DRAFT REPORT

PREPARED BY HEMSON FOR THE TOWN OF NEW TECUMSETH

TOWN OF NEW TECUMSETH WATER AND WASTEWATER RATE STUDY

January 2024

HEMSON

1000 - 30 St. Patrick Street, Toronto ON M5T 3A3

416 593 5090 | hemson@hemson.com | www.hemson.com

CONTENTS

Executive Summary

The Town of New Tecumseth's water and wastewater systems provide service to Town residents and the non-residential customer base. The Town of New Tecumseth is responsible for the costs of distribution, maintenance, and general operations of maintaining the system and charges utility rates to the end-users directly based on the principles of full-cost recovery. Utility bills are issued once every three months for all residential and non-residential customers.

The Town of New Tecumseth has not completed a comprehensive Water and Wastewater Rate Study. Therefore, on direction of Council, the Town of New Tecumseth has initiated this Water and Wastewater Rate Study. The scope of the assignment is to deliver a long-term water and wastewater financial recovery plan to fund current and future operations (direct and indirect), growth related capital expansion (and associated financing costs), and the rehabilitation and eventual replacement of existing infrastructure. Furthermore, the analysis will ensure that the water and wastewater rate structure will allow the Town to meet its financial obligations and ensure long-term sustainability.

In undertaking the analysis, a long-term financial planning model covering a ten-year period from 2024 to 2033 was developed, with 2023 as a budget base year. As the Town is moving into a period where substantial growth is anticipated and cost and revenue assumptions can change, it is recommended that the Town review the rate study every five years as details surrounding growth and costs become more refined. Although this analysis includes the ten-year period, Town staff and Council should consider the immediate three-to-five years for rate setting purposes. The analysis was prepared using 2023 budget information to inform new utility rates for 2024 as the 2023 rates were already approved by Town Council prior to initiating the study. The study recommends that utility rates increase to fund operating costs, the non-growth capital program and also makes a provision to reserves for future asset repair and replacement.

The key proposed changes include:

- Water consumption charges are proposed to increase by 15.0% in 2024 and 2025, 12.5% in 2026 and 2027, and 10.0% in 2028.
- Wastewater consumption charges are proposed to increase by 8.5% per year from 2024-2028.
- No changes to the Town's rate structure is proposed in this update.

Taking into consideration the key changes above, the full cost recovery rate analysis reveals:

- The required water user rate revenue in 2024 is forecast to be about $9.4 million. This is the amount of revenue that must be collected through the sale of water to fully recover the operating, capital, rehabilitation and replacement costs of the water system.

- The required wastewater user rate revenue in 2024 is forecast to be about $7.8 million. This is the amount of revenue that must be collected through the wastewater rates to fully recover the operating, capital, rehabilitation and replacement costs of the wastewater system.

- Over the long-term, the net rate funding requirements for both the Town's water and wastewater systems are expected to increase. The cost increases can largely be attributed to carrying out the capital asset repair and replacement program, increasing utility operational costs as well as increased capital asset management contributions. The water and wastewater net rate funding requirements are projected to increase to about $23.8 million and $17.4 million respectively by 2033.

In order for the Town to recover the costs associated with providing these services, necessary adjustments to the utility rates are required. The table below provides a snapshot of the calculated utility rates required over the immediate 5-year calculation period (post 2023). A few important findings and considerations:

- A typical household (averaging 200 m^3 per year) will see their annual water and wastewater bill increase by 11.8%, or about $134 in 2024 only. On average, the typical bill increase for a household consuming 200 m^3 would be 10.8% per annum over the 5-year period.

CALCULATED UTILITY RATES (5-YEAR PROJECTION)					
ALL ACCOUNTS	**2024**	**2025**	**2026**	**2027**	**2028**
Water Services					
Consumption Charge: $/m3 <30,000m3	**$2.92**	**$3.36**	**$3.78**	**$4.25**	**$4.68**
Consumption Charge: $/m3 >30,000m3	**$2.15**	**$2.47**	**$2.78**	**$3.13**	**$3.44**
Change (%)	*15.0%*	*15.0%*	*12.5%*	*12.5%*	*10.0%*
Consumption Charge: $/m3 Baxter(2)	**$1.82**	**$2.47**	**$2.78**	**$3.13**	**$3.44**
Change (%)	*18.2%*	*35.7%*	*12.5%*	*12.5%*	*10.0%*
Water Bill (200 m^3/annum)	**$584**	**$672**	**$756**	**$850**	**$936**
Change (%)	*15.0%*	*15.0%*	*12.5%*	*12.5%*	*10.0%*

CALCULATED UTILITY RATES (5-YEAR PROJECTION)					
ALL ACCOUNTS	**2024**	**2025**	**2026**	**2027**	**2028**
Wastewater Services					
Consumption Charge: $/m3 <30,000m3	**$2.76**	**$2.99**	**$3.24**	**$3.52**	**$3.82**
Consumption Charge: $/m3 >30,000m3	**$2.03**	**$2.20**	**$2.39**	**$2.59**	**$2.81**
Change (%)	*8.5%*	*8.5%*	*8.5%*	*8.5%*	*8.5%*
Consumption Charge: $/m3 Baxter[1]	**$1.82**	**$2.20**	**$2.39**	**$2.59**	**$2.81**
Change (%)	*18.2%*	*20.9%*	*8.6%*	*8.4%*	*8.5%*
Wastewater Bill (200 m^3/annum)	**$552**	**$598**	**$648**	**$704**	**$764**
Change (%)	*8.5%*	*8.5%*	*8.5%*	*8.5%*	*8.5%*
Total Water & Wastewater					
Total Typical Bill [3] (200 m^3/annum)	**$1,136**	**$1,270**	**$1,404**	**$1,554**	**$1,700**
Change (%)	*11.8%*	*11.8%*	*10.6%*	*10.7%*	*9.4%*
Note: The Baxter rates will align to the >30,000 m^3 rates beginning in 2025.					

Staff have been provided with the utility rate setting full-cost model to monitor costs and revenues and assist with future fee updates. It is recommended the Town undertake a comprehensive review every five years to ensure that a nexus between costs and revenues is maintained over time and that rates remain competitive with surrounding municipalities.

1. Background and Study Objective

A. BACKGROUND

The Town of New Tecumseth provides potable water and distribution services to residents while also providing wastewater collection and treatment services. The water and wastewater business units administer these services to approximately 10,700 active accounts across the Town.

To provide potable water and distribution services, the Town maintains three major water systems: the Alliston Water Supply System, the Tottenham Well Supply System, and the Hillcrest Well Supply System.

- The Town maintains six groundwater wells for the Alliston Water Supply System, which distributes treated water to Alliston and Beeton. The Town supplements the groundwater supply with surface water from the Raymond A. Barker Ultra-Filtration Plant in Collingwood. The Town also treats the water for the Alliston Water Supply System at the Parsons Road Reservoir.

- The Tottenham Well Supply System contains four groundwater wells and the Town treats the water at the Mill Street Reservoir. The Alliston Water Supply System supplements the Tottenham Well Supply System.

- The Hillcrest Well Supply System distributes treated water to the community of Hillcrest. The system contains one groundwater production well and one reservoir in the northern part of Alliston. The Alliston Water Supply System supplements the Hillcrest Well Supply System.

The Town treats and collects wastewater via the Alliston Wastewater Treatment System, Brendan Holly (Regional) Wastewater Treatment System, and Tottenham Wastewater Treatment System.

- The Alliston Wastewater Treatment System consists of the north end of Alliston and sewage is collected with gravity and sanitary pipes. Sewage is treated at the Alliston Wastewater Treatment Plan and the area contains four wastewater pumping stations.

- The Brendan Holly (Regional) Wastewater Treatment System, which collects water from the south end of Alliston and Beeton, consists of both gravity and pressurized sanitary pipes. The collection area contains five pumping stations that direct wastewater to the Brendan Holly (Regional) Wastewater Treatment Plant. One pumping station, the Church Street SPS, directs a small amount of predetermined wastewater to the Alliston Wastewater Treatment Plan.

- The Tottenham Wastewater Treatment System collects wastewater from the Village of Tottenham and consists of gravity and pressurized sanitary pipes. The collection area has four wastewater pumping stations and wastewater is treated at the Tottenham Wastewater Treatment Plant.

The Town's water and wastewater systems are built and maintained to meet all regulatory standards of quality and to minimize environmental impacts. Maintaining these systems to regulatory standards requires significant operating and capital investment on an ongoing basis. Therefore, the Town funds its water and wastewater costs through user fees charged to its customers on the basis of a full cost recovery system. The fee structure for water and wastewater services in the Town is a consumption charge for each cubic metre of water consumed.

Consistent with the requirements of the *Safe Drinking Water Act, 2002* (the SDWA) and its associated regulation *Ontario Regulation 453/07* (O. Reg. 453/07), the Town completed its last Water Financial Plan in December 2020. However, the Town has not completed a comprehensive Water and Wastewater Rate Study. Therefore, this Water and Wastewater Rate Study is a major update to the work completed in 2020 that calculates full cost recovery water and wastewater rates to maintain both systems in a sustainable way.

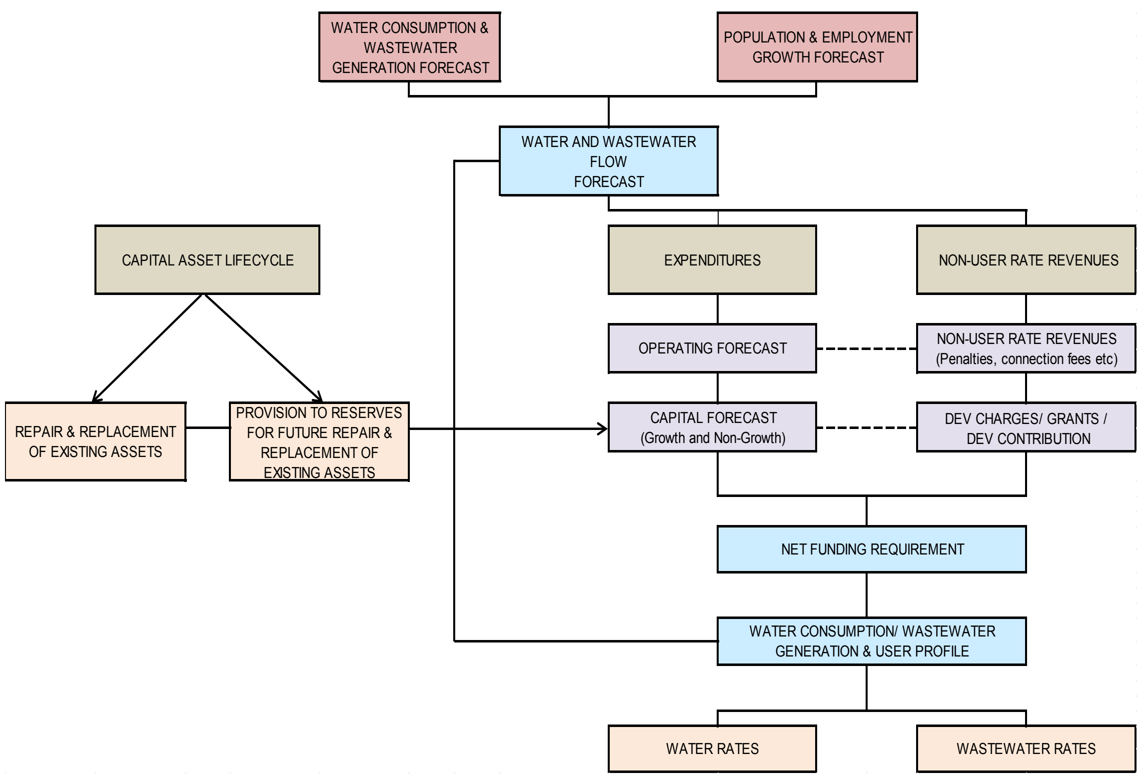
B. STUDY OBJECTIVE

The objective of this study is to review the existing rate structure and calculate full cost recovery rates consistent with the Town's overall cost recovery policies. The rates are expected to be brought forward annually for formal approval through the Town's regular budget process.

