641
Increase (Decrease) in Annual Surplus	\$40,806	\$457,124	\$4,914,136	(\$5,083,732)	\$154,827	\$103,083	\$208,993	\$175,910	\$195,519	\$7,188
Operating Surplus Ratio	-1%	14%	66%	8%	12%	14%	17%	20%	23%	21%

10.2.3 Wastewater - Statement of Cash Flows

The Statement of Cash Flow is presented in Table 10-4. This statement summarizes the main cash inflows and outflows related to the wastewater system in four (4) main areas - operating, capital, investing and financing, and shows the annual changes in cash.

The operating cash transactions begin with the surplus or deficit identified in the Statement of Operations. This figure is adjusted to add or subtract non-cash items that were included as revenues or expenses (e.g. amortization expenses). It is assumed that there were no “investing activities” over the period. The capital section indicates the amounts spent to acquire capital assets (TCA) or received from the sale of assets. In the Municipality’s case, it is assumed that there are no assets to be sold to generate cash. The financing section identifies funds received from development charge receipts and interest earned on the reserve fund balance, external financing such as provincial and federal grants, and proceeds from the issuance of debenture as cash inflows, and the portion of debt repaid as cash outflows.

Table 10-4 indicates that cash is generated from operations, which is used in funding the acquisition of TCA and towards building internal reserves. The Municipality's cash position is projected to increase significantly over the forecast period from \$1.9 million in 2023 to approximately \$7.2 million in 2032.

Table 10-4: Wastewater - Statement of Cash Flows

	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Cash Provided by:										
Operating Activities										
Annual Surplus/(Deficit)	(\$30,016)	\$427,109	\$5,341,245	\$257,513	\$412,340	\$515,423	\$724,416	\$900,326	\$1,095,845	\$1,103,033
Non-Cash Items										
Amortization	\$647,627	\$648,091	\$678,749	\$858,690	\$856,409	\$852,680	\$1,108,021	\$1,108,492	\$1,098,085	\$1,095,410
Earned Revenue	\$0	(\$260,000)	(\$5,066,840)	(\$41,106)	(\$41,106)	(\$41,106)	(\$592,435)	(\$592,435)	(\$592,435)	(\$777,466)
Net Change in Cash Provided by Operating Activities	\$617,611	\$815,200	\$953,153	\$1,075,096	\$1,227,643	\$1,326,997	\$1,240,002	\$1,416,383	\$1,601,494	\$1,420,977
Capital Activities										
Purchase of TCA	(\$37,142)	(\$1,246,186)	(\$7,830,139)	(\$776,816)	(\$48,904)	(\$10,383,913)	(\$58,361)	(\$62,516)	(\$66,967)	(\$71,735)
Net Change in Cash Used in Capital Activities	(\$37,142)	(\$1,246,186)	(\$7,830,139)	(\$776,816)	(\$48,904)	(\$10,383,913)	(\$58,361)	(\$62,516)	(\$66,967)	(\$71,735)
Financing Activities										
DC Collections	\$316,344	\$329,830	\$318,605	\$338,605	\$359,628	\$381,720	\$391,146	\$401,396	\$412,512	\$419,917
External Financing	\$0	\$0	\$3,785,600	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Proceeds From Long-Term Debt	\$0	\$0	\$999,092	\$0	\$0	\$8,202,381	\$0	\$0	\$0	(\$0)
Repayment of Long-Term Debt	(\$79,118)	\$0	\$0	(\$37,182)	(\$38,297)	(\$39,446)	(\$345,887)	(\$356,264)	(\$366,951)	(\$377,960)
Net Change in Cash Used in Financing Activities	\$237,226	\$329,830	\$5,103,297	\$301,424	\$321,331	\$8,544,655	\$45,259	\$45,132	\$45,561	\$41,957
Net Change in Cash and Cash Equivalents	\$817,696	(\$101,156)	(\$1,773,688)	\$599,704	\$1,500,070	(\$512,261)	\$1,226,901	\$1,398,999	\$1,580,088	\$1,391,199
Cash and Cash Equivalents, Beginning of the Year	\$1,057,150	\$1,874,845	\$1,773,689	\$1	\$599,705	\$2,099,775	\$1,587,514	\$2,814,414	\$4,213,414	\$5,793,502
Cash and Cash Equivalents, End of the Year	\$1,874,845	\$1,773,689	\$1	\$599,705	\$2,099,775	\$1,587,514	\$2,814,414	\$4,213,414	\$5,793,502	\$7,184,701

11 Conclusions & Recommendations

Assuming the recommendations contained in this report are followed, these are the main conclusions regarding the water system:

1. Approximately \$12.8 million in water capital expenditures is identified between 2023 and 2032. Approximately \$12.6 million will be funded from transfers from the water capital reserve, with the balance of capital funding of \$0.2 million coming from development charges.
2. The net annual water expenditures are expected to increase approximately \$0.8 million, from \$5.3 million in 2023 to \$6.1 million by 2032.
3. The financial statements for the water system are prepared based on the results of the rate study analyses and projections, indicate the following:
 - The accumulated surplus is projected to increase from approximately \$98.4 million in 2023 to approximately \$117.7 million by 2032.
 - The operating surplus ratio is projected to stay fairly constant over the forecast period from approximately 34% in 2023 to approximately 29% in 2032.
 - The cash position is projected to increase from \$16.7 million in 2023 to a \$42.0 million in 2032.

These indicate that the financial outlook for the water system over the 10-year period 2023 to 2032 is excellent.

Assuming the recommendations contained in this report are followed, these are the main conclusions regarding the wastewater system:

4. Approximately \$21.0 million in wastewater capital expenditures is identified between 2023 and 2032. Approximately \$6.2 million will be funded from transfers from the wastewater capital reserve, \$9.2 million from the issuance of long-term debt of which \$8.8 million is growth related and therefore serviced from

future development charge receipts, \$3.8 million from external contributions, \$1.7 million from development charges.

5. The net annual wastewater expenditures are expected to increase approximately \$1.8 million, from \$2.5 million in 2023 to \$4.3 million by 2032.
6. The financial statements for the wastewater system are prepared based on the results of the rate study analyses and projections, indicate the following:
 - The accumulated surplus is projected to increase from approximately \$23.0 million in 2023 to approximately \$33.8 million by 2032.
 - The operating surplus ratio is projected to increase from approximately a negative 1% in 2023 to a positive 21%.
 - The cash position is projected to increase from \$1.9 million in 2023 to a \$7.2 million in 2032.