The first step in the study is to establish a forecast of new users as this is the basis for determining anticipated water consumption and wastewater generation levels. The study examines the forecast period from 2024 through 2033. However, it should be noted that the study and analysis was prepared using 2023 budget information and uses 2023 as a base year. Following the demographic analysis, the current water and wastewater rates, reserves and annual operating and capital budgets are analyzed. Based on this analysis, the financial position of the Town's water and wastewater systems is determined. The next step in the study process is to examine the existing rate structure and calculate full cost recovery rates. The final step in the process is to evaluate the impacts of implementing the full cost recovery rates to the residents of the Town.

In undertaking this analysis, an Excel financial model was developed and serves as a dynamic rate setting tool. Using the model, the Town is able to perform sensitivity analyses of the water and wastewater rates. The model calculates future capital expenditure requirements and projects future operating and maintenance costs. It also calculates the water and wastewater rates necessary to recover the full costs of the water and wastewater systems. The following diagram (Figure 1) illustrates the overall approach.

Figure 1: Utility Rate Setting Model



2. DEMAND ANALYSIS

Demands placed on the system by water consumers will primarily drive future costs of the Town's water and wastewater systems. Therefore, a forecast of future consumption demands has been developed to inform the demand analysis.

A. PROJECTION OF NEW CONNECTIONS

The population and employment projections outlined in the Town's 2021 Development Charges Background Study, the recent County MCR and discussions with Town staff regarding future development activity helped inform the forecast of new projected connections contained in this study.

In 2023, the Town had about 10,700 billable connections that receive water services and about 10,600 that receive wastewater services. For the purposes of this study, it is assumed that all new households will be connected to both water and wastewater services. For 2024, it is estimated the Town will have about 11,000 billable connections that receive water services and about 10,900 that receive wastewater services. By the end of the planning period, in 2033, it is expected that the number of connections will increase to about 14,500 water connections and 14,300 wastewater connections, averaging about 370 new connections per year from 2024-2033.

B. CONSUMPTION FORECAST

The water demand forecast over the planning period of 2024-2033 was developed using actual 2016 to 2022 metered consumption data.

In our most recent water and wastewater rate studies, we have found that customer profiles have been changing over time: generally, water consumption patterns have been declining, even with the addition of new residential and non-residential units. This trend can be seen in the Town and other jurisdictions across the Province. The reduced level of water consumption can largely be related to:

- Demographic changes and household formation sizes – there are fewer people residing in each dwelling unit, ultimately reducing the water use in each household;
- Initiatives by industrial/commercial operations – non-residential users continue to adapt their business processes to be more efficient and environmentally friendly; and

- Efficiency improvements for household appliances – technological improvements have noticeably reduced demand. For example, present-day dishwashers and washing machines are very economical in terms of water use.

For the purpose of setting a utility rate, only the water that is billed to the end-user is incorporated into the analysis and used to calculate utility rates. This is referred to as billable (or metered) water and includes all residential and non-residential consumption. Overall, total billed water is moderated in the early years of the forecast to reflect a general decline in consumption per connection seen in the Town. However, billable consumption is projected to modestly increase over the planning period as a result of the new growth anticipated to take place. Despite the modest growth in cumulative billed water and wastewater, consumption on a per connection basis continues to decline as the overall decline from the existing base continues to be realized. Figures 2 and 3 illustrate the historical patterns and forecasts of water and wastewater demand throughout the planning period to 2033. In 2023, the Town expected to bill about 3.5 million m^3 of water and 3.0 million m^3 of wastewater. Total consumption for water is expected to grow to about 4.3 million m^3 of water and 3.9 million m^3 of wastewater by 2033.

Details regarding the connections and forecast of consumption for the water and wastewater systems are set out in the detailed rate calculations illustrated in Appendix A.

Figure 2: Historical vs. Projected Water Demands (m3)

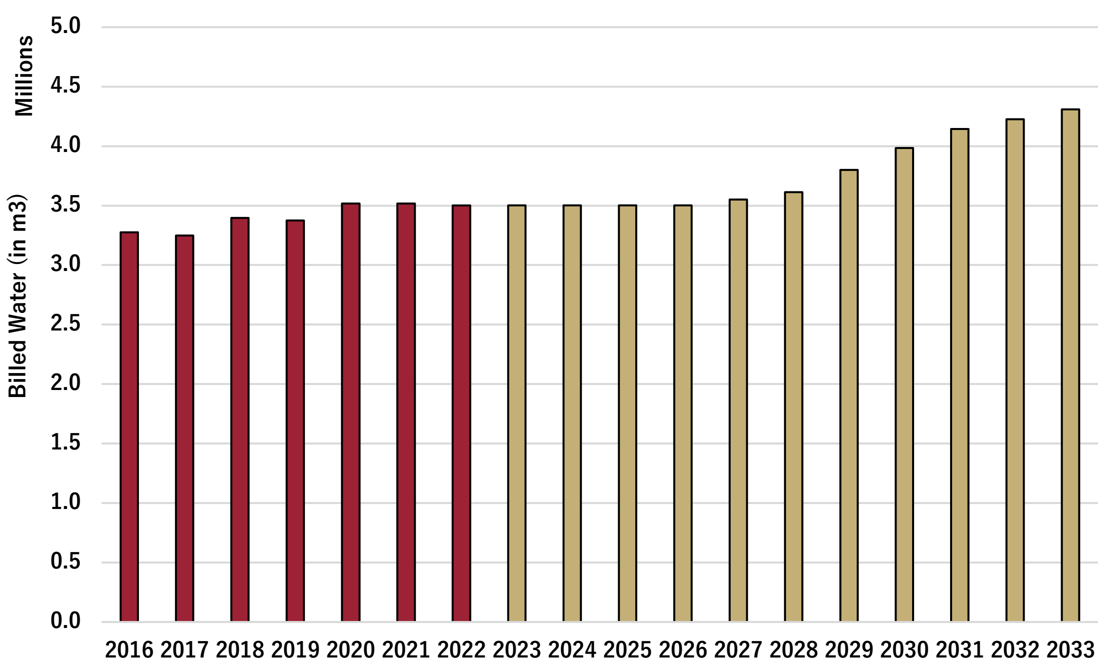
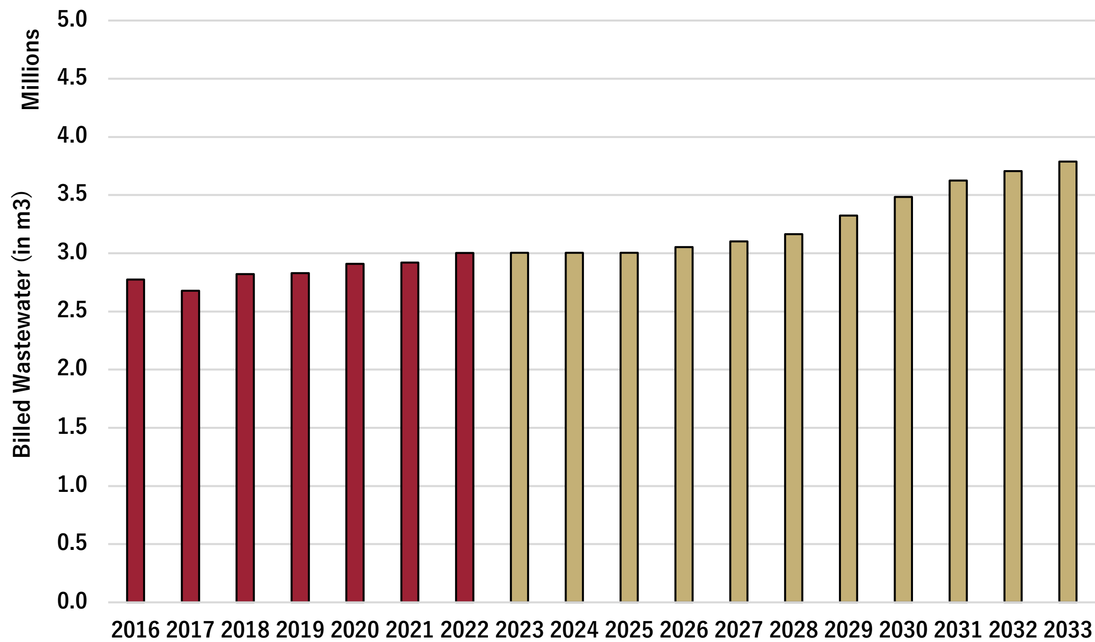


Figure 3: Historical vs. Projected Wastewater Demands (m3)



3. Operation and Maintenance Costs

A. OPERATING EXPENDITURES

The Town of New Tecumseth incurs costs to ensure the utility systems are operated in accordance to Provincial legislation that guarantees safety and quality. Operating expenditures include salaries and benefits, materials, contracts, services, hydro, utility costs, water purchasing agreement and also include debt-servicing costs.

In 2023, budgeted water operating expenditures totaled about $8.4 million. The total operating expenditures for the water system in 2024 is expected to be about $10.6 million and anticipated to increase to $20.0 million by 2033. For wastewater, budgeted operating expenditures totaled about $9.9 million in 2023. The total operating expenditures for the wastewater system in 2024 is anticipated to be about $9.9 million and expected to increase to $15.3 million by 2033.

The escalation in costs for both water and wastewater can generally be attributed to:

- A general increase in operational expenditures and water purchasing costs.
- Additional debt financing requirements (principal and interest payments) associated with carrying out the non-growth capital program.
- Lastly, the inclusion for enhanced services and programs, which may be required in order for the Town to continue to adapt to ongoing legislative requirements, customer demands and potential increased costs associated with the new growth in connections anticipated over the period.

Table 1 below summarizes the total forecasted operating expenditures for water and wastewater services. The transfers to reserves and in-year rate funded capital requirements are identified separately and can be found in Section 4 of this report.