These indicate that the financial outlook for the wastewater system over the 10-year period 2023 to 2032 is excellent.

The following are the recommendations resulting from the water and wastewater rate study:

7. That implementation of Water Rates and Charges as contained in Appendix I be approved to achieve full cost recovery and long-term sustainable financing of the Municipality's water system.
8. That implementation of Wastewater Rates and Charges as contained in Appendix J be approved to achieve full cost recovery and long-term sustainable financing of the Municipality's wastewater system.
9. That transfers to the water and wastewater capital reserves be increased to levels as presented in Appendix F to adequately fund the capital requirements, subject to annual reviews, of the water and wastewater system's capital needs.
10. That the O.Reg. 453/07 Water System Financial Plan including the Financial Statements contained herein be approved by Council and submitted to the Province of Ontario in accordance with the Drinking Water System License renewal requirements and O. Reg. 453/07.
11. That the Wastewater System Financial Plan including the Financial Statements contained herein be received by Council.
12. That a copy of the Water Financial Plan and the Wastewater Financial Plan be posted on the Municipality's website and made available to the public at no charge.

APPENDICIES

Appendix A

2021 Water and Wastewater Rate By-Law No. 98-2021

THE CORPORATION OF THE MUNICIPALITY OF LAMBTON SHORES

BY-LAW 98 OF 2021

**BEING A BY-LAW TO ESTABLISH WATER AND WASTEWATER
USAGE RATES FOR 2022**

WHEREAS the Municipality of Lambton Shores operates municipal water and wastewater systems;

AND WHEREAS the Council of the Municipality of Lambton Shores is required to establish water and wastewater rates in order to provide a safe supply of water, and to finance full cost recovery as legislated by the Province of Ontario;

AND WHEREAS pursuant to the authority granted by *Part XII of the Municipal Act, S.O. 2001, c.25*, as amended the Council of the Municipality of Lambton Shores may pass By-Laws for the setting of fees and charges for services;

AND WHEREAS Council considered a report on the 21st day of December, 2021 at which time, the proposed 2022 water and wastewater usage rates were presented and discussed;

AND WHEREAS the Council deems it appropriate and beneficial to set such water and wastewater usage rates, and amend those rates from time to time;

THEREFORE the Council of the Corporation of the Municipality of Lambton Shores enacts as follows:

1. The rates as listed in Schedule "A", attached, consisting of the monthly base rate, plus a fee for each cubic meter of water used, are approved as the rates for water and wastewater usage in Lambton Shores, and the said Schedule "A" is hereby declared to form part of this By-law.
2. The water and wastewater usage rates and charges imposed by this By-Law are a lien and charge upon the land upon which the said rates and charges are imposed, and if the said rates and charges or any part thereof remain unpaid after the due date, the Treasurer may enter upon the collector's roll the amount due, the person by whom it is due, and the land upon which a lien is claimed and the collector shall proceed to collect it in the same way, as nearly as may be possible, as municipal taxes are collectable.
3. By-Law 68 of 2020 and any and all other By-Laws and resolutions that are inconsistent with the provisions of this By-Law are hereby repealed.
4. This By-law shall come into force and effect on January 1st, 2022.

READ A FIRST, SECOND AND THIRD TIME, AND FINALLY PASSED this 21st day of December, 2021.

Mayor

Clerk

Schedule "A"		
2022	Water	Sewer
Meter Size	Monthly Base Rate	
3/4"	16.20	18.14
1"	30.64	58.82
1 1/2"	55.51	106.55
2"	90.79	174.23
2 1/2"	104.44	200.45
3"	174.44	334.85
4"	287.74	552.25
6"	552.99	1,083.69

Consumption Charge

Per Cubic Meter of Water	3.16	3.50
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Appendix B

2023-2032 Water and Wastewater Customer Growth Projections

Appendix B: Water and Wastewater Customer Growth Projections (2023-2032)

Water Customer Growth										
Meter Size	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
0.75"	6,920	7,023	7,126	7,229	7,332	7,435	7,538	7,641	7,744	7,847
1"	117	124	131	138	145	152	159	166	173	180
1.5'	45	45	45	45	45	45	45	45	45	45
2"	46	46	46	46	46	46	46	46	46	46
2.5"	1	1	1	1	1	1	1	1	1	1
3"	6	6	6	6	6	6	6	6	6	6
4"	7	7	7	7	7	7	7	7	7	7
6"	1	1	1	1	1	1	1	1	1	1
Total	7,143	7,253	7,363	7,473	7,583	7,693	7,803	7,913	8,023	8,133

Wastewater Customer Growth										
Customer Type	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
0.75"	3,010	3,113	3,216	3,319	3,422	3,525	3,628	3,731	3,834	3,937
1"	53	60	67	74	81	88	95	102	109	116
1.5'	17	17	17	17	17	17	17	17	17	17
2"	19	19	19	19	19	19	19	19	19	19
2.5"	-	-	-	-	-	-	-	-	-	-
3"	3	3	3	3	3	3	3	3	3	3
4"	2	2	2	2	2	2	2	2	2	2
6"	-	-	-	-	-	-	-	-	-	-
Total	3,104	3,214	3,324	3,434	3,544	3,654	3,764	3,874	3,984	4,094