TABLE 1: ANTICIPATED OPERATING EXPENSES ($000)

	2023 BUDGET	2024	2028	2033
Operating	*$4,372.8*	*$5,383.6*	*$6,215.9*	*$7,869.2*
Water Purchasing	*$1,760.5*	*$1,890.8*	*$2,332.2*	*$3,146.9*
Existing Debts	*$2,244.1*	*$3,294.7*	*$1,535.6*	*$840.9*
Future Debts	-	-	*$7,085.2*	*$8,102.9*
Total Water	**$8,377.4**	**$10,569.1**	**$17,168.9**	**$19,959.9**

TABLE 1: ANTICIPATED OPERATING EXPENSES ($000)				
	2023 BUDGET	**2024**	**2028**	**2033**
Operating	*$5,675.0*	*$7,000.0*	*$8,092.2*	*$10,344.7*
Existing Debts	*$4,189.5*	*$4,185.9*	*$4,055.9*	*$1,345.7*
Future Debts	-	-	*$1,149.1*	*$3,558.5*
Total Wastewater	**$9,864.5**	**$11,185.9**	**$13,297.2**	**$15,248.9**

Note: Town debentures are funded through development charges.

i. General Operating Expenditures

Using the Town's 2023 operating budget as the base, most operating expenditures are assumed to increase at a rate of 2.0% annually to account for inflation. Fuel, chemical, and hydro costs are assumed to increase at 4.0 to 5.0% annually to reflect higher historical costs. Insurance and licensing costs are projected to increase at 10.0% annually, in line with recent trends. Other operating expenditures such as employee benefits, training, and salaries are assumed to increase at 3.0%. Finally, water purchasing costs are expected to increase on average by about 6.0% per year in line with the Town's purchasing agreement with the Town of Collingwood.

ii. Service Enhancements and Mandatory Requirements

Based on discussions with Town staff, in order for the Town to continue to adapt to ongoing legislative requirements and customer demands, an allocation for enhanced services and programs, which may be required in the future has been incorporated into the analysis. A summary of the key initiatives included in the operating budget are as follows:

- An additional $503,600 by 2033 for both water and wastewater for four additional FTEs in water services and four additional FTEs in wastewater services required to continue to provide current levels of service.

- An additional provision of $1.0 million per year to cover development charge revenue losses related to *Bill 23, More Homes Built Faster Act*.

The specified programs are anticipated to be introduced over the next several years and by 2033 anticipated to represent about $1.8 million between both the water and wastewater services. It is expected that the Town will continue to monitor the costs incurred to ensure sufficient revenues are being generated to fund the system.

iii. Debt - Principal and Interest Payments

The Town has existing debt obligations associated to the construction of both water and wastewater infrastructure, debt is funded from a combination of development charges and rate funding. For water, debt obligations are associated to various pipeline projects and construction loans. In 2023, the Town spent about $2.2 million servicing this existing debt. By 2033, the Town will need to only spend about $841,000 to service this debt as debentures are amortized over the period. For wastewater, existing debt obligations amounted to about $4.2 million in 2023. These debt payments are associated to financing of the Town's wastewater treatment plants. By 2033, debt payments associated to existing debts would amount to about $1.3 million.

In order to carry out the non-growth related capital program, the Town has forecasted additional debt financing provisions to offset those years with particularly high capital expenditures or where existing reserve funds were insufficient (ensuring reserves maintain a positive position throughout the period). The annual principal and interest payments associated with this debt have been included in the analysis and amount to about $8.1 million for water and $3.6 million for wastewater by 2033. This new debt will be funded through the water and wastewater rates and transfers from DC reserves. Please note the Town may explore other alternative financing means to smooth the capital expenditure spikes at the time of the project. More specific details on debt financing for capital project is provided in Section 4.

B. NON-USER RATE REVENUES

Non-rate revenues are budget items which decrease the net operating budget and are not recovered through the Town's water or wastewater user rates. These non-rate revenues relate to developer contributions, penalties and interest, miscellaneous revenue, recoveries/rebates and rentals.

Table 2 shows the Town is expecting to recover approximately $370,900 for the water system and approximately $59,700 for the wastewater system through non-user rate revenues in 2024. For 2024, the Town is expecting to recover approximately $379,700 for the water system and approximately $60,900 for the wastewater system through non-user rate revenues. By 2033, these amounts are anticipated to increase to approximately $431,400 and $72,700 for the water and wastewater systems respectively.

All non-user rate revenues were adjusted at a rate of 2% in the forecast period to account for inflation. Detailed operating expenditures and non-user rate revenues are set out in the detailed rate calculations illustrated in Appendix A.

TABLE 2: PROJECTED NON-USER RATE REVENUES ($000)

	2023 Budget	2024	2028	2033
Water	$370.9	$379.7	$401.5	$431.4
Wastewater	$59.7	$60.9	$65.9	$72.7

4. INFRASTRUCTURE AND CAPITAL

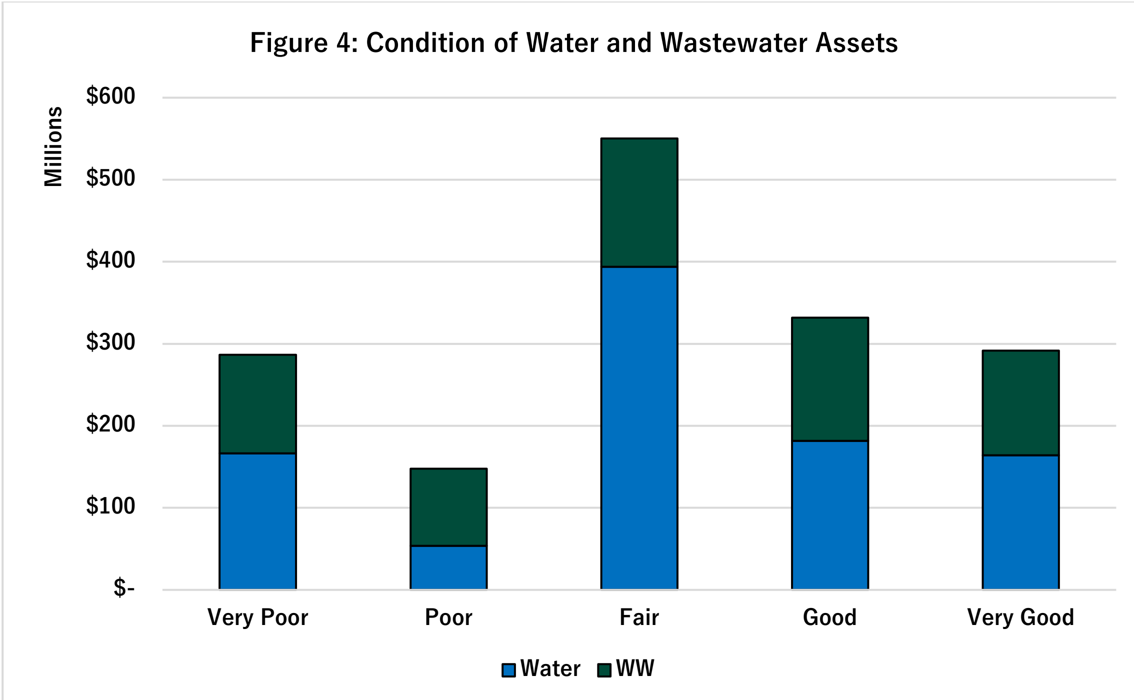
A. WATER AND WASTEWATER INFRASTRUCTURE

The information contained in this analysis was gathered and developed in consultation with Town staff. The information is used to not only describe, but also define the quantity, age and replacement value of the existing infrastructure.

The Town's entire water and wastewater systems have a replacement value of about $1.6 billion. Of this value, about $960.0 million (60%) is related to the Town's water assets and the remaining $648.1 million (40%) is associated to wastewater assets. From an asset management and utility rate setting perspective, 'replacement values' should be used as the basis to estimate the cost of replacing an asset when it reaches the end of its engineered design life. This figure is much different than the 'Net Book Value' which is consistent with the financial accounting practices defined by the Public Sector Accounting Board and is reported on the Town's financial statements.

The Net Book Value is the original acquisition cost less impairment, accumulated depreciation, depletion or amortization. It is reported annually in accordance with reporting standards established by the Public Sector Accounting Board (PSAB) of the Canadian Institute of Chartered Accountants. For reference, based on the 2022 FIR, the Town's closing 2022 Net Book Value of Tangible Capital Assets is approximately $192.2 million for water and wastewater assets. Under the financial accounting approach many assets may be fully depreciated yet remain in use across the Town. Therefore, Net Book Value is not the appropriate methodology to be employed for infrastructure renewal planning.

According to the Town's asset management inventory, approximately 5.7% of the Town's assets are overdue for replacement. With this said, the asset management plan notes that the overall condition of water and wastewater assets continues to remain in "Fair" condition. The asset management analysis developed as part of the rate study indicates that the overall condition of water and wastewater assets continues to remain in "Fair" condition. However, about $166.6 million (17%) of the water assets and about $120.1 million (19%) of the wastewater assets are considered to be in Very Poor condition based on their age. It is important that the Town monitor these assets to ensure they continue to provide service effectively. Figure 4 shows the condition of water and wastewater assets.



B. CAPITAL AND CONTRIBUTIONS TO RESERVES

The 2022 and 2023 capital budgets, 10-year capital projection, and discussions with Town staff formed the basis for preparing the 10-year capital forecast. In addition to the in-year capital requirements, Hemson has included annual contributions to reserves, which would allow the Town to prepare for the future repair and replacement of existing infrastructure.

i. Projected Non-Growth Capital Expenditures

Over the next ten-year period (2024-2033), infrastructure investments will be required to support new growth in the Town and maintain the existing infrastructure network. Infrastructure related to growth will receive funding through development charge revenues and other developer contributions. Capital improvements and financing costs related to non-growth related infrastructure are the responsibility of the Town. These costs will need to be funded through user rates.

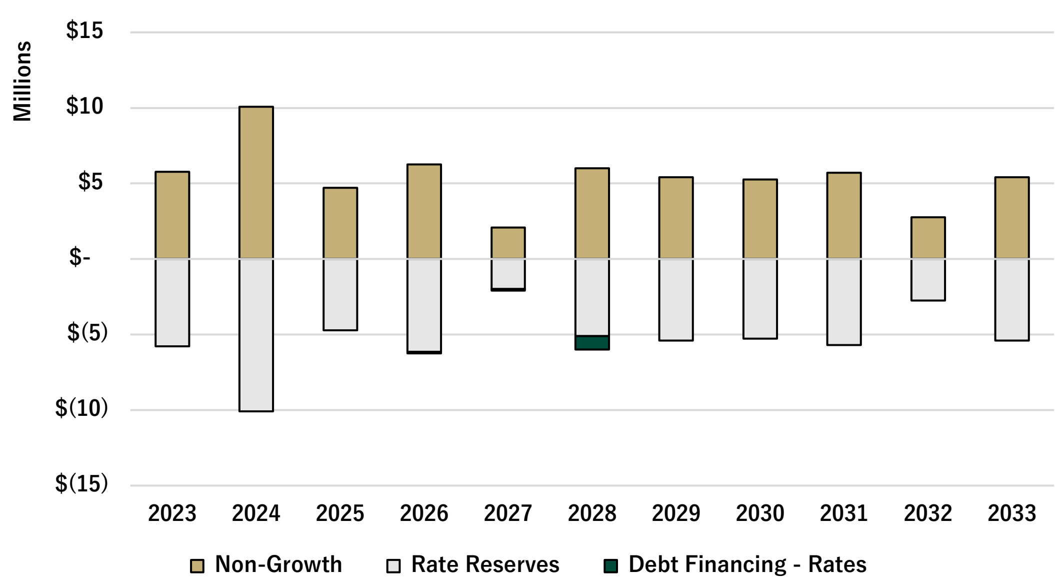
The total non-growth related capital program for the Town is summarized in Figure 5 below. Over the 2024-2033 period, about $30.5 million in rate funded capital projects is required to support water services and $20.9 million in rate funded capital projects is required to support the wastewater services (expressed in constant 2023 dollars).

In most instances, water and wastewater reserve funds are largely used to fund in-year capital expenditure requirements, while debt financing measures offset years with particularly high expenditures or where existing reserve funds were insufficient to cover the cost (thereby ensuring reserves maintain a positive position throughout the period). The associated principal and interest payments will be paid by way of future utility rates and have been included in the analysis.