Appendix C

2023-2032 Capital Forecast - Water

Appendix C: 2023-2032 Capital Forecast - Water

Description	2022 Budget	Water Capital Forecast									
		2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
-	-	-	-	-	-	-	-	-	-	-	-
Infrastructure Balance - Water Meters	-	-	-	-	-	-	-	-	-	-	-
Meter Changeout Program	200,000	400,000	416,000	216,320	224,973	233,972	243,331	263,186	273,714	284,662	296,049
Bulk Water Stations Upgrades	150,000	-	-	-	-	-	-	-	-	-	-
Theford Booster Station	-	1,500,000	-	-	-	-	-	-	-	-	-
Water Mains	-	-	-	-	-	-	-	-	-	-	-
GB - Ontario St Bridge	-	332,700	-	-	-	-	-	-	-	-	-
GB - Main St E Transmission Main Connection	-	650,000	-	-	-	-	-	-	-	-	-
FO - Athur	-	-	130,000	-	-	-	-	-	-	-	-
FO - York	-	-	104,000	-	-	-	-	-	-	-	-
Road Related Replacements	197,018	202,929	217,378	232,855	249,434	267,194	286,218	318,861	341,563	365,883	391,934
Miscellaneous Items	-	-	-	-	-	-	-	-	-	-	-
LAWS System Capital	96,383	99,274	106,342	113,914	122,025	130,713	140,019	155,988	167,095	178,992	191,736
Infrastructure Renewal	165,000	165,000	171,600	178,464	185,603	193,027	200,748	217,129	225,814	234,846	244,240
Northville Tower maintenance	-	-	520,000	-	-	-	-	-	-	-	-
Arkona Tower Maintenance	250,000	-	-	-	-	-	-	-	-	-	-
Water Equipment	-	-	-	-	-	-	-	-	-	-	-
Portable Generator (OMI)	-	-	-	66,869	-	-	-	-	-	-	-
Trimble Data Collection - ES91669	-	-	7,643	-	-	-	-	-	-	-	-
GB Ontario Street Reconstruction	750,000	-	-	-	-	-	-	-	-	-	-
Growth Related Projects	-	-	-	-	-	-	-	-	-	-	-
Water Master Servicing Plan	-	-	-	-	-	-	-	-	-	-	370,061
-	-	-	-	-	-	-	-	-	-	-	-
Total Capital Expenditures	1,808,401	3,349,903	1,672,963	808,421	782,034	824,905	870,316	955,164	1,008,186	1,064,383	1,494,020
Capital Financing											
Provincial/Federal Grants											
OCIF											
External Contributions											
Development Charges	-	-	-	-	-	-	-	-	-	-	185,031
Non-Growth Related Debenture Requirements	-	-	-	-	-	-	-	-	-	-	-
Growth Related Debenture Requirements	-	-	-	-	-	-	-	-	-	-	-
Water Capital Reserve	1,808,401	3,349,903	1,672,963	808,421	782,034	824,905	870,316	955,164	1,008,186	1,064,383	1,308,989
Total Capital Financing	1,808,401	3,349,903	1,672,963	808,421	782,034	824,905	870,316	955,164	1,008,186	1,064,383	1,494,020

Appendix D

2023-2032 Capital Forecast - Wastewater

Appendix D: 2023-2032 Capital Forecast - Wastewater

Description	2022 Budget	Wastewater Capital Forecast									
		2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
-	-	-	-	-	-	-	-	-	-	-	-
Collection Systems	-	-	-	-	-	-	-	-	-	-	-
Road Related Replacements	36,060	37,142	39,786	42,619	45,654	48,904	52,386	58,361	62,516	66,967	71,735
Miscellaneous Items	-	-	-	-	-	-	-	-	-	-	-
ARK - STP Sand Filtration System	50,000	-	572,000	-	-	-	-	-	-	-	-
ARK- Clarifier Cover	-	-	104,000	-	-	-	-	-	-	-	-
FO - STP Process Equipment	50,000	-	260,000	-	-	-	-	-	-	-	-
FO - Flow Meter Channel	-	-	10,400	-	-	-	-	-	-	-	-
River Road Sanitary Sewer Upgrades	-	-	260,000	-	-	-	-	-	-	-	-
GB - Ontario St Bridge	148,600	-	-	-	-	-	-	-	-	-	-
Forest STP - Rehab	-	-	-	-	-	-	2,129,143	-	-	-	-
Arkona STP - Rehab	-	-	-	-	731,162	-	-	-	-	-	-
Indian Hills STP - Rehab	-	-	-	216,320	-	-	-	-	-	-	-
Indian Hills PS - Electrical Panel, Upgrades	75,000	-	-	-	-	-	-	-	-	-	-
Growth Related Projects	-	-	-	-	-	-	-	-	-	-	-
Wastewater Master Serving Plan	-	-	-	-	-	-	-	-	-	-	370,061
Pump Station	-	-	-	7,571,200	-	-	-	-	-	-	-
Wastewater - GB STP expansion	-	-	-	-	-	-	8,202,381	-	-	-	-
Total Capital Expenditures	359,660	37,142	1,246,186	7,830,139	776,815	48,904	10,383,909	58,361	62,516	66,967	441,796
Capital Financing											
Provincial/Federal Grants											
OCIF	148,600										
External Contributions				3,785,600							
Development Charges	-	-	260,000	1,281,240	-	-	-	-	-	-	185,031
Non-Growth Related Debenture Requirements	-	-	-	387,532	-	-	-	-	-	-	-
Growth Related Debenture Requirements	-	-	-	611,560	-	-	8,202,381	-	-	-	(0)
Wastewater Capital Reserve	211,060	37,142	986,186	1,764,207	776,815	48,904	2,181,529	58,361	62,516	66,967	256,766
Total Capital Financing	359,660	37,142	1,246,186	7,830,139	776,815	48,904	10,383,909	58,361	62,516	66,967	441,796

Appendix E

2023-2032 Water and Wastewater Debt Projections

Appendix E: Water and Wastewater Debt Continuity Schedules (2023-2032)

Table E-1

Water Service Non Growth-Related Debt										
	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Opening Balance	510,925	184,821	140,772	95,316	48,407	-	-	-	-	-
New Debt	-	-	-	-	-	-	-	-	-	-
Principal Repayment	326,104	44,049	45,456	46,909	48,407	-	-	-	-	-
Interest Payment	17,013	5,512	4,105	2,653	1,154	-	-	-	-	-
Closing Balance	184,821	140,772	95,316	48,407	-	-	-	-	-	-

(Note: There is no projected growth-related debt for water)

Table E-2

Wastewater Service Non Growth-Related Debt										
	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Opening Balance	79,118	-	-	387,532	373,110	358,255	342,954	327,195	310,962	294,243
New Debt	-	-	387,532	-	-	-	-	-	-	-
Principal Repayment	79,118	-	-	14,422	14,855	15,301	15,760	16,232	16,719	17,221
Interest Payment	6,982	-	-	11,626	11,193	10,748	10,289	9,816	9,329	8,827
Closing Balance	-	-	387,532	373,110	358,255	342,954	327,195	310,962	294,243	277,022

Table E-3

Wastewater Service Growth-Related Debt										
	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Opening Balance	-	-	-	611,560	588,800	565,358	8,743,593	8,413,465	8,073,434	7,723,202
New Debt	-	-	611,560	-	-	8,202,381	-	-	-	0
Principal Repayment	-	-	-	22,760	23,442	24,146	330,127	340,031	350,232	360,739
Interest Payment	-	-	-	18,347	17,664	16,961	262,308	252,404	242,203	231,696
Closing Balance	-	-	611,560	588,800	565,358	8,743,593	8,413,465	8,073,434	7,723,202	7,362,462