About $1.0 million (in constant 2023 dollars) of rate funded capital will be debt financing between 2024 and 2033 for water projects and there is no anticipated debt financing for rate funded wastewater projects. The specific terms of the debt required to facilitate the program will be determined at the time when the capital expenditure is required and is subject to change with annual budget reviews.

In addition to the known capital works, an annual contribution to reserves is included in the rate calculations as an effort to save for future repair and eventual replacement of existing assets while paying for the capital requirements identified in Figure 5.

Figure 5: Non-Growth Related Capital Program



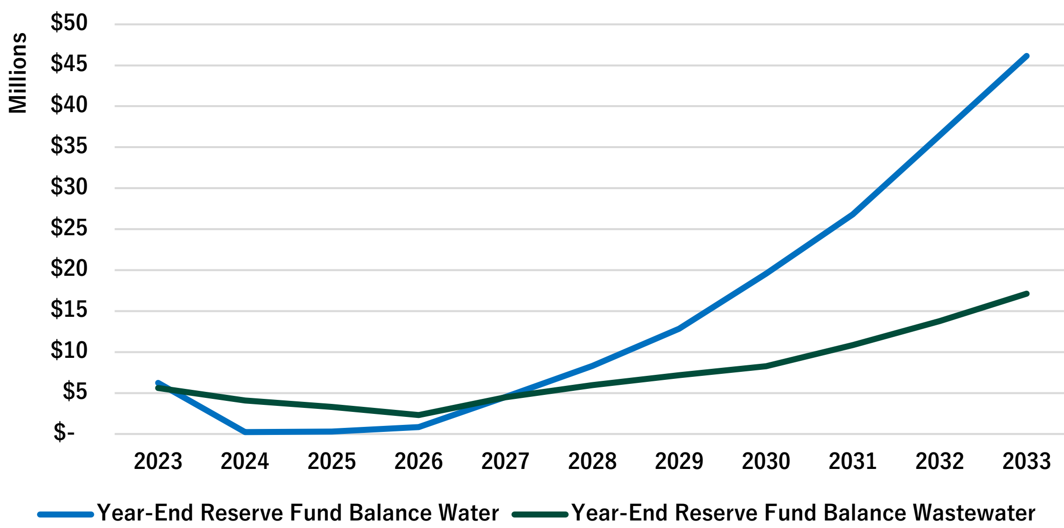
Note: Capital costs shown in nominal dollars.

ii. Reserve Fund Balances

As the non-growth capital expenditures shown in Figure 5 are expected to be funded through the Town's rate funded water and wastewater reserves, it is important to ensure that sufficient funds are available to 2033. Figure 6 illustrates the cumulative water and wastewater reserve balances resulting from both the contributions to reserves and proposed capital program to 2033. The estimated year-end 2023 reserve fund balance is expected to be about $6.2 million for water services and about $5.6 million for wastewater services.

Figure 6 also illustrates that throughout the period to 2033, cumulative water and wastewater reserve balances remain positive, however the water reserve fund balance is expected decline to about $233,000 in 2024 while the wastewater reserve balance is projected to decline to about $2.3 million in 2026. This is associated to works within the period required to maintain the Town's infrastructure in state of good repair. By the end of the period in 2033, the reserve balances are expected to accumulate to about $46.1 million for water and $17.1 million for wastewater. These funds are required for future repair and replacement of infrastructure beyond 2033. On a go-forward-basis, it is recommended that the Town look to formalize a reserve fund policy to help guide future decisions on required reserves contributions, reserve balances and use of funds.

Figure 6: Water and Wastewater Reserve Fund Balances



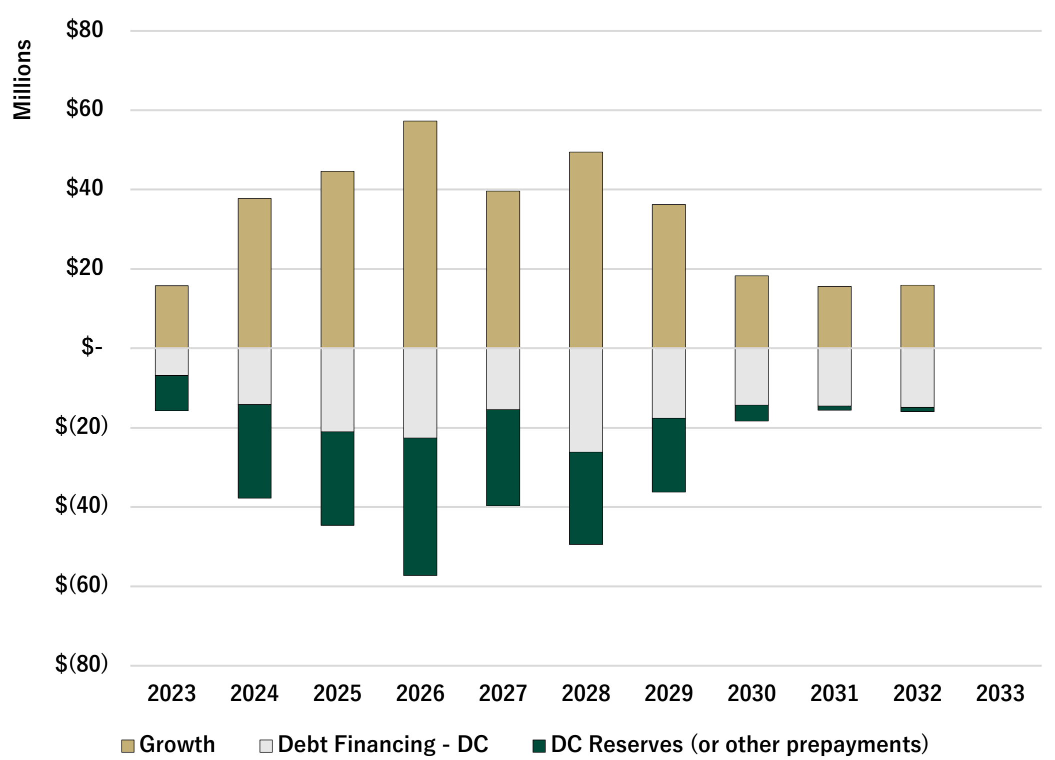
iii. Projected Growth Capital Expenditures

Over the next ten-year period (2024-2033), infrastructure investments will be required to support new growth in the Town. Infrastructure related to growth will receive funding through development charge revenues and other developer contributions.

The total growth related capital expenditures that the Town will be responsible for funding is summarized in Figure 7 below. Over the 2024-2033 period, about $214.2 million in capital is required to support water services and an additional $75.7 million to support the wastewater capital projects (in constant 2023 dollars). Water and wastewater DC reserve funds are used to fund in-year capital expenditure requirements, while debt financing measures are included to offset those years with particularly high expenditures or where existing DC reserve funds were insufficient to cover the cost (thereby ensuring the reserve maintains a positive position throughout the period). Importantly, the associated principal and interest payments will be paid by way of future collections in development charges and have been included in the analysis.

Specifically, a total of about $99.8 million in debt financing between 2024 and 2033 for water projects is anticipated and a further $46.5 million for wastewater projects is required. Additional details are provided in the next section on the projects associated to this debt. The specific terms of the debt required to facilitate the program will be determined at the time the capital expenditure is required and is subject to change with annual budget reviews.

Figure 7: Growth Related Capital Program



Note: Capital costs shown in nominal dollars.

Water Service Debt

Most of the Town's major water debentures in the planning period are related to the Collingwood Water Treatment Plant. These include a current in-house financing provision for pipelines related to Collingwood Water Treatment Plant, a current construction loan for the Collingwood Water Treatment Plant, a future loan for funding the full construction of the Collingwood Water Treatment Plant, and future loans for Collingwood Booster Stations #1 and #2. The Town also has existing debentures on the Parsons Road Reservoir and Pipeline-21-100. It is projected the Town will also take out two debentures to upgrade the Tottenham Transmission Main. The significant debt is required to keep up with growth-related demand. Water service debt payments are projected to be $8.9 million by the end of the planning period. Water debt will be paid by a mixture of DCs for growth-related shares and water rates for service level upgrades and asset repair and replacement.

Wastewater Service Debt

Most of the current and future wastewater debt in the planning period is related to upgrades on the Town's three wastewater treatment plants. These encompass existing debentures on upgrades of the Brendan Holly (Regional) Wastewater Treatment Plant, Alliston Wastewater Treatment Plant, and the Tottenham Wastewater Treatment Plant. Additional debenture financing is assumed for clarifiers at the Alliston Wastewater Treatment Plant, a biosolids tank and expansion at the Brendan Holly (Regional) Wastewater Treatment Plant. The debt payments are anticipated to be $4.9 million by the end of the planning period and are required to interim finance growth-related capital. All wastewater debt will be paid by future development charges, as these costs are associated to growth-related infrastructure.

5. Rate Structure Analysis

Various water and wastewater rate structures are in place across Ontario municipalities. These include flat rates, constant rates, humpback block rates, declining block rates and inclining block rates. Rate structures often include fixed or minimum charges in addition to the consumption-based charges. The implementation of a particular rate structure depends on a number of aspects including administrative and financial factors. Emphasis should be placed on identifying a rate structure that satisfies changing water use patterns and demographic trends while being fiscally responsible and sustainable from a service delivery standpoint.

As shown in Table 3, for water services, the Town currently has in place a consumption-based charge that is applied to each cubic meter of water consumed. This variable rate is intended to provide the end-user with control of their utility bill which the total amount payable is relative to the volume of water consumed. The charge per cubic meter decreases for consumption over 30,000 m^3 of water or wastewater. Only large industrial users are likely to exceed 30,000 m^3 of water consumption. Currently, Baxter is charged different water and wastewater rates. However, Baxter will be phased into the over 30,000 m^3 tier over the next three years.

TABLE 3: IN-FORCE 2023 UTILITY RATES		
All Accounts	**Water**	**Wastewater**
Consumption Charge: \$/m^3 <30,000m^3	\$2.54	\$2.54
Consumption Charge: \$/m^3 >30,000m^3	\$1.87	\$1.87
Consumption Charge: \$/m^3 Baxter	\$1.54	\$1.54

A. Issues to Consider

i. Cost Recovery

In determining water and wastewater rates, the full cost of providing services are recovered. The costs are to include, operation and maintenance, periodic rehabilitation and contributions to reserves for the eventual repair and ultimate replacement of water and wastewater infrastructure.

ii. Equity

A 'user-pay' approach was used in selecting a rate structure and calculating water and wastewater rates.

iii. Conservation

It is important to consider measures that promote water conservation when determining a rate structure. It is also important to recognize that not all users have the ability to change their levels of consumption and, as such, should not be penalized.

iv. Administration

A rate structure should be transparent and easy to understand by both the users and service provider. Also, easing administrative requirements may reduce the overall administrative cost, which would ultimately provide for a reduction of rates.

v. Economic Development

While recognizing the importance of the above objectives, it is also important to maintain the Town's attractiveness to industries that may rely heavily on water and/or wastewater services. A rate structure must allow the Town to continue to be competitive from an economic development perspective.

B. MOVING FORWARD

After consultation with Town staff and analysis of neighbouring municipalities and best practices, alternative rate structures were considered. A hypothetical rate scenario was considered, where fixed water and wastewater charges that would cover 15% of costs was introduced. Although a fixed charge would provide stability to the water and wastewater system's funding model, fixed charges would penalise low water users and lessen the incentive for water conservation. As such, the Town has opted to maintain the current rate structure after careful consideration.

From a fiscal sustainability standpoint, it is important that the Town ensures the consumption charges represent a reasonable share of costs to secure sufficient revenues to run the system. This relationship should be carefully monitored. If overall consumption declines to a point which impacts the Town's revenue stream to fund expenses, it may be necessary to review this structure and develop a fixed charge.

The existing rate structure is set up to provide the Town's water users with more control over their bill. A volumetric based charge promotes the Town's commitment to promote water conservation efforts ensuring the end-users have the ability to control the total bill with conservation adjustments.

6. CALCULATED RATES

In calculating the water and wastewater rates, a number of assumptions were applied. The water and wastewater rates are calculated to fully recover the cost of operating the system and identified in-year capital needs (inclusive of any rate funded debt servicing requirements). Furthermore, the rates continue to provide for contributions to asset replacement reserves. An immediate implementation of a rate that fully funded the calculated asset rehabilitation and replacement contributions would result in significant impacts to all users in the Town. The analysis is based on providing for a gradual movement towards full rates. These contributions, when combined with the Town's ongoing capital works, will demonstrate a significant movement to long-term full cost recovery rates.

Table 4 below provides a summary of the 2024 forecasted net rate funding requirement for each of the water and wastewater systems. The net rate funding need represents the amount of money that must be funded through the utility rates.

TABLE 4: CALCULATION OF THE 2024 NET RATE FUNDING REQUIREMENT ($000)

Ref	Category	Water	Wastewater
1	Operating Expenditures	$5,383.6	$7,000.0
2	Water Purchasing	$1,890.8	-
3	Rate Funded Debt Payments (1)	$923.6	-
4	Transfer to/(from) Reserve	$1,566.0	$888.2
5	*Less: Non-Rate Revenue*	*($379.7)*	*($60.8)*
	Total Net Rate Funding Need = (1+2+3+4+5)	**$9,384.3**	**$7,827.3**

Note 1: Growth-related debt payments are funded from development charge reserve and are excluded from the table.

i. Calculated 2024 Utility Rates

Based on the information from Table 4, the required water and wastewater user rate revenue in 2024 is forecast to be about $9.4 million and $7.8 million respectively. This is the amount of revenue which must be collected through the sale of water and treatment of wastewater to fully recover the operating, capital, rehabilitation and replacement costs of the systems. The calculated rates for 2024 are outlined in Table 5 below and the detailed calculations of the water and wastewater rates are outlined in Appendix A. It is proposed that water rates increase by more than wastewater rates as the costs of providing water services in the Town are greater and faster growing.

TABLE 5: CALCULATED 2024 UTILITY RATES		
All Accounts	**Water**	**Wastewater**
Consumption Charge: $/m^3 <30,000m^3	$2.92	$2.76
Consumption Charge: $/m^3 >30,000m^3	$2.15	$2.03
Consumption Charge: $/m^3 Baxter(1)	$1.82	$1.82

Note 1: The Baxter rates will align to the >30,000 m^3 rates beginning in 2025

ii. Utility Rate Projection

Over the long-term, the net rate funding requirements for both the water and wastewater system are expected to increase. The cost increases can largely be attributed to carrying out the capital program, debt servicing costs, and the inclusion for enhanced services. These enhanced services may be required for the Town to continue to adapt to ongoing legislative requirements and customer demands. The water and wastewater net rate funding requirements are projected to increase to about $23.8 million and $17.4 million over the ten-year period. Figure 8 below provides a snapshot of the annual year-over-year projections to 2033.

Figure 8: Projection of Net Rate Funding Need

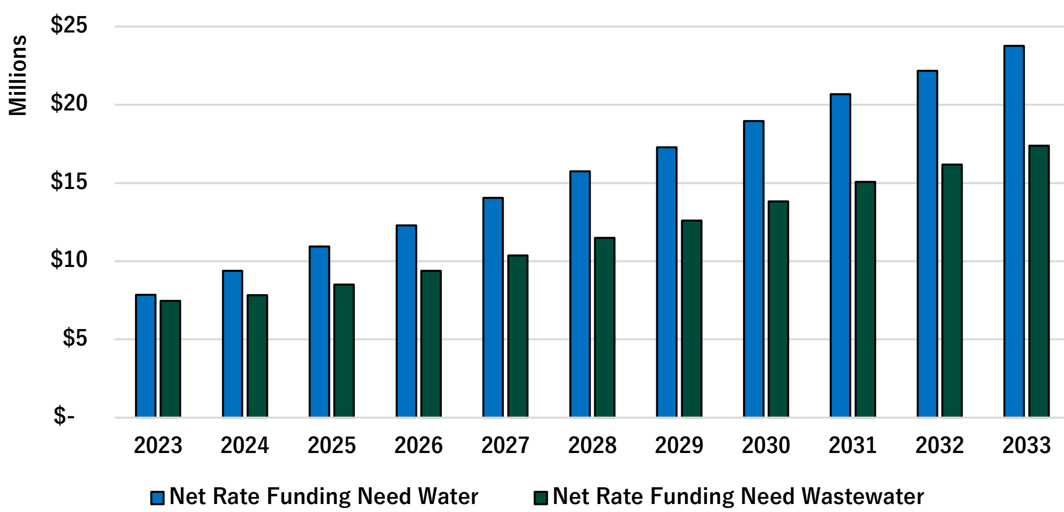


Table 6 below outlines the proposed utility rates required over the immediate 5-year period to support the system. A few important considerations:

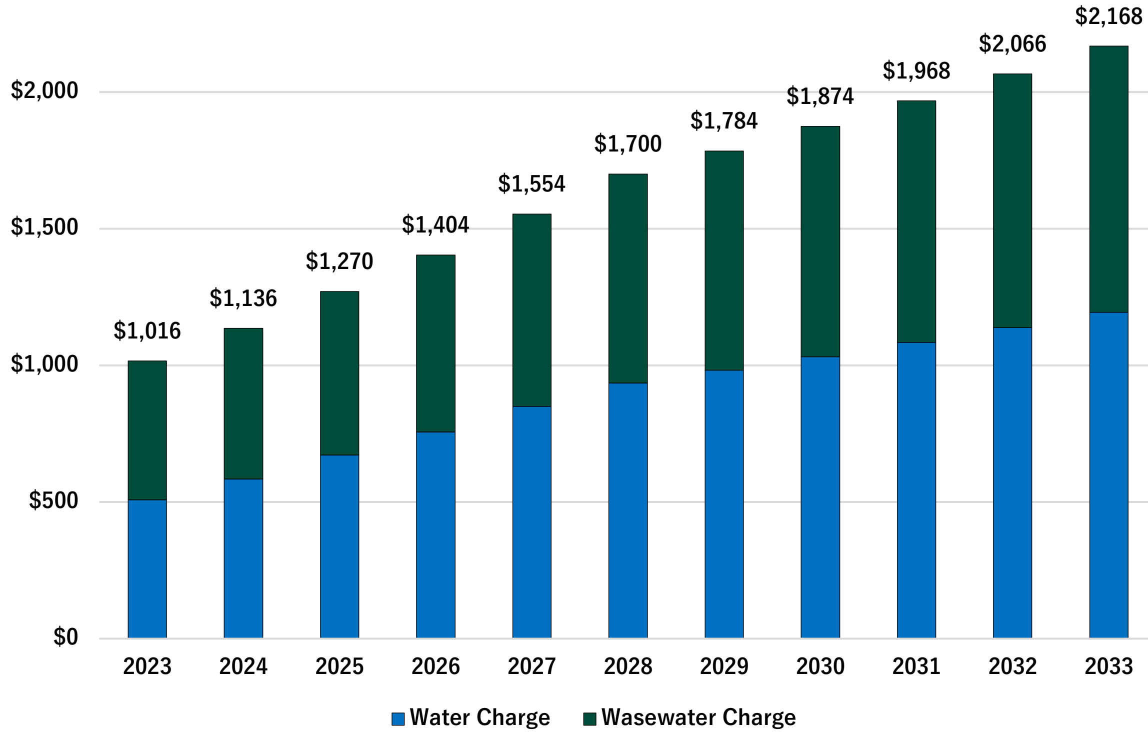
- Water consumption charges are proposed to increase by 15.0% in 2024 and 2025, 12.5% in 2026 and 2027, and 10.0% in 2028.
- Wastewater consumption charges are proposed to increase by 8.5% per year from 2024-2028.
- For a customer consuming 200 m^3 per year of water and wastewater, the average bill increase would be 10.8% per year over the next five years.

TABLE 6: CALCULATED UTILITY RATES (5-YEAR PROJECTION)					
All Accounts	**2024**	**2025**	**2026**	**2027**	**2028**
Water Services					
Consumption Charge: $/m3 <30,000m3	**$2.92**	**$3.36**	**$3.78**	**$4.25**	**$4.68**
Consumption Charge: $/m3 >30,000m3	**$2.15**	**$2.47**	**$2.78**	**$3.13**	**$3.44**
Change (%)	*15.0%*	*15.0%*	*12.5%*	*12.5%*	*10.0%*
Consumption Charge: $/m3 Baxter	**$1.82**	**$2.47**	**$2.78**	**$3.13**	**$3.44**
Change (%)	*18.2%*	*35.7%*	*12.5%*	*12.5%*	*10.0%*
Water Bill (200 m^3/annum)	**$584**	**$672**	**$756**	**$850**	**$936**
Change (%)	*15.0%*	*15.0%*	*12.5%*	*12.5%*	*10.0%*
Wastewater Services					
Consumption Charge: $/m3 <30,000m3	**$2.76**	**$2.99**	**$3.24**	**$3.52**	**$3.82**
Consumption Charge: $/m3 >30,000m3	**$2.03**	**$2.20**	**$2.39**	**$2.59**	**$2.81**
Change (%)	*8.5%*	*8.5%*	*8.5%*	*8.5%*	*8.5%*
Consumption Charge: $/m3 Baxter[1]	**$1.82**	**$2.20**	**$2.39**	**$2.59**	**$2.81**
Change (%)	*18.2%*	*20.9%*	*8.6%*	*8.4%*	*8.5%*
Wastewater Bill (200 m^3/annum)	**$552**	**$598**	**$648**	**$704**	**$764**
Change (%)	*8.5%*	*8.5%*	*8.5%*	*8.5%*	*8.5%*
Total Water & Wastewater					
Total Typical Bill [3] (200 m^3/annum)	**$1,136**	**$1,270**	**$1,404**	**$1,554**	**$1,700**
Change (%)	*11.8%*	*11.8%*	*10.6%*	*10.7%*	*9.4%*

Note: The Baxter rates will align to the >30,000 m^3 rates beginning in 2025.

A typical household (averaging 200 m^3 per year) will see their annual water and wastewater bill increase by about 11.8% in 2024. On average, the typical bill increase for a household consuming 200 m^3 would be 10.8% per annum over the 5-year period shown above. As shown in Figure 9 below, the total charge per typical household is expected to reach $1,700 by 2028 and $2,168 by 2033.

Figure 9: Impact on a Typical Residential User
Annual Consumption of 200 m3



iii. Impact on Reserve and Reserve Funds

It is important to consider the implications of the rate structure and calculated user rates on the Town's water and wastewater reserve fund. The Town's projected 2023 ending water and wastewater reserve funds are in a fairly healthy position with about $6.2 million in water and $5.6 million in wastewater funds. The Town's reserve funds have been calculated over the 10-year period with the goal of ensuring reserves maintain a positive position and funds are available to manage unexpected capital expenditures or other operational variances, which may be experienced over the planning period (i.e. variations in annual billable consumption).