Appendix F-1

2023-2032 Water and Wastewater Reserve and Reserve Fund Projections

Appendix F-1: Water and Wastewater Reserve and Reserve Fund Projections (2023-2032)

Table F-1: 1

Water Service Water Capital Reserve										
Description	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Opening Balance	14,553,819	14,388,347	16,168,507	18,859,052	21,651,381	24,473,065	27,423,263	30,344,438	33,232,165	36,130,042
Transfer from Operating	2,833,496	3,058,769	3,038,990	3,046,281	3,049,684	3,151,654	3,136,231	3,085,371	3,081,040	3,074,171
Transfer to Capital	3,349,903	1,672,963	808,421	782,034	824,905	870,316	955,164	1,008,186	1,064,383	1,308,989
Closing Balance	14,037,412	15,774,153	18,399,075	21,123,299	23,876,161	26,754,403	29,604,330	32,421,624	35,248,821	37,895,223
Interest	350,935	394,354	459,977	528,082	596,904	668,860	740,108	810,541	881,221	947,381

Table F-1: 2

Water Service Water Capital Asset Replacement Values										
Description	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Water Capital Reserves	14,037,412	15,774,153	18,399,075	21,123,299	23,876,161	26,754,403	29,604,330	32,421,624	35,248,821	37,895,223
Replacement Values	493,474,417	513,213,394	533,741,930	555,091,607	577,295,271	600,387,082	624,402,565	649,378,668	675,353,815	702,367,967
Percent of Reserves to Replacement Values	2.8%	3.1%	3.4%	3.8%	4.1%	4.5%	4.7%	5.0%	5.2%	5.4%

Table F-1: 3

Water Service Water Development Charges Reserve Fund										
Description	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Opening Balance	2,285,444	2,342,580	2,401,145	2,461,173	2,522,702	2,585,770	2,650,414	2,716,674	2,784,591	2,854,206
Development Charge Proceeds	-	-	-	-	-	-	-	-	-	-
Transfer to Capital	-	-	-	-	-	-	-	-	-	185,031
Transfer to Operating	-	-	-	-	-	-	-	-	-	-
Closing Balance	2,285,444	2,342,580	2,401,145	2,461,173	2,522,702	2,585,770	2,650,414	2,716,674	2,784,591	2,669,175
Interest	57,136	58,565	60,029	61,529	63,068	64,644	66,260	67,917	69,615	66,729

Appendix F-1: Water and Wastewater Reserve and Reserve Fund Projections (2023-2032)

Table F-1: 4

Wastewater Service Wastewater Capital Reserve										
Description	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Opening Balance	480,689	982,040	811,054	-	309,761	1,491,309	638,438	2,066,629	3,656,669	5,416,683
Transfer from Operating	514,541	795,418	953,153	1,079,021	1,194,079	1,313,085	1,436,146	1,563,370	1,694,867	1,830,751
Transfer to Capital	37,142	986,186	1,764,207	776,815	48,904	2,181,529	58,361	62,516	66,967	256,766
Closing Balance	958,088	791,272	-	302,206	1,454,936	622,866	2,016,223	3,567,482	5,284,569	6,990,668
Interest	23,952	19,782	-	7,555	36,373	15,572	50,406	89,187	132,114	174,767

Table F-1: 5

Wastewater Service Wastewater Capital Asset Replacement Values										
Description	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Wastewater Capital Reserves	958,088	791,272	-	302,206	1,454,936	622,866	2,016,223	3,567,482	5,284,569	6,990,668
Replacement Values	96,037,714	99,879,222	103,874,391	108,029,367	112,350,541	116,844,563	121,518,345	126,379,079	131,434,242	136,691,612
Percent of Reserves to Replacement Values	1.0%	0.8%	0.0%	0.3%	1.3%	0.5%	1.7%	2.8%	4.0%	5.1%

Table F-1: 6

Wastewater Service Wastewater Development Charges Reserve Fund										
Description	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Opening Balance	576,461	892,805	962,635	0	297,499	616,021	956,635	755,345	564,306	384,383
Development Charge Proceeds	294,568	306,351	318,605	331,349	344,603	358,388	372,723	387,632	403,137	419,263
Transfer to Capital		260,000	1,281,240							185,031
Transfer to Operating	-	-	-	41,106	41,106	41,106	592,435	592,435	592,435	592,435
Closing Balance	871,029	939,156	0	290,243	600,996	933,302	736,922	550,542	375,008	26,179
Interest	21,776	23,479	0	7,256	15,025	23,333	18,423	13,764	9,375	654

Appendix F-2

2023-2032 Capital Funding Shortfall

Appendix F-2: Water and Wastewater Capital Funding Shortfall (2023-2032)

Water Service										
Water Capital Funding Shortfall										
Description	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Opening Balance of Capital Funding Shortfall	25,399	180,903	111,134	61,145	3,863	(56,821)	(219,475)	(366,705)	(463,076)	(555,116)
Required Annual Capital Funding	2,989,000	2,989,000	2,989,000	2,989,000	2,989,000	2,989,000	2,989,000	2,989,000	2,989,000	2,989,000
Annual Capital Funding	2,833,496	3,058,769	3,038,990	3,046,281	3,049,684	3,151,654	3,136,231	3,085,371	3,081,040	3,074,171
Annual Capital Funding Shortfall	155,504	(69,769)	(49,990)	(57,281)	(60,684)	(162,654)	(147,231)	(96,371)	(92,040)	(85,171)
Accumulated Capital Funding Shortfall	180,903	111,134	61,145	3,863	(56,821)	(219,475)	(366,705)	(463,076)	(555,116)	(640,287)

Wastewater Service										
Wastewater Capital Funding Shortfall										
Description	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Opening Balance of Capital Funding Shortfall	826,563	1,506,022	1,904,603	2,145,450	2,260,429	2,260,350	2,141,265	1,899,119	1,529,749	1,028,883
Required Annual Capital Funding	1,194,000	1,194,000	1,194,000	1,194,000	1,194,000	1,194,000	1,194,000	1,194,000	1,194,000	1,194,000
Annual Capital Funding	514,541	795,418	953,153	1,079,021	1,194,079	1,313,085	1,436,146	1,563,370	1,694,867	1,830,751
Annual Capital Funding Shortfall	679,459	398,582	240,847	114,979	(79)	(119,085)	(242,146)	(369,370)	(500,867)	(636,751)
Accumulated Capital Funding Shortfall	1,506,022	1,904,603	2,145,450	2,260,429	2,260,350	2,141,265	1,899,119	1,529,749	1,028,883	392,132