Figure 10 indicates that the Town's water and wastewater reserve funds maintain a positive position throughout the period despite significant drawing on these funds to carry out the non-growth related capital plan. A few points:

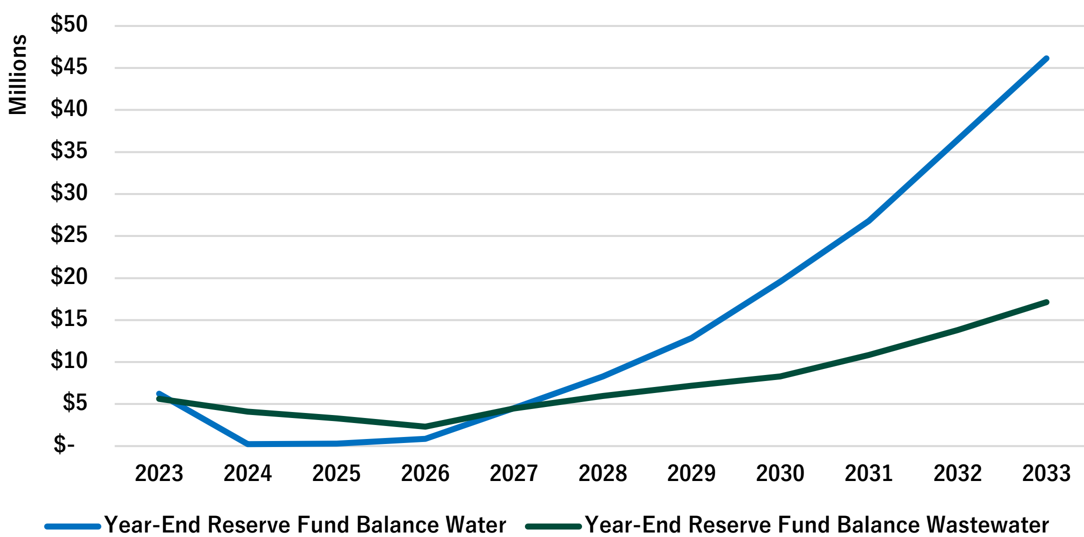
- The increase in water and wastewater reserves indicated toward the middle and latter ends of the planning period is a result of existing debt coming offline in 2027 and 2029, which creates additional capacity for the Town to increase in-year contributions to reserve without further impacting the rates.

- Furthermore, the 10-year capital program to 2033 is observed to be "front-ended" in that most of the capital works are expected in the early years of the forecast. As the forecast moves towards the latter end of the planning period, there is less certainty in the level of capital work needed. Therefore, it is important that the Town monitor spending and reserve fund levels during these years.

- Continued contributions to these reserves to 2033 ensures that sufficient funds are available to undertake capital works in 2033 and beyond and the Town will be able to absorb unforeseen expenditures without impacting the utility rates (as illustrated in Table 5).

It is recommended that the Town continue to monitor both the water and wastewater reserve funds over the period to ensure they continue to be sufficient to cover operational and capital expenditures. It is expected that the quantum of the Town's reserve funds be reviewed again at the next rate review.

Figure 10: Summary of Year-end Water and Wastewater Rate Funded Reserves



7. Recommendations and Findings

The calculated rates presented establish water and wastewater rates to all users of the Town that are fair and equitable. The analysis included in this report ensures that the water and wastewater rates fully fund all of the Town's anticipated annual costs including all operating costs, capital financing needs and debt repayment requirements. It is fiscally prudent that the Town continues to contribute to reserves for the eventual repair and ultimate replacement of the water and wastewater infrastructure. The immediate implementation of a rate that fully funds the calculated asset rehabilitation and replacement contributions would result in significant impacts to all users in the Town. The analysis establishes an annual contribution to reserves for asset rehabilitation and replacement that will ensure the Town begins to build up its reserves for the long-term. These contributions, when combined with the Town's ongoing capital works, will demonstrate a significant movement towards long-term full cost recovery rates.

The Town is cognizant of the budgetary pressures and that rates need to be increased moving forward. Overall, the total utility bill for the typical user will generally increase at approximately 10.8% per annum over the 5-year period (for a typical user consuming 200 m^3 per year). However, it is also recognized that the Town has significant infrastructure spending requirements over the period to 2033. Although much of this infrastructure will be funded through development charges, the future maintenance, repair and replacement of this infrastructure will need to be funded through utility rates.

It is important that the Town continue to monitor all consumption data on a monthly basis to identify usage trends and variance in the projections to ensure costs and revenues are managed accordingly. It is also important that the Town continues to monitor its level of debt especially in years where significant capital projects will need to be financed. It is recommended that this study be reviewed and updated in five years as details surrounding overall growth and costs become more refined.

Appendix A

Detailed Rate Calculations

APPENDIX A TABLE 1

TOWN OF NEW TECUMSETH
WATER AND WASTEWATER RATE STUDY
WATER RATE CALCULATION

Water SERVICES	**2023 Budget**	**2024 Projected**	**2025 Projected**	**2026 Projected**	**2027 Projected**	**2028 Projected**	**2029 Projected**	**2030 Projected**	**2031 Projected**	**2032 Projected**	**2033 Projected**
1 OPERATING EXPENDITURES											
General	$ 1,961,625	$ 2,114,825	$ 2,183,476	$ 2,255,229	$ 2,330,293	$ 2,397,734	$ 2,467,282	$ 2,539,010	$ 2,612,992	$ 2,689,304	$ 2,768,026
Collection	$ 74,824	$ 76,907	$ 78,876	$ 80,898	$ 82,976	$ 85,111	$ 87,305	$ 89,560	$ 91,877	$ 94,258	$ 96,706
Distribution	$ 873,514	$ 924,693	$ 953,605	$ 983,481	$ 1,014,353	$ 1,046,259	$ 1,079,236	$ 1,113,321	$ 1,148,555	$ 1,184,979	$ 1,222,637
Supply	$ 1,462,797	$ 1,510,518	$ 1,558,527	$ 1,608,215	$ 1,659,645	$ 1,712,884	$ 1,768,000	$ 1,825,065	$ 1,884,153	$ 1,945,341	$ 2,008,710
Future Staff Additions	$ -	$ -	$ 99,395	$ 102,377	$ 210,896	$ 217,223	$ 223,740	$ 345,678	$ 356,048	$ 488,973	$ 503,642
Estimated Bill 23 Revenue Loss	*$ -*	*$ 756,703*	*$ 756,703*	*$ 756,703*	*$ 756,703*	*$ 756,703*	*$ 1,269,528*	*$ 1,269,528*	*$ 1,269,528*	*$ 1,269,528*	*$ 1,269,528*
Subtotal - Operating Expenditures	***$ 4,372,760***	***$ 5,383,646***	***$ 5,630,582***	***$ 5,786,903***	***$ 6,054,868***	***$ 6,215,915***	***$ 6,895,091***	***$ 7,182,162***	***$ 7,363,152***	***$ 7,672,383***	***$ 7,869,250***
2 WATER PURCHASING EXPENSE	**$ 1,760,450**	**$ 1,890,828**	**$ 2,021,206**	**$ 2,151,584**	**$ 2,236,231**	**$ 2,332,157**	**$ 2,514,186**	**$ 2,701,823**	**$ 2,880,589**	**$ 3,011,028**	**$ 3,146,920**
3 EXISTING DEBTS AND CONSTRUCTION LOANS											
Collingwood Pipeline Acquisition-In House financing-10 Year Repayments	*$ 650,000*	*$ 650,000*	*$ 650,000*	*$ 650,000*	*$ 650,000*	*$ 650,000*	*$ 650,000*	*$ 650,000*	*$ 650,000*	*$ 650,000*	*$ -*
Parsons Rd Res 13-168	*$ 326,388*	*$ 317,712*	*$ 308,547*	*$ 299,627*	*$ 290,706*	*$ 281,933*	*$ 272,866*	*$ 263,945*	*$ 255,025*	*$ 246,153*	*$ 237,184*
Pipeline-21-100	*$ 603,688*	*$ 603,688*	*$ 603,688*	*$ 603,688*	*$ 603,688*	*$ 603,688*	*$ 603,688*	*$ 603,688*	*$ 603,688*	*$ 603,688*	*$ 603,688*
TTM-1-Cons Loan	*$ 145,169*	*$ 501,861*	*$ 356,932*	*$ -*	*$ -*	*$ -*	*$ -*	*$ -*	*$ -*	*$ -*	*$ -*
Collingwood-Cons Loan	*$ 518,848*	*$ 1,221,394*	*$ 2,940,451*	*$ 2,860,623*	*$ -*	*$ -*	*$ -*	*$ -*	*$ -*	*$ -*	*$ -*
Subtotal - Existing Debts And Construction Loans	***$ 2,244,092***	***$ 3,294,654***	***$ 4,859,617***	***$ 4,413,937***	***$ 1,544,394***	***$ 1,535,620***	***$ 1,526,553***	***$ 1,517,633***	***$ 1,508,712***	***$ 1,499,841***	***$ 840,872***
4 FUTURE DEBTS											
TTM-17009	*$ -*	*$ -*	*$ 748,112*	*$ 1,496,224*	*$ 1,496,224*	*$ 1,496,224*	*$ 1,496,224*	*$ 1,496,224*	*$ 1,496,224*	*$ 1,496,224*	*$ 1,496,224*
2026 Collingwood WTP	*$ -*	*$ -*	*$ -*	*$ 2,588,272*	*$ 5,176,543*	*$ 5,176,543*	*$ 5,176,543*	*$ 5,176,543*	*$ 5,176,543*	*$ 5,176,543*	*$ 5,176,543*
DC-P2-A2-9b-Collignwood Booster Station #1	*$ -*	*$ -*	*$ -*	*$ 206,192*	*$ 412,385*	*$ 412,385*	*$ 412,385*	*$ 412,385*	*$ 412,385*	*$ 412,385*	*$ 412,385*
DC-P2-A2-9b-Collignwood Booster Station #2	*$ -*	*$ -*	*$ -*	*$ -*	*$ -*	*$ -*	*$ 182,291*	*$ 364,581*	*$ 364,581*	*$ 364,581*	*$ 364,581*
DC-T2-1-TTM-Phs 2	*$ -*	*$ -*	*$ -*	*$ -*	*$ -*	*$ -*	*$ 326,561*	*$ 653,122*	*$ 653,122*	*$ 653,122*	*$ 653,122*
Subtotal - Future Debts	***$ -***	***$ -***	***$ 748,112***	***$ 4,290,688***	***$ 7,085,152***	***$ 7,085,152***	***$ 7,594,004***	***$ 8,102,856***	***$ 8,102,856***	***$ 8,102,856***	***$ 8,102,856***
5 CAPITAL EXPENDITURES											
Growth Related and Grant Funded Capital	$ 5,034,768	$ 35,450,626	$ 37,525,806	$ 41,162,645	$ 34,877,652	$ 45,121,628	$ 33,826,466	$ 811,216	$ 468,930	$ 478,308	$ -
Non-Growth Related Capital	$ 748,337	$ 7,623,552	$ 2,619,252	$ 3,298,440	$ 1,652,129	$ 3,983,008	$ 2,960,029	$ 1,833,416	$ 2,723,107	$ 777,600	$ 2,821,887
Less: Debt Financing - growth funded	*$ -*	*$ (14,212,000)*	*$ (16,252,435)*	*$ (17,648,621)*	*$ (15,524,988)*	*$ (26,162,508)*	*$ (17,592,159)*	*$ -*	*$ -*	*$ -*	
Less: Debt Financing - non-growth	*$ -*	*$ -*	*$ -*	*$ (107,114)*	*$ (109,256)*	*$ (891,529)*	*$ -*	*$ -*	*$ -*	*$ -*	
Less: DC and Grant Capital Funding	*$ (5,034,768)*	*$ (21,238,626)*	*$ (21,273,371)*	*$ (23,514,025)*	*$ (19,352,664)*	*$ (18,959,121)*	*$ (16,234,308)*	*$ (811,216)*	*$ (468,930)*	*$ (478,308)*	*$ -*
Less: Rate Reserve Funded	*$ (748,337)*	*$ (7,623,552)*	*$ (2,619,252)*	*$ (3,191,326)*	*$ (1,542,873)*	*$ (3,091,478)*	*$ (2,960,029)*	*$ (1,833,416)*	*$ (2,723,107)*	*$ (777,600)*	*$ (2,821,887)*
Subtotal - Capital from Current (Rate Funded Capital)	***$ -***	***$ -***	***$ -***	***$ -***	***$ -***	***$ 0***	***$ -***	***$ -***	***$ -***	***$ -***	***$ -***
ANNUAL OPERATING EXPENSES	**$ 8,377,302**	**$ 10,569,128**	**$ 13,259,517**	**$ 16,643,112**	**$ 16,920,645**	**$ 17,168,845**	**$ 18,529,834**	**$ 19,504,473**	**$ 19,855,309**	**$ 20,286,108**	**$ 19,959,897**
6 CONTRIBUTION TO/(FROM) RESERVES	**$ 1,144,343**	*$ 1,566,028*	*$ 2,680,361*	*$ 3,749,726*	*$ 5,185,011*	*$ 6,834,564*	*$ 7,431,560*	*$ 8,410,439*	*$ 9,754,481*	*$ 10,202,017*	*$ 12,126,491*
7 TOTAL ANNUAL EXPENDITURES (1+2+3=4)	**$ 9,521,645**	**$ 12,135,157**	**$ 15,939,878**	**$ 20,392,838**	**$ 22,105,656**	**$ 24,003,409**	**$ 25,961,394**	**$ 27,914,913**	**$ 29,609,790**	**$ 30,488,125**	**$ 32,086,388**