Appendix G

2023-2032 Operating Budget Forecast Water

Appendix G: Water Operating Budget Forecast (2023-2032)

Water Service Operating Expenditures	Operating Budget Forecast									
	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
PERSONNEL COSTS	9,407	9,689	9,980	10,279	10,588	10,905	11,232	11,569	11,916	12,274
UTILITIES	61,660	63,510	65,415	67,377	69,399	71,481	73,625	75,834	78,109	80,452
OMI - CONTRACTED SERVICES	638,313	657,462	677,186	697,501	718,426	739,979	762,179	785,044	808,595	832,853
LAWSS - CONTRACTED SERVICES	219,000	225,570	232,337	239,307	246,486	253,881	261,497	269,342	277,423	285,745
NORTH MIDDLESEX CONTRACT	9,925	10,223	10,530	10,845	11,171	11,506	11,851	12,207	12,573	12,950
CONTRACTED SERVICES	212,002	218,362	224,913	231,660	238,610	245,768	253,141	260,735	268,558	276,614
INSURANCE	35,734	36,806	37,910	39,047	40,219	41,425	42,668	43,948	45,266	46,624
VEHICLE OR EQUIPMENT	26,059	26,841	27,646	28,475	29,330	30,210	31,116	32,049	33,011	34,001
WATER PURCHASE	739,000	761,170	784,005	807,525	831,751	856,704	882,405	908,877	936,143	964,227
MATERIALS & SUPPLIES	112,043	115,405	118,867	122,433	126,106	129,889	133,786	137,799	141,933	146,191
MAINTENANCE & REPAIR	16,288	16,777	17,280	17,799	18,333	18,883	19,449	20,033	20,634	21,253
ADMINISTRATIVE OTHER	339,907	433,650	477,243	492,073	509,048	475,219	507,372	573,055	590,247	607,954
RESERVE CONTRIBUTION (To Balance Budget)	-	-	-	-	-	-	-	-	-	-
Sub Total Operating Expenditures	2,419,338	2,575,464	2,683,312	2,764,323	2,849,466	2,885,850	2,990,322	3,130,493	3,224,408	3,321,140
Capital-Related Expenditures										
Existing Debt (Principal) - Non-Growth Related	326,104	44,049	45,456	46,909	48,407	-	-	-	-	-
Existing Debt (Interest) - Non-Growth Related	17,013	5,512	4,105	2,653	1,154	-	-	-	-	-
Transfer to Capital Reserves	2,833,496	3,058,769	3,038,990	3,046,281	3,049,684	3,151,654	3,136,231	3,085,371	3,081,040	3,074,171
Sub Total Capital Related Expenditures	3,176,613	3,108,330	3,088,551	3,095,843	3,099,245	3,151,654	3,136,231	3,085,371	3,081,040	3,074,171
Total Expenditures	5,595,951	5,683,793	5,771,863	5,860,166	5,948,711	6,037,504	6,126,552	6,215,864	6,305,448	6,395,311
Total Non-Rate Revenue	252,505	260,080	267,882	275,918	284,196	292,722	301,504	310,549	319,865	329,461
Net Water Costs To Be Recovered From Users	5,343,447	5,423,714	5,503,981	5,584,248	5,664,515	5,744,782	5,825,049	5,905,316	5,985,583	6,065,850

Appendix H

2023-2032 Operating Budget Forecast Wastewater

Appendix H: Wastewater Operating Budget Forecast (2023-2032)

Wastewater Service Operating Expenditures	Operating Budget Forecast									
	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
PERSONNEL COSTS	5,204	5,360	5,520	5,686	5,857	6,032	6,213	6,400	6,592	6,789
UTILITIES	208,775	215,038	221,489	228,134	234,978	242,027	249,288	256,767	264,470	272,404
OMI - CONTRACTED SERVICES	670,845	690,971	711,700	733,051	755,042	777,693	801,024	825,055	849,807	875,301
CONTRACTED SERVICES	49,294	50,773	52,296	53,865	55,481	57,145	58,859	60,625	62,444	64,317
INSURANCE	50,538	52,054	53,616	55,224	56,881	58,587	60,345	62,155	64,020	65,941
VEHICLE OR EQUIPMENT	6,489	6,684	6,884	7,091	7,303	7,523	7,748	7,981	8,220	8,467
GBAJSB - LS PORTION	482,552	497,028	511,939	527,298	543,116	559,410	576,192	593,478	611,282	629,621
MAINTENANCE & REPAIR	78,795	81,159	83,594	86,101	88,684	91,345	94,085	96,908	99,815	102,810
ADMINISTRATIVE OTHER	348,979	359,449	370,232	381,339	392,779	404,563	416,700	429,201	442,077	455,339
RESERVE CONTRIBUTION (To Balance Budget)	-	-	-	-	-	-	-	-	-	-
Sub Total Operating Expenditures	1,901,471	1,958,515	2,017,270	2,077,788	2,140,122	2,204,326	2,270,455	2,338,569	2,408,726	2,480,988
Capital-Related Expenditures										
Existing Debt (Principal) - Non-Growth Related	79,118	-	-	-	-	-	-	-	-	-
Existing Debt (Interest) - Non-Growth Related	6,982	-	-	-	-	-	-	-	-	-
New Non-Growth Related Debt (Principal)	-	-	-	14,422	14,855	15,301	15,760	16,232	16,719	17,221
New Non-Growth Related Debt (Interest)	-	-	-	11,626	11,193	10,748	10,289	9,816	9,329	8,827
New Growth Related Debt (Principal)	-	-	-	22,760	23,442	24,146	330,127	340,031	350,232	360,739
New Growth Related Debt (Interest)	-	-	-	18,347	17,664	16,961	262,308	252,404	242,203	231,696
Transfer to Capital Reserves and Reserve Funds	514,541	795,418	953,153	1,079,021	1,194,079	1,313,085	1,436,146	1,563,370	1,694,867	1,830,751
Sub Total Capital Related Expenditures	600,641	795,418	953,153	1,146,176	1,261,233	1,380,240	2,054,630	2,181,853	2,313,350	2,449,234
Total Expenditures	2,502,112	2,753,933	2,970,424	3,223,964	3,401,355	3,584,565	4,325,085	4,520,422	4,722,076	4,930,222
Total Non-Rate Revenue	27,295	28,114	28,957	70,932	71,827	72,749	625,027	626,005	627,012	628,049
Net Wastewater Costs To Be Recovered From Users	2,474,817	2,725,819	2,941,466	3,153,032	3,329,528	3,511,817	3,700,058	3,894,417	4,095,065	4,302,173