APPENDIX A TABLE 1

TOWN OF NEW TECUMSETH
WATER AND WASTEWATER RATE STUDY
WATER RATE CALCULATION

Water SERVICES	2023 Budget	2024 Projected	2025 Projected	2026 Projected	2027 Projected	2028 Projected	2029 Projected	2030 Projected	2031 Projected	2032 Projected	2033 Projected
8 NON-RATE REVENUES											
Contribution from Developers	$ -	$ (4,177)	$ (4,260)	$ (4,346)	$ (4,433)	$ (4,521)	$ (4,612)	$ (4,704)	$ (4,798)	$ (4,894)	$ (4,992)
Penalties and Interest	$ (60,000)	$ (61,200)	$ (62,424)	$ (63,672)	$ (64,946)	$ (66,245)	$ (67,570)	$ (68,921)	$ (70,300)	$ (71,706)	$ (73,140)
Miscelaneous Revenue	$ (195,914)	$ (199,832)	$ (203,829)	$ (207,906)	$ (212,064)	$ (216,305)	$ (220,631)	$ (225,044)	$ (229,544)	$ (234,135)	$ (238,818)
Recoveries and Rebates	$ -	$ 496	$ 506	$ 516	$ 526	$ 537	$ 547	$ 558	$ 569	$ 581	$ 592
Rentals	$ (115,000)	$ (115,000)	$ (115,000)	$ (115,000)	$ (115,000)	$ (115,000)	$ (115,000)	$ (115,000)	$ (115,000)	$ (115,000)	$ (115,000)
Subtotal - Non-Rate Revenues	***$ (370,914)***	***$ (379,713)***	***$ (385,008)***	***$ (390,408)***	***$ (395,916)***	***$ (401,534)***	***$ (407,265)***	***$ (413,110)***	***$ (419,073)***	***$ (425,154)***	***$ (431,357)***
9 CONTRIBUTION FROM RESERVES											
Transfers from DC Roads Reserve	$ (13,949)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Transfers from DC Water Reserve	$ (1,293,746)	$ (2,189,885)	$ (4,187,584)	$ (6,895,415)	$ (6,901,624)	$ (7,089,349)	$ (7,499,583)	$ (7,764,147)	$ (7,746,351)	$ (7,119,875)	$ (7,119,875)
Transfers from DC Water Reserve - Additional for CWTP ($12M increase)		$ (181,219)	$ (436,276)	$ (808,454)	$ (768,046)	$ (768,046)	$ (768,046)	$ (768,046)	$ (768,046)	$ (768,046)	$ (768,046)
Transfers from General Reserve	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Subtotal - Contributions from Reserves	***$ (1,307,695)***	***$ (2,371,103)***	***$ (4,623,860)***	***$ (7,703,870)***	***$ (7,669,670)***	***$ (7,857,395)***	***$ (8,267,629)***	***$ (8,532,192)***	***$ (8,514,397)***	***$ (7,887,921)***	***$ (7,887,921)***
NET RATE FUNDING NEED	**$ 7,843,036**	**$ 9,384,340**	**$ 10,931,010**	**$ 12,298,560**	**$ 14,040,070**	**$ 15,744,480**	**$ 17,286,500**	**$ 18,969,610**	**$ 20,676,320**	**$ 22,175,050**	**$ 23,767,110**
Change in Funding Need ($)		*$ 1,541,304*	*$ 1,546,670*	*$ 1,367,550*	*$ 1,741,510*	*$ 1,704,410*	*$ 1,542,020*	*$ 1,683,110*	*$ 1,706,710*	*$ 1,498,730*	*$ 1,592,060*
Change in Funding Need (%)		*20%*	*16%*	*13%*	*14%*	*12%*	*10%*	*10%*	*9%*	*7%*	*7%*
User Rates											
1 Consumption Charge <30,000 cubic metres											
Charge per Cubic Metre ($/$m^3$)	$2.5400	$2.92	$3.36	$3.78	$4.25	$4.68	$4.91	$5.16	$5.42	$5.69	$5.97
Projected Billable Consumption (m^3)	2,563,000	2,563,000	2,563,000	2,563,000	2,612,000	2,674,000	2,745,000	2,825,000	2,905,000	2,987,000	3,070,000
Total Annual Consumption Revenue	**$6,510,020**	**$7,483,960**	**$8,611,680**	**$9,688,140**	**$11,101,000**	**$12,514,320**	**$13,477,950**	**$14,577,000**	**$15,745,100**	**$16,996,030**	**$18,327,900**
Projected Rate Increase (%)		*15.0%*	*15.0%*	*12.5%*	*12.5%*	*10.0%*	*5.0%*	*5.0%*	*5.0%*	*5.0%*	*5.0%*
2 Consumption Charge >30,000 cubic metres											
Charge per Cubic Metre ($/$m^3$)	$1.8700	$2.15	$2.47	$2.78	$3.13	$3.44	$3.61	$3.79	$3.98	$4.18	$4.39
Projected Billable Consumption (m^3)	580,000	580,000	580,000	580,000	580,000	580,000	696,000	800,000	880,000	880,000	880,000
Total Annual Consumption Revenue	**$1,084,600**	**$1,247,000**	**$1,432,600**	**$1,612,400**	**$1,815,400**	**$1,995,200**	**$2,512,560**	**$3,032,000**	**$3,502,400**	**$3,678,400**	**$3,863,200**
Projected Rate Increase (%)		*15.0%*	*15.0%*	*12.5%*	*12.5%*	*10.0%*	*5.0%*	*5.0%*	*5.0%*	*5.0%*	*5.0%*
3 Baxter Consumption Charge											
Charge per Cubic Metre ($/$m^3$)	$1.5400	$1.82	$2.47	$2.78	$3.13	$3.44	$3.61	$3.79	$3.98	$4.18	$4.39
Projected Billable Consumption (m^3)	359,000	359,000	359,000	359,000	359,000	359,000	359,000	359,000	359,000	359,000	359,000
Total Annual Consumption Revenue	**$552,860**	**$653,380**	**$886,730**	**$998,020**	**$1,123,670**	**$1,234,960**	**$1,295,990**	**$1,360,610**	**$1,428,820**	**$1,500,620**	**$1,576,010**
Projected Rate Increase (%)		*18.2%*	*35.7%*	*12.6%*	*12.6%*	*9.9%*	*4.9%*	*5.0%*	*5.0%*	*5.0%*	*5.0%*
TOTAL REVENUE (FIXED AND VARIABLE)	**$8,147,480**	**$9,384,340**	**$10,931,010**	**$12,298,560**	**$14,040,070**	**$15,744,480**	**$17,286,500**	**$18,969,610**	**$20,676,320**	**$22,175,050**	**$23,767,110**

APPENDIX A TABLE 1

TOWN OF NEW TECUMSETH
WATER AND WASTEWATER RATE STUDY
WASTEWATER RATE CALCULATION

Wastewater SERVICES	2023 Budget	2024 Projected	2025 Projected	2026 Projected	2027 Projected	2028 Projected	2029 Projected	2030 Projected	2031 Projected	2032 Projected	2033 Projected
1 OPERATING EXPENDITURES											
General	$ 1,883,461	$ 1,977,715	$ 2,042,257	$ 2,109,727	$ 2,180,319	$ 2,243,753	$ 2,309,182	$ 2,376,671	$ 2,446,293	$ 2,518,120	$ 2,592,229
Collection	$ 727,449	$ 753,660	$ 776,974	$ 801,062	$ 825,950	$ 851,667	$ 878,244	$ 905,709	$ 934,095	$ 963,434	$ 993,761
Treatment	$ 3,064,085	$ 3,196,248	$ 3,317,391	$ 3,443,926	$ 3,576,139	$ 3,707,137	$ 3,843,368	$ 3,985,054	$ 4,132,429	$ 4,285,735	$ 4,445,225
Future Staff Additions	$ -	$ -	$ 99,395	$ 102,377	$ 210,896	$ 217,223	$ 223,740	$ 345,678	$ 356,048	$ 488,973	$ 503,642
Bill 23 Revenue Losses - Estimated		$ 1,072,407	$ 1,072,407	$ 1,072,407	$ 1,072,407	$ 1,072,407	$ 1,809,815	$ 1,809,815	$ 1,809,815	$ 1,809,815	$ 1,809,815
Subtotal - Operating Expenditures	***$ 5,674,995***	***$ 7,000,031***	***$ 7,308,425***	***$ 7,529,498***	***$ 7,865,711***	***$ 8,092,188***	***$ 9,064,348***	***$ 9,422,927***	***$ 9,678,680***	***$ 10,066,077***	***$ 10,344,672***
2 EXISTING DEBTS AND CONSTRUCTION LOANS											
RWWTP-11-034	*$ 2,792,117*	*$ 2,793,516*	*$ 2,795,029*	*$ 2,795,778*	*$ 2,400,285*	*$ 2,417,820*	*$ -*	*$ -*	*$ -*	*$ -*	*$ -*
AWWTP-15-180	*$ 225,888*	*$ 220,890*	*$ 215,552*	*$ 210,384*	*$ 205,216*	*$ 200,162*	*$ 194,880*	*$ 189,712*	*$ 184,544*	*$ 179,433*	*$ 174,208*
TWWTP-16-159	*$ 1,171,540*	*$ 1,171,540*	*$ 1,171,540*	*$ 1,171,540*	*$ 1,171,540*	*$ 1,171,540*	*$ 1,171,540*	*$ 1,171,540*	*$ 1,171,540*	*$ 1,171,540*	*$ 1,171,540*
DC-A3-5B-RWWTP-Biosolids Tanks-Phs1	*$ -*	*$ -*	*$ 99,984*	*$ 331,913*	*$ 225,392*	*$ -*	*$ -*	*$ -*	*$ -*	*$ -*	*$ -*
DC-A3-5B-RWWTP Exp-Phs1	*$ -*	*$ -*	*$ -*	*$ -*	*$ -*	*$ 266,409*	*$ 884,390*	*$ 1,494,213*	*$ -*	*$ -*	*$ -*
Subtotal - Existing Debts And Construction Loans	***$ 4,189,546***	***$ 4,185,946***	***$ 4,282,106***	***$ 4,509,615***	***$ 4,002,434***	***$ 4,055,931***	***$ 2,250,811***	***$ 2,855,466***	***$ 1,356,085***	***$ 1,350,973***	***$ 1,345,749***
3 FUTURE DEBTS											
AWWTP-Clarifiers-22030	*$ -*	*$ -*	*$ 273,197*	*$ 546,394*	*$ 546,394*	*$ 546,394*	*$ 546,394*	*$ 546,394*	*$ 546,394*	*$ 546,394*	*$ 546,394*
DC-A3-5B-RWWTP-Biosolids Tanks-Phs1	*$ -*	*$ -*	*$ -*	*$ 301,337*	*$ 602,674*	*$ 602,674*	*$ 602,674*	*$ 602,674*	*$ 602,674*	*$ 602,674*	*$ 602,674*
DC-A3-5B-RWWTP Exp-Phs1	*$ -*	*$ -*	*$ -*	*$ -*	*$ -*	*$ -*	*$ -*	*$ 1,204,701*	*$ 2,409,401*	*$ 2,409,401*	*$ 2,409,401*
Subtotal - Future Debts	***$ -***	***$ -***	***$ 273,197***	***$ 847,731***	***$ 1,149,068***	***$ 1,149,068***	***$ 1,149,068***	***$ 2,353,768***	***$ 3,558,469***	***$ 3,558,469***	***$ 3,558,469***
4 CAPITAL EXPENDITURES											
Growth Related and Grant Funded Capital	$ 10,739,730	$ 2,310,843	$ 7,071,903	$ 16,084,200	$ 4,787,562	$ 4,315,675	$ 2,383,980	$ 17,475,313	$ 15,124,435	$ 15,426,924	$ -
Non-Growth Related Capital	$ 5,023,200	$ 2,452,024	$ 2,096,348	$ 2,959,735	$ 436,491	$ 2,014,277	$ 2,444,409	$ 3,435,968	$ 2,981,321	$ 1,981,195	$ 2,582,497
Less: Debt Financing - growth funded	$ (6,858,000)	$ -	$ (4,846,142)	$ (4,943,065)	$ -	$ -	$ -	$ (14,256,598)	$ (14,541,730)	$ (14,832,564)	$ -
Less: Debt Financing - non-growth	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Less: DC and Grant Capital Funding	*$ (3,881,730)*	*$ (2,310,843)*	*$ (2,225,760)*	*$ (11,141,135)*	*$ (4,787,562)*	*$ (4,315,675)*	*$ (2,383,980)*	*$ (3,218,716)*	*$ (582,706)*	*$ (594,360)*	
Less: Rate Reserve Funded	*$ (5,023,200)*	*$ (2,452,024)*	*$ (2,096,348)*	*$ (2,959,735)*	*$ (436,491)*	*$ (2,014,277)*	*$ (2,444,409)*	*$ (3,435,968)*	*$ (2,981,321)*	*$ (1,981,195)*	*$ (2,582,497)*
Subtotal - Capital from Current (Rate Funded Capital)	***$ -***	***$ -***	***$ -***	***$ -***	***$ -***	***$ -***	***$ -***	***$ -***	***$ -***	***$ -***	***$ -***
ANNUAL OPERATING EXPENSES	**$ 9,864,540**	**$ 11,185,977**	**$ 11,863,727**	**$ 12,886,843**	**$ 13,017,212**	**$ 13,297,187**	**$ 12,464,226**	**$ 14,632,161**	**$ 14,593,234**	**$ 14,975,519**	**$ 15,248,890**
5 CONTRIBUTION TO/(FROM) RESERVES	**$ 1,851,784**	*$ 888,218*	*$ 1,266,352*	*$ 1,920,640*	*$ 2,565,493*	*$ 3,460,228*	*$ 3,607,046*	*$ 4,464,100*	*$ 5,454,408*	*$ 4,841,156*	*$ 5,771,312*
6 TOTAL ANNUAL EXPENDITURES (1+2+3=4)	**$ 11,716,324**	**$ 12,074,195**	**$ 13,130,079**	**$ 14,807,484**	**$ 15,582,706**	**$ 16,757,415**	**$ 16,071,272**	**$ 19,096,261**	**$ 20,047,641**	**$ 19,816,675**	**$ 21,020,202**

APPENDIX A TABLE 1

TOWN OF NEW TECUMSETH
WATER AND WASTEWATER RATE STUDY
WASTEWATER RATE CALCULATION

Wastewater SERVICES	2023 Budget	2024 Projected	2025 Projected	2026 Projected	2027 Projected	2028 Projected	2029 Projected	2030 Projected	2031 Projected	2032 Projected	2033 Projected
7 NON-RATE REVENUES											
Penalties and Interest	$ (50,000)	$ (51,000)	$ (52,020)	$ (53,060)	$ (54,122)	$ (55,204)	$ (56,308)	$ (57,434)	$ (58,583)	$ (59,755)	$ (60,950)
Miscellaneous Revenue	$ (9,666)	$ (9,859)	$ *(10,057)*	$ *(10,258)*	$ *(10,463)*	$ *(10,672)*	$ *(10,885)*	$ *(11,103)*	$ *(11,325)*	$ *(11,552)*	$ *(11,783)*
Recoveries and Rebates	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Subtotal - Non-Rate Revenues	***$ (59,666)***	***$ (60,859)***	***$ (62,077)***	***$ (63,318)***	***$ (64,584)***	***$ (65,876)***	***$ (67,194)***	***$ (68,537)***	***$ (69,908)***	***$ (71,306)***	***$ (72,733)***
8 CONTRIBUTION FROM RESERVES											
Transfers from DC Roads Reserve	$ (13,949)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Transfers from DC Wastewater Reserve	$ (3,745,597)	$ (3,723,483)	$ (4,073,552)	$ (5,019,061)	$ (5,151,501)	$ (5,204,999)	$ (3,399,878)	$ (5,209,234)	$ (4,914,553)	$ (3,558,469)	$ (3,558,469)
Transfers from General Reserve	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Transfers from Financial Reserve	$ (443,948)	$ (462,463)	$ (481,751)	$ (338,285)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Subtotal - Contributions from Reserves	***$ (4,203,494)***	***$ (4,185,946)***	***$ (4,555,303)***	***$ (5,357,346)***	***$ (5,151,501)***	***$ (5,204,999)***	***$ (3,399,878)***	***$ (5,209,234)***	***$ (4,914,553)***	***$ (3,558,469)***	***$ (3,558,469)***
NET RATE FUNDING NEED	**$ 7,453,164**	**$ 7,827,390**	**$ 8,512,700**	**$ 9,386,820**	**$ 10,366,620**	**$ 11,486,540**	**$ 12,604,200**	**$ 13,818,490**	**$ 15,063,180**	**$ 16,186,900**	**$ 17,389,000**
Change in Funding Need ($)		*$ 374,226*	*$ 685,310*	*$ 874,120*	*$ 979,800*	*$ 1,119,920*	*$ 1,117,660*	*$ 1,214,290*	*$ 1,244,690*	*$ 1,123,720*	*$ 1,202,100*
Change in Funding Need (%)		*5%*	*9%*	*10%*	*10%*	*11%*	*10%*	*10%*	*9%*	*7%*	*7%*
User Rates											
1 Consumption Charge <30,000 cubic metres											
Charge per Cubic Metre ($/m^3)	$2.54	$2.76	$2.99	$3.24	$3.52	$3.82	$4.01	$4.21	$4.42	$4.64	$4.87
Projected Billable Consumption (m^3)	2,410,000	2,410,000	2,410,000	2,459,000	2,508,000	2,570,000	2,640,000	2,719,000	2,798,000	2,879,000	2,961,000
Total Annual Consumption Revenue	**$6,121,400**	**$6,651,600**	**$7,205,900**	**$7,967,160**	**$8,828,160**	**$9,817,400**	**$10,586,400**	**$11,446,990**	**$12,367,160**	**$13,358,560**	**$14,420,070**
Projected Rate Increase (%)		*8.5%*	*8.5%*	*8.5%*	*8.5%*	*8.5%*	*5.0%*	*5.0%*	*5.0%*	*5.0%*	*5.0%*
2 Consumption Charge >30,000 cubic metres											
Charge per Cubic Metre ($/m^3)	$1.87	$2.03	$2.20	$2.39	$2.59	$2.81	$2.95	$3.10	$3.26	$3.42	$3.59
Projected Billable Consumption (m^3)	451,000	451,000	451,000	451,000	451,000	451,000	541,000	622,000	684,000	684,000	684,000
Total Annual Consumption Revenue	**$843,370**	**$915,530**	**$992,200**	**$1,077,890**	**$1,168,090**	**$1,267,310**	**$1,595,950**	**$1,928,200**	**$2,229,840**	**$2,339,280**	**$2,455,560**
Projected Rate Increase (%)		*8.5%*	*8.5%*	*8.5%*	*8.5%*	*8.5%*	*5.0%*	*5.0%*	*5.0%*	*5.0%*	*5.0%*
3 Baxter Charge											
Charge per Cubic Metre ($/m^3)	$1.54	$1.82	$2.20	$2.39	$2.59	$2.81	$2.95	$3.10	$3.26	$3.42	$3.59
Projected Billable Consumption (m^3)	143,000	143,000	143,000	143,000	143,000	143,000	143,000	143,000	143,000	143,000	143,000
Total Annual Consumption Revenue	**$220,220**	**$260,260**	**$314,600**	**$341,770**	**$370,370**	**$401,830**	**$421,850**	**$443,300**	**$466,180**	**$489,060**	**$513,370**
Projected Rate Increase (%)		*18.2%*	*20.9%*	*8.6%*	*8.4%*	*8.5%*	*5.0%*	*5.1%*	*5.2%*	*4.9%*	*5.0%*
4 Flat Rate Charge											
Flat Fee	$76.15	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Number of Billable Connections	0	0	0	0	0	0	0	0	0	0	0
Total Annual Fixed Revenue	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**
Percentage of Costs Funded from Fixed Charge (%)											
TOTAL REVENUE (FIXED AND VARIABLE)	**$7,184,990**	**$7,827,390**	**$8,512,700**	**$9,386,820**	**$10,366,620**	**$11,486,540**	**$12,604,200**	**$13,818,490**	**$15,063,180**	**$16,186,900**	**$17,389,000**