Appendix I

2023-2032 Sustainable Water Rates and Charges

Appendix I: Projected 2023-2032 Sustainable Water Rates and Charges

BASE RATE CALCULATION

Projected Number of Water Accounts

Meter Size	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
0.75"	6,920	7,023	7,126	7,229	7,332	7,435	7,538	7,641	7,744	7,847
1"	117	124	131	138	145	152	159	166	173	180
1.5"	45	45	45	45	45	45	45	45	45	45
2"	46	46	46	46	46	46	46	46	46	46
2.5"	1	1	1	1	1	1	1	1	1	1
3"	6	6	6	6	6	6	6	6	6	6
4"	7	7	7	7	7	7	7	7	7	7
6"	1	1	1	1	1	1	1	1	1	1
Total	7,143	7,253	7,363	7,473	7,583	7,693	7,803	7,913	8,023	8,133

Projected Annual Water Base Charges

Meter Size	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Annual Increase %Increases	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
0.75"	\$ 194.40	\$ 194.40	\$ 194.40	\$ 194.40	\$ 194.40	\$ 194.40	\$ 194.40	\$ 194.40	\$ 194.40	\$ 194.40
1"	\$ 367.68	\$ 367.68	\$ 367.68	\$ 367.68	\$ 367.68	\$ 367.68	\$ 367.68	\$ 367.68	\$ 367.68	\$ 367.68
1.5"	\$ 666.12	\$ 666.12	\$ 666.12	\$ 666.12	\$ 666.12	\$ 666.12	\$ 666.12	\$ 666.12	\$ 666.12	\$ 666.12
2"	\$ 1,089.48	\$ 1,089.48	\$ 1,089.48	\$ 1,089.48	\$ 1,089.48	\$ 1,089.48	\$ 1,089.48	\$ 1,089.48	\$ 1,089.48	\$ 1,089.48
2.5"	\$ 1,253.28	\$ 1,253.28	\$ 1,253.28	\$ 1,253.28	\$ 1,253.28	\$ 1,253.28	\$ 1,253.28	\$ 1,253.28	\$ 1,253.28	\$ 1,253.28
3"	\$ 2,093.28	\$ 2,093.28	\$ 2,093.28	\$ 2,093.28	\$ 2,093.28	\$ 2,093.28	\$ 2,093.28	\$ 2,093.28	\$ 2,093.28	\$ 2,093.28
4"	\$ 3,452.88	\$ 3,452.88	\$ 3,452.88	\$ 3,452.88	\$ 3,452.88	\$ 3,452.88	\$ 3,452.88	\$ 3,452.88	\$ 3,452.88	\$ 3,452.88
6"	\$ 6,635.88	\$ 6,635.88	\$ 6,635.88	\$ 6,635.88	\$ 6,635.88	\$ 6,635.88	\$ 6,635.88	\$ 6,635.88	\$ 6,635.88	\$ 6,635.88

Projected Annual Revenue Generated from Water Base Charges

Meter Size	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
0.75"	\$ 1,345,248	\$ 1,365,271	\$ 1,385,294	\$ 1,405,318	\$ 1,425,341	\$ 1,445,364	\$ 1,465,387	\$ 1,485,410	\$ 1,505,434	\$ 1,525,457
1"	\$ 43,019	\$ 45,592	\$ 48,166	\$ 50,740	\$ 53,314	\$ 55,887	\$ 58,461	\$ 61,035	\$ 63,609	\$ 66,182
1.5"	\$ 29,975	\$ 29,975	\$ 29,975	\$ 29,975	\$ 29,975	\$ 29,975	\$ 29,975	\$ 29,975	\$ 29,975	\$ 29,975
2"	\$ 50,116	\$ 50,116	\$ 50,116	\$ 50,116	\$ 50,116	\$ 50,116	\$ 50,116	\$ 50,116	\$ 50,116	\$ 50,116
2.5"	\$ 1,253	\$ 1,253	\$ 1,253	\$ 1,253	\$ 1,253	\$ 1,253	\$ 1,253	\$ 1,253	\$ 1,253	\$ 1,253
3"	\$ 12,560	\$ 12,560	\$ 12,560	\$ 12,560	\$ 12,560	\$ 12,560	\$ 12,560	\$ 12,560	\$ 12,560	\$ 12,560
4"	\$ 24,170	\$ 24,170	\$ 24,170	\$ 24,170	\$ 24,170	\$ 24,170	\$ 24,170	\$ 24,170	\$ 24,170	\$ 24,170
6"	\$ 6,636	\$ 6,636	\$ 6,636	\$ 6,636	\$ 6,636	\$ 6,636	\$ 6,636	\$ 6,636	\$ 6,636	\$ 6,636
Total Base Charge Revenues	\$ 1,512,977	\$ 1,535,574	\$ 1,558,171	\$ 1,580,768	\$ 1,603,365	\$ 1,625,962	\$ 1,648,559	\$ 1,671,156	\$ 1,693,753	\$ 1,716,350

UNIFORM RATE CALCULATION

Projected Annual Uniform Water Rates & Revenues

	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Annual % Increase	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Rates	\$ 3.16	\$ 3.16	\$ 3.16	\$ 3.16	\$ 3.16	\$ 3.16	\$ 3.16	\$ 3.16	\$ 3.16	\$ 3.16
Consumption	1,212,174	1,230,424	1,248,674	1,266,924	1,285,174	1,303,424	1,321,674	1,339,924	1,358,174	1,376,424
Total Volumetric Revenue	\$ 3,830,470	\$ 3,888,140	\$ 3,945,810	\$ 4,003,480	\$ 4,061,150	\$ 4,118,820	\$ 4,176,490	\$ 4,234,160	\$ 4,291,830	\$ 4,349,500

TOTAL WATER USER REVENUES

Projected Annual Revenues and Expenses

	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Base Charge Revenues	\$ 1,512,977	\$ 1,535,574	\$ 1,558,171	\$ 1,580,768	\$ 1,603,365	\$ 1,625,962	\$ 1,648,559	\$ 1,671,156	\$ 1,693,753	\$ 1,716,350
Volumetric Revenues	\$ 3,830,470	\$ 3,888,140	\$ 3,945,810	\$ 4,003,480	\$ 4,061,150	\$ 4,118,820	\$ 4,176,490	\$ 4,234,160	\$ 4,291,830	\$ 4,349,500
Total Water Revenues	\$ 5,343,447	\$ 5,423,714	\$ 5,503,981	\$ 5,584,248	\$ 5,664,515	\$ 5,744,782	\$ 5,825,049	\$ 5,905,316	\$ 5,985,583	\$ 6,065,850

Appendix J

2023-2032 Sustainable Wastewater Rates and Charges

Appendix J: Projected 2023-2032 Sustainable Wastewater Rates and Charges

BASE RATE CALCULATION

Projected Number of Wastewater Accounts

Meter Size	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
0.75"	3,010	3,113	3,216	3,319	3,422	3,525	3,628	3,731	3,834	3,937
1"	53	60	67	74	81	88	95	102	109	116
1.5"	17	17	17	17	17	17	17	17	17	17
2"	19	19	19	19	19	19	19	19	19	19
2.5"	-	-	-	-	-	-	-	-	-	-
3"	3	3	3	3	3	3	3	3	3	3
4"	2	2	2	2	2	2	2	2	2	2
6"	-	-	-	-	-	-	-	-	-	-
Total	3,104	3,214	3,324	3,434	3,544	3,654	3,764	3,874	3,984	4,094

Projected Annual Wastewater Base Charges

Meter Size	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Annual Increase %Increases	6.0%	6.0%	4.0%	4.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
0.75"	\$ 231	\$ 245	\$ 254	\$ 265	\$ 270	\$ 275	\$ 281	\$ 286	\$ 292	\$ 298
1"	\$ 748	\$ 793	\$ 825	\$ 858	\$ 875	\$ 892	\$ 910	\$ 929	\$ 947	\$ 966
1.5"	\$ 1,355	\$ 1,437	\$ 1,494	\$ 1,554	\$ 1,585	\$ 1,617	\$ 1,649	\$ 1,682	\$ 1,716	\$ 1,750
2"	\$ 2,216	\$ 2,349	\$ 2,443	\$ 2,541	\$ 2,592	\$ 2,644	\$ 2,696	\$ 2,750	\$ 2,805	\$ 2,861
2.5"	\$ 2,550	\$ 2,703	\$ 2,811	\$ 2,923	\$ 2,982	\$ 3,041	\$ 3,102	\$ 3,164	\$ 3,228	\$ 3,292
3"	\$ 4,259	\$ 4,515	\$ 4,695	\$ 4,883	\$ 4,981	\$ 5,081	\$ 5,182	\$ 5,286	\$ 5,392	\$ 5,499
4"	\$ 7,025	\$ 7,446	\$ 7,744	\$ 8,054	\$ 8,215	\$ 8,379	\$ 8,547	\$ 8,718	\$ 8,892	\$ 9,070
6"	\$ 13,785	\$ 14,612	\$ 15,196	\$ 15,804	\$ 16,120	\$ 16,442	\$ 16,771	\$ 17,107	\$ 17,449	\$ 17,798

Projected Annual Revenue Generated from Wastewater Base Charges

Meter Size	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
0.75"	\$ 694,530	\$ 761,394	\$ 818,050	\$ 878,020	\$ 923,373	\$ 970,189	\$ 1,018,509	\$ 1,068,373	\$ 1,119,824	\$ 1,172,906
1"	\$ 39,654	\$ 47,585	\$ 55,262	\$ 63,477	\$ 70,871	\$ 78,536	\$ 86,479	\$ 94,708	\$ 103,231	\$ 112,058
1.5"	\$ 23,040	\$ 24,423	\$ 25,400	\$ 26,416	\$ 26,944	\$ 27,483	\$ 28,033	\$ 28,593	\$ 29,165	\$ 29,748
2"	\$ 42,108	\$ 44,634	\$ 46,420	\$ 48,277	\$ 49,242	\$ 50,227	\$ 51,231	\$ 52,256	\$ 53,301	\$ 54,367
2.5"	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3"	\$ 12,778	\$ 13,545	\$ 14,086	\$ 14,650	\$ 14,943	\$ 15,242	\$ 15,546	\$ 15,857	\$ 16,175	\$ 16,498
4"	\$ 14,049	\$ 14,892	\$ 15,488	\$ 16,107	\$ 16,430	\$ 16,758	\$ 17,093	\$ 17,435	\$ 17,784	\$ 18,140
6"	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Base Charge Revenues	\$ 826,159	\$ 906,473	\$ 974,705	\$ 1,046,946	\$ 1,101,803	\$ 1,158,435	\$ 1,216,891	\$ 1,277,223	\$ 1,339,480	\$ 1,403,718

UNIFORM RATE CALCULATION

Projected Annual Uniform Wastewater Rates & Revenues

	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Annual % Increase	6.0%	6.0%	4.0%	4.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
Rates	\$ 3.71	\$ 3.93	\$ 4.09	\$ 4.25	\$ 4.34	\$ 4.43	\$ 4.51	\$ 4.60	\$ 4.70	\$ 4.79
Consumption	444,382	462,632	480,882	499,132	517,382	535,632	553,882	572,132	590,382	608,632
Total Volumetric Revenue	\$ 1,648,657	\$ 1,819,347	\$ 1,966,761	\$ 2,123,058	\$ 2,244,698	\$ 2,370,355	\$ 2,500,139	\$ 2,634,167	\$ 2,772,557	\$ 2,915,428

TOTAL WASTEWATER USER REVENUES

Projected Annual Revenues and Expenses

	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Base Charge Revenues	\$ 826,159	\$ 906,473	\$ 974,705	\$ 1,046,946	\$ 1,101,803	\$ 1,158,435	\$ 1,216,891	\$ 1,277,223	\$ 1,339,480	\$ 1,403,718
Volumetric Revenues	\$ 1,648,657	\$ 1,819,347	\$ 1,966,761	\$ 2,123,058	\$ 2,244,698	\$ 2,370,355	\$ 2,500,139	\$ 2,634,167	\$ 2,772,557	\$ 2,915,428
Total Wastewater Revenues	\$ 2,474,817	\$ 2,725,819	\$ 2,941,466	\$ 3,170,004	\$ 3,346,501	\$ 3,528,789	\$ 3,717,030	\$ 3,911,390	\$ 4,112,037	\$ 4,319,146

Appendix K

Requirements of O. Reg. 453/07

Appendix K: Requirements of O.Reg. 453/07

Requirements			How Requirements are Met
1.	The financial plan must be approved by a resolution that is passed by,		
	i.	The council of the municipality, if the owner of the drinking water system is a municipality.	<ul style="list-style-type: none"> It is expected the Council will approve the updated financial plan before December 31, 2023.
	ii.	The governing body of the owner, if the owner of the drinking water system has a governing body and is not a municipality.	<ul style="list-style-type: none"> N/A
2.	The financial plan must apply to a period of at least six years.		As the financial plan is based on the Water and Wastewater Rate Review, it will run for the 10-year period from 2023 to 2032 inclusive.
3.	The first year to which the financial plan must apply must be the year determined in accordance with the following rules:		
	i.	If the financial plan is required by subsection 2, the first year to which the financial plan must apply must be the year in which the drinking water system's existing municipal drinking water licence would otherwise expire. Financial Plan can be updated before they otherwise expire.	<ul style="list-style-type: none"> The financial plan is being updated in 2023 to coincide with the results of the water and wastewater rates review.
	ii.	If the financial plan is required by a condition that was included in a municipal drinking water licence under subsection 1 (3), the first year to which the financial plans must apply must be the later of 2010 and the year in which the first licence for the system was issued.	<ul style="list-style-type: none"> N/A
4.	Subject to subsection (2), for each year to which the financial plan apply, the financial plan must include the following:		
	i.	Details of the proposed or projected financial position of the drinking water system itemized by:	<ul style="list-style-type: none"> See Statement of Financial Position for all water systems combined in Financial Plan.
		a. Total financial assets	<ul style="list-style-type: none"> See Statement of Financial Position for all water systems combined in Financial Plan.
		b. Total liabilities	<ul style="list-style-type: none"> See Statement of Financial Position for all water systems combined in Financial Plan.
		c. Net financial assets (debt)	<ul style="list-style-type: none"> See Statement of Financial Position for all water systems combined in Financial Plan.
		d. Non-financial assets that are tangible capital assets, tangible capital assets under construction, inventories of supplies and prepaid expenses.	<ul style="list-style-type: none"> See Statement of Financial Position for all water systems combined in Financial Plan. TCA Projections in Financial Plan.

Appendix K: Requirements of O.Reg. 453/07

		e. Changes in tangible capital assets that are additions, donations, write downs and disposals.	<ul style="list-style-type: none"> See Statement of Financial Position for all water systems combined in Financial Plan. TCA Projections in Financial Plan.
	ii.	Details of the proposed or projected financial operations of the drinking water system itemized by,	<ul style="list-style-type: none"> See Statement of Operations for all water systems combined in Financial Plan.
		a. Total revenues, further itemized by water rates, user charges and other revenues.	<ul style="list-style-type: none"> See Statement of Operations for all water systems combined in Financial Plan.
		b. Total expenses, further itemized by amortization expenses, interest expenses and other expenses	<ul style="list-style-type: none"> See Statement of Operations for all water systems combined in Financial Plan.
		c. Annual surplus or deficit, and	<ul style="list-style-type: none"> See Statement of Operations for all water systems combined in Financial Plan.
		d. Accumulated surplus or deficit	<ul style="list-style-type: none"> See Statement of Operations for all water systems combined in Financial Plan.
	iii.	Details of the drinking water system's proposed or projected gross cash receipts and gross cash payments itemized by,	<ul style="list-style-type: none"> See Statement of Cash Flow for all water systems combined in Financial Plan.
		a. Operating transactions that are cash received from revenues, cash paid for operating expenses and finance charges, - done in full cost report	<ul style="list-style-type: none"> See Statement of Cash Flow for all water systems combined in Financial Plan.
		b. Capital transactions that are proceeds on the sale of tangible capital assets and cash used to acquire capital assets,	<ul style="list-style-type: none"> See Statement of Cash Flow for all water systems combined in Financial Plan.
		c. Investing transactions that are acquisitions and disposal of investments,	<ul style="list-style-type: none"> See Statement of Cash Flow for all water systems combined in Financial Plan.
		d. Financing transactions that are proceeds from the issuance of debt and debt repayment.	<ul style="list-style-type: none"> See Statement of Cash Flow for all water systems combined in Financial Plan.
		e. Changes in cash and cash equivalents during the year,	<ul style="list-style-type: none"> See Statement of Cash Flow for all water systems combined in Financial Plan.
		f. Cash and cash equivalents at the beginning and end of the year.	<ul style="list-style-type: none"> See Statement of Cash Flow for all water systems combined in Financial Plan.
	iv.	Details of the extent to which the information described in subparagraphs i, ii and iii relates directly to the replacement of lead service pipes as defined in section 15.1- 3 of Schedule 15.1 to Ontario Regulation 170/03 (Drinking Water Systems), made under the Act.	<ul style="list-style-type: none"> There is no dedicated lead service pipe removal program in place. If lead pipe is discovered during normal operations, it is replaced accordingly. Therefore, there are no significant material financial costs associated with lead pipe removal.
5.	The owner of the drinking water system must.		
	i.	Make the financial plans available, on request, to members of the public who are served by the drinking water system without charge,	<ul style="list-style-type: none"> This will be done by the municipality following Council approval.

Appendix K: Requirements of O.Reg. 453/07

	ii.	Make the financial plans available to members of the public without charge through publication on the Internet, if the owner maintains a website on the Internet,	<ul style="list-style-type: none"> The Financial Plan will be posted on the Municipality's website and made available for public review at no charge.
	iii.	Provide notice advising the public of the availability of the financial plans under subparagraphs i and ii, if applicable, in a manner that, in the opinion of the owner, will bring the notice to the attention of members of the public who are served by the drinking water system.	<ul style="list-style-type: none"> A notice will be issued following Council approval.
6.		The owner of the drinking water system must give a copy of the financial plans to the Ministry of Municipal Affairs and Housing. O. Reg. 453/07, s. 3 (1).	<ul style="list-style-type: none"> Will be submitted following Council approval.
		Each of the following sub-subparagraphs applies only if the information referred to in the sub-subparagraph is known to the owner at the time the financial plans are prepared.	<ul style="list-style-type: none"> The Financial Plan was prepared using available information at the time of preparation and may not contain all desired items. Reasonable assumptions were made and these are noted in the Financial Plan.
	1.	Sub-subparagraphs 4 i A, B and C of subsection (1).	<ul style="list-style-type: none"> The Financial Plan was prepared using available information at the time of preparation and may not contain all desired items. Reasonable assumptions were made and these are noted in the Financial Plan.
	2.	Sub-subparagraphs 4 iii A, C, E and F of subsection (1). O. Reg. 453/07, s. 3 (2).	<ul style="list-style-type: none"> The Financial Plan was prepared using available information at the time of preparation and may not contain all desired items. Reasonable assumptions were made and these are noted in the Financial Plan.